



MINISTRY OF EDUCATION AND TRAINING  
FPT UNIVERSITY



Course I  
Software Engineering

CAPSTONE PROJECT  
**GOODSWAY**

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Fpt University

MINISTRY OF EDUCATION AND TRAINING

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## Capstone Project Document

### Goods Way

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## Member Profile



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## Definitions and Acronyms

Acronym	Definition	Note
<b>24/7</b>	24 Hours a Day, 7 Days a Week	
<b>24/7/365</b>	24 hours a day/ 7 days a week/ 365 days a year	
<b>ADSL</b>	Asymmetric Digital Subscriber Line	
<b>API</b>	Application programming interface	
<b>B2C</b>	Business to Consumer/Customer	
<b>CPU</b>	Central Processing Unit	
<b>CSS</b>	Cascading Style Sheets	
<b>DB</b>	Database	
<b>E-commerce</b>	Electronic Commerce	
<b>FAQ</b>	Frequently Asked Question(s)	
<b>FTP</b>	File Transfer Protocol	
<b>GD</b>	Global Definition	
<b>GNU/GPL License</b>	Gnu's Not Unix/General Public License	
<b>GPC</b>	Get, Post & Cookie	
<b>GUI</b>	Graphical User Interface	
<b>GW_BUR_UR</b>	GoodsWay_Business_User_Requirement_User_Requirement	
<b>GW_CUR_UR</b>	GoodsWay_Common_User_Requirement_User_Requirement	
<b>GW_SUR_UR</b>	GoodsWay_Single_User_Requirement_User_Requirement	
<b>HCI</b>	Human Computer Interaction	
<b>HTML</b>	HyperText Markup Language	
<b>HTTP</b>	Hypertext Transfer Protocol	
<b>IDE</b>	Integrated Development Environment	
<b>ISP</b>	Internet Service Provider	
<b>LAN</b>	Local Area Network	
<b>MVC</b>	Model-View-Controller	
<b>MySQL</b>	Name of the database server	

<b>PC</b>	Personal Computer	
<b>PEAR</b>	PHP Extension and Application Repository	
<b>PHP</b>	Programming Language	
<b>PHPUnit</b>	A member of the xUnit family of testing frameworks and provides both a framework that makes the writing of tests easy as well as the functionality to easily run the tests and analyze their results.	
<b>RAM</b>	Random Access Memory	
<b>SQL</b>	Structured Query Language	
<b>SRS</b>	Software Requirement Specification	
<b>SSL</b>	Secure Sockets Layer	
<b>Tomcat</b>	Web server for deployment of web application	
<b>UC</b>	Use Case	
<b>UI</b>	User Interface	
<b>URL</b>	Universal Resource Locator	
<b>US</b>	United States	
<b>VNNIC</b>	Viet Nam Network Information Centre	
<b>WWW</b>	World Wide Web	

## 1.1. Background

In the era of information explosion today, the demand and pursue for knowledge search in the information ocean of people are increasingly rapidly. Parallel with that, taking advantage of this knowledge for e-commerce also became flourishing. Within that trend, many companies provide search engine services, collecting, analyzing information and turning information into useful knowledge for the community. Vietnam is no exception to this trend; however, one of the information searching area remains incomplete in Vietnam. That gap lies in the need to search for information on goods. Imagine that if we want to buy a laptop for studying, we need specialized searching sites to help us gather a list of laptops with rich designs, reasonable prices from many manufacturers and distributors, which are sorted and arranged in a lively, meaningful and understandable order. At the same time, we also need a tool for comparisons, to evaluate and analyze the quality and price of each product as well as accessing reviews and advice from experts and community who have experienced and used the product. And after choosing a good product, we will probably want a list of available store which sell that product, as well as detail location of them in the map, so that we can choice a suitable store to buy or to order our items.

From such thoughts, we want to build, to enhance a specialized tool to collect, search and analyze information on products and goods. That tool will bring about: the ability to collect, update data correctly whenever change occurs; the ability to search most efficiency within less to no waiting time; synergy and present expert analyze on products to users. Moreover, we also want to integrate the ideas of this search engine into a specific e-commerce website. That website will emphasize on bring comfortable and friendly, while most efficiency for users, with the principle: simple and elegance in design but effective in functions. About the enterprise and companies, we will collect information on the brand, the store, the product, and help them present it to consumers. Another special function of the website is: to bring the store map. The map will help consumers feel easier when choosing the more suitable store to go and buy, or to order the product. And some other small web functions. Finally, last but not least, with the product, the website, we have the ambition to create a large, giant selling model, which connect all the stores, the products in all over the country. An alliance between enterprise, stores, information system and consumers, where we come in as a coordinator, a connector, who guide consumers to product, to store, brand and in contrast, bring product and brand to consumers. We wish to bring practical benefits for the business community and consumers of Vietnam, contributing to economic development of the country.

## 1.2. Literature Review

### 1.2.1. Overview of Ecommerce in the World

The Internet has created a new economic ecosystem, the e-commerce marketplace, and it has become the virtual main street of the world. Providing a quick and convenient way of exchanging goods and services both regionally and globally, e-commerce has boomed. Today, e-commerce has grown into a huge industry with US online retail generating \$175B in revenues in 2007, with consumer-driven (B2C) online transactions impacting industries from travel services to consumer electronics, from books and media distribution to sports & fitness. With more than 70% of Americans using the Internet on a daily basis for private and/or business use and the rest of the world also beginning to catch on, e-commerce's global growth curve is not likely to taper off anytime soon. However, the US recession has taken its toll on online sales. Although early 2008 estimates by Forrester Research were very strong with 2008 revenues upwards of \$204B (a 17% growth rate), 2008 holiday sales showed the first decrease in the last 7 years. Research by ComScore shows sales declining by 1% for the first 49 days of the holiday season

In the last decade, many startup e-commerce companies have rapidly stolen market share from traditional retailers and service providers, pressuring these established traditional players to deploy their own commerce websites or to alter company strategy in retaliation. This effect is most pronounced in travel services and consumer electronics. According to comScore, online leisure travel bookings reached about \$51B in 2005, or 44% of all online sales, which were around \$122B in the same year. Roughly 30% of all travel bookings currently occur online. Consumer electronics, which includes the purchase of digital cameras, mobile phones, and home PC's, accounted for nearly \$26B of worldwide e-commerce sales occurring in 2006, according to the NPD Group. As traditional brick and mortar firms continue to lose market share to e-commerce players, they will likely see continued declines in their revenues, operating margins, and profits. It is important to note that most e-commerce players are at a competitive advantage to retailers. They have lower operating expenses and better inventory management due to operating in a virtual commerce environment. For example, Amazon.com (AMZN) has revenue per employee of nearly \$850k while its retail counterpart, Best Buy (BBY), generates revenue per employee of only \$270k. Clearly, e-commerce vendors will have the most to gain if they

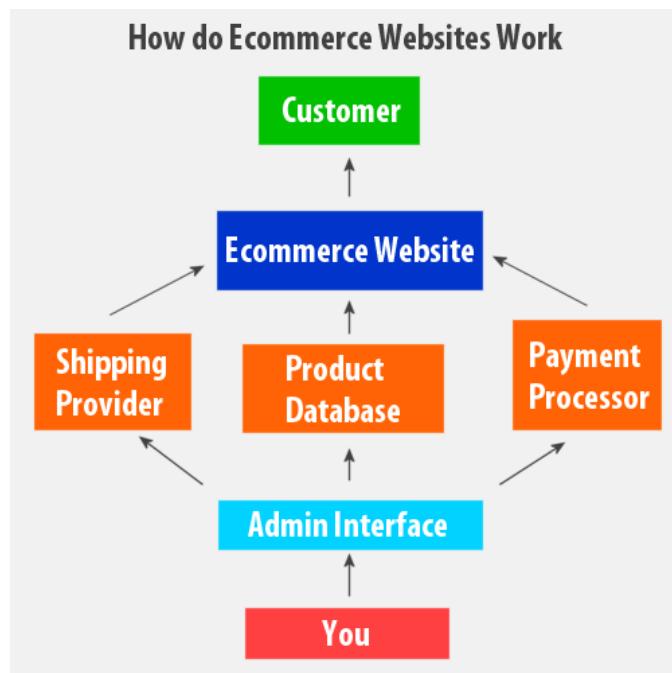
successfully disrupt retail customer acquisition, disintermediate distributors/resellers, and underprice retail establishments. As a consequence of e-commerce vendor gains, financial transaction processors and parcel shipping companies are among ancillary vendors who will gain.

U.S. E-Commerce Continues to Increase Its Penetration of Overall U.S. Retail Sales						
	1Q05	2Q05	3Q05	4Q05	1Q06	2Q06
<b>Total U.S. Retail Sales (MM)</b>	\$902,564	\$923,223	\$943,540	\$946,069	\$976,110	\$984,914
Y/Y Change	6.5%	7.9%	8.3%	6.1%	8.1%	6.7%
Q/Q Change	1.2%	2.3%	2.2%	0.3%	3.2%	0.9%
<b>Total U.S. Retail E-Commerce Sales (MM)</b>	\$20,118	\$21,410	\$22,656	\$23,569	\$25,190	\$26,346
Y/Y Change	22.6%	25.3%	25.7%	23.1%	25.2%	23.1%
Q/Q Change	5.1%	6.4%	5.8%	4.0%	6.9%	4.6%
<b>E-Commerce as a % of Retail Sales</b>	2.2%	2.3%	2.4%	2.5%	2.6%	2.7%
Y/Y Increase in Penetration (in bps)	29	32	33	34	35	36
Q/Q Increase in Penetration (in bps)	8	9	8	9	9	9

Source: U.S. Census Bureau; Caris & Co. estimates  
Totals are adjusted for seasonal variation and holiday/trading-day differences, but not for price changes

**Figure 1.1:** 2005-2006: E-commerce continues to seize market share from traditional retailers in the US.

The figure below shows us how standard e-commerce websites work:



**Figure 1.2:** How do standard e-commerce websites work?

### **1.2.2. Overview of Ecommerce in Viet Nam**

E-commerce began gaining momentum in Vietnam in the mid-to-late-1990s. Considerable discussion and debate was generated on its feasibility, effectiveness, and policy impact, and many government organizations continued to discuss various plans of action and potential frameworks for e-commerce development. However, there was neither consensus nor an agreed-upon common platform for discussing and understanding e-commerce issues among policymakers, researchers, and entrepreneurs. The process of accepting and implementing e-commerce solutions was deferred, and as a result, a number of institutional and conceptual difficulties were faced. The policy environment in Vietnam was not created to support e-commerce technologies and transactions. This deficiency negatively influenced the introduction and integration of e-commerce into Vietnamese society and the economy.

Businesses also are more concerned about setting up websites to present information, marketing support, online sales ... The following table shows results of survey from e-Commerce Department's based on business perspective on the effects of website to business activities of enterprises.

The effects of the Website for Business	Mark (0 is the lowest, 4 is the highest)
Building company image	3,2
Expanding channels for existing customers	2,9
Attracting new customers	2,6
Increase profit and performance	2,0
Increase sales	1,9

**Table 1.1:** The views of businesses on the effects of website

Source: E-Commerce Report for Vietnam in 2004, E-Commerce Department

The result of this survey above reflects that most of companies that have website just use it as a channel to support for advertising, introducing products and the image of the company only. Therefore, they don't exploit the benefits of e-commerce thoroughly, and e-commerce cannot take effects on the development of company. Moreover, the investment on developing and marketing website to customers still doesn't take the attention of company effectively. As evidence, there are a lot of websites that still have the page view is very low after it went on public.

In general view, the development of e-commerce in Vietnam isn't oriented by the government so it is still spontaneous. Therefore, the investment of each company to e-commerce depends on the vision, point of view of the leader. In fact, there are some individuals, companies use websites that related to e-commerce to take the advantages in business, however, those websites are not developed well enough to make the profit for company thoroughly.

### ***1.2.3. Overview of similar existing solutions & existing methods***

In the course of study and research, we found that today, Vietnam already has had many e-commerce website, such as: vatgia.com, enbac.com, chodientu.vn, megabuy.vn ... These websites have offered a relatively large amount of information on goods, and received the acceptance and frequently visits from customer to update information about items as well as promotion.

Below are the existing methods that these websites use to build their e-commerce business:

✓ **Collecting data**

- Use the autobot (spider web) for filtering, separating the information about different products on the other websites and put on their own database (store new products or update information about existing products)

- Working with businesses and stores to offer a Service that can interact directly with the products database of the enterprises and shops to obtain information about products and goods.

- Allow businesses, shops direct registration virtual booth on their main websites. After that, these enterprises will manage and update the list of their products on the website.

✓ **Searching data**

Almost website have search engine for products and goods, all of the search engine are self-developed or use the search service from third-party providers.

✓ **Arrangement and presentation of results**

✓ **Transactions management**

This figure shows how transactions are managed on vatgia.com site



**Figure 1.3:** How transactions are managed on vatgia.com site.

#### 1.2.4. Achievements of the existing systems

✓ **Attractive**

The e-commerce websites support consumers' new choices in the procurement of goods. Through electronic commerce, customers are provided with more information goods with vivid and rich images. We can easily compare prices, reference other people's comment, seek advice from the public and read the interesting piece of news-related items.

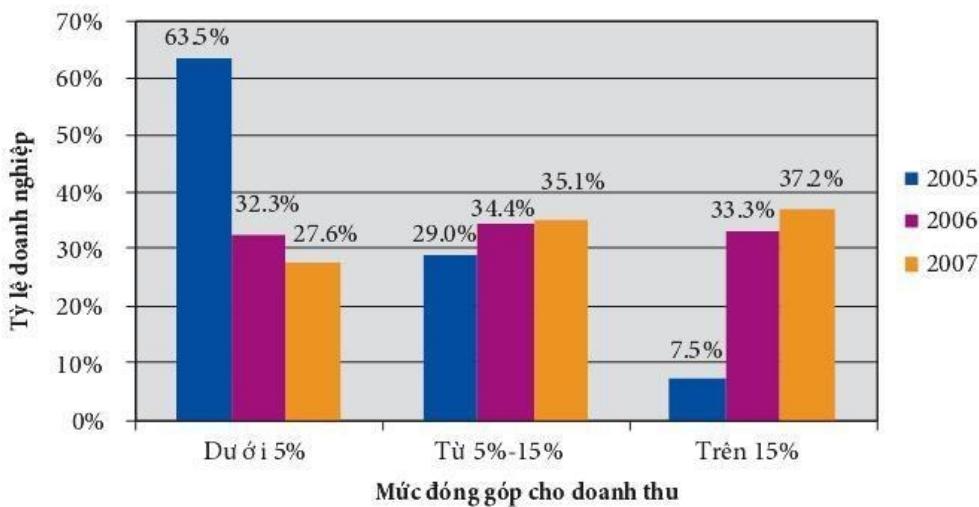
Statistics show that customers were more interested about e-commerce websites: VATGIA.COM e-commerce website is one of Vietnam with 2.8 million page-views per day and number of visitors: 550,000 per day.

✓ **Transaction value**

Currently, in the field of e-commerce sales account for a large ratio and continuously increased over the years. Especially, Vietnam's Internet growth is very high: 128.4%, the highest in the ASEAN region. Other forms of payment through e-commerce increasingly improved more quickly and more easily, which makes transactions become easier, increase transaction volume increasing.

**Figure 1.4:** According to statistics from VNNIC:

**Chuyển biến trong doanh thu từ ứng dụng thương mại điện tử qua các năm**



In 2009, vatgia.com site announced transaction value of approximately 48 billion per month.

✓ **Advertisement**

In the wide world of the Internet with billions of people are using every day, many of them often read online ads when surfing the web and that is a great opportunity for companies to conduct marketing campaigns company image - product - online services on the Internet.

The ad network gives advertisers who buy a lot of benefits that other forms of traditional advertising cannot be or have but do not bring high efficiency. Here are the advantages helped to online advertising has been, is and will become the best promotional tool for many businesses.

**The ability to target selected:** Online advertising opportunity for advertisers to accurately target their customers, and help them carry advertisements in accordance with the interests and tastes of consumers.

**Tracking Capability:** Marketers can track online behavior of users to mark their preferences and learn as well as concerns of the prospect

**The flexibility and ability to distribute:** An ad network is transmitted 24/24 hours a day, all week, all year. Moreover, advertising campaigns can be started to update or cancel at any time.

Interactivity: The goal of advertisers is associated with potential customers or brands their product. This can be effectively implemented on the network, so customers can interact with products, product test and if satisfied, you can buy.

Valuation of online advertising: more and more new model involves multiple pricing structures was introduced. Today, the pricing model from a variety of fixed price, to calculate the number of times an ad view, calculating the number of ad clicks, based on the number of times the ad was broadcast, the number of rows purchased...

Buy online advertising: An online advertising campaign, like any other advertising medium, requires strategic planning to ensure the money is used effectively and achieve the objectives.

### 1.2.5. Limitations of the existing systems

- ✓ Searching speed

The search for data on these sites reached moderate speed, but the results did not really reached the exact expectations because of:

- Search algorithm is not optimal
- Do not have a mechanism for distributed data clusters effectively (or if it has so the search speed is very slow).

- ✓ HCI issues in e-commerce sites

Web shoppers have become more sophisticated in their knowledge of online purchasing alternatives, and more importantly, they have become less patient with Web sites that are difficult to understand and use. These are the facts that “Users expect to find the information they want, find it quickly, and to do so with little effort”. E-commerce site designs that ignore these facts risk the possibility of losing valuable customers and, in the long run, may even risk their economic viability. Unfortunately, many of today’s e-commerce sites still commit a number of errors in usability design.

- Confusing in content presentation: web page layouts cumbersome, complicated, poor navigability, allow posting too many ads on the website is not a good impression to the user.
- E-commerce design to support the buying process: Almost e-commerce websites in Vietnam do not have the type of “decision support system” that supports the stages of the purchasing decision. These stages include:

- i) Search for products that meet the buyer's criteria, via available navigation or search aids;
- ii) Manage search criteria (new information may cause the buyer to reassess product criteria and to expand, refine, or constrict them);
- iii) Comparison of products.

- *The Web-based environment places a unique set of constraints on the buyer-seller relationship that did not exist in traditional face-to-face transactions:*

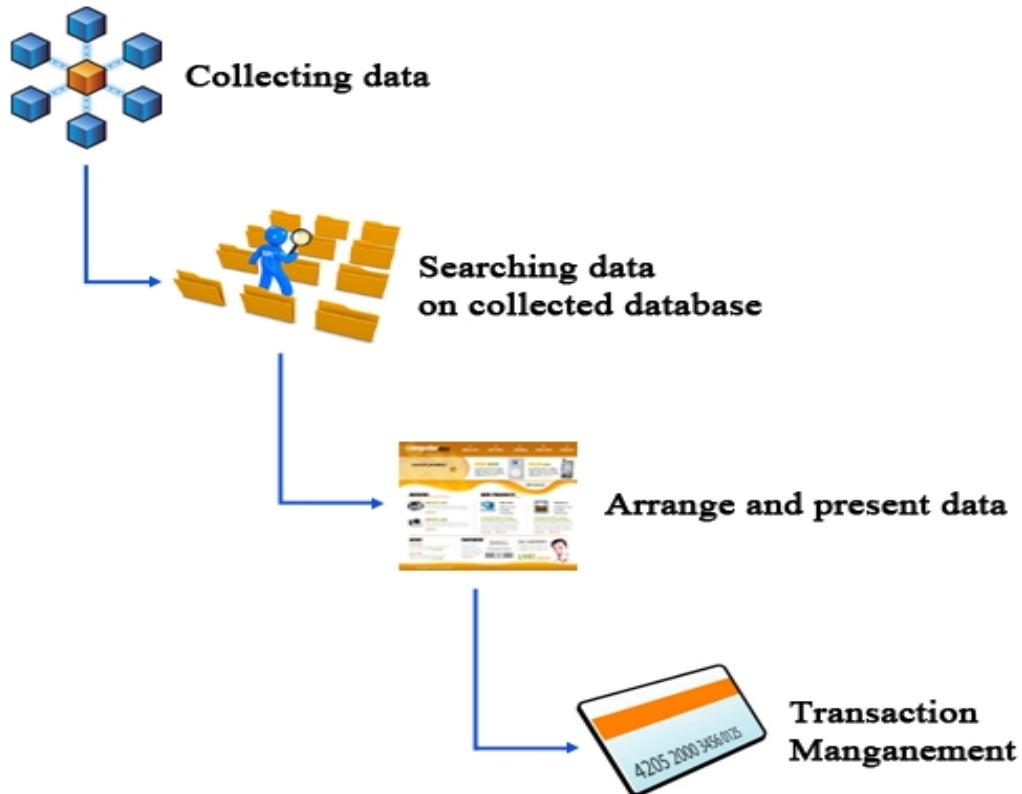
No longer can the buyer meet with a salesperson, ask questions, observe body language, or actually see the physical product. Now, the entire transaction is conducted through the “veil” of the computer medium. For many potential customers, this raises real concerns about the trustworthiness of the selling organization, the reliability of the buying process, privacy of the transaction, and guarantees of buying satisfaction. To date, the topic of trust has received little attention in the e-commerce research literature. While many e-commerce sites have implemented some recommendations from the marketing area for promoting trust in the buyer-seller relationship, or have implemented their own common sense solutions for promoting trust, we observe that most of them have done so in a rather haphazard way. More research needs to be conducted in the e-commerce area to provide guidance on how to design Web sites that promote trust. To explore possible answers to this question, we need to investigate issues such as the antecedents of trust, buyer and seller characteristics affecting the trust relationship, and how ongoing trust can be maintained.

### 1.3. Proposals:

Realizing the shortcomings and challenges that e-commerce websites in Vietnam are facing, we consider it an opportunity for us to be able to develop an innovative solution to attract Internet user community engagement and build brand reputation on the e-commerce websites map.

Our system was developed based on four components / main modules:

- Collect data about goods and products on the website of the companies or stores.
- Find information about goods and products based on the data collected.
- The arrangement and presentation of information about goods and products.
- Managing buying and selling transactions on the website.



**Figure 1.5:** The main components “Goods Way” system

All this will serve the main objective is to develop a user-oriented e-commerce website in order to simplify the search and purchase goods online in the Vietnam market.

To achieve this goal, we have identified the needs to achieve the following key requirements:

- Ability to search for accurate, fast (improved search algorithms, database design is suitable for distributed data clusters, etc. ...).
- Ability to present, demonstrate to user a friendly, easy to use website (study on human-computer interaction ...).
- Support the user to the most suitable and nearest stores based on the stores chain system that are presented lively and updated regularly on the map system.

Also, based on researching and group thinking about the “decision support system”, we identify a framework specifying probable dimensions of Web-based purchasing support. These dimensions include:

*- Supporting product search:*

- i) The type of site metaphor used (brows-able Web structure and/or a search engine).
- ii) The structure of information on the site (hierarchical or network);

*- Criteria management:*

- i) The type of product representation
- ii) How product information is provided;

*- Comparison support:*

- i) The scope of comparison (intra-site or inter-site);
- ii) The type of comparison tool used.

This framework raises a number of issues that researchers can begin to investigate in order to design sites that better support the consumer purchasing process.

However, because there are restrictions on capstone project completion time and resources involved, present our initial goals will focus on developing search capabilities and the ability to present information. Later, when these modules are successfully developed, we will continue to develop, integrate the rest to complete the idea of the whole group.

## 2.1. Problem Definition

### 2.1.1. Name of this Capstone Project

The Capstone Project is named “GoodsWay”.

### 2.1.2. Problem Abstract

In the “GoodsWay” project, a group of five students of the FPT University cooperate in a team which will be referred to as “Good Boys” from here on. The objective of the “Good Boys” group is to build, and enhance a specialized tool to collect, search and analyze information on products and goods. That tool will bring about: the ability to collect, update data correctly whenever change occurs; the ability to search most efficiency within less to no waiting time; synergy and present expert analyze on products to users. Moreover, we also want to integrate the ideas of this search engine into a specific e-commerce website. That website will emphasize on bring comfortable and friendly, while most efficiency for users, with the principle: simple and elegance in design but effective in functions. About the enterprise and companies, we will collect information on the brand, the store, the product, and help them present it to consumers. Another special function of the website is: to bring the store map. The map will help consumers feel easier when choosing the more suitable store to go and buy, or to order the product.

### 2.1.3. Project Overview

#### 2.1.3.1. The Current System

Below are the existing methods that these websites use to build their e-commerce business:

✓ **Collecting data**

- Use the autobot (spider web) for filtering, separating the information about different products on the other websites and put on their own database (store new products or update information about existing products)

- Working with businesses and stores to offer a Service that can interact directly with the products database of the enterprises and shops to obtain information about products and goods.

- Allow businesses, shops direct registration virtual booth on their main websites. After that, these enterprises will manage and update the list of their products on the website.

✓ **Searching data**

Almost website have search engine for products and goods, all of the search engine are self-developed or use the search service from third-party providers.

✓ **Arrangement and presentation of results**

✓ **Transactions management**

This figure shows how transactions are managed on vatgia.com site



**Figure 2.1:** How transactions are managed on vatgia.com site.

Below are the limitations of the existing systems

✓ **Searching speed**

The search for data on these sites reached moderate speed, but the results did not really reached the exact expectations because of:

- Search algorithm is not optimal
- Do not have a mechanism for distributed data clusters effectively (or if it has so the search speed is very slow).

✓ **HCI issues in e-commerce sites**

- *Confusing in content presentation:* web page layouts cumbersome, complicated, poor navigability, allow posting too many ads on the website is not a good impression to the user.

- *E-commerce design to support the buying process:* Almost e-commerce websites in Vietnam do not have the type of “decision support system” that supports the stages of the purchasing decision.

- *The Web-based environment places a unique set of constraints on the buyer-seller relationship that did not exist in traditional face-to-face transactions*

### 2.1.3.2. The Proposed System

Our system was developed based on four components / main modules:

- ✓ Collect data about goods and products on the website of the companies or stores.
- ✓ Find information about goods and products based on the data collected.
- ✓ The arrangement and presentation of information about goods and products.
- ✓ Managing buying and selling transactions on the website.

All this will serve the main objective is to develop a user-oriented e-commerce website in order to simplify the search and purchase goods online in the Vietnam market.

To achieve this goal, we have identified the needs to achieve the following key requirements:

- ✓ Ability to search for accurate, fast (improved search algorithms, database design is suitable for distributed data clusters, etc. ...).
- ✓ Ability to present, demonstrate to user a friendly, easy to use website (study on human-computer interaction ...).
- ✓ Support the user to the most suitable and nearest stores based on the stores chain system that are presented lively and updated regularly on the map system.

Also, based on researching and group thinking about the “decision support system”, we identify a framework specifying probable dimensions of Web-based purchasing support. These dimensions include:

- Supporting product search:

- i) The type of site metaphor used (brows-able Web structure and/or a search engine).
- ii) The structure of information on the site (hierarchical or network);

- Criteria management:

- i) The type of product representation
- ii) How product information is provided;

- Comparison support:

- i) The scope of comparison (intra-site or inter-site);
- ii) The type of comparison tool used.

### 2.1.3.3. Boundaries of the System

#### The scope/boundaries of the system under development:

Because there are restrictions on capstone project completion time and resources involved, present our initial goals will focus on these core components:

- ✓ Developing search engine.
- ✓ Developing User Interface that resolves the current HCI issues in ecommerce sites.

Firstly, we choose the highest priority component that needs to be developed is “Search engine”, the next component will “User Interface”.

Later, when these core components are successfully developed, we will continue to develop, integrate the rest components to complete the idea of the whole group which includes:

- ✓ Store map.
- ✓ Collecting data engine/service.
- ✓ Secure payment via website.

#### The future vision for our system:

We have the ambition to create a large, giant selling model, which connect all the stores, the products in all over the country. An alliance between enterprise, stores, information system and consumers, where we come in as a coordinator, a connector, who guide consumers to product, to store, brand and in contrast, bring product and brand to consumers. We wish to bring practical benefits for the business community and consumers of Vietnam, contributing to economic development of the country.

### 2.1.3.4. Development Environment

#### 2.1.3.4.1. Software environment

- ✓ Operating system: Windows XP/Windows Vista/Windows 7
- ✓ Java Runtime Environment:

[http://download.java.net/jdk6/6u23/promoted/b01/binaries/jre-6u23-ea-bin-b01-windows-i586-30\\_aug\\_2010.exe](http://download.java.net/jdk6/6u23/promoted/b01/binaries/jre-6u23-ea-bin-b01-windows-i586-30_aug_2010.exe)

#### 2.1.3.4.2. Hardware environment

##### Required (minimum) Specs

- ✓ CPU: Intel(R) Pentium(R) 4 2.4 GHz or better supported
- ✓ RAM: 512MB RAM (768MB for Windows Vista/Win7)
- ✓ Hard Drive: 2GB of free space

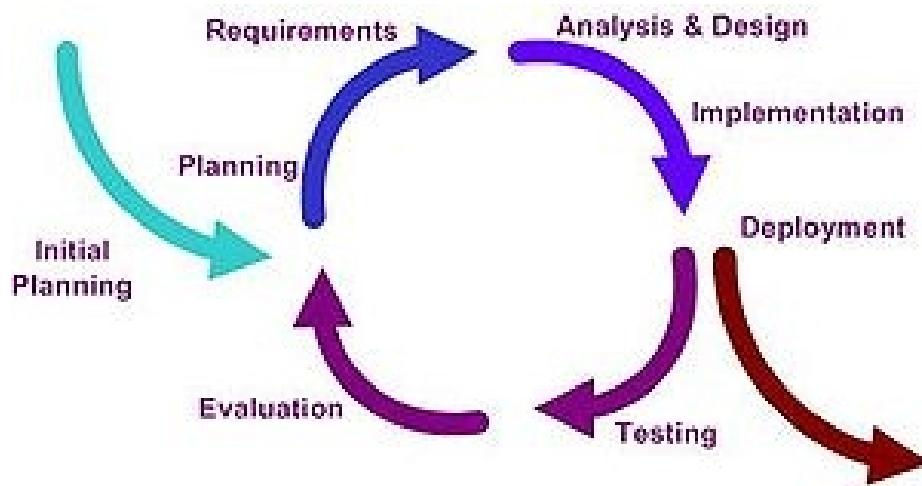
##### Recommended Specs

- ✓ CPU: 2.4 GHz dual core or better supported
- ✓ RAM: 1G for XP; 2G for Vista/ Win7
- ✓ Hard Drive: 2GB of free space

## 2.2. Project organization

### 2.2.1. Software Process Model

In this capstone project, “Good Boys” group chooses Iterative Model because Iterative Lifecycle Model does not attempt to start with a full specification of requirements. Instead, development begins by specifying and implementing just part of the software, which can then be reviewed in order to identify further requirements. This process is then repeated, producing a new version of the software for each cycle of the model. Consider an iterative lifecycle model which consists of repeating the following four phases in sequence:



**Figure 2.2:** An iterative development model

- ✓ A **Requirements** phase, in which the requirements for the software are gathered and analyzed. Iteration should eventually result in a requirements phase that produces a complete and final specification of requirements.
- ✓ A **Design** phase, in which a software solution to meet the requirements is designed. This may be a new design, or an extension of an earlier design.
- ✓ An **Implementation and Test** phase, when the software is coded, integrated and tested.
- ✓ A **Review** phase, in which the software is evaluated, the current requirements are reviewed, and changes and additions to requirements proposed.

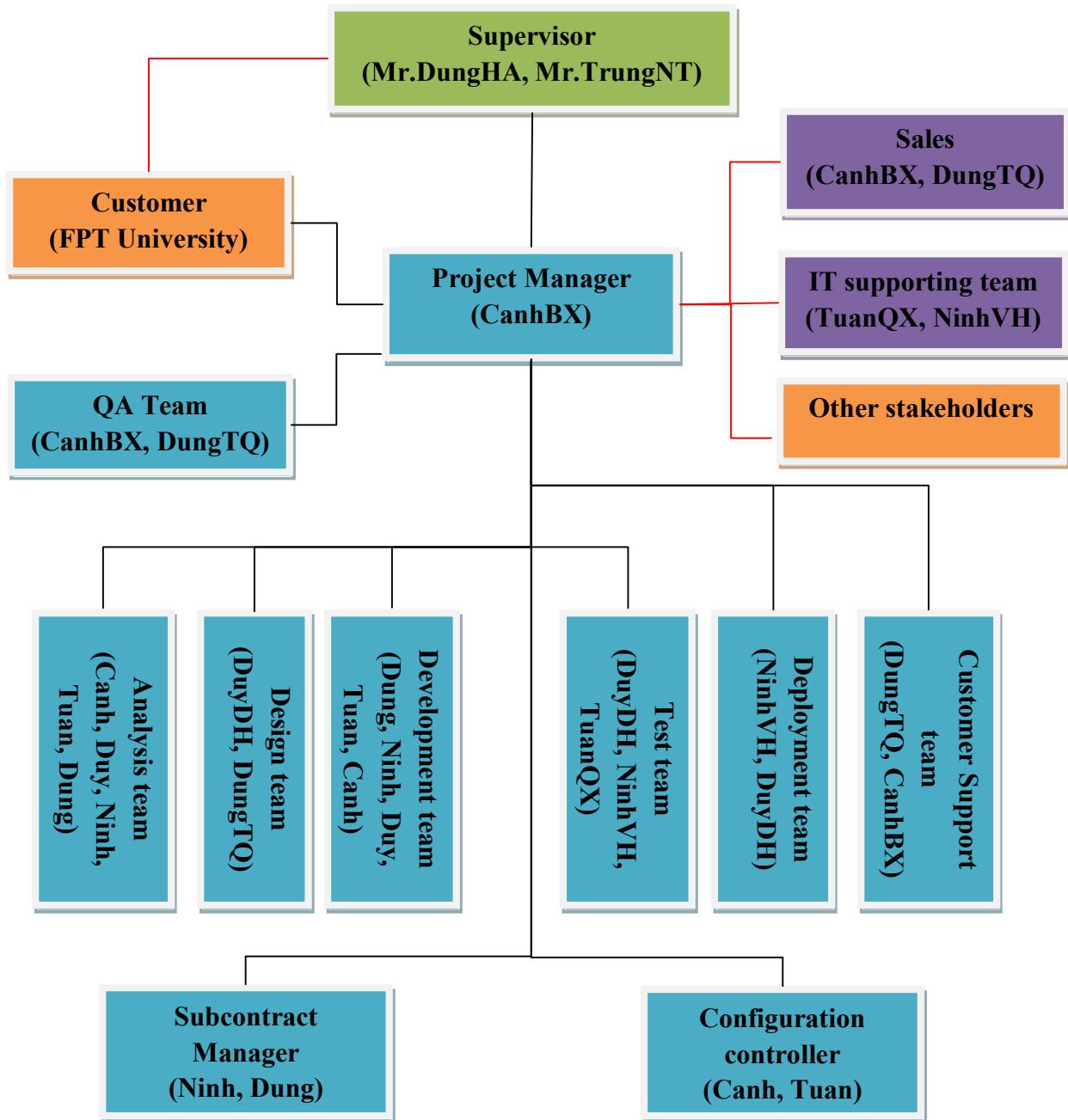
For each cycle of the model, a decision has to be made as to whether the software produced by the cycle will be discarded, or kept as a starting point for the next cycle (sometimes referred to as incremental prototyping). Eventually a point will be reached where the

requirements are complete and the software can be delivered, or it becomes impossible to enhance the software as required, and a fresh start has to be made.

The iterative lifecycle model can be likened to producing software by successive approximation. Drawing an analogy with mathematical methods that use successive approximation to arrive at a final solution, the benefit of such methods depends on how rapidly they converge on a solution.

The key to successful use of an iterative software development lifecycle is rigorous validation of requirements, and verification (including testing) of each version of the software against those requirements within each cycle of the model. The first three phases of the example iterative model is in fact an abbreviated form of a sequential V or waterfall lifecycle model. Each cycle of the model produces software that requires testing at the unit level, for software integration, for system integration and for acceptance. As the software evolves through successive cycles, tests have to be repeated and extended to verify each version of the software.

### 2.2.2. Roles and Responsibilities



**Figure 2.3:** Project organization in “GoodsWay” project

**Table 2.1:** Roles and responsibilities details in “GoodsWay” project

Title	Role
<b>Project Manager</b>	<p>Responsible for developing, in conjunction with the Project Sponsor, a definition of the project. The Project Manager then ensures that the project is delivered on time, to budget and to the required quality standard (within agreed specifications). He/she ensures the project is effectively resourced and manages relationships with a wide range of groups (including all project contributors).</p> <p>The Project Manager is also responsible for managing the work of consultants, allocating and utilizing resources in an efficient manner and maintaining a co-operative, motivated and successful team.</p>
<b>Responsibilities</b>	
<ul style="list-style-type: none"> <li>• Managing and leading the project team.</li> <li>• Managing co-ordination of the partners and working groups engaged in project work.</li> <li>• Detailed project planning and control including:</li> <li>• Developing and maintaining a detailed project plan.</li> <li>• Managing project deliverables in line with the project plan.</li> <li>• Recording and managing project issues and escalating where necessary.</li> <li>• Resolving cross-functional issues at project level.</li> <li>• Managing project scope and change control and escalating issues where necessary.</li> <li>• Monitoring project progress and performance.</li> <li>• Providing status reports to the project sponsor.</li> <li>• Managing project training within the defined budget.</li> <li>• Managing project evaluation and dissemination activities.</li> <li>• Final approval of the design specification.</li> <li>• Working closely with users to ensure the project meets business needs.</li> <li>• Definition and management of the User Acceptance Testing program.</li> <li>• Identifying user training needs and devising and managing user training programs.</li> </ul>	

Title	Role
<b>Supervisor</b>	<p>The person who commissions others to deliver the project and champions the cause throughout the project. They will normally be a senior member of staff with a relevant area of responsibility that will be affected by the outcome of the project. They are involved from the start of the project, including defining the project in conjunction with the Project Manager. Once the project has been launched they should ensure that it is actively reviewed.</p>
Responsibilities	
	<ul style="list-style-type: none"> <li>• Acts as champion of the project.</li> <li>• Is accountable for the delivery of planned benefits associated with the project.</li> <li>• Ensures resolution of issues escalated by the Project Manager or the Project Board.</li> <li>• Sponsors the communications program; communicates the program's goals to the organization as a whole.</li> <li>• Makes key organization/commercial decisions for the project.</li> <li>• Assures availability of essential project resources.</li> <li>• Approves the budget and decides tolerances.</li> <li>• Ultimate authority and responsibility for the project.</li> </ul>

Title	Role
<b>Project Team Members</b>	The staff who actively work on the project, at some stage, during the lifetime of the project. Some may have a specific role.
<b>Responsibilities</b>	
Team member roles will vary depending on the type of project. Typically they might be to:	
	<ul style="list-style-type: none"> <li>• Provide functional expertise in an administrative process</li> <li>• Work with users to ensure the project meets business needs</li> <li>• Documentation and analysis of current and future processes/systems</li> <li>• Identification and mapping of information needs</li> <li>• Defining requirements for reporting and interfacing</li> <li>• User training</li> </ul>
Title	Role
<b>The Developer</b>	The Developer is the organization designated as the lead agency on the development of the project. The Developer is ultimately responsible, whether through in-house staff or through engaging the services of a development consultant, for managing the development team and driving the development process, from the acquisition of the site through to the leasing up of the completed units. In many cases, the Developer will continue to own the project after it is completed and operational.
<b>Responsibilities</b>	
Typically Developer roles might be to:	
	<ul style="list-style-type: none"> <li>• An analytical, methodical approach to work.</li> <li>• Ingenuity around creation of reusable objects and engines.</li> <li>• Ability to code optimally and choose the right tool based on the technologies available to the audience.</li> </ul>

Title	Role
<b>The Designer</b>	<p>The Designer is responsible for understanding the business requirements and designing a solution that will meet the business needs. There are many potential solutions that will meet the client's needs. The designer determines the best approach. A designer typically needs to understand how technology can be used to create this optimum solution for the client. The designer determines the overall model and framework for the solution, down to the level of designing screens, reports, programs and other components. They also determine the data needs. The work of the designer is then handed off to the programmers and other people who will construct the solution based on the design specifications.</p>
<b>Responsibilities</b>	
<p>Typically Designer roles might be to:</p> <ul style="list-style-type: none"> <li>• Have a basic understanding of technology in order to know what is or is not possible given certain technology realities.</li> <li>• Quickly and accurately recognize performance/knowledge gaps.</li> <li>• Creativity tempered with an understanding of the intended audience, client culture, and learning preferences.</li> <li>• Understanding of human computer factors and interface design.</li> <li>• Ability and willingness to adapt to a dynamic set of standards and tools</li> </ul>	
Title	Role
<b>The Customers</b>	<p>These are the people who will actually use the deliverables of the project. These people are also involved heavily in the project in activities such as defining business requirements. In other cases, they may not get involved until the testing process. Sometimes you want to specifically identify the user organization or the specific users of the solution and assign a formal set of responsibilities to them, like developing use cases or user scenarios based on the needs of the business requirements.</p>

Title	Role
<b>The Analysis</b>	The analyst is responsible for ensuring that the requirements of the business clients are captured and documented correctly before a solution is developed and implemented. In some companies, this person might be called a Business Analyst, Business Systems Analyst, Systems Analyst or a Requirements Analyst.
<b>Responsibilities</b>	
	<ul style="list-style-type: none"> <li>• Analyzing and understanding the current state processes to ensure that the context and implications of change are understood by the clients and the project team</li> <li>• Developing an understanding of how present and future business needs will impact the solution</li> <li>• Identifying the sources of requirements and understanding how roles help determine the relative validity of requirements</li> <li>• Developing a Requirements Management Plan and disseminating the Plan to all stakeholders</li> <li>• Identifying and documenting all business, technical, product and process requirements</li> <li>• Working with the client to prioritize and rationalize the requirements</li> <li>• Helping to define acceptance criteria for completion of the solution</li> </ul>
<b>Responsibilities</b>	
<b>The QA</b>	Responsible for applying the principles and practices of software quality assurance throughout the system lifecycle. Through testing, analysis, and observation, a person in this position not only ensures that requirements and standards have been ...
<b>Responsibilities</b>	
	<ul style="list-style-type: none"> <li>• To operate effective QA procedures.</li> <li>• To provide guidance and support to facilitate the fair operation of the system.</li> <li>• To promote inclusive approach and ensure compliance under existing policy legislation.</li> <li>• To maintain creditability of awards</li> </ul>

### 2.2.3. Tools and Techniques

- ✓ *Java Runtime Environment:*

[http://download.java.net/jdk6/6u23/promoted/b01/binaries/jre-6u23-ea-bin-b01-windows-i586-30\\_aug\\_2010.exe](http://download.java.net/jdk6/6u23/promoted/b01/binaries/jre-6u23-ea-bin-b01-windows-i586-30_aug_2010.exe)

- ✓ *IDE: Eclipse for PHP: PDT (PHP Development Tools):*

<http://www.eclipse.org/downloads/download.php?file=/technology/epp/downloads/release/helios/R/eclipse-php-helios-win32.zip>

- ✓ *AppServer (includes Apache 2.2.8, PHP 5.2.6, MySQL 5.0.51b, phpMyAdmin-2.10.3):*

<http://sourceforge.net/projects/appserv/files/AppServ%20Open%20Project/2.5.10/appserv-win32-2.5.10.exe/download>

- ✓ MySQL Workbench 5.2.27
- ✓ Navicat for MySQL
- ✓ CA ERwin® Data Modeler r7.3 Evaluation Software
- ✓ Design tool: Photoshop CS5
- ✓ UML tools: BoUML 4.22.2, Rational Rose UML 2.0
- ✓ Microsoft Visio 2007
- ✓ Microsoft Project 2007
- ✓ Microsoft Word 2007

## 2.3. Project management plan

### 2.3.1. Tasks:

Task Name	Duration	Start	Finish
<b>GoodsWay Capstone Project</b>	<b>61 days</b>	<b>Mon 06-09-10</b>	<b>Mon 29-11-10</b>
<b>Introduction</b>	<b>6 days</b>	<b>Mon 06-09-10</b>	<b>Mon 13-09-10</b>
Background	1 day	Mon 06-09-10	Mon 06-09-10
<b>Literature Review</b>	<b>2 days</b>	<b>Tue 07-09-10</b>	<b>Wed 08-09-10</b>
Research about ecommerce in the World	1 day	Tue 07-09-10	Tue 07-09-10
Research about ecommerce in Viet Nam	1 day	Tue 07-09-10	Tue 07-09-10
Overview of similar existing solutions	1 day	Wed 08-09-10	Wed 08-09-10
Overview of similar existing methods	1 day	Wed 08-09-10	Wed 08-09-10
Research about achievements of existing systems	1 day	Wed 08-09-10	Wed 08-09-10
Research about limitations of existing systems	1 day	Wed 08-09-10	Wed 08-09-10
<b>Proposal</b>	<b>1 day</b>	<b>Thu 09-09-10</b>	<b>Thu 09-09-10</b>
Submit Report No.1 draft version	0 days	Thu 09-09-10	Thu 09-09-10
Review and correct errors based on comments and suggestions from supervisors	1 day	Fri 10-09-10	Fri 10-09-10
Submit Report No.1 final version	0 days	Mon 13-09-10	Mon 13-09-10
<b>Software Project Management Plan (SPMP)</b>	<b>5 days</b>	<b>Tue 14-09-10</b>	<b>Mon 20-09-10</b>
<b>Problem definition</b>	<b>1 day</b>	<b>Tue 14-09-10</b>	<b>Tue 14-09-10</b>
Name of the Capstone Project	0.2 days	Tue 14-09-10	Tue 14-09-10
Problem Abstract	1 day	Tue 14-09-10	Tue 14-09-10
<b>Project Overview</b>	<b>1 day</b>	<b>Tue 14-09-10</b>	<b>Tue 14-09-10</b>
The Current System	1 day	Tue 14-09-10	Tue 14-09-10
The Proposed System	1 day	Tue 14-09-10	Tue 14-09-10
Boundaries of the System	1 day	Tue 14-09-10	Tue 14-09-10
Development Environment	1 day	Tue 14-09-10	Tue 14-09-10
<b>Project organization</b>	<b>1 day</b>	<b>Tue 14-09-10</b>	<b>Tue 14-09-10</b>
Software Process Model	1 day	Tue 14-09-10	Tue 14-09-10
Roles and Responsibilities	1 day	Tue 14-09-10	Tue 14-09-10
Tools and Techniques	1 day	Tue 14-09-10	Tue 14-09-10
Project management plan	2 days	Wed 15-09-10	Thu 16-09-10
Coding Convention	1 day	Tue 14-09-10	Tue 14-09-10
Other material (if any)	3 days	Tue 14-09-10	Thu 16-09-10
Submit Report No.2 draft version	0 days	Thu 16-09-10	Thu 16-09-10
Review and correct errors based on comments and suggestions from supervisors	2 days	Fri 17-09-10	Mon 20-09-10
Submit Report No.2 final version	0 days	Mon 20-09-10	Mon 20-09-10

<b>Software Requirements Specifications (SRS)</b>	<b>10 days</b>	<b>Tue 21-09-10</b>	<b>Mon 04-10-10</b>
User Requirement Specification	2 days	Tue 21-09-10	Wed 22-09-10
<b>System Requirement Specification (Specific Requirements)</b>	<b>2 days</b>	<b>Thu 23-09-10</b>	<b>Fri 24-09-10</b>
External Interface Requirements	2 days	Thu 23-09-10	Fri 24-09-10
User Interfaces	1 day	Thu 23-09-10	Thu 23-09-10
Hardware Interfaces	1 day	Fri 24-09-10	Fri 24-09-10
Software Interfaces	1 day	Fri 24-09-10	Fri 24-09-10
Communications Protocol	1 day	Fri 24-09-10	Fri 24-09-10
System Features	2 days	Mon 27-09-10	Tue 28-09-10
<b>Software System Attributes</b>	<b>2 days</b>	<b>Wed 29-09-10</b>	<b>Thu 30-09-10</b>
Reliability	1 day	Wed 29-09-10	Wed 29-09-10
Availability	1 day	Wed 29-09-10	Wed 29-09-10
Security	1 day	Wed 29-09-10	Wed 29-09-10
Maintainability	1 day	Thu 30-09-10	Thu 30-09-10
Portability	1 day	Thu 30-09-10	Thu 30-09-10
Performance	1 day	Thu 30-09-10	Thu 30-09-10
Entity Relationship Diagram or Data Structures	3 days	Wed 29-09-10	Fri 01-10-10
Other material (if any)	9 days	Tue 21-09-10	Fri 01-10-10
Submit Report No.3 draft version	0 days	Thu 30-09-10	Thu 30-09-10
Review and correct errors based on comments and suggestions from supervisors	2 days	Fri 01-10-10	Mon 04-10-10
Submit Report No.3 final version	0 days	Mon 04-10-10	Mon 04-10-10
<b>Software Design Description (SDD)</b>	<b>10 days</b>	<b>Tue 05-10-10</b>	<b>Mon 18-10-10</b>
Design Overview	1 day	Tue 05-10-10	Tue 05-10-10
<b>System Architectural Design</b>	<b>2 days</b>	<b>Tue 05-10-10</b>	<b>Wed 06-10-10</b>
Choice of System Architecture	1 day	Tue 05-10-10	Tue 05-10-10
Discussion of Alternative Designs	1 day	Tue 05-10-10	Tue 05-10-10
Description of System Interface	1 day	Wed 06-10-10	Wed 06-10-10
Component Diagram	1 day	Thu 07-10-10	Thu 07-10-10
<b>Detailed Description of Components</b>	<b>2 days</b>	<b>Fri 08-10-10</b>	<b>Mon 11-10-10</b>
CRC Cards (Class-Responsibility-Collaborators)	1 day	Fri 08-10-10	Fri 08-10-10
Components	1 day	Mon 11-10-10	Mon 11-10-10
Sequence Diagram	1 day	Thu 07-10-10	Thu 07-10-10
<b>User Interface Design</b>	<b>2 days</b>	<b>Tue 12-10-10</b>	<b>Wed 13-10-10</b>
Description of the User Interface	1 day	Tue 12-10-10	Tue 12-10-10
Screen Images	2 days	Tue 12-10-10	Wed 13-10-10
Objects and Actions	1 day	Tue 12-10-10	Tue 12-10-10
Database Design or Data Structures	7 days	Tue 05-10-10	Wed 13-10-10
Other material (if any)	1 day	Tue 05-10-10	Tue 05-10-10
Submit Report No.4 draft version	0 days	Wed 13-10-10	Wed 13-10-10
Review and correct errors based on comments and suggestions from supervisors	3 days	Thu 14-10-10	Mon 18-10-10
Submit Report No.4 final version	0 days	Mon 18-10-10	Mon 18-10-10

<b>Development</b>	<b>25 days</b>	<b>Tue 19-10-10</b>	<b>Mon 22-11-10</b>
Coding	5 days	Tue 19-10-10	Mon 25-10-10
Show code for supervisors	0 days	Mon 25-10-10	Mon 25-10-10
Coding	5 days	Tue 26-10-10	Mon 01-11-10
Show code for supervisors	0 days	Mon 01-11-10	Mon 01-11-10
Coding	5 days	Tue 02-11-10	Mon 08-11-10
Show code for supervisors	0 days	Mon 08-11-10	Mon 08-11-10
Coding	5 days	Tue 09-11-10	Mon 15-11-10
Show code for supervisors	0 days	Mon 15-11-10	Mon 15-11-10
Coding	5 days	Tue 16-11-10	Mon 22-11-10
Show all code for supervisors	0 days	Mon 22-11-10	Mon 22-11-10
<b>Software Test Documentation (STD)</b>	<b>5 days</b>	<b>Tue 23-11-10</b>	<b>Mon 29-11-10</b>
<b>Introduction</b>	<b>0.5 days</b>	<b>Tue 23-11-10</b>	<b>Tue 23-11-10</b>
System Overview	0.5 days	Tue 23-11-10	Tue 23-11-10
Test Approach	0.5 days	Tue 23-11-10	Tue 23-11-10
<b>Test Plan</b>	<b>0.5 days</b>	<b>Tue 23-11-10</b>	<b>Tue 23-11-10</b>
Features to be tested	0.5 days	Tue 23-11-10	Tue 23-11-10
Features not to be tested	0.5 days	Tue 23-11-10	Tue 23-11-10
Testing Tools and Environment	0.5 days	Tue 23-11-10	Tue 23-11-10
<b>Test Cases</b>	<b>1.5 days</b>	<b>Tue 23-11-10</b>	<b>Wed 24-11-10</b>
<b>Checklists</b>	<b>1 day</b>	<b>Thu 25-11-10</b>	<b>Thu 25-11-10</b>
Checklist of Validation	0.5 days	Thu 25-11-10	Thu 25-11-10
Submission Checklist	0.5 days	Thu 25-11-10	Thu 25-11-10
Other material (if any)	3 days	Tue 23-11-10	Thu 25-11-10
Submit Report No.5 draft version	0 days	Thu 25-11-10	Thu 25-11-10
Review and correct errors based on comments and suggestions from supervisors	2 days	Fri 26-11-10	Mon 29-11-10
Submit Report No.5 final version	0 days	Mon 29-11-10	Mon 29-11-10
<b>Software User's Manual (SUM)</b>	<b>5 days</b>	<b>Tue 23-11-10</b>	<b>Mon 29-11-10</b>
Installation Guide	1 day	Tue 23-11-10	Tue 23-11-10
User's Guide	2 days	Wed 24-11-10	Thu 25-11-10
Other [Optional]	4 days	Tue 23-11-10	Fri 26-11-10
Submit Report No.6 draft version	0 days	Thu 25-11-10	Thu 25-11-10
Review and correct errors based on comments and suggestions from supervisors	2 days	Fri 26-11-10	Mon 29-11-10
Submit Report No.6 final version	0 days	Mon 29-11-10	Mon 29-11-10

### 2.3.2. Task Sheet: Assignments and Timetable

Please see in the outside document attached to this report.

**Table 2.2:** Risk management plan:

No	Risk	Probability	Effects	Strategy
1	<i>People risk:</i> Team members are ill at critical times in the project	Moderate	Serious	Reorganize team so that there is more overlap of work and people therefore understand each other's jobs.
2	<i>People risk:</i> Team members contradict each other.	High	Serious	Through open talk, communication team members understand each other better. So that finds out the root cause of the conflict and resolve them. All for the success of the project.
3	<i>People risk:</i> Team member lack the skills required: soft skills (team work), technical skills.	High	Serious	<ul style="list-style-type: none"> <li>- Set up training technique for team members in appropriate time.</li> <li>- Assigned tasks clearly, open talk, team building, and complete clarity in who is response for what and avoid overlapping authority. Make sure that the team goals are totally clear and completely understood and accepted by each team member.</li> </ul>
4	<i>Technology risk:</i> Software that used to develop the system are not free, beta version, patch up...	Moderate	Tolerable	Use open source software, ultimate version and support by manufacturers or community.
5	<i>Requirements risk:</i> Change to requirements which require major design rework are proposed.	Moderate	Serious	Derive traceability information to access requirements change impact; maximize information hiding in the design.

6	<i>Requirements risk:</i> Requirements is not defined clearly, inconsistency in defined SRS, delay in release SRS.	High	Serious	Set up meeting so that develop team can discuss and give the final requirements: functions, non-functions and domain requirements. Make sure that the team goals are totally clear and completely understood. And finish SRS as soon as possible to operate other tasks.
7	<i>Schedule risks:</i> Overestimated or underestimated time required to do the tasks and time to develop the system.	Moderate	Tolerable	Consult supervisor to built appropriate schedule, usually keep track the rate of process in each task of each member to have right modify in schedule.
8	<i>Estimation risk:</i> The size of the software is underestimated	High	Tolerable	Divide the project into phrases, do the keys phrases and develop the rest when have time.

### 2.3.3. All Meeting Minutes

Table 2.3: Meeting minutes 04/Sep/2010

<b>Name of Organization:</b> “Goods Boy” Group <b>Purpose of Meeting:</b> Team members meet each other and define the initial ideas for capstone project <b>Date/Time:</b> Saturday 04/Sep/2010 <b>Location:</b> Library of FPT University			
Topic	Discussion	Action	Person Responsible
<b>1. Idea for capstone project</b>	Give initial ideas for capstone project: - Smart Card - Ecommerce website - New Database	Choose the idea about ecommerce website	All project members (CanhBX, DuyDH, DungTQ, NinhVH, TuanQX)
<b>2. Capstone Project Name</b>	Give names for capstone project: - Goods Road - Goods Way - Product Search Engine	The capstone project is named “Goods Way”	All project members
<b>3. Group Name</b>	Give names for group: - Good Boys - Good Guys	The group is named “Good Boys”	All project members
<b>4. Team leader</b>	Choose team leader for project	CanhBX is the leader of project	All project members

**Table 2.4:** Meeting minutes 11/Sep/2010

<p><b>Name of Organization:</b> "Goods Boy" Group</p> <p><b>Purpose of Meeting:</b> Define software process model, define roles and responsibilities for team members, and choose tools and techniques for developing on.</p> <p><b>Date/Time:</b> Saturday 11/Sep/2010</p> <p><b>Location:</b> Room 213 - FPT University</p>			
Topic	Discussion	Action	Person Responsible
<b>1. Software process model</b>	<p>Choose software process model that suitable for this capstone project:</p> <ul style="list-style-type: none"> <li>- Waterfall model</li> <li>- Iterative Model</li> <li>- Spiral Model</li> </ul>	Choose "Iterative Model"	All project members (CanhBX, DuyDH, DungTQ, NinhVH, TuanQX)
<b>2. Define project roles and responsibilities for team members</b>	<ul style="list-style-type: none"> <li>- Developer</li> <li>- Designer</li> <li>- Business Analysis</li> <li>- Tester</li> <li>- Quality Assurance</li> <li>- Configuration Manager</li> </ul>	<p>All members of project will have specific roles in each phase of development process.</p>	All project members
<b>3. Tools and techniques</b>	<p>Choose tools and techniques:</p> <ul style="list-style-type: none"> <li>- PHP or Java or C#</li> <li>- MySQL or Oracle or MSSQL Server</li> <li>- Tomcat or Jboss</li> </ul>	<p>The tools and techniques choosed:</p> <ul style="list-style-type: none"> <li>- PHP</li> <li>- MySQL</li> <li>- Tomcat</li> </ul>	All project members

**Table 2.5:** Meeting minutes 18/Sep/2010

<b>Name of Organization:</b> “Goods Boy” Group <b>Purpose of Meeting:</b> Define project plan, requirement definitions. <b>Date/Time:</b> Saturday 18/Sep/2010 <b>Location:</b> Library of FPT University			
Topic	Discussion	Action	Person Responsible
<b>1. Project plan</b>	Discuss about project plan: define tasks, estimate time, resource allocation.	Output a software project plan	All project members (CanhBX, DuyDH, DungTQ, NinhVH, TuanQX)
<b>2. Requirement definition</b>	Discuss about user requirements	Break user requirements into functional and non-functional requirements, define use cases	All project members

## Project Success Criteria

**Table 3.1:** Project Success Criteria.

Project Success Criteria
<ul style="list-style-type: none"><li>• Total project cost does not exceed 15% of the initial budget.</li><li>• The actual delivery schedule is within 100 percent of the initial deadline.</li><li>• All high-priority functionality defined in the requirements specification is delivered in the first release.</li><li>• The estimated number of residual defects does not exceed 3 per function point.</li><li>• Load testing confirms successful scale-up to 1,000 concurrent users, with page download times no longer than 3 seconds over a 56K dial-up connection.</li><li>• All unauthorized network intrusions are intercepted, prevented, logged, and reported.</li><li>• Prerelease development rework does not exceed 15 percent of total development effort.</li></ul>

### 3.1. User Requirement Specification

Type	Code	Content
<i>Common User Requirement</i>	GW_CUR_UR1	The system shall allow users to search for goods quickly, efficiently.
	GW_CUR_UR2	The system shall release an announcement if the result was not found.
	GW_CUR_UR3	<p>The system integrated map in order to help user have a visually view when they shopping and more importantly that service help user save money, time and have the best choice:</p> <ul style="list-style-type: none"> <li>✓ Find the shortest way from the user position to the shop that offers the goods, service user looking for.</li> <li>✓ Display all stores offer products that user looking for.</li> <li>✓ Display details information of the store when user select on the map.</li> </ul>
	GW_CUR_UR4	The system shall categorize by brand with notice that a store has promotional or not.
	GW_CUR_UR5	The system shall have the friendly graphical user interface, visual, lifelike, logical layout.
	GW_CUR_UR6	The system shall provide direct payment solution, secure, reliable.
	GW_CUR_UR7	Commit that the system operate stably. It is very not good when users visit the website or manipulate on it while server die or other crash.

	GW_CUR_UR8	The system shall have a mechanism that user can compare and evaluate between supplier for the same product.
	GW_CUR_UR9	System shall allow linking to others e-commerce pages, supply list of e-commerce website.
	GW_CUR_UR10	System shall express detail information of products: <ul style="list-style-type: none"> <li>✓ Common features of the product: technical information, warranty, cost...</li> <li>✓ List stores offer the product, product with same price, or same supplier...</li> <li>✓ Comments assessment from: professional or other user used that product...</li> <li>✓ Accessories</li> </ul>
	GW_CUR_UR11	System shall provide filter in order to search product faster, more convenient. Filter by cost, manufacturer...
	GW_CUR_UR12	System shall provide Vietnamese interface.
	GW_CUR_UR13	System shall allow user check information about stores: address, phone, products and service, scale of stores, has been verified or not...
	GW_CUR_UR14	The system shall provide online shopping cart: <ul style="list-style-type: none"> <li>✓ Automatically calculate money.</li> <li>✓ Save items was selected.</li> </ul>

	GW_CUR_UR15	<p>The system shall provide advertising information, promotional:</p> <ul style="list-style-type: none"> <li>✓ New products.</li> <li>✓ Promotional products</li> <li>✓ Ongoing products.</li> <li>✓ Proffered products (high vote rate by users).</li> <li>✓ Products that promotional time is going to expired.</li> <li>✓ Stores are highly appreciated by user (vote, comment).</li> </ul>
	GW_CUR_UR16	System shall allow user to registry a store on the website to sell goods.
<i><b>Business user requirements</b></i>	GW_BUR_UR1	The system shall create equality between brands regardless well-known brands, new brands, big brands or small brands.
	GW_BUR_UR2	The system shall be the bridge between business and customer. The system shall be the cheapest, the most effective way help businessman in promotional products.
	GW_BUR_UR3	The system shall develop to the level that supports online payment. Doing so will benefit both user and businessman save time, cost, depository...
	GW_BUR_UR4	The system shall help the businessman receive feedbacks, comments from customers in order to more and more improve quality, satisfy customer to create competitive advantage.

<b><i>Single User Requirement</i></b>	GW_BUR_UR5	The system shall create many change to businessman know each other to develop new relationships, find new partners, suppliers, distributors.
	GW_BUR_UR6	The system should update information about products, services as fast as possible to increase confident by customer, post advertisement, promotional.
	GW_SUR_UR1	The system shall save the transactions in the past of the member user; the member user can also check it. So that stores have some preference with patrons.
	GW_SUR_UR2	The system shall commit that patrons will receive preference about cost, promotional.
	GW_SUR_UR3	The system shall allow member user to exchange products, service with other member users.
	GW_SUR_UR4	The system shall allow member user to use electronic signature.
	GW_SUR_UR5	The system shall allow member user to post feedback, comments about products, services, or booking products. They can give evaluation to vendors, stores.
	GW_SUR_UR6	The system shall create a mail box for member user to keep contact with user, send message when manufactures want to notice user about promotional, new services, products, discount or confirm in payment.

## 3.2. System Requirement Specification (Specific Requirements)

### 3.2.1. External Interface Requirements

#### 3.2.1.1. User Interfaces

A user behavior-pane will be available in all workflow scenarios to allow easy access to on-line help and next-step options. The navigation options in every screen will be similar to lower or eliminate the system learning curve.

Input confirmation and error notification will be consistent throughout the application.

#### 3.2.1.2. Hardware Interfaces

##### Common peripheral devices

- ✓ ADSL (or wireless) modem
- ✓ Internet cable
- ✓ Mouse
- ✓ Keyboard

##### Required (minimum) Specifications

- ✓ CPU: Intel(R) Pentium(R) 4 2.4 GHz or better supported
- ✓ RAM: 512MB RAM (768MB for Windows Vista/Win7)
- ✓ Hard Drive: 2GB of free space

##### Recommended Specifications

- ✓ CPU: 2.4 GHz dual core or better supported
- ✓ RAM: 1G for XP; 2G for Vista/ Win7
- ✓ Hard Drive: 2GB of free space

### 3.2.1.3. Software Interfaces

“GoodsWay” system runs on any platform/operating system (includes Windows, Mac OS, Linux and Sun Solaris.) that support the browsers listed below:

- ✓ Firefox (version 3.0 or higher).
- ✓ Google Chrome (version 6 or higher).
- ✓ Internet Explorer (7.0 or higher).

However, because there are restrictions on capstone project completion time and resources involved, in the first release of “GoodsWay” system, “GoodBoys” team will consider Windows7 as the main operating system and Firefox as the main browser for “GoodsWay”.

### 3.2.1.4. Communications Protocol

#### Browsing “GoodsWay” system for gathering goods information

“GoodsWay” system will require communication via the Hyper Text Transfer Protocol (HTTP) to complete interactions based services with client computers. “GoodsWay” system also requires a web browser to function. The Web Browser must comply with standards for HTTP version 1.0 or 1.1. HTTP version 1.0 is a well founded and highly supported protocol. Now considered legacy by some organizations, we believe this is a safe foundation for the system.

“GoodsWay” also indirectly requires some network connection to the internet, over which it may communicate in HTTP. This network connection assumes a physical or wireless connection from the client computer to a consumer Internet Service Provider (ISP) or enterprise environment Local Area Network (LAN).

#### Online Payment Transaction

“GoodsWay” system will use SSL (Secure Sockets Layer) to handle payment transactions. SSL is a protocol (developed by Netscape) for transmitting private information (such as credit card number ...) through the Internet. SSL uses a cryptographic system that uses two types of keys for data encryption.

### 3.2.2. System Features

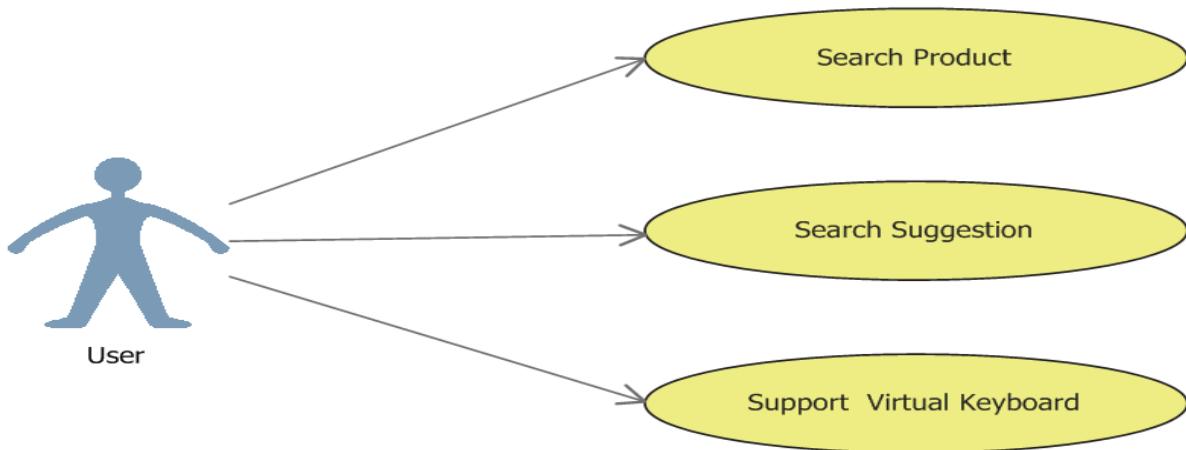
#### 3.2.2.1. Home

This page is the “GoodsWay” system home page, and will be showing whenever user load “GoodsWay” website. This page is show as a product search engine.



**Figure 3.1:** Homepage

#### 3.2.2.1.1. Use Case Diagram



**Figure 3.2:** Home Page’s Use Case Diagram

### **3.2.2.1.2. Use Case Specification**

#### ***Use case 1***

<b>USE CASE-1 SPECIFICATION</b>			
<b>Use-case No.</b>	UC001	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Search Product		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	High
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
After the main page loaded, user can use the search engine to find products him /her type in search box.			
<b>Goal:</b>			
Display all products that may have the search keyword accurately.			
<b>Triggers</b>			
When user press “Search” button, or press Enter key.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Main page loaded successfully.</li> <li>- User types some keyword in the search box.</li> </ul>			
<b>Post Conditions:</b>			
Show Search Result page.			

**Main Success Scenario:**

1. Main page is loaded with the search box.
2. User type keyword in the search box.
3. User presses Enter or Search button.
4. Result page should show up with result (accurate result includes products which name contains the keyword).

**Alternative Scenario:**

None.

**Exceptions:****1. At step 3:**

- If user types nothing in the search box before press Enter/Search, nothing will happen.
- If user types in keyword that not in the database, return Result Page with no result and inform user: "Unfortunately, there is no result for: keyword". Then suggest user with another possible keyword.

**2. At step 4:**

- Cannot redirect user to Search Result page.
- Search Result page display inaccurate results.

**Relationships:**

This case related to Search Result page.

**Business Rule**

- Search function must always available for anyone visits the website.
- System will display results which contain keyword in its name or in its content.
- If user types in more than one keyword, system will display results that contain all the keywords first, then the results which contain most keywords.
- If user uses the caption sign, only results which have all keyword will show up.

***Use case 2***

USE CASE-2 SPECIFICATION			
<b>Use-case No.</b>	UC002	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Search Suggestion		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
When user type something in the search box, an auto complete box will show up, suggest user with some popular keyword.			
<b>Goal:</b>			
To help user choice correct keyword or to remind them about the keyword. Beside, this function may suggest user choice related keyword to search.			
<b>Triggers</b>			
When user input at least a character into search box.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Main page loaded successfully.</li> <li>- User types something in the search box.</li> </ul>			
<b>Post Conditions:</b>			
Complete search box with the suggest keyword and search for it.			
<b>Main Success Scenario:</b>			
<ol style="list-style-type: none"> <li>1. User type a character in the search box.</li> <li>2. An auto complete box shows up with some keywords which are started with the input character.</li> </ol>			

3. User uses the arrow button or mouse to select a keyword in the auto complete box.
4. User presses enter or click left mouse on to choice a keyword.
5. After user choice a keyword in the box, search engine will search for the chosen keyword and Search Result page show up.

**Alternative Scenario:**

None.

**Exceptions:****1. At step 2:**

- If user types something that is not the start of any possible keyword, nothing will show up.

**Relationships:**

None.

**Business Rule**

- The suggestion box must show up if there is any possible keyword start with what user type in.
- The suggestion keyword must be changed whenever user type in a new character so that what user type in will be the start of the suggestion keyword.
- The suggestion box will display up to 10 most popular keywords.
- The suggestion box should not be close until user click mouse, press enter or there is no suitable suggestive keyword.

***User case 3*****USE CASE-3 SPECIFICATION**

<b>Use-case No.</b>	UC003	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Support virtual keyboard		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal

**Actor:**

Visitor, Registered Member

**Summary:**

Web site support and virtual keyboard, which is simulate the real keyboard for user who only use mouse or don't have a keyboard.

**Goal:**

Display the virtual keyboard and let user uses mouse to type the keyword.

**Triggers**

When user click on the keyboard icon near the search box.

**Preconditions:**

- Main page loaded successfully.

**Post Conditions:**

Show the virtual keyboard.

**Main Success Scenario:**

1. User left click on the keyboard icon near the search box.
2. A virtual keyboard shows up under the icon.
3. User uses mouse to click on a character on the virtual keyboard.
4. The character user just type in should be shown in the search box.
5. When user click again in the keyboard icon, the virtual keyboard will close.

**Alternative Scenario:**

None.

**Exceptions:****1. At step 2:**

- The virtual keyboard doesn't show up after user click the keyboard icon.
- The virtual keyboard disappears after show up without user re-click in the icon.

**2. At step 4:**

- Character show in the search box doesn't match with what user click in the virtual keyboard.

**3. At step 5:**

- The virtual keyboard doesn't close when user re-click in the icon.

**Relationships:**

None.

**Business Rule**

- Virtual keyboard must always available for anyone visits the website.
- User can use keyboard normally together with virtual keyboard.
- Virtual keyboard should not be closed once opened until user closes it.

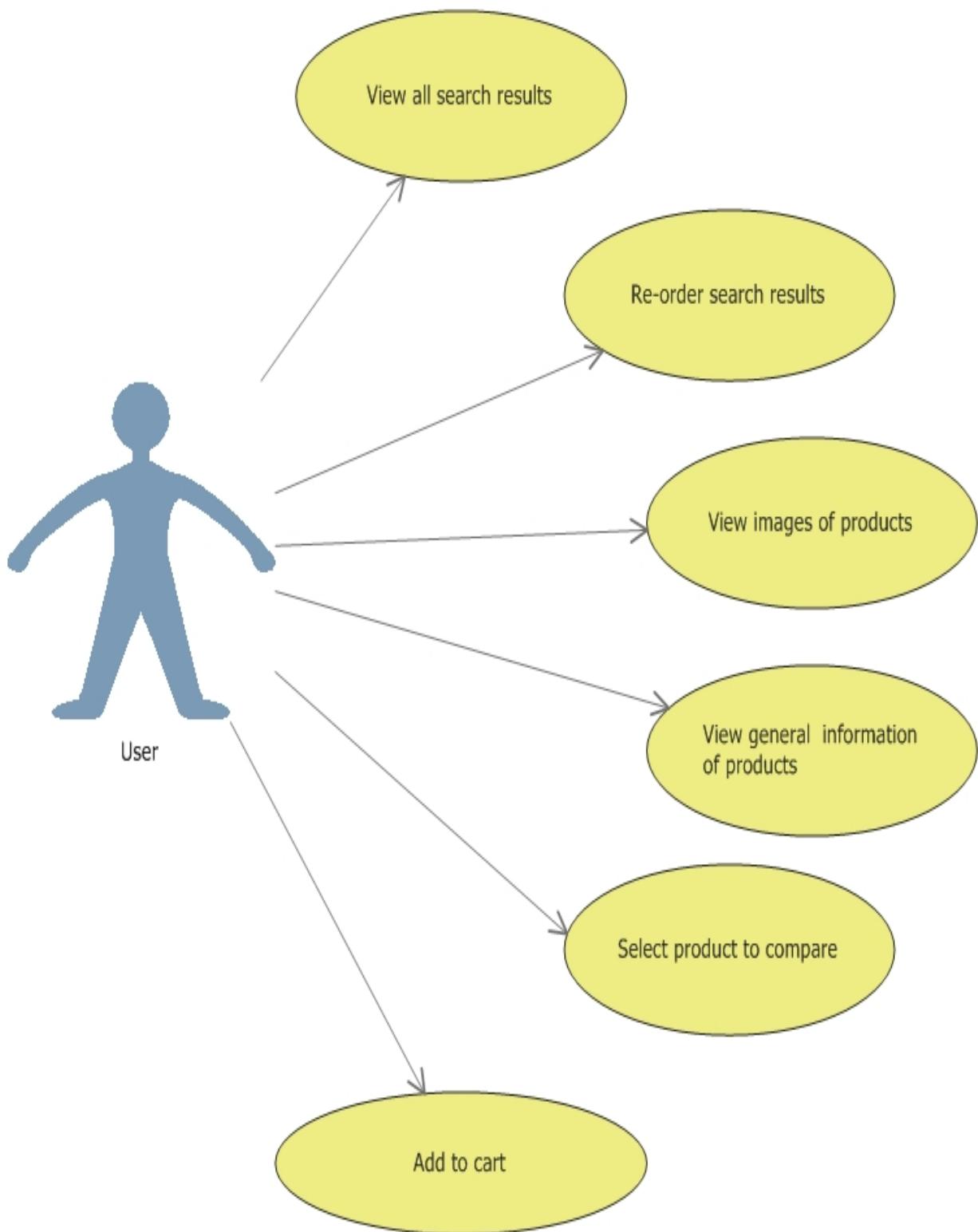
### 3.2.2.2. Search Result

This page will display all results that related to the keyword user typed in search textbox. On this page, user can interact with the system by doing actions that supported only.

The screenshot shows the 'Category Store Promotion' page of the GoodsWay website. At the top, there is a navigation bar with the GoodsWay logo, a search bar, and buttons for 'Search', 'Cart', and 'Compare'. To the left, a sidebar lists categories: Category, Category1, Category2, Category3, Category4, and Category5. The main content area displays a grid of eight product cards, each containing a placeholder 'Product Image' and the word 'Name' below it. Above the grid, there is a search input field with the placeholder 'Search result for: search string...' and buttons for 'Sort' and 'Filter'. At the bottom of the page, there are links for 'About Us', 'Contact', 'Policies', 'Service', and 'Help', along with page navigation buttons for 'Page', 'First', '1', '2', '3', '...', 'Last'.

***Figure 3.3:*** Search result page

### 3.2.2.2.1. Use Case Diagram



**Figure 3.4:** Search result use case diagram

### 3.2.2.2. Use Case Specification

#### *Use case 4*

USE CASE-4 SPECIFICATION			
<b>Use-case No.</b>	UC004	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View all search result		
<b>Author</b>	DungTQ		
<b>Date</b>	25/09/2010	<b>Priority</b>	High
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
After searching or choose category, the system will display all results on “Search Result” page, and results depend on the key word or category that user choose			
<b>Goal:</b>			
Display all results that user want to know			
<b>Triggers</b>			
<ul style="list-style-type: none"> <li>- User click on “Search” button on screen or hit Enter when using search engine</li> <li>- User choose on category on left menu</li> </ul>			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- The keyword that user search must have meaning</li> <li>- User input valid keyword</li> <li>- All results that suitable for keyword must be in database</li> <li>- If user don't want to use search engine, at least one category is chosen</li> </ul>			
<b>Post Conditions:</b>			
After display all results successfully, user click on one result to view details, the system has to redirect user to “Product Details” page			
<b>Main Success Scenario:</b>			
1. Input keyword in search box.			

2. Press “Search” button or hit Enter.
3. The system will redirect user to “Search Result” page.
4. The system will display all results that related to the keyword user has input.

#### **Alternative Scenario:**

1. Choose one category on left menu.
2. The system will redirect user to “Search Result” page.
3. The system will display all results that related to the category user has chosen.

#### **Exceptions:**

##### **1. At step 1:**

- Input keyword doesn't have meaning so the system cannot search for result.
- User input invalid keyword so the system cannot search for result.
- Don't have any data for search keyword in database.
- Don't have any data for selected category in database.

##### **2. At step 4:**

- Input keyword is valid, but don't have any result is suitable for this keyword, so the system cannot display the result.
- The system cannot find any result.
- The displayed results are not correct.
- The displayed results aren't loaded successfully.

#### **Relationships:**

This use case related to search product on Home page screen.

#### **Business Rules:**

- The result for searching must be matched correctly with the keyword that user search.
- If the system cannot find any result, the system must be display message to inform user.
- If the system can get result, all results that related to keyword must be displayed correctly on page.
- The system must inform user the number of results for this key.
- The system display image and name of result only.
- If user select category from left menu, the displayed result is required as above.

***Use case 5***

USE CASE-5 SPECIFICATION			
<b>Use-case No.</b>	UC005	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Re-order search result		
<b>Author</b>	DungTQ		
<b>Date</b>	25/09/2010	<b>Priority</b>	High
<b>Actor:</b>			
Visitor, Registered Member.			
<b>Summary:</b>			
After searching or choose category, the system display all results successfully, user can re-order all search results as they want.			
<b>Goal:</b>			
Allow user to order search result for more comfortable. User can narrow and focus on the result easily.			
<b>Triggers</b>			
User click on re-order button.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- "Search Result" page is loaded successfully.</li> <li>- The system displays more than one result on page.</li> </ul>			
<b>Post Conditions:</b>			
After press re-order button, the results will be displayed successfully in another way.			

**Main Success Scenario:**

1. The search result is displayed successfully on page.
2. User press re-order button to re-order all search results.
3. "Search Result" page is refreshed and displayed all search results successfully in the order that user choose to display.

**Alternative Scenario:**

None.

**Exceptions:****1. At step 3:**

- All search results are not re-ordered.
- "Search Result" page is not refreshed to change.
- The displayed results are not correct.
- The displayed results aren't loaded successfully.

**Relationships:**

View all search result on Search Result screen.

**Business Rules:**

After press on re-order button, all search result must be re-order follow the order criteria, and "Search result" page must be refreshed to update new way of displaying result, and all result will be displayed successfully.

***Use case 6***

USE CASE-6 SPECIFICATION			
<b>Use-case No.</b>	UC006	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View image of products		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	High
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
After searching or choose category, the system display all results successfully, and user can see image of results.			
<b>Goal:</b>			
Provide general view of products. Through this, user will know the shape and color of products.			
<b>Triggers</b>			
When page is loaded.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Products has represented image.</li> <li>- “Search Result” page is loaded successfully.</li> </ul>			
<b>Post Conditions:</b>			
None			

**Main Success Scenario:**

1. User uses the search box.
2. "Search Result" page is loaded.
3. The image of products will be loaded successfully on page.

**Alternative Scenario:**

1. User choice a category.
2. "Search Result" page is loaded.
3. The image of products will be loaded successfully on page.

**Exceptions:****1. At step 2:**

- Some products doesn't have represented image.
- Product's image is not correct.
- Product's image isn't loaded successfully.

**Relationships:**

This use case related to view search result on Search Result screen.

**Business Rules:**

The system has to display all results by display its image correctly.

***Use case 7***

USE CASE-7 SPECIFICATION			
<b>Use-case No.</b>	UC007	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View general information of products		
<b>Author</b>	DungTQ		
<b>Date</b>	25/09/2010	<b>Priority</b>	High

**Actor:**

Visitor, Registered Member

**Summary:**

After searching or choose category, the system display all results successfully, and user can see general information for each result.

**Goal:**

Provide user a general view of result (product) through general information.

**Triggers**

When page is loaded successfully.

**Preconditions:**

- “Search Result” page is loaded successfully.
- Product has general information.

**Post Conditions:**

None

**Main Success Scenario:**

1. User search using search box.
2. "Search Result" page is loaded.
3. All search results are displayed successfully.
4. General information of each product is displayed.

**Alternative Scenario:**

1. User choice a category.
2. "Search Result" page is loaded.
3. The system displays all results of chosen category.
4. General information of each product is displayed.

**Exceptions:****1. At step 4:**

- "Search Result" page isn't loaded successfully.
- Product doesn't have general information in database.
- The displayed general information is not correct.

**Relationships:**

This use case relates to view all search result on Search Result screen.

**Business Rules:**

The system has to display general of each product correctly.

***Use case 8***

USE CASE-8 SPECIFICATION			
<b>Use-case No.</b>	UC008	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Select product to compare		
<b>Author</b>	DungTQ		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal

**Actor:**  
Visitor, Registered Member

**Summary:**  
On “Search Result” page, there are many products displayed on page, so user can compare more than 2 of them to get expected information.

**Goal:**  
Provide user an effective way to pick more than 2 products to compare.

**Triggers**  
When user press “Select to Compare” button.

**Preconditions:**  
- “Search Result” page is loaded successfully.  
- All results are displayed successfully.

**Post Conditions:**  
The selected products will be marked to compare.

**Main Success Scenario:**

1. User uses search box.
2. “Search Result” page is loaded.
3. All search results are displayed successfully.
4. User press on “Select to compare” button to mark product to compare.

**Alternative Scenario:**

1. User choice a category.
2. "Search Result" page is loaded.
3. The system displays all results of chosen category.
4. User press on "Select to compare" button to mark product to compare.

**Exceptions:****1. At step 2:**

- "Search Result" page isn't loaded successfully.

**2. At step 3:**

- Cannot mark product to compare.
- "Select to compare" button isn't displayed on page.

**Relationships:**

This use case relates to compare product on Compare screen.

**Business Rules:**

- After press on "Select to compare" button, the selected product will be marked and added to compare page.
- User has to mark at least 2 products for comparing, but user is not allowed to mark more than 5 products.
- If user marks more than 5 products, the system will display a message to notice user.
- In case of marking successfully, products that are marked will have a sign to inform user that this product is marked, and this product will be add successfully to compare page.
- If user doesn't want to compare, they can deselect each product or deselect all. In that case, product is deselected will be removed from compare page, and its sign will be removed also.

***Use case 9***

USE CASE-9 SPECIFICATION			
<b>Use-case No.</b>	UC009	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Add to cart		
<b>Author</b>	DungTQ		
<b>Date</b>	25/09/2010	<b>Priority</b>	High

**Actor:**

Visitor, Registered Member

**Summary:**

When user want to buy product or user just want to calculate price only, user can add selected product to cart, and the system will add this product to cart page and calculate the price and display the number of item in cart.

**Goal:**

Provide user an effective way to manage his shopping progress through manage: which product is selected, and the number of item, and calculate these's price.

**Triggers**

When user press “Add to Cart” button.

**Preconditions:**

- “Search Result” page is loaded successfully.
- All results are displayed successfully.
- Selected product has details information fully.

**Post Conditions:**

The selected products will be added to shopping cart, and all information of this cart will be calculated automatically.

**Main Success Scenario:**

1. User search using search box.
2. "Search Result" page is loaded.
3. All search results are displayed successfully.
4. User press on "Add to Cart" button to add product to shopping cart.

**Alternative Scenario:**

1. User choice a category.
2. "Search Result" page is loaded.
3. The system displays all results of chosen category.
4. User press on "Add to Cart" button to add product to shopping cart.

**Exceptions:****1. At step 2:**

- "Search Result" page isn't loaded successfully.
- "Add to Cart" button isn't displayed on page.
- The system display number of item in cart incorrectly.
- Cannot add product to shopping cart.

**Relationships:**

This use case relates to shopping cart page.

**Business Rules:**

- After press on "Add to Cart" button, the selected product will be added to shopping cart.
- The added to cart items will be mark with sign to inform user, it means this product has added to cart.
- In case of adding successfully, this product will be displayed in shopping cart.
- The system display number of item in cart.
- After press on "Add to Cart" button, the system will allow user to choose quantity of selected product before adding this to shopping cart.

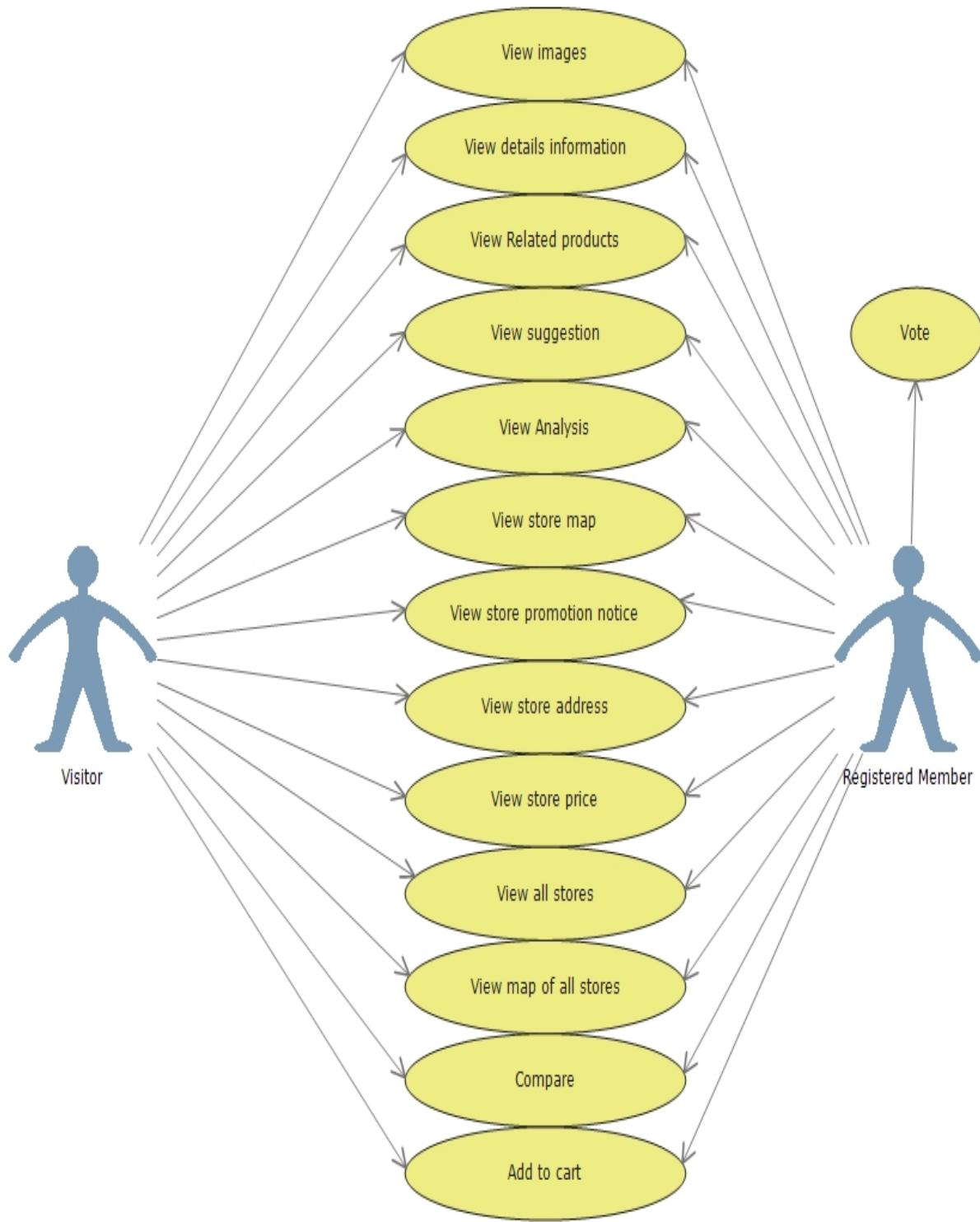
### 3.2.2.3. Product Details

This feature will display all details information of one selected product. It also provides for user some additional information to support the most.

The screenshot shows the 'Product Detail > Product > Product Name' section of the GoodsWay website. On the left, there is a vertical sidebar with a 'Category' header and five categories: Category 1, Category 2, Category 3, Category 4, and Category 5. Below this is a 'Login' section with fields for 'Name' (containing 'abc') and 'Pass' (containing '\*\*\*\*\*'), and buttons for 'Login' and 'Register'. There is also an 'Affiliate' button. At the top right, there is a navigation bar with links for 'Search', 'Cart', and 'Compare'. The main content area displays a 'Product Image' placeholder, a rating of 5 stars, and icons for a shopping cart, a gift bag, and a scale. To the right of the image, the 'ProductName' is listed as 'Detail 1' and 'Detail 2', followed by three horizontal dotted lines. At the bottom of the page, there are links for 'Stores', 'Related', 'Suggestions', 'Analysis', and 'Comments'. Below these are two rows for 'Store 1' and 'Store 2', each showing an address, telephone number, price, and icons for a sun and a gift bag. At the very bottom, there are links for 'About Us', 'Contact', 'Policies', 'Service', and 'Help'.

**Figure 3.5:** Product details page

### 3.2.2.3.1. Use Case Diagram



**Figure 3.6:** Product details use case diagram

### 3.2.2.3.2. Use Case Specification

#### *Use case 10*

USE CASE-10 SPECIFICATION			
<b>Use-case No.</b>	UC010	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View image of selected product		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	High
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
View image of product that user selected for details information.			
<b>Goal:</b>			
Provide general view of product. Through this, user will know the shape and color of product.			
<b>Triggers</b>			
When page is loaded.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Selected product has image.</li> <li>- User selected product after searching.</li> <li>- Product details page is loaded correctly.</li> </ul>			
<b>Post Conditions:</b>			
None.			

**Main Success Scenario:**

1. User select product on search result page.
2. The system will redirect user to product details page.
3. The image of product will be loaded fully on page.

**Alternative Scenario:**

1. User filter product by choose category.
2. The system will display products related to chosen category.
3. User select product for details information.
4. The system will redirect user to product details page.
5. The image of product will be loaded fully on page.

**Exceptions:****1. At step 3:**

- After selected product for details information, system cannot load image because this product doesn't have represented image.
- The image is not correct about this selected product.

**Relationships:**

This use case relates to view details information on Product Details screen.

**Business Rules:**

When Product Details screen is loaded successfully, the system must be display image of selected product correctly, on the top left of screen.

***Use case 11***

USE CASE-11 SPECIFICATION			
<b>Use-case No.</b>	UC011	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View details information		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	High
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
User select product on search result page to view details information and others information that related to this product.			
<b>Goal:</b>			
Provide user a details view of selected product, include: its details information, its technical parameters, its price, professor's analysis, store that sell selected one, related products and suggestion of the system.			
<b>Triggers</b>			
When Product Details page is loaded.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- User select product on search result page.</li> <li>- User is redirected to product details page.</li> <li>- Selected product has details information in database.</li> <li>- Page is loaded fully and correctly.</li> </ul>			
<b>Post Conditions:</b>			
None			
<b>Main Success Scenario:</b>			

1. User select product on search result page.
2. The system will redirect user to product details page.
3. Details information of selected product will be loaded fully on page.

#### **Alternative Scenario:**

1. User filter product by choose category.
2. The system will display products related to chosen category.
3. User select product for details information.
4. The system will redirect user to product details page.
5. The detail information of product will be loaded fully on page.

#### **Exceptions:**

##### **1. At step 3:**

- The system cannot load information because selected product doesn't have details information in database.
- The details information is not correct about this selected product, for example: wrong name, wrong price...
- The details information is not up to date.

#### **Relationships:**

This use case relates to:

- View image of selected product.
- View related product.
- View analysis article about selected product.
- View suggestion.
- View store information.

#### **Business Rules:**

When Product Details page is loaded successfully, all details information of selected product, and others information that related to it, must be displayed correctly on screen.

***Use case 12***

USE CASE-12 SPECIFICATION			
<b>Use-case No.</b>	UC012	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View related products		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	High
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
A comfortable way to see related products. This will be represented in tab which positioned below details.			
<b>Goal:</b>			
User doesn't have to search which products are related to the selected one, the system will list all of them, by this way, and user can view information of each of them easily.			
<b>Triggers</b>			
When page is loaded and user choose “Related Products” tab.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- User is redirected to product details page.</li> <li>- Selected product has related products information in database.</li> <li>- Page is loaded fully and correctly.</li> </ul>			
<b>Post Conditions:</b>			
When user click on one related product in “Related Products” tab, the system will redirect user to “Product details” page, and display all details information about it.			

**Main Success Scenario:**

1. User select product on search result page.
2. The system will redirect user to product details page.
3. Details information of selected product will be loaded fully on page.
4. User choose “Related Products” tab.
5. The system will load all products that relate to selected one.

**Alternative Scenario:**

1. User filter product by choose category.
2. The system will display products related to chosen category.
3. User select product for details information.
4. The system will redirect user to product details page.
5. Details information of selected product will be loaded fully on page.
6. User choose “Related Products” tab.
7. The system will load all products that relate to selected one.

**Exceptions:****1. At step 5:**

- The selected product doesn't have related products.
- The system list related products wrongly.
- When user select product in “Related Products” tab, the system fail to redirect user to “Product Details” page.
- System will inform and apology user, then ask user to report the problem.

**Relationships:**

This use case relates to view details information on Product Details screen.

**Business Rules:**

The system has to find all products that relate to the product that user selected and display all of them in “Related Product” tab, and display its image and its name only.

***Use case 13***

USE CASE-13 SPECIFICATION			
<b>Use-case No.</b>	UC013	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View suggestion of system		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Visitor, Registered Member			
<b>Summary:</b> <p>By collecting and classifying, the system will give many suggestions for user, so user can choose products that similar with selected product.</p>			
<b>Goal:</b> <p>Provide for user an effective way to have chances to choose the best product with the same parameters.</p>			
<b>Triggers</b> <p>When page is loaded and user choose “Suggestion” tab.</p>			
<b>Preconditions:</b> <ul style="list-style-type: none"> <li>- User has to choose product.</li> <li>- User is redirected to product details page.</li> <li>- Page is loaded fully and correctly.</li> <li>- The similar parameter that used to collect and classify to give suggestion must be configured in database by admin.</li> </ul>			
<b>Post Conditions:</b> <p>When user click on one suggested product in “Suggestion” tab, the system will redirect user to “Product details” page, and display all details information about it.</p>			

**Main Success Scenario:**

1. User select product on search result page.
2. The system will redirect user to product details page.
3. Details information of selected product will be loaded fully on page.
4. User choose “Suggestion” tab.
5. The system will load all products that similar to selected one (have the same parameter).

**Alternative Scenario:**

1. User filter product by choose category.
2. The system will display products related to chosen category.
3. User select product for details information.
4. The system will redirect user to product details page.
5. Details information of selected product will be loaded fully on page.
6. User choose “Suggestion” tab.
7. The system will load all products that similar to selected one (have the same parameter).

**Exceptions:****1. At step 5:**

- The system fails to give suggestion.
- When user select product in “Suggestion” tab, the system fail to redirect user to “Product Details” page.

**Relationships:**

This use case relates to view details information on Product Details screen.

**Business Rules:**

With the configured parameter, the system has to find all products that have the same parameter as the product that user selected and display all of them in “Suggestion” tab, and display its image and its name only.

***Use case 14***

USE CASE-14 SPECIFICATION			
<b>Use-case No.</b>	UC014	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View analysis		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
This will be displayed analysis of some experts about this selected product.			
<b>Goal:</b>			
Provide for user a general view about selected product by analysis and feedback of experts, those will analyze about technical issue, or useful function. Therefore, user will make the decision carefully and more safely.			
<b>Triggers</b>			
When page is loaded and user choose "Analysis" tab.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- User has to choose product.</li> <li>- User is redirected to product details page.</li> <li>- Page is loaded fully and correctly.</li> <li>- The selected product has the attached analysis in database.</li> </ul>			
<b>Post Conditions:</b>			
None.			

**Main Success Scenario:**

1. User select product on search result page.
2. The system will redirect user to product details page.
3. Details information of selected product will be loaded fully on page.
4. User choose “Analysis” tab.
5. The system will load all analysis that related to selected product.

**Alternative Scenario:**

1. User filter product by choose category.
2. The system will display products related to chosen category.
3. User select product for details information.
4. The system will redirect user to product details page.
5. Details information of selected product will be loaded fully on page.
6. User choose “Analysis” tab.
7. The system will load all analysis that related to selected product.

**Exceptions:****1. At step 5:**

- The system fails to load analysis.
- The selected product doesn't have any related analysis.
- The system also load analysis of others product.

**Relationships:**

This use case relates to view details information on Product Details screen.

**Business Rules:**

Display all related analysis of selected product correctly. All analysis articles must be displayed with format and its author must be displayed also for copyright.

***Use case 15***

USE CASE-15 SPECIFICATION			
<b>Use-case No.</b>	UC015	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View all stores		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
User can view general information of stores that sell selected product, include: store name, address, price, telephone, view store on map.			
<b>Goal:</b>			
Provide for user general information of stores that sell selected product and user will chose a best store for them.			
<b>Triggers</b>			
When page is loaded and user choose "Store" tab			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- User have to choose product</li> <li>- User is redirected to product details page</li> <li>- Page is loaded fully and correctly</li> <li>- The information of related stores must be in database</li> </ul>			
<b>Post Conditions:</b>			
After clicking on map icon to view positioning of store on map, the system has to display correctly positioning of store on map			
<b>Main Success Scenario:</b>			
<ol style="list-style-type: none"> <li>1. User select product on search result page</li> <li>2. The system will redirect user to product details page</li> </ol>			

3. Details information of selected product will be loaded fully on page
4. User choose “Store” tab
5. The system will load general information of all stores that related to selected product and display in tab

### **Alternative Scenario:**

1. User filter product by choose category
2. The system will display products related to chosen category
3. User select product for details information
4. The system will redirect user to product details page
5. Details information of selected product will be loaded fully on page
6. User choose “Store” tab
7. The system will load general information of all stores that related to selected product and display in tab

### **Exceptions:**

#### **1. At step 5:**

- The system fail to load store information form database
- Store's information isn't in database
- Store name is missing
- Store address is missing
- Store telephone is missing
- Store price is missing
- Cannot load the map to view position of store after clicking on map icon
- Store's information is not correct
- Store's positioning is displayed incorrectly on map

### **Relationships:**

- This use case related to Map page.

### **Business Rules:**

Display general information of all stores that sell selected product correctly. That information include: store name, store address, price of this store, and view store on map.

***Use case 16***

USE CASE-16 SPECIFICATION			
<b>Use-case No.</b>	UC016	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View store name		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	High
<b>Actor:</b> Visitor, Registered Member			
<b>Summary:</b> Display the name of store that sell selected product			
<b>Goal:</b> Allow user to know name of the store			
<b>Triggers</b> When page is loaded and user choose "Store" tab			
<b>Preconditions:</b> <ol style="list-style-type: none"> <li>1. User have to choose product</li> <li>2. User is redirected to product details page</li> <li>3. Page is loaded fully and correctly</li> <li>4. Store information must be in database</li> <li>5. User choose "Store" tab</li> </ol>			
<b>Post Conditions:</b> None			

**Main Success Scenario:**

1. “Search result” page to “Store” tab.
2. The use case starts when user select product on search result page.
3. The system will redirect user to product details page.
4. Details information of selected product will be loaded fully on page.
5. User choose “Store” tab.

**Alternative Scenario:**

1. The use case starts when user filter product by choose category (branch step 1)
2. The system will display products related to chosen category.
3. User select product for details information.
4. The system will redirect user to product details page.
5. Details information of selected product will be loaded fully on page.
6. User choose “Store” tab.

**Exceptions:****1. Incorrectly result(at step 5)**

- 1.a The system display store name incorrectly.
- 1.b Store name is missing.
2. User sends feedback to admin.
3. Admin checks store's information.
4. Admin updates store's information.

**Relationships:**

This use case relates to view stores in Store tab.

**Business Rules:**

Display store name correctly. When user click on store name, the system must be redirect user to store details for more details information.

***Use case 17***

USE CASE-17 SPECIFICATION			
<b>Use-case No.</b>	UC017	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View store address		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
Display the address of store that sell selected product.			
<b>Goal:</b>			
Allow user to know address of the store.			
<b>Triggers</b>			
When page is loaded and user choose “Store” tab.			
<b>Preconditions:</b>			
<ol style="list-style-type: none"> <li>1. User has to choose product.</li> <li>2. User is redirected to product details page.</li> <li>3. Page is loaded fully and correctly.</li> <li>4. Store information must be in database.</li> <li>5. User choose “Store” tab.</li> </ol>			
<b>Post Conditions:</b>			
None			

**Main Success Scenario:**

1. “Search result” page to “Store” tab.
2. The use case starts when user select product on search result page.
3. The system will redirect user to product details page.
4. Details information of selected product will be loaded fully on page.
5. User choose “Store” tab.

**Alternative Scenario:**

1. The use case starts when user filter product by choose category (branch step 1)
2. The system will display products related to chosen category.
3. User select product for details information.
4. The system will redirect user to product details page.
5. Details information of selected product will be loaded fully on page.
6. User choose “Store” tab.

**Exceptions:****1. Incorrectly result(at step 5)**

- 1.a The system display store address incorrectly.
- 1.b Store address is missing.
2. User sends feedback to admin.
3. Admin checks store's information.
4. Admin updates store's information.

**Relationships:**

This use case relates to view stores in Store tab.

**Business Rules:**

Display store address correctly.

***Use case 18***

USE CASE-18 SPECIFICATION			
<b>Use-case No.</b>	UC018	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View store price		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	High
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
Display the name of store that sell selected product			
<b>Goal:</b>			
Allow user to know name of the store			
<b>Triggers</b>			
When page is loaded and user choose “Store” tab			
<b>Preconditions:</b>			
<ol style="list-style-type: none"> <li>1. User have to choose product</li> <li>2. User is redirected to product details page</li> <li>3. Page is loaded fully and correctly</li> <li>4. Store information must be in database</li> <li>5. User choose “Store” tab</li> </ol>			
<b>Post Conditions:</b>			
None			

**Main Success Scenario:**

1. “Search result” page to “Store” tab.
2. The use case starts when user select product on search result page.
3. The system will redirect user to product details page.
4. Details information of selected product will be loaded fully on page.
5. User choose “Store” tab.

**Alternative Scenario:**

1. The use case starts when user filter product by choose category (branch step 1)
2. The system will display products related to chosen category.
3. User select product for details information.
4. The system will redirect user to product details page.
5. Details information of selected product will be loaded fully on page.
6. User choose “Store” tab.

**Exceptions:****1. Incorrectly result(at step 5)**

- 1.a The system display store price incorrectly.
- 1.b Store price is missing.
2. User sends feedback to admin.
3. Admin checks store's information.
4. Admin updates store's information.

**Relationships:**

This use case relates to view stores in Store tab.

**Business Rules:**

Display store price correctly

***Use case 19***

USE CASE-19 SPECIFICATION			
<b>Use-case No.</b>	UC019	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View store map		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	Normal

**Actor:**  
Visitor, Registered Member

**Summary:**  
The store's address is not enough, user can see its positioning visually on map so user can find the way lead to it easily.

**Goal:**  
Allow user to view the positioning of store visually on online map

**Triggers**  
When user press on “View Store map” button.

**Preconditions:**  
- “Product Details” page is loaded successfully.  
- Store address must be in database.

**Post Conditions:**  
The system will display an online map, and the positioning of selected store will be marked on map.

**Main Success Scenario:**  
The use case starts when:  
1. “Product Details” page is loaded.  
2. All details information is displayed successfully.  
3. Choose “Store” tab.  
4. Press on “View Store map” button.

**Alternative Scenario:** None

**Exceptions:**

- 1. “Product Details” page isn’t loaded successfully.**
  1. System display message to confirm customer about error.
  2. The system will redirect user to product page.
- 2. “View Store map” button is not loaded on page.**
  1. System display message to confirm customer about error.
  2. The system will redirect user to product page.
- 3. The system cannot display online map.**
  1. System display message to confirm customer about error.
  2. The system will redirect user to product page.
- 4. The positioning of selected store on map is located incorrectly.**
  1. User sends feedback to admin.
  2. Admin checks store’s information.
  3. Admin updates store’s information.
- 5. The system does not focus automatically on selected store’s positioning.**
  1. User sends feedback to admin.
  2. Admin checks store’s information.
  3. Admin updates store’s information.
- 6. The positioning of selected store is not marked on map.**
  1. User sends feedback to admin.
  2. Admin checks store’s information.
  3. Admin updates store’s information.

**Relationships:**

This use case relates to view stores in Store tab.

**Business Rules:**

After press on “View Store map” button, the system must display an online map, and on that map, the system will focus on the positioning of store automatically, and this will be marked on map to notice user.

***Use case 20***

USE CASE-20 SPECIFICATION			
<b>Use-case No.</b>	UC020	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View store promotion notice		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	Normal

**Actor:**  
Visitor, Registered Member

**Summary:**  
When the store has a new promotion, user always to know that. The system will notice to user by marking stores that has a new promotion.

**Goal:**  
Inform user which store has new promotion.

**Triggers**  
When user choose “Store” tab.

**Preconditions:**  

- “Product Details” page is loaded successfully.
- General information of stores is loaded successfully.
- Store has new promotion.

**Post Conditions:**  
None

**Main Success Scenario:**  
The use case starts when:

1. “Product Details” page is loaded.
2. All details information is displayed successfully.
3. Choose “Store” map.

**Alternative Scenario:**

None

**Exceptions:****1. “Product Details” page isn’t loaded successfully.**

1.1 “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2 “GoodsWay” system will allow user to reload page via “F5” button.

**2. “Store” tab is not loaded on page.**

2.1 “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

2.2 “GoodsWay” system will allow user to reload page via “F5” button.

**3. The system mark promotion notice wrongly.**

3.1 User sends feedback to admin.

3.2 Admin check store’s information.

3.3 Admin update store’s information.

**4. Promotion notice is not loaded on page.**

4.1 “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

4.2 “GoodsWay” system will allow user to reload page via “F5” button.

**Relationships:**

This use case relates to view stores in Store tab.

**Business Rules:**

After choose “Store” tab to view general information of stores that sell selected product, if any store has a new promotion, the system will mark this store to inform user. When user press on this mark icon, the system will redirect user to “Promotion” page for more promotion details.

***Use case 21***

USE CASE-21 SPECIFICATION			
<b>Use-case No.</b>	UC021	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View map of all stores		
<b>Author</b>	DungTQ		
<b>Date</b>	26/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
There are many stores sell one product, so user can view all of those positioning on map.			
<b>Goal:</b>			
Provide user an effective way to view all of store's positioning on map.			
<b>Triggers</b>			
When user press "View all Store map" button.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- "Product Details" page is loaded successfully.</li> <li>- The address of all stores that sell the same product must be in database.</li> </ul>			
<b>Post Conditions:</b>			
All store's positioning will be displayed on an online map.			
<b>Main Success Scenario:</b>			
The use case starts when:			
<ol style="list-style-type: none"> <li>1. "Product Details" page is loaded.</li> <li>2. All details information is displayed successfully.</li> <li>3. Press "View all Store map" button.</li> </ol>			
<b>Alternative Scenario:</b>			
None			

**Exceptions:****1. "Product Details" page isn't loaded successfully.**

1.1 "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2 "GoodsWay" system will allow user to reload page via "F5" button.

**2. "View all Store map" button is not loaded on page.**

2.1 "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

2.2 "GoodsWay" system will allow user to reload page via "F5" button.

**3. The system cannot load online map.**

3.1 "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

3.2 "GoodsWay" system will allow user to reload page via "F5" button.

**4. The positioning of selected store on map is located incorrectly.**

5.1 System display message to confirm customer about error.

5.2 The system will redirect user to product page.

**5. The system does not focus automatically on selected store's positioning.**

5.1 System display message to confirm customer about error.

5.2 The system will redirect user to product page.

**6. The positioning of selected store is not marked on map.****Relationships:**

This use case relates to view details information on Product Details screen.

**Business Rules:**

After press on "View all Store map" button, the system must display an online map, and on that map, the system will focus on the positioning of all stores automatically, and this will be marked on map to notice user.

***Use case 22***

USE CASE-22 SPECIFICATION			
<b>Use-case No.</b>	UC022	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Select product to compare		
<b>Author</b>	DungTQ		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
On "Product Details" page, user can mark this selected product for comparing. In "Product Details" of other products, user can mark as the same way.			
<b>Goal:</b>			
Provide user an effective way to pick more than 2 products to compare.			
<b>Triggers</b>			
When user press "Select to Compare" button.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- "Product Details" page is loaded successfully.</li> <li>- All results are displayed successfully.</li> </ul>			
<b>Post Conditions:</b>			
The selected products will be marked to compare.			
<b>Main Success Scenario:</b>			
The use case starts when:			
1. "Product Details" page is loaded.			

2. All search results are displayed successfully.
3. User press on “Select to Compare” button to mark product to compare.

**Alternative Scenario:**

None

**Exceptions:**

1. “Product Details” page isn’t loaded successfully.
  - 1.1 System display message to confirm customer about error.
  - 1.2 The system will redirect user to product page.
2. Cannot mark product to compare.
  - 2.1 User send feedback to admin.
  - 2.2 Admin check store’s information.
  - 2.3 Admin update store’s information.
3. “Select to Compare” button isn’t displayed on page.

**Relationships:**

This use case relates to Compare.

**Business Rules:**

After press on “Select to Compare” button, the selected product will be marked and added to compare page. User has to mark at least 2 products for comparing, but user is not allowed to mark more than 5 products. If user marks more than 5 products, the system will display a message to notice user. In case of marking successfully, products that are marked will have a sign to inform user that this product is marked, and this product will be add successfully to compare page. If user doesn’t want to compare, they can deselect each product or deselect all. In that case, product is deselected will be removed from compare page, and its sign will be removed also.

***Use case 23***

USE CASE-23 SPECIFICATION			
<b>Use-case No.</b>	UC023	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Add to cart		
<b>Author</b>	DungTQ		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
When user want to buy product or user just want to calculate price only, user can add selected product to cart, and the system will add this product to cart page and calculate the price and display the number of item in cart.			
<b>Goal:</b>			
Provide user an effective way to manage his shopping progress through manage: which product is selected, and the number of item, and calculate these's price.			
<b>Triggers</b>			
When user press "Add to Cart" button.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- "Product Details" page is loaded successfully.</li> <li>- All results are displayed successfully.</li> <li>- Selected product has details information fully.</li> </ul>			
<b>Post Conditions:</b>			
The selected products will be added to shopping cart, and all information of this cart will be calculated automatically.			
<b>Main Success Scenario:</b>			
The use case starts when:			
<ol style="list-style-type: none"> <li>1. "Product Details" page is loaded.</li> </ol>			

2. All search results are displayed successfully.
3. User press on “Add to Cart” button to add product to shopping cart.

**Alternative Scenario:**

None

**Exceptions:**

1. “Product Details” page isn’t loaded successfully.
2. Cannot add product to shopping cart.
3. “Add to Cart” button isn’t displayed on page.
4. The system display number of item in cart incorrectly.
5. The system calculate cart’s price incorrectly.
6. The system add wrong product to shopping cart.
7. The system adds number of selected product wrongly.

**All:**

1. User sends feedback to admin.
2. Admin check store’s information.
3. Admin update store’s information.

**Relationships:**

This use case relates to shopping cart.

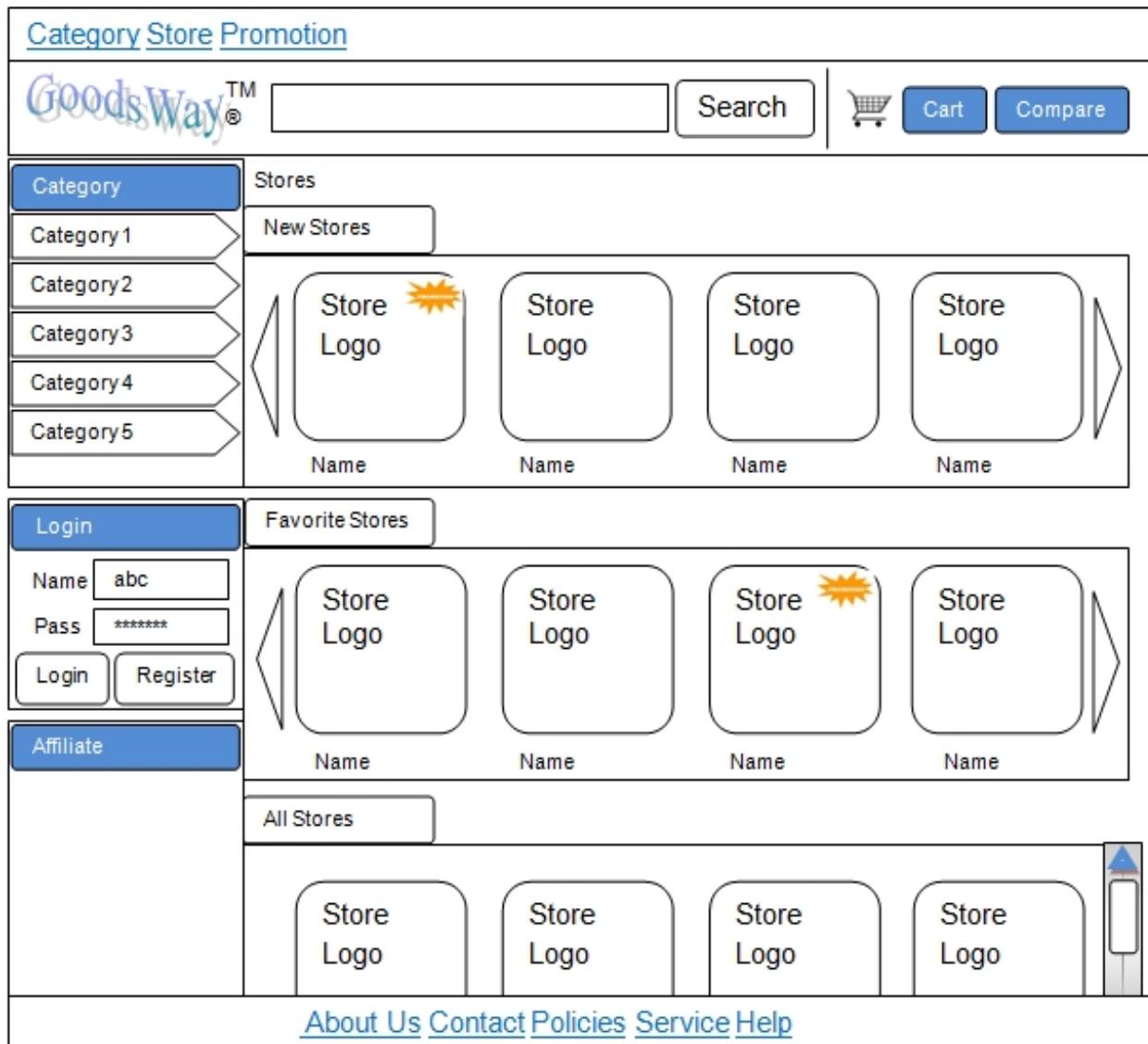
**Business Rules:**

After press on “Add to Cart” button, the selected product will be add to shopping cart, and it will be mark with sign to inform user, it means this product has added to cart. In case of adding successfully, this product will be displayed in shopping cart, and the system will display cart’s price by calculate all item’s price in cart. The system display number of each product in cart, and number of item in cart also.

After press on “Add to Cart” button, the system will allow user to choose quantity of selected product before adding this to shopping cart.

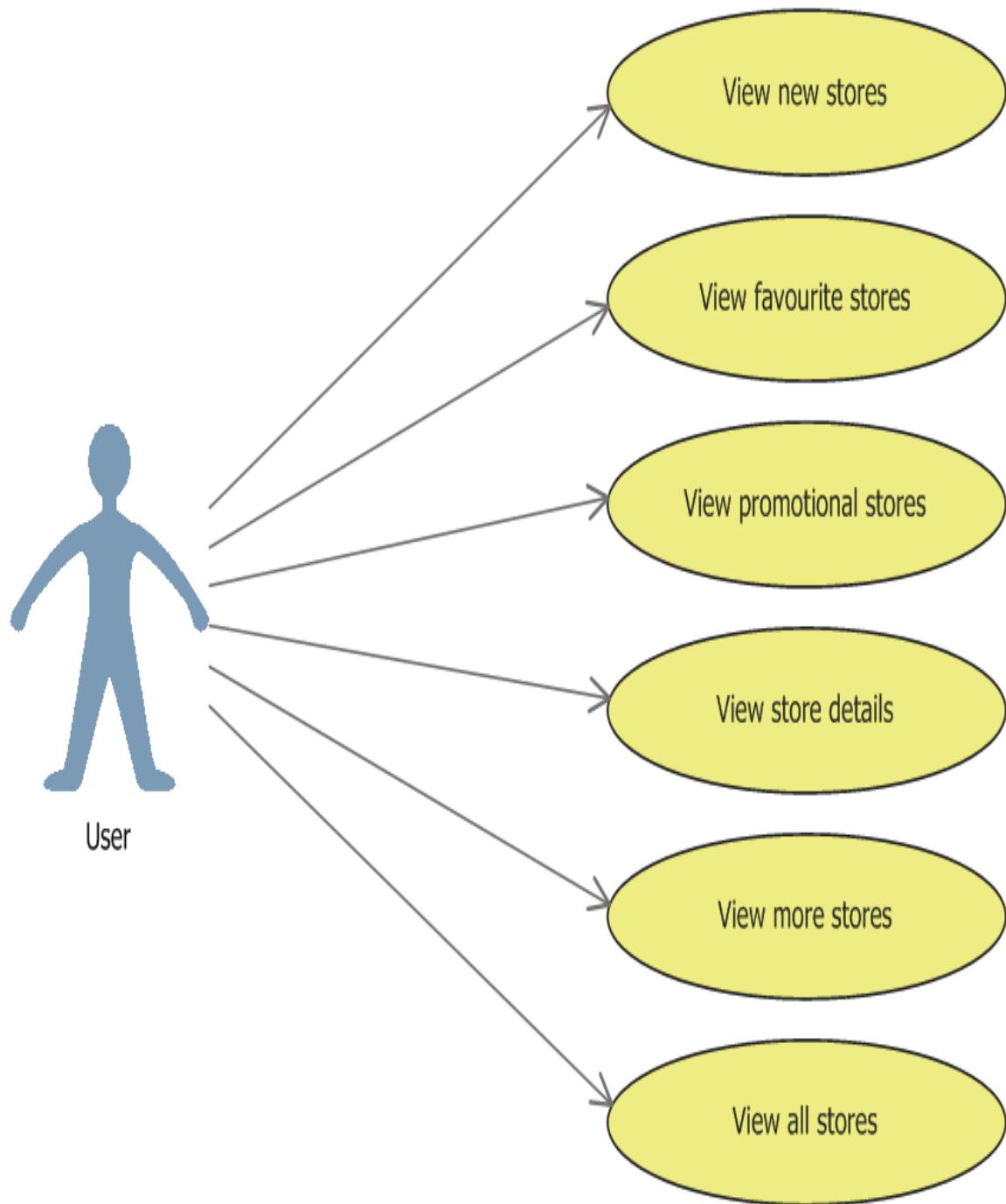
### 3.2.2.4. Store Main Page

This page will display all stores in the website when user click on the “Stores” hyperlink button on the header of the page. On this page, we focus on the new stores and the favorite stores and if users would like to see more stores they can view stores by category. The page also lets users know which store have promotional program.



**Figure 3.7:** Store main page

### 3.2.2.4.1. Use Case Diagram



**Figure 3.8:** Store use case diagram

### 3.2.2.4.2. Use Case Specification

#### *Use case 24*

USE CASE-24 SPECIFICATION			
<b>Use-case No.</b>	UC024	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View new stores		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
View new stores that have just been registered in the website.			
<b>Goal:</b>			
We arrange in this way with the purpose that helps new or unknown stores have changes to come with customers.			
<b>Triggers</b>			
Users click on the “Stores” hyperlink button on the header of the page.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- The store is registered successfully, valid data.</li> <li>- There are new stores exist within 20 days.</li> <li>- User selected “Stores” on the header of the page.</li> </ul>			
<b>Post Conditions:</b>			
The “Store Main” page is loaded successfully.			
<b>Main Success Scenario:</b>			
<ol style="list-style-type: none"> <li>1. The use case starts when user selects “Stores” on the header of the page.</li> </ol>			

2. The “New stores” will be display in the first part of the main panel.
3. The image stand for the store be displayed is the logo of the store will be loaded fully on page.

**Alternative Scenario:**

1. The use case starts when user choose store by category
2. The system will display stores related to chosen category

**Exceptions:**

1. After selected “Stores”, system cannot load image because this product doesn’t have represented image.
2. The image is not correct about this selected product

**All:**

1. User sends feedback to admin.
2. Admin check store’s information.
3. Admin update store’s information.

**Relationships:**

“Store Detail” page: - When user click on the “Store Logo” image.

**Business Rules:**

Stores are considered new if they were approved within 20 from the present day.

***Use case 25***

USE CASE-25 SPECIFICATION			
<b>Use-case No.</b>	UC025	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View favorite stores		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
View favorite stores that are usually visited and transitioned by member users.			
<b>Goal:</b>			
We arrange in this way with the aim that help stores that do good job, trusted by customer are rewarded and have more competitive advantages. It also help user make the right decision that trust by others people.			
<b>Triggers</b>			
Users click on the “Stores” hyperlink button on the header of the page.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- There is store that vote by members user.</li> <li>- User selected “Stores” on the header of the page.</li> <li>- Main store page is loaded correctly.</li> </ul>			
<b>Post Conditions:</b>			
Main store page is loaded correctly.			
<b>Main Success Scenario:</b>			
1. The use case starts when user selects “Stores” on the header of the page.			

2. The “Favorites stores” will be display in the second part of the main panel.
3. The image stand for the store be displayed is the logo of the store will be loaded fully on page.

**Alternative Scenario:**

1. The use case starts when user choose store by category
2. The system will display stores related to chosen category
3. Or the user use the filter function to find stores is voted by member users.

**Exceptions:**

1. After selected “Stores”, system cannot load image because this product doesn’t have represented image.
2. The image is not correct about this selected product
3. There is not store voted by member user. The result nothing.

**All:**

1. User sends feedback to admin.
2. Admin check store’s information.
3. Admin update store’s information.

**Relationships:**

“Store Detail” page: - When user click on the “Store Logo” image.

**Business Rules:**

The store is considered favorite if only it is voted by member user as many as possible and within 3 months from now.

***Use case 26*****USE CASE-26 SPECIFICATION**

<b>Use-case No.</b>	UC026	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View stores details		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	High

**Actor:**

Registered member, visitor.

**Summary:**

View details of each store.

**Goal:**

When the user click on the logo image of each store on the main panel – both for “New stores” and “Favorite stores”- the page “Store details” is navigated and loaded to display. The user will have change to view the details information of the store: Name, address, telephone, products, services, map, promotional or not...

**Triggers**

Users click on the logo image on the main panel of the page and the page is loaded successfully.

**Preconditions:**

- Main store page is loaded correctly.
- The user click on an image.

**Post Conditions:**

- The “Store details” page is loaded successfully.

**Main Success Scenario:**

1. The use case starts when user selects “Logo Store” image on the main panel.
2. The “Store details” will be navigated and displayed.

**Alternative Scenario:**

1. The use case starts when user choose store by category.
2. The system will display stores related to chosen category.

**Exceptions:**

- After selected “Stores”, system cannot load image.
- The image is not correct about this selected product
- After click on the “Logo Store” image, the page “Store details” is not loaded.

All:

1. User sends feedback to admin.
2. Admin check store’s information.
3. Admin update store’s information.

**Relationships:**

“Store Detail” page: - When user click on the “Store Logo” image.

**Business Rules:**

None.

***Use case 27***

USE CASE-27 SPECIFICATION			
<b>Use-case No.</b>	UC027	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View promotional stores.		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
Users should know which stores have promotional program.			
<b>Goal:</b>			
Help the user know which store has promotional program so that if they are interested in it, they can view the details information.			
<b>Triggers</b>			
The user click on the "Stores" hyperlink button and looking at "Main Store" page, if the "Logo Store" image have the icon "Promotional" on the top left of the image that mean that store have promotion program.			
<b>Preconditions:</b>			
- Main store page is loaded correctly. The image is loaded fully.			
<b>Post Conditions:</b>			
<ul style="list-style-type: none"> <li>- The "Store details" page is loaded successfully.</li> <li>- In that store has a big "Promotional" sign and user can view detail about promotional program by click on that sign.</li> </ul>			
<b>Main Success Scenario:</b>			
<ol style="list-style-type: none"> <li>1. The user clicks on the "Stores" on the header of the page and go to the "Main Store" page.</li> </ol>			

2. User looking at the page and see whether or not have a promotional sign on the top left of the “Logo Store” image.
3. If there is promotional sign, user click on the “Logo Store” image that the promotional sign belong to go to the “Store Details” page.
4. After that click on the “Promotional” sign to go to the promotional details page to see the details information.

### **Alternative Scenario:**

1. The user uses filter to purify promotional product or store offers promotional.
2. Click on the “Promotional” sign to go to the promotional details page.

### **Exceptions:**

1. After selected “Stores”, system cannot load successfully.
  - 1.1** “GoodsWay” system will tell user about the problems in network connection:
    - Connection too slow.
    - Connection not available.
  - 1.2** “GoodsWay” system will allow user to reload page via “F5” button.
2. After click on the “Logo Store” image, the page “Store details” is not loaded.
  - 1.3** “GoodsWay” system will tell user about the problems in network connection:
    - Connection too slow.
    - Connection not available.
  - 1.4** “GoodsWay” system will allow user to reload page via “F5” button.
3. After click on the “Promotional” sign, the “Promotional Details” page is not loaded.

### **Relationships:**

- “Store Detail” page: - When user click on the “Store Logo” image.
- “Promotional Detail” page when user clicks on the “Promotional” sign.

### **Business Rules:**

The promotional program exists and validate.

***Use case 28***

USE CASE-28 SPECIFICATION			
<b>Use-case No.</b>	UC028	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View more store.		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
View others new stores or favorite stores.			
<b>Goal:</b>			
The page cannot display all stores in the page, so that user can use the following way to see more stores available in the website.			
<b>Triggers</b>			
<ul style="list-style-type: none"> <li>- The user click on the “Stores” hyperlink button and looking at “Main Store” page.</li> <li>- User click on the triangle on the left or on the right of each panel in the Store Main page.</li> </ul>			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Main store page is loaded correctly. The image is loaded fully.</li> </ul>			
<b>Post Conditions:</b>			
<ul style="list-style-type: none"> <li>- The present “Logo Store” slice and other “Logo Store” image appear.</li> </ul>			
<b>Main Success Scenario:</b>			
<ol style="list-style-type: none"> <li>1. The user clicks on the “Stores” on the header of the page and go to the “Main Store” page.</li> </ol>			

2. User click on the triangle on the left or on the right of each panel – “New Stores” or “Favorite Stores” panel depending on the user.
3. The present “Logo Store” image is sliced and other “Logo Store” image appears stand for other store available in the website.
4. If user continues to click at the triangle the image continue to move over and over.

### **Alternative Scenario:**

1. The user use category or filter to get stores.

### **Exceptions:**

1. After selected “Stores”, system cannot load successfully.
  - 2.1 “GoodsWay” system will tell user about the problems in network connection:
    - Connection too slow.
    - Connection not available.
  - 2.2 “GoodsWay” system will allow user to reload page via “F5” button.
2. After click on the triangle on the left or right image don’t slice.
  - 2.3 “GoodsWay” system will tell user about the problems in network connection:
    - Connection too slow.
    - Connection not available.
  - 2.4 “GoodsWay” system will allow user to reload page via “F5” button.

### **Relationships:**

“Store Main” page: - after click on triangle, only store image is slice, the page does not change.

### **Business Rules:**

The image stand for “Store Logo” is display over and over if users continue to click on triangle if images are sliced finish one period.

***Use case 29*****USE CASE-29 SPECIFICATION**

<b>Use-case No.</b>	UC029	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View all stores		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal

**Actor:**

Registered member, visitor.

**Summary:**

View the stores available in the website.

**Goal:**

In the “Main Store” page has the third panel that contains all stores have been resisted. In that area of page, users can view all stores.

**Triggers**

- Users click on the “Stores” hyperlink button and looking at “Main Store” page.
- Users looking at the third panel name “All stores” of the “Main Stores” page.
- Users can use scroll bar if they would like to.

**Preconditions:**

- Main store page is loaded correctly. The image is loaded fully.

**Post Conditions:**

- When users click on one of the image on this area, the page will be navigated to “Store Types” page.

**Main Success Scenario:**

1. The user clicks on the “Stores” on the header of the page and go to the “Main Store” page.
2. Users scroll the scroll bar to view the “All Stores” area on the “Main Stores” page.
3. Users click on the image in this area to move to “Store Types” to see all stores contains the type of products users are looking for.

**Alternative Scenario:**

None.

**Exceptions:**

1. After selected “Stores”, system cannot load successfully.
  - 1.1 “GoodsWay” system will tell user about the problems in network connection:
    - Connection too slow.
    - Connection not available.
  - 1.2 “GoodsWay” system will allow user to reload page via “F5” button.
2. Cannot navigate to “Store Types” page when users click on the image of “All Stores” panel.
  - 1.1 User send feedback to admin.
  - 1.2 Admin check store’s information.
  - 1.3 Admin update store’s information.

**Relationships:**

“Store Types” page: - When user press on the “Store Type” image, the page “Store Types” is loaded.

**Business Rules:**

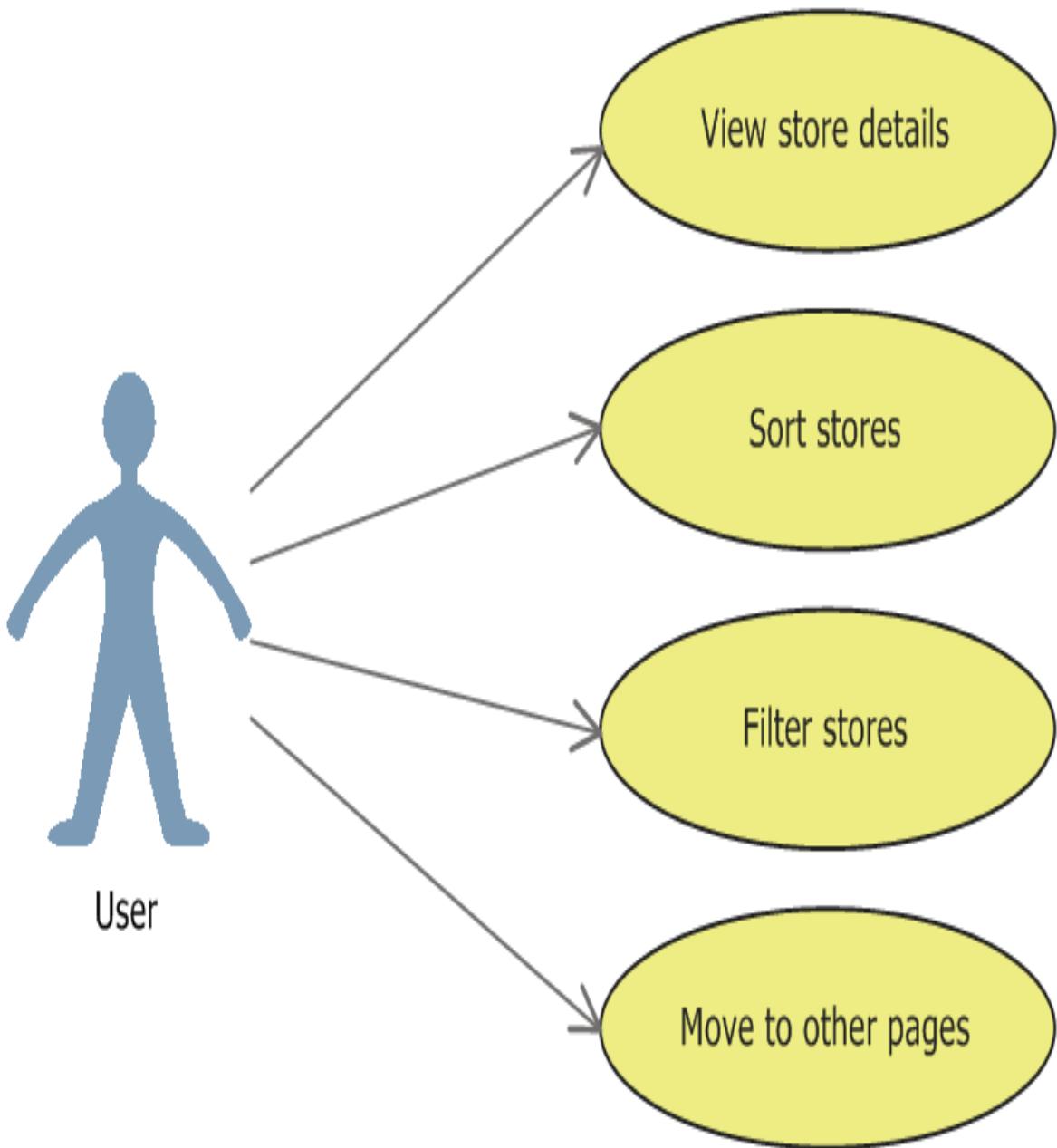
None.

### 3.2.2.5. Store types page

This page display all stores of a specify type. Allow user to sort stores by time resisted, sort by range and allow user to filter store by position, by brands.

The screenshot displays the 'Store types' page of the GoodsWay website. The header features the GoodsWay logo, a search bar, and navigation buttons for Cart and Compare. A sidebar on the left lists categories: Category, Category 1, Category 2, Category 3, Category 4, and Category 5. The main content area shows a grid of four columns. Each column contains a store logo with a sunburst icon, the word 'Store Logo', and the word 'Name' below it. Above the grid, there are 'Sort' and 'Filter' buttons. At the bottom of the page, there are links for About Us, Contact, Policies, Service, and Help. The footer contains a copyright notice for 2013-2014 FPT University.

**Figure 3.9:** Store types page

**3.2.2.5.1. Use Case Diagram**

**Figure 3.10:** Store types use case diagram

### 3.2.2.5.2. Use Case Specification

#### *Use case 30*

USE CASE-30 SPECIFICATION			
<b>Use-case No.</b>	UC030	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Sort Stores		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
Sort stores by range, by promotional, by time store resisted.			
<b>Goal:</b>			
In order to help user to find quickly and efficiently, the website supports sort stores by range for ones would to find stores is trusted and accepted by member users, or sort by time resisted to find new store or sort by promotional to find store offer promotional program.			
<b>Triggers</b>			
When user click on the "Sort" combo box, and choose the sort kind they would like to user. The page will reload the "Store Types" page to display stores after sort.			
<b>Preconditions:</b>			
- "Store Types" page is loaded successfully. And users choose available sort kind.			
<b>Post Conditions:</b>			
- The "Store Types" reload according to the kind of sort chosen.			

**Main Success Scenario:**

1. In the “Store Main Page” users select store type for example laptop, the page will navigate to the “Store Type” page and display all the store offer laptop of all kinds.
2. Users select the sort kind they would like to sort and see the result. They can sort by range, promotional...

**Alternative Scenario:**

- Users can go to this page by using category and use sort like step above.

**Exceptions:**

1. Sort order is not as user choice.
  - 1.1 User send feedback to admin.
  - 1.2 Admin check store's information.
  - 1.3 Admin update store's information.

**Relationships:**

- “Store Types” page: - after user sort stores, the page does not change but the order of the product's type is change.

**Business Rules:**

The order of the product's type is change in increase or decrease order, range.

***Use case 31***

USE CASE-31 SPECIFICATION			
<b>Use-case No.</b>	UC031	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Stores Filter		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
Filter stores by brand, by position.			
<b>Goal:</b>			
In order to help user to find quickly and efficiently, the website supports stores filter by brand name of the store, filter by position for example store in Hanoi, DaNang...			
<b>Triggers</b>			
<ul style="list-style-type: none"> <li>- Users click on the “Filter” combo box, and choose the filter criteria.</li> <li>- The page will reload the “Store Types” page to display stores after filtering.</li> </ul>			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- “Store Types” page is loaded successfully.</li> <li>- User chooses available filter criteria.</li> </ul>			

**Post Conditions:**

The “Store Type” is refreshed to update new way of displaying that follow the selected filter criteria.

**Main Success Scenario:**

1. The use case starts when:
2. User chooses one category on left menu.
3. The system will redirect user to “Store Types” page.
4. The system displays all stores that sell products of selected category.
5. User chooses filter criteria to filter stores.
6. The system displays all results follow selected filter criteria.

**Alternative Scenario:**

None.

**Exceptions:**

1. “Store Type” page is not loaded successfully.
2. The system cannot refresh to update new way of displaying after filtering.
3. Page is refreshed, but nothing is changed.
4. The system display results after filtering not follow selected filter criteria.
5. Filter does not work as expected.

**Relationships:**

This use case relates to view all stores on “Store Type” screen.

**Business Rules:**

The content of the page is filtered depending on the kind of filter.

***Use case 32***

USE CASE-32 SPECIFICATION			
<b>Use-case No.</b>	UC032	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Move to others page		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Registered member, visitor.			
<b>Summary:</b> If there are lots of stores that cannot be display in one page, users are allowed to view next or previous page to view all stores.			
<b>Goal:</b> Go to the specific page that user want to view.			
<b>Triggers</b> User select page number, the system will redirect user to the correct page.			
<b>Preconditions:</b> <ol style="list-style-type: none"> <li>“Store Types” page is loaded successfully.</li> <li>Paging number is displayed on screen.</li> <li>The number of stores that need to display is greater than the number of displayed store on screen.</li> </ol>			
<b>Post Conditions:</b> User is redirected to the correct page.			

**Main Success Scenario:**

1. User select on store type on “Store Main” page.
2. The system redirect user to “Store Types” page.
3. All stores sell products of selected store type are displayed.
4. If the system cannot display all results on 1 page, paging is needed to allow user view all.

**Alternative Scenario:**

None.

**Exceptions:**

- 1. The system does not display paging number.**
    - a. This exception must be corrected in coding.
  - 2. The system does not redirect user to correct page after selecting paging number.**
    - a. This exception must be corrected in coding.
    - b. If this exception occur because of the connection:
      - Connection too slow.
      - Connection not available.
- User press F5 button to refresh page.
- 3. The content of “Store Types” is changed, but the paging number is not changed.**
    - a. This exception must be corrected in coding.

**Relationships:**

None.

**Business Rules:**

When “Store Types” page is loaded successfully, all stores relates to selected category must be displayed on screen. In case of the system cannot display all of them on 1 page, paging number will be displayed to allow user select to view all of stores.

When user click on store logo on “Store Types” page, the system will redirect user to “Store Details” page.

***Use case 33***

USE CASE-33 SPECIFICATION			
<b>Use-case No.</b>	UC033	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View store details		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Registered member, visitor.			
<b>Summary:</b> <p>When user click on logo of one store, the system will redirect user to “Store Details” page. On this page, user can view all details information of selected store: Store name, address, telephone number, products that sold in that store, map to this store, and promotion of this store.</p>			
<b>Goal:</b> <p>View all details information of store.</p>			
<b>Triggers</b> <p>User click on logo of store.</p>			
<b>Preconditions:</b> <ul style="list-style-type: none"> <li>- “Store Main” page is loaded successfully.</li> <li>- User click on store’s logo.</li> <li>- All details information of store must be in database.</li> </ul>			
<b>Post Conditions:</b> <p>Users are redirected to “Store Details” page.</p>			
<b>Main Success Scenario:</b>			

The use case starts when:

1. User goes to “Store Main” page.
2. The system display all stores relates to selected category.
3. User click on store’s logo.
4. The system redirect user to “Store Details” page.
5. All details information of selected store is display.

#### **Alternative Scenario:**

The use case starts when:

1. User goes to “Store Types” page.
2. Back to step 2 of main scenario.

#### **Exceptions:**

1. “Store Details” page is not loaded successfully.
2. The system cannot redirect user to “Store Details” page.
3. The displayed logo is not correct for stores.
4. Store’s logo is not displayed on screen.

#### **Relationships:**

This use case relates to:

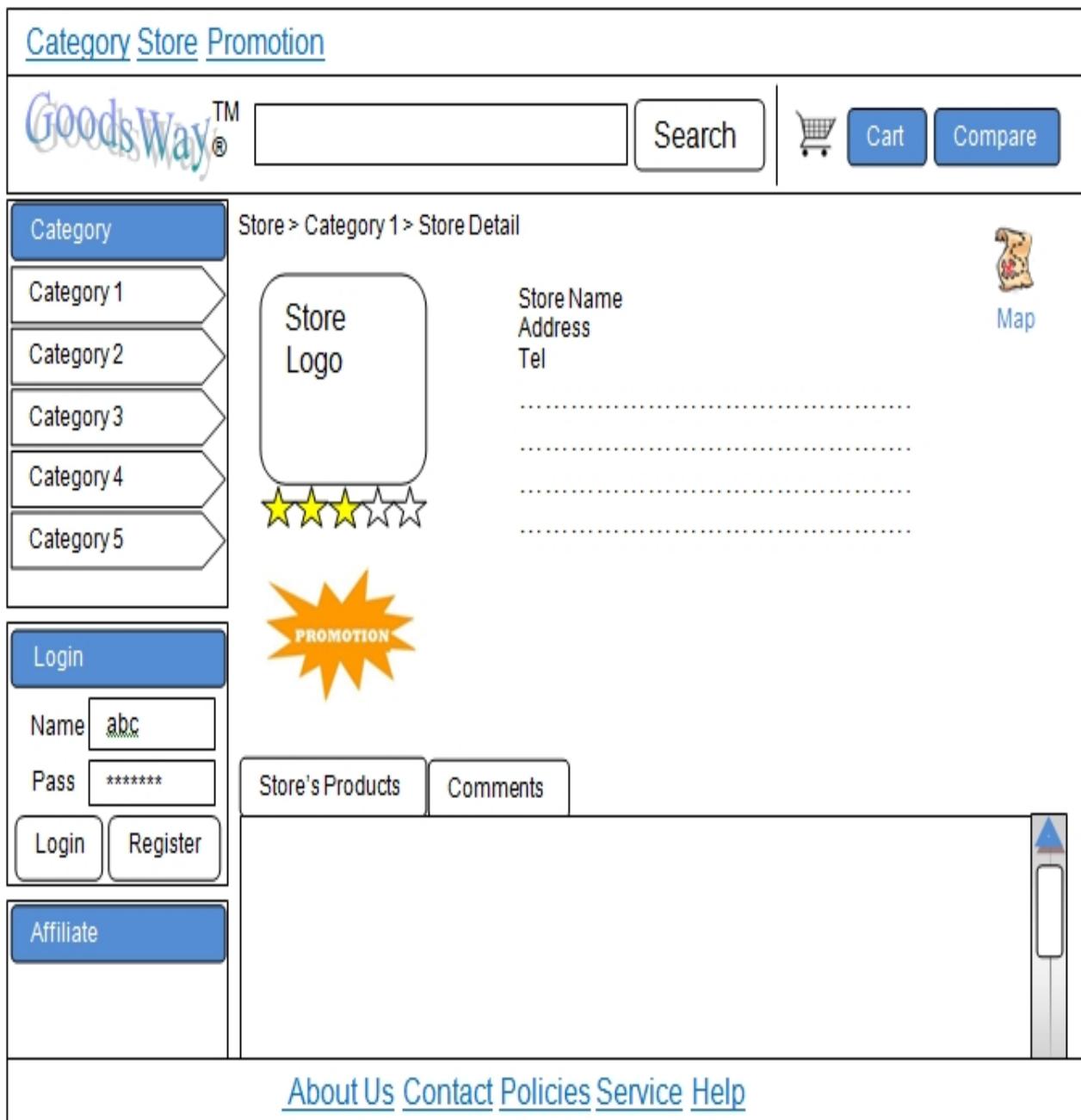
- Store Main page.
- Store Types page.

#### **Business Rules:**

After click on store’s logo on “Store Main” page or “Store Types” page, the system must redirect user to “Store Details” page. All details information of selected store must be displayed correctly on screen.

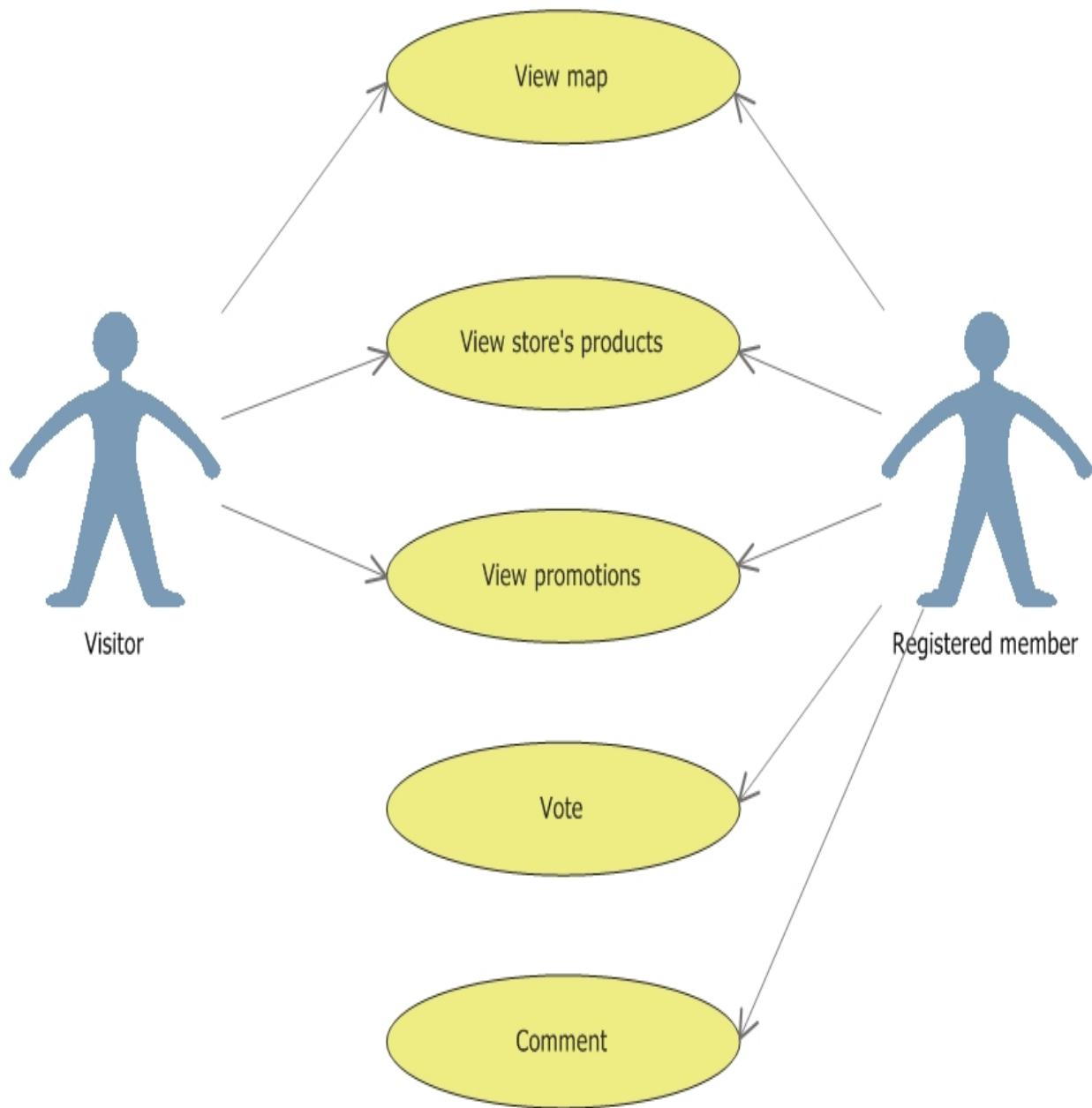
### 3.2.2.6. Store details

This page displays all details information of one specific store. Besides that, user can see which products that store sell and user can use map to find the position of the store. For registered user, they can also vote for the store, the more user vote for the store the more trust they get from the user and it is a competitive advance for that store. Moreover, registered member can also leave their comment to help the store improve their services, products.



**Figure 3.11:** Stores details page

### 3.2.2.6.1. Use Case Diagram



**Figure 3.12:** Stores details use case diagram

### 3.2.2.6.2. Use Case Specification

#### *Use case 34*

USE CASE-34 SPECIFICATION			
<b>Use-case No.</b>	UC034	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View Store's products		
<b>Author</b>	TuanQX		
<b>Date</b>	30/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
User go to “Store Details” page can view products that distributed by selected store. Besides that, user can view more details information about this store.			
<b>Goal:</b>			
View all products distributed in store.			
<b>Triggers</b>			
“Store Details” is loaded and user choose “Store’s products” tab.			
<b>Preconditions:</b>			
<ol style="list-style-type: none"> <li>1. “Store Details” page is loaded successfully.</li> <li>2. Store has distributed products.</li> <li>3. Product information must be in database.</li> </ol>			
<b>Post Conditions:</b>			
None.			
<b>Main Success Scenario:</b>			
<ol style="list-style-type: none"> <li>1. The use case starts when user selects “Stores” on the header of the page.</li> </ol>			

2. Users click on one “Store Logo” image.
3. Navigate to “Store Details” page that display details information about the store.

**Alternative Scenario:**

- Users view product detail page, and click to the store that offer that product, then page is navigated to “Store Details” page, and users can still view store’s products.

**Exceptions:**

1. Store Details page is not loaded successfully.
2. Product’s information is not loaded.
3. The system display store’s products incorrectly.

**Relationships:**

This use case relates to:

- Store Main page.
- Store Types page.

**Business Rules:**

All products that are distributed by selected store must be displayed correctly in “Store’s Products” tab.

***Use case 35***

USE CASE-35 SPECIFICATION			
<b>Use-case No.</b>	UC035	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View Map		
<b>Author</b>	TuanQX		
<b>Date</b>	29/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
User can use map to find position of the store.			
<b>Goal:</b>			
The website support map to help user find identify the position of the store and find the shortest way to go to the store if they would like to.			
<b>Triggers</b>			
User is in the “Store Details” page and click on the map to see the position of the store.			
<b>Preconditions:</b>			
<ol style="list-style-type: none"> <li>1. “Store Details” page is loaded successfully.</li> <li>2. The system displays an online map.</li> </ol>			
<b>Post Conditions:</b>			
Positioning of selected store is displayed on map, and is highlighted.			
<b>Main Success Scenario:</b>			

The use case starts when:

1. User goes to “Store Details” page.
2. Choose “Store’s Products” tab.
3. The system displays all products in this store.
4. User click on “View map” button.
5. The system display positioning of this store on map.

#### **Alternative Scenario:**

None.

#### **Exceptions:**

1. “Store Details” page is not loaded successfully.
2. The system cannot display map.
3. The positioning of selected store is displayed incorrectly.
4. The system does not highlight store’s positioning.

#### **Relationships:**

This use case relates to view store’s details information on “Store Details” screen.

#### **Business Rules:**

The system must display a map. On that map, positioning of store must be displayed correctly and highlighted to inform user.

***Use case 36***

USE CASE-36 SPECIFICATION			
<b>Use-case No.</b>	UC036	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View promotion		
<b>Author</b>	TuanQX		
<b>Date</b>	30/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>  Registered member, visitor.			
<b>Summary:</b>  Users can view the promotional campaign of the store.			
<b>Goal:</b>  If users are interested in the promotional program of the store they can click on the promotional sign to see more.			
<b>Triggers</b> <ul style="list-style-type: none"> <li>- User is in the “Store Details” page.</li> <li>- User clicks on the “Promotional” sign.</li> </ul>			
<b>Preconditions:</b> <ol style="list-style-type: none"> <li>1. “Store Details” page is loaded successfully.</li> <li>2. The store has promotional program.</li> </ol>			
<b>Post Conditions:</b>			

“Promotional Detail” page is loaded.

### Main Success Scenario:

1. The use case starts when user selects “Stores” on the header of the page.
2. Users click on one “Store Logo” image.
3. Navigate to “Store Details” page that display details information about the store.
4. User click on the “Promotional” sign to move to “Promotional Detail” page.

### Alternative Scenario:

- Users can filter to find promotional program and choose a specific store to see the promotional program of that store.

### Exceptions:

1. Each page in the steps to go to the “Store Details” is load unsuccessfully.
2. The system cannot redirect user to “Promotional Detail” page.
3. The system redirect user to promotion campaign of other store.

### Relationships:

This use case relates to view promotion details on “Promotion Details” screen.

### Business Rules:

The store’s promotions that still occur in current time will be listed as hyperlink. After click on link, the system must redirect user to Promotion Details page.

***Use case 37***

USE CASE-37 SPECIFICATION			
<b>Use-case No.</b>	UC037	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Vote for store.		
<b>Author</b>	TuanQX		
<b>Date</b>	30/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>  Registered member.			
<b>Summary:</b>  Members can vote for the store that does the good job.			
<b>Goal:</b>  This function rewards stores that trusted by members. Help the store create competitive advantage beyond other stores. It also helps other user have good choose when they want to make transaction later.			
<b>Triggers</b>  Members click on star icon to vote for the store.			
<b>Preconditions:</b>  1. Member login successfully. 2. Page is loaded successfully.			
<b>Post Conditions:</b>  The rank of store will be updated.			

**Main Success Scenario:**

1. Members login to the website.
2. The use case starts when member selects “Stores” on the header of the page.
3. Members click on one “Store Logo” image.
4. Navigate to “Store Details” page that display details information about the store.
5. Members click on the star sign to vote for the store.

**Alternative Scenario:**

None.

**Exceptions:**

1. Each page in the steps to go to the “Store Details” is load unsuccessfully.
2. After voting, the rank of store is not updated.

**Relationships:**

“Store Details” page.

**Business Rules:**

- Users who are registered member allowed voting for rank of store. The rank is calculated by 5 stars. Anyone who wants to vote must be register to become member.
- After voting, the rank of store must be updated immediately.

***Use case 38***

USE CASE-38 SPECIFICATION			
<b>Use-case No.</b>	UC038	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Comment		
<b>Author</b>	TuanQX		
<b>Date</b>	30/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Registered member.			
<b>Summary:</b> Members can leave to evaluate or give some feedback for the store.			
<b>Goal:</b> Help the store improve the products, service quality or process to satisfy more the demand of members. Then the store can achieve trust from members and other users.			
<b>Triggers</b> <ul style="list-style-type: none"> <li>- Members are in “Store Details” page.</li> <li>- Members cleave comment.</li> <li>- Members click “Post” button to submit their comment.</li> </ul>			
<b>Preconditions:</b> <ul style="list-style-type: none"> <li>- Member login successfully.</li> </ul>			
<b>Post Conditions:</b> <ul style="list-style-type: none"> <li>- The comment is publishing to the comment list in the “Store Detail” page.</li> </ul>			

**Main Success Scenario:**

1. Members login to the website.
2. The use case starts when member selects “Stores” on the header of the page.
3. Members click on one “Store Logo” image.
4. Navigate to “Store Details” page that display details information about the store.
5. Members leave comment, save and press “post” button to submit the comment.

**Alternative Scenario:**

- None.

**Exceptions:**

1. Each page in the steps to go to the “Store Details” is load unsuccessfully.
2. Comment was not posted after member submits.

**Relationships:**

“Store Details” page.

**Business Rules:**

Only user who is member is allowed to leave comment for store. But they are not allowed to submit more than 500 words. And the unethical content is replaced by \* sign or removed.

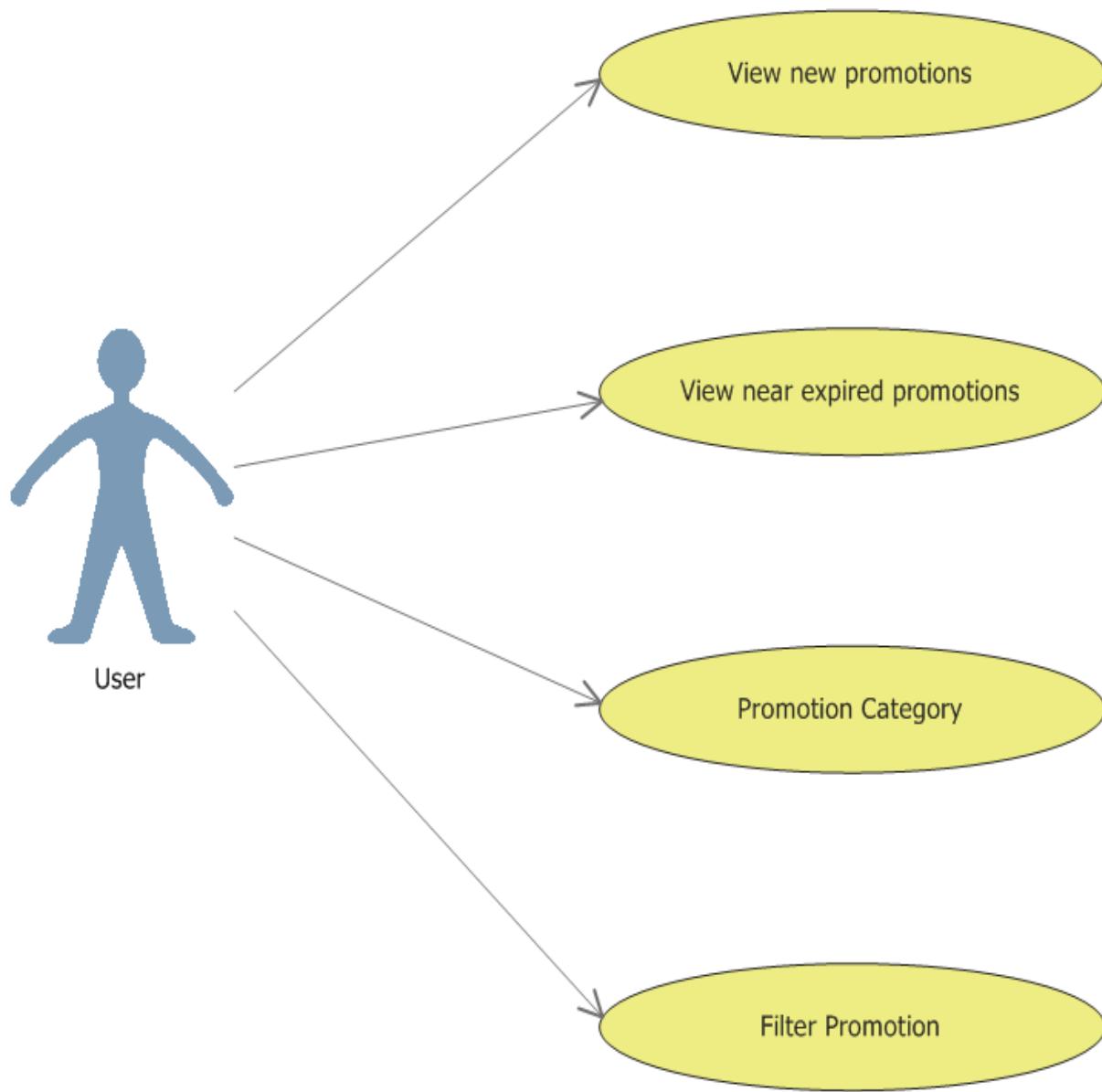
### 3.2.2.7. Promotion

This page is only for promotion, where user can view ads, looking for promotions or sale-off and where business advertize their stores, products and services.



**Figure 3.13:** Promotion page

### 3.2.2.7.1. Use Case Diagram



**Figure 3.14:** Promotion use case diagram

### 3.2.2.7.2. Use Case Specification

#### *Use case 39*

USE CASE-39 SPECIFICATION			
<b>Use-case No.</b>	UC039	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View new promotions		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, registered member			
<b>Summary:</b>			
This feature allow user to view new promotions. There will be ten newest promotions that periodically switch place in the page. User can view more new promotions by click in the “More new promotion” link.			
<b>Goal:</b>			
Provide users with new promotion to encourage to them go shopping. Allow business to advertize their new products and services or promotions sale-off.			
<b>Triggers</b>			
<ul style="list-style-type: none"> <li>- When Promotion page is loaded.</li> <li>- There is a line of new promotions in the page. When user click the round small icon, another new promotion will show up, switch place the present one.</li> <li>- When user wants to view more new promotions, they can press the “more new promotion” link.</li> </ul>			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Promotion page is loaded.</li> </ul>			

**Post Conditions:**

1. New promotion is showed.
2. Allow user to view promotion detail.

**Main Success Scenario:**

1. User choice the Promotion page and the page loaded successfully.
2. A new promotion will show up in it designed place.
3. There will be ten new promotions which are automatically switch place periodically.
4. There are ten small icon allow user to choice which new promotions they want to see.
5. If user clicks in “More new promotion” link, all new promotion within 1 month will show up.

**Alternative Scenario:**

1. When user press on promotion icon in the “Product Detail” page.
2. When user press on promotion icon in the “Store Detail” page.

**Exceptions:**

1. The new promotion doesn't show up.
2. There are duplicate promotions.
3. Promotion's information is not displayed.
4. Promotion's information is displayed incorrectly.

**Relationships:**

If use click in the new promotion, its detail will show up.

**Business Rule**

- The ten promotion show in the Promotion main page must be the newest.
- In the “more new promotions”, promotion within 1 month will be shown.

***Use case 40***

USE CASE- 40 SPECIFICATION			
<b>Use-case No.</b>	UC040	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View near expired promotions		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered member			
<b>Summary:</b>			
This feature allow user to view the near expired promotions like sale-off or some special services. It will remind and encourage them to buy these products.			
<b>Goal:</b>			
To remind user about promotions that are near expired.			
<b>Triggers</b>			
<ul style="list-style-type: none"> <li>- When Promotion page is loaded.</li> <li>- There is a line of near expired promotions in the page. When user click the round small icon, another near expired promotion will show up, switch place the present one.</li> <li>- When user wants to view more near expired promotions, they can press the “more near expired promotion” link.</li> </ul>			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Promotion page is loaded.</li> </ul>			
<b>Post Conditions:</b>			
<ol style="list-style-type: none"> <li>1. Near expired promotion is showed.</li> <li>2. Allow user to view promotion detail.</li> </ol>			

**Main Success Scenario:**

1. User choice the Promotion page and the page loaded successfully.
2. A near expired promotion will show up in it designed place.
3. There will be ten near expired promotions which are automatically switch place periodically.
4. There are ten small icon allow user to choice which near expired promotions they want to see.
5. If user clicks in “More near expired promotion” link, all near expired promotion will show up.

**Alternative Scenario:**

1. When user press on promotion icon in the “Product Detail” page.
2. When user press on promotion icon in the “Store Detail” page.

**Exceptions:**

1. The near expired promotion doesn't show up.
2. There are duplicate promotions.

**Relationships:**

If user click in the near expired promotion, its detail will show up.

**Business Rule**

- The ten promotion show in the Promotion main page must be the most near expired.
- The near expired promotion will be removed when they are expired.

**User case 41**

USE CASE- 41 SPECIFICATION			
<b>Use-case No.</b>	UC041	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Promotion category		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal

**Actor:**  
Visitor, Registered member

**Summary:**  
This feature allows user to choice which category they want to see promotions.

**Goal:**  
To help user view promotion easier, only view what they want to.

**Triggers**  
When user choice/click on a promotion category.

**Preconditions:**  
- The Promotion page is loaded.

**Post Conditions:**  
All promotion in the chosen category will be shown.

**Main Success Scenario:**

- User choice a category. Category here is the same as product category, which mean this will be promotion for this type of product.
- Promotions of the category will show when other promotions will not.

**Exceptions:**

1. Promotions of other category include in the page.
2. There is currently no promotion in the chosen category.

**Relationships:**

- If user click in the near expired promotion, its detail will show up.

**Business Rule**

The category should be updated daily. The new promotion will be split into category and expired promotion will be removed.

***Use case 42*****USE CASE-42 SPECIFICATION**

<b>Use-case No.</b>	UC042	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Promotion filter		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal

**Actor:**

Visitor, Registered member

**Summary:**

This feature allows user to remove all promotions they don't want to see and leave only what they choose. There will be filter by: brand, store, date.

**Goal:**

To help user remove promotions they don't want to see.

## Triggers

When user choice/click on promotion filter.

### **Preconditions:**

- The Promotion page is loaded.

### **Post Conditions:**

All promotion not in the filter area will not show.

### **Main Success Scenario:**

1. User choice filters option.
2. Filter by brand: only promotion by that brand will show up.
3. Filter by store: only promotion by that store will show up.
4. Filter by date: only promotion within chosen period show up.

### **Exceptions:**

1. Promotions of other area include in the page.
2. There is currently no promotion in the chosen filter area.

### **Relationships:**

If use click in the near expired promotion, its detail will show up.

### **Business Rule**

After select filter criteria, the system must refresh the page to update new way of displaying. In this case, all results after filtering must be displayed follow the filter criteria.

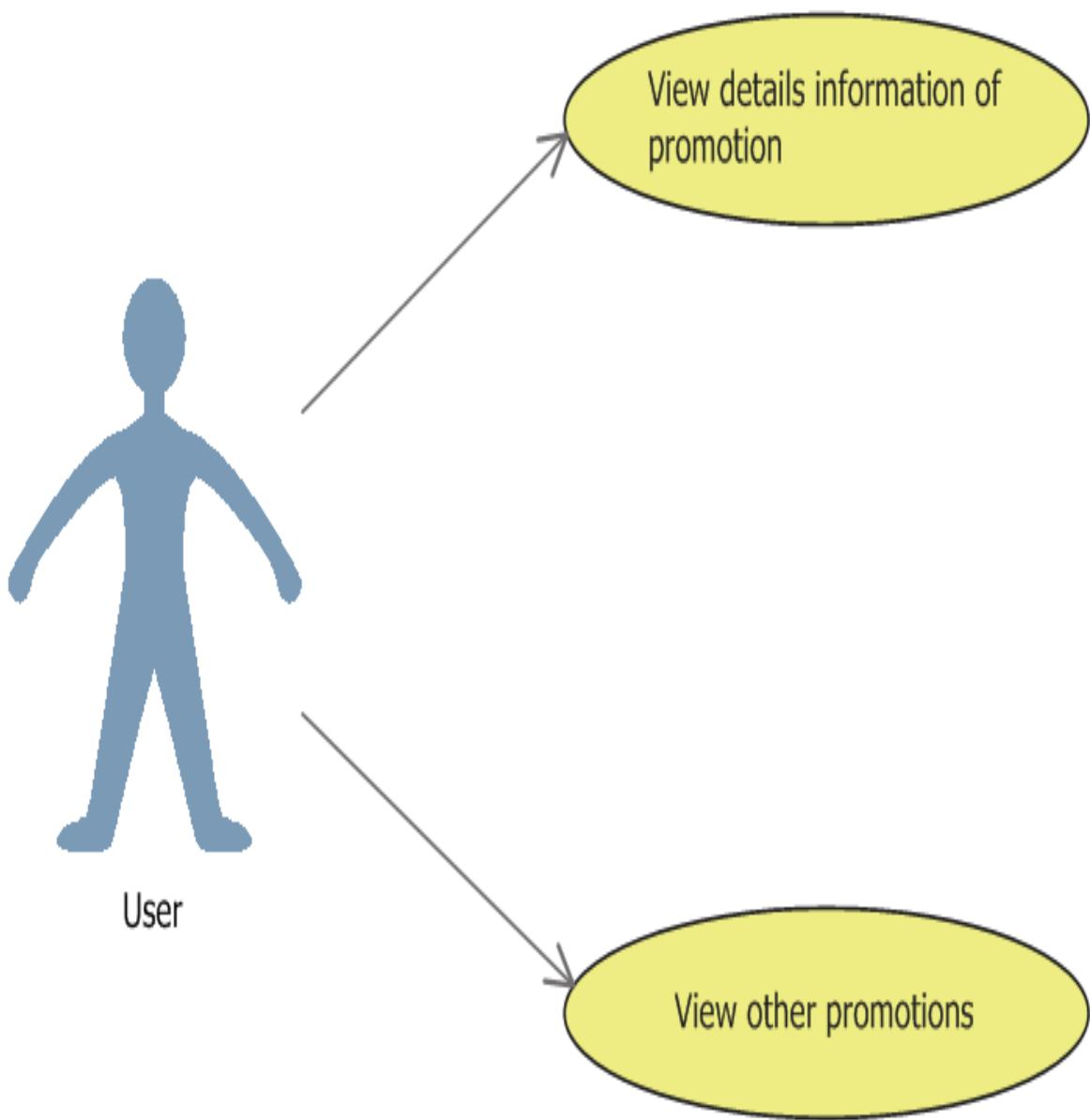
### 3.2.2.8. Promotion Details

This page will display details information of selected promotion. Besides that, user can see other promotions of the same store with the selected one.

The screenshot shows a web application interface for 'Category Store Promotion'. At the top, there is a header with the 'GoodsWay' logo, a search bar, and buttons for 'Search', 'Cart', and 'Compare'. Below the header, a navigation breadcrumb shows 'Promotions > Stores > Promotion Name'. On the left, a sidebar titled 'Category' lists 'Category 1', 'Category 2', 'Category 3', 'Category 4', and 'Category 5'. The main content area displays a 'Visual Effect - Banner' placeholder. In the bottom-left corner, there is a 'Login' section with fields for 'Name' (containing 'abc') and 'Pass' (containing '\*\*\*\*\*'), and buttons for 'Login' and 'Register'. To the right of the login section is a 'Promotion's Detail' panel containing a 'Detail' section with three horizontal dotted lines. At the bottom of the page, there are links for 'About Us', 'Contact', 'Policies', 'Service', and 'Help'.

**Figure 3.15:** Promotion details page

### 3.2.2.8.1. Use Case Diagram



***Figure 3.16:*** Promotion Details use case diagram

### **3.2.2.8.2. Use Case Specification**

#### ***Use case 43***

<b>USE CASE-43 SPECIFICATION</b>			
<b>Use-case No.</b>	UC043	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View details information of selected promotion.		
<b>Author</b>	DungTQ		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor: See details information, view others promotion.			
Registered Member: See details information, view others promotion.			
<b>Summary:</b>			
User can see details information for the promotion that user has selected.			
<b>Goal:</b>			
Display all details information of promotion.			
<b>Triggers</b>			
Select one promotion on promotion home screen.			
<b>Preconditions:</b>			
<ol style="list-style-type: none"> <li>1. User selects one promotion.</li> <li>2. The system redirect user to promotion details screen successfully.</li> <li>3. Page is loaded successfully.</li> <li>4. Promotion has details information in database.</li> </ol>			

**Post Conditions:**

None.

**Main Success Scenario:**

The use case starts when:

1. Select on specific promotion on promotion home screen.
2. The system redirect user to promotion details screen.

**Alternative Scenario:**

1. Select one promotion on “Other Promotions” section on details screen.
2. The system redirect user to promotion details screen.

**Exceptions:**

1. Page is not loaded successfully.
2. The system cannot redirect user to promotion details screen.
3. Details information for selected promotion is displayed wrongly.

**Relationships:**

View others promotion of the same store.

**Business Rules:**

All the details information of promotion that user selected must be displayed correctly on details screen. The system must be display the visual of this promotion also: banner, flash, advertise...

The system must be display other promotion of the same store with the promotion that user has selected.

***Use case 44***

USE CASE-44 SPECIFICATION			
<b>Use-case No.</b>	UC044	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View other promotions.		
<b>Author</b>	DungTQ		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal

**Actor:**

Visitor: View title of other promotions.

Registered Member: View title of other promotions.

**Summary:**

This function provides user the effective way to see all the promotion of one store, so user can make decision to earn many benefits.

**Goal:**

See all promotion of the same store.

**Triggers**

When user click on title of promotion.

**Preconditions:**

1. Store must have more than 2 promotions.
2. Each promotion must be still occurring.

**Post Conditions:**

The system must refresh details screen and all details information of the new selected promotion will be displayed.

**Main Success Scenario:**

The use case starts when:

1. Details screen is loaded successfully.
2. User click on title of other promotion.
3. The system refresh details screen for updating new information.

**Alternative Scenario:**

None.

**Exceptions:**

- Page is not loaded successfully.
- The system cannot redirect user to promotion details screen.
- Details information for selected promotion is displayed wrongly.

**Relationships:**

View details information of selected promotion.

**Business Rules:**

On details screen, all promotion of the same store will be displayed as the hyperlink under the form of title. When user click on each promotion's title, the system must display all details information of the selected promotion, and the old one that user has viewed must be marked to inform user that they have seen it before.

All listed promotion on this section, must be occur in the current. All expired promotions will not be displayed.

### 3.2.2.9. Shopping cart

This page will display all products which user choice to add to shopping cart. On this page, user can interact with the system by doing actions that supported only.

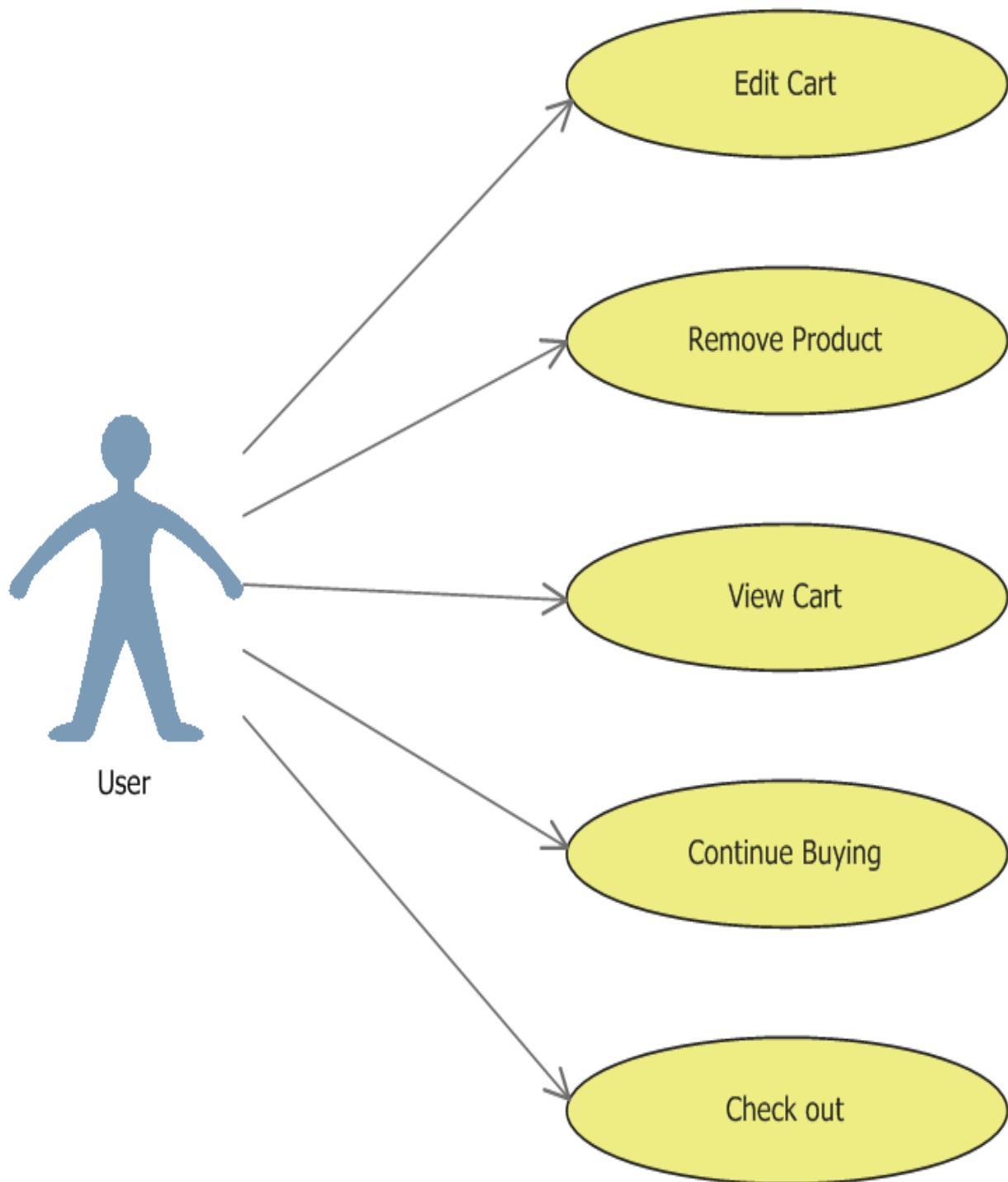
The screenshot shows the 'Category Store Promotion' page with the 'GoodsWay' logo at the top. The main content area is titled 'Cart' and displays 'Shopping Cart Items' with columns for Price, Quantity, and Deliver. Two items are listed:

	Item 1	Item name Store name Promotion (If have)	Price 1.000.000	Quantity 2	Type
<input checked="" type="checkbox"/>	Item 2	Item name Store name Promotion (If have)	2.000.000	1	Type

Total Price: 4.000.000

Buttons at the bottom include 'Continue Buying', 'Check Out', 'Login', and 'Register'. Navigation links at the bottom are 'About Us', 'Contact', 'Policies', 'Service', and 'Help'.

**Figure 3.17:** Shopping cart page

**3.2.2.9.1. Use Case Diagram**

**Figure 3.18:** Shopping cart use case diagram

### **3.2.2.9.2. Use Case Specification**

#### ***Use case 45***

<b>USE CASE-45 SPECIFICATION</b>			
<b>Use-case No.</b>	UC045	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View shopping cart		
<b>Author</b>	NINHVH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
After User click button “Cart” in header, the system will display all results on “Shopping cart” page, and results depend on products which user was choice.			
<b>Goal:</b>			
Display all products that user was choice.			
<b>Triggers</b>			
- User click on “Cart” button on screen.			
<b>Preconditions:</b>			
- If user choice any product, shopping cart shall display nothing product. User choice some products, the system will display all results on “Shopping cart” page.			
<b>Post Conditions:</b>			
The system will display all results on “Shopping cart” page.			

**Main Success Scenario:**

The use case starts when:

1. User choice some products add to shopping cart
2. Press “Cart” button.
3. The system will redirect user to “Shopping cart” page.
4. The system will display all products which user choice.

**Alternative Scenario:**

- User log in “GoodsWay” system. Then Press “Cart” button.

**Exceptions:**

1. The displayed results aren't loaded successfully.

**Relationships:**

1. Use case Edit shopping cart.
2. User case Remove shopping cart.

**Business Rules:**

- The results for shopping cart must be matched correctly with the products that user choice. If the system cannot find any product, the system must be display message to inform user, if the system can get result, system shall display all results. Besides that, the system must inform user know the quantity of products, price for each product and total price.
- If user select shopping cart from “individual” page, the displayed result is required as last times which user visit system.

***Use case 46***

USE CASE-46 SPECIFICATION			
<b>Use-case No.</b>	UC046	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Edit shopping cart		
<b>Author</b>	NINHVH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
After User click button “Cart” in header, the system will display all results on “Shopping cart” page, and results depend on products which user was choice. User can edit quantity, shipment method, and payment method of products in shopping cart.			
<b>Goal:</b>			
Edit success full value of quantity, shipment method and payment method.			
<b>Triggers</b>			
<ul style="list-style-type: none"> <li>- User click on “Cart” button on screen</li> <li>- User click on “Edit” button on same row with product</li> </ul>			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- If user edit product, value quantity, shipment method, payment method of product shall change status from read-only to editable.</li> </ul>			
<b>Post Conditions:</b>			
<ul style="list-style-type: none"> <li>- “Edit” button change “save” button. After change some value, user click on “Save” button. System shall apply change value for shopping cart.</li> </ul>			
<b>Main Success Scenario:</b>			
The use case starts when:			
<ol style="list-style-type: none"> <li>1. User choice some products add to shopping cart</li> <li>2. Press “Cart” button.</li> <li>3. The system will redirect user to “Shopping cart” page.</li> </ol>			

4. The system will display all products which user choice.
5. Press “Edit” button.
6. The value quantity, shipment and payment change status form read-only to editable.
7. The user changes some value.
8. Press “Save” button.

#### **Alternative Scenario:**

1. User double clicks to value quantity, shipment, payment.
2. Return to step 6.

#### **Exceptions:**

##### **1. The displayed results aren't loaded successfully (after step 4).**

1.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

##### **2. User can't edit value.**

System informs user that server busy or transaction timeout.

- User can wait for minutes.
- User can select another case.
- System terminates the use case.

##### **3. User edited value of product but system don't save that change.**

3.1 System informs user that maybe have problem in connection network.

3.2 User can check for network connection.

3.3 User re-processes the change action.

3.4 User selects another case or terminates case.

3.5 System terminates the use case.

#### **Relationships:**

Use case View shopping cart

#### **Business Rules:**

- Change value of product on “Shopping cart” page, system shall change value on database system.

***Use case 47***

USE CASE-47 SPECIFICATION			
<b>Use-case No.</b>	UC047	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Remove product from shopping cart		
<b>Author</b>	NINHVH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Visitor, Registered Member			
<b>Summary:</b> After User click button "Cart" in header, the system will display all results on "Shopping cart" page, and results depend on products which user was choice. User can remove some product from shopping cart.			
<b>Goal:</b> Product which uses choice to remove disappears on "Shopping cart" page and calculate again total price. System shall remove this record on database system.			
<b>Triggers</b> <ol style="list-style-type: none"> <li>User click on "Cart" button on screen</li> <li>User click on "X" button on same row with product</li> </ol>			
<b>Preconditions:</b> <ul style="list-style-type: none"> <li>- Shopping cart has at least one product.</li> </ul>			
<b>Post Conditions:</b> <ul style="list-style-type: none"> <li>- Product which uses choice to remove disappears on "Shopping cart" page and calculate again total price.</li> </ul>			
<b>Main Success Scenario:</b> The use case starts when:			

1. User choice some products add to shopping cart
2. Press “Cart” button.
3. The system will redirect user to “Shopping cart” page.
4. The system will display all products which user choice.
5. Press “X” button.

#### **Alternative Scenario:**

None.

#### **Exceptions:**

##### **1. The displayed results aren't loaded successfully.**

- System informs user that maybe the network connection error.
- User checks network connection.
- User cancels the use case.
- System terminates the use case.

##### **2. User can't remove product.**

- System informs user that maybe the network connection error.
- User checks network connection.
- User cancels the use case.
- System terminates the use case.

##### **3. User remove product on screen but system don't remove on database.**

- System informs user that maybe the database connection error.
- User selects another use case.
- System terminates the use case.

#### **Relationships:**

##### **4. Use case View shopping cart**

#### **Business Rules:**

- Remove product on screen. System removes record on database and calculate again total price.

***Use case 48***

USE CASE-48 SPECIFICATION			
<b>Use-case No.</b>	UC048	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Continue Buying		
<b>Author</b>	NINHVH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor			
Registered Member			
<b>Summary:</b>			
After User click button “Continue Buying” in header, the system will display all results on “Search Result” page last session.			
<b>Goal:</b>			
Display “Search Result” in last session.			
<b>Triggers</b>			
User click on “Continue Buying” button on “Shopping cart” page.			
<b>Preconditions:</b>			
1. User visited “Search Result” page.			
<b>Post Conditions:</b>			
- The system will display “Search Result” page.			

**Main Success Scenario:**

The use case starts when:

1. Press “Continue Buying” button.
2. The system will redirect user to “Search result” page.

**Alternative Scenario:**

None.

**Exceptions:**

- 1. The displayed results aren't loaded successfully.**
  - System informs user that maybe network connection error or database connection error.
  - User can check for network connection and press F5 to refresh.
  - User can selected other use case.
- 2. User didn't visit “Search Result” page before visiting “Shopping cart”**
  - System informs user that he/she should visit ”Search Result” page before visit “Shopping cart” page.
- 3. The system don't redirect user to “Search result” page.**
  - System informs user that maybe have error in network connection.
  - User can check and press F5.

**Relationships:**

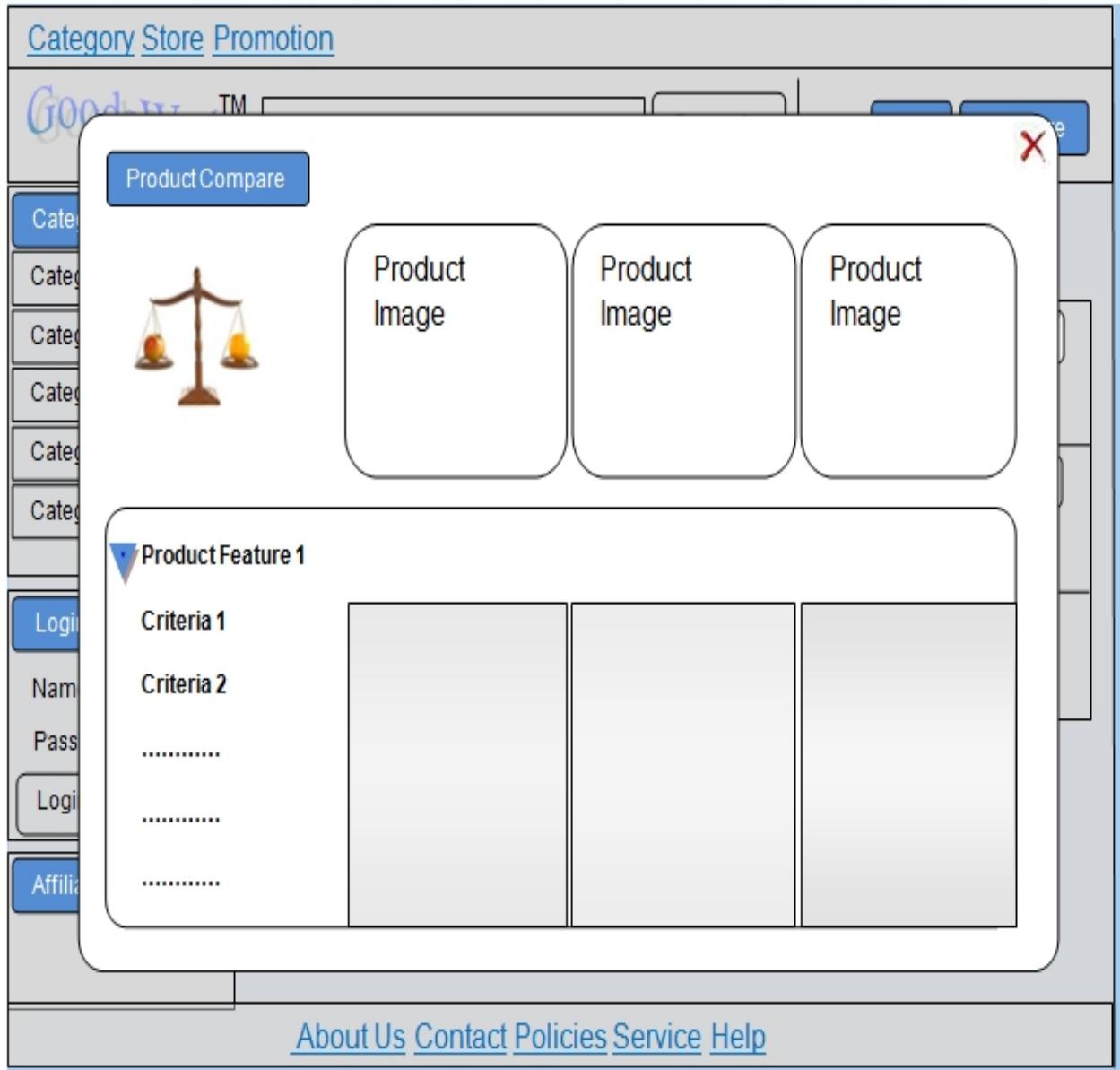
2. “Search Result” page.

**Business Rules:**

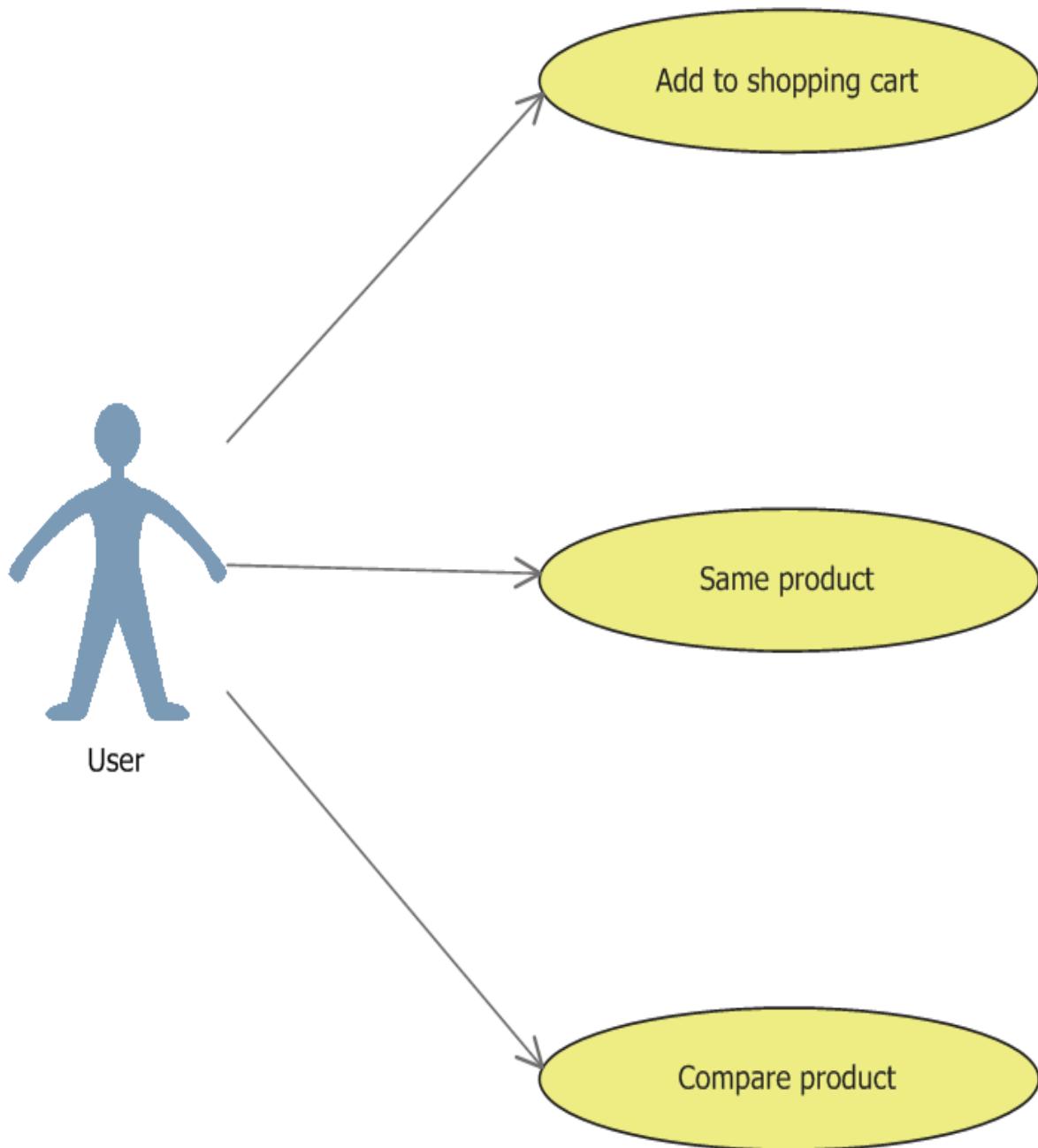
- If user didn't visit “Search Result” page, The system will redirect user to “Home” page.

### 3.2.2.10. Product compare

This page will display all products which user choice to compare. On this page, system shall calculate to compare attributes of products to show statics. User choose suit product easily.



***Figure 3.19:*** Product compare page

**3.2.2.10.1. Use Case Diagram**

**Figure 3.20:** Compare product use case diagram

### 3.2.2.10.2. Use Case Specification

#### *Use case 49*

USE CASE-49 SPECIFICATION			
<b>Use-case No.</b>	UC049	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Compare Product		
<b>Author</b>	NINHVH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
After User click button “Compare” in header, the system will display all results on “Product Compare” page, and results depend on products which user was choice.			
<b>Goal:</b>			
Compare attributes of same products to help user to choice suit product.			
<b>Triggers</b>			
<ol style="list-style-type: none"> <li>1. User click on “Compare” button on screen</li> <li>2. User choice at least two same product to compare</li> </ol>			
<b>Preconditions:</b>			
- User choice at least two same product.			
<b>Post Conditions:</b>			
- The system will display “Product Compare” page, display the table to compare each attribute to define suit product with user.			
<b>Main Success Scenario:</b>			
The use case starts when:			

1. User choice some products add to compare.
2. Press “Compare” button.
3. The system will redirect user to “Product Compare” page.
4. The system will display all products which user choice to compare.

**Alternative Scenario:**

1. If user choice only one product or didn't choose any product.
2. Press “Compare” button.
3. The system still redirect user to “Product Compare” page and no compare action.

**Exceptions:**

1. The displayed results aren't loaded successfully.
  - System informs user that maybe the connection timeout or network connection error.
  - User can press F5 to refresh the page or check for network connection.
2. User compare products belong to different kinds.
  - System informs user that cannot compare products of different kinds.
  - System terminates the use case.

**Relationships:**

-After compare product done, “Search result” page will be displayed.

**Business Rules:**

- Products must have same category. User must choose more two products to compare.

***Use case 50***

USE CASE-50 SPECIFICATION			
<b>Use-case No.</b>	UC050	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Add to shopping cart		
<b>Author</b>	NINHVH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
After User click “Add to Cart” button in header.			
<b>Goal:</b>			
System add product which user choice to shopping cart.			
<b>Triggers</b>			
<ol style="list-style-type: none"> <li>1. “Product Compare” page has more one product</li> <li>2. User click “Add to Cart” button.</li> </ol>			
<b>Preconditions:</b>			
<ol style="list-style-type: none"> <li>1. “Product Compare” page has more one product</li> <li>2. User click “Add to Cart” button.</li> </ol>			
<b>Post Conditions:</b>			
<ul style="list-style-type: none"> <li>- User clicks “Shopping Cart” button, Shopping Cart had product which user choice to add.</li> </ul>			
<b>Main Success Scenario:</b>			
The use case starts when:			

1. Press “Add to Shopping Cart” button.
2. The system will increase number of products in Cart.

**Alternative Scenario:**

1. User can choose any product in “Search Result” page and click “Add to shopping cart” to add a product to cart.
2. Return to step 2 above.

**Exceptions:**

- 1. The displayed results aren't loaded successfully.**
  - 1.1. “GoodsWay” system will tell user about the problems in network connection:
    - Connection too slow.
    - Connection not available.
  - 1.2. “GoodsWay” system will allow user to reload page via “F5” button.
- 2. User can choose one product which cart has it before.**
  - 2.1 System display a message to inform user that user cannot do that action.
  - 2.2 User selects other products.
  - 2.3 System terminates use case.

**Relationships:**

-After compare product done, “Search result” page will be displayed.

**Business Rules:**

- User can add to shopping cart one product that must be difference from products which shopping cart has.

***Use case 51***

USE CASE-51 SPECIFICATION			
<b>Use-case No.</b>	UC051	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Same Product		
<b>Author</b>	NINHVH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member			
<b>Summary:</b>			
After User click button “Same Product” in “Product Compare” page, the system will redirect user to “Search result” page to search same product.			
<b>Goal:</b>			
Search same products to display on screen.			
<b>Triggers</b>			
-User click on “Same product” button on screen			
<b>Preconditions:</b>			
-User click on “Same product” button on screen			
<b>Post Conditions:</b>			
-The system will redirect user to “Search result” page to search same product.			

**Main Success Scenario:**

The use case starts when:

- User click on “Same product” button on screen

**Alternative Scenario:**

User choice category with the same category of product.

**Exceptions:****1. The displayed results aren't loaded successfully.**

1.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**Relationships:**

-After compare product done, “Search result” page will be displayed.

**Business Rules:**

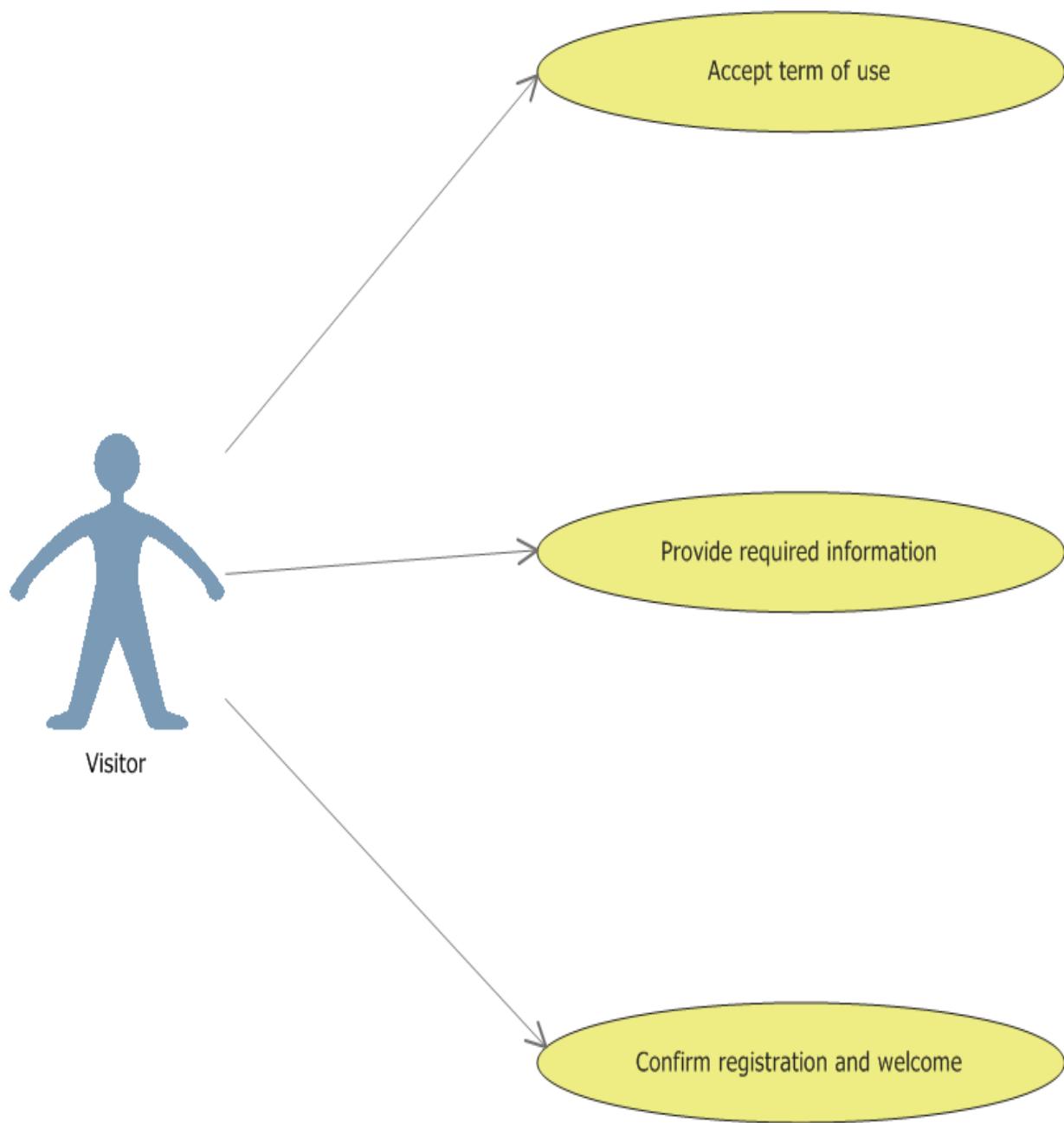
- System display products with the same category.

### 3.2.2.11. Register

This page allow visitor to registered as a member of “GoodsWay” in order to use more of its features and receive member’s services.



***Figure 3.21:*** Register page

**3.2.2.11.1. Use Case Diagram**

**Figure 3.22:** Register Page's Use Case Diagram

### 3.2.2.11.2. Use Case Specification

#### *Use case 52*

USE CASE-52 SPECIFICATION			
<b>Use-case No.</b>	UC052	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Accept term of use		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor			
<b>Summary:</b>			
Before registered as a member of "GoodsWay", visitor must accept the website term of use, as well as they should read what they will receive once registered.			
<b>Goal:</b>			
Help visitor understand the term of use to avoid any unfortunate violation of website policies and to encourage them to become a member of "GoodsWay".			
<b>Triggers</b>			
<ul style="list-style-type: none"> <li>- When user press Register button in the Header bar.</li> <li>- When user press Register button in the Checkout page</li> <li>- When user press Register button in the login fail page</li> </ul>			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- User doesn't accept the term of use yet.</li> <li>- User choice to register.</li> </ul>			
<b>Post Conditions:</b>			
<ul style="list-style-type: none"> <li>- Allow user to register.</li> </ul>			

**Main Success Scenario:**

1. User press on Register button in Header bar.
2. The term of use will show up.
3. User tick on the accept check box and press enter or click on register button.
4. Allow user to complete required information and then complete register.

**Alternative Scenario:**

1. When user press on Register button on Checkout page. Return to step2.
2. When user press on Register button on Login failure page. Return to step 2.

**Exceptions:**

- 1. The term of user doesn't show up and prompt user to accept when register.**
  - 1.1. "GoodsWay" system will tell user about the problems in network connection:
    - Connection too slow.
    - Connection not available.
  - 1.2. "GoodsWay" system will allow user to reload page via "F5" button.
- 2. User cannot continue to register after accept Term of use.**
  - 2.1. "GoodsWay" system will tell user about the problems in network connection:
    - Connection too slow.
    - Connection not available.
  - 2.2. "GoodsWay" system will allow user to reload page via "F5" button.

**Relationships:**

This case is the first step in register process.

**Business Rule**

System must always prompt user to accept the Term of use before continue register.

***Use case 53***

USE CASE-53 SPECIFICATION			
<b>Use-case No.</b>	UC053	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Provide required information		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor			
<b>Summary:</b>			
When register, user must provide their information, so that system can recognized them when they are login and also provide a way to communicate between user and website.			
<b>Goal:</b>			
For system to recognize user when they are login, and to send email notice or promotion to user if they choice to receive promotion.			
<b>Triggers</b>			
After user accept the Term of use.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- User choice to register.</li> <li>- User accepts the Term of use.</li> </ul>			
<b>Post Conditions:</b>			
Allow user to complete register after they fill in all mandatory field.			

**Main Success Scenario:**

1. User accepts the Term of use.
2. Prompt user to fill in mandatory fields.
  - + User name.
  - + Password.
  - + Email.
  - + Verify question.
3. After user fills all mandatory fields, allow user to complete register.

**Alternative Scenario:**

None.

**Exceptions:**

1. **User cannot complete register after fill in the mandatory fields.**
  - Prompt user to choice another User Name if it is already exist.
  - Prompt user to re-enter email if the email address is wrong.
  - Prompt user to re-answer the verify question if they are wrong.

**Relationships:**

This case is the second step in register process.

**Business Rule**

- In order to complete the registration, user must fill in all mandatory fields.
- The password should be at least 6 characters long.

**User case 54**

USE CASE-54 SPECIFICATION			
<b>Use-case No.</b>	UC054	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Confirm registration		
<b>Author</b>	DuyDH		
<b>Date</b>	25/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor			
<b>Summary:</b>			
After user complete registration, they will receive an email of "GoodsWay" to confirm and to welcome them to the website.			
<b>Goal:</b>			
To confirm user register email and to welcome them to "GoodsWay".			
<b>Triggers</b>			
After user press Complete Register button.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- User fills in all mandatory fields in the registration form.</li> </ul>			
<b>Post Conditions:</b>			
User can login to the website.			

**Main Success Scenario:**

1. User left click Complete Register button in the registration form.
2. The website informs them that they've registered successfully and notice that there will be a confirmation email sends to their mailbox.
3. The email is just to confirm their registration and their email, user doesn't have to do anything, and beside this will be a welcome email.
4. After that, user can login to the system and use register member feature.

**Alternative Scenario:**

None.

**Exceptions:**

1. **User doesn't receive confirm and welcome email after complete registration.**
2. **System sends email to the wrong person or user make mistake when enter email.**
  - These errors above maybe result of mislay information.
  - User can send feedback or comment to "GoodsWay" after email doesn't work.

**Relationships:**

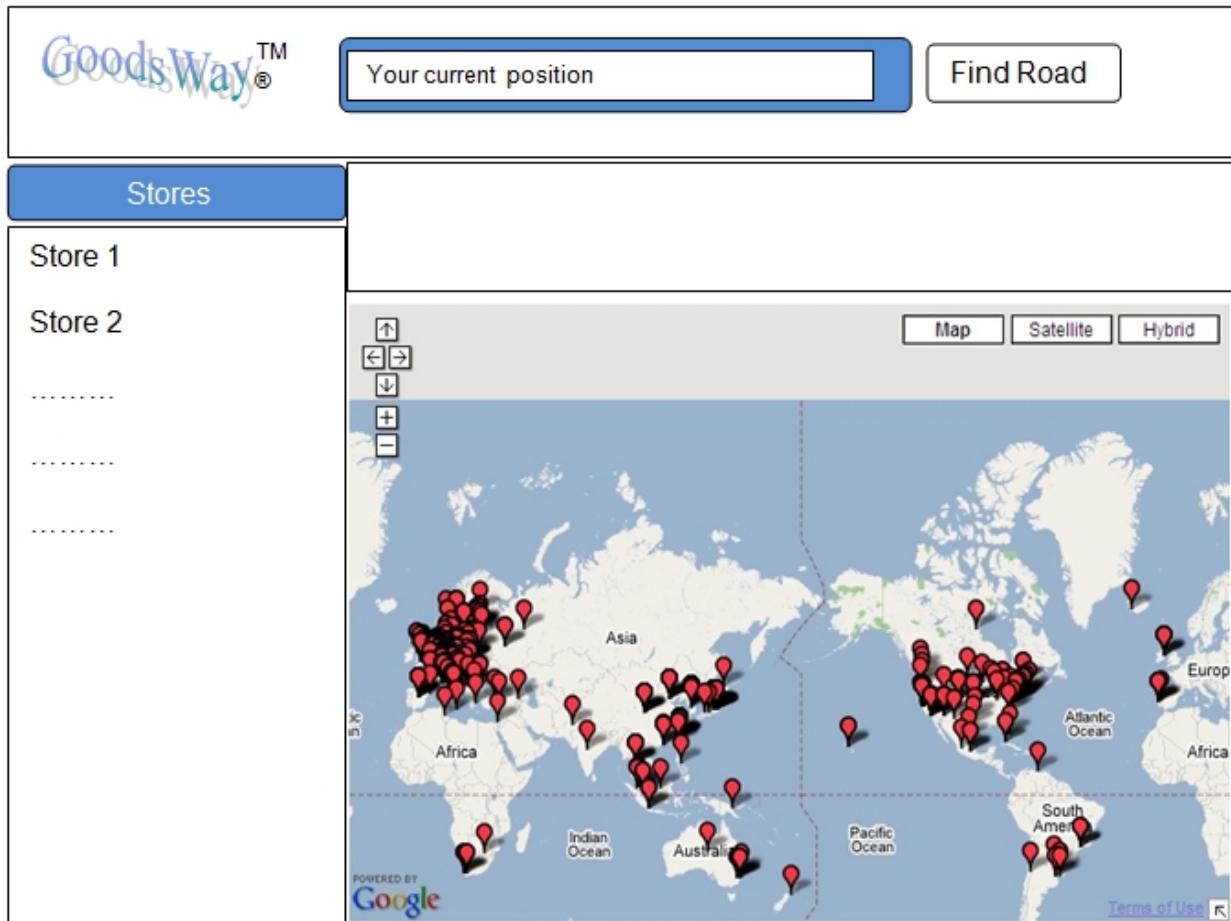
- This case is the final step in register process.

**Business Rule**

User must receive confirm and welcome email at most 5 minute after register.

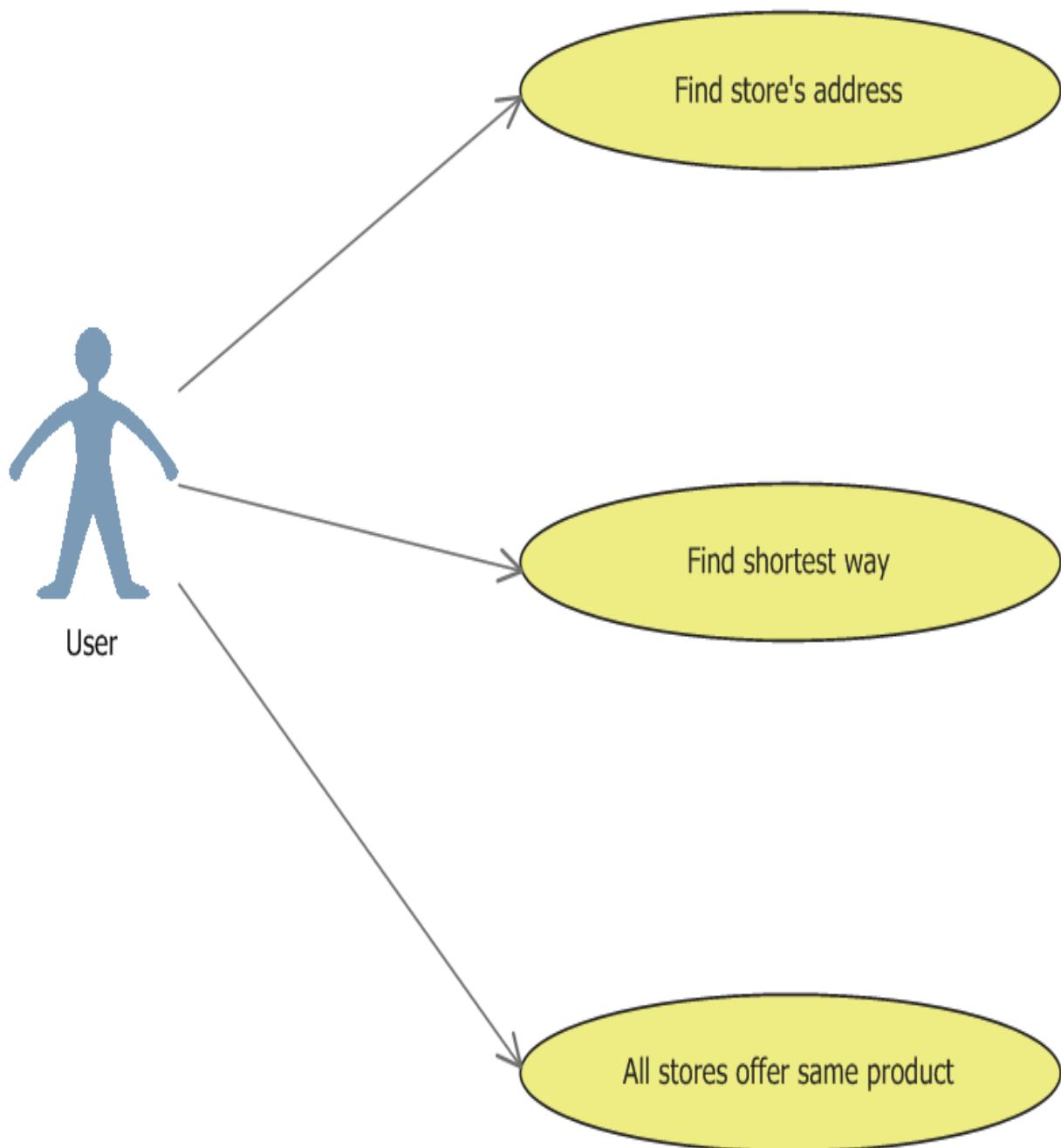
### 3.2.2.12. Map

The system provides map, a utility service to help user have a visually view when they shopping and more importantly that service help user save money, time and have the best choice in find the position of the store that users are interested in, find all stores offer the same product that users are looking for, and find the shortest way to go to by products.



**Figure 3.23:** Map page

### 3.2.2.12.1. Use Case Diagram



**Figure 3.24:** Map use case diagram

### 3.2.2.12.2. Use Case Specification

#### *Use case 55*

USE CASE-55 SPECIFICATION			
<b>Use-case No.</b>	UC055	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Find store's address		
<b>Author</b>	TuanQX		
<b>Date</b>	30/09/2010	<b>Priority</b>	Normal

**Actor:**  
Registered member, visitor.

**Summary:**  
Find the address of the store.

**Goal:**  
Help users have a visually view, confirm the information, and can go direct to the store if they would like to.

**Triggers**

- User clicks on map icon on the “Store Details”
- Or user clicks on map icon the “Product Details” in stores area.

**Preconditions:**

- User must open “Product Details” page or “Store Details” page to perform this action.

**Post Conditions:**

- The address of the store is display clearly, highlighted in a rectangle.

**Main Success Scenario:**

1. User clicks on to “Store” hyperlink button on the header of the main page.
2. Then user goes to “Store Details” page.

3. User click on the map icon on the top left of the page.

**Alternative Scenario:**

1. User can also go to “Product Details”.
2. Then click on the map icon on the store area.

**Exceptions:****1. The map is not loaded successfully.**

1.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**2. The address is not correct.**

- This mistake maybe is the delay in the update store’s address into database of “GoodsWay” very welcome if user send feedback about this error.
- “GoodsWay” will check and update the map as soon as possible.
- “GoodsWay” will send email respond to the user and thanks for the user’s help.

**Relationships:**

- “Store Details” page, “Product Details”.

**Business Rules:**

The address of the store is correct.

***Use case 56***

USE CASE-56 SPECIFICATION			
<b>Use-case No.</b>	UC056	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Find shortest way.		
<b>Author</b>	TuanQX		
<b>Date</b>	30/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
Find the shortest way from the position of the user to the position offer the product.			
<b>Goal:</b>			
With the same product, same price, same quality when use this function user can find the shortest way in order to save time, save money for travel.			
<b>Triggers</b>			
<ul style="list-style-type: none"> <li>- User enters the position of the user.</li> <li>- User press button “Find” to find the shortest way to go to the store.</li> </ul>			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- User on the “Store Details” page of a specific store.</li> </ul>			
<b>Post Conditions:</b>			
<ul style="list-style-type: none"> <li>- The map highlighted the shortest way that user can go to reach the store.</li> </ul>			
<b>Main Success Scenario:</b>			
<ol style="list-style-type: none"> <li>1. Users click on to “Store” hyperlink button on the header of the main page.</li> <li>2. Then users go to “Store Details” page.</li> </ol>			

3. Users click on the map icon on the top left of the page.
4. Users enter the position of them and press button “Find”.

**Alternative Scenario:**

None.

**Exceptions:****1. The map is not loaded successfully.**

1.1.“GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2.“GoodsWay” system will allow user to reload page via “F5” button.

**2. The way is no longer available.**

- Maybe the map has not been updated the change in the road of the city.
- “GoodsWay” very welcome if user send feedback about this error.
- “GoodsWay” will check and update the map as soon as possible.
- “GoodsWay” will send email respond to the user and thanks for the user’s help.

**Relationships:**

- “Store Details” page.

**Business Rules:**

- The address of the user is correct.
- The way is available.

***Use case 57***

USE CASE-57 SPECIFICATION			
<b>Use-case No.</b>	UC057	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Find all store offers the same product.		
<b>Author</b>	TuanQX		
<b>Date</b>	30/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Registered member, visitor.			
<b>Summary:</b>			
Find all stores sell same product the user is interested in.			
<b>Goal:</b>			
Looking at the map user can have a totally view about the vendors system, they can find the shortest store from the user position and the store offer the product.			
<b>Triggers</b>			
<ul style="list-style-type: none"> <li>- User click on the map icon right below the product image.</li> </ul>			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- User on the “Product Details” page.</li> </ul>			
<b>Post Conditions:</b>			
<ul style="list-style-type: none"> <li>- The map appears and highlights all stores offer the product the user is interested in.</li> </ul>			
<b>Main Success Scenario:</b>			
<ol style="list-style-type: none"> <li>1. User goes to “Product Details” page.</li> <li>2. Users click on the map icon right below the product image.</li> </ol>			
<b>Alternative Scenario:</b>			

None.

**Exceptions:**

**1. The map is not loaded successfully.**

1.1. "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. "GoodsWay" system will allow user to reload page via "F5" button.

**2. Store in the result set does not offer the product the customer is looking for.**

- Maybe it is result of database error or mistake in map.
- We will thankfully if user log this mistake and send to our website.
- System fixes the error as fast as possible.
- Response email thanks for user's help.

**Relationships:**

- Display store address when user click on one of the store appear in the result set.

**Business Rules:**

- All these stores must offer the product that users are interested in.
- The map is update frequently to give the reality result.

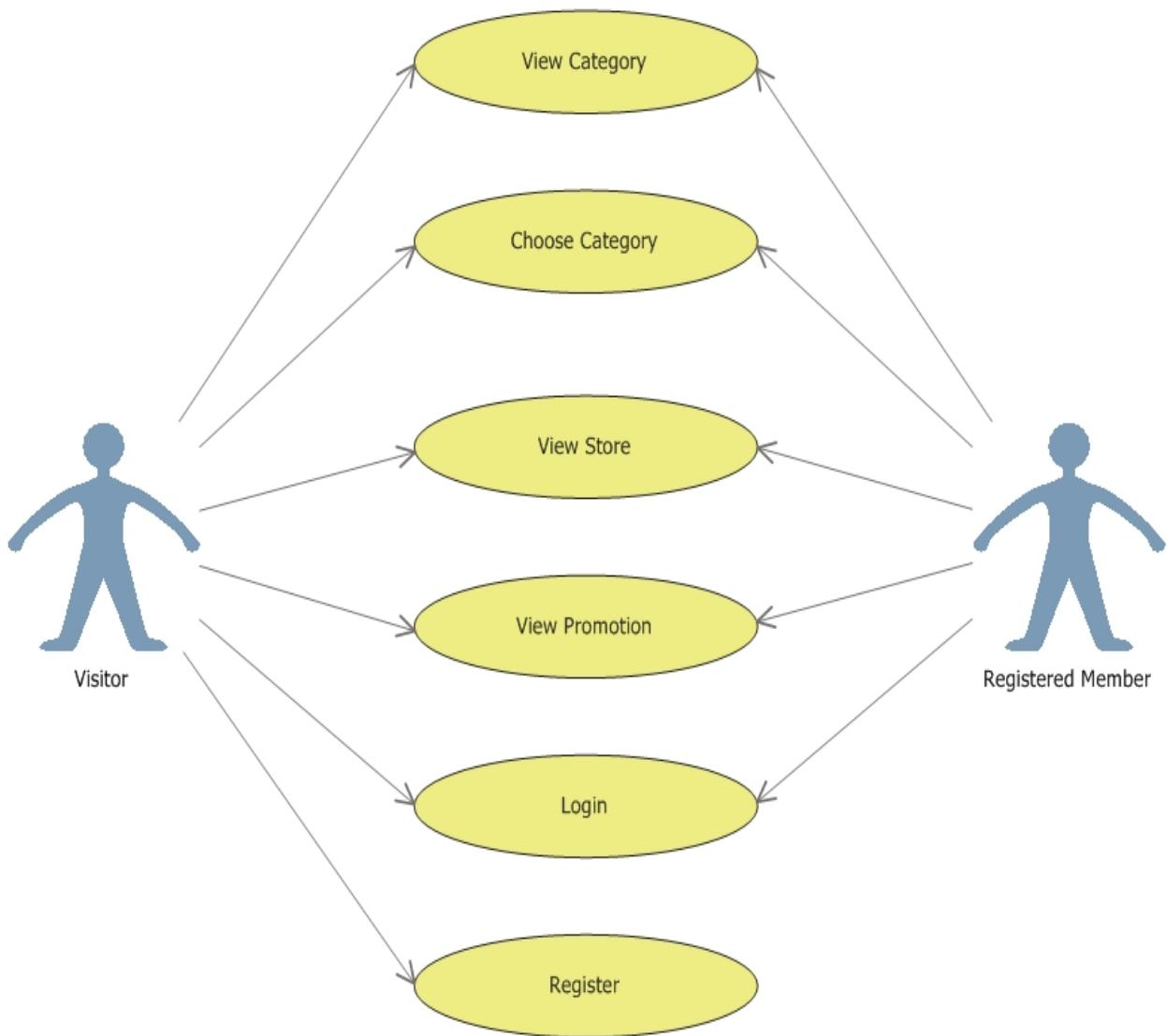
### 3.2.2.13. Header

Header is always on top of the site, it allow user to access other pages.



**Figure 3.25:** "GoodsWay" Header

#### 3.2.2.13.1. Use Case Diagram



**Figure 3.26:** Header Use Case Diagram

### **3.2.2.13.2. Use Case Specification**

#### ***Use case 58***

<b>USE CASE-58 SPECIFICATION</b>			
<b>Use-case No.</b>	UC058	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View Category		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>	Visitor, Registered Member.		
<b>Summary:</b>	On header, “Category” button is displayed as hyperlink. When user click on this link, system will display all category for user to choose.		
<b>Goal:</b>	Display all categories in the system.		
<b>Triggers</b>	When page is loaded.		
<b>Preconditions:</b>	<ol style="list-style-type: none"> <li>2. Page is loaded successfully.</li> <li>3. All categories must be in database.</li> </ol>		
<b>Post Conditions:</b>	The system will display all categories.		

**Main Success Scenario:**

The use case starts when:

1. Page is loaded.
2. User click on “Category” hyperlink to show all categories.

**Alternative Scenario:**

None.

**Exceptions:****1. Page isn't loaded successfully.**

- 1.1. “GoodsWay” system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.

- 1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**Relationships:**

This use case relates to choose category.

**Business Rules:**

- After click on “Category” hyperlink, all categories in system must be displayed. In case, user does not choose any category, and mouse pointer is moved out of this link, displayed categories will be hidden. In case of selecting one category, this will be display differently from others one.
- This link is always displayed.

***Use case 59***

USE CASE-59 SPECIFICATION			
<b>Use-case No.</b>	UC059	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Choose Category		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Visitor, Registered Member.			
<b>Summary:</b> It's another way for user to filter products. User clicks on "Category" link and choose one of available category.			
<b>Goal:</b> Choose category for filter products.			
<b>Triggers</b> When user chooses one of displayed categories.			
<b>Preconditions:</b> <ul style="list-style-type: none"> <li>- Page is loaded successfully.</li> <li>- All categories are displayed.</li> </ul>			
<b>Post Conditions:</b> The system will redirect user to "Search Result" page.			

**Main Success Scenario:**

The use case starts when:

1. User click on “Category”.
2. The system displays all available categories.
3. User chooses one of categories.

**Alternative Scenario:**

None.

**Exceptions:****1. The system cannot redirect user to “Search Result” page after choosing category.**

- System informs user that the problem maybe result of network connection error.
- User should check for connection and redo the action.

**2. The current chosen category is not displayed differently from other ones.**

This error maybe a mistake’s technical, we recommend that user feedback to website admin in order to fix that mistake.

**Relationships:**

This use case relates to choose category.

**Business Rules:**

After choose one category, the system must redirect user to “Search Result” page, and the chosen category will be display differently from others category to notice user.

***Use case 60***

USE CASE-60 SPECIFICATION			
<b>Use-case No.</b>	UC060	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View Store		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member.			
<b>Summary:</b>			
Click on “Store” hyperlink and the system will redirect user to “Store” page.			
<b>Goal:</b>			
Allow user to go to “Store” home page.			
<b>Triggers</b>			
When user click on “Store” hyperlink.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Page is loaded successfully.</li> <li>- Information of all stores must be in database.</li> </ul>			
<b>Post Conditions:</b>			
The system redirect user to “Store” home page.			

**Main Success Scenario:**

The use case starts when:

1. Page is loaded successfully.
2. User click on “Store” hyperlink.

**Alternative Scenario:**

None.

**Exceptions:****1. Page is not loaded successfully.**

1.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**2. The system does not redirect user to “Store” home page.**

- System informs user that the problem maybe result of network connection error.
- User should check for connection and redo the action.

**Relationships:**

This use case relates to store home page.

**Business Rules:**

After click on “Store” hyperlink, the system must redirect user to “Store” home page. This link is always displayed.

***Use case 61***

USE CASE-61 SPECIFICATION			
<b>Use-case No.</b>	UC061	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View Promotion		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Visitor, Registered Member.			
<b>Summary:</b> Click on “Promotion” hyperlink and the system will redirect user to “Promotion” page.			
<b>Goal:</b> Allow user to go to “Promotion” home page.			
<b>Triggers</b> When user click on “Promotion” hyperlink.			
<b>Preconditions:</b> <ul style="list-style-type: none"> <li>- Page is loaded successfully.</li> <li>- Information of all promotions must be in database.</li> </ul>			
<b>Post Conditions:</b> The system redirect user to “Promotion” home page.			

**Main Success Scenario:**

The use case starts when:

1. Page is loaded successfully.
2. User click on “Promotion” hyperlink.

**Alternative Scenario:**

None.

**Exceptions:****1. Page is not loaded successfully.**

- 1.1. “GoodsWay” system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**2. The system does not redirect user to “Promotion” home page.**

- 2.1. “GoodsWay” system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.

2.2. “GoodsWay” system will allow user to reload page via “F5” button.

**Relationships:**

This use case is relates to Promotion home page.

**Business Rules:**

After click on “Promotion” hyperlink, the system must redirect user to “Promotion” home page. This link is always displayed.

***Use case 62***

USE CASE-62 SPECIFICATION			
<b>Use-case No.</b>	UC062	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Login		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member.			
<b>Summary:</b>			
User has to input user name, and password to login to the system. If user name or password is not valid, user cannot login to the system, and has to try again.			
<b>Goal:</b>			
Allow user login to the system.			
<b>Triggers</b>			
When user click on "Login" hyperlink.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Page is loaded successfully.</li> <li>- User has valid user name and valid password to the system.</li> </ul>			
<b>Post Conditions:</b>			
<ul style="list-style-type: none"> <li>- In case of fail: <ul style="list-style-type: none"> <li>+ User cannot login to the system.</li> <li>+ The system must give an error message.</li> <li>+ User has to try again to login.</li> </ul> </li> <li>- In case of success: <ul style="list-style-type: none"> <li>+ The system gives a successful message.</li> </ul> </li> </ul>			

- + User login to the system successfully.

### Main Success Scenario:

The use case starts when:

1. Page is loaded successfully.
2. User click on “Login” hyperlink.
3. The system display a popup allow user to input user name and password.
4. User input username and password.
5. User press on “Login” button.

### Alternative Scenario:

1. User accesses the feature that only for registered member
  - 1.1. The system display error message due to user does not have permission to access this feature and suggest user to login by display “Login” hyperlink.
  - 1.2. Return to step 2.

### Exceptions:

#### **1. Page is not loaded successfully.**

- 1.1. “GoodsWay” system will tell user about the problems in network connection:
  - o Connection too slow.
  - o Connection not available.
- 1.2. “GoodsWay” system will allow user to reload page via “F5” button.

#### **2. The system does not load login popup.**

- 2.1. “GoodsWay” system will tell user about the problems in network connection:
  - o Connection too slow.
  - o Connection not available.
- 2.2. “GoodsWay” system will allow user to reload page via “F5” button.
- 2.3. “GoodsWay” system will tell user about the pop-up disabled by browser

settings.

**3. User input invalid user name.**

3.1. "GoodsWay" system will tell user about this error via message.

3.2. Return to step 4.

**4. User input invalid password.**

4.1. "GoodsWay" system will tell user about this error via message.

4.2. Return to step 4.

**5. The system does not display error message.**

- Develop this feature.

**6. The system display error message but user still login to the system.**

- Develop this feature.

- Check and fix security settings for this feature.

**7. The system display successful message but user cannot login to the system.**

- Check and fix security settings for this feature.

**8. The system does not update login status for user in case of login successfully.**

- Fix this error.

**Relationships:**

This use case relates to Login page.

**Business Rules:**

- After click on "Login" button, the system must display a popup that allow user to input user name and password. In case of login fail, the system must display error message to inform user know the reason: invalid user name, invalid password, or the system error, the error connection... In case of success, the system must display successful message and refresh page to update login status for user.
- User has to create account before login to the system.
- If user enters an incorrect username or password 5 times continuously, "GoodsWay" system will inform user to retry login after waiting for 15 minutes.

***Use case 63***

USE CASE-63 SPECIFICATION			
<b>Use-case No.</b>	UC063	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Register		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor			
<b>Summary:</b>			
User must have account to login to the system. If don't have user can register to create new account.			
<b>Goal:</b>			
Allow user to register an account.			
<b>Triggers</b>			
When user click on "Register" hyperlink.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Page is loaded successfully.</li> <li>- User wants to create account to login.</li> </ul>			
<b>Post Conditions:</b>			
The system will redirect user to register page.			
<b>Main Success Scenario:</b>			
The use case starts when:			
<ol style="list-style-type: none"> <li>1. Page is loaded successfully.</li> <li>2. User click on "Register" hyperlink.</li> <li>3. The system redirect user to register page.</li> </ol>			

**Alternative Scenario:**

1. User login to system with unknown username and password
  - 1.3. User login to the system.
  - 1.4. The system display error message due to user does not have account and suggest user to register by display "Register" hyperlink.
  - 1.5. User click on "Register" hyperlink.
  - 1.6. The system redirect user to register page.

**Exceptions:****1. Page isn't loaded successfully.**

- 1.1. "GoodsWay" system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.
- 1.2. "GoodsWay" system will allow user to reload page via "F5" button.

**2. The system cannot redirect user to "Register" page.**

- 2.1. "GoodsWay" system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.
- 2.2. "GoodsWay" system will allow user to reload page via "F5" button.

**Relationships:**

This use case relates to Register page.

**Business Rules:**

When page is loaded successfully, "Register" hyperlink is displayed on the right corner of header. After click on this link, user will be redirected to register page to create new account.

In case of user fail to login to the system, "Register" hyperlink is also displayed to suggest user to create account.

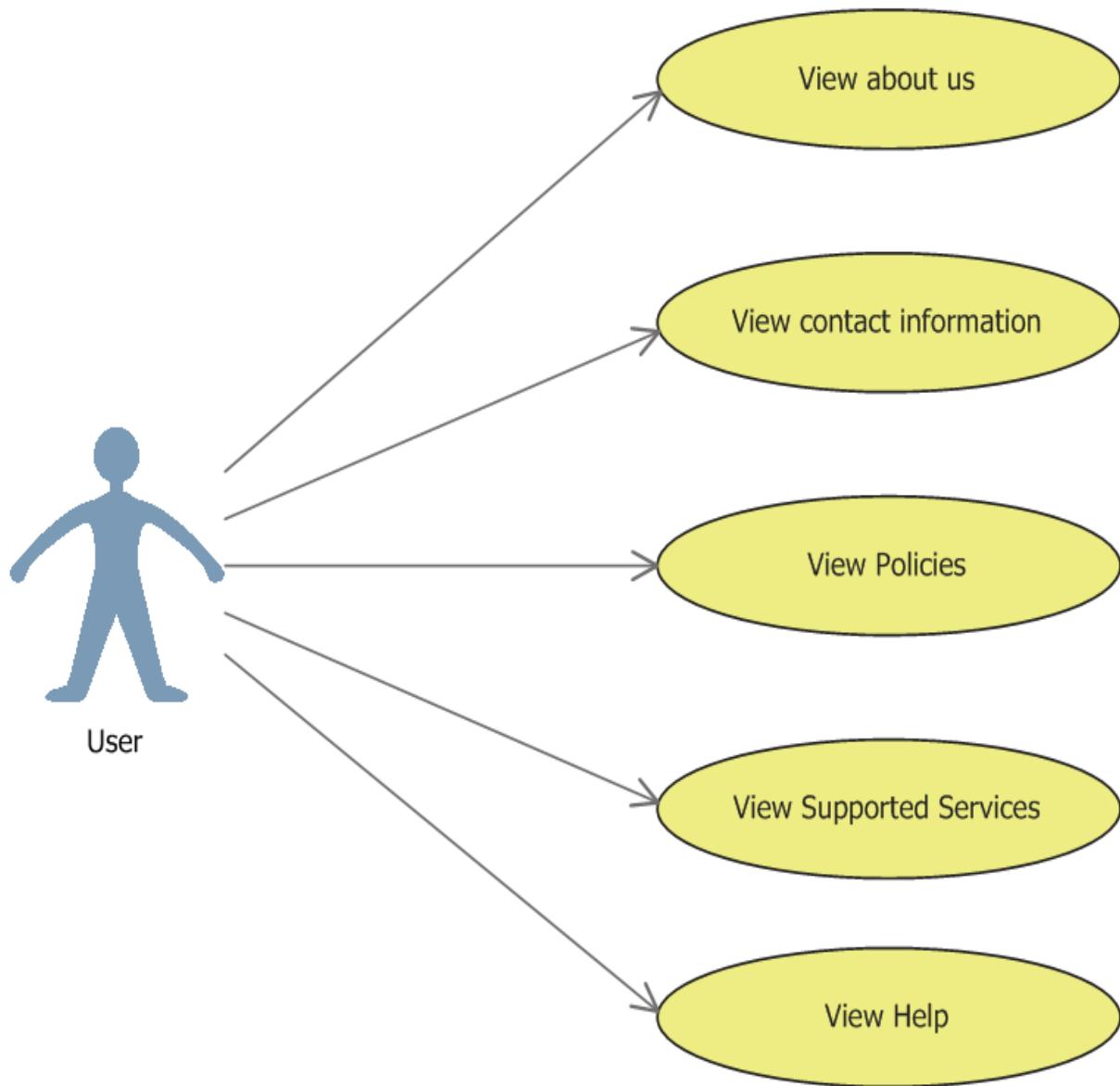
### 3.2.2.14. Footer

Footer is always at the bottom of the site, it allow user to access other pages.



***Figure 3.27:*** Footer

#### 3.2.2.14.1. Use Case Diagram



***Figure 3.28:*** Footer use case diagram

### **3.2.2.14.2. Use Case Specification**

#### ***Use case 64***

<b>USE CASE- 64 SPECIFICATION</b>			
<b>Use-case No.</b>	UC064	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View About us		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member.			
<b>Summary:</b>			
On footer, “About us” is displayed as hyperlink, and user can click on this link for more details information about the “GoodBoys” company.			
<b>Goal:</b>			
Introduce “GoodBoys”company to user.			
<b>Triggers</b>			
When user click on “About us” hyperlink.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Page is loaded successfully.</li> <li>- Details information about “GoodBoys” Company must be in database.</li> </ul>			
<b>Post Conditions:</b>			
The system will redirect user to “About Us” article on page information.			
<b>Main Success Scenario:</b>			
The use case starts when:			

1. Page is loaded.
2. User click on “About Us” hyperlink on footer.

**Alternative Scenario:**

None.

**Exceptions:****1. Page isn't loaded successfully.**

- 1.1. “GoodsWay” system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.
- 1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**2. The system cannot redirect user to “About Us” on page information.**

- 2.1. “GoodsWay” system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.
- 2.2. “GoodsWay” system will allow user to reload page via “F5” button.

**3. The system redirect user to another article on page information.**

Fix the error for this feature.

**Relationships:**

This use case relates to view About us section on page information.

**Business Rules:**

After click on “About Us” hyperlink on footer, the system will redirect user to “About Us” article on page information.

***Use case 65***

USE CASE-65 SPECIFICATION			
<b>Use-case No.</b>	UC065	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View Contact information		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Visitor, Registered Member.			
<b>Summary:</b> On footer, "Contact" is displayed as hyperlink, and user can click on this link for more details information about the "GoodBoys" company.			
<b>Goal:</b> How to contact with "GoodBoys" company.			
<b>Triggers</b> When user click on "Contact" hyperlink.			
<b>Preconditions:</b> <ul style="list-style-type: none"> <li>- Page is loaded successfully.</li> <li>- Contact information of "GoodBoys" Company must be in database.</li> </ul>			
<b>Post Conditions:</b> The system will redirect user to "Contact" article on page information.			

**Main Success Scenario:**

The use case starts when:

1. Page is loaded.
2. User click on “Contact” on footer.

**Alternative Scenario:**

None.

**Exceptions:****1. Page isn't loaded successfully.**

- 1.1. “GoodsWay” system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**2. The system cannot redirect user to “Contact” article on page information.**

- 2.1. “GoodsWay” system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.

2.2. “GoodsWay” system will allow user to reload page via “F5” button.

**3. The system redirect user to another article on page information.**

Fix the error for this feature.

**Relationships:**

This use case relates to view contact information section on page information.

**Business Rules:**

After click on “Contact” hyperlink on footer, the system will redirect user to “Contact” article on page information.

***Use case 66***

USE CASE-66 SPECIFICATION			
<b>Use-case No.</b>	UC066	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View policies of company		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Visitor, Registered Member.			
<b>Summary:</b> On footer, "Policies" is displayed as hyperlink, and user can click on this link for more details policies information of the GoodBoys company.			
<b>Goal:</b> Clarify policies of company clearly with user.			
<b>Triggers</b> When user click on "Policies" hyperlink.			
<b>Preconditions:</b> <ul style="list-style-type: none"> <li>- Page is loaded successfully.</li> <li>- Policies of GoodBoys Company must be in database.</li> </ul>			
<b>Post Conditions:</b> The system will redirect user to "Policies" article on page information.			

**Main Success Scenario:**

The use case starts when:

1. Page is loaded.
2. User click on “Policies” on footer.

**Alternative Scenario:**

None.

**Exceptions:****1. Page isn't loaded successfully.**

- 1.1. “GoodsWay” system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**2. The system cannot redirect user to “Policies” article on page information.**

- 2.1. “GoodsWay” system will tell user about the problems in network connection:
  - Connection too slow.
  - Connection not available.

2.2. “GoodsWay” system will allow user to reload page via “F5” button.

**3. The system redirect user to another article on page information.**

Fix the error for this feature.

**Relationships:**

This use case relates to view policies section on page information.

**Business Rules:**

After click on “Policies” hyperlink on footer, the system will redirect user to “Contact” article on page information.

***Use case 67***

USE CASE-67 SPECIFICATION			
<b>Use-case No.</b>	UC067	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View supported service of company		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member.			
<b>Summary:</b>			
On footer, “Services” is displayed as hyperlink, and user can click on this link for more details information of the “GoodBoys” company’s services.			
<b>Goal:</b>			
Introduce to user all services of “Goodboys” company.			
<b>Triggers</b>			
When user click on “Services” hyperlink.			
<b>Preconditions:</b>			
<ul style="list-style-type: none"> <li>- Page is loaded successfully.</li> <li>- Service’s information of “GoodBoys” company must be in database.</li> </ul>			
<b>Post Conditions:</b>			
The system will redirect user to “Services” article on page information.			
<b>Main Success Scenario:</b>			
The use case starts when:			
<ol style="list-style-type: none"> <li>1. Page is loaded.</li> <li>2. User click on “Services” on footer.</li> </ol>			

**Alternative Scenario:**

None.

**Exceptions:****1. Page isn't loaded successfully.**

1.1. "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. "GoodsWay" system will allow user to reload page via "F5" button.

**2. The system cannot redirect user to "Services" article on page information.**

2.1. "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

2.2. "GoodsWay" system will allow user to reload page via "Reload" button.

**3. The system redirect user to another article on page information.**

Fix the error for this feature.

**Relationships:**

This use case relates to view all services section on page information.

**Business Rules:**

After click on "Services" hyperlink on footer, the system will redirect user to "Services" article on page information.

***Use case 68***

USE CASE-68 SPECIFICATION			
<b>Use-case No.</b>	UC068	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View help		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member.			
<b>Summary:</b>			
On footer, “Help” is displayed as hyperlink, and user can click on this link if they have any problem with the service of “GoodBoys” company.			
<b>Goal:</b>			
Help users when they have any problem related to using services.			
<b>Triggers</b>			
When user click on “Help” hyperlink.			
<b>Preconditions:</b>			
Page is loaded successfully.			
<b>Post Conditions:</b>			
The system will redirect user to “Help” article on page information.			
<b>Main Success Scenario:</b>			
The use case starts when:			
<ol style="list-style-type: none"> <li>1. Page is loaded.</li> <li>2. User click on “Help” on footer.</li> </ol>			

**Alternative Scenario:**

None.

**Exceptions:****1. Page isn't loaded successfully.**

1.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**2. The system cannot redirect user to “Help” article on page information.**

2.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

2.2. “GoodsWay” system will allow user to reload page via “F5” button.

**3. The system redirect user to another article on page information.**

Fix the error for this feature.

**Relationships:**

This use case relates to view help section on page information.

**Business Rules:**

After click on “Help” hyperlink on footer, the system will redirect user to “Help” article on page information.

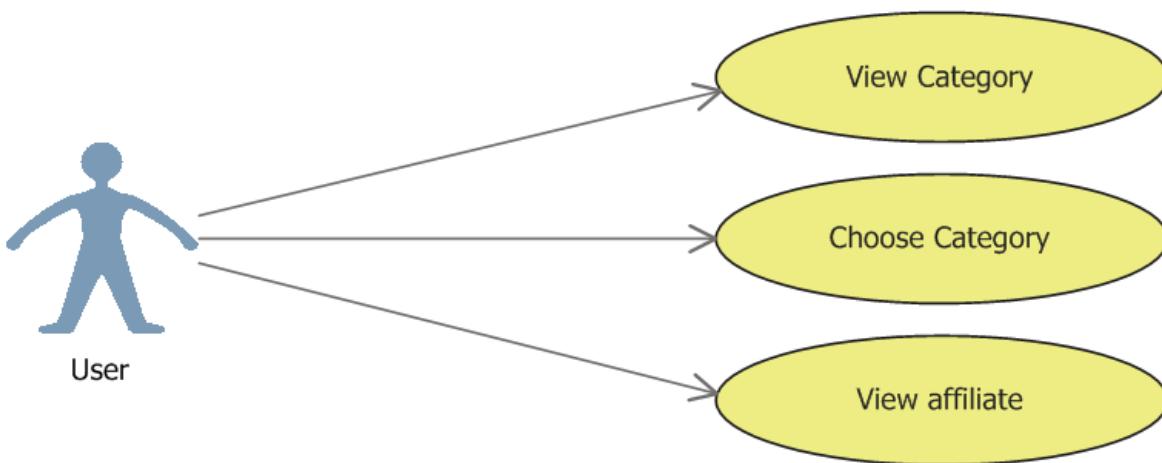
### 3.2.2.15. Left menu

This will be located on the left hand of website. It's not displayed on the home page of GoodsWay.



***Figure 3.29:*** Left menu

#### 3.2.2.15.1. Use Case Diagram



***Figure 3.30:*** Left menu use case diagram

**3.2.2.15.2. Use Case Specification*****Use case 69***

USE CASE-69 SPECIFICATION			
Use-case No.	UC069	Use-case Version	1.0
<b>Use-case Name</b>	View affiliate		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	Priority	Normal

**Actor:**  
Visitor, Registered Member.

**Summary:**  
This section will display hyperlink to homepage of any affiliates with “GoodsWay”.

**Goal:**  
Connect to others e-commerce web site.

**Triggers**  
When page is loaded.

**Preconditions:**  
- “GoodsWay” has at least one affiliate.  
- Affiliate must have website to link.

**Post Conditions:**  
None.

**Main Success Scenario:**  
The use case starts when:  
1. Page is loaded.  
2. Hyperlinks are displayed.

**Alternative Scenario:**

None.

**Exceptions:****1. Page isn't loaded successfully.**

1.1. "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. "GoodsWay" system will allow user to reload page via "F5" button.

**2. The system cannot display compare result popup.**

2.1. "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

2.2. "GoodsWay" system will allow user to reload page via "F5" button.

2.3. "GoodsWay" system will tell user about the pop-up disabled by browser.

**Relationships:**

List the relationships that use case relates to

**Business Rules:**

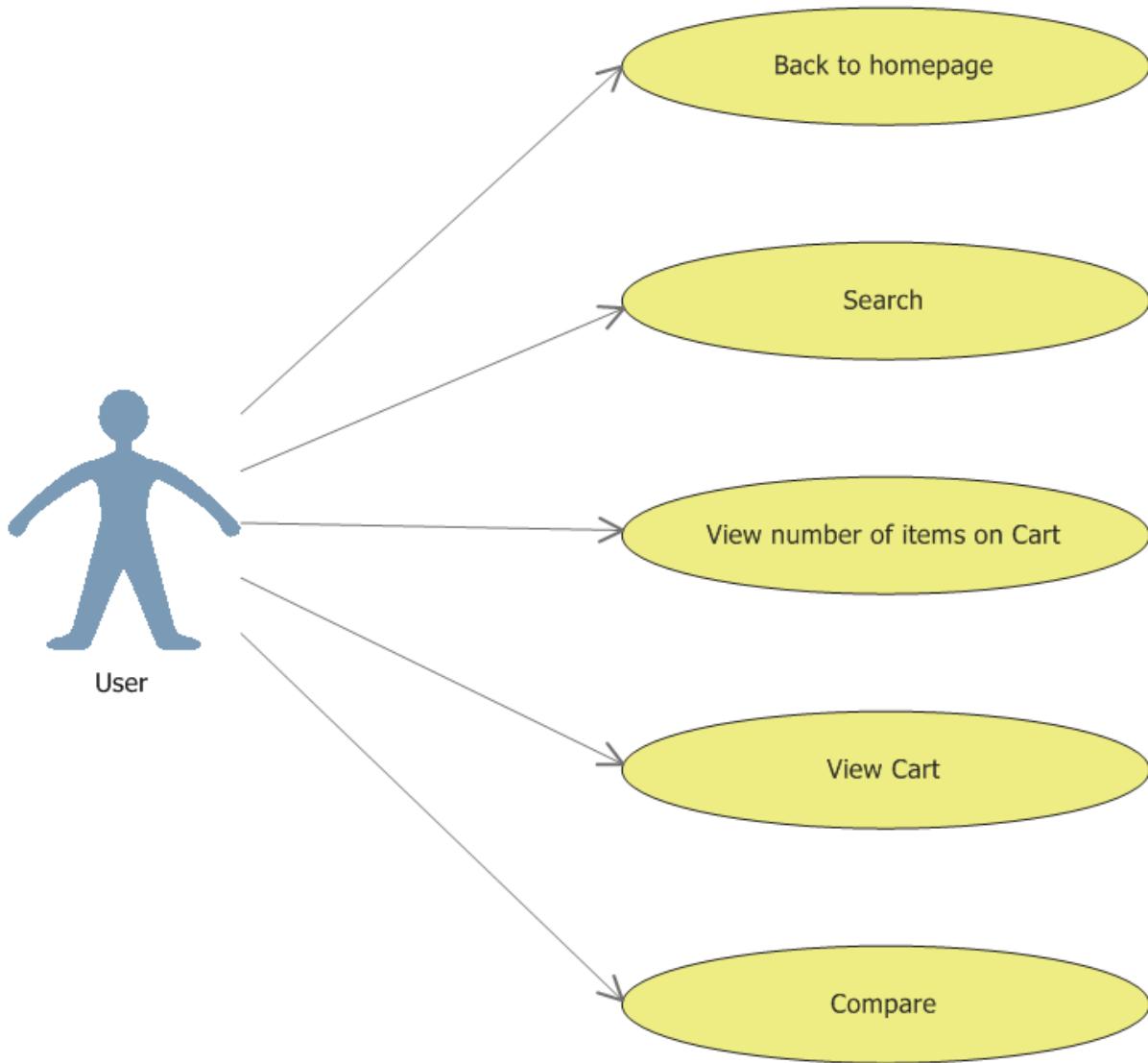
Displayed all link to affiliate's homepage as the affiliate's name.

### 3.2.2.16. Toolbar



**Figure 3.31:** Toolbar

#### 3.2.2.16.1. Use Case Diagram



**Figure 3.32:** Tool bar use case diagram

### **3.2.2.16.2. Use Case Specification**

#### ***Use case 70***

<b>USE CASE-70 SPECIFICATION</b>			
<b>Use-case No.</b>	UC070	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Back to home page		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b>			
Visitor, Registered Member.			
<b>Summary:</b>			
User can go back to home page whatever they want.			
<b>Goal:</b>			
Go back to home page.			
<b>Triggers</b>			
When user click on “GoodsWay” logo.			
<b>Preconditions:</b>			
Page is loaded successfully.			
<b>Post Conditions:</b>			
The system will redirect user to home page.			
<b>Main Success Scenario:</b>			
The use case starts when:			
<ol style="list-style-type: none"> <li>1. Page is loaded.</li> <li>2. User click on “GoodsWay” logo on toolbar.</li> </ol>			
<b>Alternative Scenario:</b>			
None.			

**Exceptions:****1. Page isn't loaded successfully.**

1.1. "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. "GoodsWay" system will allow user to reload page via "F5" button.

**2. The system cannot redirect user to home page.**

2.1. "GoodsWay" system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

2.2. "GoodsWay" system will allow user to reload page via "F5" button.

**3. The system redirect user to others page, not home page.**

Fix the error for this feature.

**Relationships:**

This use case relates to view home page.

**Business Rules:**

After click on "GoodsWay" logo on the top left of toolbar, user will be redirected to home page.

***Use case 71***

USE CASE-71 SPECIFICATION			
<b>Use-case No.</b>	UC071	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	View cart		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal
<b>Actor:</b> Visitor, Registered Member.			
<b>Summary:</b> The number of items is not fully information about shopping cart. User can view details information of shopping cart.			
<b>Goal:</b> Allow users view details information of items in shopping cart.			
<b>Triggers</b> When user click on “View Cart” button.			
<b>Preconditions:</b> User has at least one product in shopping cart.			
<b>Post Conditions:</b> The system will redirect user to shopping cart details page.			

**Main Success Scenario:**

The use case starts when:

1. Toolbar is loaded.
2. User adds products to shopping cart.
3. User click on “View Cart” button.

**Alternative Scenario:**

None.

**Exceptions:****1. Toolbar isn't loaded successfully.**

1.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**2. The system cannot redirect user to shopping cart details page.**

2.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

2.2. “GoodsWay” system will allow user to reload page via “F5” button.

**Relationships:**

This use case relates to shopping cart.

**Business Rules:**

After press “View Cart” button, user will be redirected to shopping cart page for more details information.

***Use case 72***

USE CASE-72 SPECIFICATION			
<b>Use-case No.</b>	UC072	<b>Use-case Version</b>	1.0
<b>Use-case Name</b>	Compare products		
<b>Author</b>	DungTQ		
<b>Date</b>	27/09/2010	<b>Priority</b>	Normal

**Actor:**  
Visitor, Registered Member.

**Summary:**  
When user want to compare more than 2 products for expected information. The system will display compare result for those products after press on “Compare” button on top right of the tool bar.

**Goal:**  
Allow user to compare more than 2 products.

**Triggers**  
When user click on “Compare” button.

**Preconditions:**  
User has selected at least 2 products for comparing.

**Post Conditions:**  
The system will display a compare result popup.

**Main Success Scenario:**  
The use case starts when:  
1. Page is loaded.  
2. User mark products for comparing.  
3. User press on “Compare” button.

**Alternative Scenario:**

None.

**Exceptions:****1. Page isn't loaded successfully.**

1.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

1.2. “GoodsWay” system will allow user to reload page via “F5” button.

**2. The system cannot display compare result popup.**

2.1. “GoodsWay” system will tell user about the problems in network connection:

- Connection too slow.
- Connection not available.

2.2. “GoodsWay” system will allow user to reload page via “F5” button.

2.3. “GoodsWay” system will tell user about the pop-up disabled by browser.

**Relationships:**

This use case relates to compare product.

**Business Rules:**

When user just marks one product only, “Compare” button will be disabled. After adding more products for comparing, this button will be enabled, and after press on this button, the system will display a result popup.

### **3.2.3. Software System Attributes**

#### **3.2.3.1 Reliability**

Web software is critical to the commercial success of many businesses and if the software does not work reliably, the businesses will not succeed. Web sites have vastly increased the customer base for software. For example, I have virtually no choice for which word processor to use, but there are dozens of online bookstores. Knowledgeable users will tolerate many more mistakes in the software than less knowledgeable users will. Many web sites also function in a very competitive market.

More competition means that users will be able to make choices based on how well the software works. If a web application does not work well, the users do not have to drive further to reach another store, they simply have to point their browser to a different URL.

Importantly, “GoodsWay” system deal with very important items: Money and personal information such as credit cards, addresses, and buying habits. It also offers transactions that are unrecoverable (buying merchandise) and have delayed results (shipped days or weeks later). These factors mean that customers expect web sites to work as well as grocery stores and catalogs -- because they replace those venues.

Thus, if web software is unreliable, web sites that depend on the software will lose customers and the businesses may lose large sums of money. These factors combine to make reliability of web software crucial, and most importantly, companies can afford to spend resources to ensure high reliability.

#### **3.2.3.2 Availability**

In the real life, if you visit to a shop on the noon, you can see something like this situation: shopkeepers in would take their lunch breaks by simply putting a sign on the front door that said “back at 1:00 PM”. Although today's customers expect to be able to shop during the lunch time, we understand stores will be closed after midnight, on holidays, and part of the weekends. But that only works for “brick-and-mortar” stores!

When customers can visit our stores online, 2:00 AM in Vietnam is evening in the U.S. and morning in Australia, and Christmas is just another day in China. Even a ten minute down-time can be damaging; customers will go to a different web site and may never return.

On the Web, customers not only expect availability "24/7" (24 hours a day/ 7 days a week), they expect the web site to be operational every day of the year -- "24/7/365". So our "GoodsWay" system will allow user to access it all the time - "24/7/365" (24 hours a day/ 7 days a week / 365 days a year).

Availability means more than just being up and running 24/7/365, availability also means that the web software must be available when accessed by diverse browsers. The "GoodsWay" system allow user to browse it easily on many different browser types: Firefox (version 3.5 or higher), Google Chrome (version 6 or higher), Internet Explorer (7.0 or higher).

### **3.2.3.3 Security**

#### **Customer data:**

Because this data may contain sensitive information, it is treated in a special way. Unless otherwise directed by a specific non-disclosure agreement, customer data is treated in the manner described below:

##### **What is customer data? :**

Customer data is problem-specific information provided by the customer in electronic form for purposes of resolving product-related issues.

##### **How does "GoodsWay" use customer data? :**

Customer data is used to resolve the specific issue submitted by the customer. In some cases, descriptive and procedural information provided by the customer will be used for regression testing and general explanation of product-related issues to other customers, for example in application notes published on our web site. Customer-specific information is never included in these cases.

##### **How is customer data classified, handled and stored? :**

All customer data that is not open source or public is treated as confidential when it is received. Access to this information is restricted to a limited number of personnel on a "need to know" basis.

#### Online Payment Transactions:

The “GoodsWay” system does offer Secured Check Out page. These check-out pages are secured by SSL (Secure Sockets Layer). SSL is a protocol (developed by Netscape) for transmitting private information (such as credit card number ...) through the Internet. SSL uses a cryptographic system that uses two types of keys for data encryption - a Public Key known to everyone and a Private or Secret Key known only to the recipient. So before making any such financial transaction over internet with any e-commerce website, make The “GoodsWay” system sure that its check out pages must use SSL or any such similar data encryption software.

#### **3.2.3.4 Maintainability**

Web-based software applications have a higher frequency of new releases, or *update rate*. Installing traditional software involves marketing, sales and shipping or even personal installation at customers' sites. Because this process is very expensive, large numbers of maintenance modifications are usually collected over time and distributed to customers simultaneously. If a software product is released today, the developers will start developing a list of necessary changes. If the first change is simple (say, changing the label on a button), the modification will be made immediately. But the delay in releases means that modification will not be available to the customers for months, if not years!

However, web-based software has a much faster update rate. Maintenance updates can be installed and immediately made available to customers through the web site. Thus, even small individual changes (such as changing the label on a button) can be installed immediately. One result of this is that instead of maintenance cycles of months or years, web sites can have maintenance cycles of days or even hours. “GoodsWay” system’s maintenance process will follow this trend.

Another ramification of increased update rate which “GoodsWay” system has to do with is compatibility. “GoodsWay” will control the distribution of itself to eliminate that sort of compatibility. Of course, this is replaced by browser compatibility; “GoodsWay” will be able to run correctly on several web browsers, and multiple versions of each browser.

### 3.2.3.5 Portability

#### Program Portability

This is the aspect that one associates with software portability, namely will the code run successfully on all intended platforms (here are the multiple types and versions of browsers).

#### End-User Portability

Since re-training of users can be a relatively expensive exercise, “GoodsWay” system will have the same look and feel across several browsers types. At the opposite extreme, the application may require a Motif graphical User Interface on some platforms and the familiar Microsoft Windows interface on PCs. This flexibility must be designed in from the outset.

#### Developer Portability

The use of a standard set of interfaces and services on all the target platforms minimizes the re-training of developers required when a new platform is added to the list.

#### Documentation Portability

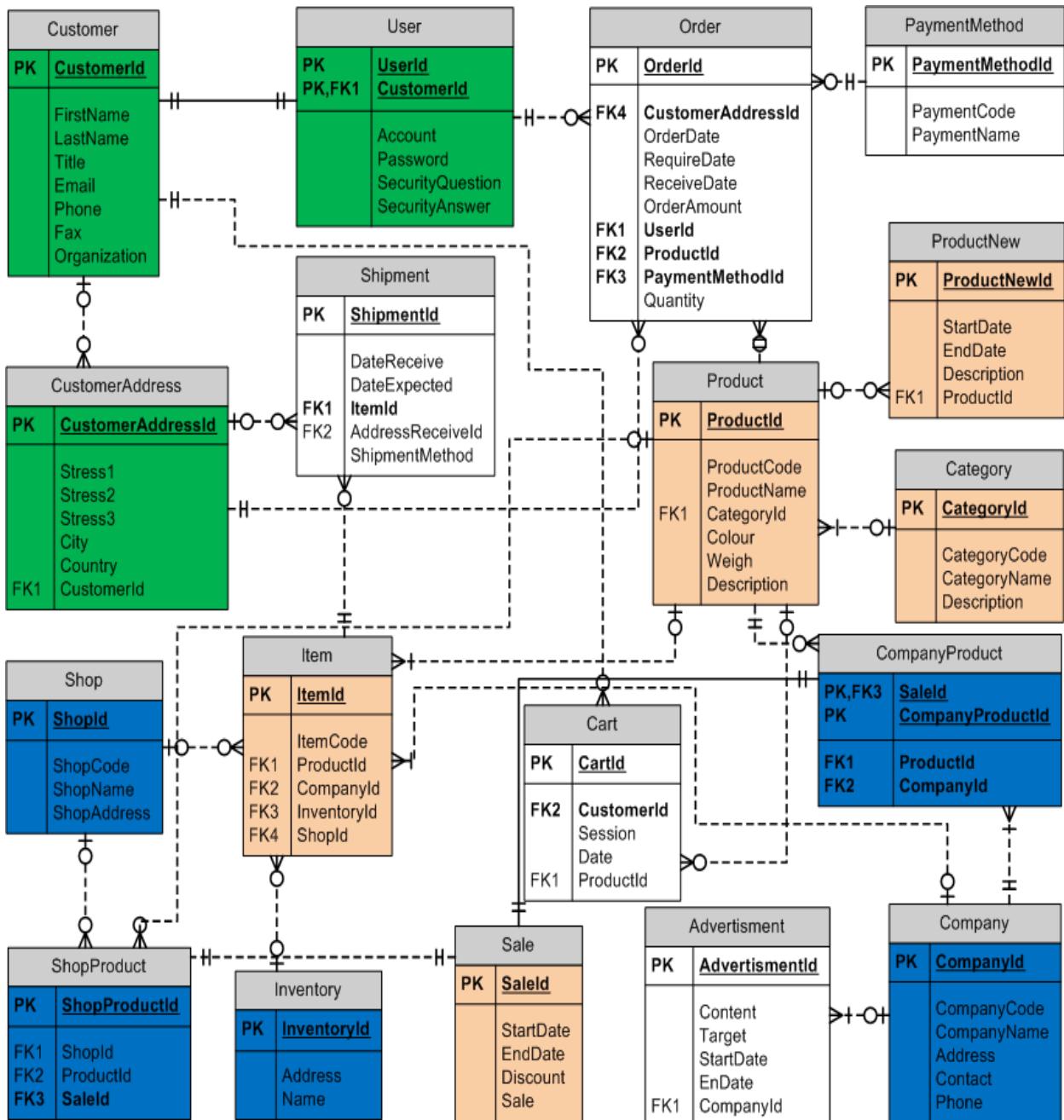
Users of applications on different platforms often have different expectations regarding the type of documentation they receive especially in the context of on-line help facilities.

### 3.2.3.6 Performance

If a web site is too slow, users will lose patience and go away. Researchers said that users will lose concentration if they have to wait more than a few seconds and will leave your web site never to return after a delay of 30 seconds. Thus performance is important, but it is more important to note that performance is dominated by the internet traffic, often at the user's end. “GoodsWay” system specifies the response time per request of customers at acceptance time (below 5 seconds for complicated screen/business process and below 3 seconds for simple screen/business process) for normal Internet bandwidth.

Of course time-to-market has always been a key business driver, and is still important for web software. What is unusual is not that it is important, but that it shares the spotlight with other quality attributes. Indeed, being first to market is the most important goal for most of the software industry. The requirement for patients can impact the process and management of web software projects. Thus, the overall success for web site software depends on software engineering.

### 3.3. Entity Relationship Diagram or Data Structures



**Figure 3.33:** Entity Relationship Diagram for "GoodsWay" system

### 3.4. Other material

## 4.1. Design Overview

The intention of this document is to describe the structure of the software that constitutes the “GoodsWay” system, how it interfaces to the remainder of the “GoodsWay” system and how the requirements expressed in “GoodsWay” Software Requirement Specification (SRS) are met.

The intended audiences of this document are:

- The reviewers of the “GoodsWay” Preliminary Design.
- The developers of the “GoodsWay” work component.
- The developers of the “GoodsWay” sub-system work components.

The layout of this design document is as follows:

Section 4.2 provides a brief overview for the architectural design of the whole “GoodsWay” system. It describes what the desired system architecture for “GoodsWay” system is, the reason why “GoodsBoy” team chooses this system architecture and the description of system interface – how “GoodsWay” system interacts with other external systems. The detail of what passes over each of these systems (objects and protocols) also described in this section.

Section 4.3 provides the component diagram which describes the interactions between main components of “GoodsWay”.

Section 4.4 then provides the details descriptions and designs for each component that constitutes the “GoodsWay” system with specifics sub-components and classes.

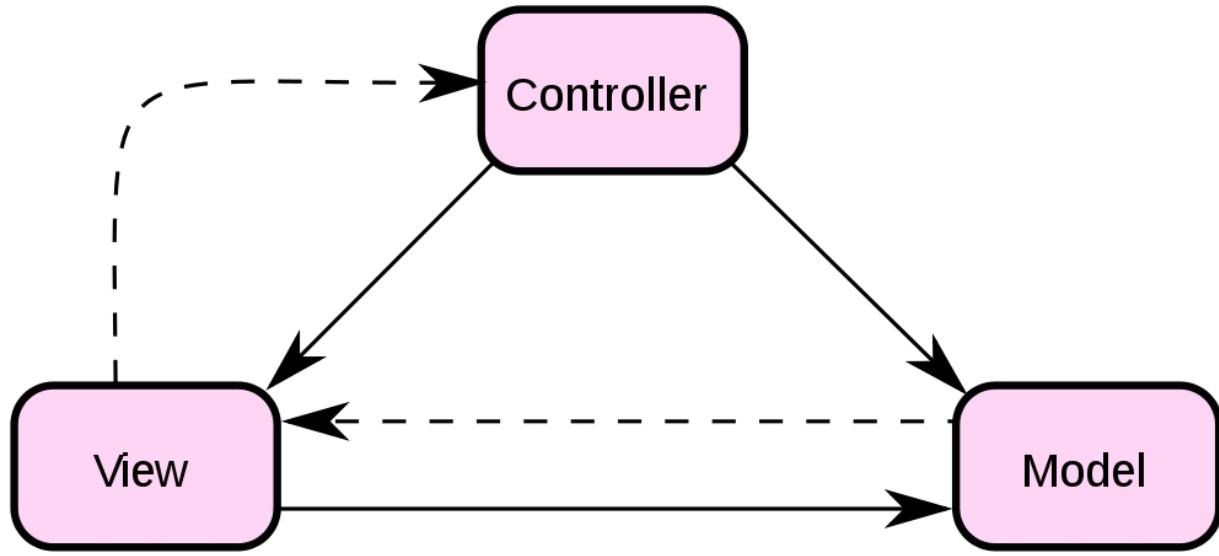
Section 4.5 provides the database design for “GoodsWay” system and the details explanation for each table and column which are presented in the database design.

Finally section 4.6 provides other materials “GoodsBoy” team uses for reference purpose throughout this document.

## 4.2. System Architectural Design

### 4.2.1. Choice of System Architecture

"GoodsWay" system is based on MVC architectural design pattern for system architectural design:



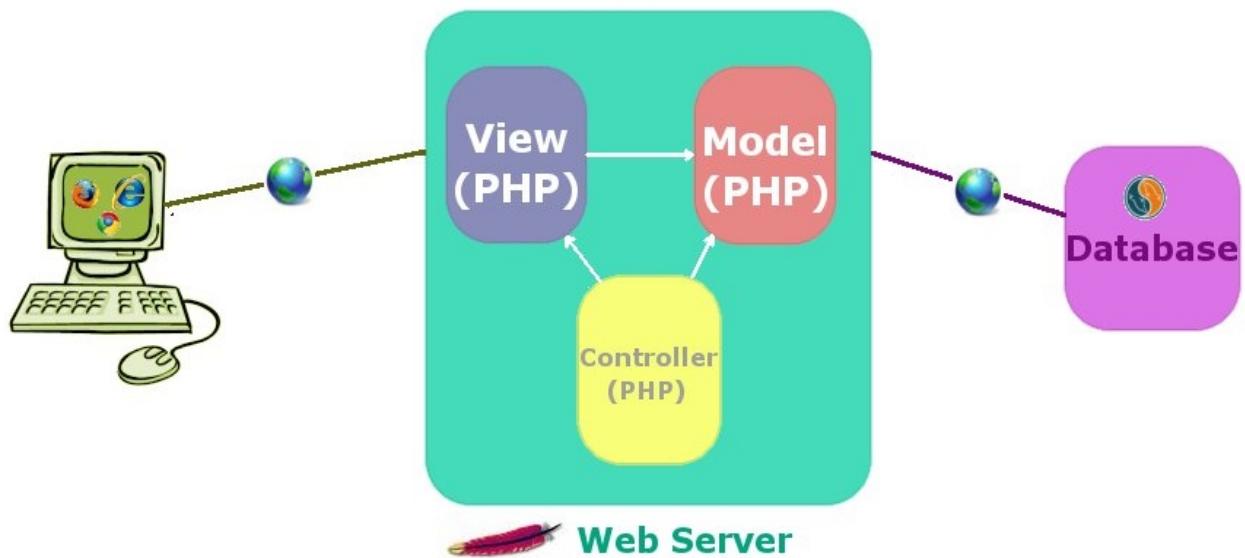
**Figure 4.1:** MVC architectural design pattern

### 4.2.2. Discussion of chosen Designs

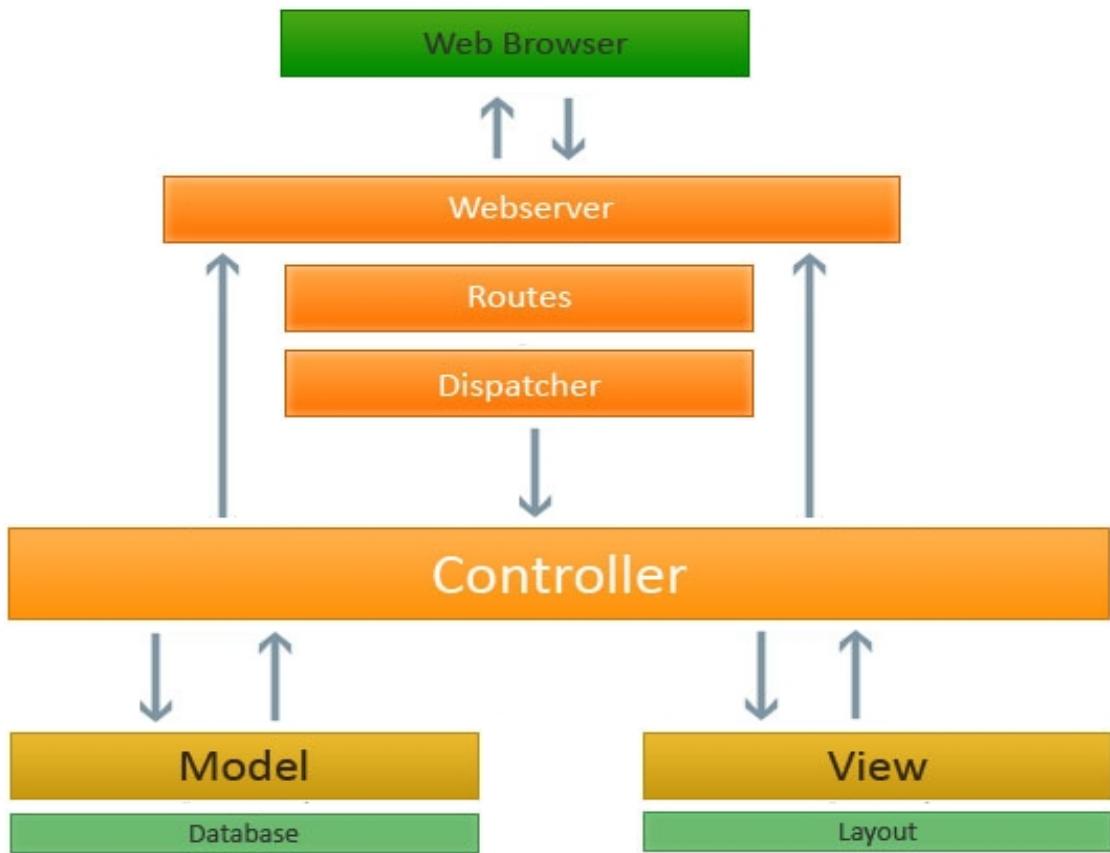
#### *MVC architectural design pattern*

**Model–View–Controller (MVC)** is a software architecture, currently considered an architectural pattern used in software engineering. The pattern isolates "*domain logic*" (the application logic for the user) from the *user interface* (input and presentation), permitting independent development, testing and maintenance of each (separation of concerns).

Why use MVC? Because it is a tried and true software design pattern that turns an application into a maintainable, modular, rapidly developed package. Crafting application tasks into separate models, views, and controllers makes our application very light on its feet. New features are easily added, and new faces on old features are a snap. The modular and separate design also allows developers and designers to work simultaneously, including the ability to rapidly prototype. Separation also allows developers to make changes in one part of the application without affecting others.



**Figure 4.2:** “GoodsWay” web application built with MVC in general view.



**Figure 4.3:** “GoodsWay” web application built with MVC in details view.

### **Model**

The model, in a web application, is usually composed of classes which represent data from the database and manipulative logic relative to the data. The model is used to manage information and notify observers when that information changes. The model is the domain-specific representation of the data upon which the application operates. Domain logic adds meaning to raw data (for example, calculating whether today is the user's birthday, or the totals, taxes, and shipping charges for shopping cart items). When a model changes its state, it notifies its associated views so they can be refreshed.

Many applications use a persistent storage mechanism such as a database to store data. MVC does not specifically mention the data access layer because it is understood to be underneath or encapsulated by the model.

### **View**

The view is obviously the HTML/CSS aspect any web application. The view should never retrieve data from the Model, and should only be able to get this data based on what the controller gives it. This makes the view decoupled from the business logic, and makes it easier to change the logic with little or no effect on the view. This separation also allows for the application to reuse the view, making your application instantly template-friendly.

### **Controller**

The controller is the hub of all requests – it is usually the one who implements the actual application logic to the data-flow. It determines which model and view to use, based on the request that a user sends to it.

#### 4.2.3. Description of System Interface

All screens on the “GoodsWay” system use the same format. Since the header, footer, navigation, and toolbar are consistent, the only place where the content will change is in the page specific content area. This area is used to display content available only to the specific page (for instance the “Product Details” page). This area will also be used to display a general application error message if the Web site is unavailable.

*Page Header:* The Page Header is displayed at the top of all pages. It contains a set of links about “Category”, “Store”, “Promotion”, “Login”, and “Register”. This header is standard on all “GoodsWay” Web pages.

*Navigation:* The Navigation displays relevant links to the catalogues of product that exist on “GoodsWay” system, and the affiliate links that are meant to add value to the “GoodsWay” users.

*Toolbar:* The Toolbar is displayed below the Page Header. It is integrated “GoodsWay” search engine (search for products, stores, and promotions based on the search conditions) inside. This toolbar also contains the shopping cart that allow user add desired product for buying and the “Compare” link helps user to compare the list of selected product.

*Page Footer:* The Page Footer displays the following links:

- ✓ About Us
- ✓ Contact
- ✓ Policies
- ✓ Service
- ✓ Help

## 4.3. Component Diagram

Please see in the outside document attached to this report.

## 4.4. Detailed Description of Components

### 4.4.1. Product

#### 4.4.1.1. Product – User Interface Design

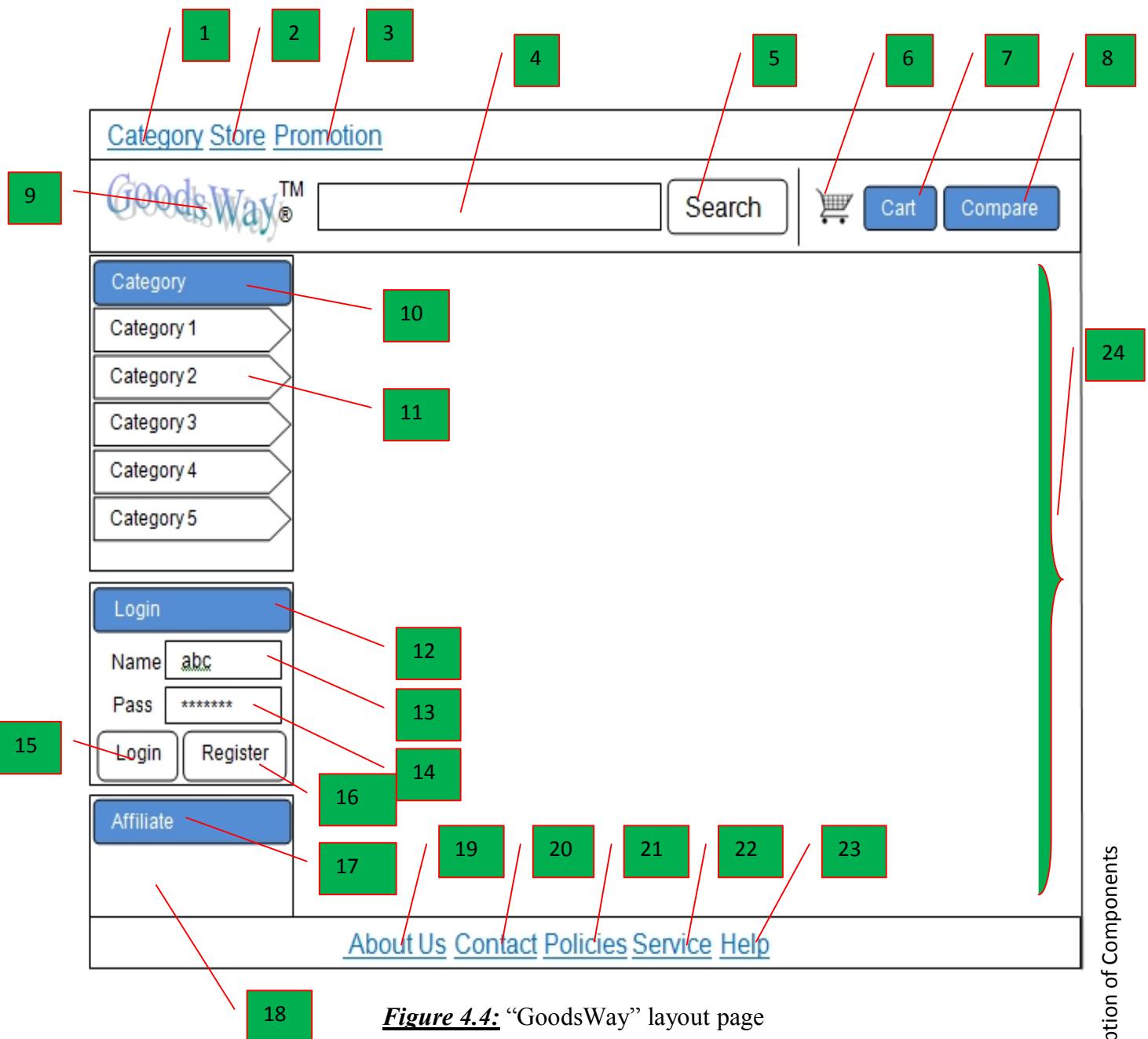
##### 4.4.1.1.0 Layout

###### 4.4.1.1.0.1 Description of the User Interface

No	Name	Description
01	“Category” link	Allow user view product category by clicking on this link.
02	“Store” link	Allow user go to store main page by clicking on this link.
03	“Promotion” link	Allow user go to promotion list page by click on this link.
04	Search box	Allow user enter search string to meet his/her purpose.
05	“Search” button	Click on this button allow user view the results which suit for his searching purpose
06	“Shopping Cart” icon	This icon shows user about the number of selected products.
07	“Cart” button	Click on this button allow user view his/her selected products on his/her online shopping cart.
08	“Compare” button	Click on this button allow user compare his selected to compare products.
09	“GoodsWay” logo	Click on the “GoodsWay” logo allow user come back to “GoodsWay” homepage.
10	“Category” panel	This panel contains list of categories in “GoodsWay” system.

11	Specific Category	Click on this category allow user view the list products of this category in the body content.
12	“Login” panel	This panel allow user login or register to “GoodsWay”.
13	Username textbox	The place where user enter his/her “GoodsWay” username.
14	Password textbox	The place where user enter his/her “GoodsWay” password.
15	“Login” button	Allow user login to “GoodsWay” system with his/her username and password.
16	“Register” button	Allow user register to “GoodsWay” system.
17	“Affiliate” panel	This panel contains several website links of companies which affiliate with “GoodsWay”.
18	Affiliate content area	This area displays the link of affiliate companies.
19	“About us” link	Click on this link allow user view the introduction about “GoodsWay” system and the list of “GoodsWay” founder names and their information.
20	“Contact” link	Contain the phone, address, email of owners or responders of “GoodsWay” system.
21	“Policies” link	Provide the principle or rule to guide decisions and achieve rational outcome(s) by “GoodsWay” to its customers.
22	“Service” link	Provide the list of services which are supported by “GoodsWay” system.
23	“Help” link	Provide troubleshooting and FAQ and answers to user.
24	Body content	Display the content for specific request of user.

#### 4.4.1.1.0.2 Screen Images



**Figure 4.4:** "GoodsWay" layout page

#### **4.4.1.1.1 Product Details**

##### **4.4.1.1.1 Description of the User Interface**

No	Name	Description
01	Product navigation link	Display the place where user is in, besides that, it allows user to quickly change to other links (Products list or Product details) by clicking on corresponding hyperlink.
02	Product image	Display the image of the product.
03	Product rating	Show the current rating score for this product, and allow logged in user rate this product.
04	Compare icon	Click on this icon, this product will be marked to compare with other products.
05	View Map icon	Click on this icon will bring user to the Map page which displays the stores sell this product.
06	Shopping Cart icon	Click on this icon will add this product to user's online shopping cart.
07	Product detail	Display the information about this product (price, producer, specifications...etc).
08	"Stores" tab	Show user all stores that sell this product with corresponding price.
09	"Related" tab	Show user other accessories which related with this product.
10	"Suggestions" tab	Show user other products which have same feature (price, producer...).
11	"Analysis" tab	Provide articles from expert, and producers for this product.
12	"Comments" tab	Provide comments from users who interested with this product.
13	"Promotion" icon	Tell user this store has promotion for this product.
14	"Store" row	Display the information about the store which sells this product.
15	View map icon	Allow user to view this store on the map.
16	Scrollbar	A Scrollbar has translations and actions that allow the user to move the slider. By clicking on an arrow, the user moves the slider one small increment in the direction of the arrow. By clicking in the scroll region between an arrow and the slider, the user moves the slider a larger increment (the page increment) in the direction of the arrow. The user can also drag the slider using the mouse.

#### 4.4.1.1.1.2 Screen Images



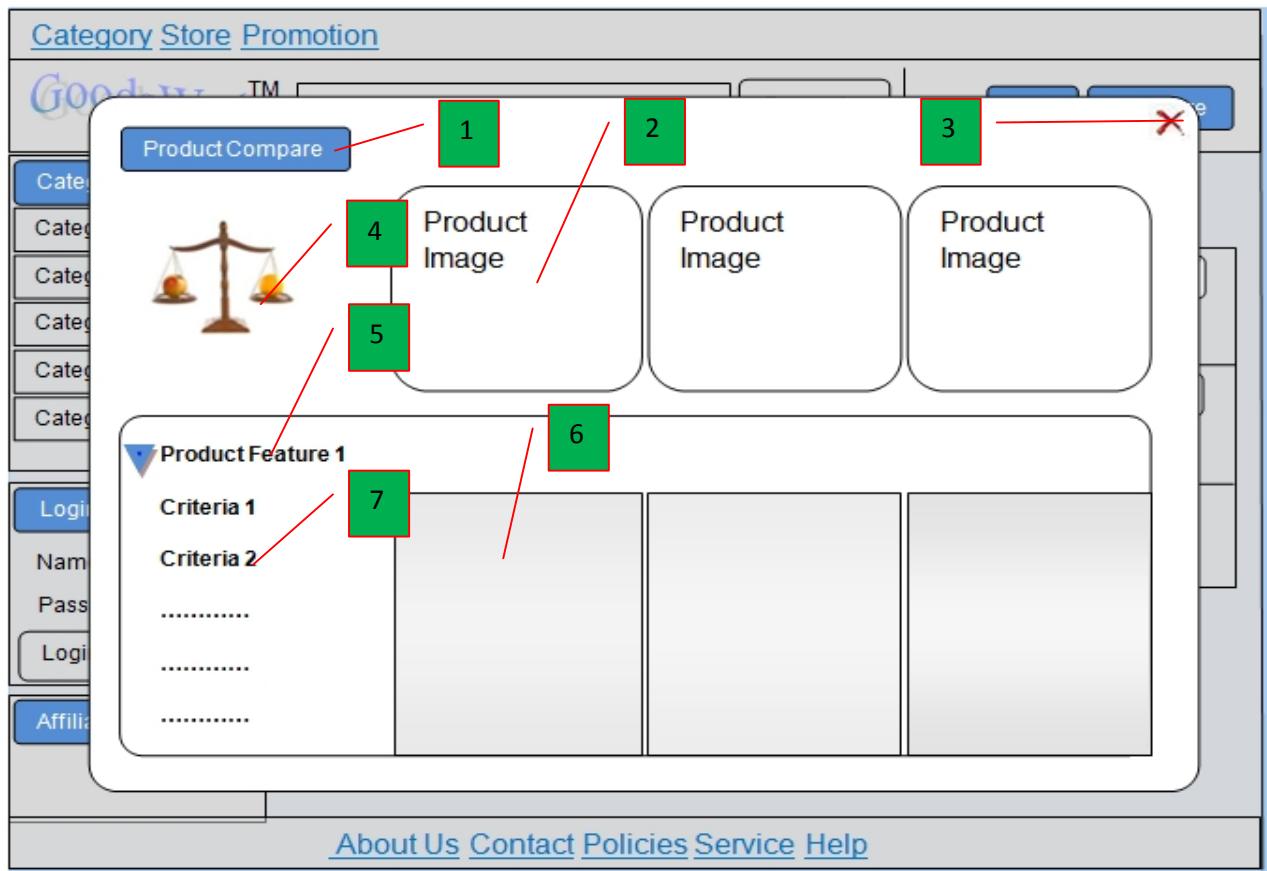
**Figure 4.5:** Product details page

#### 4.4.1.1.2 Product Compare

##### 4.4.1.1.2.1 Description of the User Interface

No	Name	Description
01	"Product Compare" label	Shows the place where user is in.
02	Product image	Show the image of this product.
03	Close button	Click on this button will close compare windows.
04	"Compare" icon	This icon shows the purpose of this process in visual way.
05	Product feature panel	This panel will contain the list of features to compare.
06	Compare content	This area displays the specifications for above product image.
07	Criteria	These criteria will show user the features will be compared.

##### 4.4.1.1.2.2 Screen Images



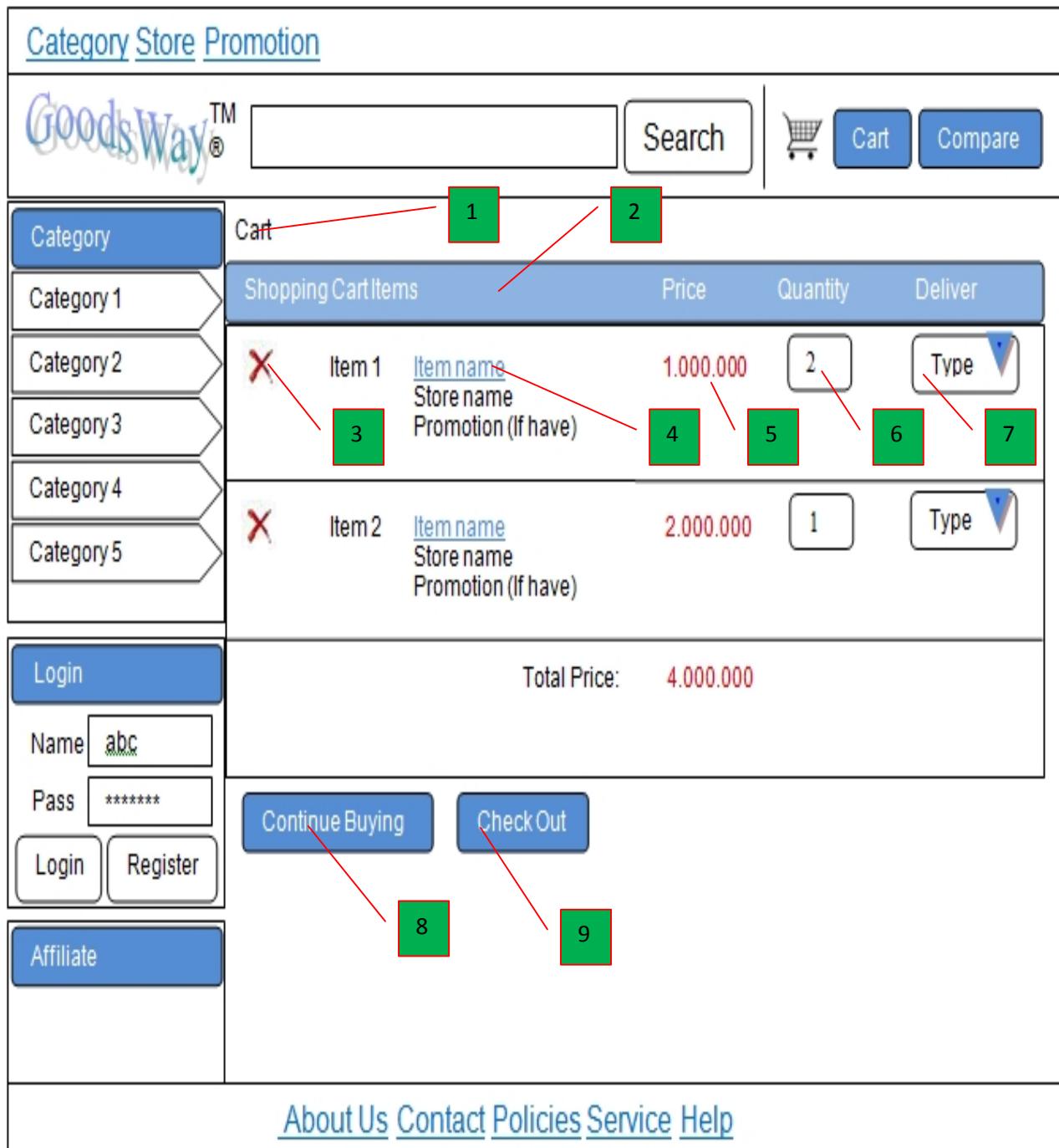
**Figure 4.6:** Product Compare page

#### **4.4.1.1.3 Shopping Cart**

##### **4.4.1.1.3.1 Description of the User Interface**

No	Name	Description
01	“Shopping Cart” label	This label shows the place where user is in.
02	Shopping Cart menu bar	This menu bar is the header for the content below it.
03	Delete button	Click on this button will delete the product corresponding with it.
04	Product details link	Click on this link will send user to the product details page.
05	Product price	Display the price for this product.
06	Product quantity	Allow user enters quantity of the product add to his shopping cart.
07	Deliver type	Allow user to view the delivery types which “GoodsWay” system can support.
08	“Continue Buying” button	Click on this button will send user back to the page before he/she goes to shopping cart page.
09	“Check out” button	Click on this button allow user go to checkout page, pay money for buying products on his/her shopping cart.

#### **4.4.1.1.3.2 Screen Images**

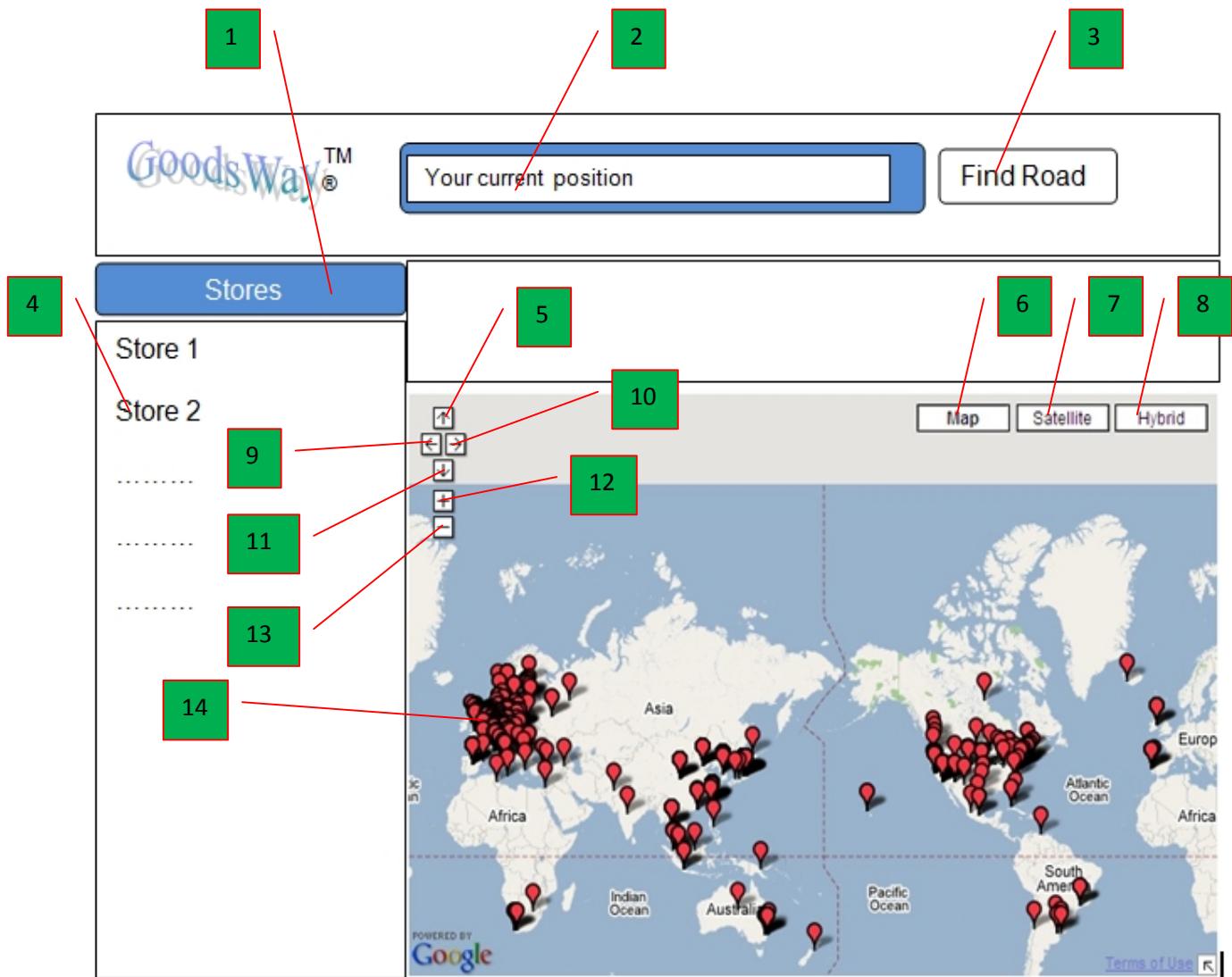


**Figure 4.7:** Shopping cart page

**4.4.1.1.4 Map****4.4.1.1.4.1 Description of the User Interface**

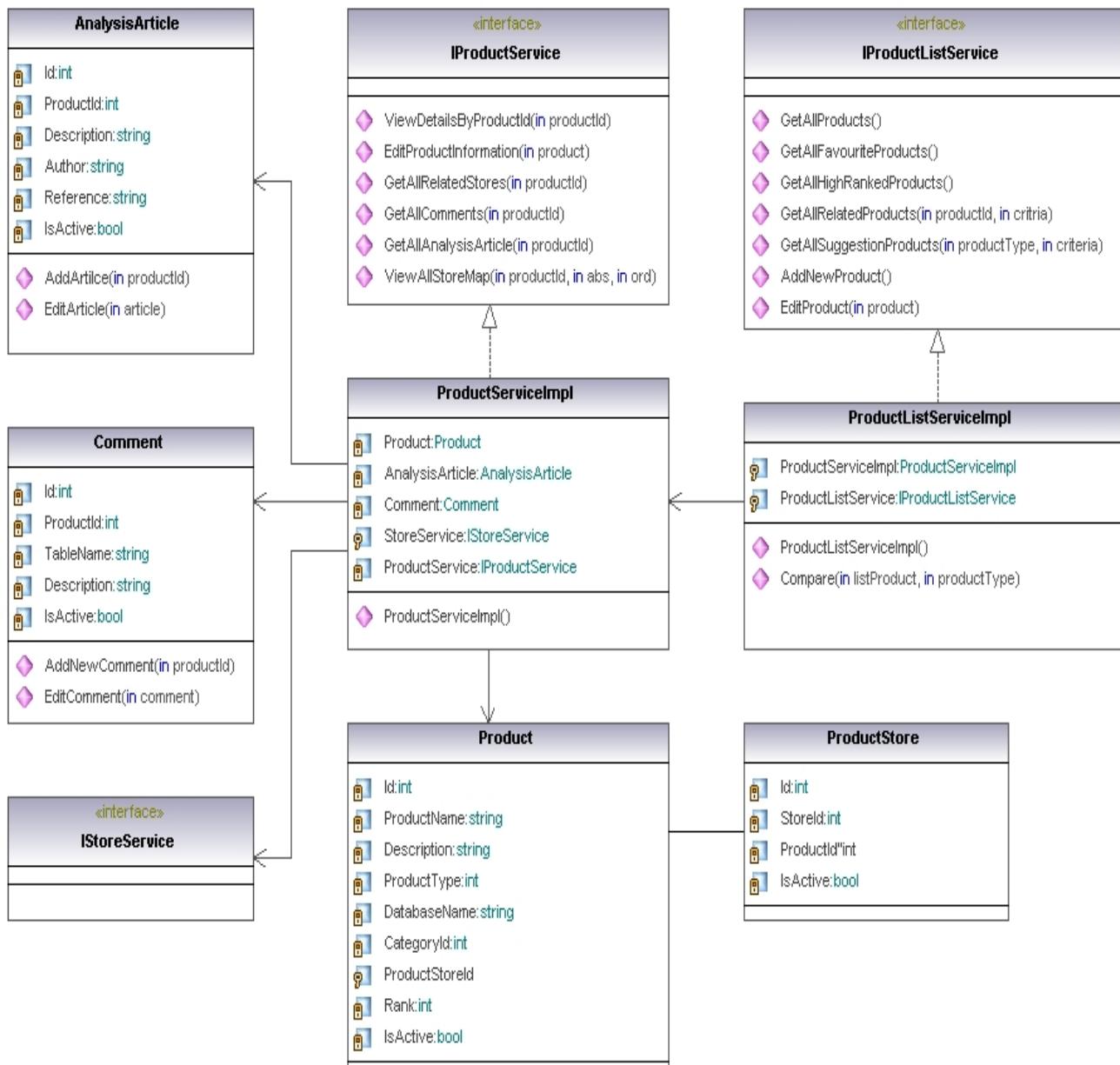
No	Name	Description
01	Store panel	Contains numbers of store links which are displayed on map.
02	Store search box	Allow user enter store's address to search its position.
03	"Find Road" button	Click on this button allow user see the stores which match the address search string.
04	Store link	Click on this link will let user see this store on map.
05	Pan up button	Click the arrow buttons to move the view north.
06	Map button	Allow user view a map with a traditional depiction of roads, parks, borders, bodies of water and more.
07	Satellite button	Allow user view aerial imagery.
08	Hybrid button	Allow user view in two ways: map and satellite.
09	Pan left button	Click the arrow buttons to move the view west.
10	Pan right button	Click the arrow buttons to move the view east.
11	Pan down button	Click the arrow buttons to move the view south.
12	Plus button	Click + to zoom in on the center of the map
13	Minus button	Click - to zoom out on the center of the map
14	Store	Display the position of the store on the Google map

#### 4.4.1.1.4.2 Screen Images



**Figure 4.8:** Map page

#### 4.4.1.2. Class Diagram:



**Figure 4.9:** Product's class diagram

#### **4.4.1.3. Class Explanation:**

##### **4.4.1.3.1. Product class:**

###### **4.4.1.3.1.1. Attributes:**

No	Parameters	Type	Description
01	Id	Int	Product Id, it is set to be unique.
02	ProductName	String	Product name.
03	Description	String	Contains all details information of product.
04	ProductType	Int	Type of product.
05	DatabaseName	String	Database name.
06	TableName	String	Table name.
07	CategoryId	Int	Foreign key to Category table. Used to identify which category product belongs.
08	ProductStoreId	Int	Foreign key to ProductStore table.
09	Rank	Int	Rank of product.  The system allow user to vote for products, so, each product has its rank.
10	IsActive	Bool	State of product: active or inactive.
11	CreatedDate	DateTime	Contains the time and date that product is created.
12	CreatedBy	Int	Contains User id that creates product.
13	UpdatedDate	DateTime	Contains the time and date that product is modified.
14	UpdatedBy	Int	Contains User id that modifies product.

#### **4.4.1.3.2. *ProductServiceImpl class:***

This class implement IProductService interface, all functions of IProductService will be used by this class has been identified in the table below.

##### **4.4.1.3.2.1. Attributes:**

No	Parameters	Type	Description
01	Product	Product	Instance of Product class.
02	AnalysisArticle	AnalysisArticle	Instance of AnalysisArticle class.
03	Comment	Comment	Instance of Comment class.
04	StoreService	IStoreService	Instance of IStoreServcie interface. Used to call functions of IStoreService interface.
05	ProductService	IProductService	Instance of IProductService interface. Used to call functions of IProductService interface.

##### **4.4.1.3.2.2. Methods:**

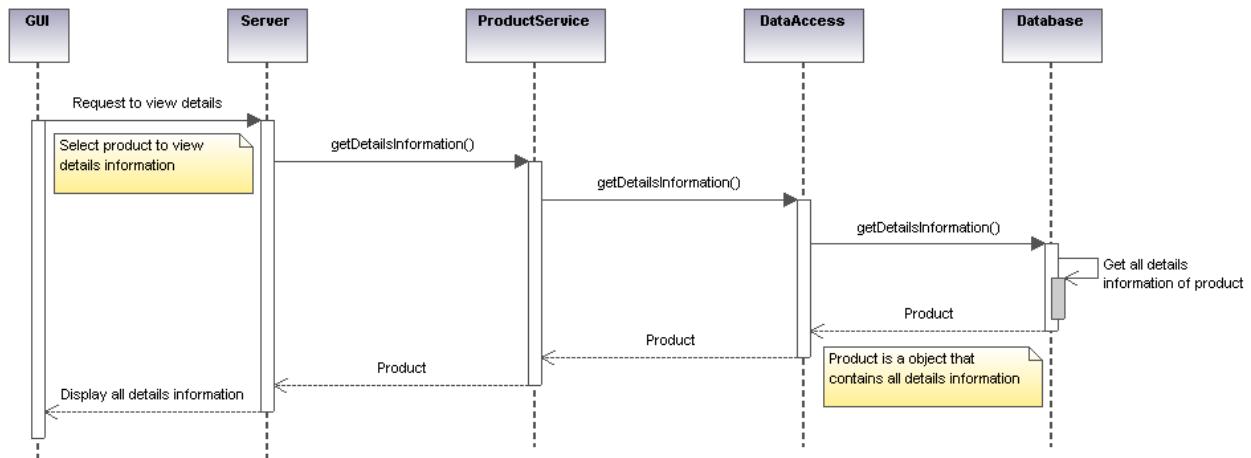
###### **4.4.1.3.2.2.1. Method View Details:**

**Purpose:** get all details information of selected product to display on screen.

###### **Parameters & return**

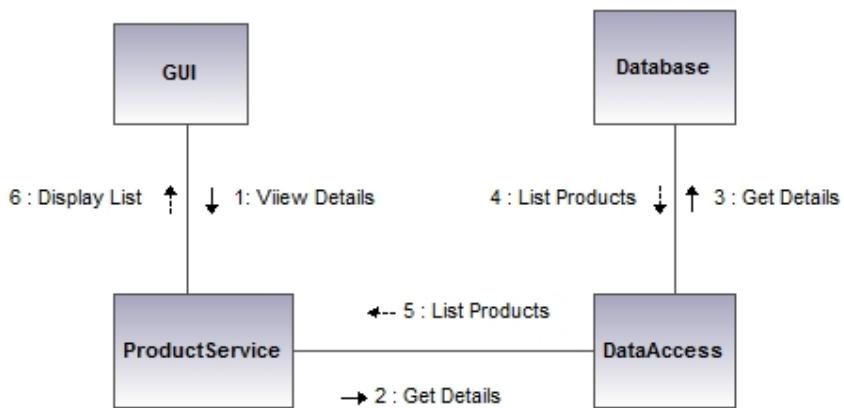
No	Parameters	Type	Description
01	ProductId	Int	Product Id.
	<return>	None	None.

## Sequence Diagram



**Figure 4.10:** Sequence diagram for view product's details information

## Collaboration Diagram



**Figure 4.11:** Collaboration diagram for view product's details information

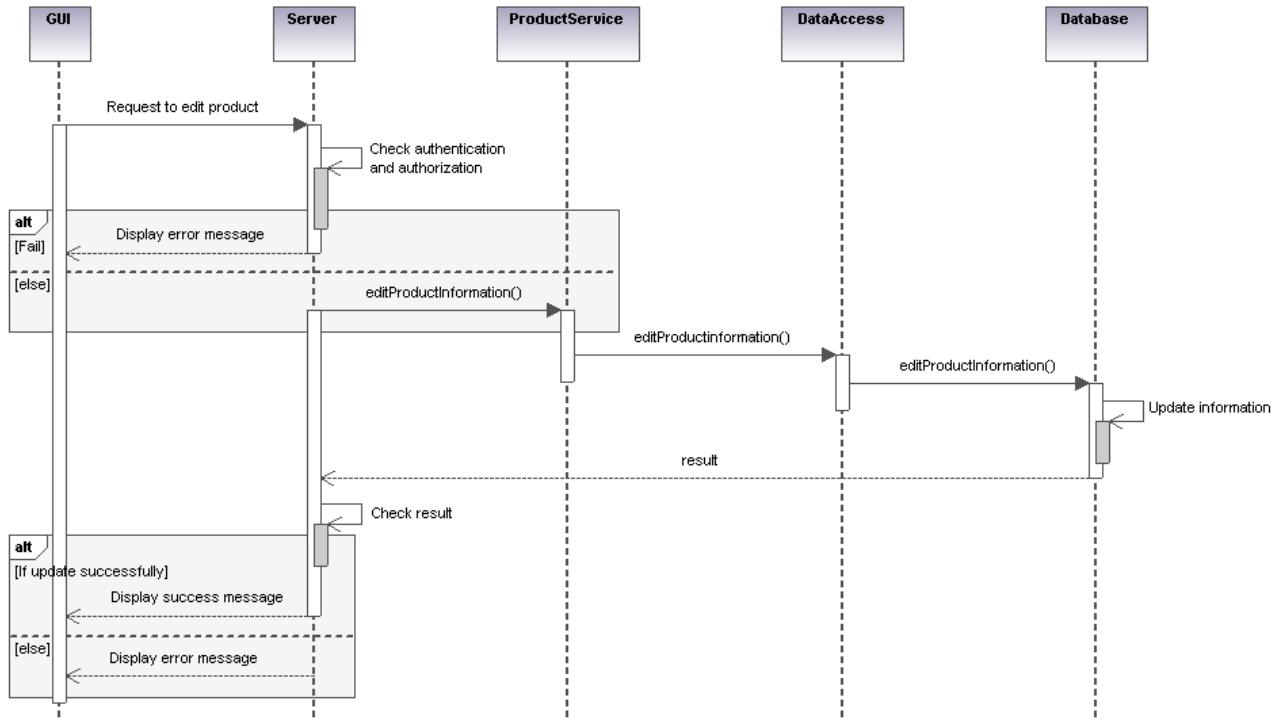
### 4.4.1.3.2.2. Method Edit:

**Purpose:** edit all details information of selected product.

#### Parameters & return

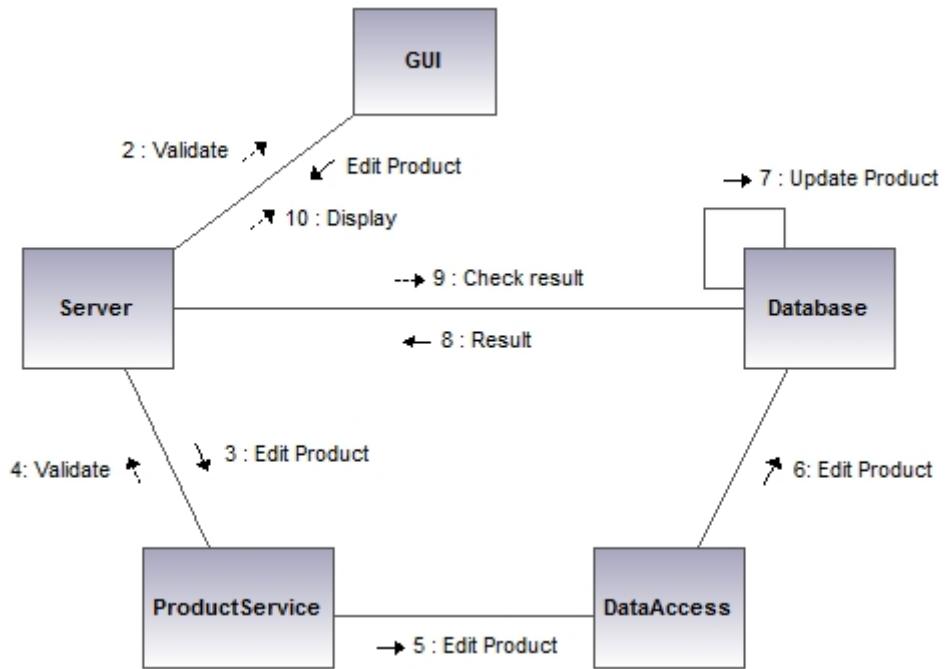
No	Parameters	Type	Description
01	Product	Product	Instance of Product class.
	<return>	None	None.

## Sequence Diagram



**Figure 4.12:** Sequence diagram for edit product.

## Collaboration Diagram



**Figure 4.13:** Collaboration diagram for edit product.

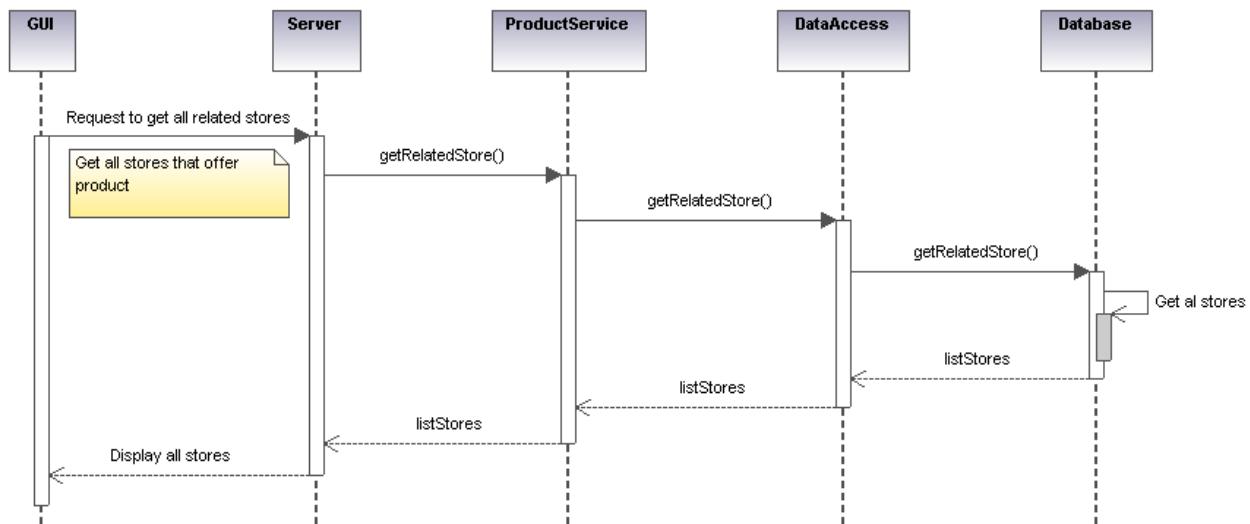
#### 4.4.1.3.2.2.3. Method Get Related Store:

**Purpose:** get all stores that offer selected product to display on screen.

##### Parameters & return

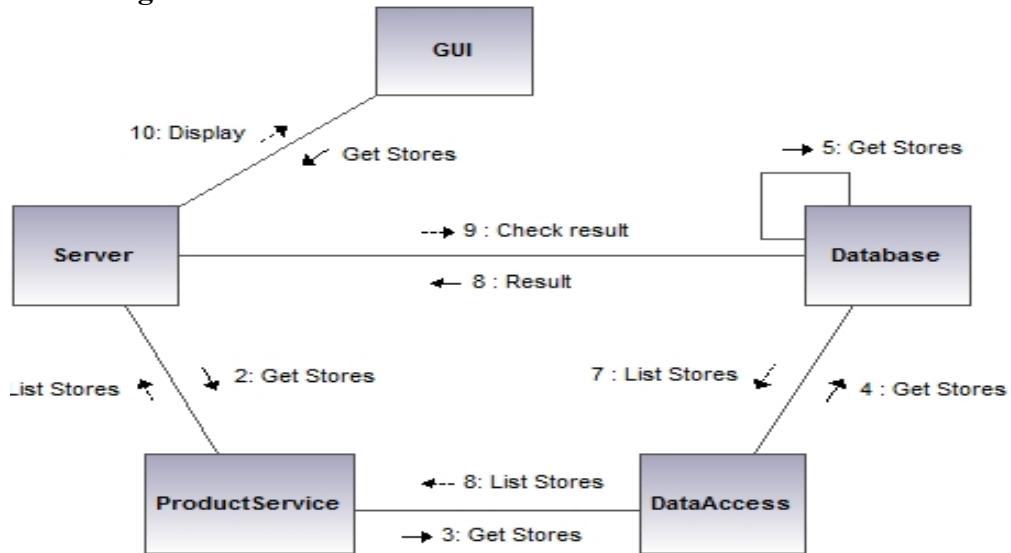
No	Parameters	Type	Description
01	ProductId	Int	Product Id.
	<return>	List <Store>	List stores.

##### Sequence Diagram



**Figure 4.14:** Sequence diagram for getting all stores.

##### Collaboration Diagram



**Figure 4.15:** Collaboration diagram for getting all stores.

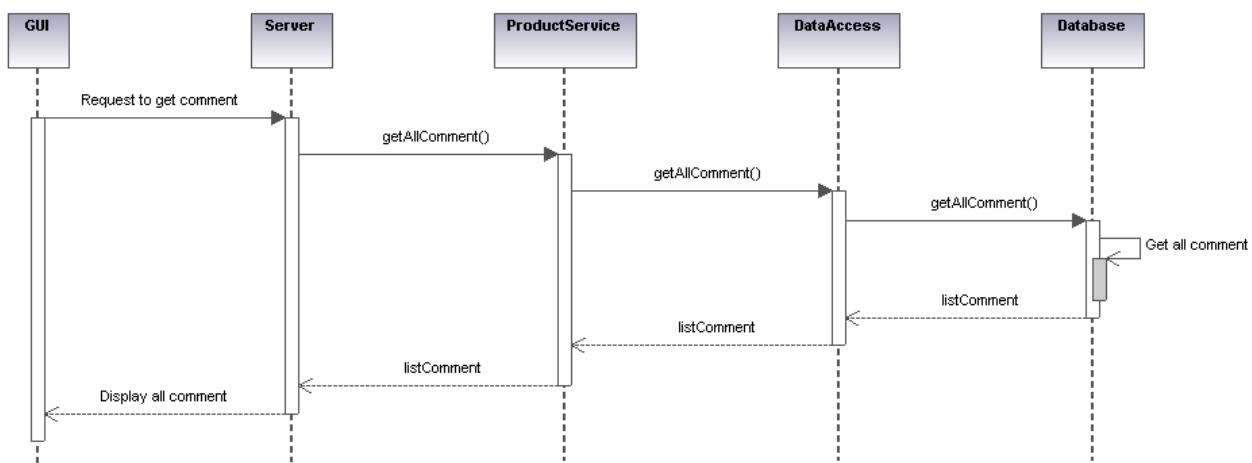
#### 4.4.1.3.2.2.4. Method Get Comment:

**Purpose:** get all comments that relate to selected product to display on screen.

##### Parameters & return

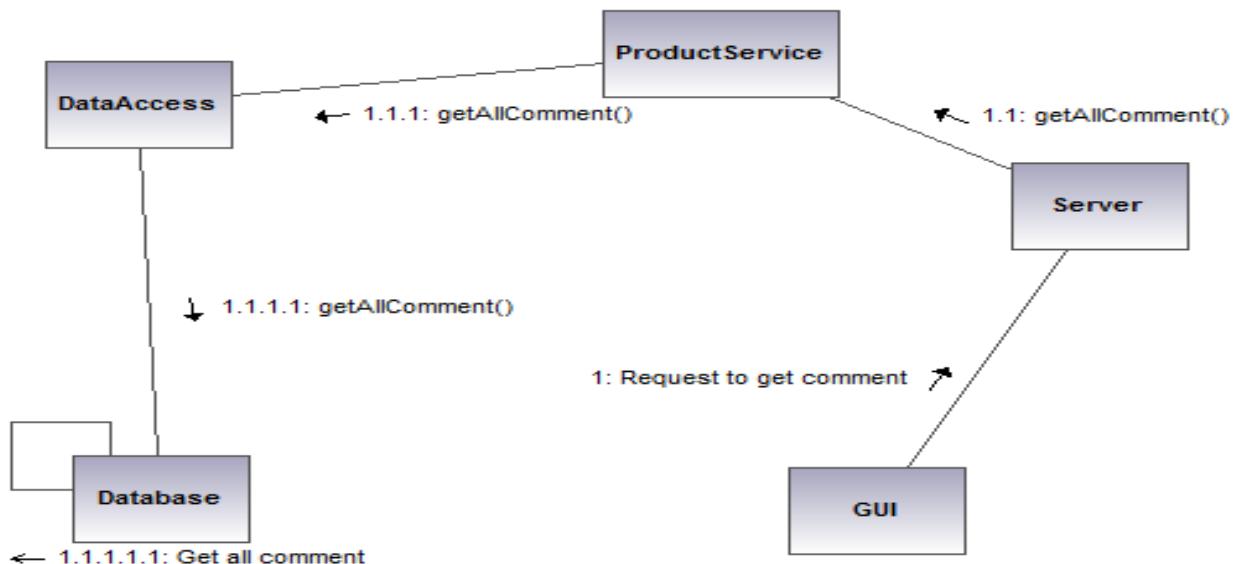
No	Parameters	Type	Description
01	ProductId	Int	Product Id.
	<return>	List <Comment>	List of comments for selected product.

##### Sequence Diagram



**Figure 4.16:** Sequence diagram for getting comment.

##### Collaboration Diagram



**Figure 4.17:** Collaboration diagram for getting comment.

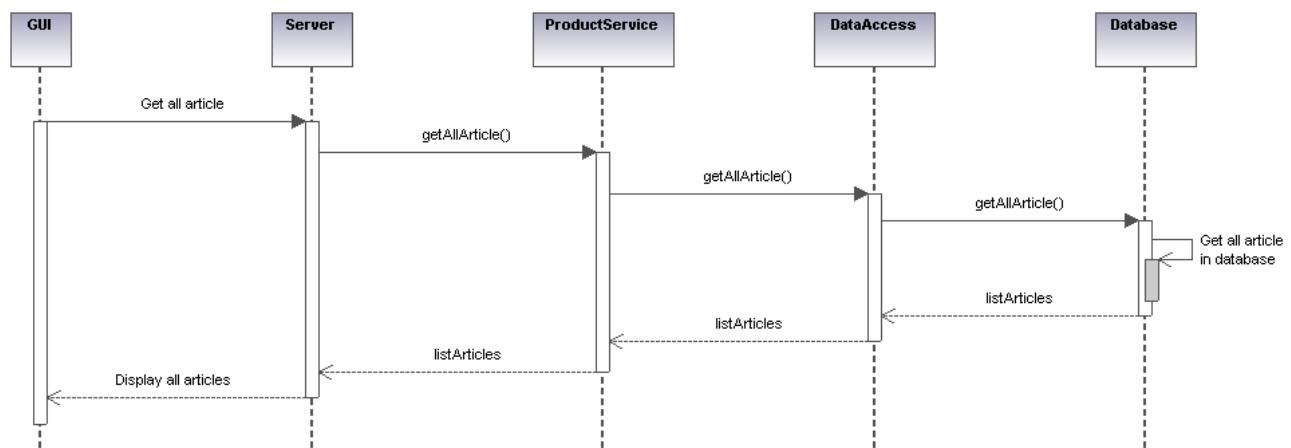
#### 4.4.1.3.2.2.5. Method Get Analysis Article:

**Purpose:** get all analysis articles that relate to selected product to display on screen.

##### Parameters & return

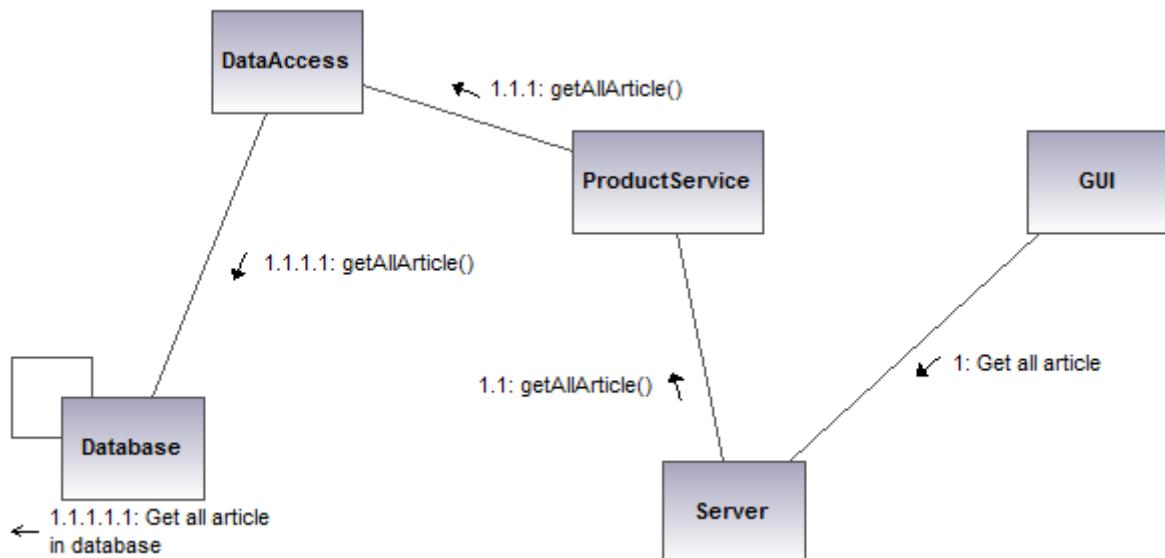
No	Parameters	Type	Description
01	ProductId	Int	Product Id.
	<return>	List <AnalysisArticle>	List of analysis articles for selected product.

##### Sequence Diagram



**Figure 4.18:** Sequence diagram for getting Analysis Article.

##### Collaboration Diagram



**Figure 4.19:** Collaboration diagram for getting Analysis Article.

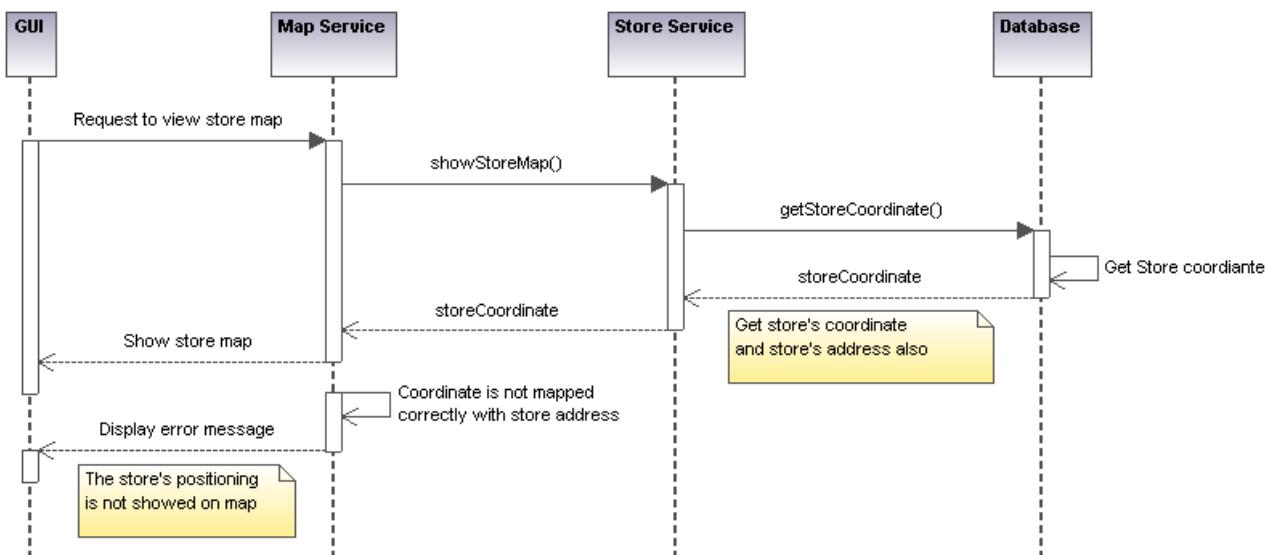
#### 4.4.1.3.2.2.6. Method View Store Map:

**Purpose:** view positioning of all stores that offer selected product on screen.

##### Parameters & return

No	Parameters	Type	Description
01	ProductId	Int	Product Id.
02	Abscissa	Decimal	Store's abscissa.
03	Ordinate	Decimal	Store's ordinate.
	<return>	None	None.

##### Sequence Diagram



**Figure 4.20:** Sequence diagram for view all stores on map.

#### 4.4.1.3.3. Analysis Article class:

##### 4.4.1.3.3.1. Attributes:

No	Parameters	Type	Description
01	Id	Int	Article Id, it is set to be unique.
02	ProductId	Int	Foreign key to Product table.
03	Description	String	Article content.
04	Author	String	Author name of article.
05	Reference	String	Source of article.

06	IsActive	Bool	State of article: active or not.
07	CreatedDate	DateTime	Contains the time and date that article is created in the system.
08	CreatedBy	Int	Contains user id that create article.
09	UpdatedDate	DateTime	Contains the time and date that article is modified.
10	UpdatedBy	Int	Contains user id that modify article.

#### 4.4.1.3.3.2. Methods:

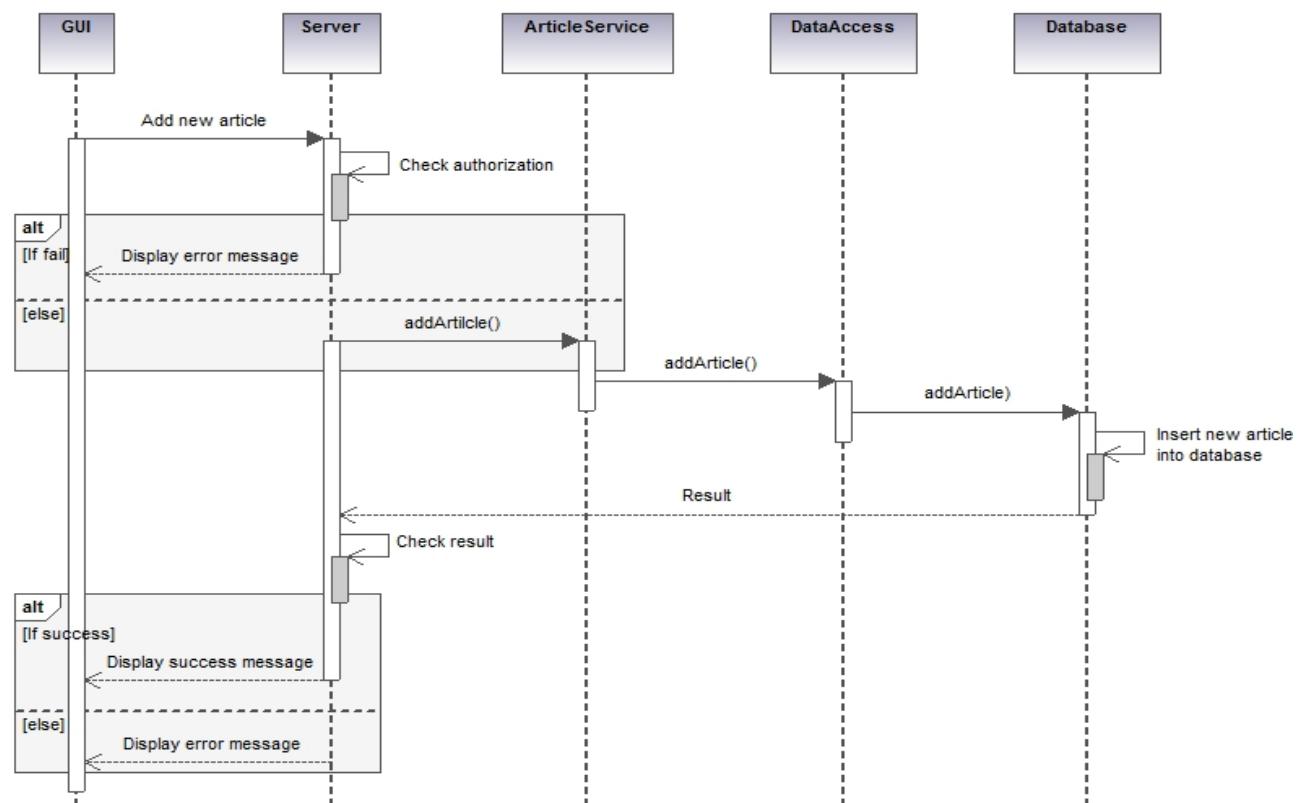
##### 4.4.1.3.3.2.1. Method Add:

**Purpose:** add new article.

**Parameters & return**

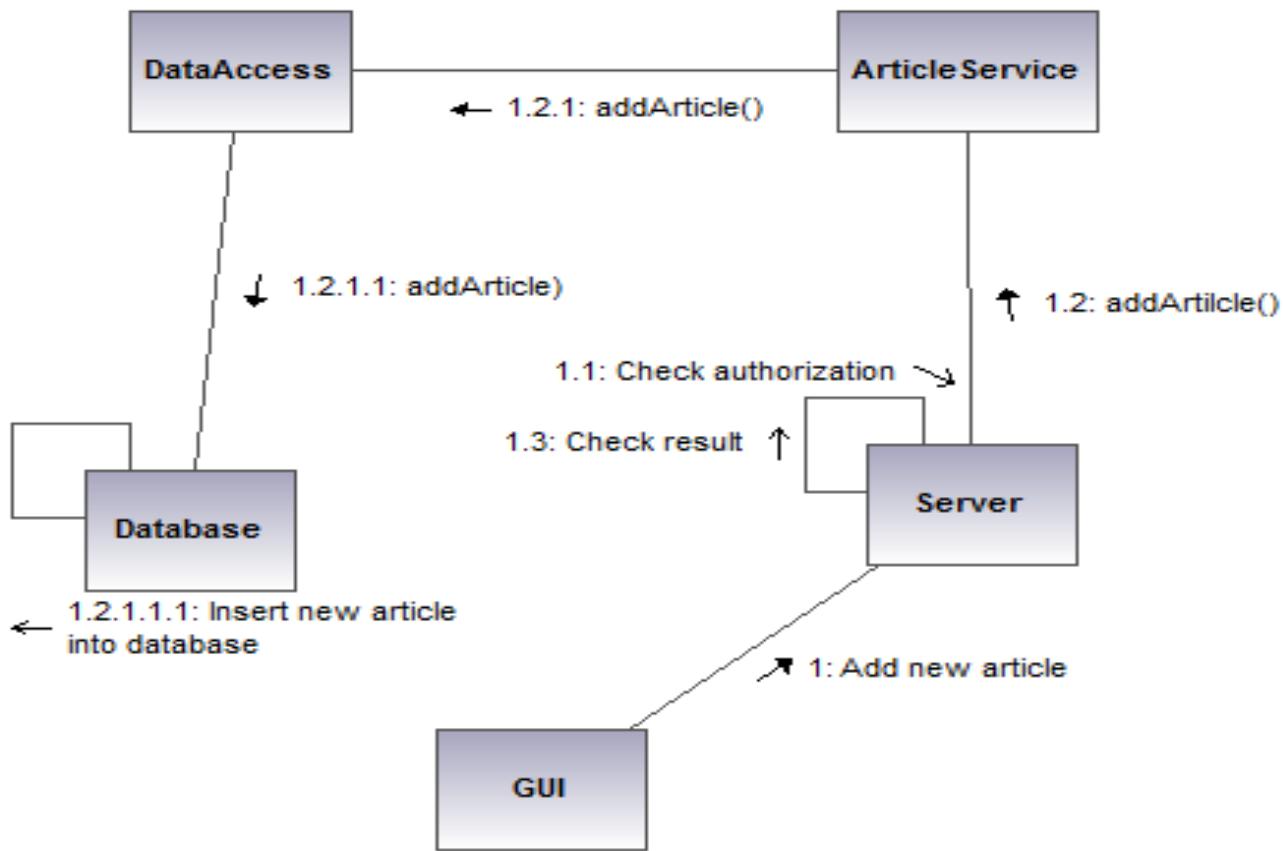
No	Parameters	Type	Description
01	ProductId	Int	Product Id, to know which product article will be added to.
	<return>	None	None.

#### Sequence Diagram



**Figure 4.21:** Sequence diagram for add new analysis article.

### Collaboration Diagram



**Figure 4.22:** Collaboration diagram for add new analysis article.

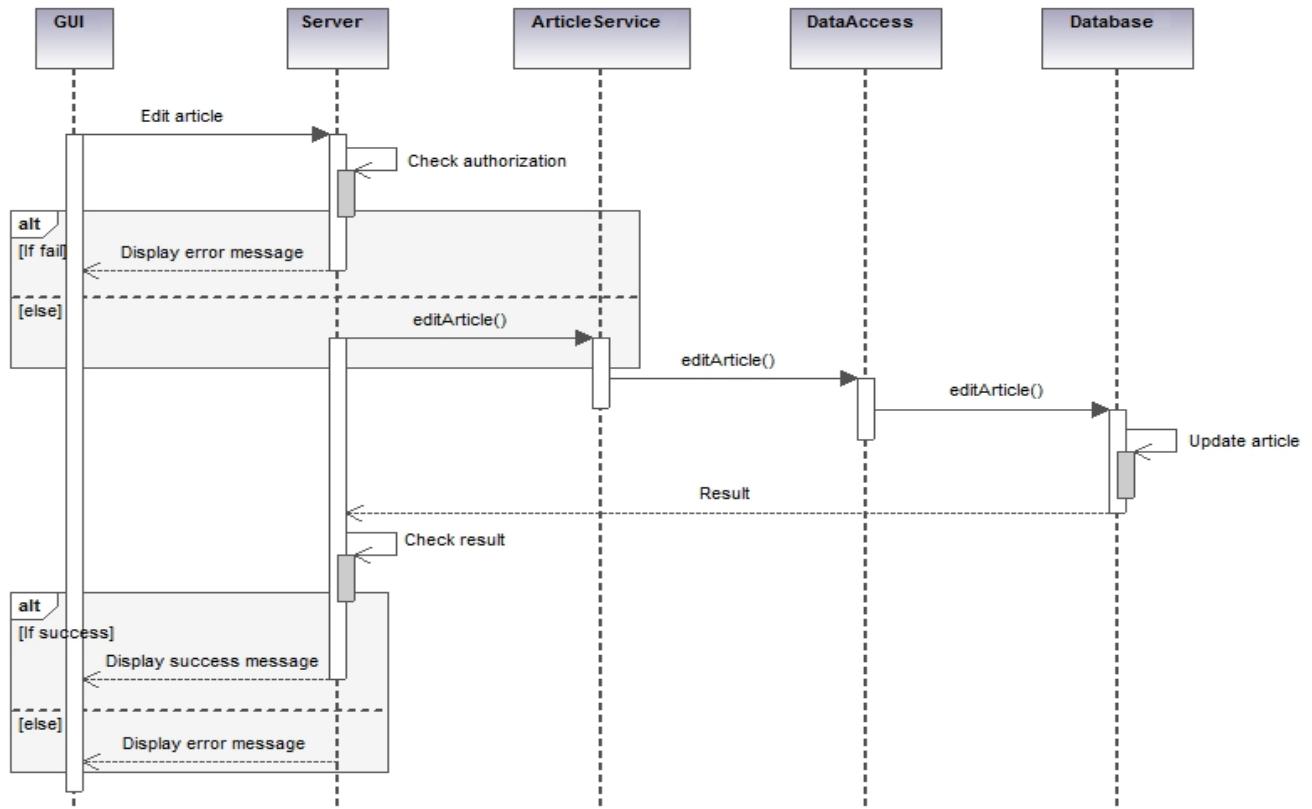
#### 4.4.1.3.3.2.2. Method Edit:

**Purpose:** edit article.

**Parameters & return**

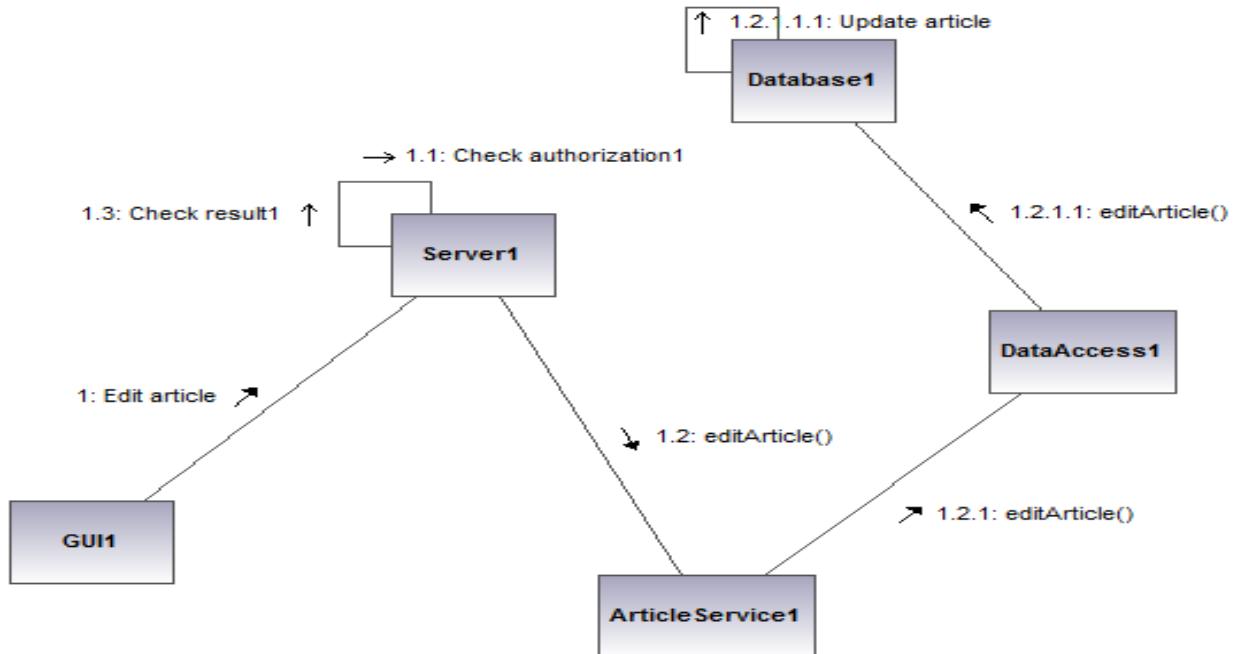
No	Parameters	Type	Description
01	Article	Article	Instance of AnalysisArticle class.
	<return>	None	None.

## Sequence Diagram



**Figure 4.23:** Sequence diagram for edit analysis article.

## Collaboration Diagram



**Figure 4.24:** Collaboration diagram for edit analysis article.

**4.4.1.3.4. Comment class:****4.4.1.3.4.1. Attributes:**

No	Parameters	Type	Description
01	Id	Int	Comment Id, it is set to be unique.
02	ProductId	Int	Foreign key to Product table.
03	Description	String	Comment content.
04	IsActive	Bool	State of comment: active or not.
05	CreatedDate	DateTime	Contains the time and date that comment is created in the system.
06	CreatedBy	Int	Contains user id that create comment.
07	UpdatedDate	DateTime	Contains the time and date that comment is modified.
08	UpdatedBy	Int	Contains user id that modify comment.

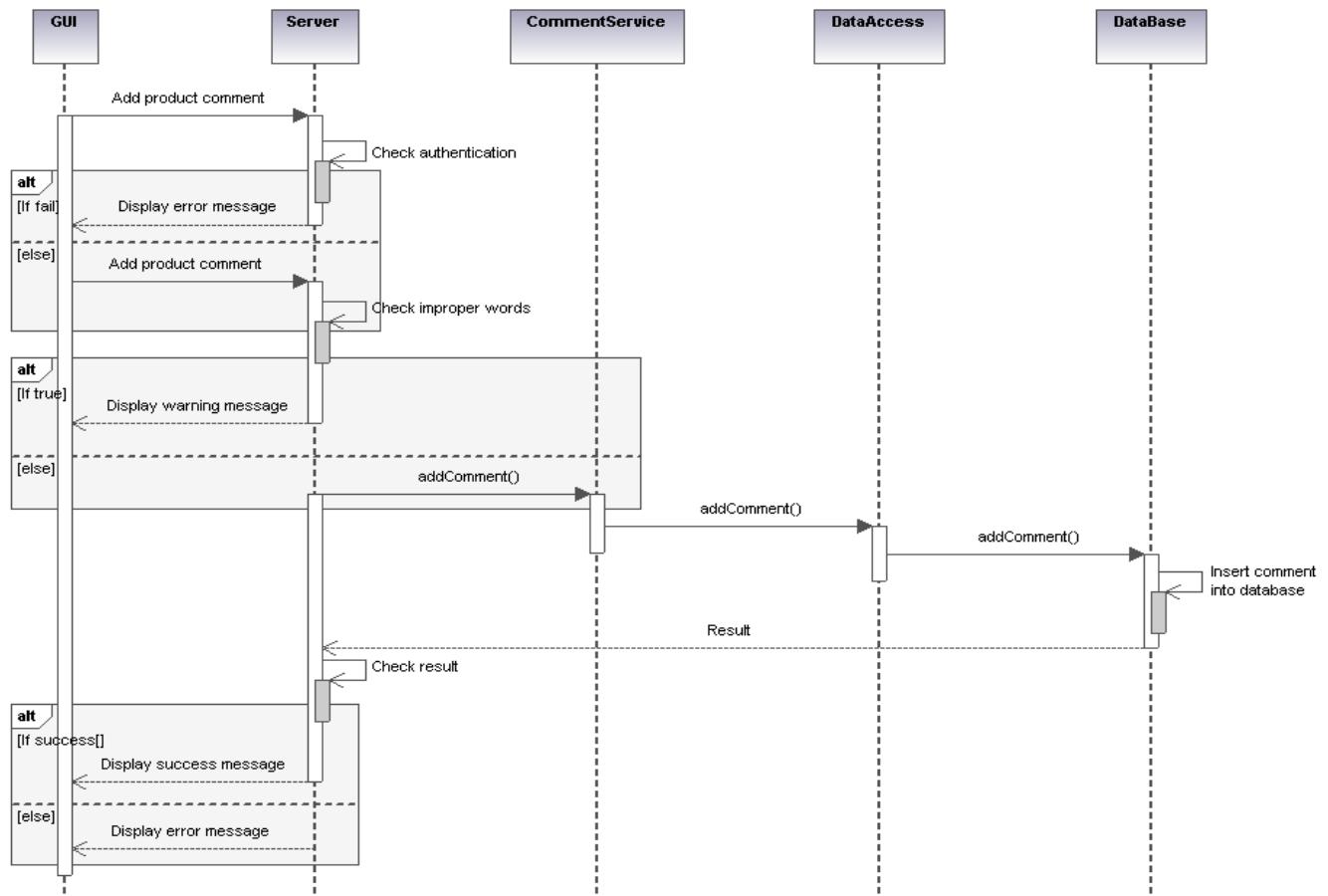
**4.4.1.3.4.2. Methods:****4.4.1.3.4.2.1. Method Add:**

**Purpose:** add new comment.

**Parameters & return**

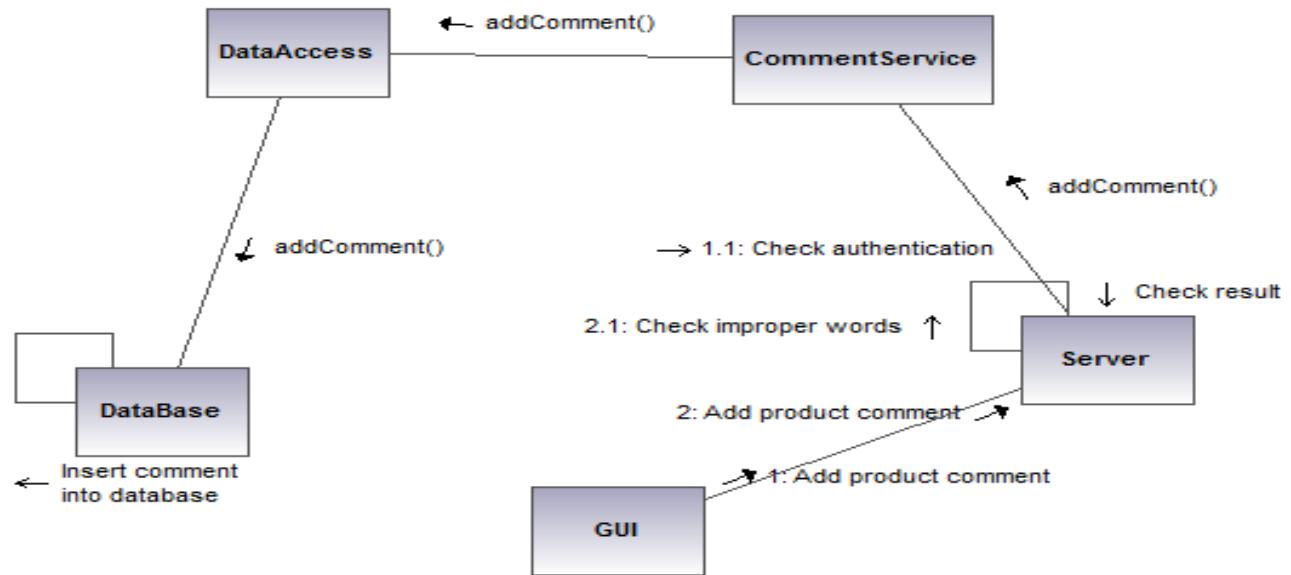
No	Parameters	Type	Description
01	ProductId	Int	Product Id, to know which product comment will be added to.
	<return>	None	None.

## Sequence Diagram



**Figure 4.25:** Sequence diagram for add new comment.

## Collaboration Diagram



**Figure 4.26:** Collaboration diagram for add new comment.

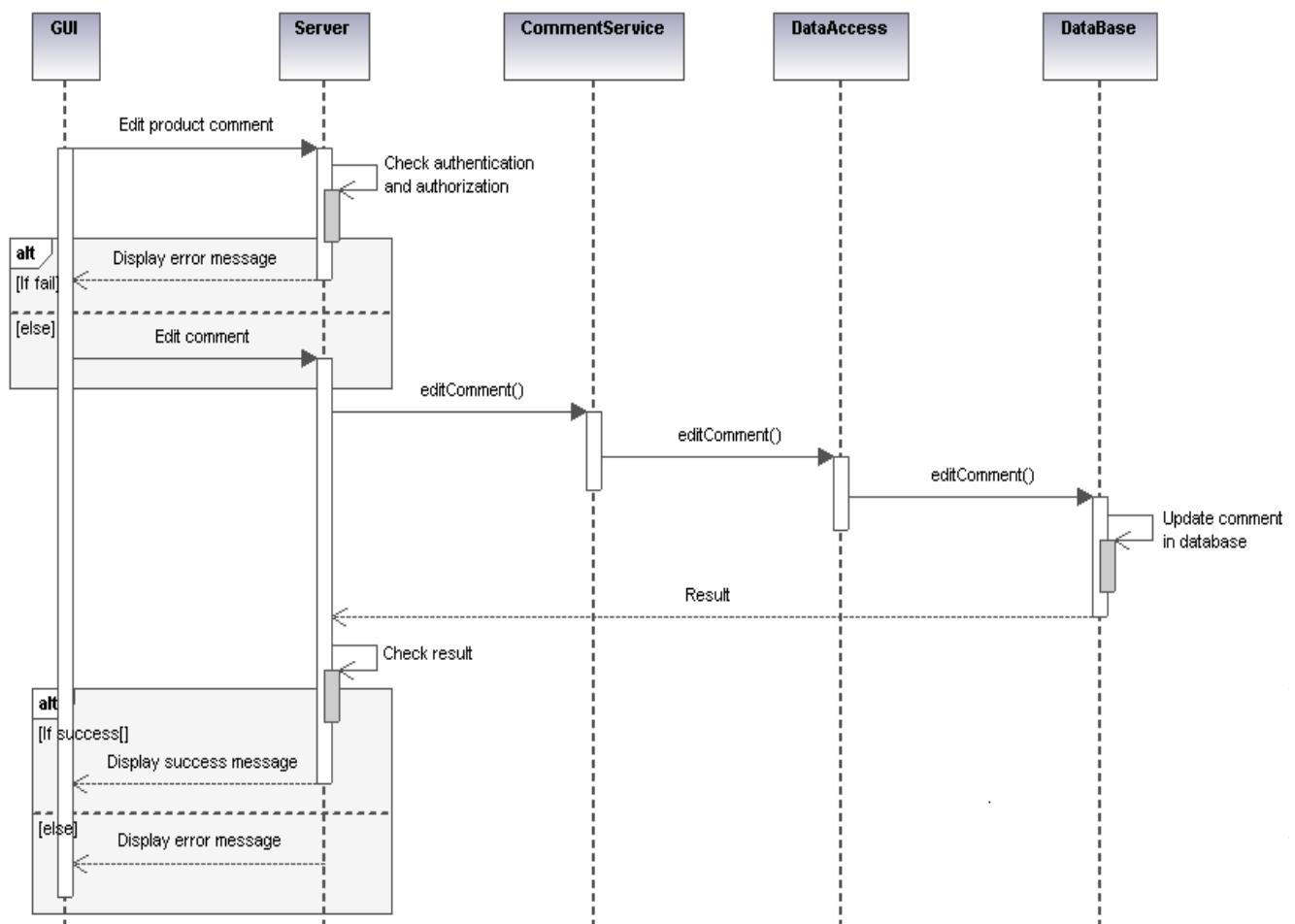
#### 4.4.1.3.4.2.2. Method Edit:

**Purpose:** edit comment.

**Parameters & return**

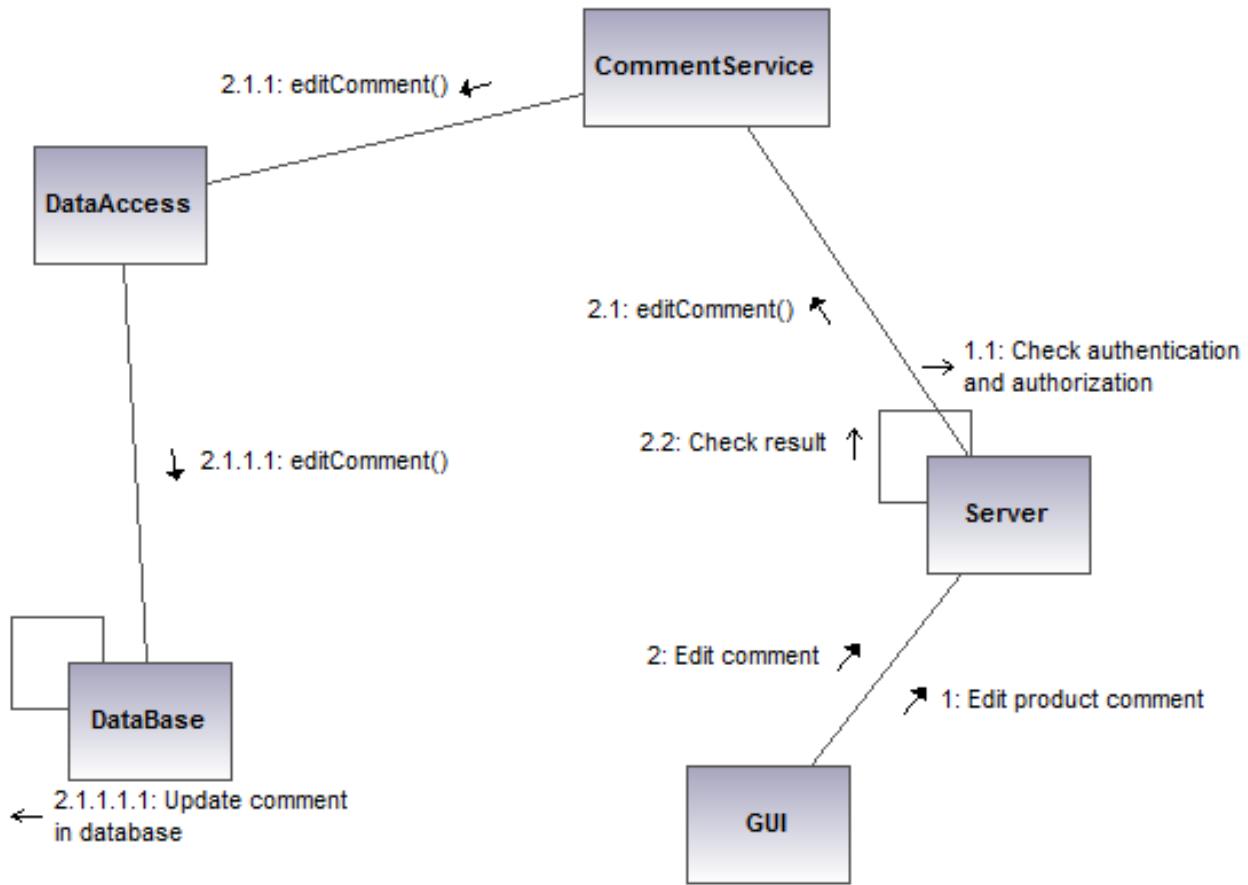
No	Parameters	Type	Description
01	Comment	Comment	Instance of Comment class.
	<return>	None	None.

**Sequence Diagram**



**Figure 4.27:** Sequence diagram for edit comment.

## Collaboration Diagram



**Figure 4.28:** Collaboration diagram for edit comment.

### 4.4.1.3.5. ProductStore class:

#### 4.4.1.3.5.1. Attributes:

No	Parameters	Type	Description
01	Id	Int	Relationship Id, it is set to be unique.
02	ProductId	Int	Foreign key to Product table.
03	StoreId	Int	Foreign key to Store table.
04	IsActive	Bool	State of relationship: active or not.

#### 4.4.1.3.6. ProductListServiceImpl class:

This class implement IProductListService, all functions of IProductListService will be used by this class has been identified in the table below.

##### 4.4.1.3.6.1. Attributes:

No	Parameters	Type	Description
01	ProductServiceImpl	ProductServiceImpl	Instance of ProductServiceImpl class.
02	ProductListService	IProductListService	Instance of ProductServiceImpl interface.

##### 4.4.1.3.6.2. Methods

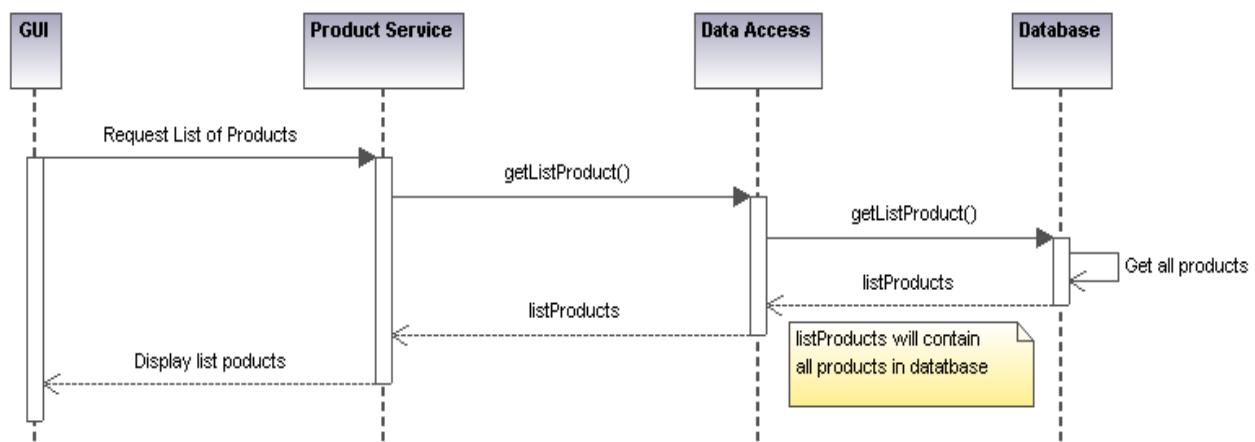
###### 4.4.1.3.6.2.1. Method Get Products:

**Purpose:** get all products in database.

###### Parameters & return

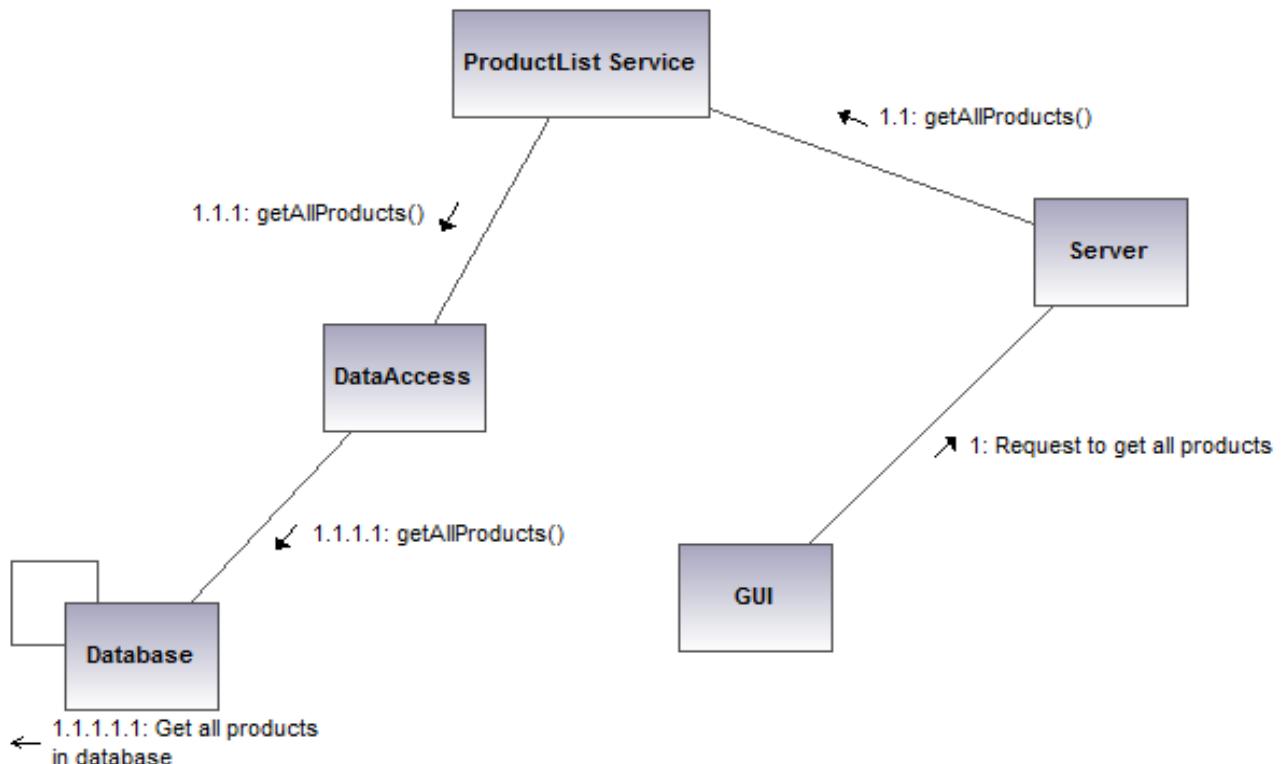
No	Parameters	Type	Description
	<return>	None	None.

###### Sequence Diagram



**Figure 4.29:** Sequence diagram for getting all products.

## Collaboration Diagram



**Figure 4.30:** Collaboration diagram for getting all products.

### 4.4.1.3.6.2.2. Method Get Favorite Products:

**Purpose:** get all favorite products in database.

#### Parameters & return

No	Parameters	Type	Description
	<return>	None	None.

#### Sequence Diagram

The same as get all products.

### 4.4.1.3.6.2.3. Method Get High Ranked Products:

**Purpose:** get all high ranked products in database.

#### Parameters & return

No	Parameters	Type	Description
	<return>	None	None.

#### Sequence Diagram

The same as get all products.

#### 4.4.1.3.6.2.4. Method Get Related Products:

**Purpose:** get all products that relate to selected product based on related criteria.

##### Parameters & return

No	Parameters	Type	Description
01	ProductId	Int	Product Id.
02	Criteria		Criteria to identify what are related products.
	<return>	None	None.

##### Sequence Diagram

The same as get all products.

#### 4.4.1.3.6.2.5. Method Get Suggestion Products:

**Purpose:** get all products that suggested by the system.

##### Parameters & return

No	Parameters	Type	Description
01	ProductId	Int	Product Id.
02	Criteria		Suggested criteria. This will be configured.
	<return>	None	None.

**Sequence Diagram:** The same with get all products.

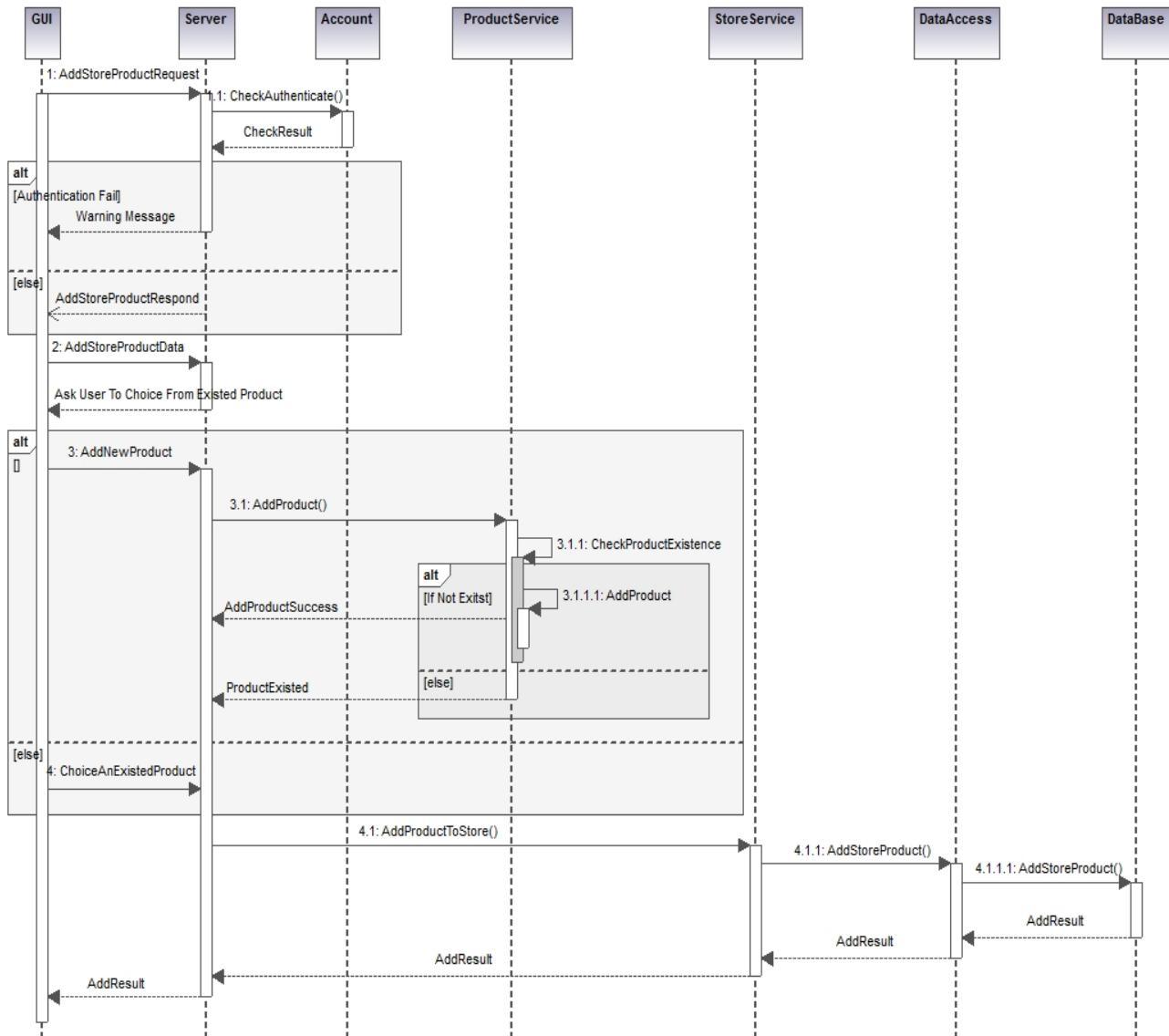
#### 4.4.1.3.6.2.6. Method Add:

**Purpose:** add new product.

##### Parameters & return

No	Parameters	Type	Description
	<return>	None	None.

## Sequence Diagram



**Figure 4.31:** Sequence diagram for add new product.

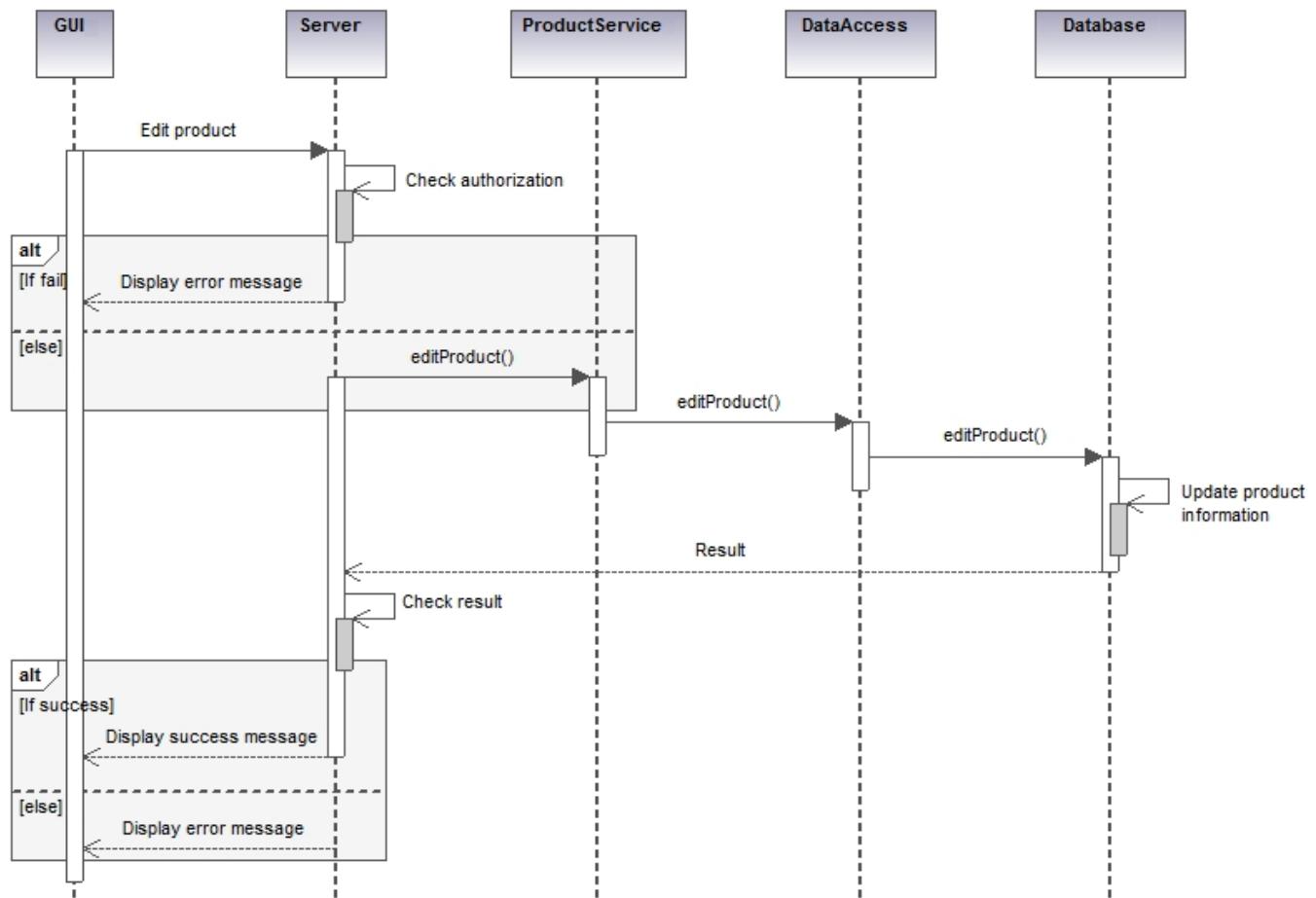
### 4.4.1.3.6.2.7. Method Edit:

**Purpose:** edit product.

**Parameters & return**

No	Parameters	Type	Description
01	Product	Product	Instance of Product class.
	<return>	None	None.

## Sequence Diagram



**Figure 4.32:** Sequence diagram for edit product information.

### 4.4.1.3.6.2.8. Method Compare:

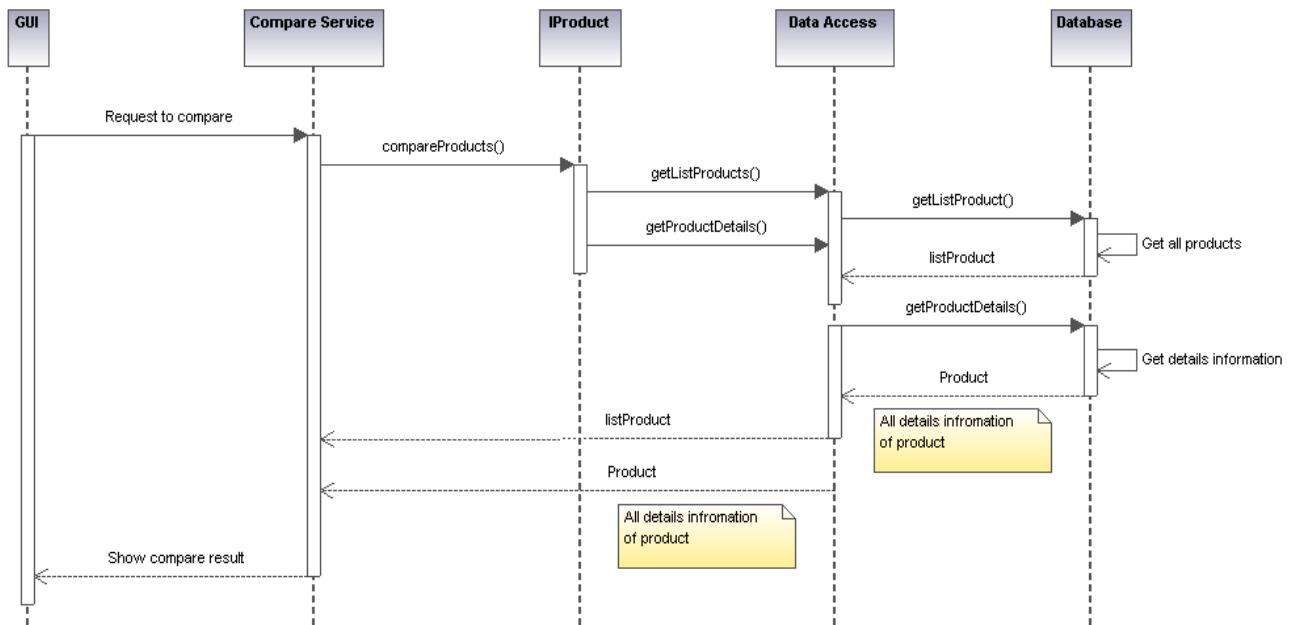
**Purpose:** compare products.

**Parameters & return**

No	Parameters	Type	Description
01	ListProduct	List <Product>	List of products need to be compared.
02	ProductType	Int	To identify what kind of those products to prepare for comparing.
	<return>	List <Product>	List of products that are compared. Contains comparative information only.

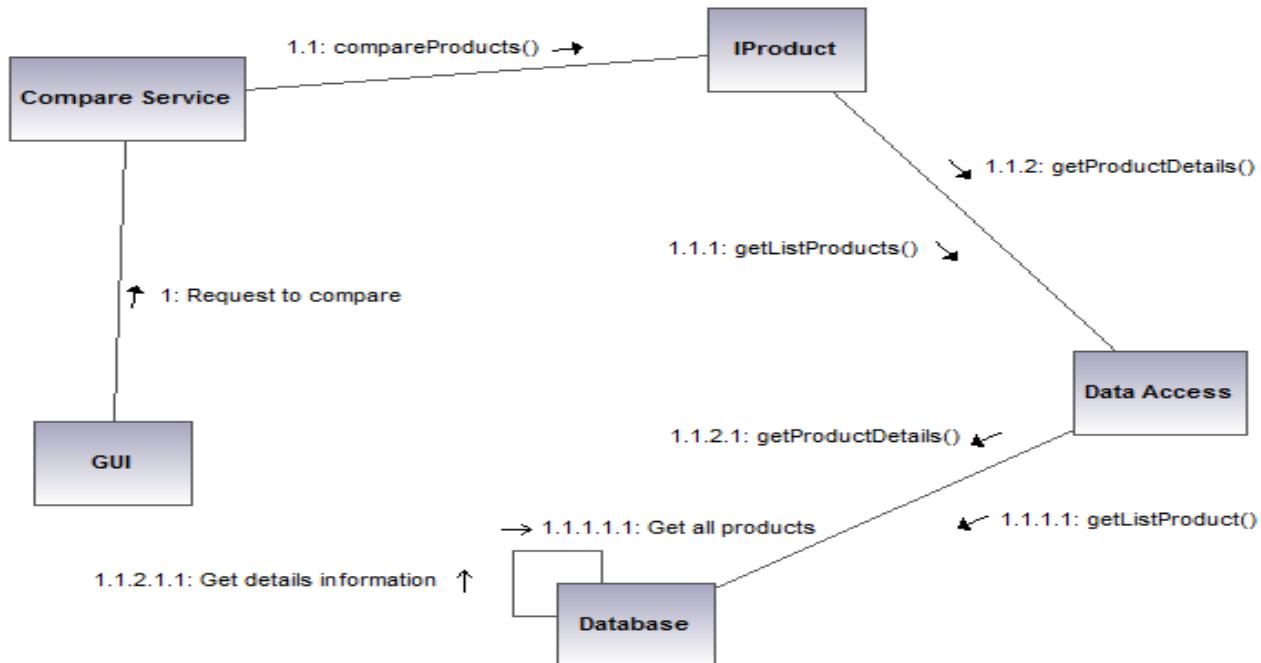
There are many kinds of products, so product type needed to define what kind of product, so, the system will prepare for comparing. Depends on product type, the system will compare specific information.

## Sequence Diagram



**Figure 4.33:** Sequence diagram for getting compare products.

## Collaboration Diagram



**Figure 4.34:** Collaboration diagram for getting compare products.

## 4.4.2. Store

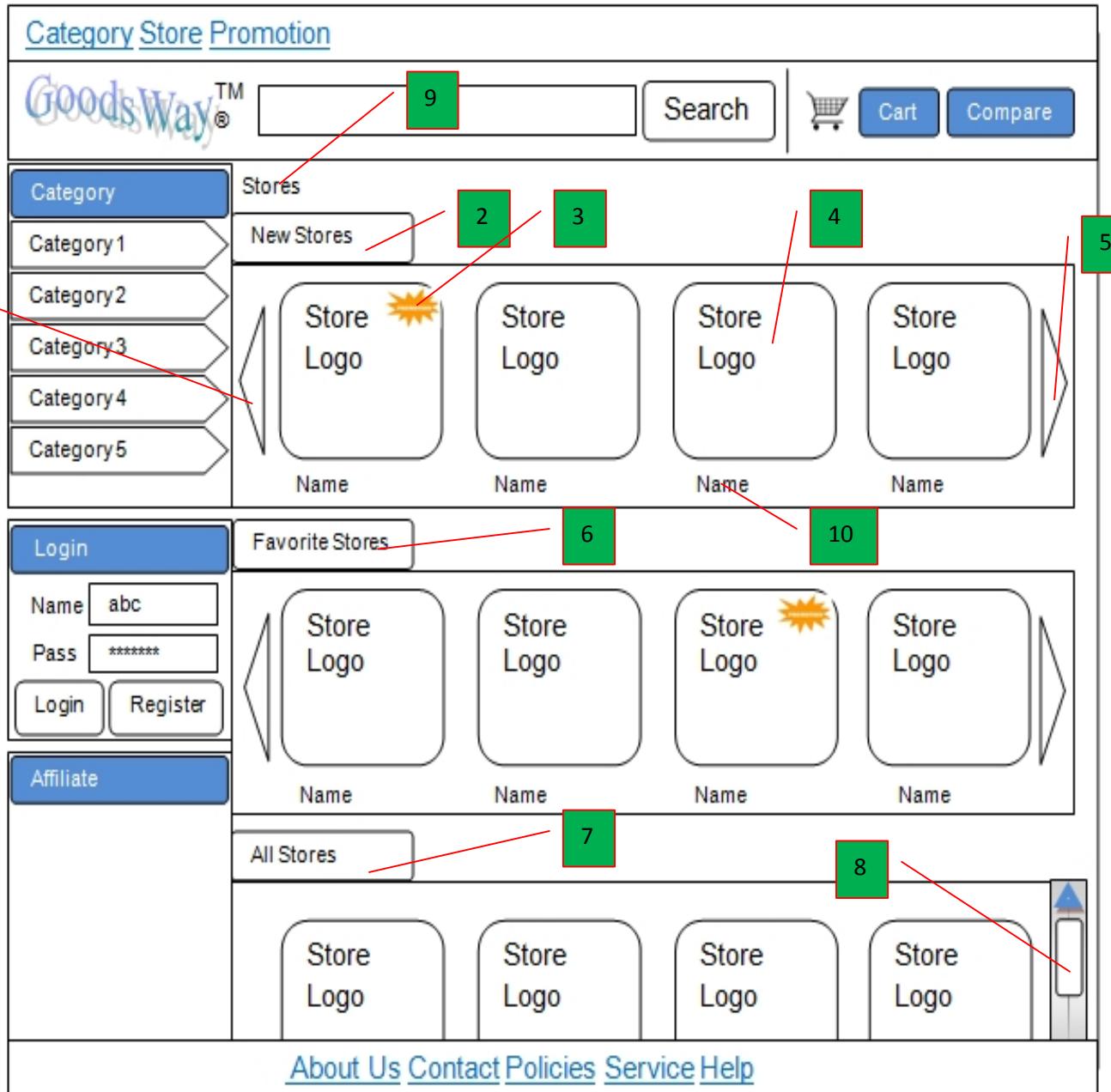
### 4.4.2.1. Store – User Interface Design

#### 4.4.2.1.1 Store Main

##### 4.4.2.1.1.1 Description of the User Interface

No	Name	Description
01	Left button	Click on this button allows user to view the previous stores on store list.
02	"New Stores" label	Show user the type for the list of new stores below this label.
03	Promotion icon	Notify user that currently this store has promotion program.
04	Store logo	Display the logo of the store, click on this logo will send user to the store details page.
05	Right button	Click on this button allows user to view the next stores on store list.
06	"Favorite Stores" label	Show user the type for the list of favorite stores below this label.
07	"All Stores" label	Show user the type for the list of all stores below this label.
08	Scrollbar	A Scrollbar has translations and actions that allow the user to move the slider. By clicking on an arrow, the user moves the slider one small increment in the direction of the arrow. By clicking in the scroll region between an arrow and the slider, the user moves the slider a larger increment (the page increment) in the direction of the arrow. The user can also drag the slider using the mouse.
09	"Stores" label	Shows the place where user is in.
10	Store name	Provide the name of store.

#### 4.4.2.1.1.2 Screen Images



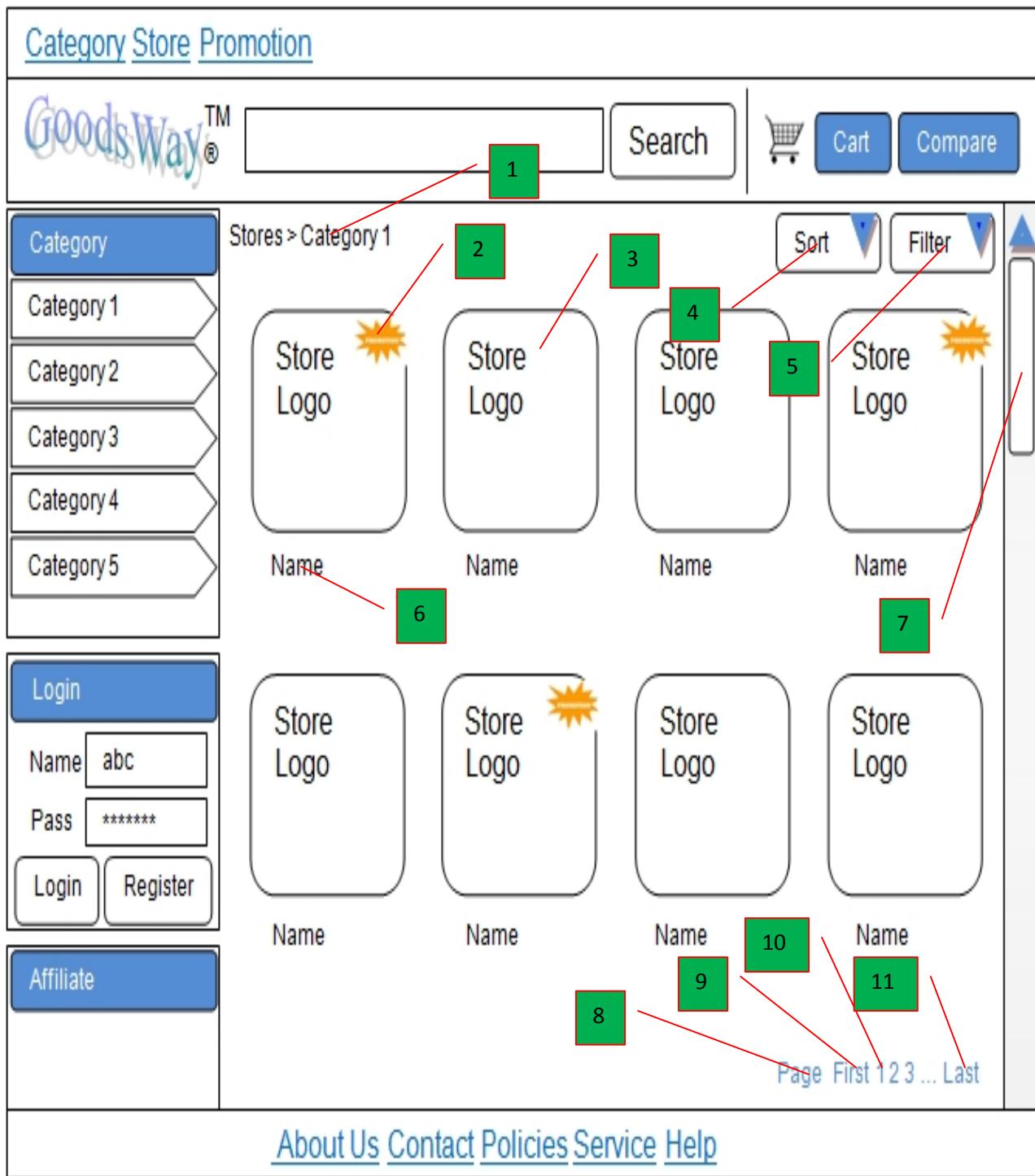
**Figure 4.35:** Store Main Page

#### 4.4.2.1.2 Store Types

##### 4.4.2.1.2.1 Description of the User Interface

No	Name	Description
01	Store navigation link	Display the place where user is in, besides that, it allows user to quickly change to other links (Stores or Category) by clicking on corresponding hyperlink.
02	Promotion icon	Tell user that currently this store has promotion program.
03	Store logo	Display the logo of the store, click on this logo will send user to the store details page.
04	Sort type	Provide several kinds of sort types: by store name, price, and rating in two ways: ascending and descending.
05	Filter	Display particular conditions for displaying returned search results.
06	Store name	Display the name of store.
07	Scrollbar	A Scrollbar has translations and actions that allow the user to move the slider. By clicking on an arrow, the user moves the slider one small increment in the direction of the arrow. By clicking in the scroll region between an arrow and the slider, the user moves the slider a larger increment (the page increment) in the direction of the arrow. The user can also drag the slider using the mouse.
08	Page	This area provides user a way for moving to other result pages.
09	First page link	Click on this link allows user navigate to the first results page with the search condition.
10	Number link	Click on this link allows user navigate to the specific result page (page 2 for example).
11	Last page link	Click on this links allows user navigate to the last results page.

#### 4.4.2.1.2.2 Screen Images



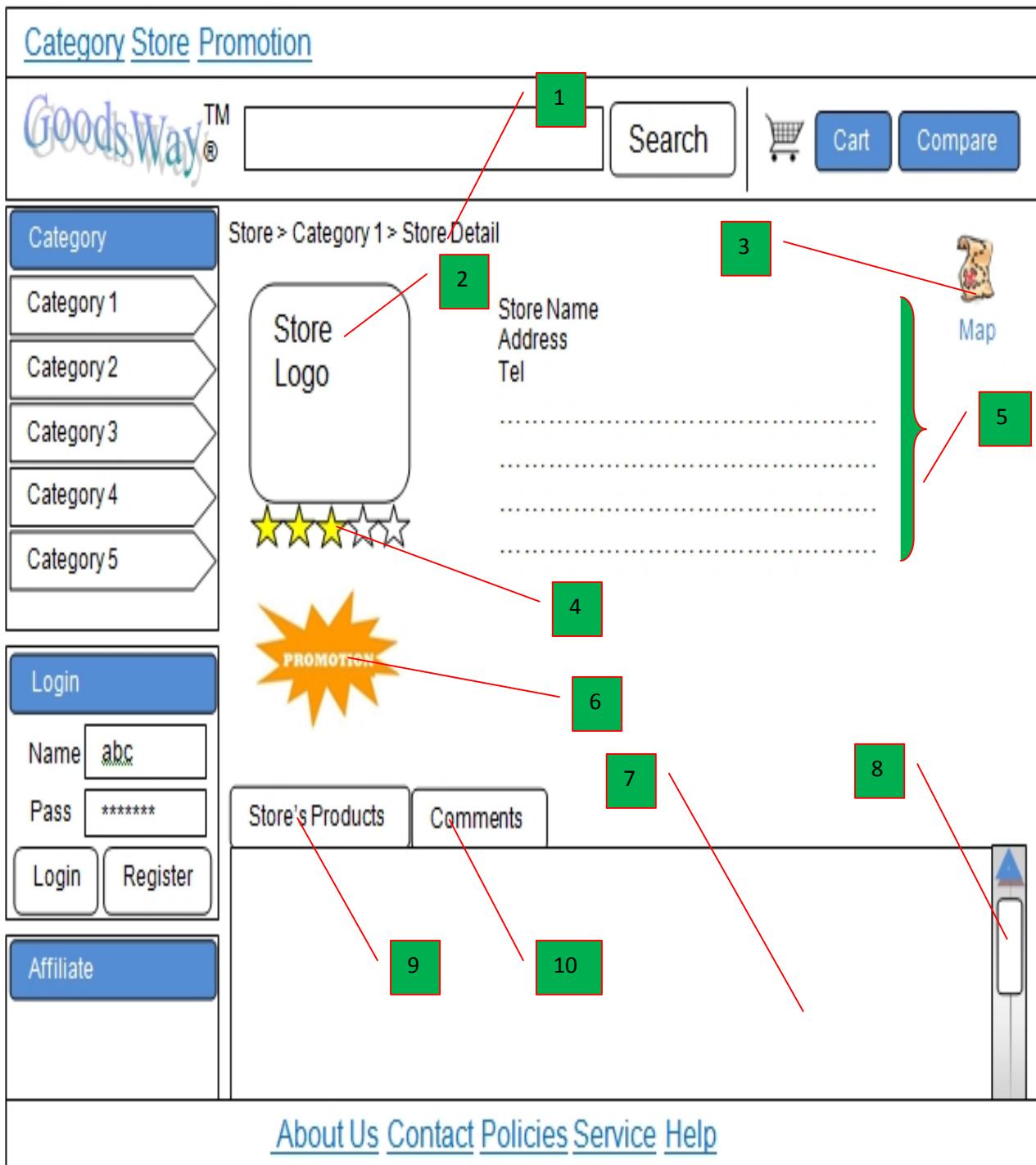
**Figure 4.36:** Store Types page

#### **4.4.2.1.3 Store Details**

##### **4.4.2.1.3.1 Description of the User Interface**

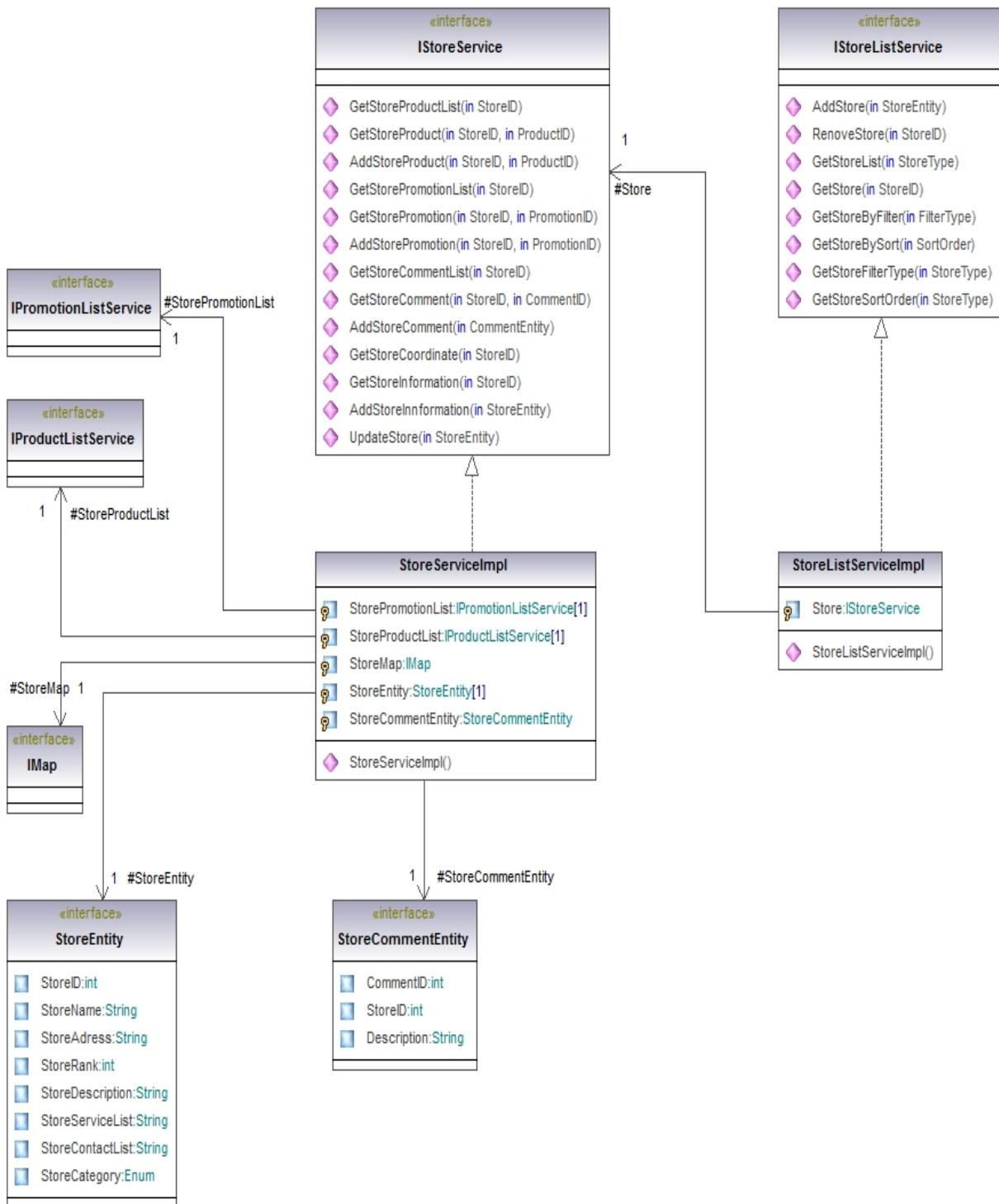
No	Name	Description
01	Store navigation link	Display the place where user is in, besides that, it allows user to quickly change to other links (Stores or Category) by clicking on corresponding hyperlink.
02	Store logo	Display the logo of this store.
03	View Map icon	Click on this icon will bring user to the Map page which displays this store on the map.
04	Store rating	Show the current rating score for this store, and allow logged in user rate this store.
05	Store details information	Display the information about this store (address, telephone, owners...etc).
06	Promotion icon	Tell user that currently this store has promotion program.
07	Store's product display area	Allow user view the products of this store.
08	Scrollbar	A Scrollbar has translations and actions that allow the user to move the slider. By clicking on an arrow, the user moves the slider one small increment in the direction of the arrow. By clicking in the scroll region between an arrow and the slider, the user moves the slider a larger increment (the page increment) in the direction of the arrow. The user can also drag the slider using the mouse.
09	"Store's Products" tab	Click on this tab allow user to view the list of products in this store.
10	"Comments" tab	Click on this tab allow user to view the comments on this store.

#### 4.4.2.1.3.2 Screen Images



**Figure 4.37:** Stores details page

#### 4.4.2.2. Class Diagram:



**Figure 4.38:** Store class diagram

#### 4.4.2.3. Class Explanation:

##### 4.4.2.3.1. *StoreServiceImpl Class:*

Represent a store instance. As a class of Service layer, Store will receive request from GUI, check, perform business rules and request the Infrastructure layer to get data or make change in database. This class will implement IStoreService interface.

##### 4.4.2.3.1.1. Attributes:

No	Parameters	Type	Description
01	StorePromotionList	IPromotionListService	This is an instance of the PromotionListService. Store class will need this instance to get, add, edit, and remove promotions of the stores.
02	StoreProductList	IProductListService	This is an instance of the ProductListService. Store class will need this instance to get, add, edit, and remove products of the stores.
03	StoreMap	IMap	This is an instance of the Map. Store class will provide the store's coordinate then the Map will show its location.
04	StoreEntity	StoreEntity	This is an instance of the StoreEntity. StoreEntity will contain store's information and provide Store class with methods to interact with Store database.
05	StoreCommentEntity	StoreCommentEntity	This is an instance of the StoreCommentEntity. This class contains store's comment and provides methods to interact with StoreComment database.

##### 4.4.2.3.1.2. Methods:

#### 4.4.2.3.1.2.1. Method GetStoreProductList:

**Purpose:** Get list products of the store. This method will use IProductList to get the product list and return list of IProduct.

**Parameter & Return:**

No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
	<Return>	List<IProduct>	A list of store product.

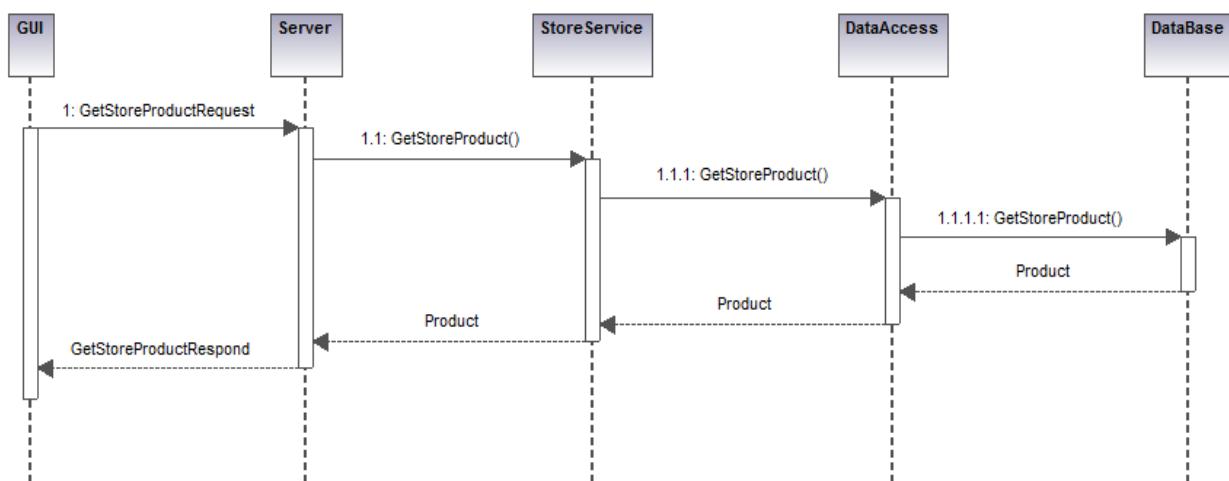
#### 4.4.2.3.1.2.2. Method GetStoreProduct:

**Purpose:** Get a product in the store by its ID. This method use IProductlist to get the product and return an instance of IProduct.

**Parameter & Return:**

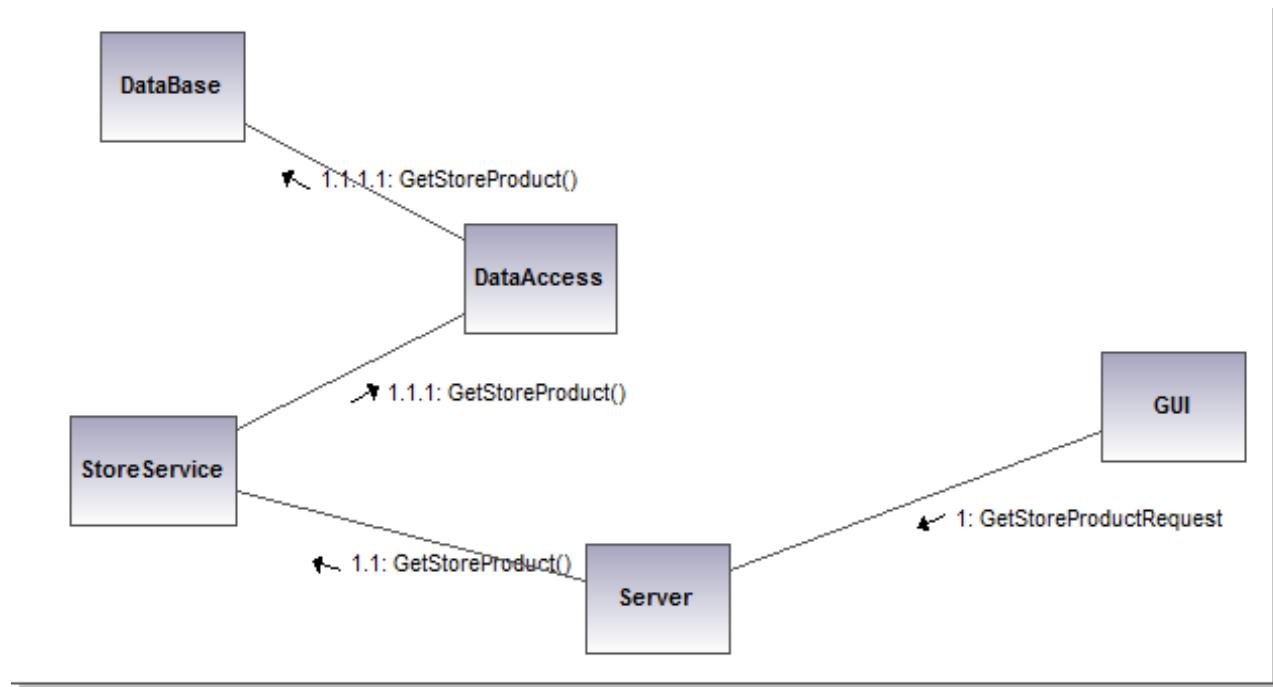
No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
02	ProductId	int	Unique Id of a product in database.
	<Return>	IProduct	A product.

#### Sequence Diagram



**Figure 4.39:** Get Store Product Sequence Diagram

## Collaboration Diagram



**Figure 4.40:** Get Store Product Collaboration Diagram

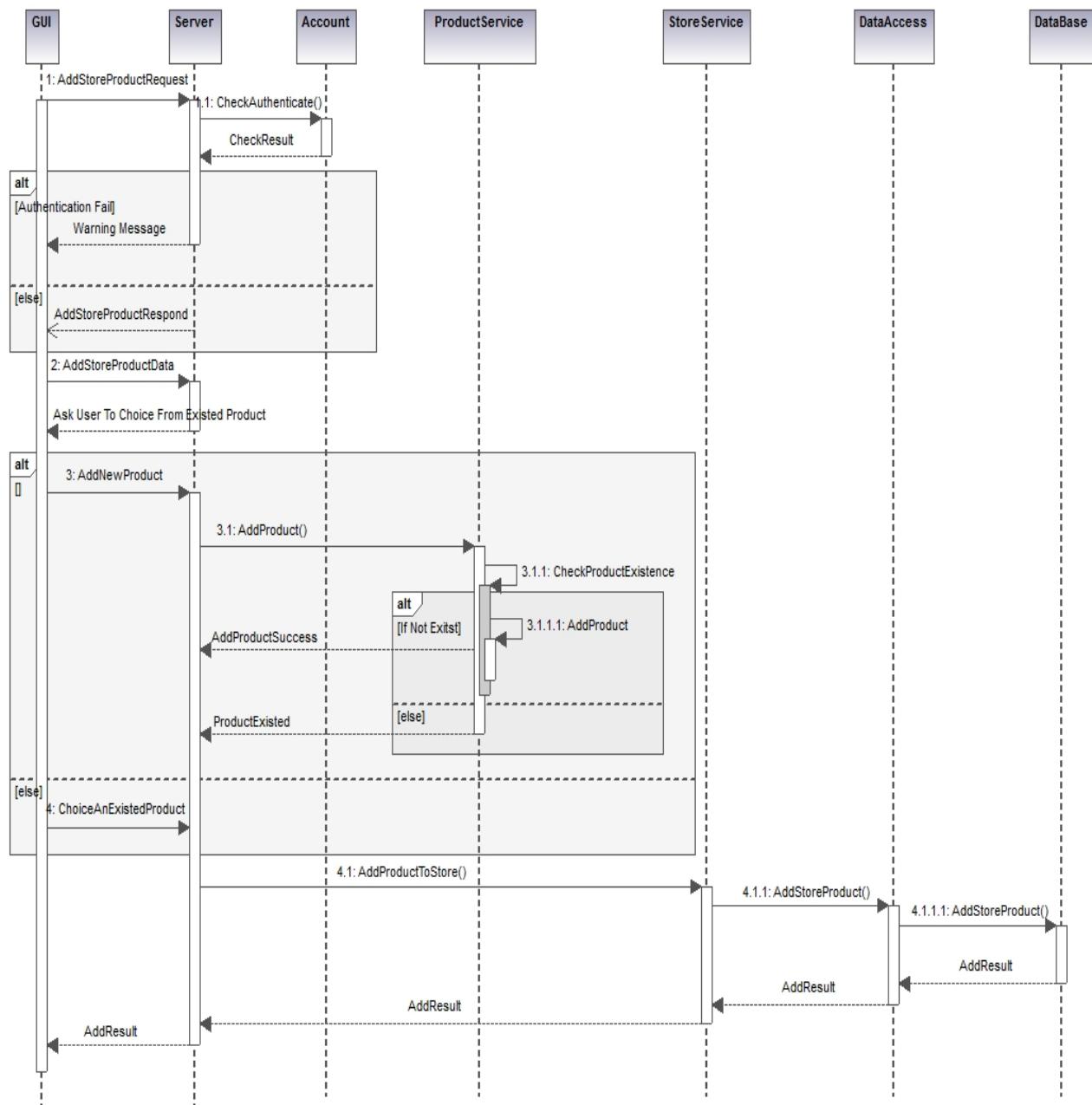
### 4.4.2.3.1.2.3. Method AddStoreProduct:

**Purpose:** To add a product to a store.

**Parameter & Return:**

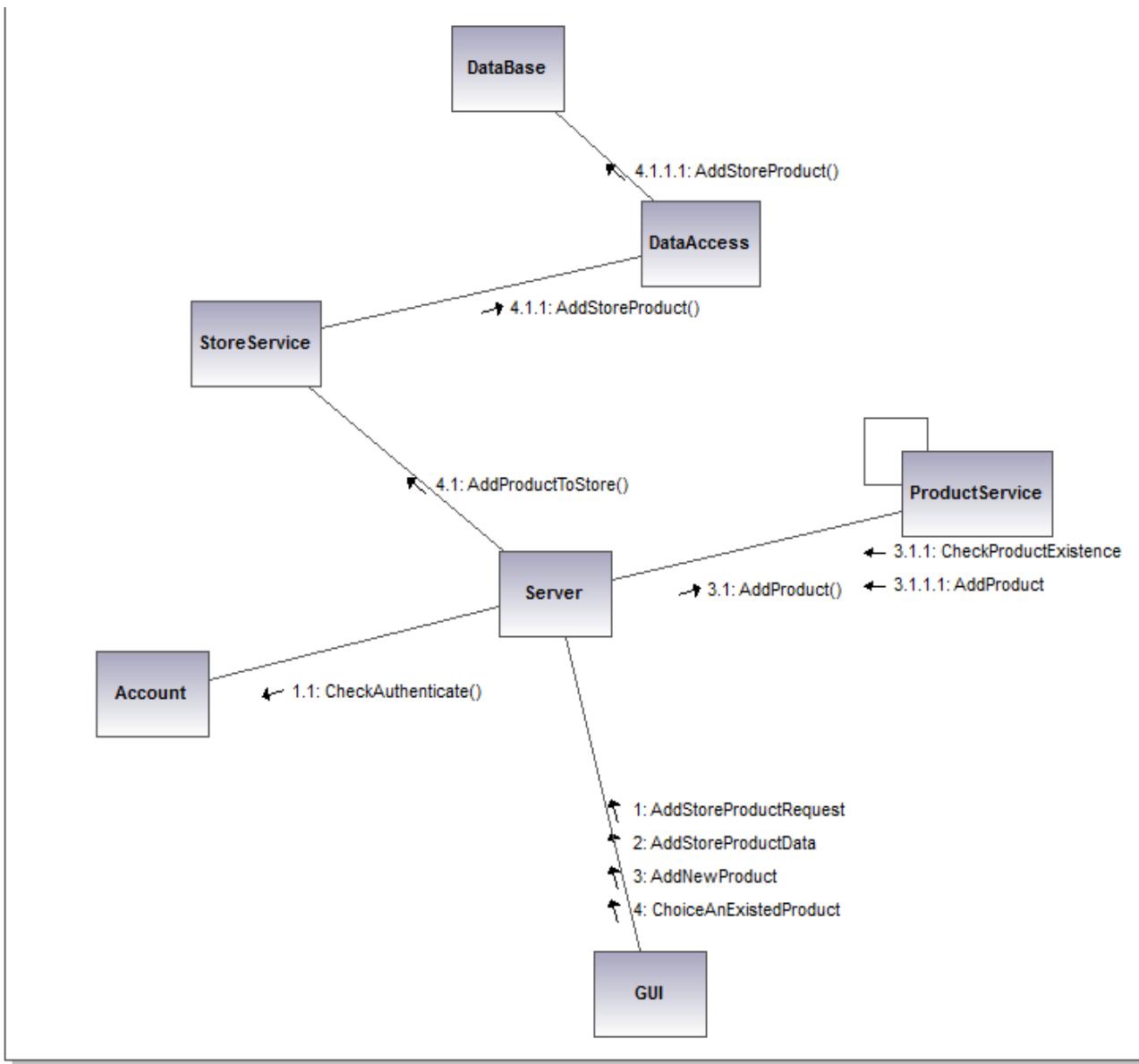
No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
02	Product	IProduct	Instance of a product.
	<Return>	bool	Add result.

## Sequence Diagram



**Figure 4.41:** Add Store Product Sequence

## Collaboration Diagram



**Figure 4.42:** Add Store Product Collaboration

#### 4.4.2.3.1.2.4. Method GetStorePromotionList:

**Purpose:** Get list promotions of the store. This method will use IPromotionList to get the promotion list and return list of IPromotion.

**Parameter & Return:**

No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
	<Return>	List<IPromotion>	A list of store promotion.

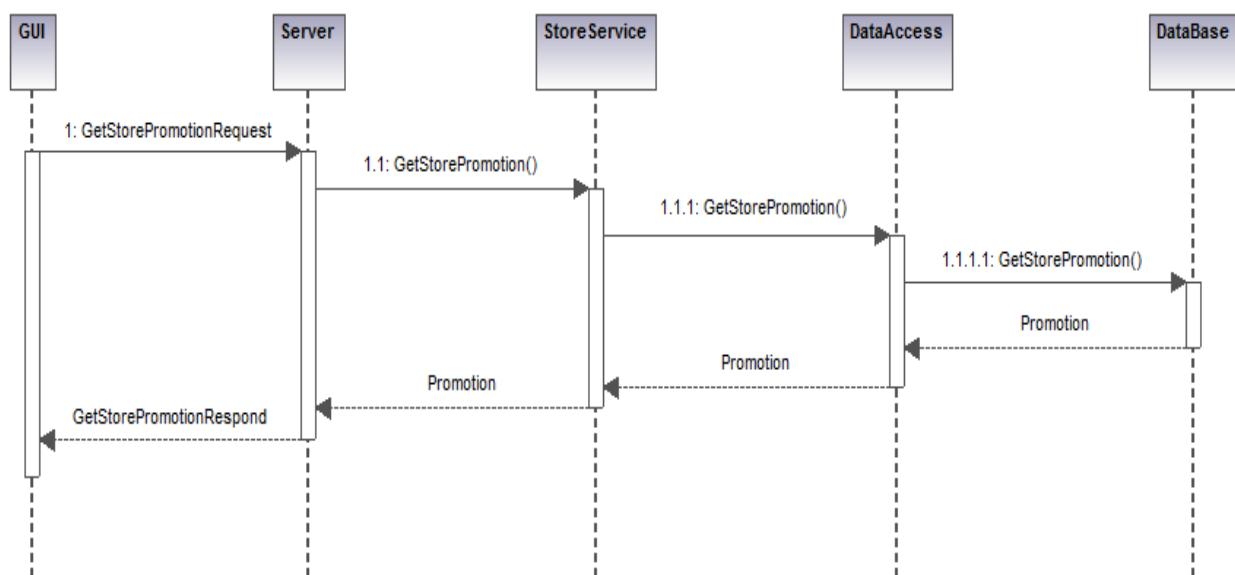
#### 4.4.2.3.1.2.5. Method GetStorePromotion:

**Purpose:** Get a promotion in the store by its ID. This method use Ipromotionlist to get the promotion and return an instance of Ipromotion.

**Parameter & Return:**

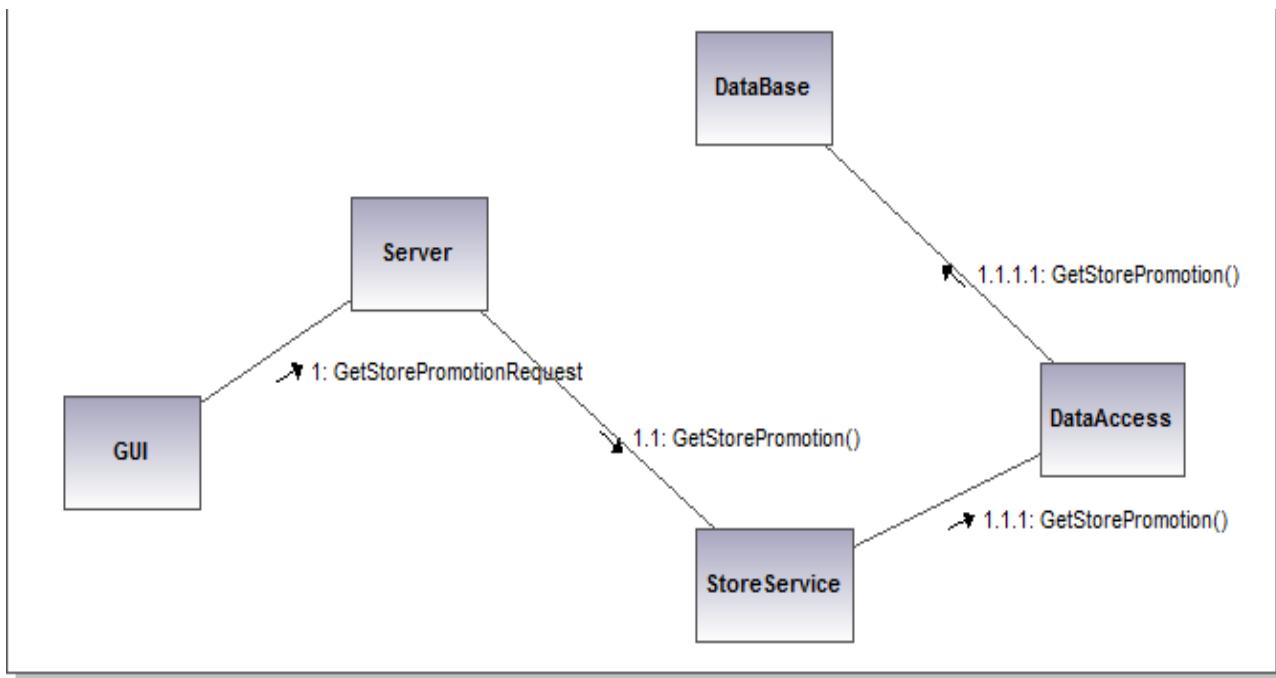
No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
02	PromotionID	int	Unique Id of a promotion in database.
	<Return>	IPromotion	A store promotion.

#### Sequence Diagram



**Figure 4.43:** Get Store Promotion Sequence

## Collaboration Diagram



**Figure 4.44:** Get Store Promotion Collaboration

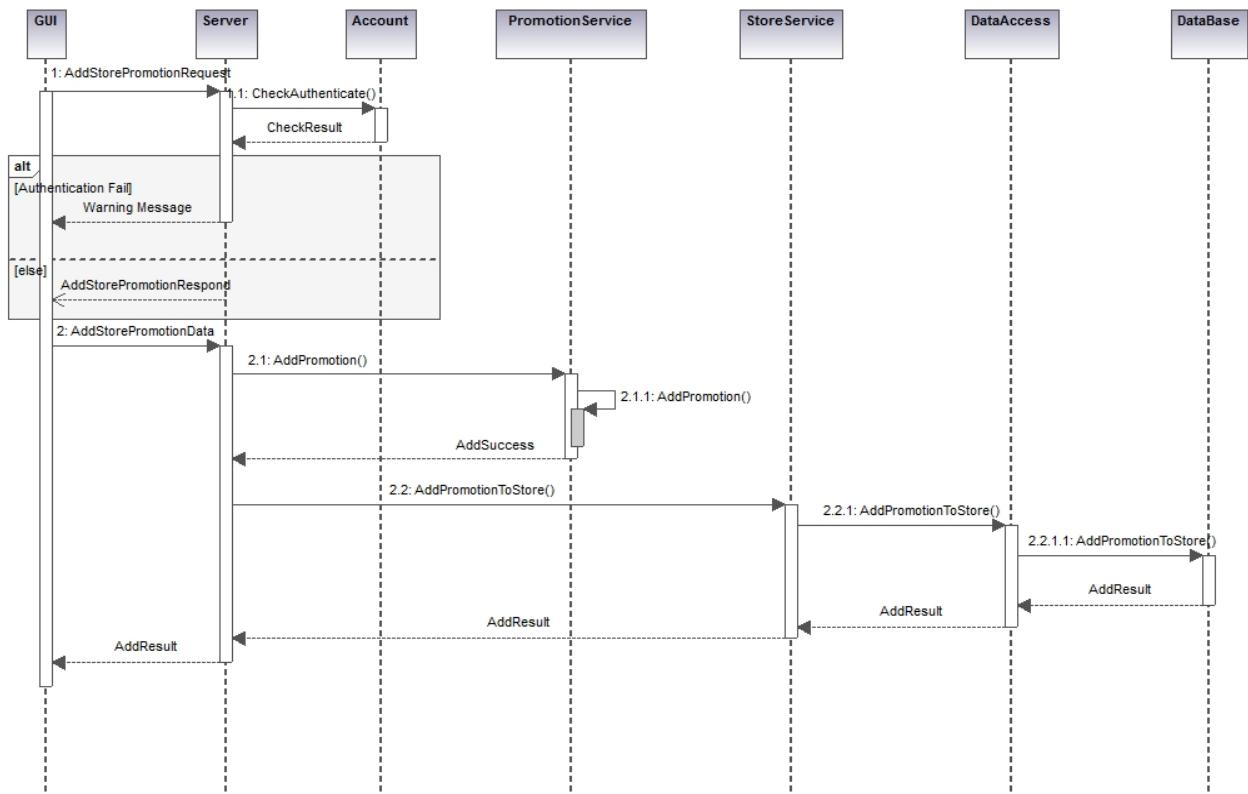
### 4.4.2.3.1.2.6. Method AddStorePromotion:

**Purpose:** To add a promotion in a store.

**Parameter & Return:**

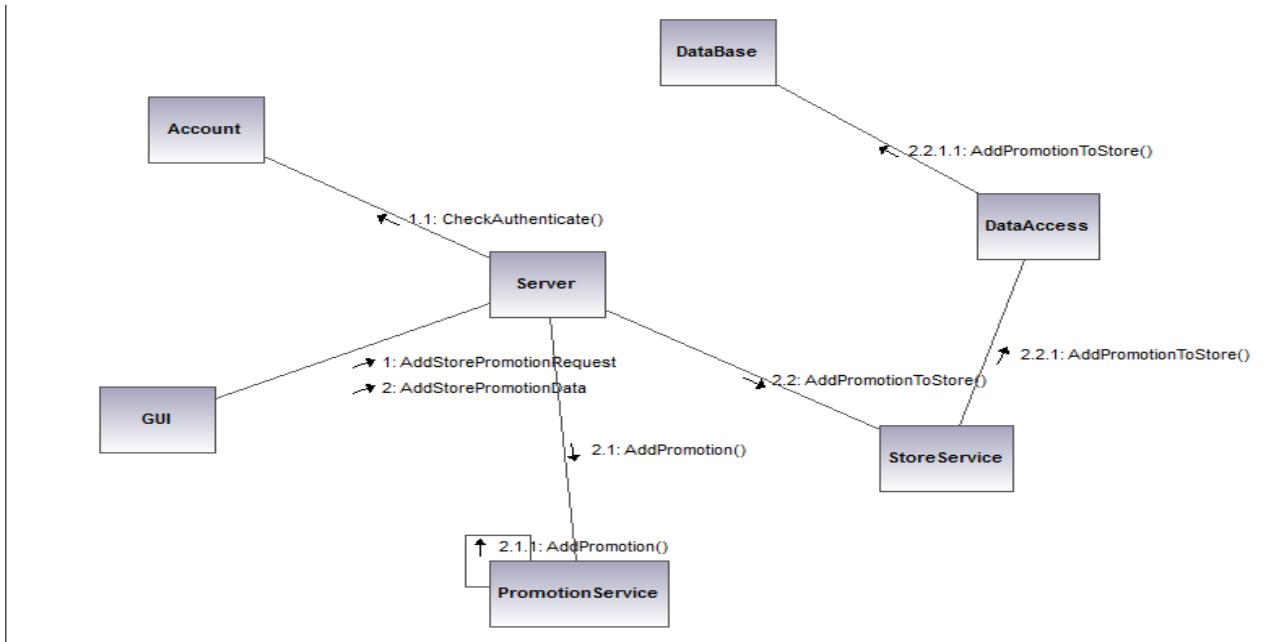
No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
02	Promotion	IPromotion	Instance of a promotion.
	<Return>	bool	Add result.

## Sequence Diagram



**Figure 4.45:** Add Store Promotion Sequence

## Collaboration Diagram



**Figure 4.46:** Add Store Promotion Collaboration

#### **4.4.2.3.1.2.7. Method GetStoreCommentList:**

**Purpose:** Get list comments of the store. This method will use IstoreCommentEntity to get the comment list.

**Parameter & Return:**

No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
	<Return>	List<StoreCommentEntity>	A list of store comment.

#### **4.4.2.3.1.2.8. Method GetStoreComment:**

**Purpose:** Get comments of the store. This method will use IstoreCommentEntity to get a comment.

**Parameter & Return:**

No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
02	CommentID	int	Unique Id of a comment in database.
	<Return>	StoreCommentEntity	A store comment.

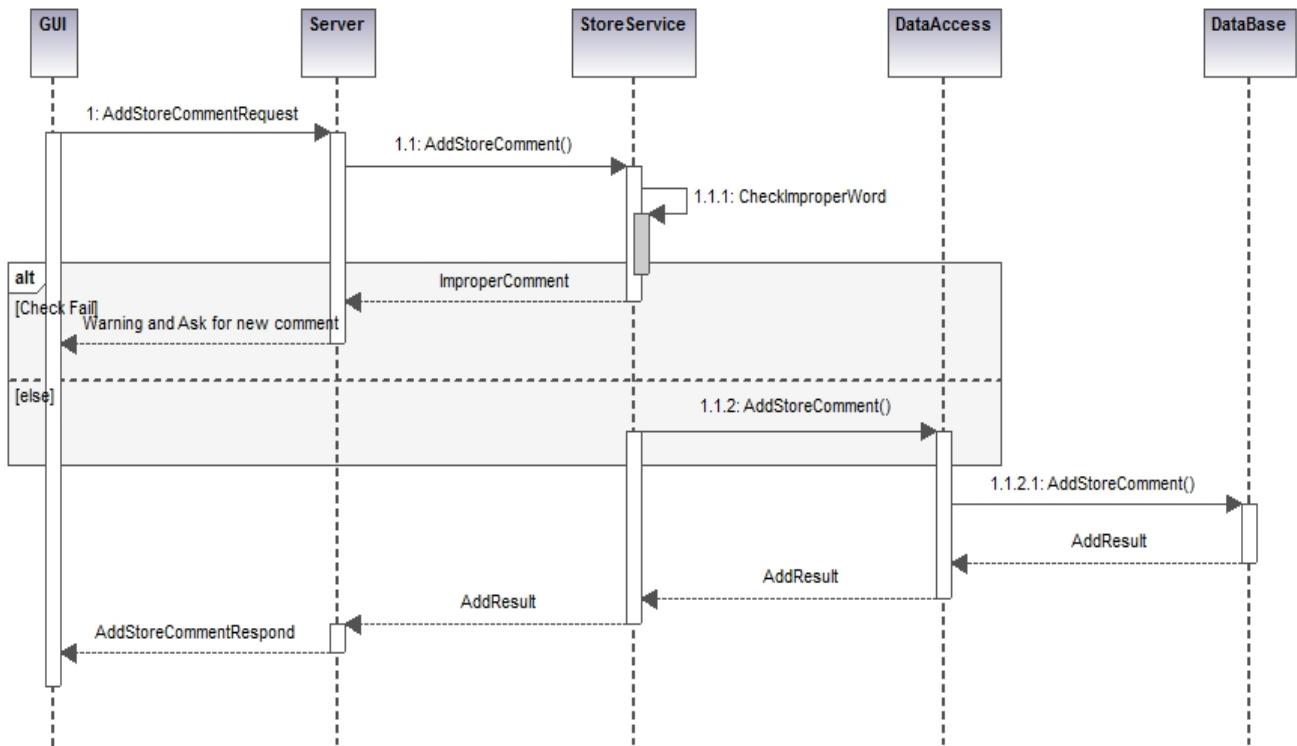
#### **4.4.2.3.1.2.9. Method AddStoreComment:**

**Purpose:** To add comment for a store. Comment will be check, add into CommentEntity and will be sending to Infrastructure layer.

**Parameter & Return:**

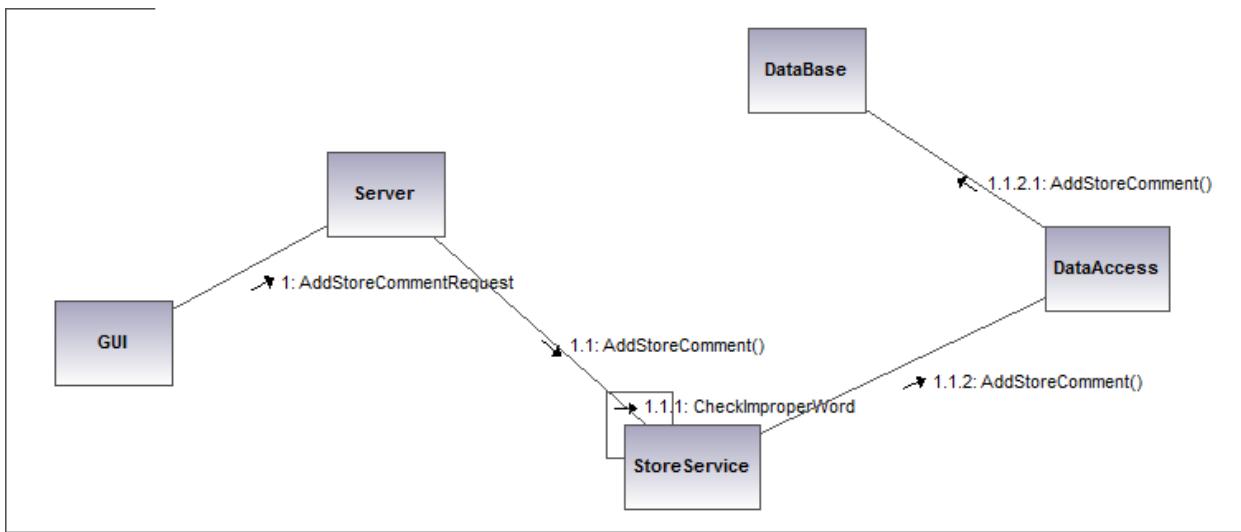
No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
02	CommentEntity	StoreCommentEntity	Instance of a comment.
	<Return>	bool	Add result.

## Sequence Diagram



**Figure 4.47:** Add Store Comment Sequence

## Collaboration Diagram



**Figure 4.48:** Add Store Comment Collaboration

#### **4.4.2.3.1.2.10. Method GetStoreCoordinate:**

**Purpose:** This method return coordinates of the store. The Imap will map the coordinate with a store address and show it in the map.

**Parameter & Return:**

No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
	<Return>	Coordinate	A store coordinates. This object include x and y

#### **4.4.2.3.1.2.11. Method GetStoreInformation:**

**Purpose:** To get information of the store. Method will return IstoreEntity, which contain information of the store.

**Parameter & Return:**

No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
	<Return>	StoreEntity	A store entity includes all information and description about the store.

#### **4.4.2.3.1.2.12. Method AddStoreInformation:**

**Purpose:** To add information for a store.

**Parameter & Return:**

No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
02	StoreEntity	StoreEntity	Instance of a store entity.
	<Return>	bool	Add result.

#### 4.4.2.3.2. *StoreListServiceImpl Class:*

Represent a list of store. This class provides any business involve a list of stores. This class will implement IStoreListService interface.

##### 4.4.2.3.2.1. Attributes:

No	Parameters	Type	Description
01	Store	IStoreService	This is an instance of the IStoreService.
02	StoreList	List<IStoreService>	A list of IStoreService. This list represent list of current viewed store.

##### 4.4.2.3.2.2. Methods:

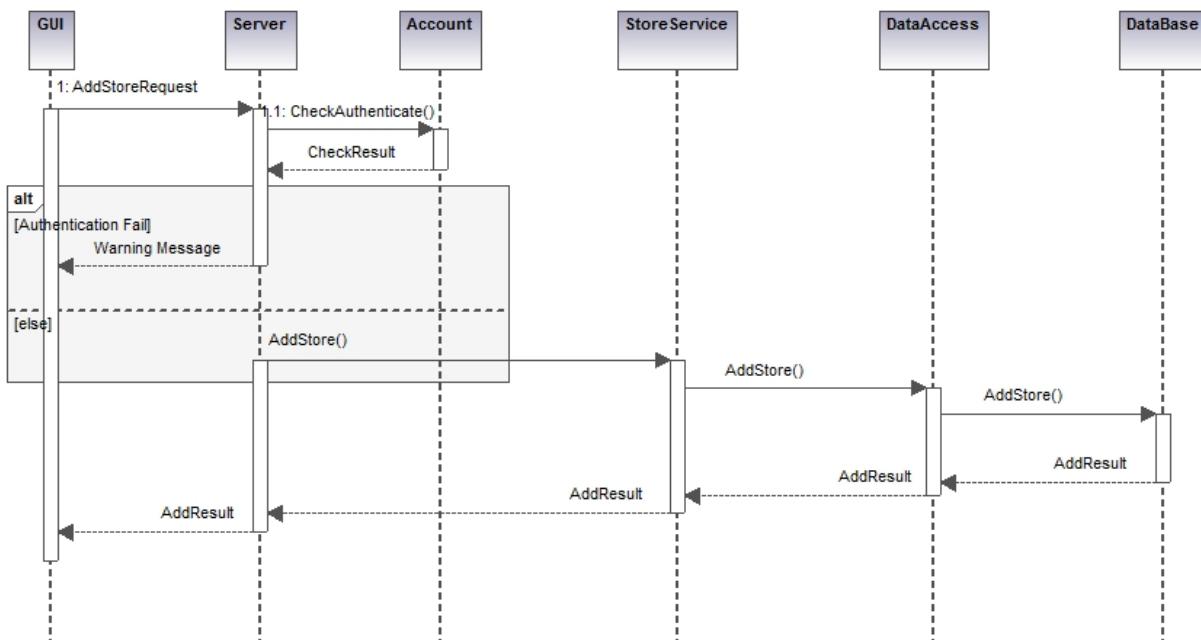
###### 4.4.2.3.2.2.1. Method AddStore:

**Purpose:** To request add a store into database. The method will also check business before doing so.

**Parameter & Return:**

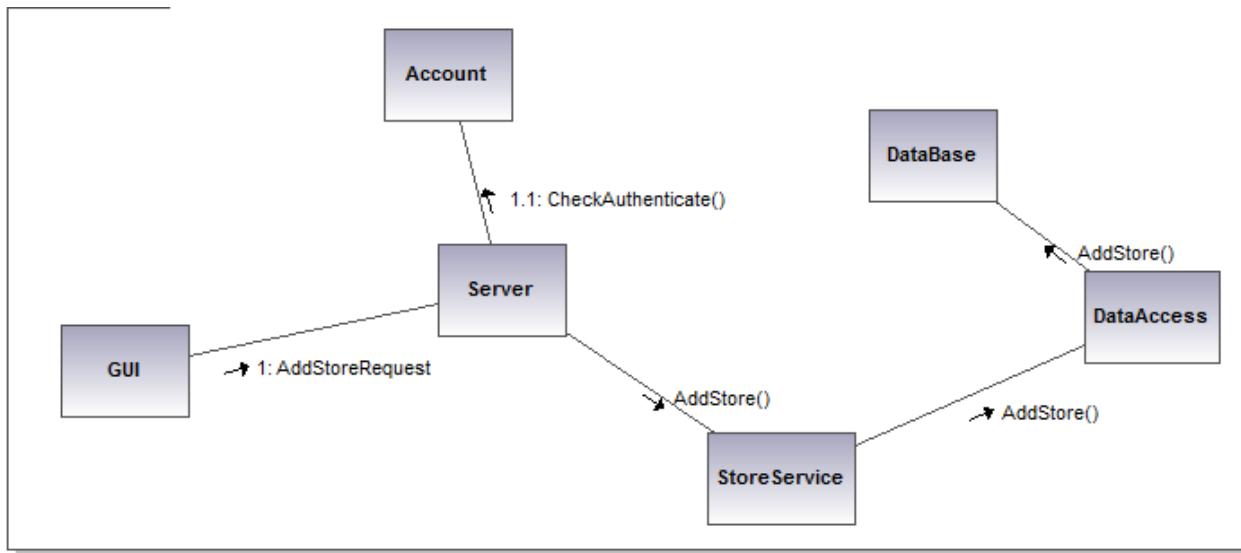
No	Parameters	Type	Description
01	StoreEntity	StoreEntity	Instance of a store entity.
	<Return>	bool	Add result.

#### Sequence Diagram



**Figure 4.49:** Add Store Sequence

## Collaboration Diagram



**Figure 4.50:** Add Store Collaboration

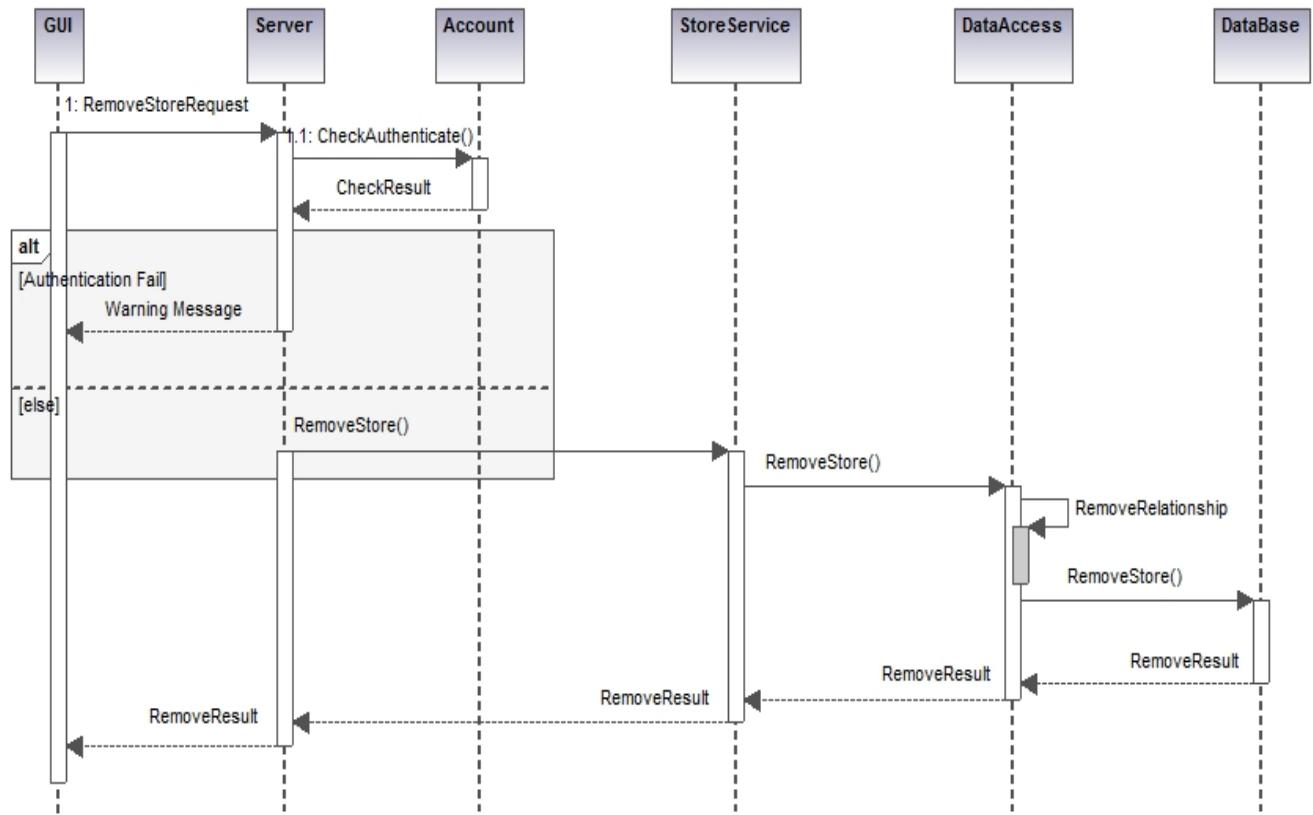
### 4.4.2.3.2.2.2. Method RemoveStore:

**Purpose:** To request remove a store from database. The method will also check business before doing so.

**Parameter & Return:**

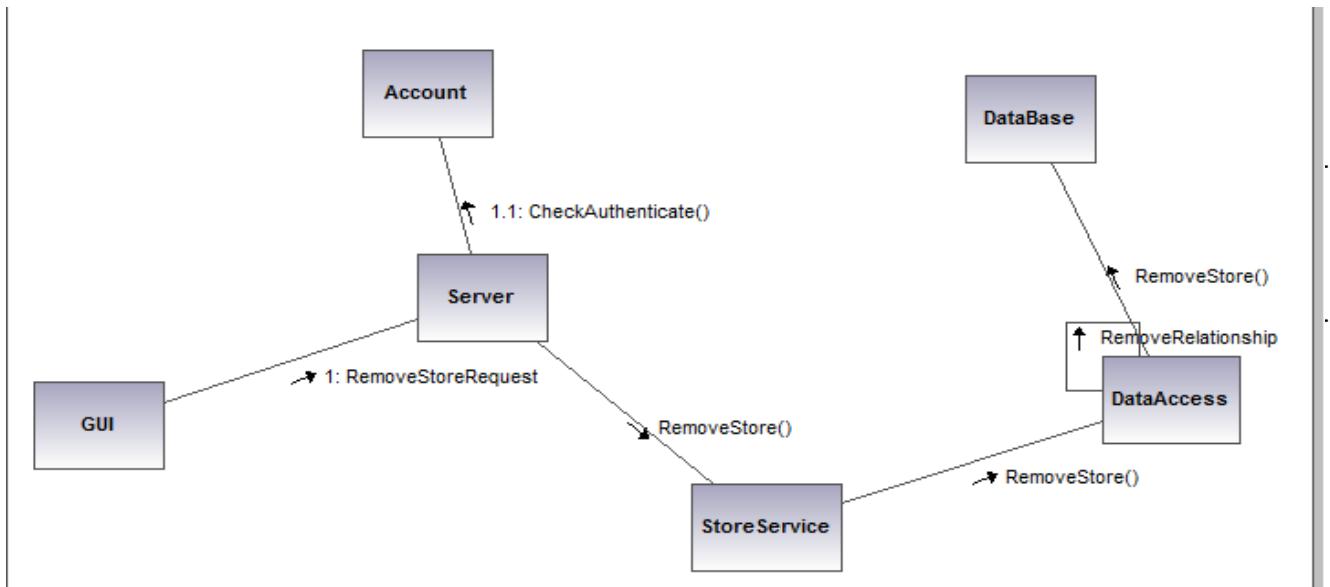
No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
	<Return>	bool	Remove result.

## Sequence Diagram



**Figure 4.51:** Remove Store Sequence

## Collaboration Diagram



**Figure 4.52:** Remove Store Collaboration

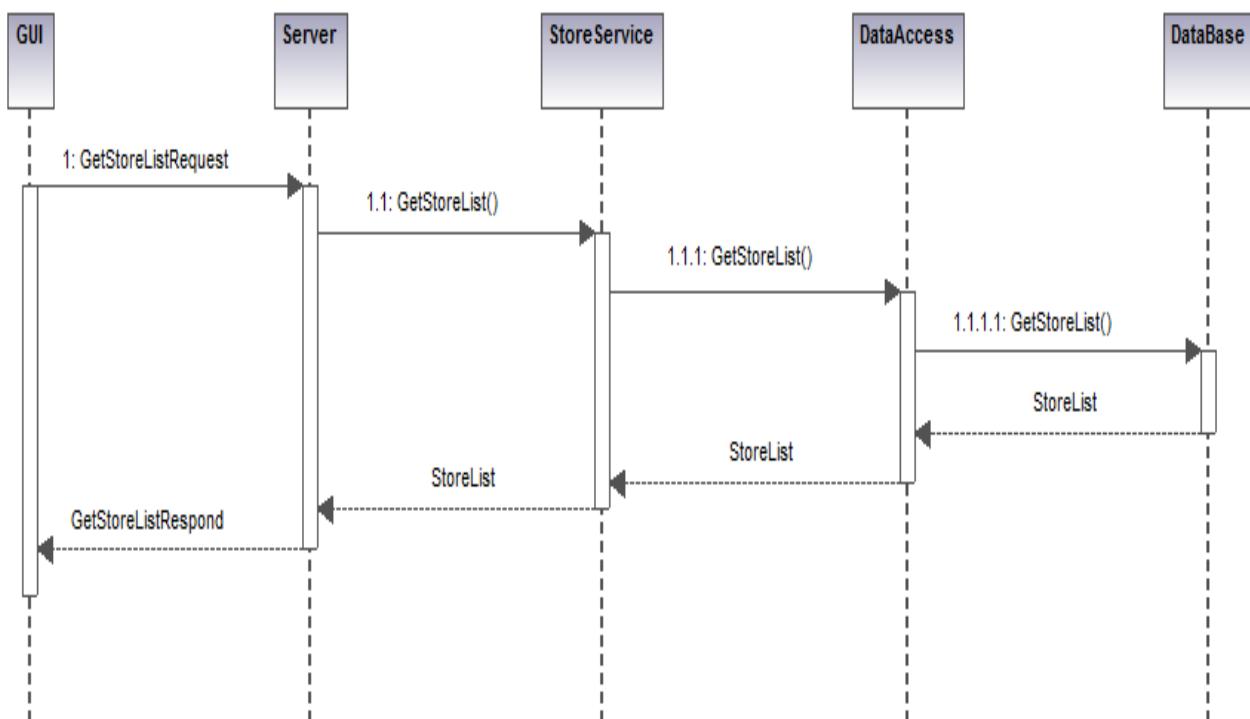
#### 4.4.2.3.2.2.3. Method GetStoreList:

**Purpose:** To get a list of store.

**Parameter & Return:**

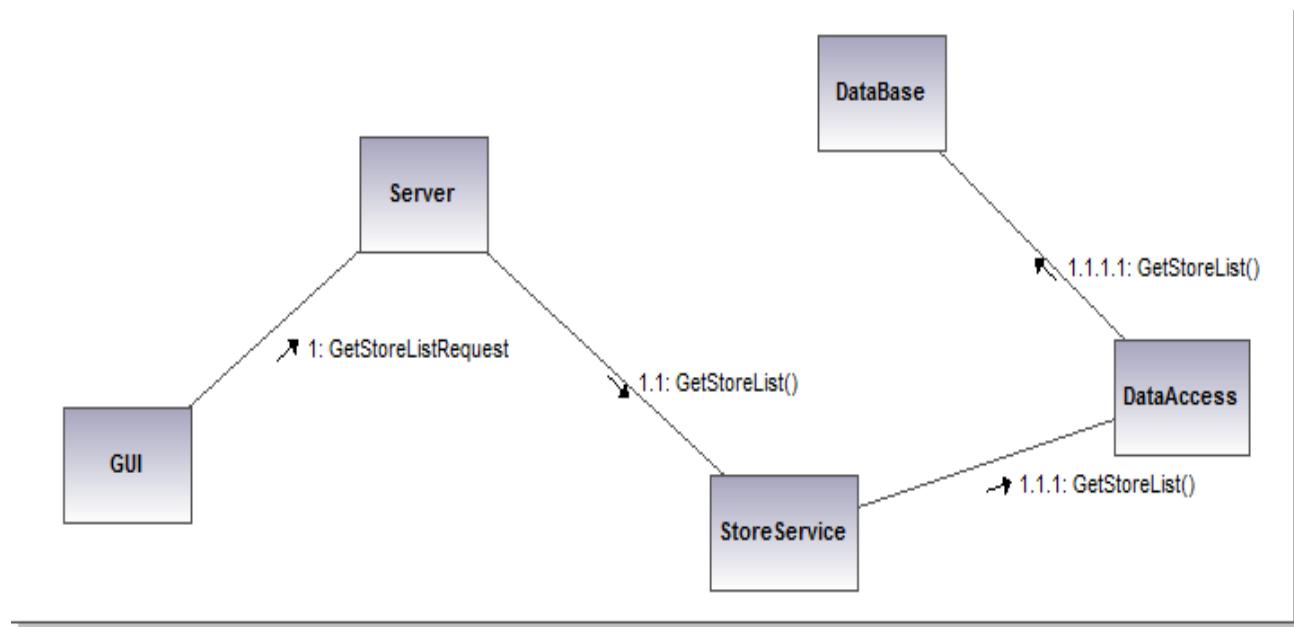
No	Parameters	Type	Description
01	StoreType	enum	Store type indicate by what it sold, like telephone, computer, TV or so on.
	<Return>	List<IStoreService>	Return a list of store which matches store type.

**Sequence Diagram**



**Figure 4.53:** Get Store List Sequence

## Collaboration Diagram



**Figure 4.54:** Get Store List Collaboration

### 4.4.2.3.2.2.4. Method GetStore:

**Purpose:** To get a store by its ID.

**Parameter & Return:**

No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
	<Return>	IStoreService	Return a store.

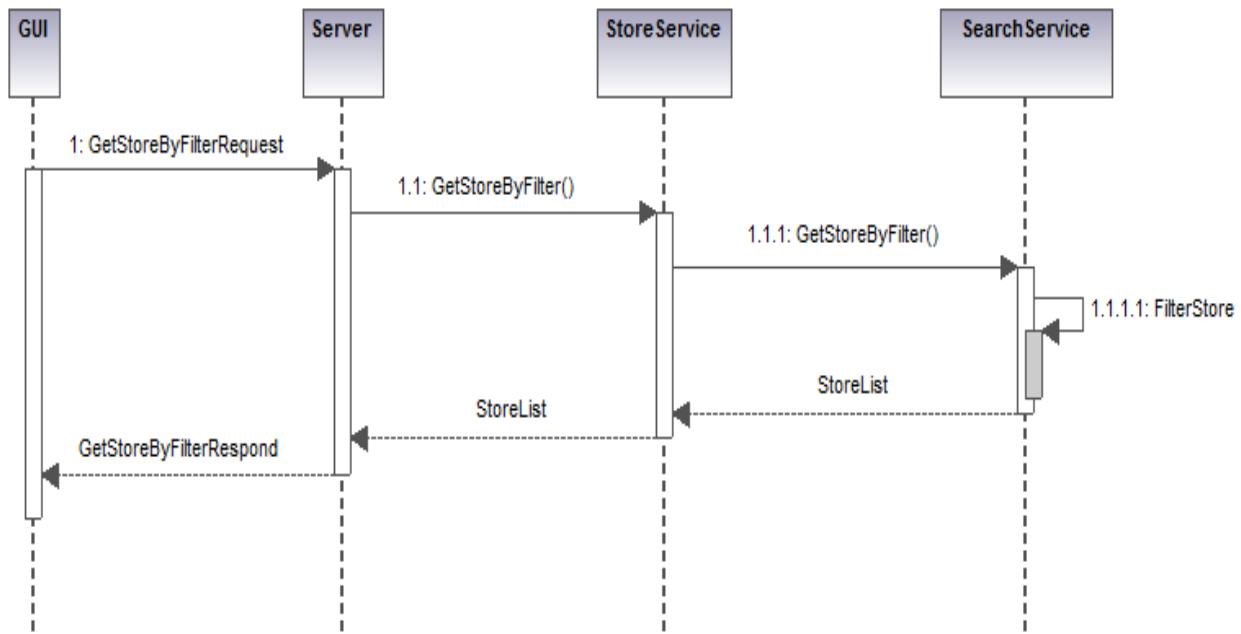
### 4.4.2.3.2.2.5. Method GetStoreByFilter:

**Purpose:** To get a list of stores that belong to the filter type.

**Parameter & Return:**

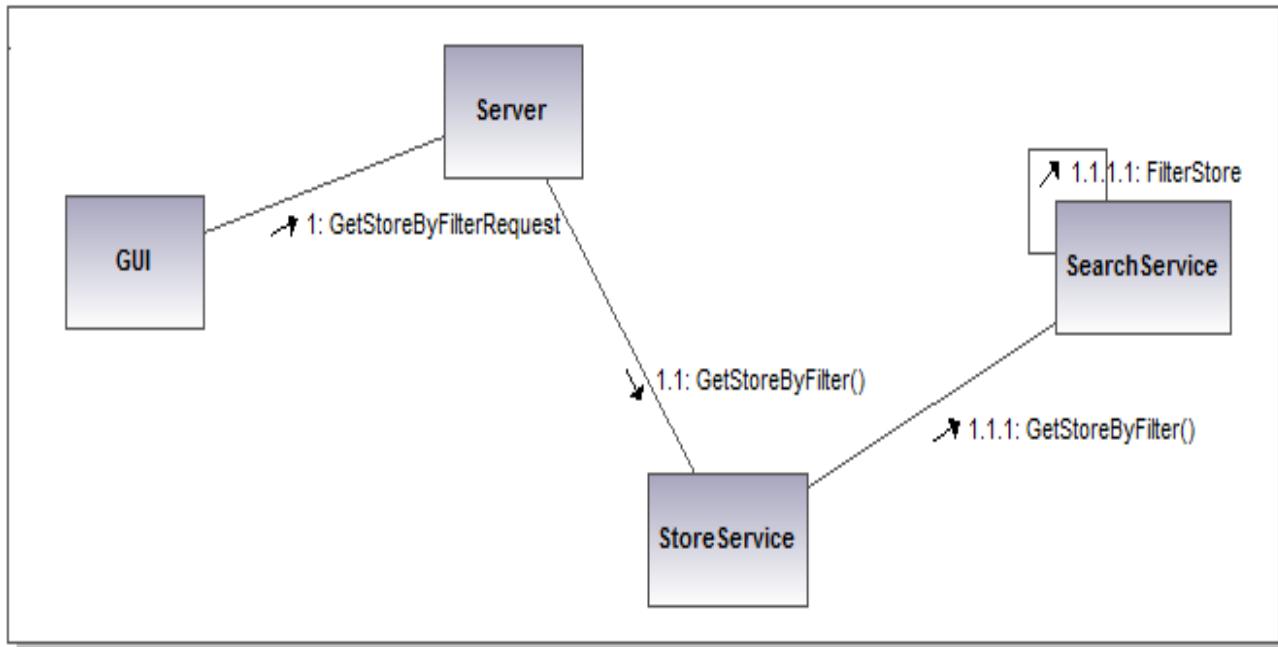
No	Parameters	Type	Description
01	FilterType	enum	Filter type defined differently based on which category is chosen.
	<Return>	List<IStoreService>	Return a list of stores which satisfy filter.

## Sequence Diagram



**Figure 4.55:** Get Store by Filter Sequence

## Collaboration Diagram



**Figure 4.56:** Get Store by Filter Collaboration

#### 4.4.2.3.2.2.6. Method GetStoreBySort:

**Purpose:** Get a list of store that sorted by the chosen order.

**Parameter & Return:**

No	Parameters	Type	Description
01	SortOrder	enum	Sort order defined differently base on which category is chosen.
	<Return>	List<IStoreService>	Return a list of store by order.

#### 4.4.2.3.2.2.7. Method GetStoreFilterType:

**Purpose:** To get FilterType list that specific for each store type. The filter type will be in the database.

**Parameter & Return:**

No	Parameters	Type	Description
01	StoreType	enum	Store type indicate by what it sold, like telephone, computer, TV or so on.
	<Return>	enum	Return enum of store filter type.

#### 4.4.2.3.3. StoreEntity Class:

Represent a store entity in database. This will provide store's data and interaction methods with Store's database.

##### 4.4.2.3.3.1. Attributes:

No	Parameters	Type	Description
01	StoreId	int	This attribute is set to be unique, and used to indentify each store.

02	StoreDescription	String	Description of the store or store introduction.
03	StoreName	String	Name of the store.
04	StoreAddress	String	Address of the store.
05	StoreRank	int	This is used to evaluate the store in overall. The mark will be given from 1 to 5
06	StoreServiceList	List<String>	List of service that the store offers.
07	StoreContractList	List<String>	List of store contract like phone, fax.
08	StoreCategory	String	The category that the store belongs to.

**4.4.2.3.3.1. Methods:** None.

#### **4.4.2.3.4. StoreCommentEntity Class:**

Represent a store comment instance in the database.

##### **4.4.2.3.4.1. Attributes:**

No	Parameters	Type	Description
01	CommentId	int	This attribute is set to be unique, and used to identify each comment.
02	StoreId	int	It is used to identify the product that the comment related to.
03	Description	String	Content of comment.

**4.4.2.3.4.1. Methods:** None

### **4.4.3. Promotion**

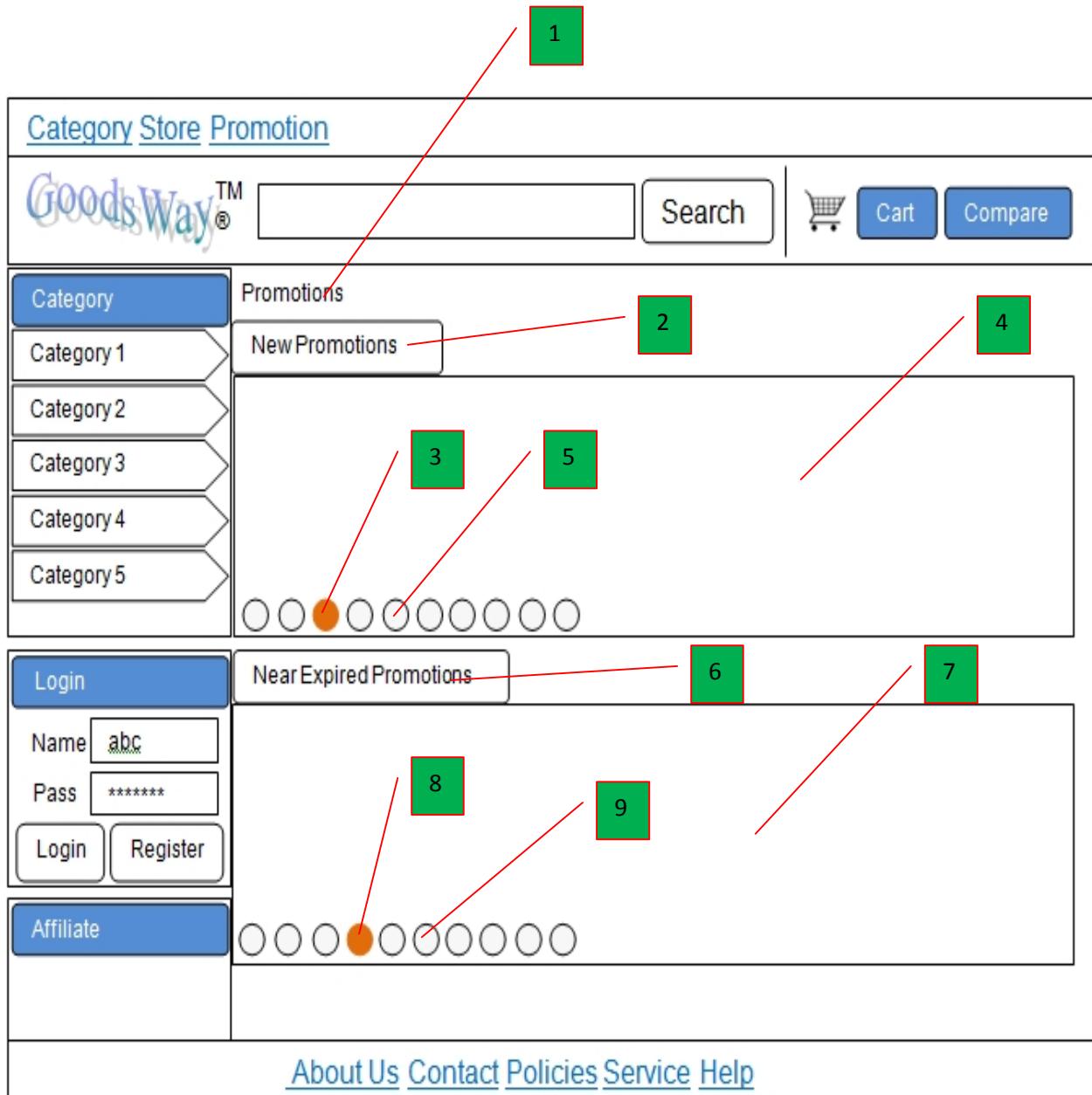
#### **4.4.3.1 Promotion - User Interface Design**

##### **4.4.3.1.1 Promotion List**

###### **4.4.3.1.1.1 Description of the User Interface**

No	Name	Description
01	Promotions label	Shows the place where user is in.
02	New Promotions label	Show user the type for the list of new promotions below this label.
03	Current promotion button	Display in orange color for user to distinguish the current promotion with other promotions on this new promotion area.
04	Current promotion content	Show content for the current new promotion.
05	Other promotion	Click on this button will allow user to change the view of current displaying promotion content.
06	Near expired promotions label	Show user the type for the list of near expired promotions below this label.
07	Current promotion content	Show content for the current near expired promotion.
08	Current promotion button	Display in orange color for user to distinguish the current promotion with other promotions on this near expired promotions area.
09	Other promotion	Click on this button will allow user to change the view of current displaying promotion content.

#### 4.4.3.1.1.2 Screen Images



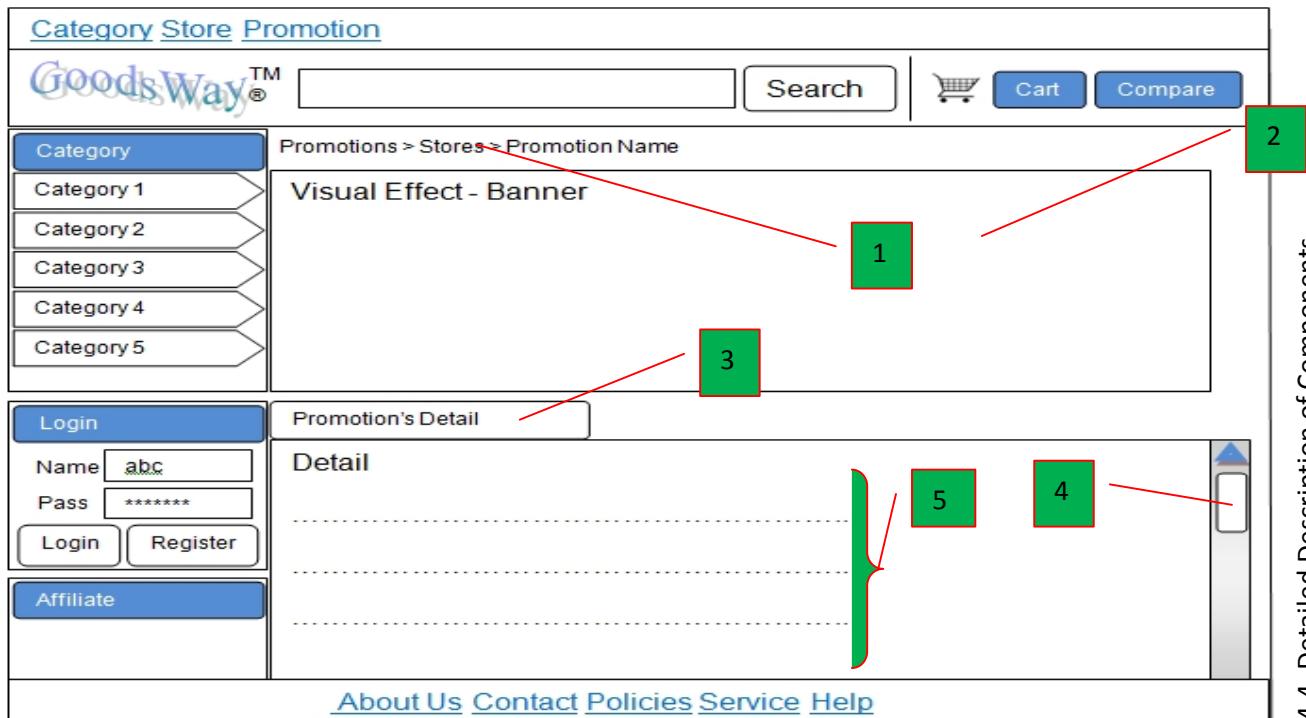
**Figure 4.57:** Promotion list page

#### 4.4.3.1.2 Promotion Details

##### 4.4.3.1.2.1 Description of the User Interface

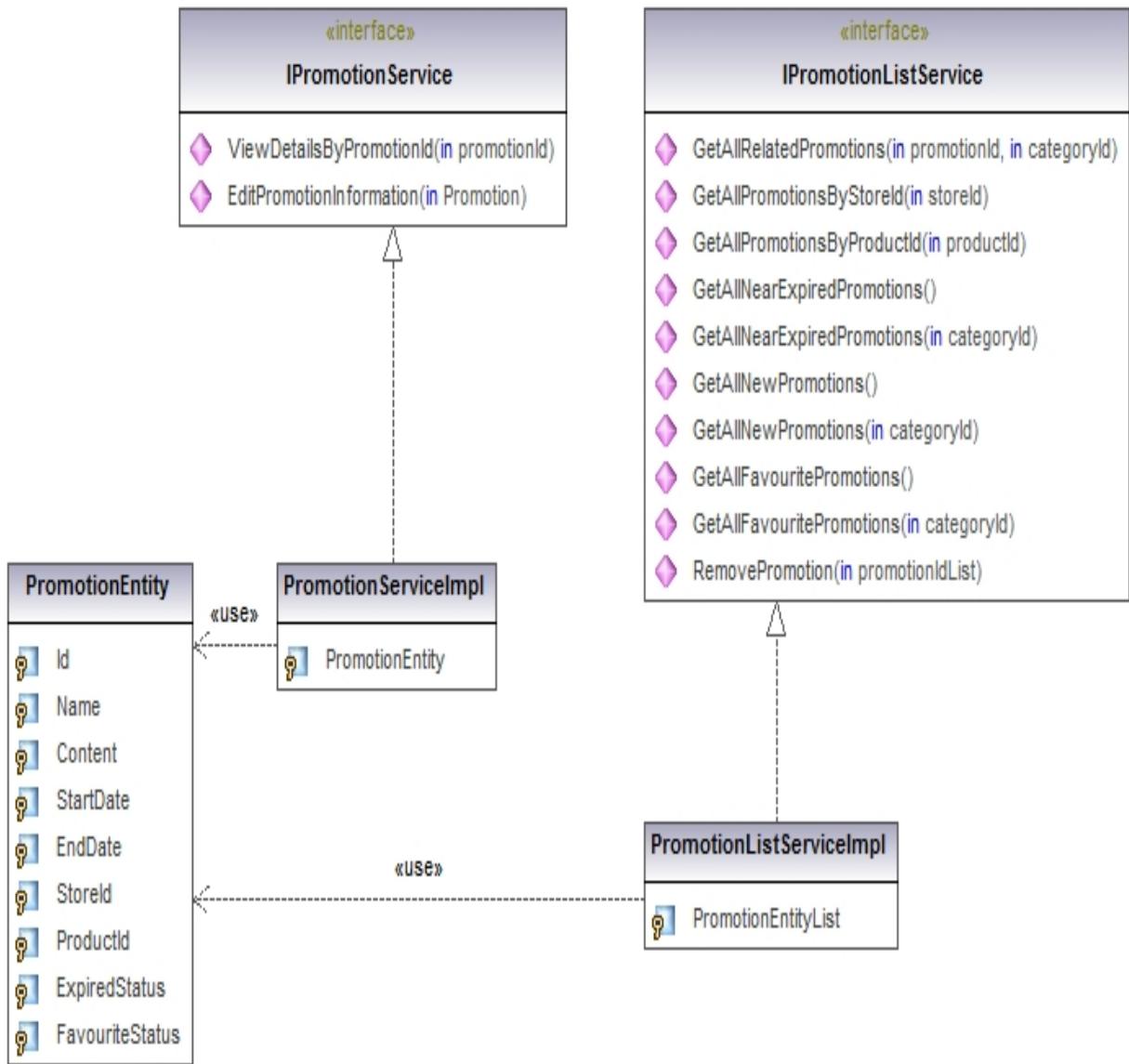
No	Name	Description
01	Promotion navigation link	Display the place where user is in, besides that, it allows user to quickly change to other links (Stores or Promotions) by clicking on corresponding hyperlink.
02	Banner	Allows user to view the advertisement.
03	Promotion's Details label	Show user the name of the area below.
04	Scrollbar	A Scrollbar has translations and actions that allow the user to move the slider. By clicking on an arrow, the user moves the slider one small increment in the direction of the arrow. By clicking in the scroll region between an arrow and the slider, the user moves the slider a larger increment (the page increment) in the direction of the arrow. The user can also drag the slider using the mouse.
05	Promotion content	Show the promotion details content.

##### 4.4.3.1.2.2 Screen Images



**Figure 4.58:** Promotion details page

#### 4.4.3.2 Class Diagram:



**Figure 4.59:** Promotion class diagram

### 4.4.3.3 Class Explanation:

#### 4.4.3.3.1. *PromotionServiceImpl Class:*

This class implement IPromotionService interface, all functions that are used by this class are defined as below:

##### 4.4.3.3.1.1. Attributes

No	Parameters	Type	Description
01	Promotion	Promotion	Instance of Promotion class. Contains all information of promotion.

##### 4.4.3.3.1.2. Methods

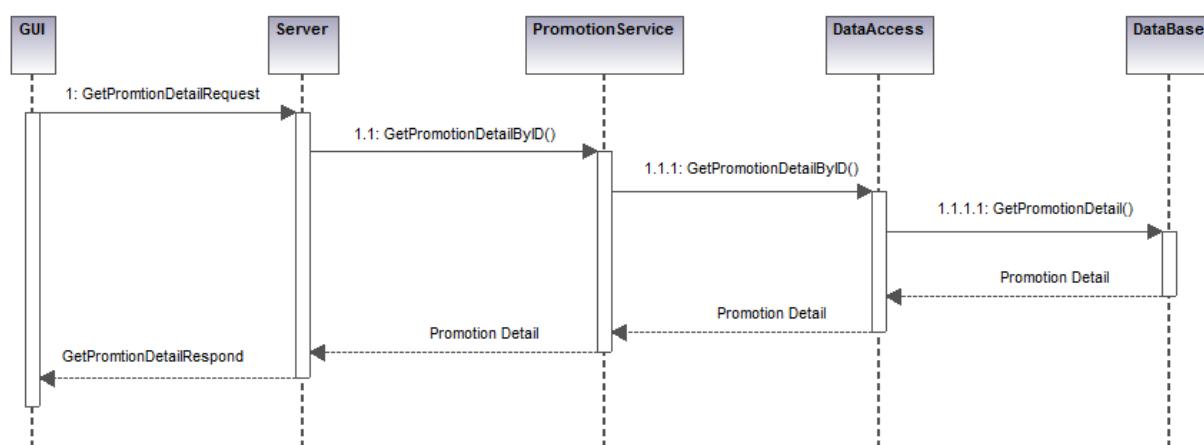
###### 4.4.3.3.1.2.1. Method ViewPromotionDetailByID

**Purpose:** To get information of the promotion. Method will return PromotionEntity, which contain information of the promotion.

##### Parameter & Return:

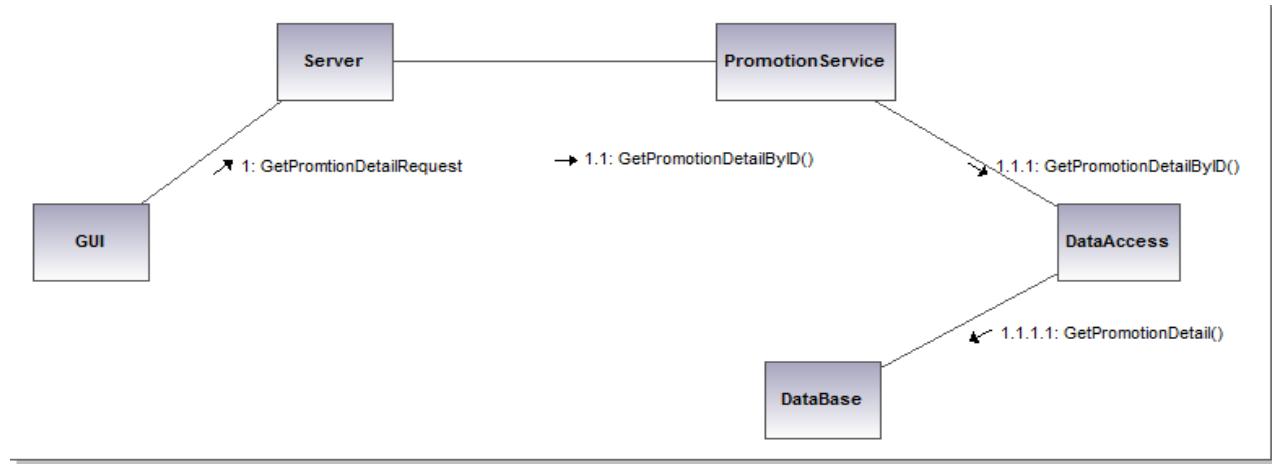
No	Parameters	Type	Description
01	PromotionID	int	Unique Id of a promotion in database.
	<Return>	PromotionEntity	An instance of promotion entity which contain detail information of promotion.

##### Sequence diagram



**Figure 4.60:** View Promotion Detail by ID Sequence diagram

## Collaboration diagram



**Figure 4.61:** View Promotion Detail by ID Collaboration Diagram

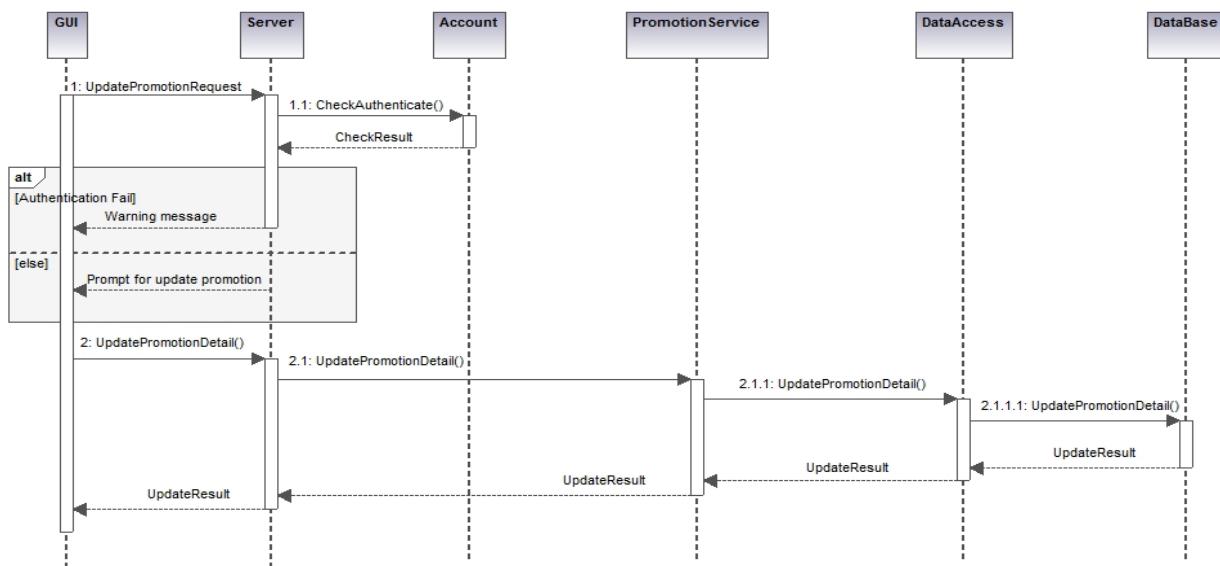
### 4.4.3.3.1.2.2. Method EditPromotionInformation:

**Purpose:** To edit, update information of the promotion.

#### Parameter & Return:

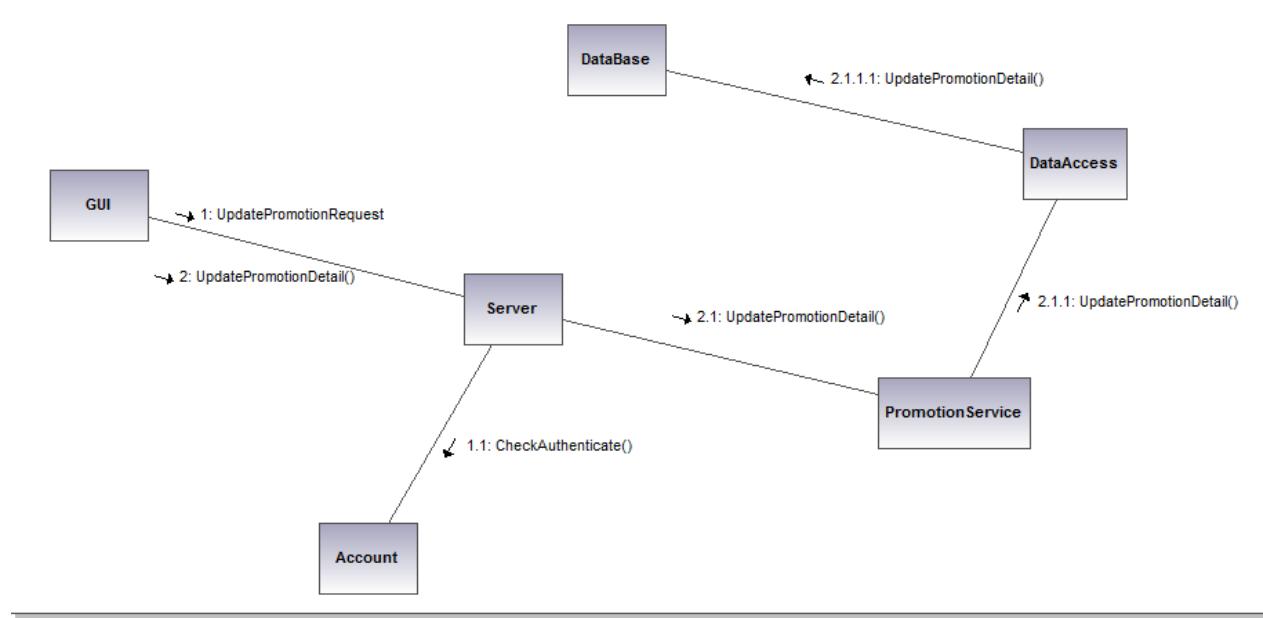
No	Parameters	Type	Description
01	Promotion	PromotionEntity	An instance of promotion entity which contain detail information of promotion.
	<Return>	bool	Result of editing.

## Sequence diagram



**Figure 4.62:** Edit Promotion Information Sequence

## Collaboration diagram



**Figure 4.63:** Edit Promotion Information Collaboration

### 4.4.3.3.2. *PromotionEntity Class:*

#### 4.4.3.3.2.1. Attributes

No	Parameters	Type	Description
01	Id	Int	Promotion Id. It is set to be unique.
02	Name	String	Promotion name.
03	Content	String	Promotion content.
04	StartDate	DateTime	Promotion start date.
05	EndDate	DateTime	Promotion end date.
06	StoreId	Int	Foreign key to Store table.
07	ProductId	Int	Foreign key to Product table.
08	ExpiredStatus	Bool	Status to identify expired promotion.
09	FavoriteStatus	Bool	Status to identify favorite promotion.

#### **4.4.3.3.3. *PromotionListServiceImpl Class:***

This class implement IPromotionListService interface, all functions that are used by this class are defined as below:

##### **4.4.3.3.3.1. Attributes**

No	Parameters	Type	Description
01	ListPromotion	List<Promotion>	List of promotion.

##### **4.4.3.3.3.2. Methods**

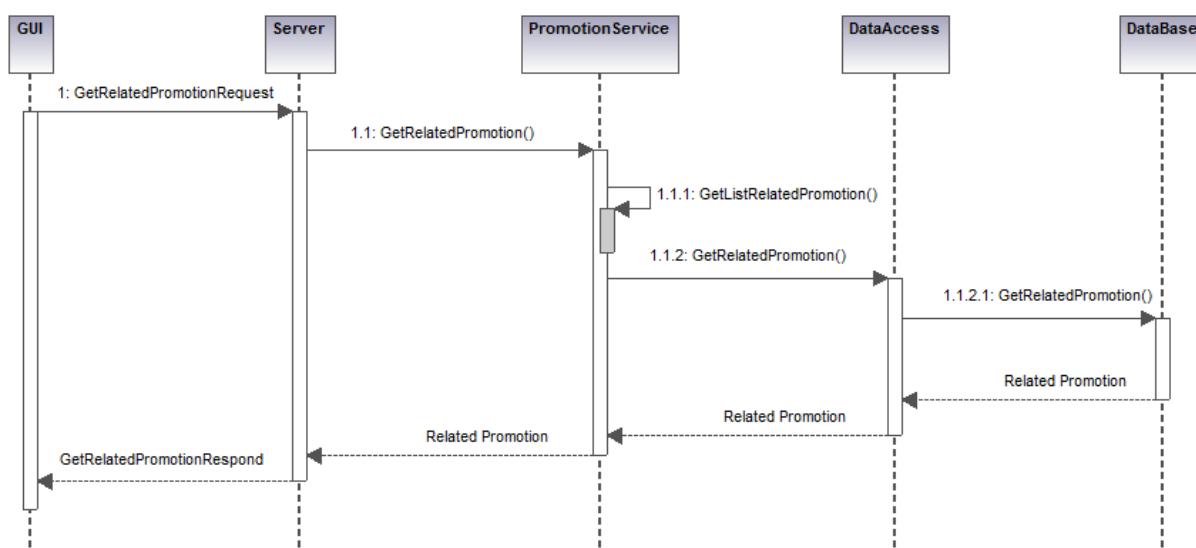
###### **4.4.3.3.3.2.1. Method GetAllRelatedPromotions:**

**Purpose:** To get a list of promotions which are related with the chosen promotion, this method will return list of IPromotionService.

**Parameter & Return:**

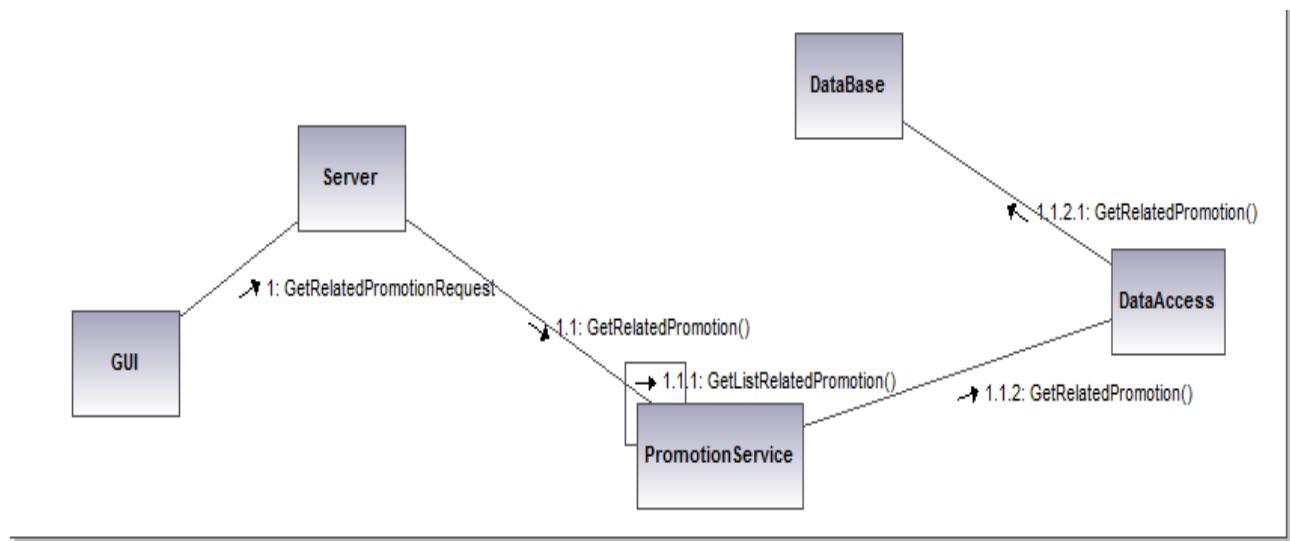
No	Parameters	Type	Description
01	PromotionID	int	Unique Id of a promotion in database.
02	CategoryID	int	Unique Id of a category in database.
	<Return>	List<IPromotionService>	List of promotion related to the chosen promotion.

##### **Sequence diagram**



**Figure 4.64:** Get All Related Promotions Sequence

## Collaboration diagram



**Figure 4.65:** Get All Related Promotions Collaboration

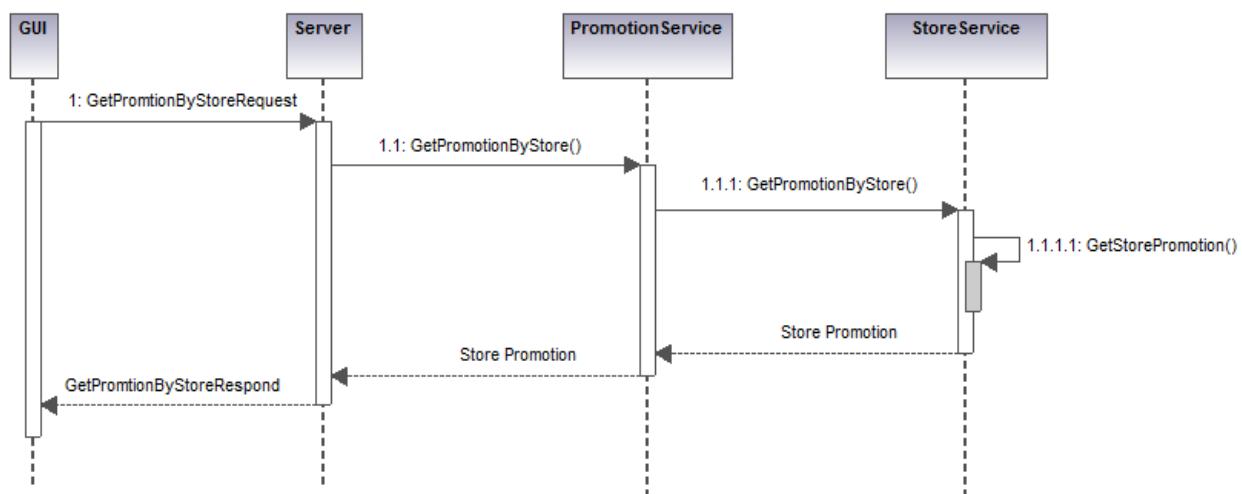
### 4.4.3.3.3.2.2. Method GetAllPromotionsByStoreID:

**Purpose:** To get list of the promotion belong to the chosen store. Method will return list of IPromotionService.

**Parameter & Return:**

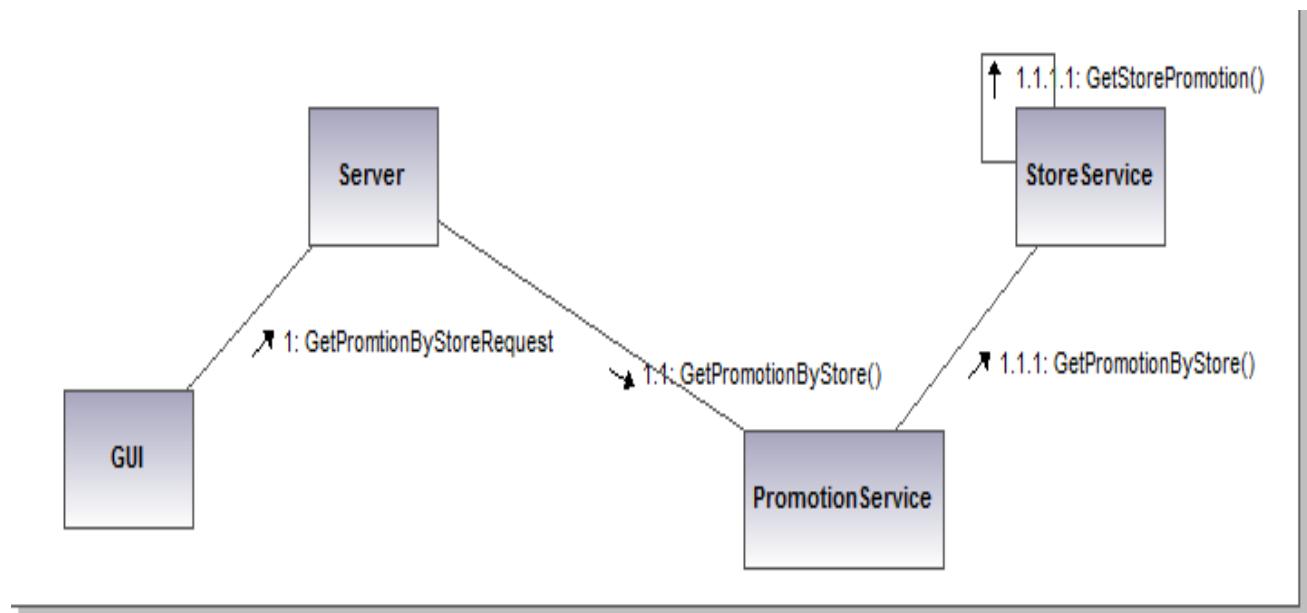
No	Parameters	Type	Description
01	StoreID	int	Unique Id of a store in database.
	<Return>	List<IPromotionService>	List of promotion belong to the chosen store.

## Sequence diagram



**Figure 4.66:** Get All Promotions by Store ID Sequence

## Collaboration diagram



**Figure 4.67:** Get All Promotions by Store ID Collaboration

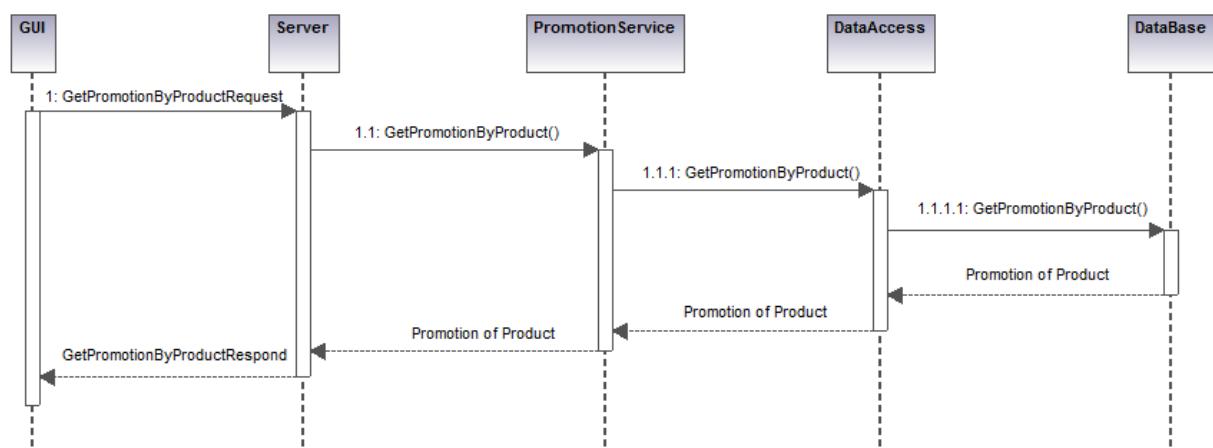
### 4.4.3.3.3.2.3. Method GetAllPromotionsByProductID

**Purpose:** To get list of the promotion for the chosen product. Method will return list of IPromotionService.

**Parameter & Return:**

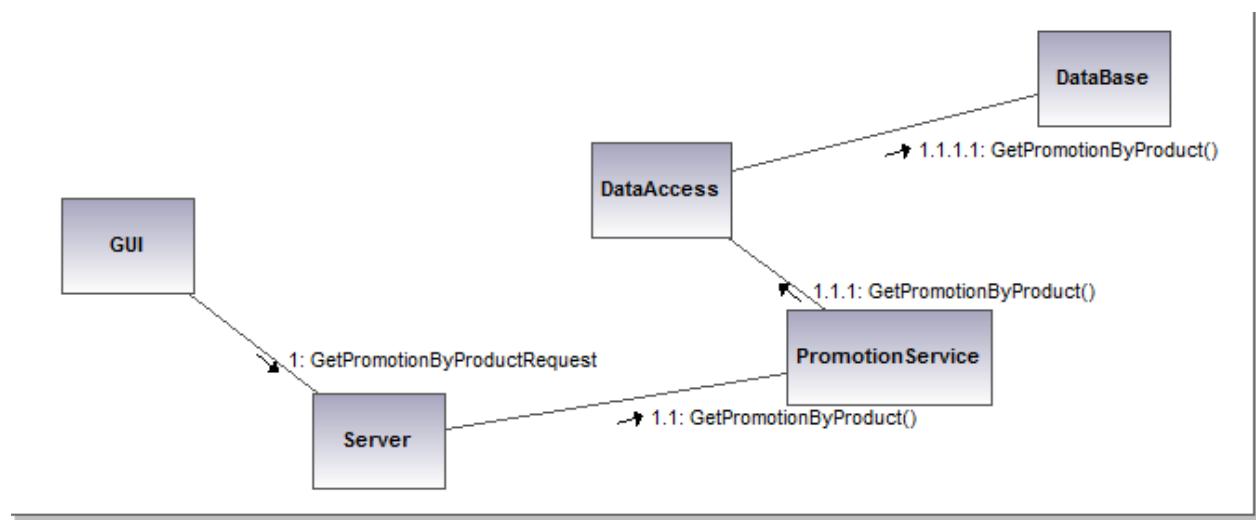
No	Parameters	Type	Description
01	ProductId	int	Unique Id of a store in database.
	<Return>	List<IPromotionService>	List of promotion for the product.

## Sequence diagram



**Figure 4.68:** Get All Promotions by Product ID Sequence

## Collaboration diagram



**Figure 4.69:** Get All Promotions by Product ID Collaboration

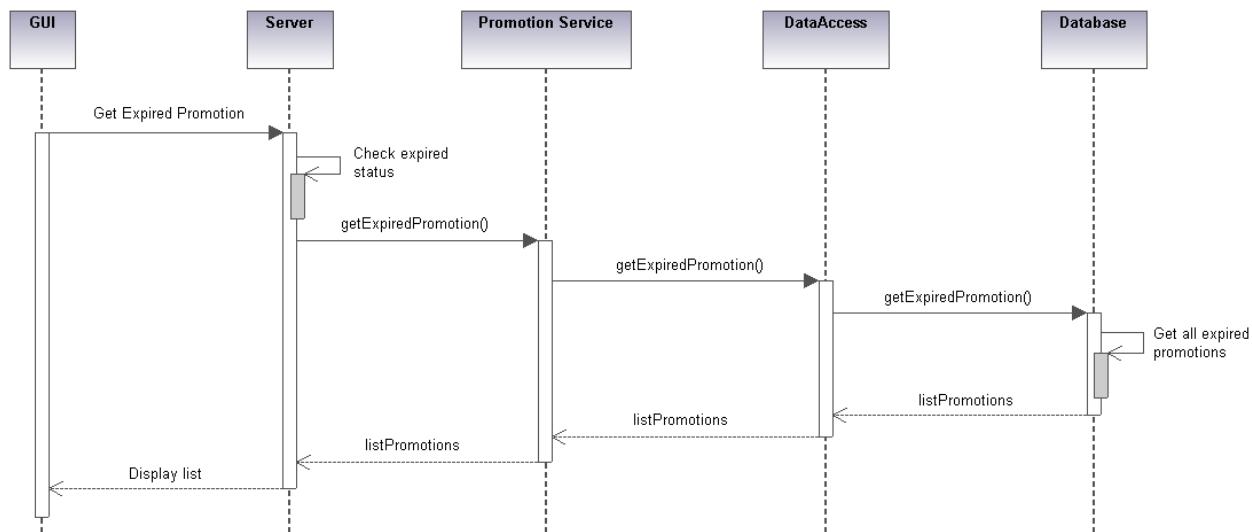
### 4.4.3.3.3.2.4. Method GetNearExpiredPromotion

**Purpose:** get all promotions that are near to be expired.

**Parameters & return**

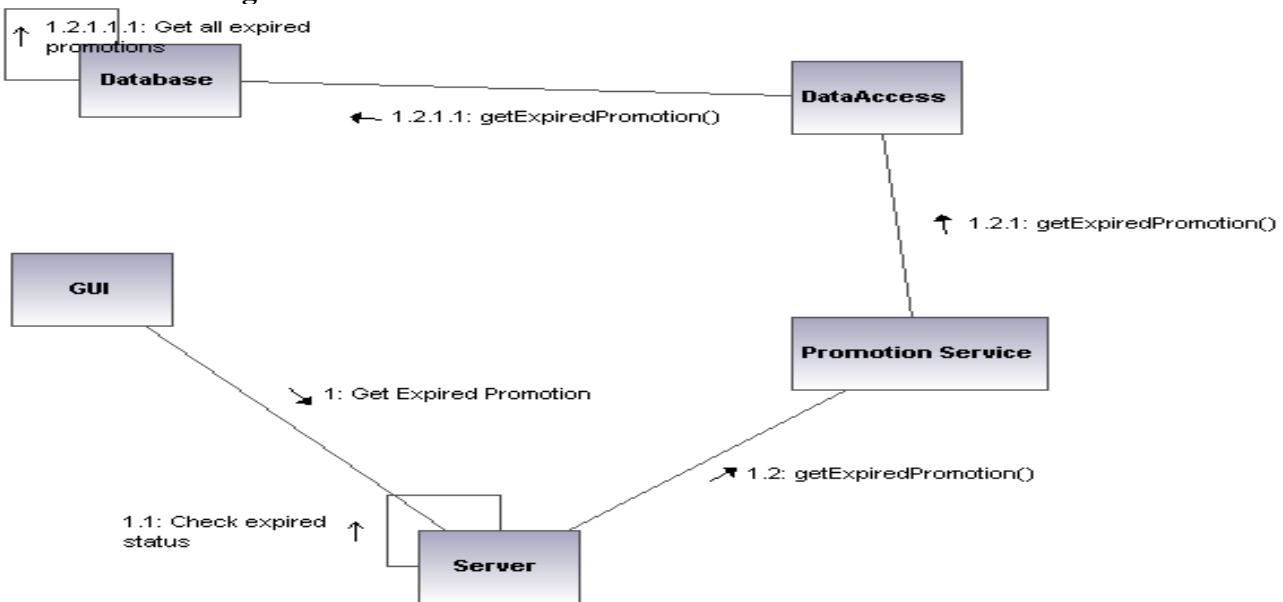
No	Parameters	Type	Description
01	CategoryId	Int	CaegoryId.
	<return>	List<Promotion>	List of near expired promotions.

## Sequence Diagram



**Figure 4.70:** GetNearExpiredPromotion sequence diagram

## Collaboration Diagram



**Figure 4.71:** GetNearExpiredPromotion collaboration diagram.

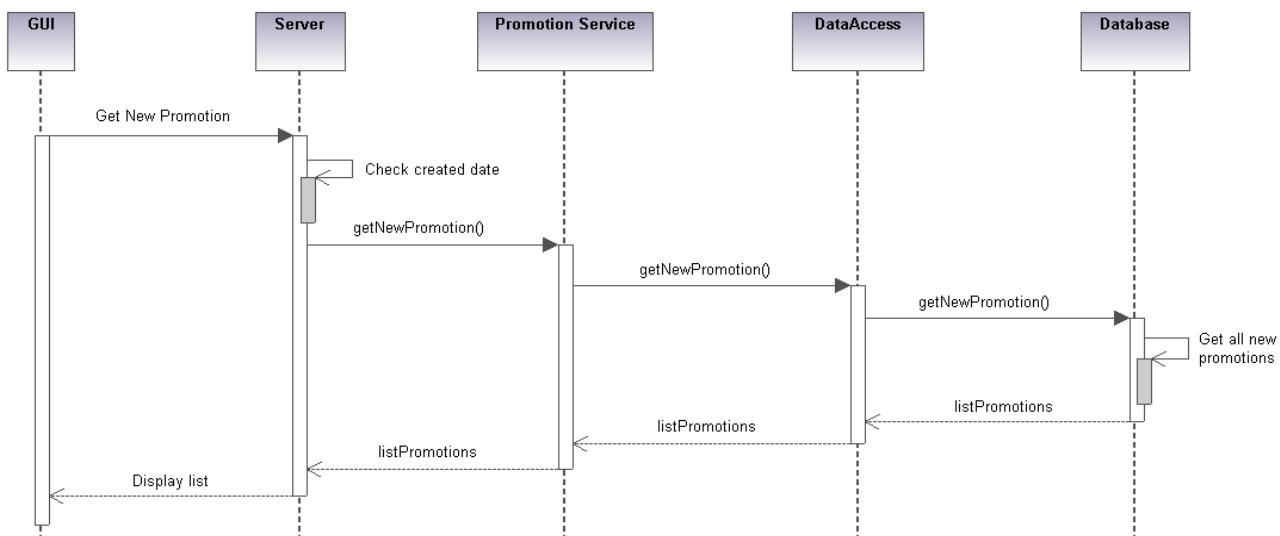
### 4.4.3.3.2.5. Method GetAllNewPromotions:

**Purpose:** get all new promotions.

**Parameters & return**

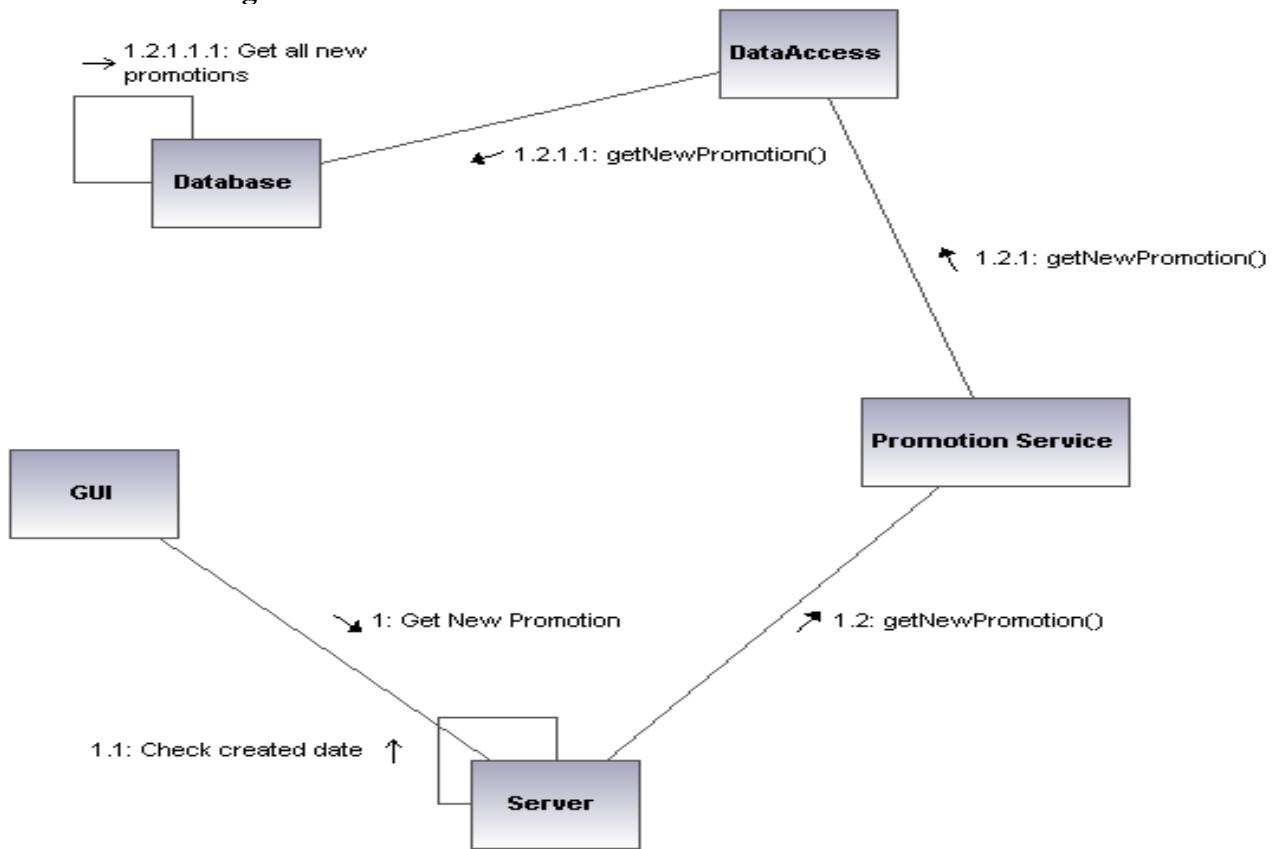
No	Parameters	Type	Description
01	CategoryId	Int	CaegoryId.
	<return>	List<Promotion>	List of new promotions.

## Sequence Diagram



**Figure 4.72:** Get All New Promotions Sequence Diagram

## Collaboration Diagram



**Figure 4.73:** Get All New Promotions Collaboration Diagram

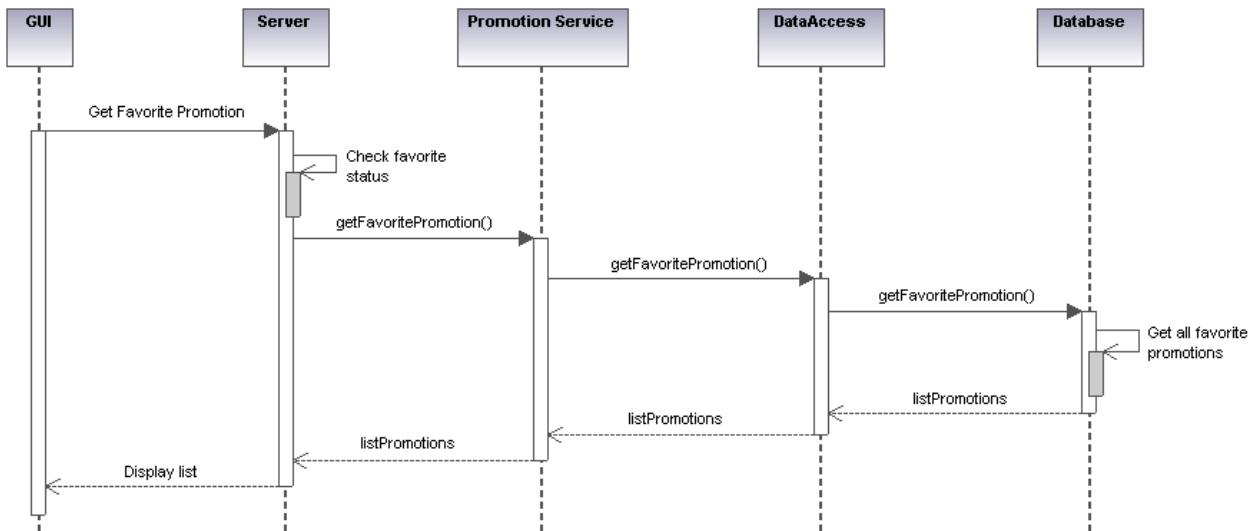
#### **4.4.3.3.3.2.6. Method GetAllFavoritePromotions:**

**Purpose:** get all favorite promotions.

## Parameters & return

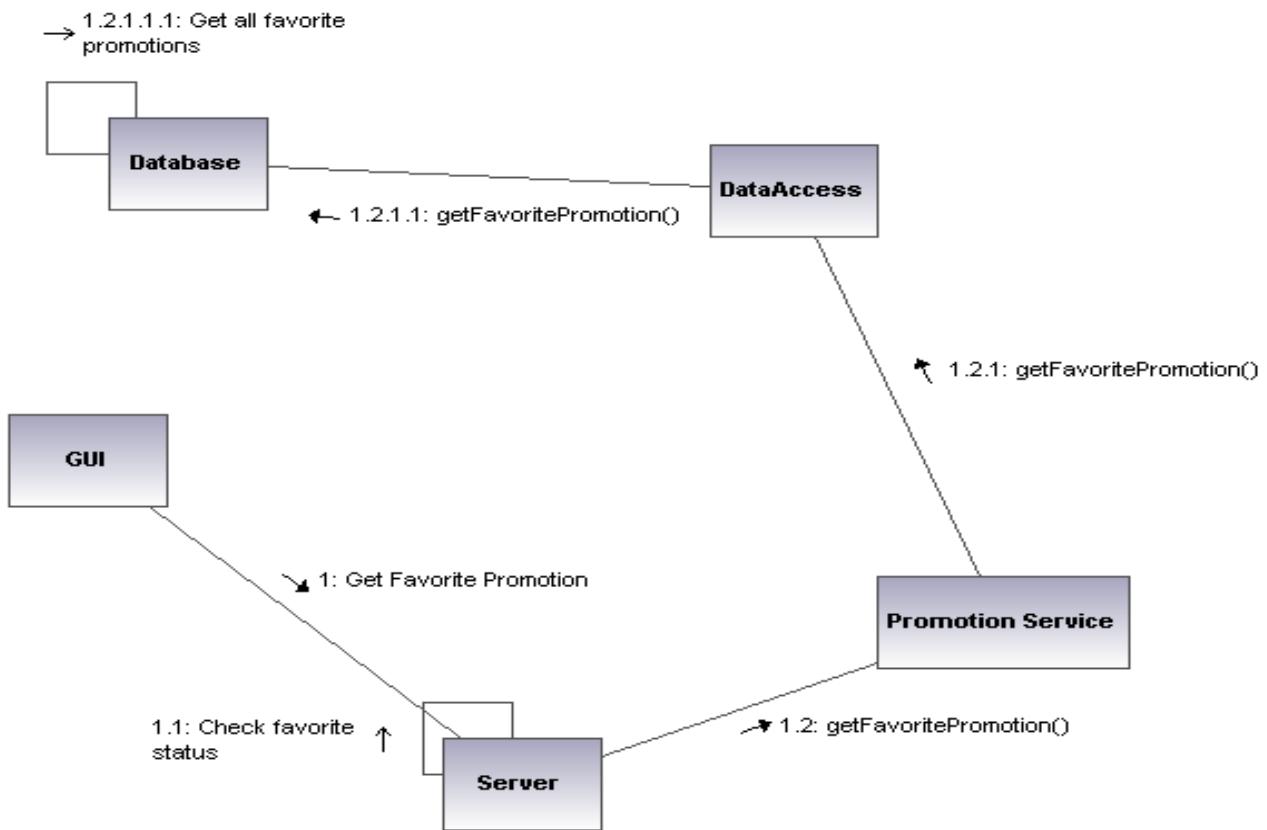
No	Parameters	Type	Description
01	CategoryId	Int	CaegoryId.
	<return>	List<Promotion>	List favorite promotions.

## Sequence Diagram



**Figure 4.74:** Get All Favorite Promotions Sequence Diagram

## Collaboration Diagram



**Figure 4.75:** Get All Favorite Promotions Collaboration Diagram

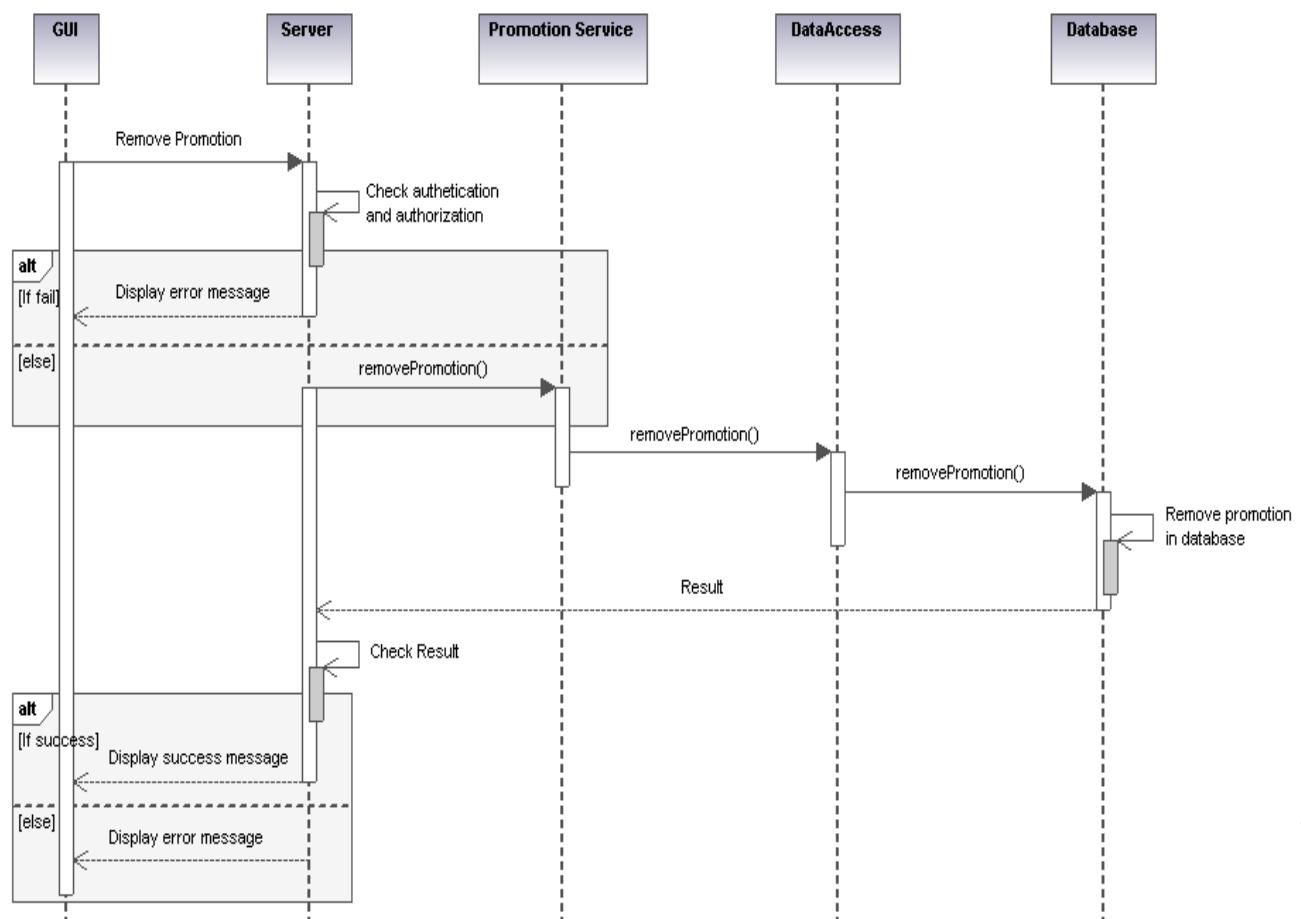
#### 4.4.3.3.2.7. Method RemovePromotion:

**Purpose:** remove promotion.

##### Parameters & return

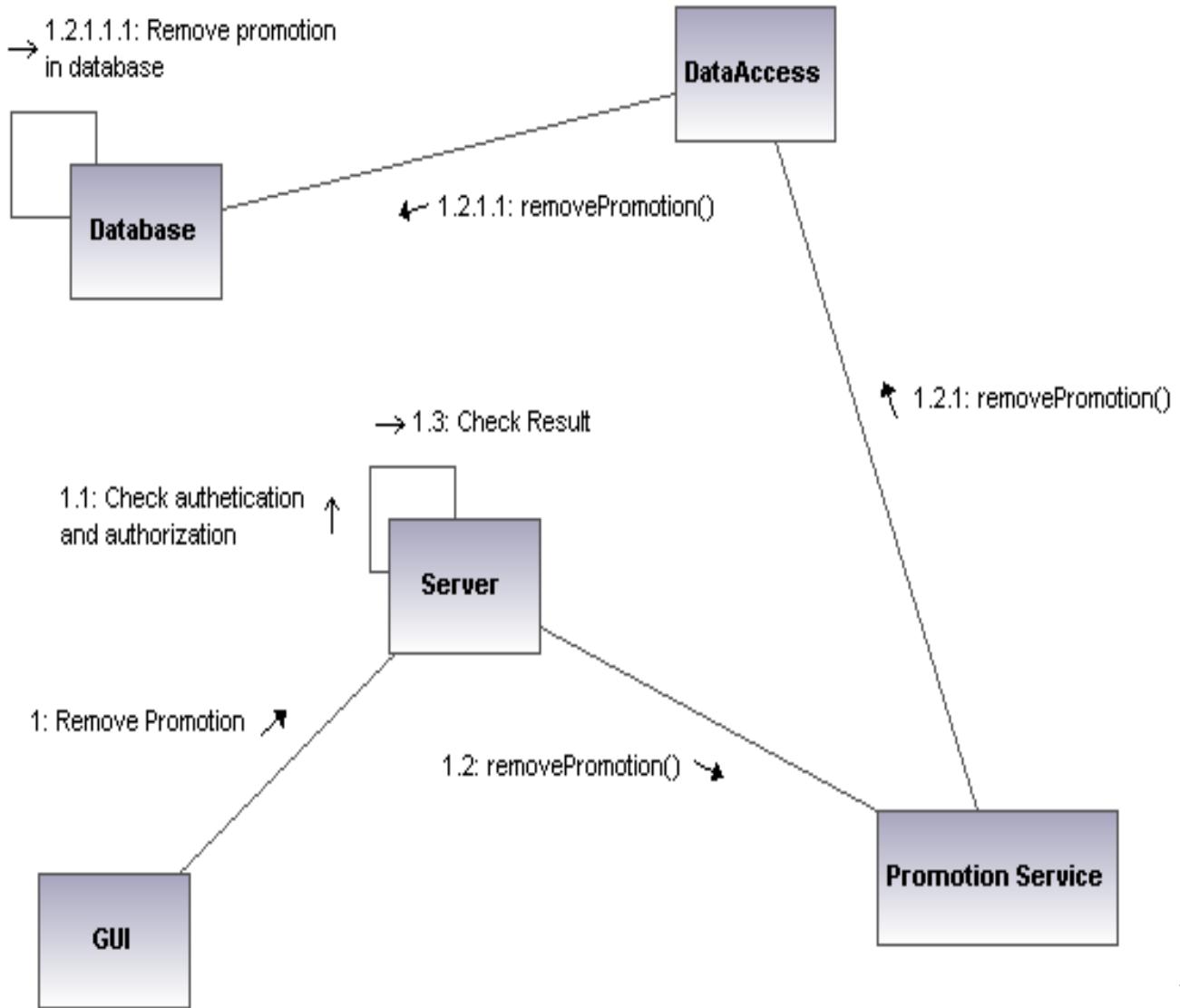
No	Parameters	Type	Description
01	listPromotionId	List<int>	List of promotionId.
	<return>	None.	None.

##### Sequence Diagram



**Figure 4.76:** Remove Promotion Sequence Diagram

### Collaboration Diagram



**Figure 4.77:** Remove Promotion Collaboration Diagram

#### 4.4.4. Search

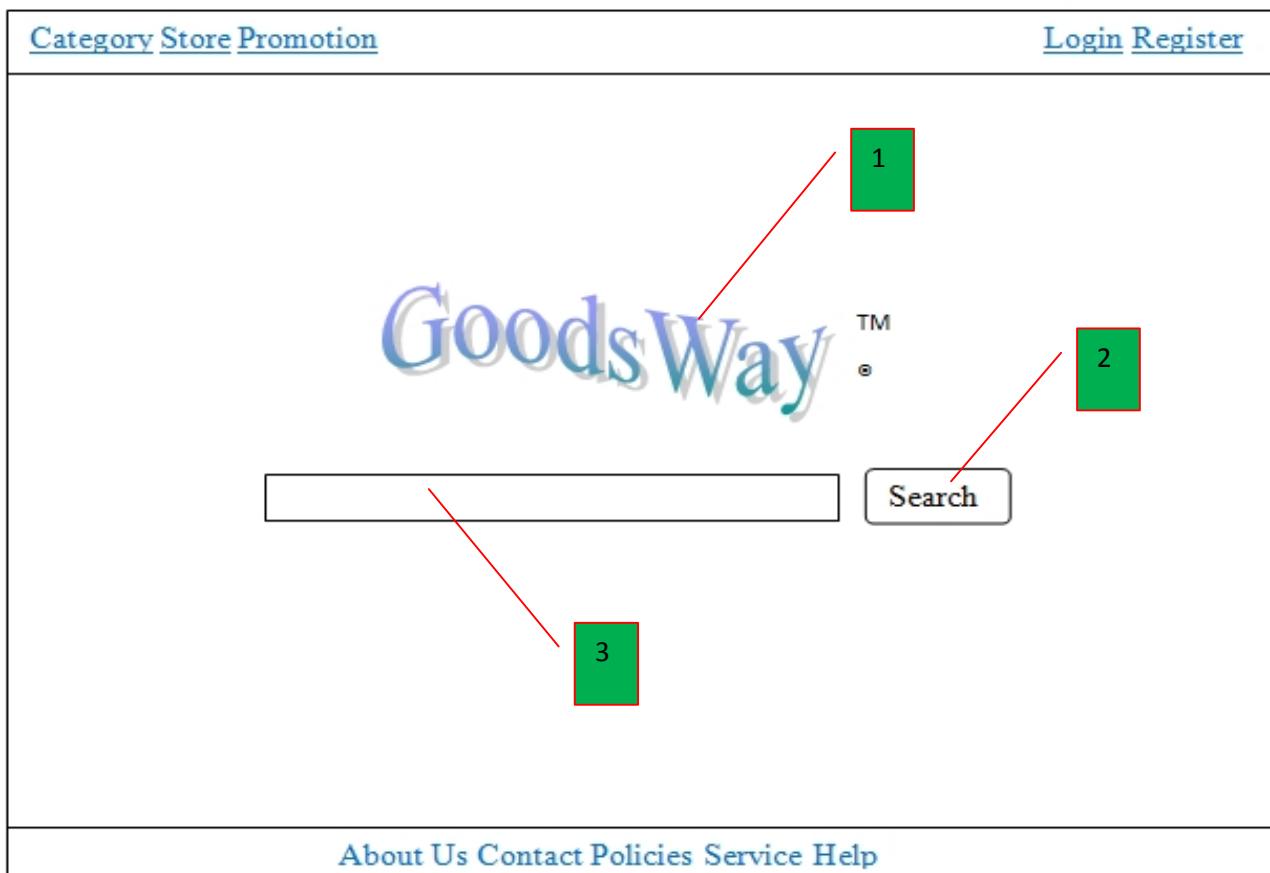
##### 4.4.4.1. Search – User Interface Design

###### 4.4.4.1.1 Homepage

###### 4.4.4.1.1.1 Description of the User Interface

No	Name	Description
01	"GoodsWay" logo	Display the logo of "GoodsWay" company.
02	"Search" button	Send the entered search string to "GoodsWay" server.
03	Search box	Allow user to type the search string into it.

###### 4.4.4.1.1.2 Screen Images



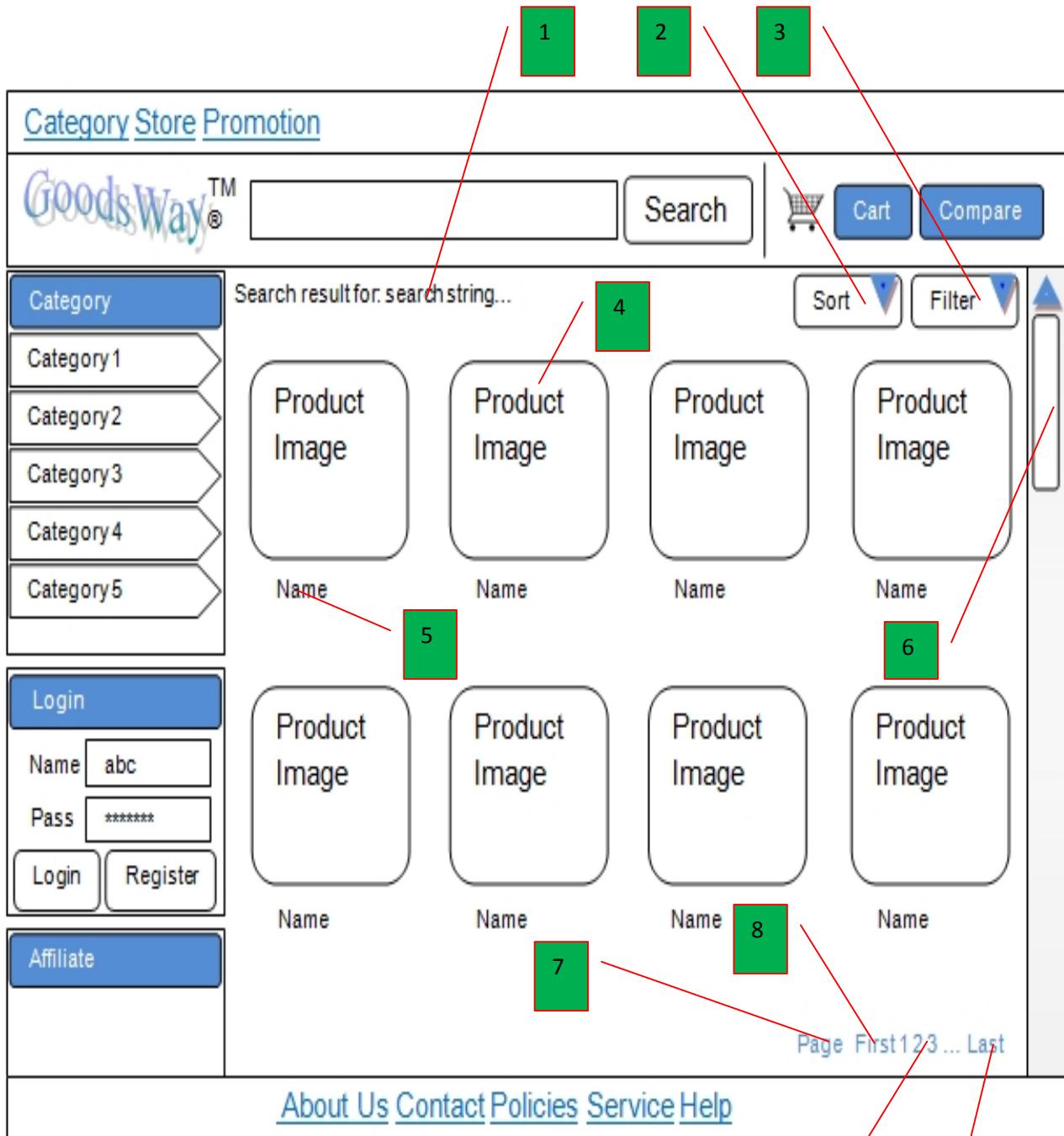
**Figure 4.78:** Homepage

#### **4.4.4.1.2 Search result**

##### **4.4.4.1.2.1 Description of the User Interface**

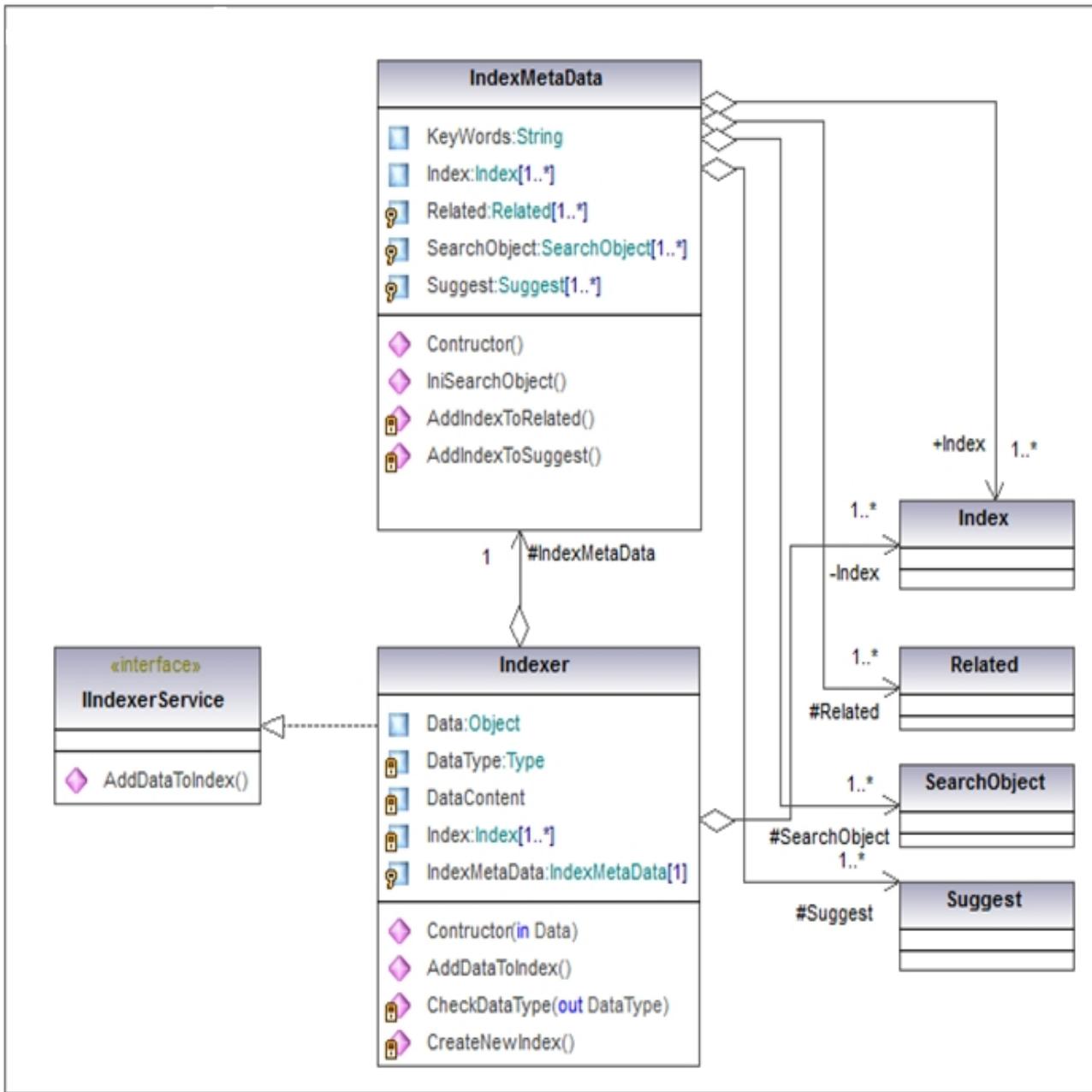
No	Name	Description
01	Search string	Tell user about the string user has entered for searching.
02	Sort type	Provide several kinds of sort types: by product name, price, rating, and store name in two ways: ascending and descending.
03	Filter	Display particular conditions for displaying returned search results.
04	Product image	Display image for specific product.
05	Product name	Display the name of specific product
06	Scrollbar	A Scrollbar has translations and actions that allow the user to move the slider. By clicking on an arrow, the user moves the slider one small increment in the direction of the arrow. By clicking in the scroll region between an arrow and the slider, the user moves the slider a larger increment (the page increment) in the direction of the arrow. The user can also drag the slider using the mouse.
07	Page	This area provides user a way for moving to other result pages.
08	First page link	Click on this link allows user navigate to the first results page with the search condition.
09	Number link	Click on this link allows user navigate to the specific result page (page 2 for example).
10	Last page link	Click on this links allows user navigate to the last results page.

#### 4.4.4.1.2.2 Screen Images

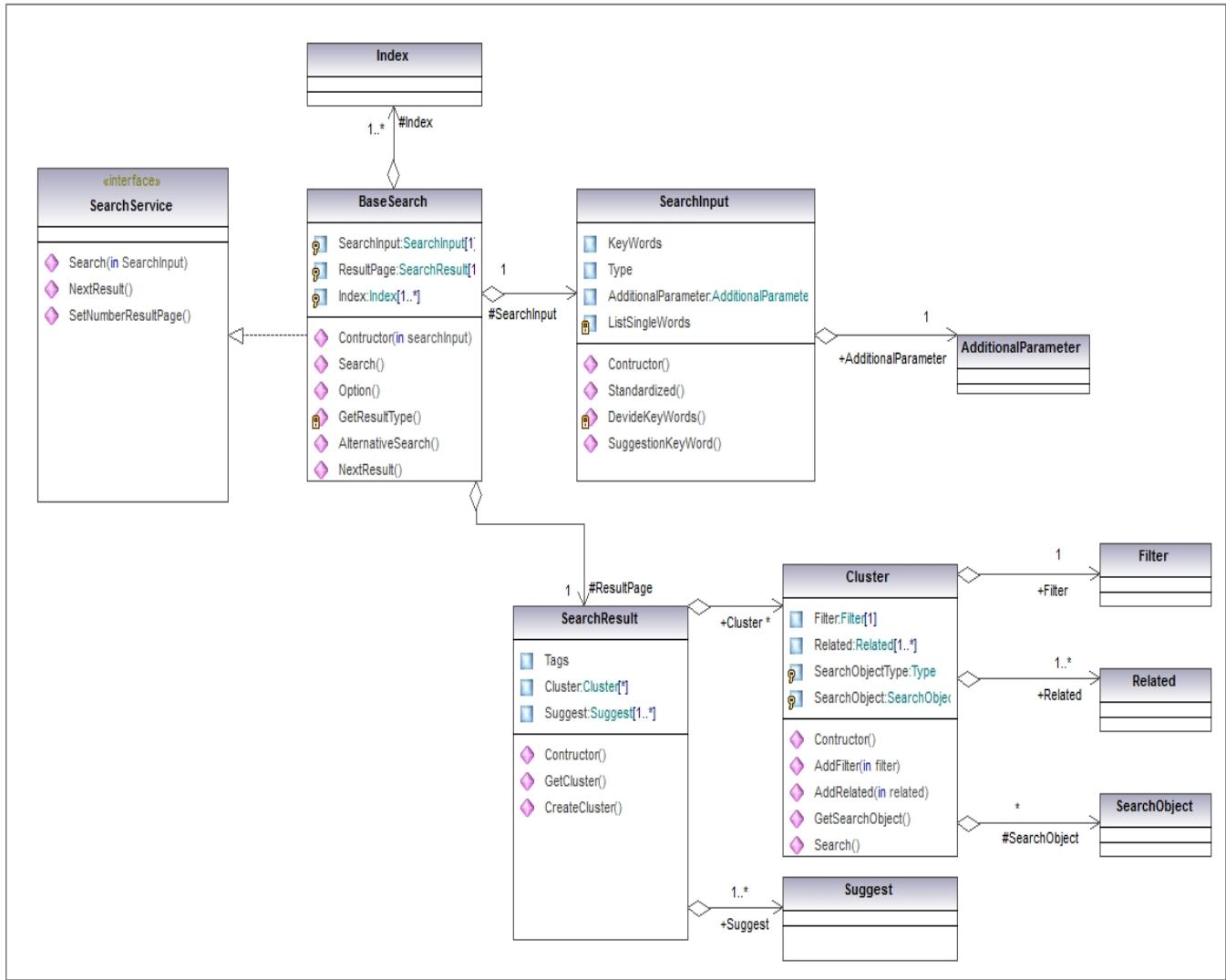


**Figure 4.79:** Search result page

#### 4.4.4.2. Class Diagram:



**Figure 4.80:** Index class diagram

**Figure 4.81:** Search class diagram**4.4.4.3. Class Explanation:****4.4.4.3.1. Index class:****4.4.4.3.1.1. Attributes:**

No	Parameters	Type	Description
01	IndexId	int	Index Reference Number
02	KeyWord	String	Key Word
03	ObjectSearchId	int	Object Search Reference Number

#### **4.4.4.3.1.2. Methods:**

##### **4.4.4.3.1.2.1. Method Search**

**Purpose:** get all index record with has same keyword

**Parameters & return**

No	Parameters	Type	Description
01	KeyWord	string	Key word
	<return>	List<ObjectSearch>	Object search list which has the same key word.

##### **4.4.4.3.1.2.2. Method AddIndex**

**Purpose:** add new index into index table

**Parameters & return**

No	Parameters	Type	Description
1	keyWord	String	Key word
2	objectSearch	ObjectSearch	Object Search
	<return>	Boolean	True – insert successful False – insert not successful

#### **4.4.4.3.2. Related class**

##### **4.4.4.3.2.1. Attributes:**

No	Parameters	Type	Description
01	RelatedId	Int	Related Reference Number
02	Type	String	Key Word
03	ObjectSearchId	Int	Object Search Reference Number
04	RelatedObjectId	Int	Object Search Reference Number

#### 4.4.4.3.2.2. Methods:

##### 4.4.4.3.2.2.1. Method GetRelatedByObjectSearch

**Purpose:** get all index record with has same keyword

**Parameters & return**

No	Parameters	Type	Description
01	object	ObjectSearch	Object search
	<return>	List<ObjectSearch>	Object search list which related with object

#### 4.4.4.3.3. SearchObject class

##### 4.4.4.3.3.1. Attributes:

No	Parameters	Type	Description
01	SearchObjectId	Int	Search Object Reference Number
02	DatabaseName	String	Database Name
03	DatabaseTable	String	Table Name
04	RecordId	Guid	Record Reference Number

##### 4.4.4.3.3.2. Methods:

##### 4.4.4.3.3.2.1. Method GetObjectInfo

**Purpose:** get object information about this search object.

**Parameters & return**

No	Parameters	Type	Description
	<return>	Object	To get information of the object. Method will return object type.

#### 4.4.4.3.3.2.2. Method GetObjectType

**Purpose:** get object information about this search object.

##### Parameters & return

No	Parameters	Type	Description
	<return>	Object	To get information of the object. Method will return object type.

#### 4.4.4.3.4. Suggest class

##### 4.4.4.3.4.1. Attributes:

No	Parameters	Type	Description
01	Label	String	Name of suggest object
02	Catalogue	Catalogue	Catalogue which has this object
03	Company	Company	Company which has this object

#### 4.4.4.3.5. AdditionalParameter class

##### 4.4.4.3.5.1. Attributes:

No	Parameters	Type	Description
01	Language	String	Language which search follow language name's product.
02	Legion	Enum<Legion>	Search product, company...etc follow legion which user choose.
03	FileFormat	List<Company>	File format
04	DateRegister	List<FilterItem>	Date Register
05	Type	Enum	Domain which user search: product, company, promotion.
06	Catalogue	String	Catalogue.
07	NumberResult	Int	Number of result.

#### **4.4.4.3.6. Filter class**

##### **4.4.4.3.6.1. Attributes:**

No	Parameters	Type	Description
01	FilterId	int	Filter Reference Number
02	ListProperty	List<property>	List property to describe product or company
03	Companies	List<Company>	List companies which has the same product
04	FilterItems	List<FilterItem>	Filter items

#### **4.4.4.3.7. Cluster class**

##### **4.4.4.3.7.1. Attributes:**

No	Parameters	Type	Description
01	SearchObjectType	Type	Type of group of search object
02	SearchObjects	List<SearchObject>	List search object which are result for searching
03	Filters	List<Filter>	Filter of result
04	Related	List<Related>	Related of result

##### **4.4.4.3.7.2. Methods:**

###### **4.4.4.3.7.2.1. Method Search**

**Purpose:** Search all result in this cluster and their metadata

###### **Parameters & return**

No	Parameters	Type	Description
	<return>	Cluster	Cluster with complete search object and filter objects, related objects.

#### **4.4.4.3.8. SearchInput class**

##### **4.4.4.3.8.1. Attributes:**

No	Parameters	Type	Description
01	KeyWords	String	Words were input to searching
02	Type	String	Domain: Product, Company, Promotion
03	AdditionalParameter	AdditonalParameter	Additional Parameter
04	ListSingleWord	List<string>	List words which standard from keywords

##### **4.4.4.3.8.2. Methods:**

###### **4.4.4.3.8.2.1. Method Standardized**

**Purpose:** standardized input keyword

##### **Parameters & return**

No	Parameters	Type	Description
	<return>	String	Input keywords without special word

###### **4.4.4.3.8.2.2. Method DivideKeyWord**

**Purpose:** divide keywords into list words

##### **Parameters & return**

No	Parameters	Type	Description
	<return>	List<string>	List sub keyword

#### **4.4.4.3.9. SearchResult class**

##### **4.4.4.3.9.1. Attributes:**

No	Parameters	Type	Description
01	Tags	List<string>	Tags which descript for result.
02	Clusters	List<Cluster>	Each cluster will return for each product.
03	Suggest	List<Suggest>	Suggest keywords which use usually search.

#### **4.4.4.3.9.2. Methods:**

##### **4.4.4.3.9.2.1. Method GetCluster**

**Purpose:** Get cluster of object type

**Parameters & return**

No	Parameters	Type	Description
01	searchObjectType	SearchObjectType	Object type
	<return>	Cluster	Get cluster of object type

##### **4.4.4.3.9.2.2. Method GetSuggest**

**Purpose:** get list of suggest object.

**Parameters & return**

No	Parameters	Type	Description
	<return>	List<Suggest>	All suggest object

#### **4.4.4.3.10. BaseSearch Class**

##### **4.4.4.3.10.1. Attributes:**

No	Parameters	Type	Description
01	SearchInput	SearchInput	Input to search
02	ResultPage	ResultPage	Result page to save result which searched.
03	Index	Index	Index table

#### 4.4.4.3.10.2. Methods:

##### 4.4.4.3.10.2.1. Method Search

**Purpose:** get all result which name related with keyword

**Parameters & return**

No	Parameters	Type	Description
01	keyword	String	Keyword which user want to search
	<return>	Object	Search all object which name related with keyword

##### 4.4.4.3.10.2.2. Method NextResult

**Purpose:** get information detail of next page.

**Parameters & return**

No	Parameters	Type	Description
	<return>	Object	Information detail of next page.

##### 4.4.4.3.10.2.3. Method GetResultType

**Purpose:** get result type, type of product

**Parameters & return**

No	Parameters	Type	Description
	<return>	Object	Type of result

##### 4.4.4.3.10.2.4. Method AlternativeSearch

**Purpose:** get all search object

**Parameters & return**

No	Parameters	Type	Description
	<return>	List<SearchObject>	All search object

#### **4.4.4.3.11. IndexMetaData Class**

##### **4.4.4.3.11.1 Attributes:**

No	Parameters	Type	Description
01	KeyWord	String	Key word which is used to search.
02	Index	Index	Index table.
03	Related	List<Related>	Related result.
04	SearchObject	SearchObject	Search object
05	Suggest	List<Suggest>	Suggest keywords which use usually search.

##### **4.4.4.3.11.2. Methods**

###### **4.4.4.3.11.2.1. Method IniSearchObject**

**Purpose:** initialize search object with a keyword and its address in database.

###### **Parameters & return**

No	Parameters	Type	Description
	<return>	SearchObject	Initialize search object with a keyword and its address in database.

###### **4.4.4.3.11.2.2. Method AddIndexToRelated**

**Purpose:** add index to related object

###### **Parameters & return**

No	Parameters	Type	Description
	<return>	List<Related>	Add index to related object and return list related objects.

#### 4.4.4.3.11.2.3. Method AddIndexToSuggest

**Purpose:** add index to suggest object

**Parameters & return**

No	Parameters	Type	Description
	<return>	List<Suggest>	Add index to Suggest object and return list suggest objects.

#### 4.4.4.3.12. Indexer Class

##### 4.4.4.3.12.1. Attributes:

No	Parameters	Type	Description
01	Data	Object	Data which user insert into database.
02	DataType	Type	Type of data: product, company, promotion.
03	DialogContent	String	String which system must focus to search. Example: product name, company name.
04	Index	Index	Index to manage to search keyword.
05	IndexMetaData	IndexMetaData	Index Meta data which attack index.

##### 4.4.4.3.12.2. Methods

###### 4.4.4.3.12.2.1. Method AddDataToIndex

**Purpose:** add data content to index table

**Parameters & return**

No	Parameters	Type	Description
	<return>	List<Index>	Add data content to index table and return list index.

#### 4.4.4.3.12.2.2. Method CheckDataType

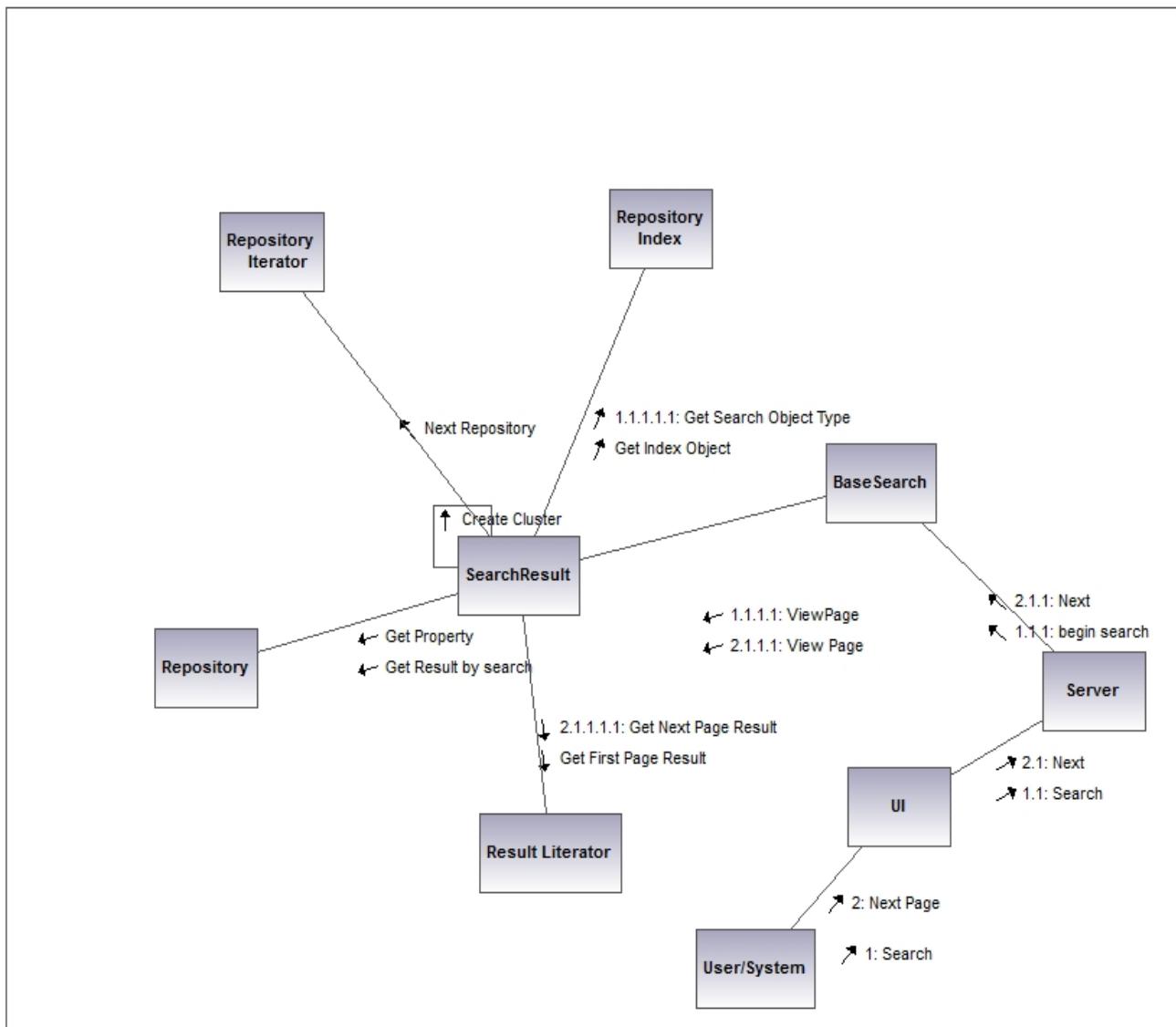
**Purpose:** check data type of data is new data type?

**Parameters & return**

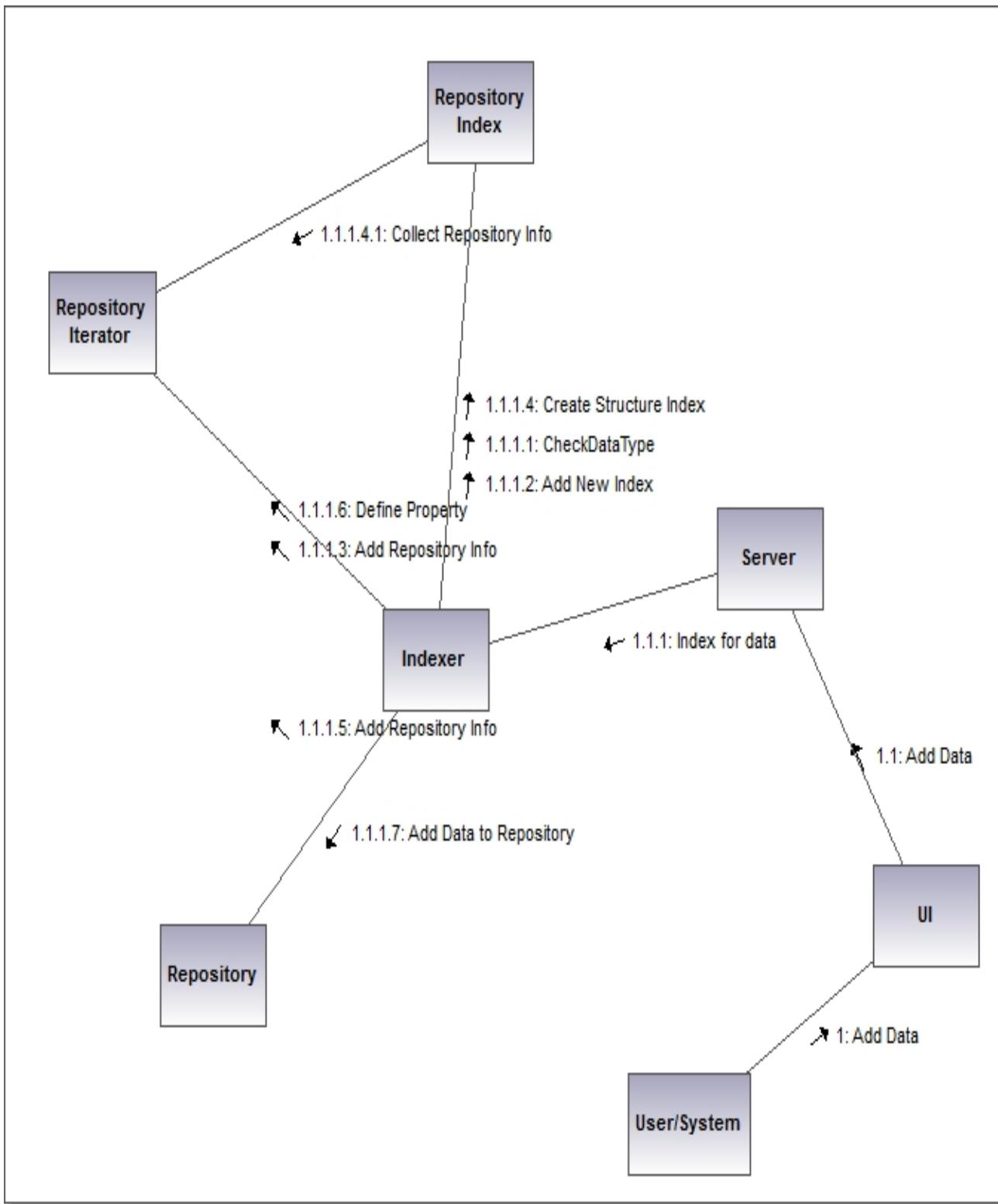
No	Parameters	Type	Description
	<return>	Boolean	True – New data type, False – old data type

#### 4.4.4.4. Collaboration Diagram:

##### 4.4.4.4.1. Search's Collaboration Diagram

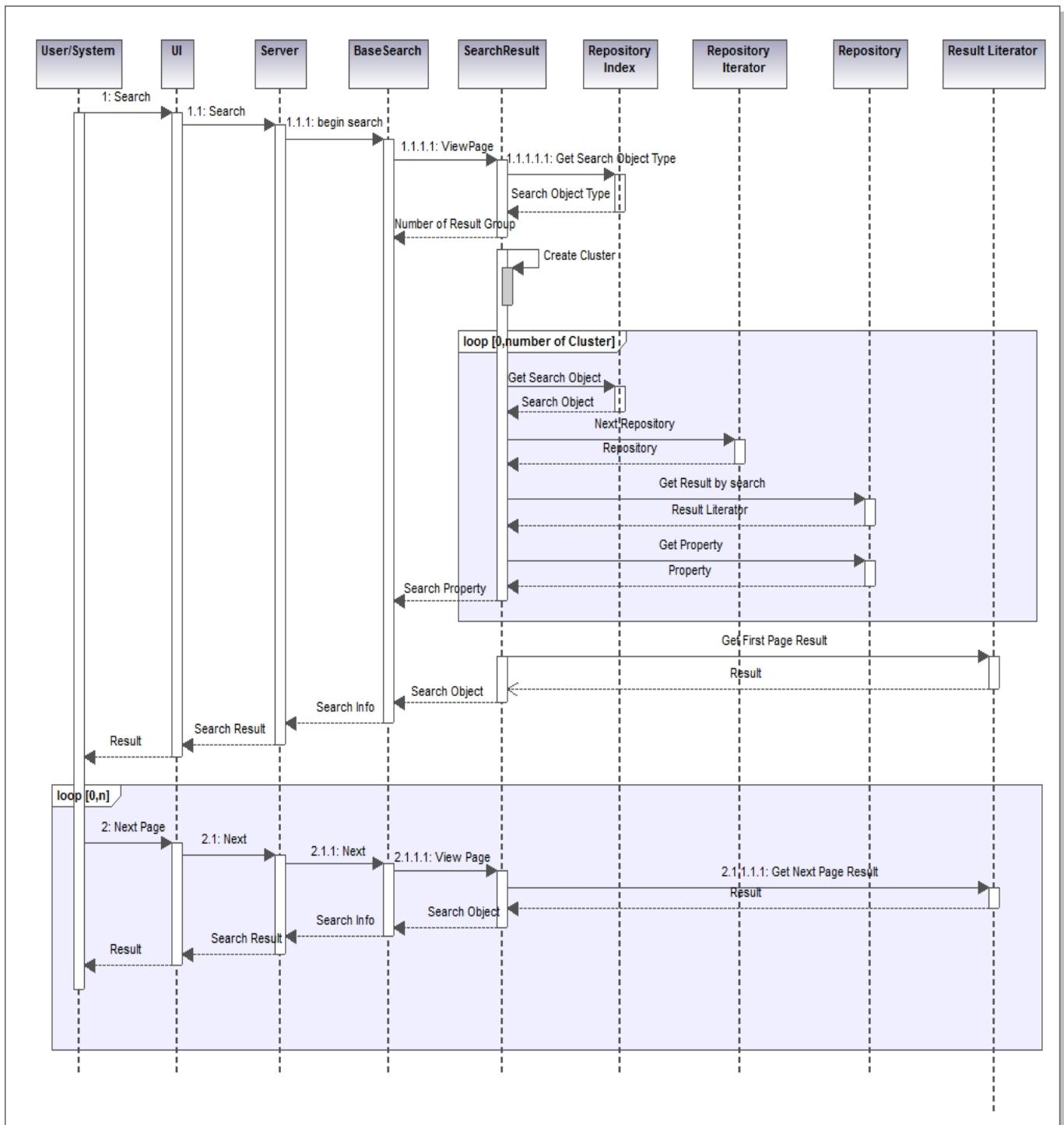


**Figure 4.82:** Search's Collaboration Diagram

**4.4.4.4.2. Index's Collaboration Diagram****Figure 4.83:** Index's Collaboration Diagram

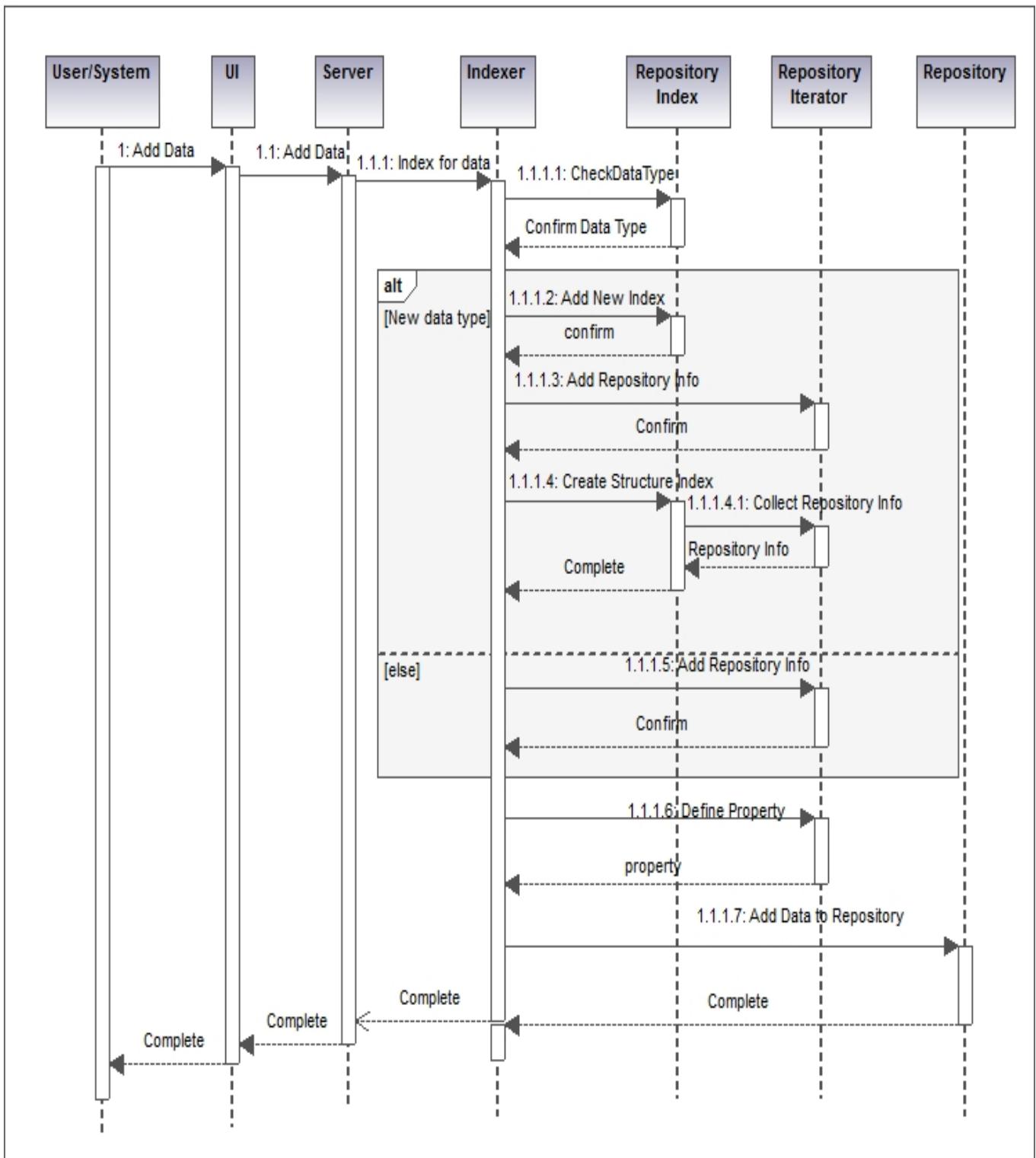
#### 4.4.4.5. Sequence Diagram:

##### 4.4.4.5.1. Search's Sequence Diagram



**Figure 4.84:** Search's sequence diagram

#### 4.4.4.5.2. Index's Sequence Diagram



**Figure 4.85:** Index's sequence diagram

#### 4.4.5. User Account Management

##### 4.4.5.1. User Account Management – User Interface Design

###### 4.4.5.1.1 Register

###### 4.4.5.1.1.1 Description of the User Interface

No	Name	Description
01	Register label	Show place where user is in.
02	"Term of uses" panel	Contains the "Term of uses" content.
03	"Term of uses" content area	Display the content for "Term of uses" between user and "GoodsWay" owners.
04	Checkbox	Tick on this checkbox means user accepts the "Term of uses".
05	"Register" button	Click on this button will allow user send the registration request to "GoodsWay" system.

###### 4.4.5.1.1.2 Screen Images



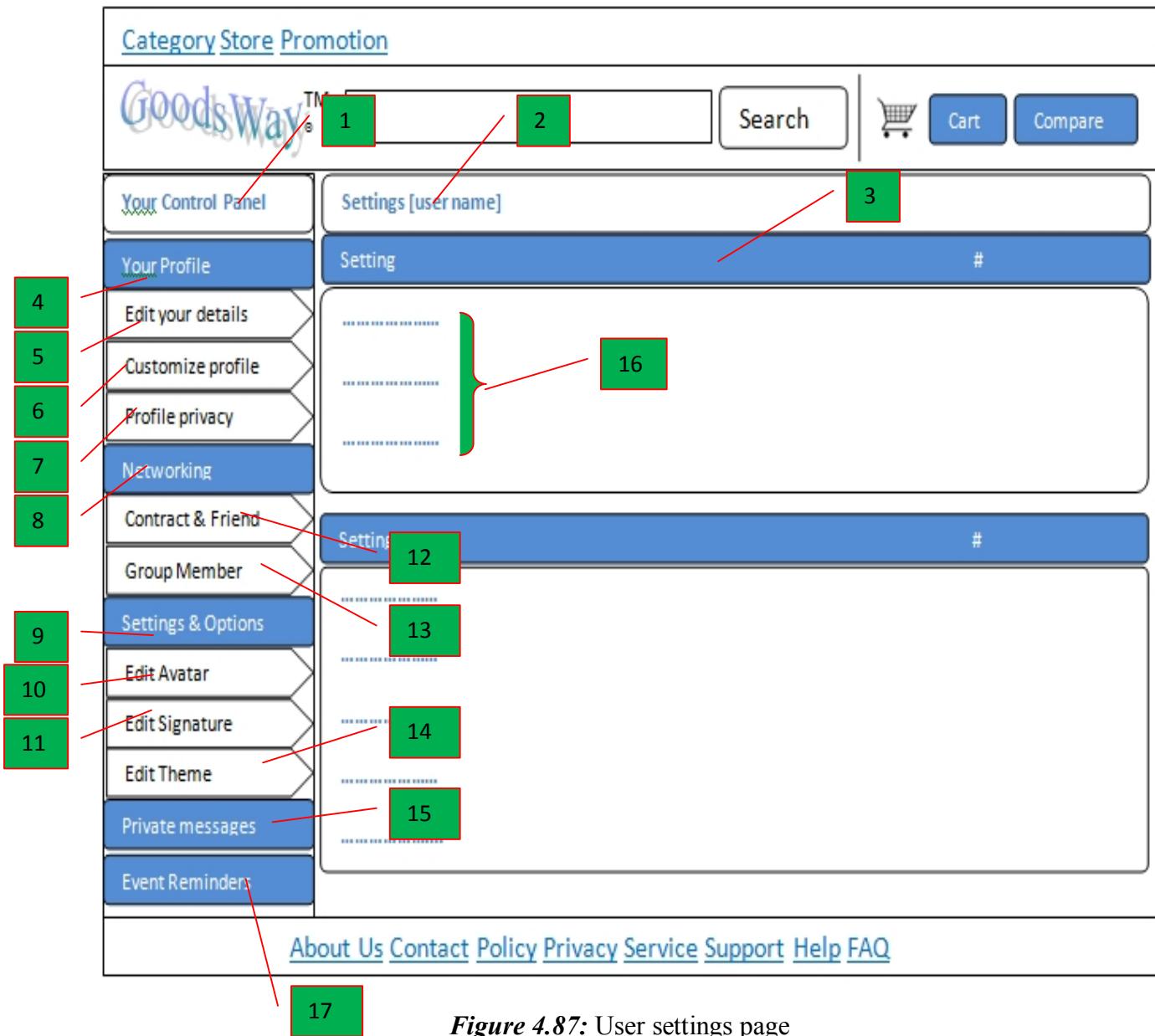
**Figure 4.86:** Register page

#### **4.4.5.1.2 User Settings**

##### **4.4.5.1.2.1 Description of the User Interface**

No	Name	Description
01	Your control panel	Contains the control areas for “GoodsWay” members.
02	Settings username label	Display the username’s setting area.
03	Settings Panel	Contains particular settings for user.
04	Your profile panel	Contain several options for user to manage his/her profile.
05	Edit your details	Allow user edit his/her information
06	Customize Profile	Allow user go to User profile page
07	Profile privacy	Provide privacy rules.
08	Networking	Show the user’s net-workings.
09	Settings & options	This panel provides different ways for user to manage his/her account.
10	Edit Avatar	Allow user change his avatar.
11	Edit signature	Allow user edit his/her electronic signature.
12	Contact & Friend	Contain user’s friends’ information and their contacts.
13	Group member	List of user’s friends in group.
14	Edit theme	Allow user change look and feel display.
15	Private messages	Display the messages sent from other users to this account.
16	Settings details area	Display details for settings rules.
17	Even reminder	Display the events user has noted on “GoodsWay” account.

#### 4.4.5.1.2.2 Screen Images



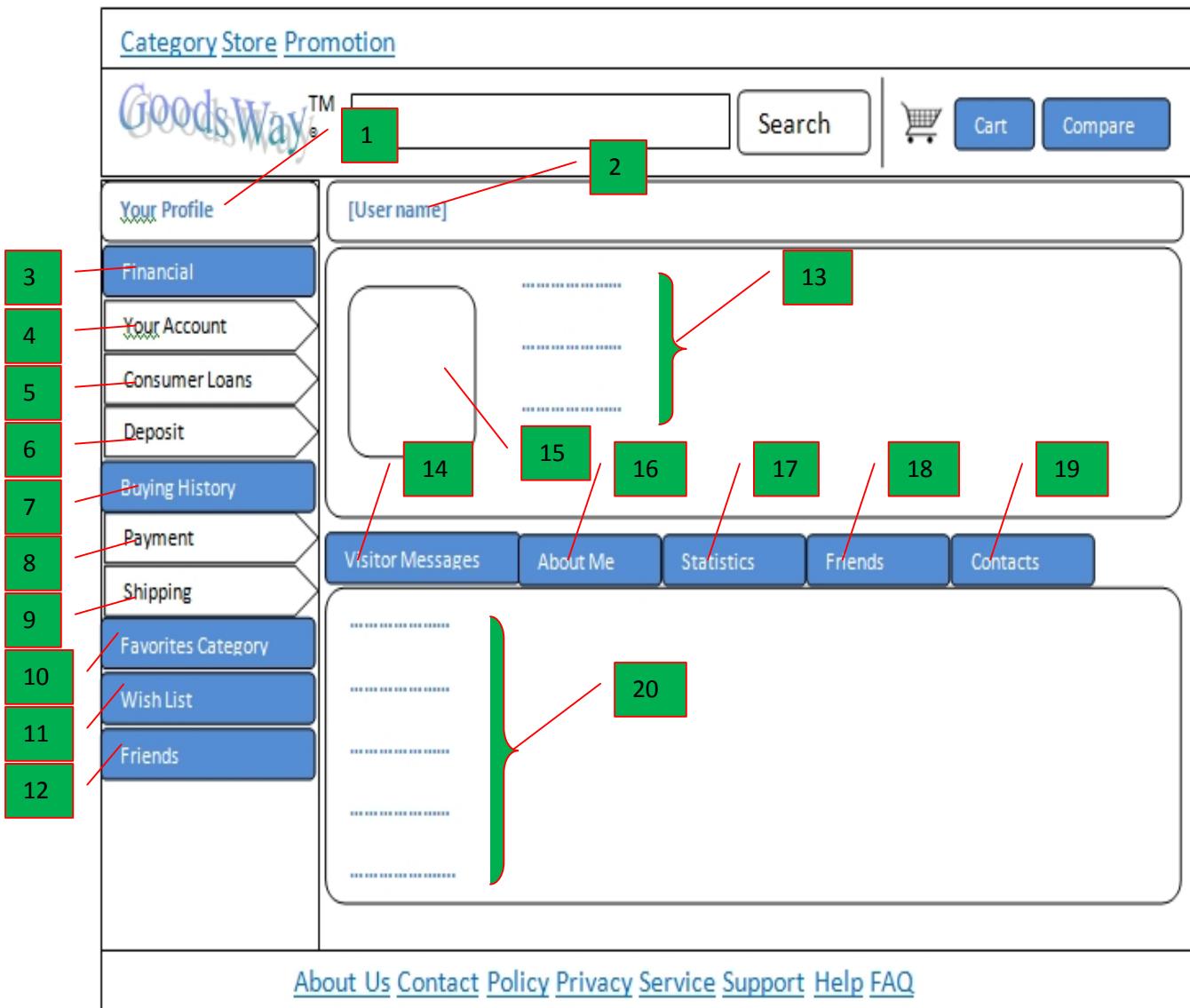
**Figure 4.87:** User settings page

#### **4.4.5.1.3 User Profile**

##### **4.4.5.1.3.1 Description of the User Interface**

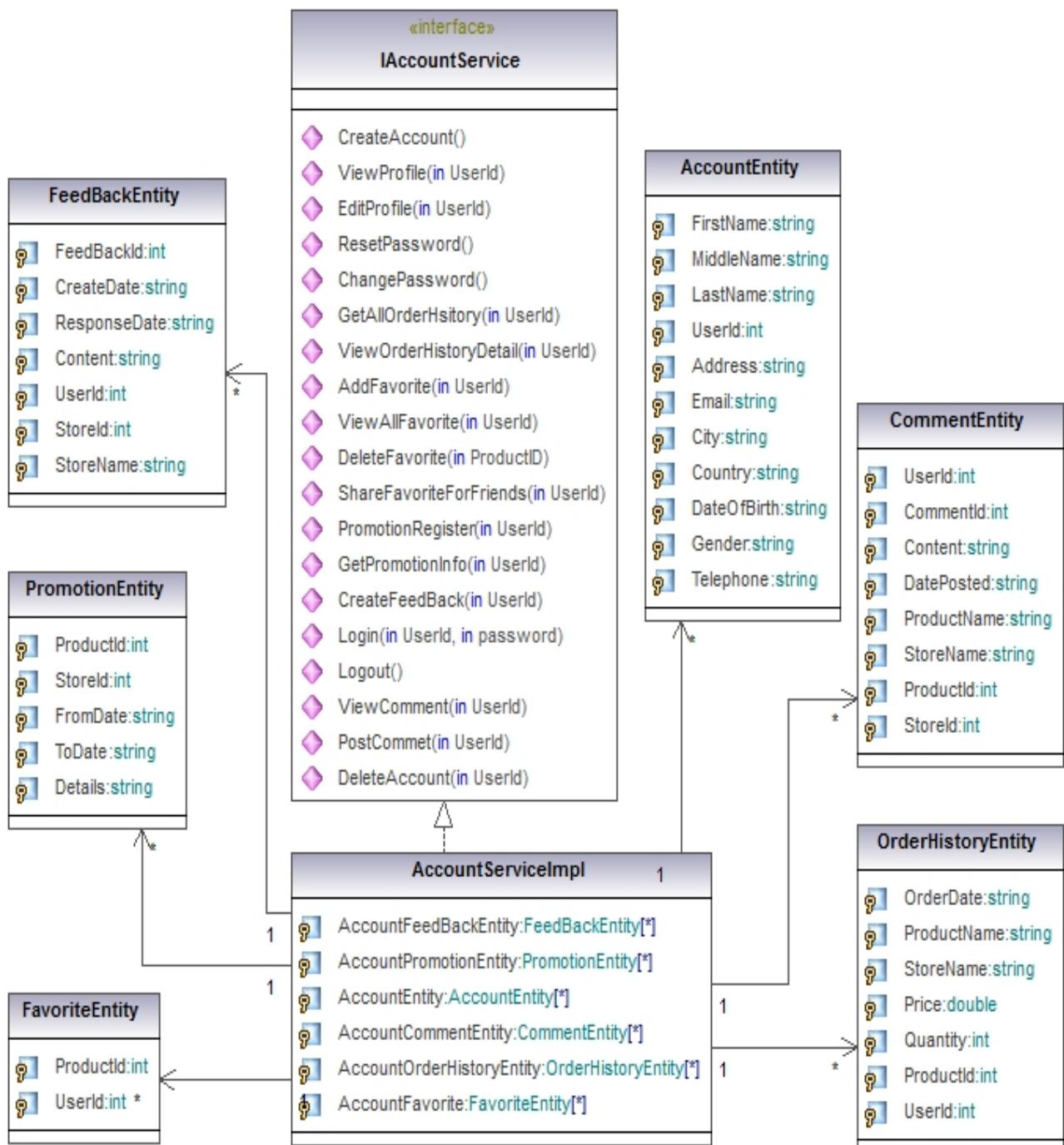
No	Name	Description
01	Your Profile Panel	Contains user profile information.
02	Username	Display the username.
03	Financial panel	Contains the user's financial information.
04	Your Account	Click on this allow user view his account's financial status.
05	Consumer Loans	Display the loans from user.
06	Deposit	Allow user to add money to his account.
07	Buying History panel	This panel displays the history transactions of user.
08	Payment	Click on this allow user view his history transactions.
09	Shipping	Click on this allow user view product shipping progress history.
10	Favorites Category	Display the favorite category of user.
11	Wish List	Display the list of products which user likes.
12	Friends	Click on this allow user to view his follow friend's activity.
13	User basic information	Display the short description of user.
14	Visitor messages tab	Show the messages were sent by visitors to him.
15	User avatar	Display the avatar of user.
16	About me tab	Click on this button allow user to view introduction about him.
17	Statistics tab	Click on this tab allow user view the statistic for his/her account activities (number of comments, product buying...etc).
18	Friends tab	Click on this tab allow user view his/her friends list
19	Contacts tab	Click on this tab allow user view the contact list.
20	Display content area	Display the content when user click on corresponding tab.

#### 4.4.5.1.3.2 Screen Images



**Figure 4.88:** User profile page

#### 4.4.5.2. Class Diagram:



**Figure 4.89:** User Account Management class diagram

#### **4.4.5.3. Class Explanation:**

##### **4.4.5.3.1. AccountEntity class**

Represent an account instance in the database. This entity contains all the details information about user that the website needs to manage users.

###### **4.4.5.3.1.1. Attributes**

No	Parameters	Type	Description
01	UserId	Int	This attribute is set to be unique, and used to indentify each user.
02	UserName	String	This property is name that user used to sign in.
03	Password	String	This property is required to authenticate user.
04	FirstName	String	The first name of the user.
05	LastName	String	The last name of the user.
06	MiddleName	String	The middle name of the product.
07	Email	String	Email of the user is required. All information, response, active account, set or reset password ... is send thought email address.
08	Address	String	The address of the user is required when user uses map service or delivery product.
09	City	String	The city that user belong to.
10	DateOfBirth	String	The birth day of the user.
11	Gender	String	The gender of the user.
12	Telephone	String	The contact number of the user.

#### **4.4.5.3.2. *CommentEntity Class***

Represent a comment entity in database. This will provide comment's data and interaction methods with Comment's database.

##### **4.4.5.3.2.1. Attributes**

No	Parameters	Type	Description
01	UserId	int	This attribute is set to be unique, and used to identify user that posted comment.
02	CommentId	int	This attribute is set to be unique, and used to identify each comment.
03	ProductId	int	This is the foreign key from Product table; it is used to identify the product that the comment related to.
04	Description	String	Content of comment. The content depend on user; it may be the opinion, complain, idea... of the user about the store, product.
05	StoreId	int	This is the foreign key from Store table; it is used to identify the store that the comment related to.
06	ProductName	String	The name of the product that comment concern.
07	DatePosted	String	The date user posts comment.
08	StoreName	String	The name of the store that comment concern.

#### **4.4.5.3.3. *PromotionEntity Class***

Represent a promotion instance in the database. This entity contains all the details information about promotion.

##### **4.4.5.3.3.1. Attributes**

No	Parameters	Type	Description
01	ProductId	int	This is the foreign key from Product table; it is used to identify the product that the comment related to.
02	StoreId	int	This is the foreign key from Store table; it is used to identify the store that the comment related to.
03	FromDate	String	The day specifies the promotion begin.
04	ToDate	String	The day that the promotion is expired.
05	Detail	String	Describe detail information of the promotion: product, store, policy...

#### **4.4.5.3.4. *FeedBackEntity Class***

Represent a feedback instance in the database. Users send feedback to the store to express their opinion about products, services that the store provided.

##### **4.4.5.3.4.1. Attributes**

No	Parameters	Type	Description
01	FeedbackId	int	This attribute is set to be unique, and used to indentify feedback that posted.
02	CreateDate	String	The day that the feedback is create.
03	ResponseDate	String	The day that the store response to user about the feedback content.
04	Content	String	Detail information that user want to send to the store.
05	UserId	int	This property is used to identify the user send feedback.
06	StoreId	int	This property is used to identify the store that is destination of the feedback.
07	StoreName	String	The name of the store receives the feedback.

#### **4.4.5.3.5. OrderHistoryEntity Class**

Represent an order history instance in the database. Customers may view the details of past orders.

##### **4.4.5.3.5.1. Attributes**

No	Parameters	Type	Description
01	UserId	Int	This property is used to identify the user making transaction.
02	OrderDate	String	The day the transaction is made.
03	ProductName	String	The name of the product that user ordered.
04	ProductId	Int	This is the foreign key from Product table; it is used to identify the product that user ordered.
05	Price	double	This property is used to identify the price of each product.
06	Quantity	Int	This property is used to identify the number of the product that user ordered.
07	StoreId	Int	This property is used to identify the store that user making transaction.
08	StoreName	String	The name of the store that user making transaction.

#### **4.4.5.3.6. FavoriteEntity Class**

Represent a favorite instance in the database. Customers may have interested in some product and would like to keep track information of these products.

##### **4.4.5.3.6.1. Attributes**

No	Parameters	Type	Description
01	UserId	Int	This property is used to identify the user has interested in products.
02	ProductId	Int	This is the foreign key from Product table; it is used to identify the product is marked favorite.

#### **4.4.5.3.7. AccountServiceImpl Class**

This class provides and implements all service that used in account management.

##### **4.4.5.3.7.1. Attributes:**

No	Parameters	Type	Description
01	AccountFeedbackEntity	Object	Represent a feedback instance in the database.
02	AccountPromotionEntity	Object	Represent a promotion instance in the database.
03	AccountEntity	Object	Represent a account instance in the database.
04	AccountCommentEntity	Object	Represent a comment instance in the database.
05	AccountOrderHistoryEntity	Object	Represent a order history instance in the database.
06	AccountFavorite	Object	Represent a favorite instance in the database.

#### **4.4.5.3.8. IAccountService Class**

This is an interface provide all service that used in account management. These methods in this interface are implemented by class AccountServiceImpl.

##### **4.4.5.3.8.1. Attributes:** None

##### **4.4.5.3.8.2. Methods:**

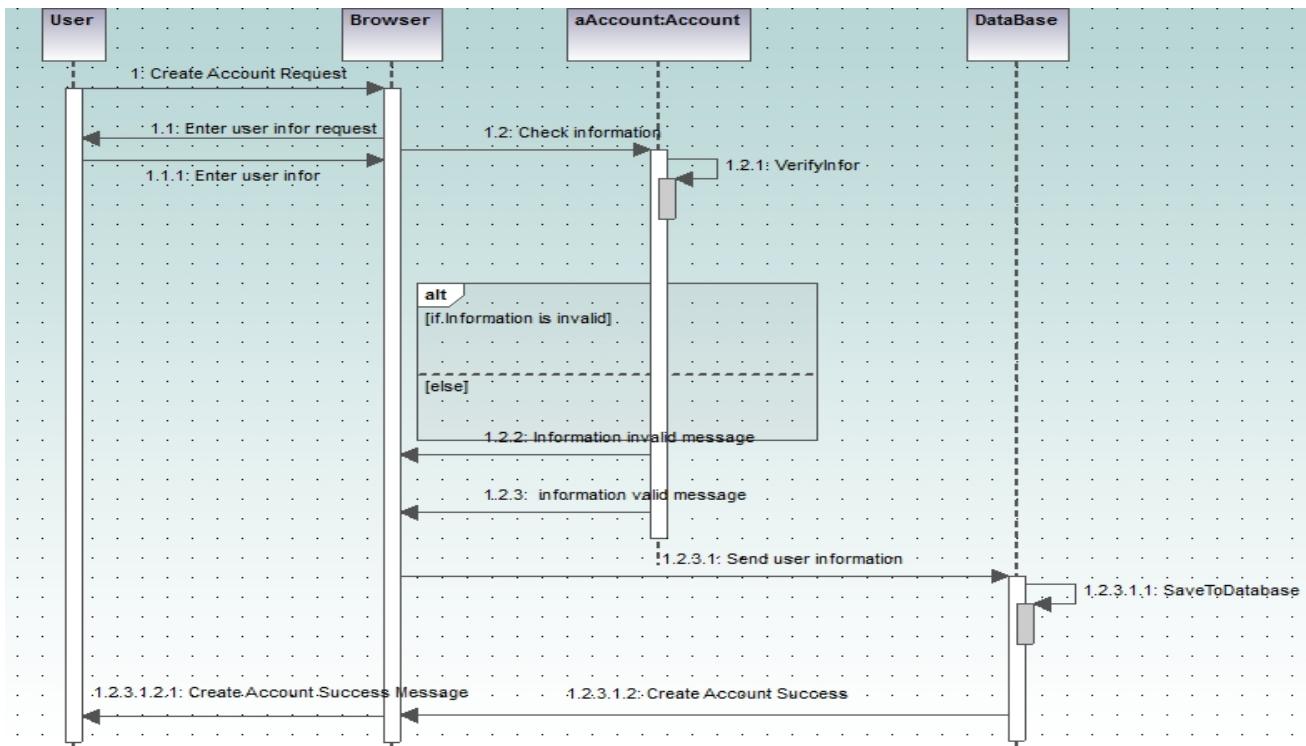
###### **4.4.5.3.8.2.1. Method CreateAccount**

**Purpose:** Create a new account for user.

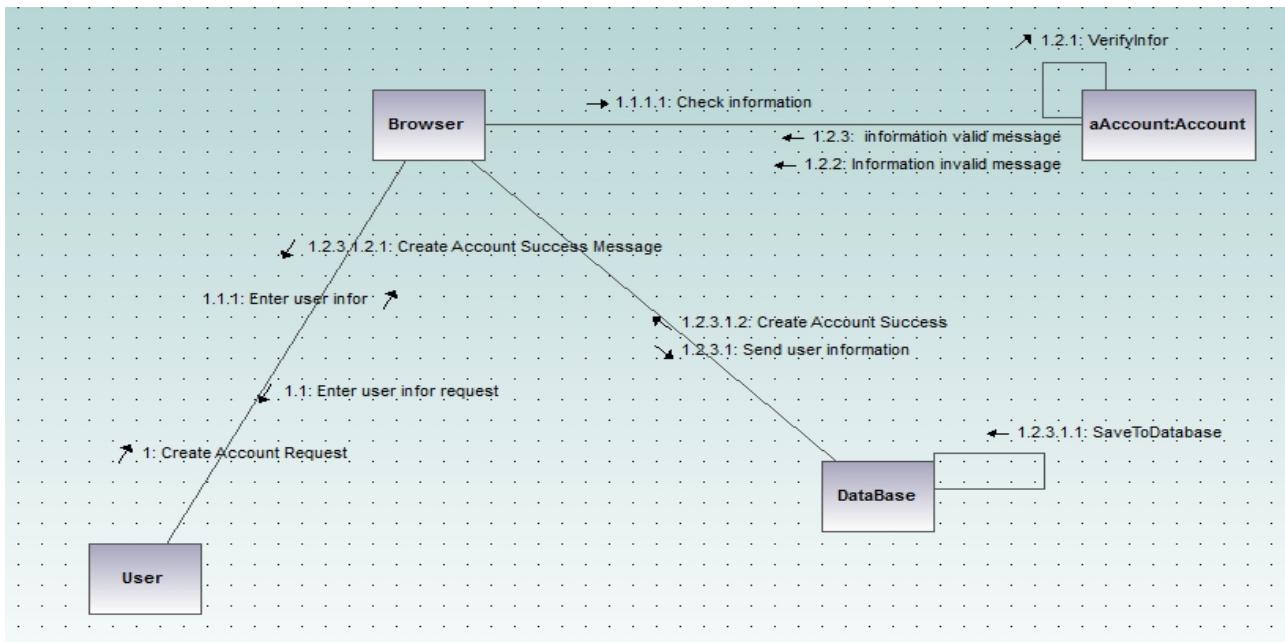
**Parameters & return:**

No	Parameters	Type	Description
01	Account	Object	Account information
	<return>accounted	String	The account reference for use in the Synergy applications.

**Sequence Diagram:**

***Figure 4.90:*** Create Account Sequence Diagram

### Collaboration diagram

***Figure 4.91:*** Create Account Collaboration Diagram

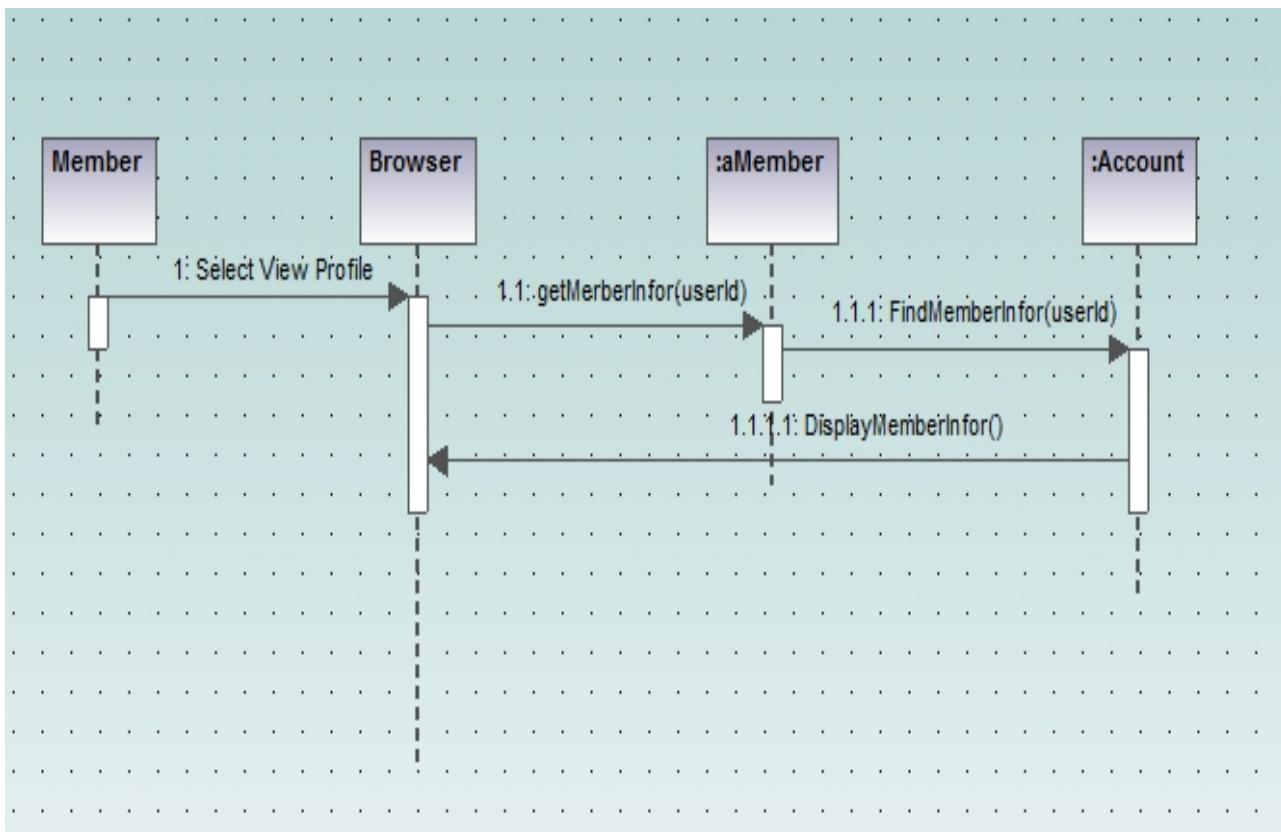
#### 4.4.5.3.8.2.2. Method getProfile

**Purpose:** Retrieves all of the details for the specified account.

**Parameter & return:**

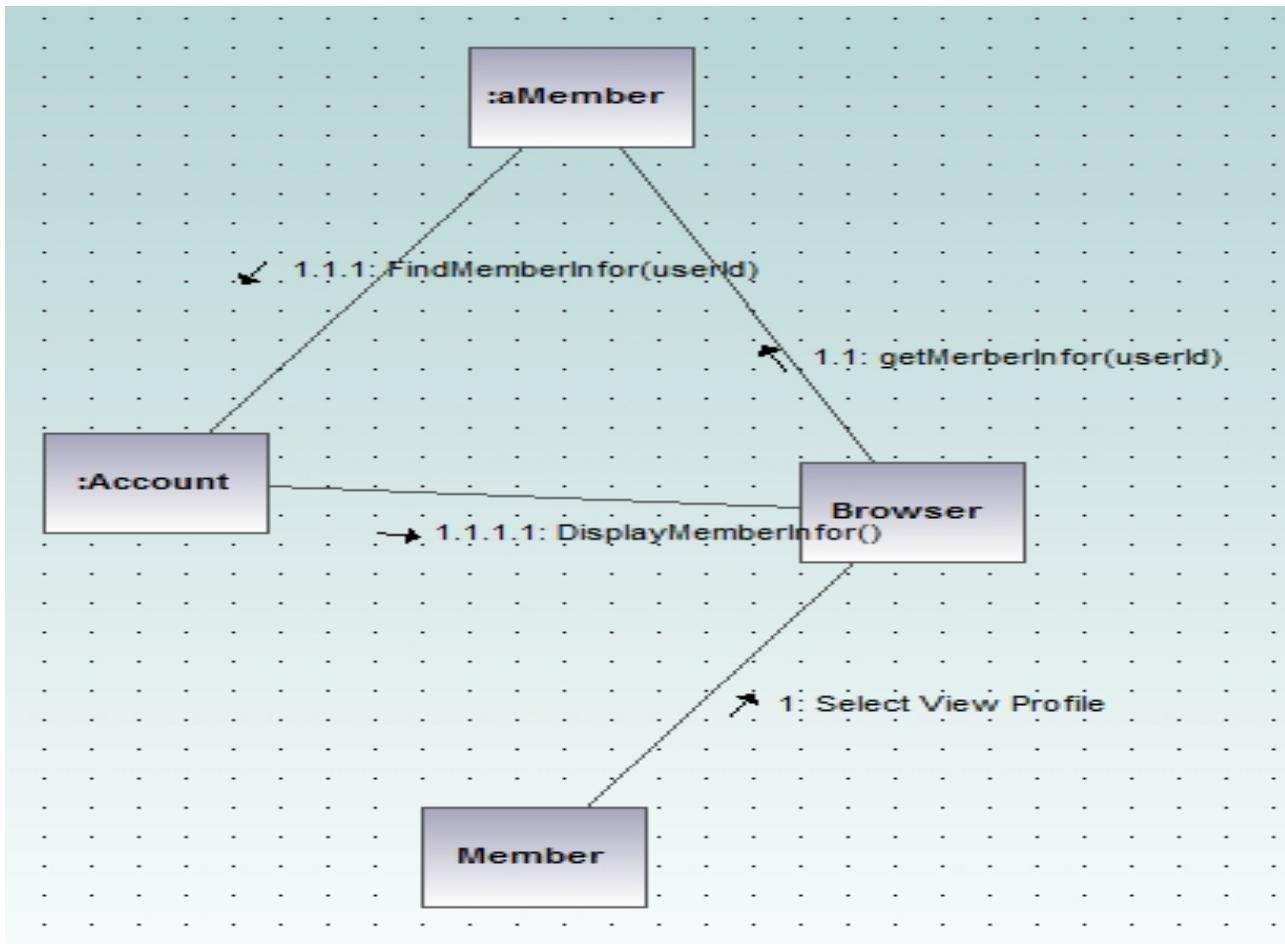
No	Parameters	Type	Description
01	AccountId	Int	The account reference for use in the Synergy applications.
	<Return>account	Object	Account information

### Sequence Diagram



**Figure 4.92:** Get Profile Sequence Diagram

### Collaboration diagram

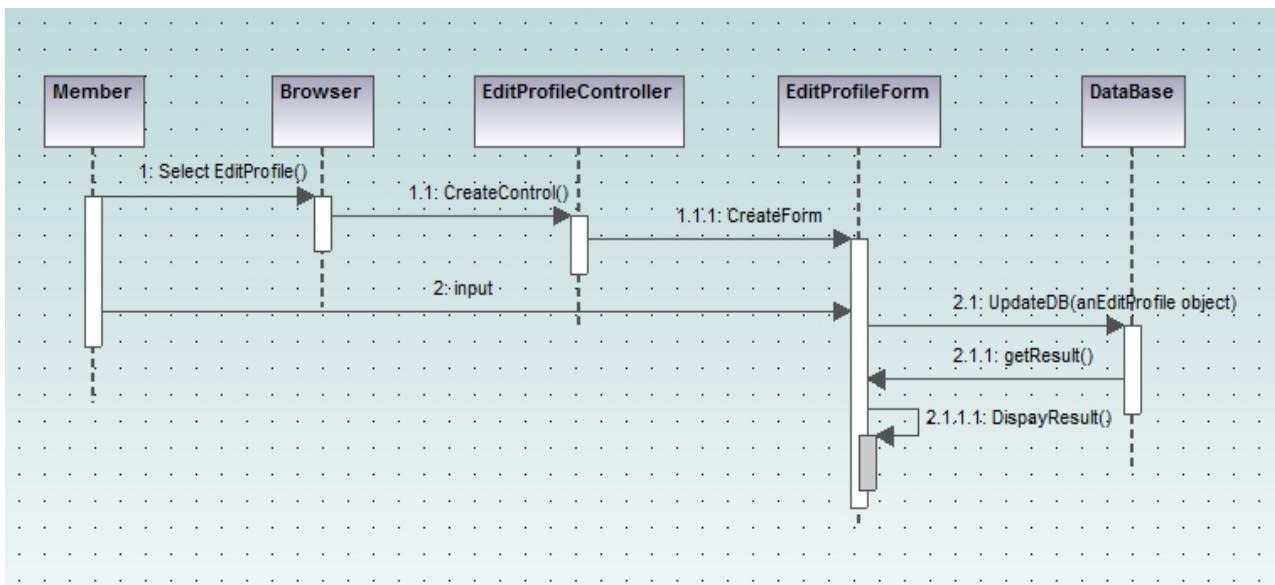
**Figure 4.93:** Get Profile Collaboration Diagram**4.4.5.3.8.2.3. Method editProfile**

**Purpose:** Updates the account with only the changed properties that are included in the parameters object.

**Parameter & return:**

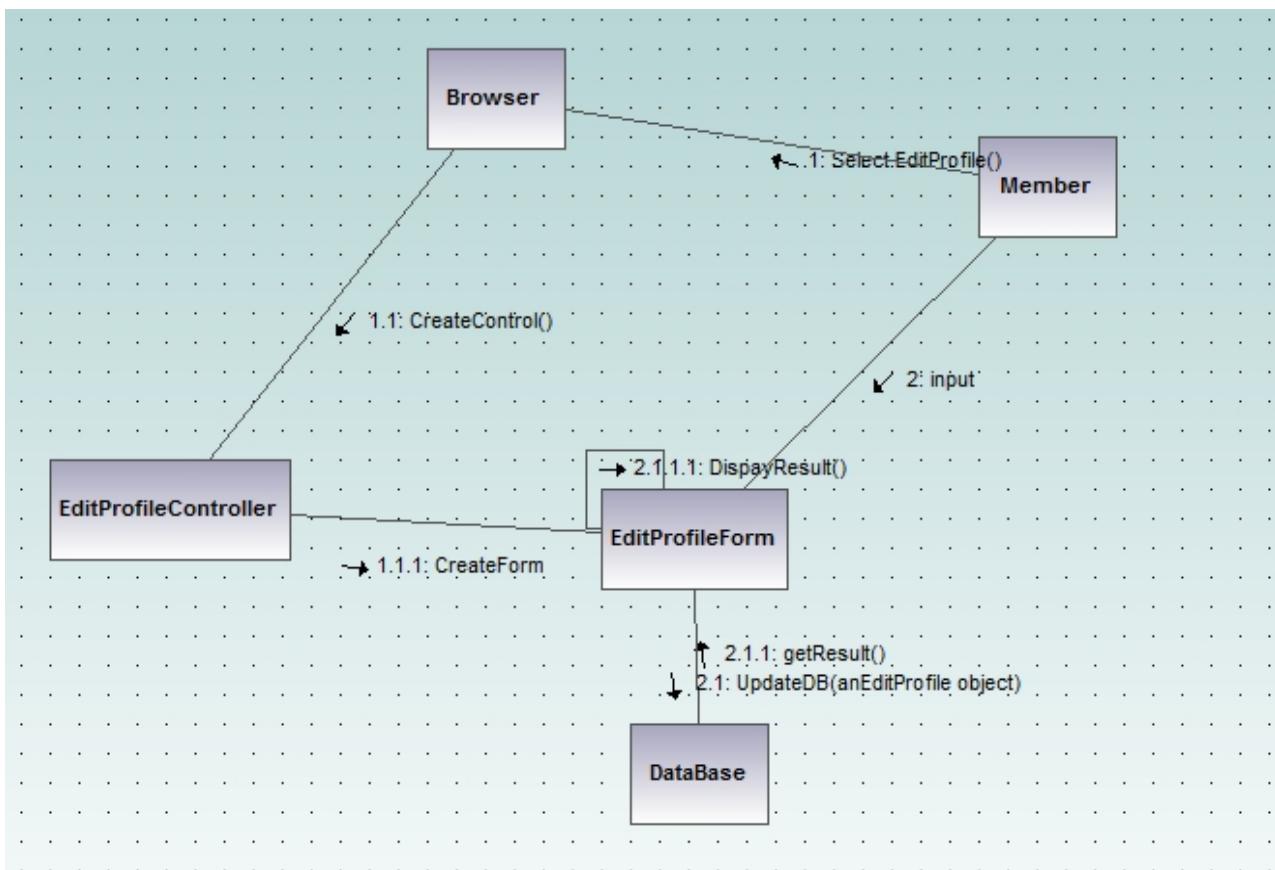
No	Parameters	Type	Description
01	AccountId	Int	The account reference for use in the Synergy applications.
02	UserName	String	The displayable account name.
	<Return>accounted	String	Account reference for use in the Synergy applications

### Sequence diagram:



**Figure 4.94:** Edit Profile Sequence Diagram

### Collaboration diagram



**Figure 4.95:** Edit Profile Collaboration Diagram

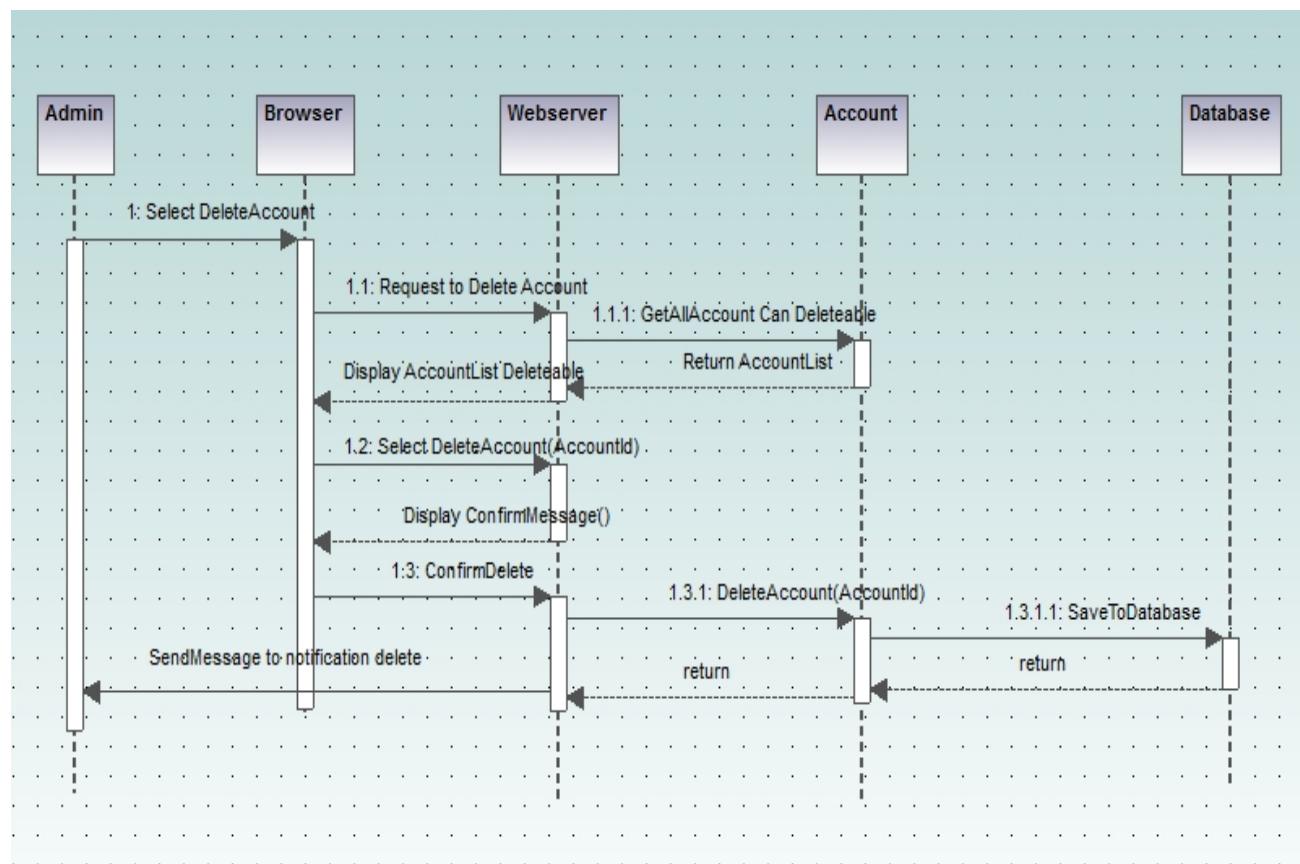
#### 4.4.5.3.8.2.4. Method deleteAccount

**Purpose:** Deletes the account, credentials, and associated data. The data type's parameter can be passed to only delete certain types of data from the account.

**Parameter & return:**

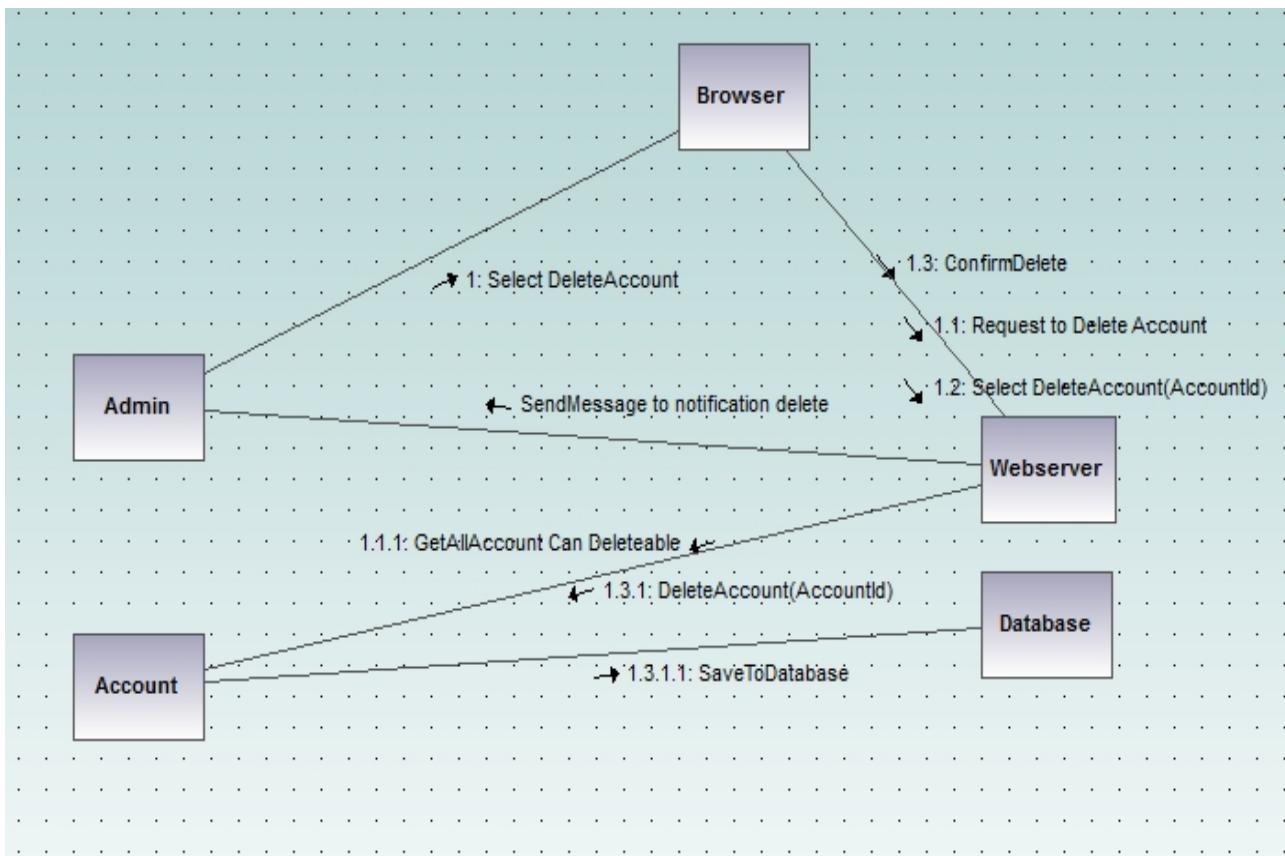
No	Parameters	Type	Description
01	AccountId	Int	Account reference for use in the Synergy applications
	<Return>returnValue	Boolean	Indicates whether deletion was completed successfully.

**Sequence diagram:**



**Figure 4.96:** Delete Account Sequence Diagram

## Collaboration diagram



**Figure 4.97:** Delete Account Collaboration Diagram

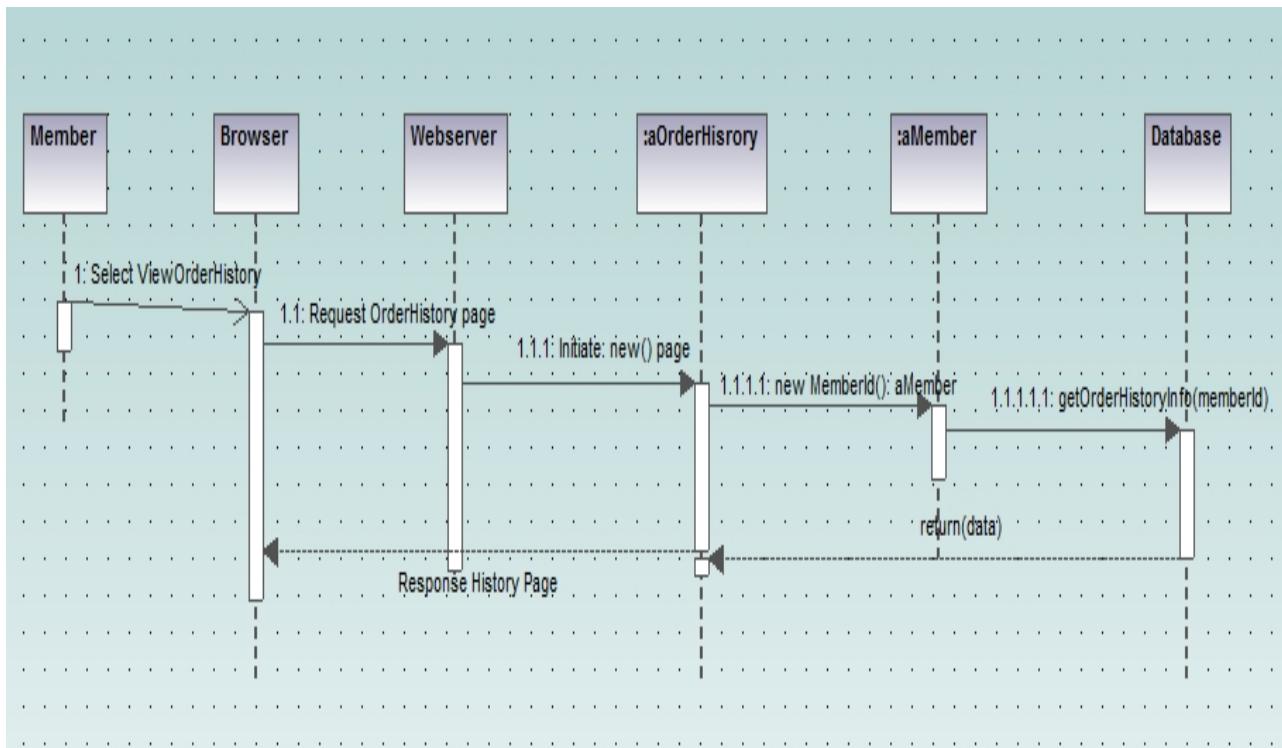
### 4.4.5.3.8.2.5. Method viewOrderHistoryDetail

**Purpose:** view detail of one specific order that user made in the past.

**Parameter & return:**

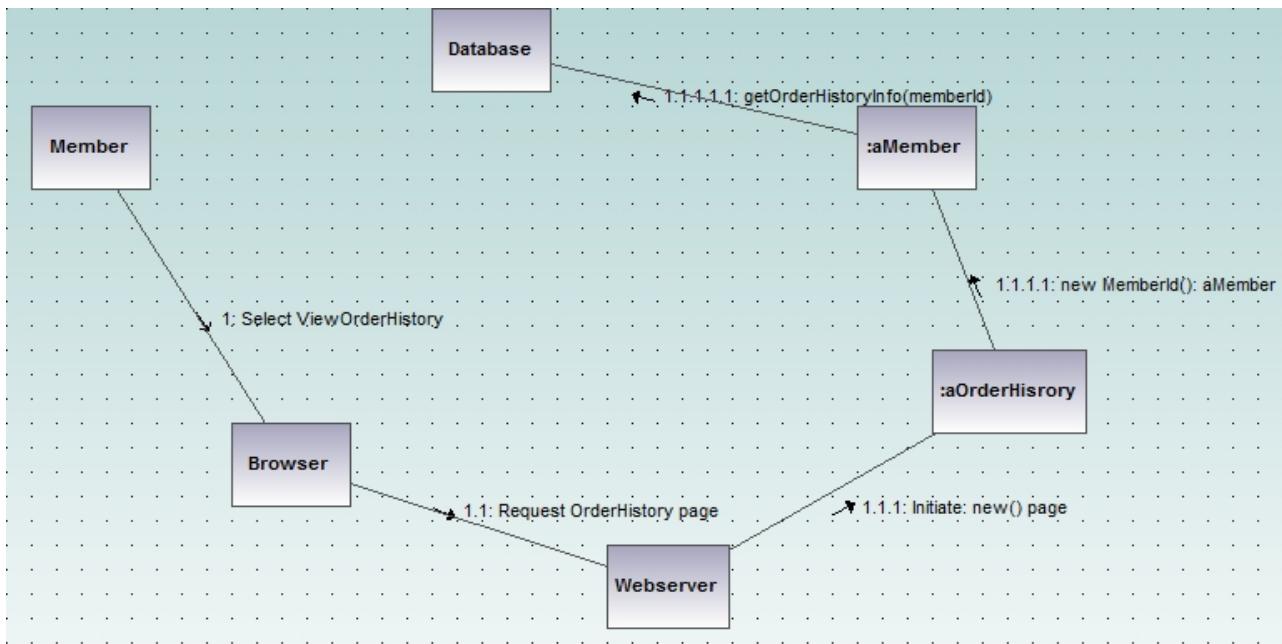
No	Parameters	Type	Description
01	AccountId	Int	Account reference for use in the Synergy applications.
	<Return>oderDetail	Object	Order information in detail.

### Sequence diagram:



**Figure 4.98:** View Order History Details Sequence Diagram

### Collaboration diagram



**Figure 4.99:** View Order History Details Collaboration Diagram

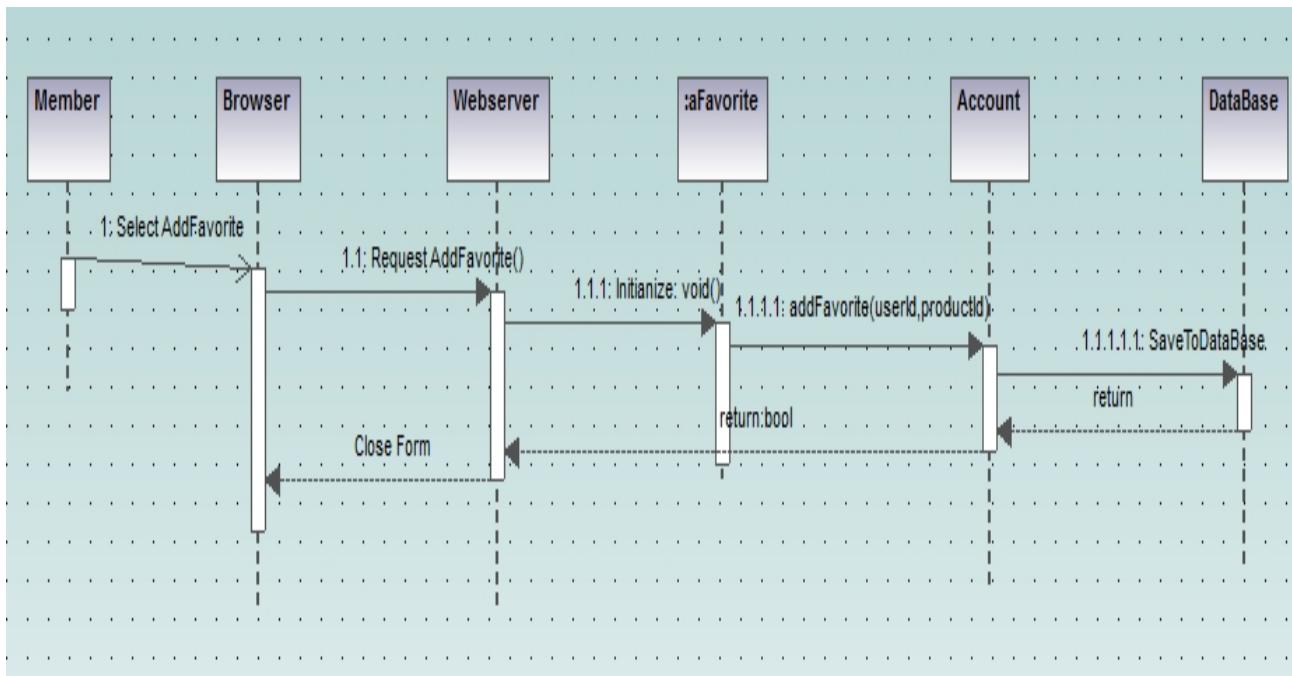
#### 4.4.5.3.8.2.6. Method addFavorite

**Purpose:** Add product into favorite list that user is interested in.

**Parameter & return:**

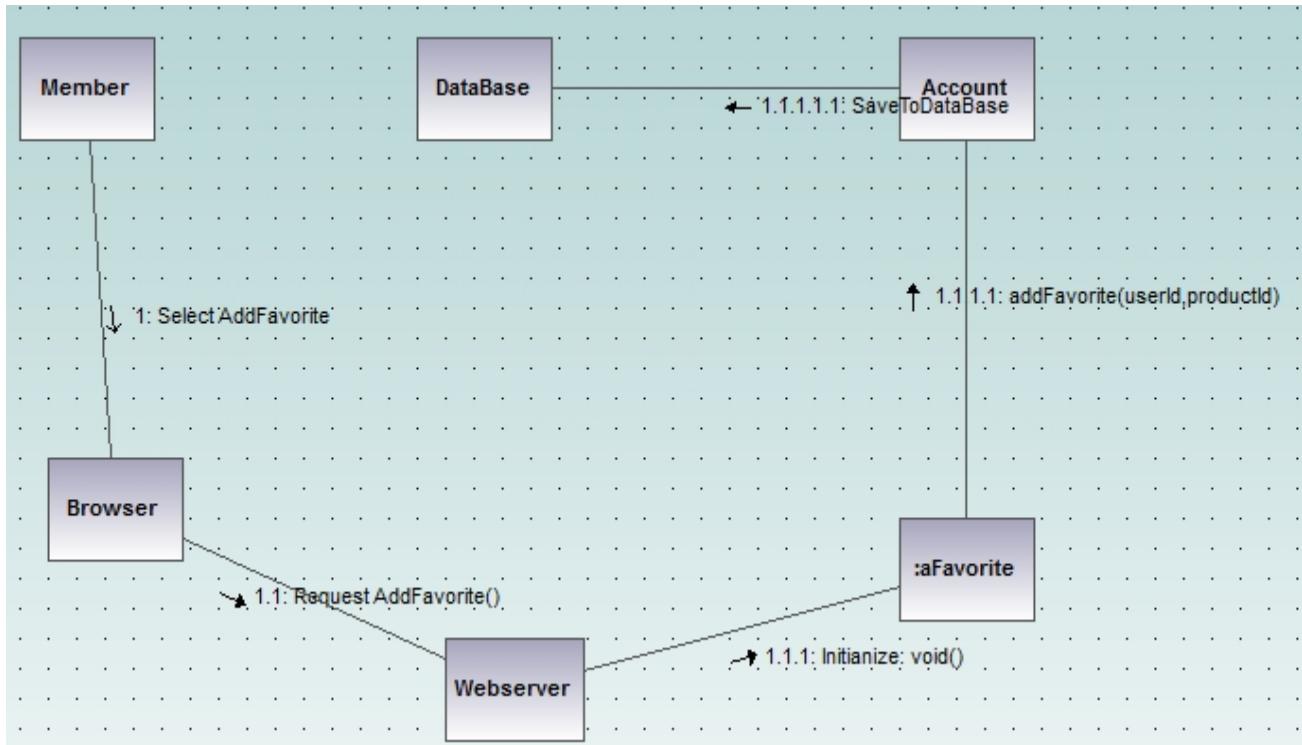
No	Parameters	Type	Description
01	AccountId	int	Account reference for use in the Synergy applications.
02	productId	int	The key to specify product that user concern.
	<Return>product	object	Product that user want to keep track.

**Sequence diagram:**



**Figure 4.100:** Add Favorite Sequence Diagram

## Collaboration diagram



**Figure 4.101:** Add Favorite Collaboration Diagram

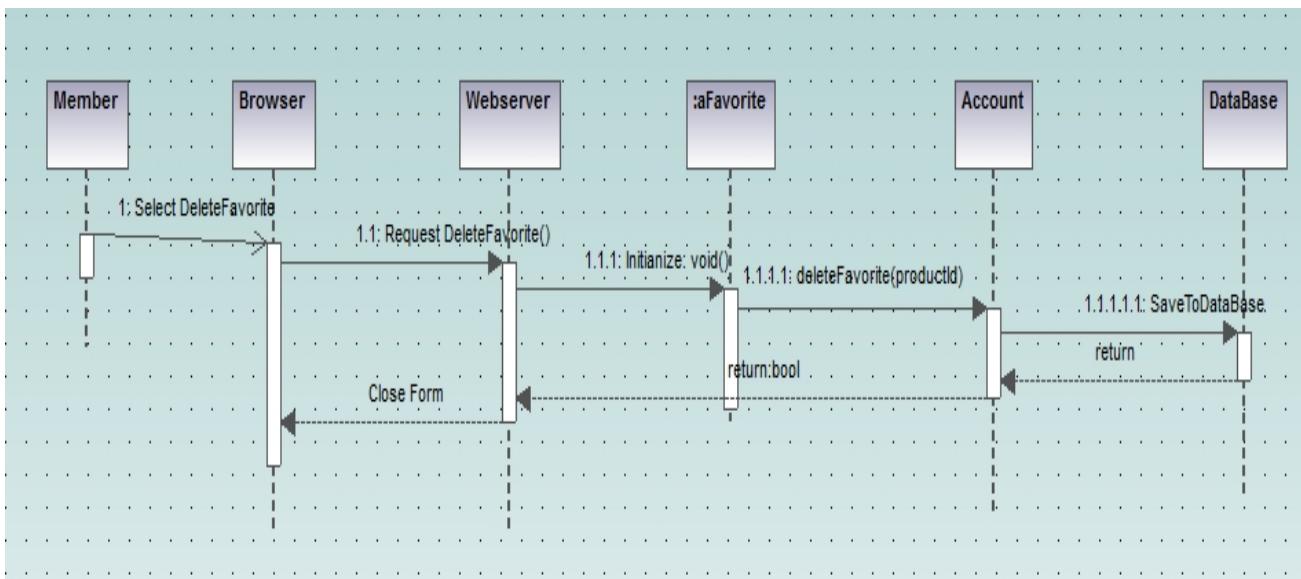
### 4.4.5.3.8.2.7. Method deleteFavorite

**Purpose:** delete product in favorite product list.

**Parameter & return:**

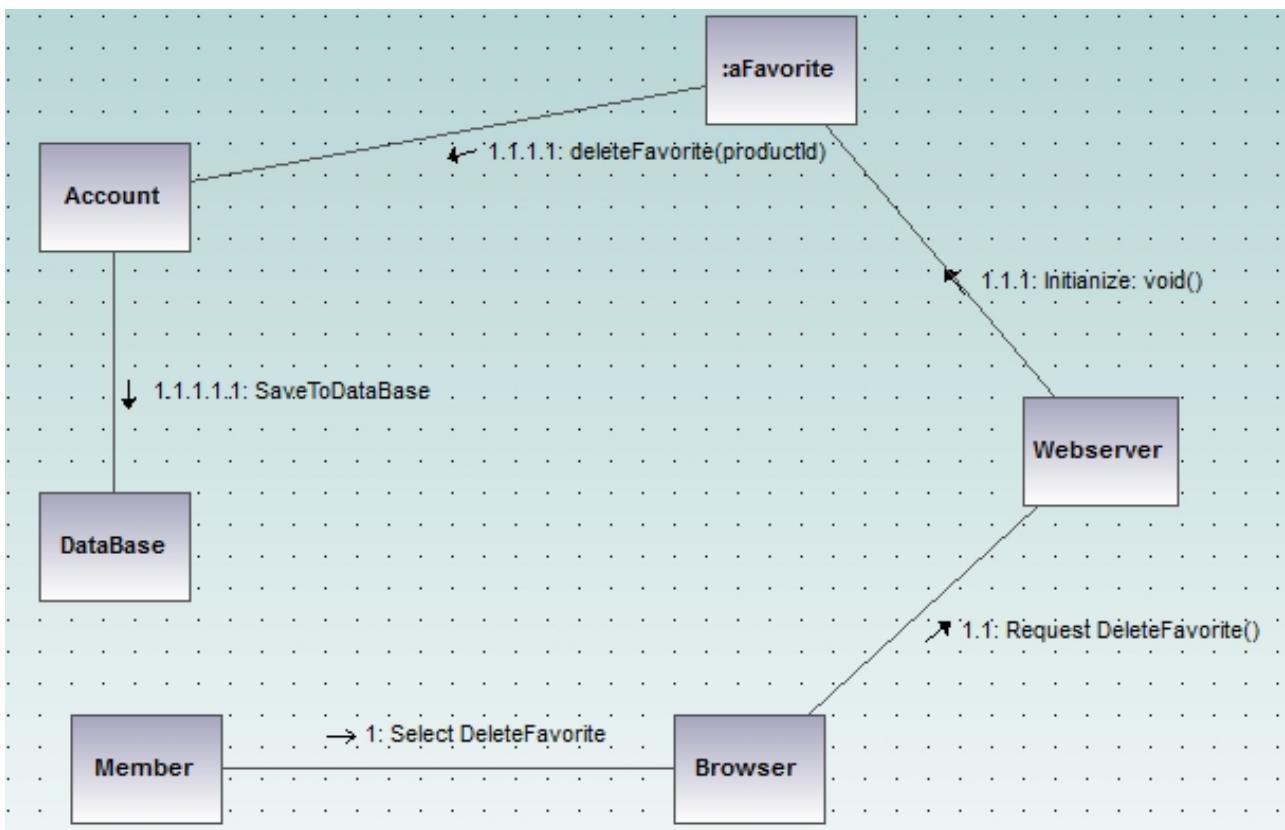
No	Parameters	Type	Description
01	AccountId	int	Account reference for use in the Synergy applications.
02	productId	int	The key to specify product that user concern.
	<Return>returnValue	Boolean	Indicates whether deletion was completed successfully.

### Sequence diagram:



**Figure 4.102:** Delete Favorite Sequence Diagram

### Collaboration diagram



**Figure 4.103:** Delete Favorite Collaboration Diagram

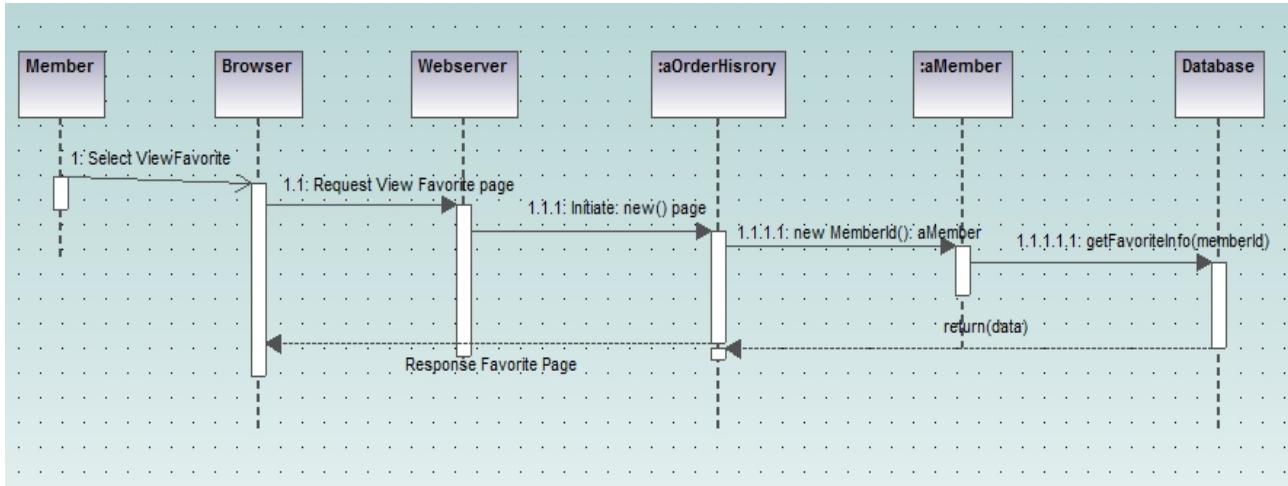
#### 4.4.5.3.8.2.8. Method viewFavorite

**Purpose:** View all favorite in favorite products list.

**Parameter & return:**

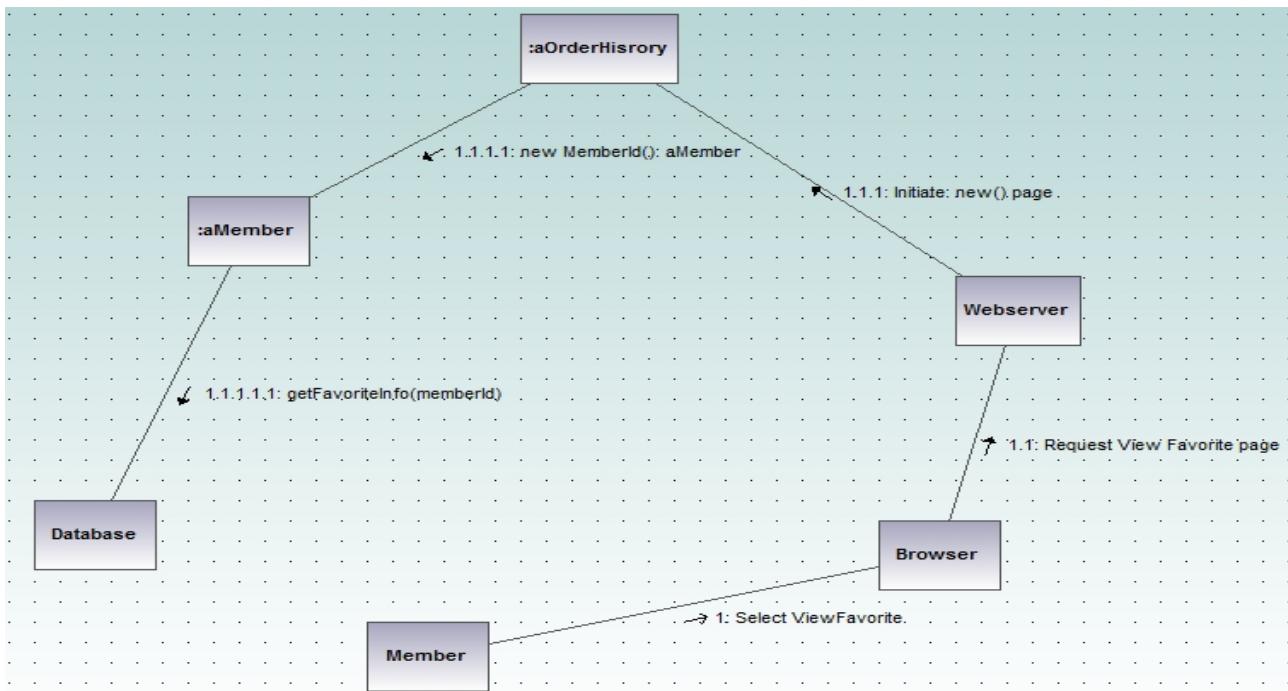
No	Parameters	Type	Description
01	AccountId	int	Account reference for use in the Synergy applications.
	<Return>	array	List of favorite products object.

**Sequence diagram:**



**Figure 4.104:** View Favorite Sequence Diagram

**Collaboration diagram**



**Figure 4.105:** View Favorite Collaboration Diagram

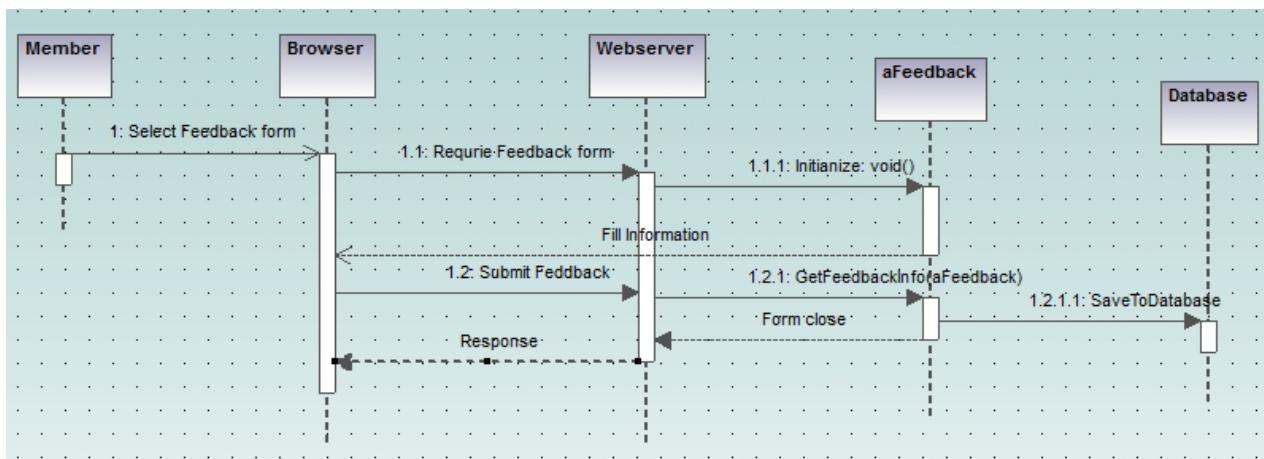
#### 4.4.5.3.8.2.9. Method createFeedback

**Purpose:** create a feedback to a specific store to give opinion about products or services.

**Parameter & return:**

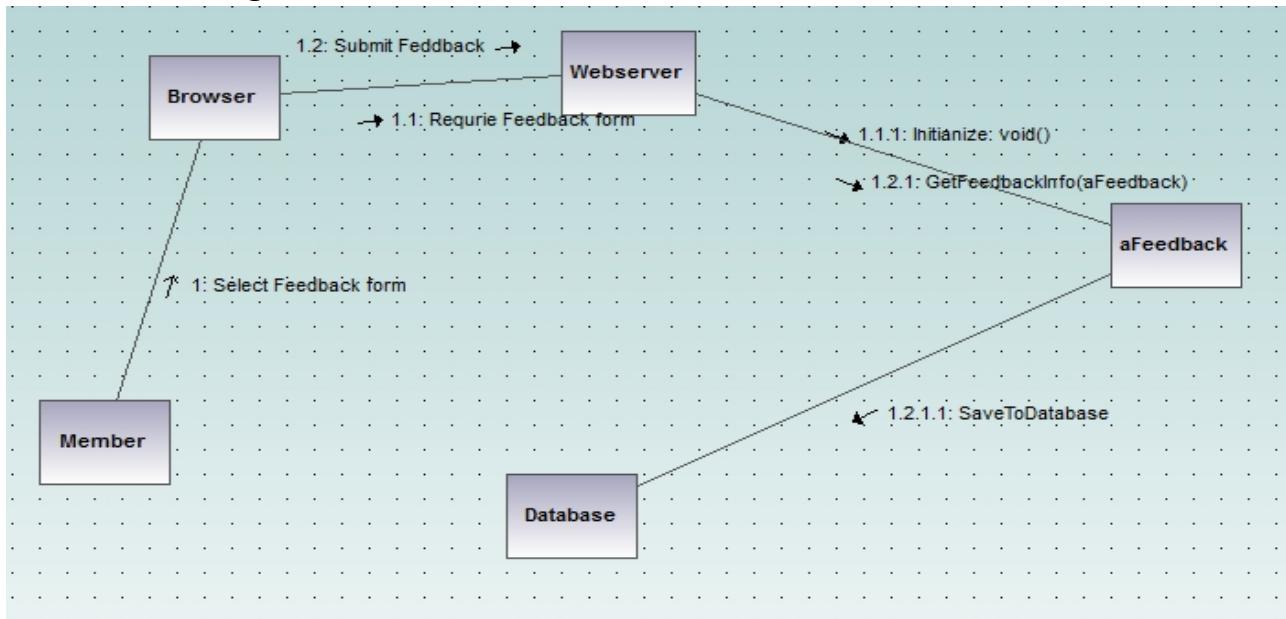
No	Parameters	Type	Description
01	AccountId	int	Account reference for use in the Synergy applications.
02	StoreId	int	The id specify the store that user want to send feedback to.
	<Return>feedback	object	Contain detail information of the feedback.

**Sequence diagram:**



**Figure 4.106:** Create Feedback Sequence Diagram

**Collaboration diagram**



**Figure 4.107:** Create Feedback Collaboration Diagram

#### 4.4.5.3.8.2.10. Method getPromotionInfo

**Purpose:** This method is used to get information about promotion about products of stores.

**Parameter & return:**

No	Parameters	Type	Description
01	AccountId	int	Account reference for use in the Synergy applications.
	<Return>promotion	object	Contain detail information of the promotion.

#### 4.4.5.3.8.2.11. Method postComment

**Purpose:** This method is used to post comment about products, services of store.

**Parameter & return:**

No	Parameters	Type	Description
01	AccountId	int	Account reference for use in the Synergy applications.
	<Return>comment	object	Contain detail information of the comment.

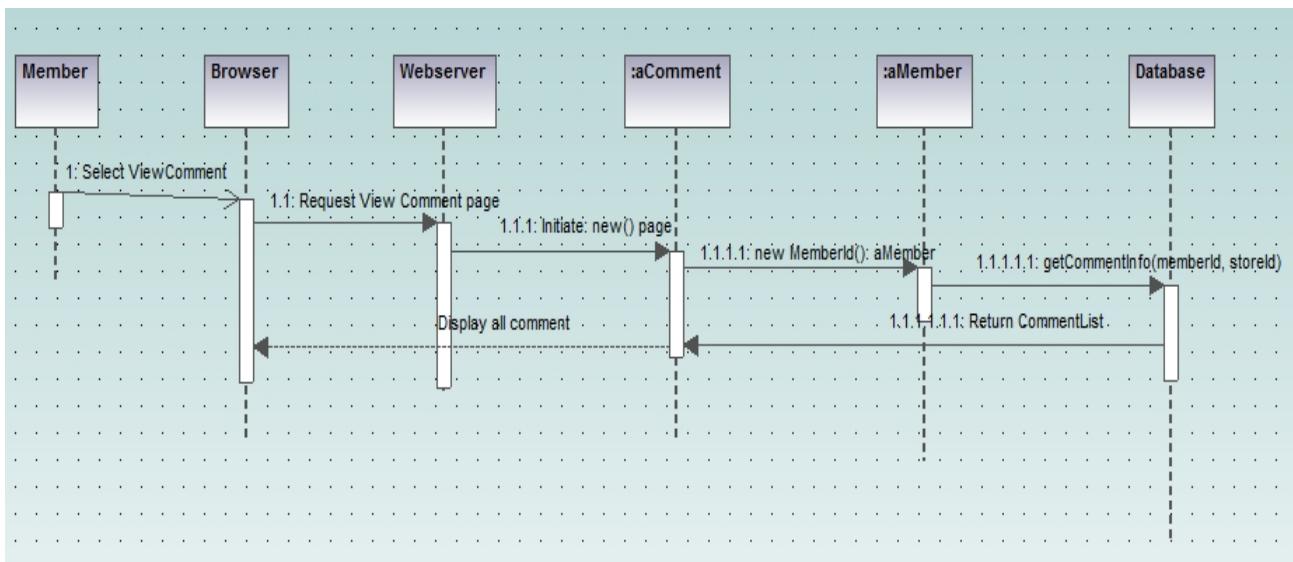
#### 4.4.5.3.8.2.12. Method getComment

**Purpose:** This method is used to get comment about products, services of store or comment about store.

**Parameter & return:**

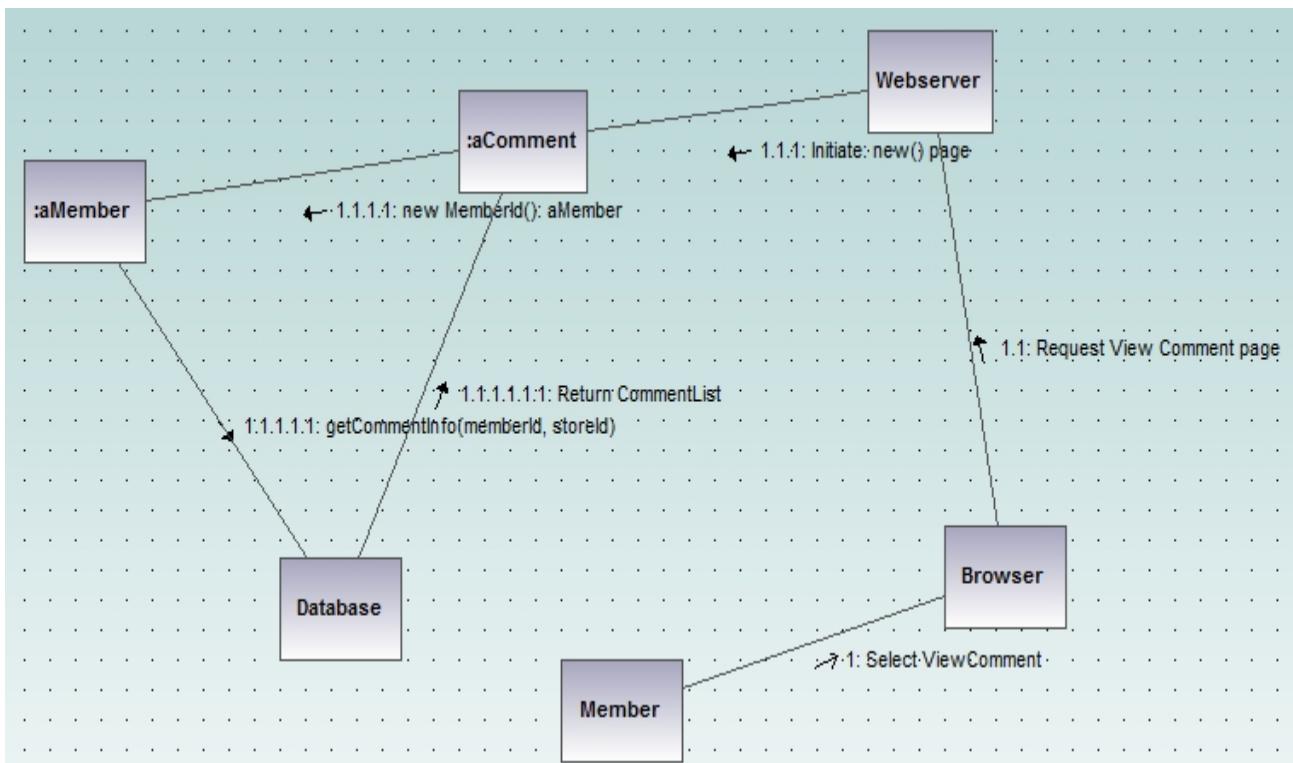
No	Parameters	Type	Description
01	StoreId	int	Store reference for use in the Synergy applications.
	<Return>comment	object	Contain detail information of the comment.

### Sequence Diagram:



**Figure 4.108:** Get Comment Sequence Diagram

### Collaboration Diagram:



**Figure 4.109:** Get Comment Collaboration Diagram

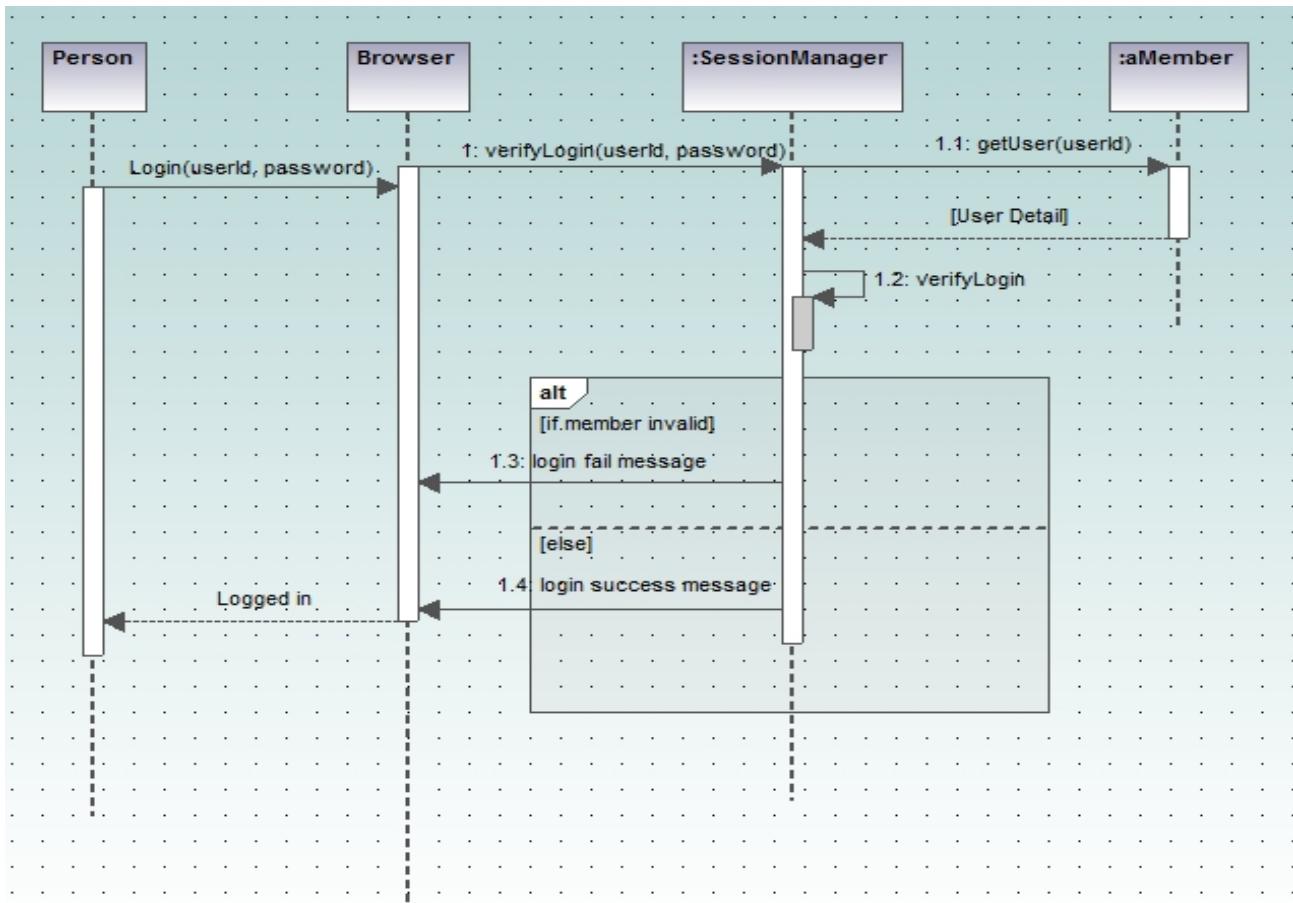
#### 4.4.5.3.8.2.13. Method Login

**Purpose:** These functions will log in a user based on a username and password being matched in database.

**Parameter & return:**

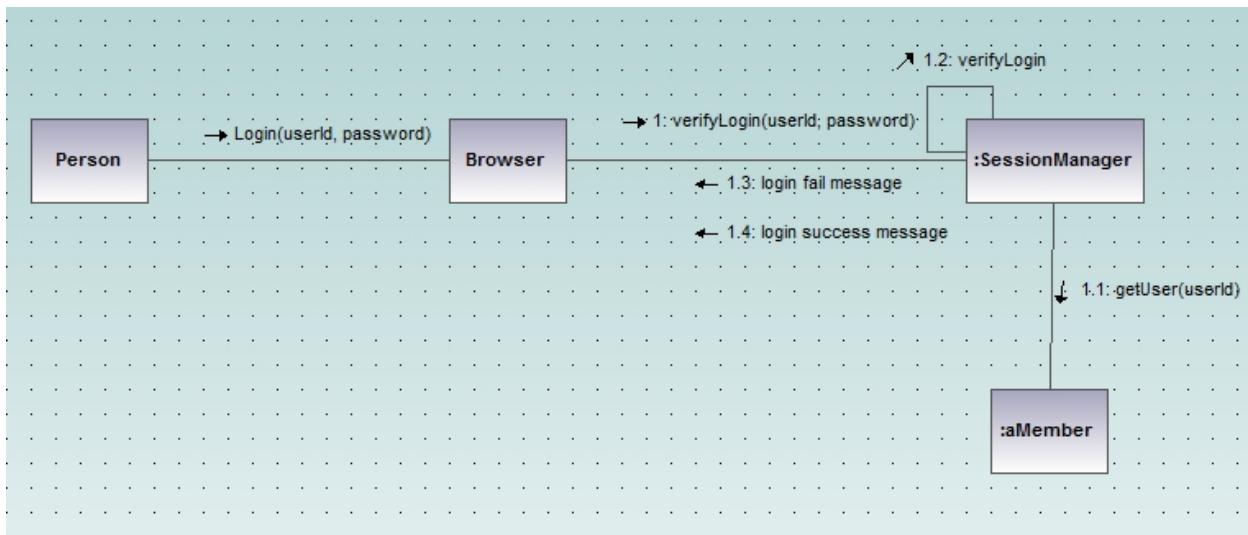
No	Parameters	Type	Description
01	UserName	string	A name used to gain access to a system that user select when creates account.
02	password	string	A secret word or string of characters that is used for authentication, to prove identity or gain access to a resource
	<Return>	Boolean	Indicates whether login was completed successfully.

**Sequence Diagram:**



**Figure 4.110:** Login Sequence Diagram

### Collaboration Diagram:



**Figure 4.111:** Login Collaboration Diagram

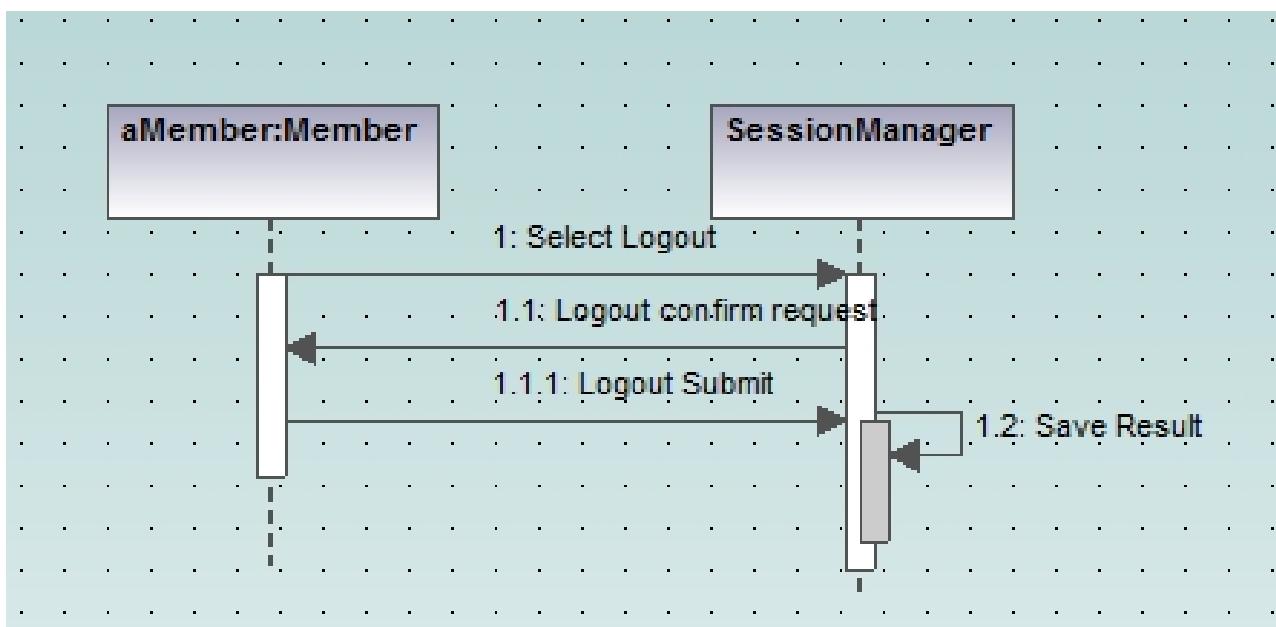
#### 4.4.5.3.8.2.14. Method Logout

**Purpose:** Signing out and exiting from website system.

**Parameter & return:**

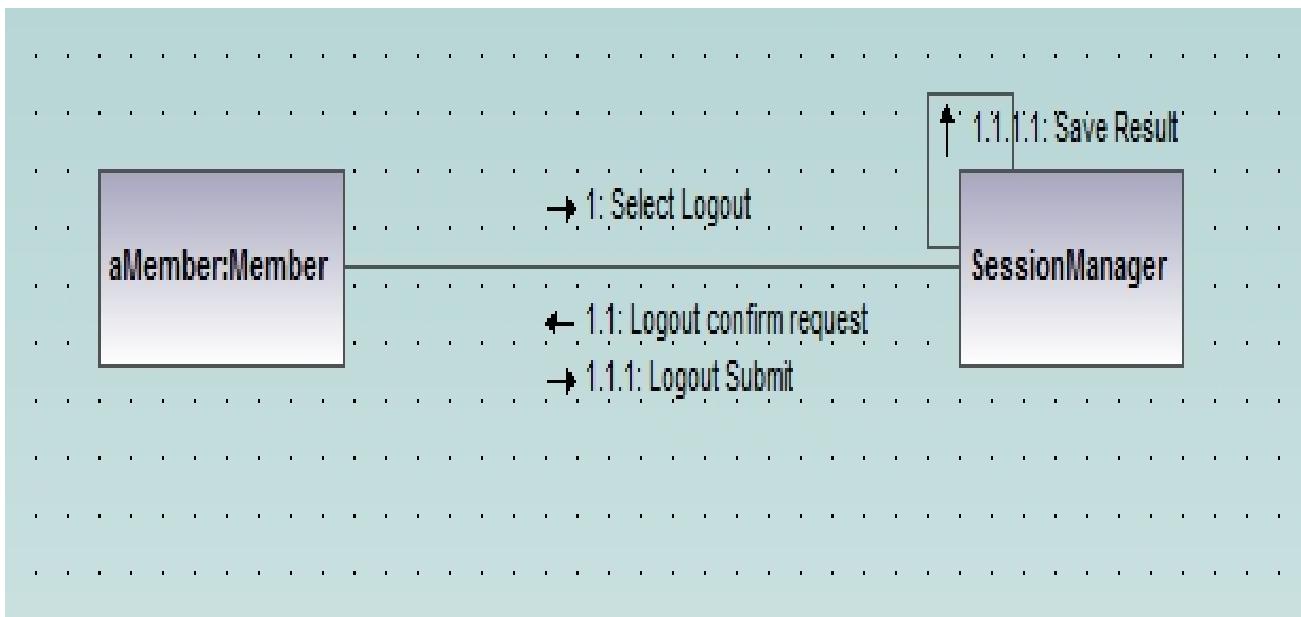
No	Parameters	Type	Description
	<Return>	Boolean	Indicates whether logout was completed successfully.

### Sequence Diagram



**Figure 4.112:** Logout Sequence Diagram

## Collaboration Diagram



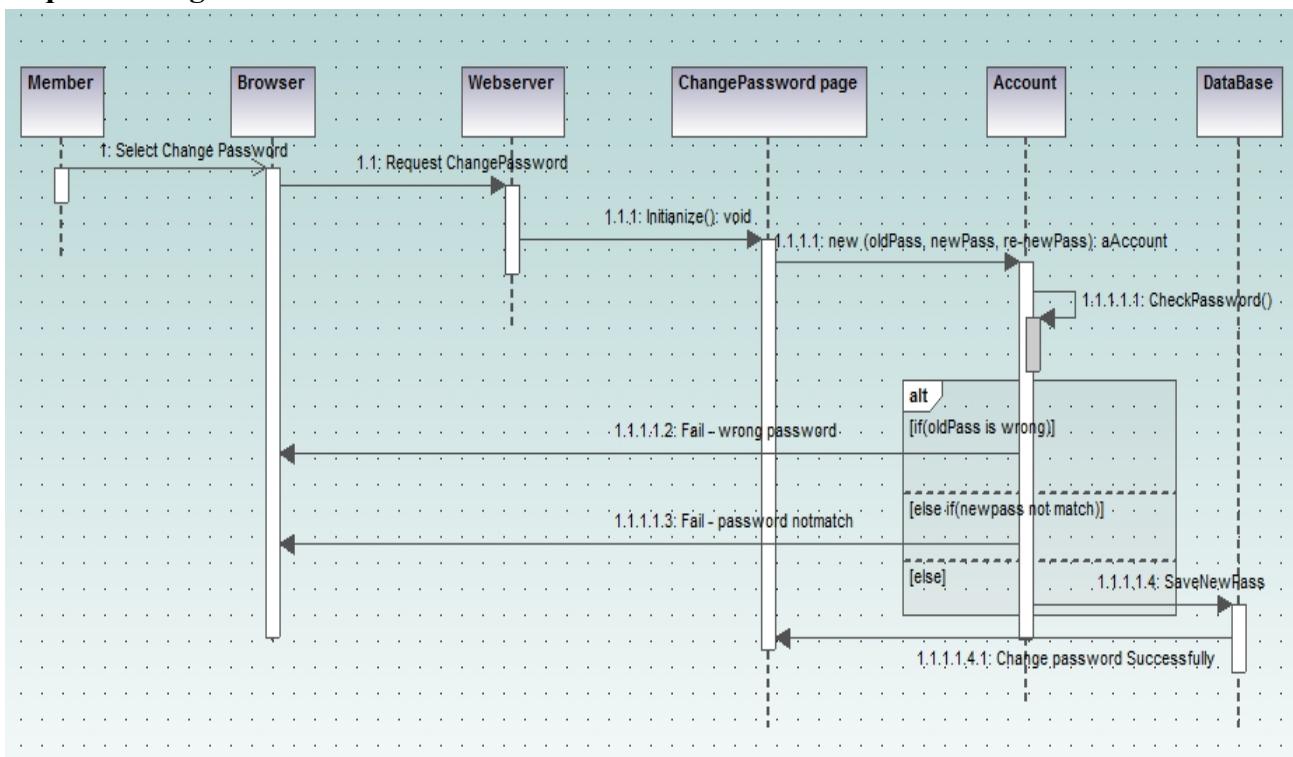
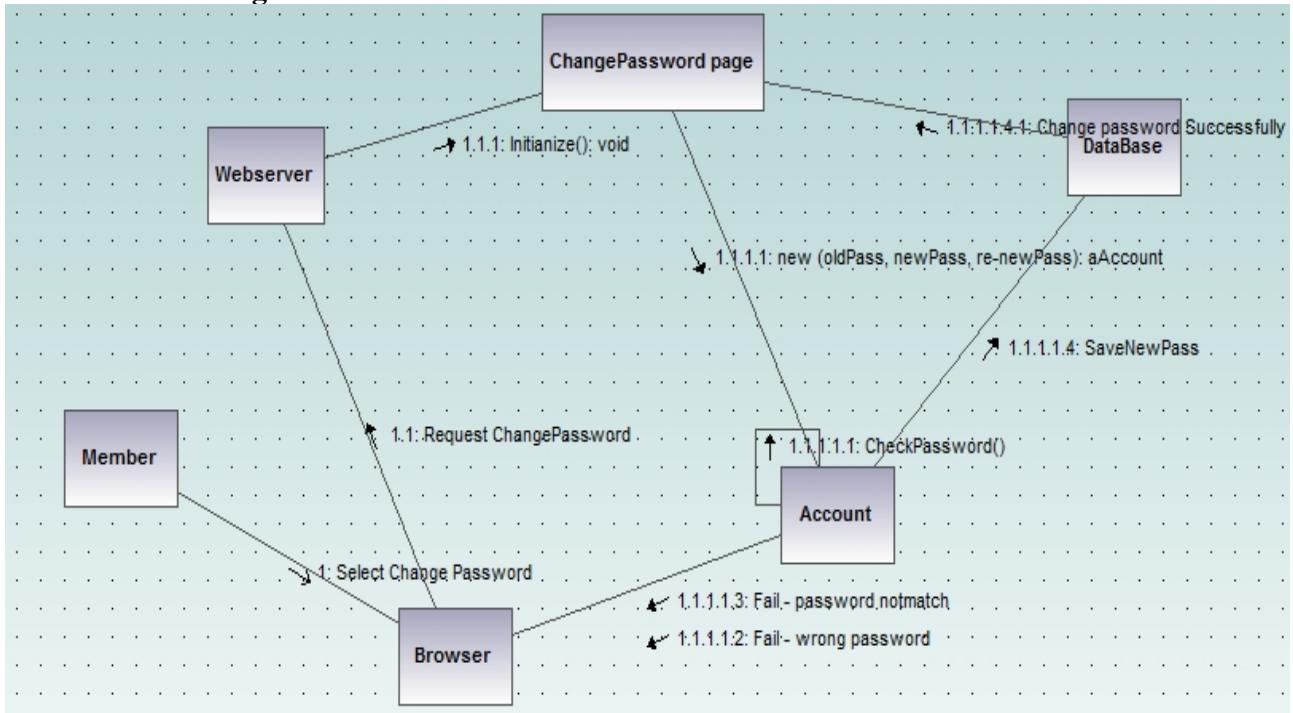
**Figure 4.113:** Logout Collaboration Diagram

### 4.4.5.3.8.2.15. Method changePassword

**Purpose:** This method is used change password to increase secure of the account.

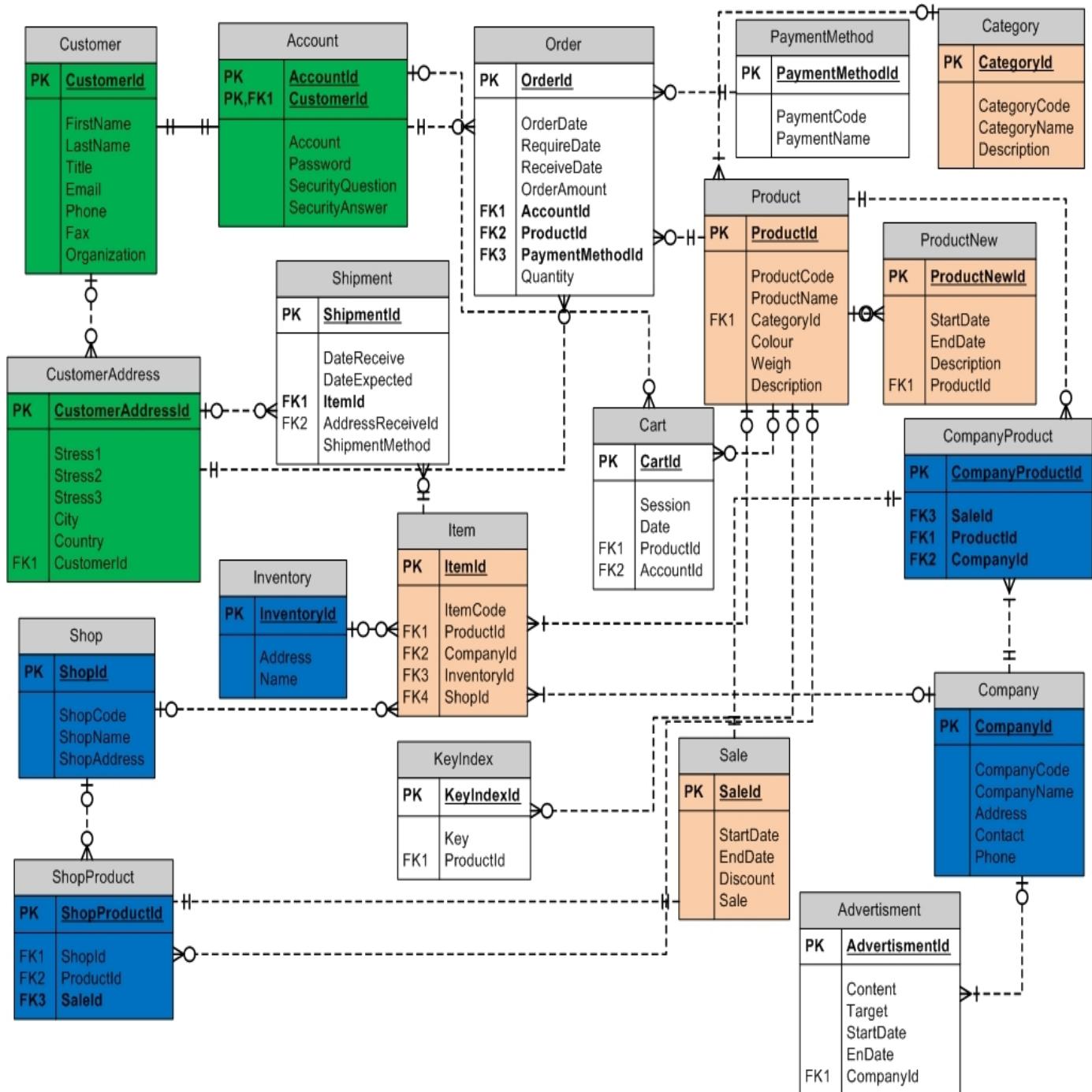
**Parameter & return:**

No	Parameters	Type	Description
01	userName	String	Account reference for use in the Synergy applications.
02	oldPassword	String	Old password of the user.
03	newPassword	String	The pass that user want to use.
04	Re-newPassword	String	The pass that user want to use.
	<Return>Result	Boolean	Indicates whether change password was completed successfully.

**Sequence Diagram:****Figure 4.114:** Change Password Sequence Diagram**Collaboration Diagram:****Figure 4.115:** Change Password Collaboration Diagram

## 4.5. Database Design or Data Structures

### 4.5.1. Detailed database design for "GoodsWay" system



**Figure 4.116:** Detailed database design for "GoodsWay" system

Chapter: 4.5.

#### **4.5.2. Table and columns description and explanation**

##### **4.5.2.1. Table “Customer”**

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	CustomerId	uniqueidentifier		PK	NO		Unique identifier of customer
2	FirstName	nvarchar	255		NO		First name
3	LastName	nvarchar	255		NO		Last name
4	Title	nvarchar	10		YES		Title
5	Email	varchar	255		NO		Email, must be a real one
6	Phone	varchar	10		YES		Phone
7	Fax	varchar	10		YES		Fax
8	Organization	nvarchar	255		YES		Organization or company the customer belong

**Figure 4.117:** Table “Customer” details and explanation

##### **4.5.2.2. Table “Account”**

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	AccountId	uniqueidentifier		PK	NO		Unique identifier of account
2	CustomerId	uniqueidentifier		PK, FK1	NO		
3	Account	varchar	255		NO		Login account of an user
4	Password	varchar	255		NO		Login password of an user
5	SecurityQuestion	nvarchar	255		NO		Security question, use in case user may forget password
6	SecurityAnswer	nvarchar	255		NO		Answer for the security question

**Figure 4.118:** Table “Account” details and explanation

##### **4.5.2.3. Table “Order”**

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	OrderId	uniqueidentifier		PK	NO		Unique identifier of order
2	AccountID	uniqueidentifier		FK1	NO		Unique identifier of account, FK from Account table
3	ProductID	uniqueidentifier		FK2	NO		Unique identifier of product, FK from Product table
4	PaymentMethodID	uniqueidentifier		FK3	NO		Unique identifier of PaymentMethod, FK from PaymentMethod table
5	OrderDate	DateTime	8		NO		Date of order
6	RequireDate	DateTime	8		YES		Date of shipment
7	OrderAmount	int	4		NO		Amount of order
8	Quantity	int	4		NO		Quantity of an order

**Figure 4.119:** Table “Order” details and explanation

#### 4.5.2.4. Table “PaymentMethod”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	PaymentMethodID	uniqueidentifier		PK	NO		Unique identifier of payment method
2	PaymentCode	varchar	10		NO		Code of the payment method
3	PaymentName	nvarchar	255		NO		Name of the payment method

Figure 4.120: Table “PaymentMethod” details and explanation

#### 4.5.2.5. Table “Category”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	CategoryID	uniqueidentifier		PK	NO		Unique identifier of category
2	CategoryCode	varchar	10		NO		Code of the category
3	CategoryName	nvarchar	255		NO		Name of the category
4	Description	nvarchar	255		NO		Description of the category

Figure 4.121: Table “Category” details and explanation

#### 4.5.2.6. Table “CustomerAddress”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	CustomerAddressId	uniqueidentifier		PK	NO		Unique identifier of customer address
2	CustomerId	uniqueidentifier		FK1	NO		Unique identifier of customer, FK from Customer table
3	Street1	nvarchar	255		NO		Street of the address
4	Street2	nvarchar	255		YES		Street of the address
5	Street3	nvarchar	255		YES		Street of the address
6	City	nvarchar	255		NO		City
7	Country	nvarchar	255		NO		Country

Figure 4.122: Table “CustomerAddress” details and explanation

#### 4.5.2.7. Table “Shipment”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	ShipmentId	uniqueidentifier		PK	NO		Unique identifier of shipment
2	ItemID	uniqueidentifier		FK1	NO		Unique identifier of item, FK from Item table
3	AddressReceiveID	uniqueidentifier		FK2	NO		Unique identifier of customer address, FK from CustomerAddress table
4	DateReceive	datetime	8		NO		Date of item receive
5	DateExpected	datetime	8		NO		Date of expected receive
6	ShipmentMethod	varchar	10		NO		Shipment method

Figure 4.123: Table “Shipment” details and explanation

#### 4.5.2.8. Table “Cart”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	CartId	uniqueidentifier		PK	NO		Unique identifier of cart
2	Session	nvarchar	50		NO		A object stores information of user session
3	Date	datetime	8		NO		Date create the cart
4	ProductId	uniqueidentifier		FK1	NO		Unique identifier of product, FK from Product table
5	AccountId	uniqueidentifier		FK2	NO		Unique identifier of account, FK from Account table

**Figure 4.124:** Table “Cart” details and explanation

#### 4.5.2.9. Table “Product”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	ProductId	uniqueidentifier		PK	NO		Unique identifier of product
2	ProductCode	varchar	50		NO		A unique identifier for the particular product release
3	ProductName	varchar	50		NO		The name of the product
4	CategoryID	uniqueidentifier		FK1	NO		Unique identifier of category, FK from Category table
5	Colour	varchar	50		YES		Colour of the product
6	Weight	varchar	50		YES		The weight of the product
7	Description	varchar	255		NO		Description of the product

**Figure 4.125:** Table “Product” details and explanation

#### 4.5.2.10. Table “ProductNew”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	ProductNewId	uniqueidentifier		PK	NO		Unique identifier of new product
2	StartDate	datetime	8		NO		Date product is available in the store
3	EndDate	datetime	8		NO		Date product is considered not new
4	ProductId	uniqueidentifier		FK1	NO		Unique identifier of product, FK from Product table
5	Description	varchar	255		NO		Description of the new product

**Figure 4.126:** Table “ProductNew” details and explanation

#### 4.5.2.11. Table “Shop”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	ShopId	uniqueidentifier		PK	NO		Unique identifier of a shop
2	ShopCode	varchar	50		NO		Code of the shop
3	ShopName	varchar	50		NO		The name of the shop
4	ShopAddress	varchar	50		NO		Address of the shop

**Figure 4.127:** Table “Shop” details and explanation

#### 4.5.2.12. Table “Inventory”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	InventoryId	uniqueidentifier		PK	NO		Unique identifier of inventory
2	Address	varchar	50		NO		Address of inventory
3	Name	varchar	50		NO		Name of inventory

Figure 4.128: Table “Inventory” details and explanation

#### 4.5.2.13. Table “Item”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	ItemId	uniqueidentifier		PK	NO		Unique identifier of item
2	ItemCode	varchar	50		NO		Code of the item
3	ProductId	uniqueidentifier		FK1	NO		Unique identifier of product, FK from Product table
4	CompanyId	uniqueidentifier		FK2	NO		Unique identifier of company, FK from Company table
5	InventoryId	uniqueidentifier		FK3	NO		Unique identifier of inventory, FK from Inventory table
4	ShopId	uniqueidentifier		FK4	NO		Unique identifier of shop, FK from Shop table

Figure 4.129: Table “Item” details and explanation

#### 4.5.2.14. Table “CompanyProduct”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	CompanyProductId	uniqueidentifier		PK	no		Unique identifier of company product
2	SaleId	uniqueidentifier		FK	no		Unique identifier of sale
3	ProductId	uniqueidentifier		FK	no		Unique identifier of product
4	CompanyId	uniqueidentifier		FK	no		Unique identifier of product

Figure 4.130: Table “CompanyProduct” details and explanation

#### 4.5.2.15. Table “ShopProduct”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	ShopProductId	uniqueidentifier		PK	no		Unique identifier of shop product
2	ShopId	uniqueidentifier		FK	no		Unique identifier of shop
3	ProductId	uniqueidentifier		FK	no		Unique identifier of product
4	SaleId	uniqueidentifier		FK	no		Unique identifier of sale

Figure 4.131: Table “ShopProduct” details and explanation

#### 4.5.2.16. Table “KeyIndex”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	KeyIndexId	uniqueidentifier		PK	no		Unique identifier of key index
2	ProductId	uniqueidentifier		FK	no		Unique identifier of product
3	Key	nvarchar	500		no		Key to search by index

Figure 4.132: Table “KeyIndex” details and explanation

#### 4.5.2.17. Table “Sale”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	SaleId	uniqueidentifier		PK	no		Unique identifier of sale
2	StartDate	DateTime			yes		Sale start date
3	EndDate	DateTime			yes		Sale end date
4	Discount	Int			yes		Discount of sale
5	Sale	nvarchar	1024		yes		Sale name

Figure 4.133: Table “Sale” details and explanation

#### 4.5.2.18. Table “Company”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	CompanyId	uniqueidentifier		PK	no		Unique identifier of company
2	CompanyCode	varchar	50		no		Unique code of company
3	CompanyName	nvarchar	1024		yes		Company name
4	Address	nvarchar	1024		yes		Company address
5	Contact	nvarchar	1024		yes		Company contact
6	Phone	varchar	50		yes		Company telephone number

Figure 4.134: Table “Company” details and explanation

#### 4.5.2.19. Table “Advertisement”

No	Column Name	Data Type	Length	PK/FK	Nullable	Default value	Description
1	AdvertisementId	uniqueidentifier		PK	no		Unique identifier of advertisement
2	CompanyId	uniqueidentifier		FK	no		Unique identifier of company
3	Content	nvarchar	2048		no		Advertisement content
4	Target	nvarchar	100		yes		Advertisement target
5	StartDate	DateTime			yes		Advertisement start date
6	EndDate	DateTime			yes		Advertisement end date

Figure 4.135: Table “Advertisement” details and explanation

## 4.6. Other material

## 5.1. Introduction

### 5.1.1. Purpose:

This document supports the following objectives:

- ✓ Identify existing project information and the software components that should be tested.
- ✓ Recommend and describe the testing strategies.
- ✓ The plan for test.

This document describes the plan for testing activities of the GoodsWay project. It contains the following sections:

- ✓ **Introduction:** giving an overview of the project as well as scope of testing.
- ✓ **Test Plan:** describing features to be tested, features not to be tested, testing tool and environment.
- ✓ **Test Cases:** a single step, or occasionally a sequence of steps, to test the correct behavior, functionalities, features of the application. Expected result or expected outcome is given.
- ✓ **Checklists:** provides questions to verify that test cases are created in a consistent and complete manner.
- ✓ **Other materials:** log for test include test results and incident report.

### **5.1.2. System Overview**

GoodsWay is a standalone web application for building and managing an ecommerce website of any size from a small web store to a virtual shopping mall with multiple departments and product suppliers.

Our system was developed based on four components / main modules:

- ✓ Collect data about goods and products on the website of the companies or stores.
- ✓ Find information about goods and products based on the data collected.
- ✓ The arrangement and presentation of information about goods and products.
- ✓ Managing buying and selling transactions on the website.

All this will serve the main objective is to develop a user-oriented e-commerce website in order to simplify the search and purchase goods online in the Vietnam market.

To achieve this goal, we have identified the needs to achieve the following key requirements:

- ✓ Ability to search for accurate, fast (improved search algorithms, database design is suitable for distributed data clusters, etc. ...).
- ✓ Ability to present, demonstrate to user a friendly, easy to use website (study on human-computer interaction ...).
- ✓ Support the user to the most suitable and nearest stores based on the stores chain system that are presented lively and updated regularly on the map system.

### **5.1.3. Test Approach**

Only functional black box testing will be performed to test the functionality of the system. The system's features describe how the user will interact with the system, so the testing will require the tester to interact with the system in the same way a typical user would. The user actions will be simulated through a set of test scenarios. Each scenario will trace back to a requirement.

#### **5.1.3.1. PHPUnit testing**

##### **Description:**

PHPUnit is a family of PEAR packages (PHPUnit2 for PHP 5, PHPUnit for PHP 4) that supports the development of object-oriented PHP applications using the concepts and methods of Agile Software Development, Extreme Programming, Test-Driven Development and Design-by-Contract Development by providing an elegant and robust framework for the creation, execution and analysis of Unit Tests.

##### **Requirement:**

PHP4, PHP5.

#### **5.1.3.2. Load Testing**

A system that works well with one user may completely break down with several hundred or more users. Load testing helps to evaluate how well a system holds up under light, medium and heavy use.

### **5.1.4. Scope of testing**

This project has 3 stages of Testing: Unit Test, Integration Test and System Test. Developers perform the Unit Test to check own created functions. Testers perform the Integration Test and System Test to test common sense and functions.

#### **5.1.4.1. Unit Test**

Developers must perform Unit test for all functionalities of application to find defects.

#### **5.1.4.2. Integration Test**

Test all functions of an application as correct as the system requirements after integrating functions. Every function will be tested. The Integration test will be stopped when developers not perform unit test enough.

#### **5.1.4.3. System Test**

For the System Test, the focus is put on:

- ✓ Functional, test all functions of an application as correct as the customer requirements.
- ✓ Data Volume, perform base on big test data to find performance defects.
- ✓ Installation, perform following the installation guide to find installation defects.

Each capability defined in the Test case document will be tested to determine if it meets the requirements and intermediate result will also be checked according to detailed design.

## 5.2. Test Plan

### 5.2.1. *Test strategy*

#### 5.2.1.1. *Test types*

##### 5.2.1.1.1. *Functional Testing*

Function testing of the target-of-test should focus on any requirements for test that can be traced directly to use cases or business functions and business rules. The goals of these tests are to verify proper data acceptance, processing, and retrieval, and the appropriate implementation of the business rules. This type of testing is based upon black box techniques; that are verifying the application and its internal processes by interacting with the application via the Graphical User Interface (GUI) and analyzing the output or results.

The implementation of functional test will be passed if all functional cases in Test case document are tested and passed.

##### 5.2.1.1.2. *User Interface Testing*

User Interface (UI) testing verifies a user's interaction with the software. The goal of UI testing is to ensure that the User Interface provides the user with the appropriate access and navigation through the functions of the target-of-test. In addition, UI testing ensures that the objects within the UI function as expectation of customer and conform to corporate or industry standards.

The implementation of interface test will be passed if all interface cases in Test case document are thoroughly tested and passed.

##### 5.2.1.1.3. *Data Volume Testing*

Volume Testing is a performance test the response time of application in a big test data such as big data to determine if limits are reached that cause the software to fail.

##### 5.2.1.1.4. *Installation Testing*

Installation Testing is a performance test to determine that application runs correctly or not on the configuration that provided by customer.

### 5.2.1.2. Test stage

Clearly state the stage in which the test will be executed. Below are the stages in which common test are executed:

Type of Tests	Stage of Test		
	Unit	Integration	System
Functional Tests	X	X	X
User Interface Tests			X
Data Volume Tests	X	X	

### 5.2.2. Test schedule

Test Schedule	Start Date	Finish Date
Unit/Function Testing	18/10/2010	13/11/2010
User Interface Testing	15/11/2010	19/11/2010
User Acceptance Testing	20/11/2010	27/11/2010

### 5.2.3. Resources and responsibilities

#### 5.2.3.1. Resources

The test team will consist of:

- ✓ 1 project manager
- ✓ 1 test leader
- ✓ 1 testers
- ✓ 2 developers

### 5.2.3.2. Responsibilities

<b>Project Manager</b>	<b>Responsible for Project schedules and the overall success of the project.</b>
<b>Test Leader</b>	Ensures the overall success of the test cycles. He/she will coordinate weekly meetings and will communicate the testing status to the project team.
<b>Testers</b>	Responsible for performing the actual system testing.
<b>Developers</b>	Fix all bug after testing submitted

### 5.2.3.3. Control procedure

#### 5.2.3.3.1. Reviews

- ✓ Before testing, tester must change all status of test case to be “Untested”.
- ✓ Test results will be review by test leader; all test cases must be tested following test process, tested case’s status will be “Tested”.

#### 5.2.3.3.2. Bug review meetings

Regular weekly meeting will be held to discuss reported defects. The development department will provide status and updates on all defects reported and the test department will provide addition defect information if needed. All member of the project team will participate.

#### 5.2.3.3.3. Change request

Once testing begins, if functional changes are required, these proposed changes will be discussed with all member of the project. The project leader will determine the impact of the change and when it should be implemented.

#### 5.2.3.3.4. Defect Reporting

When defects are found, the testers will complete a defect report on the defect tracking system. The defect tracking Systems is accessible by testers, developers and all members of the project team. When a defect has been fixed or more information is needed, the developer will change the status of the defect to indicate the current state. Once a defect is verified as Fixed by the testers, the testers will close the defect report.

#### **5.2.4. Features to be tested**

The following is a list of functions that will be tested:

Component Name	Function	Description
Product Component	View product details	User view details of product.
	View related products	User view related products on “Related” tab of Product Details page
	View related images	User view related images on “Image” tab of Product Details page
	View product description	User view product’s description on “Description” tab of Product Details page
	View reviews product	User view product’s review on “Reviews” tab of Product Details page
	Write review for product	Allow user to write about this product (require user to logged in)
	View available options for product	Allow user to view more option for product (in example: color, size, weight ...)
	View latest products	View the newest products on “GoodsWay” system
	View featured products	View featured products on “GoodsWay” system
	View bestseller products	View bestseller products on “GoodsWay” system
	View products in category	Allow user to view products listed by category

<b>Store Component</b>	View products of a brand	View all product of a brand
	View products in the shopping carts	Allow user to view shopping cart items.
	Edit shopping cart	Allow user to edit the information in shopping cart (delete items, edit number of products needed to buy)
	View stores which sell this product	Allow user to view stores that sell this product associate with store's price.
	Add to Cart	Allow user to add items to shopping cart
	Checkout	Allow user to checkout shopping cart
	View store details	User view details of store.
	View store's introduction	User view introduction of store in the "Introduction" tab from Store Details page.
	View store's policy	User view product's policy on "Policy" tab of Store Details page
	View reviews of store	User view store's review on "Reviews" tab of Store Details page
	Write review for store	Allow user to write about this store (require user to logged in)
	View latest stores	View the newest stores on "GoodsWay" system
	View featured stores	View featured stores on "GoodsWay" system
	View all stores	View all stores on "GoodsWay" system
	View stores in category	Allow user to view stores listed by category
	Search products by keyword on all categories	Allow user to search all product on all categories specified by keyword.

<b>Search Component</b>	Search products by keyword on selected category.	Allow user to search all product on this category specified by the keyword.
	Advance search	Allow user choose more search conditions: Search in product descriptions, Search in product model.
	"Enter" key press	After user presses Enter, the system will redirect user to search result page, not require user to click on search button.
	Sort based on search result	Allow user to sort the results by Name, Price, rating, model.
<b>Admin Component</b>	Create account on registration page	Allow user to creates an account
	Create account on administrator panel	Allow admin to create an account
	Edit account	User edits on user profile page
	Edit account on administrator panel	Allow admin to update the account information
	Register account	Allow user to register on "GoodsWay"
	Add category	Allow user to add more category
	Update category	Allow user to update category information
	Delete category	Allow user to delete category
	Add product	Allow user to add product to "GoodsWay"
	Update product's information	Allow user to update product's information
	Delete product	Allow user to delete selected product
	Add store	Allow user to add store to "GoodsWay"
	Update store's information	Allow user to update store's information

	Delete store	Allow user to delete selected store
	Add product to store	Allow user to add existing product to store
	Add store to category	Allow user to add store into category
	Add product to category	Allow user to add product into category
	Add tax	Allow user to add taxation for product based on the shipping address
	Update tax	Allow user to update tax
	Add language	Allow user to add more language
	Update language	Allow user to update language folder path
	Add currency	Allow user to add more currency used in "GoodsWay"
	Update currency	Allow user to update currency information(the exchange rate is automated update from Yahoo Finance site)
	Add manufacturer	Allow user to add more manufacturers for product
	Update manufacturer's information	Allow user to update manufacturer's information
	Update review status	Allow user to change the status of review (review on store or product) to Enabled or Disabled
	About us	Allow user to edit "About us" information for selected store
	Privacy Policy	Allow user to edit "Privacy Policy" information for selected store
	Terms & Conditions	Allow user to edit "Terms & Conditions" information for selected store

### **5.2.5. Features not to be tested**

The following is a list of functions that will be tested:

Component Name	Function	Description
Promotion Component	View promotion details	User view details of promotion.
	View related promotions	User view related promotions on “Related” tab of Promotion Details page
	View promotion description	User view promotion’s description on “Description” tab of Promotion Details page
	View latest promotions	View the newest promotions on “GoodsWay” system
	View featured promotions	View featured promotions on “GoodsWay” system
	View store’s promotions	View promotions for specific store
	View product’s promotions	View promotions for specific product
	View near expired promotions	View nearly expired promotions
	Update promotion information	Allow user to update promotion information (require user to logged in and have authorization to update)
	Delete promotion	Allow user to delete promotion (require user to logged in and have authorization to delete)
	View all stores that sell this product on map.	Allow user to view all stores that sell this product on map

<b>Product Component</b>	View product's information in another language	Allow user to view product information on another language.  Currently, this version of “GoodsWay” only provides Vietnamese and English languages.
	View product's price on different currency.	Allow user to view product's price on different currency.  Currently, this version of “GoodsWay” only provides Pound, Vietnam dong, and USD.
	Compare products	Allow user to compare features between products.
<b>Store component</b>	View store on map	Allow user to view this store on map
	View store's information in another language	Allow user to view store information on another language.  Currently, this version of “GoodsWay” only provides Vietnamese and English languages.
	View store's price on different currency.	Allow user to view store's price on different currency.  Currently, this version of “GoodsWay” only provides Pound, Vietnam dong, and USD.
	Add to cart product with specific store's price	Allow user to add item in store with store's price to shopping cart  Currently, this feature is not work, it only support user to add the lowest price product.

### **5.2.6. Deliverables**

Deliverable	Responsibility	Completion Date
<b>Develop Test cases</b>	Testers	13/11/2010
<b>Test Case review</b>	Test Leader	15/11/2010
<b>Obtain User ids and Passwords</b>	Test Leader	15/11/2010
<b>Execute manual and automated tests</b>	Testers & Test Leader	17/11/2010
<b>Execute Unit Tests</b>	Developers	17/11/2010
<b>Execute User Interface Tests</b>	Testers	20/11/2010
<b>Execute User Acceptance Tests</b>	Testers	27/11/2010
<b>Complete defect reports</b>	Everyone testing	On-going
<b>Final test Summary Report</b>	Test Leader	29/11/2010

### **5.2.7. Testing Tools and Environment**

#### **5.2.7.1. Testing Tools**

- ✓ Firebug 1.5.4: add-on for Firefox :  
<https://addons.mozilla.org/en-US/firefox/addon/1843/>
- ✓ PHPUnit :  
<http://sourceforge.net/projects/phpunit/>

#### **5.2.7.2. Test environment**

- ✓ Platform: Windows 7, Windows XP
- ✓ Browser & version: IE 8.0, Firefox 3.6.12
- ✓ Connection: ADSL for home networking

## 5.3. Test Cases

### 5.3.1. Product Component

Module Code	<i>Product Detail</i>				
Test requirement	<i>View images, detail information, related products, suggestion, analysis, store map, store promotion notice, store price, all store, Compare, add to cart, vote</i>				
Tester	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
<b>Check Viewing image product</b>					
[Product Detail-1]	Check viewing images of product.	1. Search a product 2. Selected product after searching.	1. System displays product result 2. System redirects user to product details page, image of product will be loaded fully on page.		Pass
[Product Detail-2]	Check viewing images of product.	1. Filter product by choose category. 2. Select product for details information.	1. System will display products related to chosen category. 2. System will redirect user to product details page, image of product will be loaded fully on page.		Pass
<b>Check Viewing detail information product</b>					
[Product Detail-3]	Check viewing detail information product.	1. Search a product. 2. Selected product after searching.	1. System displays product result 2. System redirects user to product details page, details information of selected product will be loaded fully on page.		Pass
[Product Detail-4]	Check viewing detail information product.	1. Filter product by choose category. 2. Select product for details information.	1. System will display products related to chosen category. 2. System redirects user to product details page, details information of selected product will be loaded fully on page.		Pass
[Product Detail-5]	Check information product.	Compare information product with DB (sql statement).	They are the same.	[Product Detail-3]	Pass

<b>Check Viewing related product</b>					
[Product Detail-6]	Check viewing related product.	1. Select product on search result page. 2. Choose “Related Products” tab.	1. System will redirect user to product details page, details information of selected product will be loaded fully on page. 2. System will load all products that relate to selected one.		Pass
[Product Detail-7]	Check viewing related product.	1. Filter product by choose category. 2. Select product for details information. 3. Choose “Related Products” tab.	1. System will display products related to chosen category. 2. System will redirect user to product details page, details information of selected product will be loaded fully on page. 3. System will load all products that relate to selected one.		Pass
[Product Detail-8]	Check related product.	Compare displayed related products with DB (sql statement).	They are the same.		Pass
<b>Check Viewing suggestion of system</b>					
[Product Detail-9]	Check viewing suggestion of system.	1. Select product on search result page. 2. Choose “Suggestion” tab.	1. System will redirect user to product details page, details information of selected product will be loaded fully on page. 2. System will load all products that similar to selected one (have the same parameter).		Not run
[Product Detail-10]	Check viewing suggestion of system.	1. Filter product by choose category. 2. Select product for details information. 3. Choose “Suggestion” tab.	1. System will display products related to chosen category. 2. System will redirect user to product details page, details information of selected product will be loaded fully on page. 3. System will load all products that similar to selected one (have the same parameter).		Not run
[Product Detail-11]	Check suggestion of system.	Compare suggestion of system with DB (sql statement).	They are the same.		Not run

**Check Viewing analysis**

[Product Detail-12]	Check viewing analysis.	1. Select product on search result page. 2. Choose “Analysis” tab.	1. System will redirect user to product details page, details information of selected product will be loaded fully on page. 2. System will load all analysis that related to selected product.		Not run
[Product Detail-13]	Check viewing analysis.	1. Filter product by choose category. 2. Select product for details information. 3. Choose “Analysis” tab.	1. System will display products related to chosen category. 2. System will redirect user to product details page, details information of selected product will be loaded fully on page. 3. System will load all analysis that related to selected product.		Not run
[Product Detail-14]	Check analysis.	Compare analysis with DB (sql statement).	They are the same, All analysis articles must be displayed with format and its author must be displayed also for copyright.		Not run

**Check Viewing all Store**

[Product Detail-15]	Check viewing all Stores.	1. Select product on search result page. 2. Choose “Store” tab.	1. System will redirect user to product details page, details information of selected product will be loaded fully on page. 2. System will load general information of all stores that related to selected product and display in tab.		Pass
[Product Detail-16]	Check viewing all Stores.	1. Filter product by choose category. 2. Select product for details information. 3. Choose “Store” tab.	1. System will display products related to chosen category. 2. System will redirect user to product details page, details information of selected product will be loaded fully on page. 3. System will load general information of all stores that related to selected product and display in tab.		Pass

[Product Detail-17]	Check invalid all store.	Compare store with DB (sql statement)	They are the same, which information includes: store name, store address, price of this store, and view store on map from DB.		Pass
[Product Detail-18]	Check loading all stores unsuccessful. Precondition: one of information of store missing.	Choose “Store” tab.	System can't load all store.		Pass

Module Code	<i>Product compare</i>				
Test requirement	<i>Add to shopping cart, same product, compare product</i>				
Tester	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status

#### Check Compare product function

[Product compare-1]	Check actor who can active with Product compare	1. Actor (visitor) signs in this page 2. Actor (Register member) signs in Product compare	1. System allows sign in to Product compare. 2. System allows sign in to Product compare.		Not run
[Product compare-2]	Check compare product successful	Select least 2 products and the same Category then Click Compare button.	System redirect user to “Product Compare” page and display detail compared information (the same picture 2 at Preference sheet)		Not run
[Product compare-3]	Check information of selected products to compare	See information of selected product and compare with DB (sql statement)	They are the same.		Not run
[Product compare-4]	Check compare product unsuccessful	Select 1 product and click to Compare button	System doesn't load Product Compare page.		Not run
[Product compare-5]	Check compare product unsuccessful.	Select least 2 products but not the same Category then Click Compare button.	System doesn't load Product Compare page.		Not run

**Check Add to shopping cart function**

[Product compare-6]	Check actor who can add product to shopping cart	1. Actor (visitor) signs in this page 2. Actor (Register member) signs in this page	1. System allows add new product to shopping cart 2. System allows add new product to shopping cart		Not run
[Product compare-7]	Check add new product from Product Compare page	Click on Add to Shopping Cart button from Product Compare page	System increases number of products in Shopping Cart.		Not run
[Product compare-8]	Check add new product from Search page	1. Search a product 2. Click Add to Shopping Cart	1. System displays that product 2. System increases number of product in Shopping Cart		Not run
[Product compare-9]	Check reload function page when results aren't loaded successfully.	Click F5	System reloads page.		Not run

**Check Same product function**

[Product compare-10]	Check actor who can add product to shopping cart	1. Actor (visitor) signs in this page 2. Actor (Register member) signs in this page	1. System allows add new product to shopping cart 2. System allows add new product to shopping cart		Not run
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Module Code	<i>Shopping Cart</i>				
Test requirement	<i>Edit card, Remove product, View card, Continue buying, Check out.</i>				
Tester	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status

**Check the accessing to Shopping Cart**

[Shopping Cart-1]	Check accessing to Shopping Cart.	Click on Cart button.	System displays all results on "Shopping cart" page, and results depend on products which user was choice.		Pass
[Shopping Cart-2]	Check UI of shopping cart page.	Compare with picture at Reference sheet.	They are the same.		Pass

[Shopping Cart-3]	Check adding product to shopping cart.	Select some products and click to Cart button.	System displays all selected products with price, quantity, deliver and total price in shopping cart		Pass
[Shopping Cart-4]	Check list product in shopping cart.	Compare list product in shopping cart with DB and selected product (sql statement).	They are the same.	[Shopping Cart-3]	Pass
[Shopping Cart-5]	Check calculate Total price.	Input quantity for every product.	System displays inputted value, auto update total price Total price = (Price1 * quantity1) + (Price2* quantity2) +.....		Pass

**Check Edit shopping cart**

[Shopping Cart-6]	Check Edit quantity of product in shopping cart.	1. Click on Cart/ click on “Edit” button on same row with product. 2. Change value of [quantity] textbox.	1. System displays all results on “Shopping cart” page. 2. System updated quantity of product and change Total price follow calculator.		Pass
[Shopping Cart-7]	Check remove product out of shopping cart successful.	1. Click on Cart/ click on “Edit” button on same row with product 2. Add some product to shopping cart. 3. Click [X] at before product to remove.	1. System displays all results on “Shopping cart” page. 2. System shows all added product to shopping cart 3. System removes that product out of shopping cart.		Pass
[Shopping Cart-8]	Check remove product out of shopping cart unsuccessful Precondition: - System informs user that maybe the network connection error. - User checks network connection. - User cancels the use case. - System terminates the use case.	Click [X]	System doesn't remove product out of list.		Pass

[Shopping Cart-9]	Checking continue adding product to shopping cart.	1. Click on Cart/ click on “Edit” button on same row with product 2. Click on Continue Buying. 3. Select a product to add into shopping cart.	1. System displays all results on “Shopping cart” page 2. System show all product which is not added to shopping cut. 3. System displays added product.		Pass
[Shopping Cart-10]	Check list options in [Deliver] combo box.	Click on [Deliver] combo box.	System display list option, match with DB (sql statement).		Pass
[Shopping Cart-11]	Check Edit information of a product in shopping cart successful.	1. Click Edit and change value of this product 2. Click Save button	1. System displays changed value. 2. System saves changed value in DB.		Pass
[Shopping Cart-12]	Check Edit information of a product in shopping cart unsuccessful.	1. Click Edit and change value of this product 2. Don't click Save button	1. System displays changed value, and Edit button rename to Save button. 2. System doesn't change value in DB.		Pass
[Shopping Cart-13]	Check Edit information of a product in shopping carts unsuccessful Precondition: - User can wait for minutes. - User can select another case. - System terminates the use case.	Click Edit option.	System doesn't allow edit.		Pass
[Shopping Cart-14]	Check reloads function of page Precondition: - Connection too slow. - Connection not available.	Click F5	“GoodsWay” system will allow user to reload page.		Pass
[Shopping Cart-15]	Check valid inputted into [quantity] textbox.	1. Input characters into this textbox. 2. Input 2.13	1. System displays message box to remind: Please input a number. 2. System displays message box: Please input a number.		Pass

<b>Module Code</b>	<i>Map</i>				
<b>Test requirement</b>	<i>Find store's address, find shortest way, all stores offer same product</i>				
<b>Tester</b>	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
<b>Check the accessing to Map page</b>					
[Map-1]	Check the accessing to Map page.	Click on map icon on the "Store Details".	System displays Map page.		Not run
[Map-2]	Check the accessing to Map page.	Click on map icon the "Product Details" in stores area.	System displays Map page.		Not run
<b>Check finding store's address function</b>					
[Map-3]	Check the finding store's address function.	1. Click on to "Store" hyperlink button on the header of the main page. 2. Click on the map icon on the top left of the page.	1. System displays "Store Details" page. 2. Address of the store is display clearly, highlighted in a rectangle.		Not run
[Map-4]	Check the finding store's address function.	Click on map icon the "Product Details" in stores area.	Address of the store is display clearly, highlighted in a rectangle.		Not run
[Map-5]	Check address of store.	Compare store address with store's address in DB (sql statement).	They are the same.		Not run
[Map-6]	Check map is not loaded successfully precondition: - Connection too slow. - Connection not available.	Press F5 button.	System reloads Map page.		Not run
[Map-7]	Check sending feedback when user finds mistake address.	Actor sends feedback to "GoodsWay" to raise mistake address (this is true).	System checks and updates the map as soon as possible. System sends email respond to the user and thanks for the user's help.		Not run

[Map-8]	Check sending feedback when user finds mistake address.	Actor sends feedback to "GoodsWay" to raise mistake address (this is not true).	System checks and confirms feedback of customer System sends email respond to the user and thanks for the user's help.		Not run
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**Check finding shortest way function**

[Map-9]	Check finding shortest way function.	1. Click on to "Store" hyperlink button on the header of the main page. 2. click on the map icon on the top left of the page. 3. Enters the position of the user. 4. Press button "Find" to find the shortest way to go to the store.	1. System displays "Store Details" page. 2. System displays Map page. 3. System displays user's address. 4. System highlighted the shortest way that user can go to reach the store.		Not run
[Map-10]	Checking reloads function when map can't load successful  Precondition: - Connection too slow. - Connection not available.	Press F5 button.	System reloads Map page.		Not run
[Map-11]	Check sending feedback when user finds mistake address.	Actor sends feedback to "GoodsWay" to raise mistake address (this is true)	System checks and updates the map as soon as possible. System sends email respond to the user and thanks for the user's help.		Not run
[Map-12]	Check sending feedback when user finds mistake address.	Actor sends feedback to "GoodsWay" to raise mistake address (this is not true).	System checks and confirms feedback of customer System sends email respond to the user and thanks for the user's help.		Not run

**Check finding all store offers the same product.**

[Map-13]	Check finding all store offers the same product function.  In case: Actor is a visitor.	1. Access to Product Detail page 2. Click on the map icon right below the product image.	1. System displays Product Detail page 2. The map appears and highlights all stores offer the product the user is interested in.		Not run
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[Map-14]	Check finding all store offers the same product function. In case: Actor is a Register member	1. Access to Product Detail page 2. Click on the map icon right below the product image.	1. System displays Product Detail page 2. The map appears and highlights all stores offer the product the user is interested in.		Not run
[Map-15]	Check reload function when map can't load successful Precondition: - Connection too slow. - Connection not available.	Press F5 button.	They are the same.		Not run
[Map-16]	Check case: Store in the result set does not offer the product the customer is looking for.	Customer sends feedback to "GoodsWay" to confirm about this mistake.	System checks and updates as soon as possible, System sends email respond to the user and thanks for the user's help.		Not run

Module Code	<i>Header</i>				
Test requirement	<i>View Category, Choose Category, View Store, View Promotion, Login, Register</i>				
Tester	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
[Header-1]	Check UI of Header.	Compare with Picture 3 at Preference sheet.	They are the same.		Pass
[Header-2]	Check state of Header.	See header of all pages.	Header is always on top of the site, it allow user to access other pages.		Pass
[Header-3]	Check active of Category links at Header.	1. Click Category link 2. move pointer out of Category link	1. System displays all Categories in system for user to choice. 2. all Categories is be hidden		Pass
[Header-4]	Check list displayed Categories.	See list Categories on Category page and compare with DB (sql statement).	They are the same.		Pass
[Header-5]	Check display of Category link.	See header of all pages.	This link always displayed.		Pass

[Header-6]	Check reloads function when Category page load unsuccessful.	Press F5.	System reload Category page, System displays all Categories.		Pass
[Header-7]	Check chooses a Category function.	1. Click Category link 2. Move pointer out of Category link 3. Select a Category from list Categories	1. System displays all Categories in system for user to choice. 2. All Categories is being hidden 3. This Category is displayed highlight and system redirect to Search Result page.		Pass
[Header-8]	Check active of Store link at Header.	Click on Store link.	System redirects to Store page, System displays all Store.		Pass
[Header-9]	Check list displayed Store.	See list Store on Store page and compare with DB (sql statement).	They are the same.		Pass
[Header-10]	Check reloads function when Store page load unsuccessful.	Press F5.	System reload Store page, System displays all Store.		Pass
[Header-11]	Check display of Store link.	See header of all pages.	This link always displayed.		Pass
[Header-12]	Check active of Promotion link at Header.	Click on Promotion link.	System redirects to Promotion page, System displays all Promotion.		Not run
[Header-13]	Check list displayed Promotion.	See list Promotion on Promotion page and compare with DB (sql statement).	They are the same.		Not run
[Header-14]	Check reloads function when Promotion page load unsuccessful.	Press F5.	System reload Promotion page, System displays all Promotion.		Not run
[Header-15]	Check display of Promotion link.	See header of all pages.	This link always displayed.		Not run
[Header-16]	Check Trigger to Login page.	Click on Login link at the Header.	System loads Login page.		Pass

[Header-17]	Check Login successful.	<ol style="list-style-type: none"> <li>1. Click on Login link at the Header of page</li> <li>2. Input valid User name and valid Password</li> <li>3. Click Login button</li> </ol>	<ol style="list-style-type: none"> <li>1. System loads Login page</li> <li>2. System displays inputted value</li> <li>3. System displays successful message and refresh page to update login status for user.</li> </ol>		Pass
[Header-18]	Check valid user name and password.	Compare user name and password with DB (sql statement).	They are the same.		Pass
[Header-19]	Check Login unsuccessful. In case: Invalid User Name.	<ol style="list-style-type: none"> <li>1. Click on Login link at the Header of page.</li> <li>2. Input invalid User name and valid Password.</li> <li>3. Click Login button.</li> </ol>	<ol style="list-style-type: none"> <li>1. System loads Login page</li> <li>2. System displays inputted value</li> <li>3. System displays message login unsuccessful to confirm: invalid user name.</li> </ol>		Pass
[Header-20]	Check Login unsuccessful In case: Invalid Password.	<ol style="list-style-type: none"> <li>1. Click on Login link at the Header of page</li> <li>2. Input valid User name and invalid Password.</li> <li>3. Click Login button.</li> </ol>	<ol style="list-style-type: none"> <li>1. System loads Login page.</li> <li>2. System displays inputted value.</li> <li>3. System displays message login. Unsuccessful to confirm: invalid Password.</li> </ol>		Pass

### 5.3.2. Store Component

Module Code	<i>Store Main Page</i>				
Test requirement	<i>Test: all details information of one selected product, additional information to support the most.</i>				
Tester	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
[Store Main Page-1]	Test that new stores will be displayed on the store main page, and marked "new" on that store's logo.	1. User selects "Stores" on the header of the page.	1. The "New stores" will be display in the first part of the main panel. The image stand for the store be displayed is the logo of the store will be loaded fully on page, "new" icon appear on the right top of store's logo image.		Pass
[Store Main Page-2]	Check that all stores registry within 20 days is considered new stores.	1. User double clicks on store's logo image. 2. Check registry date of the store is less than or more than 20 days.	1. Detail information of the sore is displayed. 2. If registry date < 20 days: store is considered new and has "new" icon on the logo image. If registry date > 20 days, store is not new and "new" icon do not appear.		Not run
[Store Main Page-3]	Test view favorite stores.	1. User selected "Stores" on the header of the page. 2. See the rate of these stores.	1. The "Favorites stores" will be display in the second part of the main panel. 2. These stores are usually visited and transitioned by member users.		Pass
[Store Main Page-4]	Check system display analysis of experts about the selected product when user click "Analysis" tab.	1. User double clicks on a product on search result page. 2. User choose "Analysis" tab.	1. The system will redirect user to product details page and details information of selected product will be loaded fully on page. 2. The system will load all analysis that related to selected product.		Not run
[Store Main Page-5]	Test view map of all stores.	1. User go to "Product Details" page. 2. User Press "View all Store map" button.	1. All details information is displayed successfully. 2. All store's positioning will be displayed on an online map.		Not run

[Store Main Page-6]	Test view store promotion note.	1. Choose one category on left menu.	1. The system will redirect user to "Search Result" page and display all results that related to the keyword user has input. Image of product is displayed represented for product.		Not run
[Store Main Page-7]	Check after searching the system display all results successfully, and user can see general information of the each result item.	1. Input keyword in search box. 2. Press "Search" button or hit Enter.	1. Keyword is displayed in search box. 2. The system will redirect user to "Search Result" page and display all results that related to the keyword user has input. Some basic information of the product is displayed: name, price.		Pass
[Store Main Page-8]	Check after select category the system displays all results successfully, and user can see image of results.	1. Choose one category on left menu.	1. The system will redirect user to "Search Result" page and display all results that related to the keyword user has input. Some basic information of the product is displayed: name, price.		Pass
[Store Main Page-9]	Check On "Search Result" page, user can compare more than 2 of related products to get expected information.	1. Click left mouse to choose products want to compare, number products is less than 5. 2. Click "Compare" button.	1. The image represented for product is marked. 2. The result page is navigated to Compare result page. And user can see the compare results.		Not run
[Store Main Page-10]	Check Compare button when result page has only 1 product.	See the Result page.	Compare button is not enable.		Not run
[Store Main Page-11]	Check user select more than 5 products to compare.	1. User selects more than 5 products. 2. User press Compare button.	1. The product selected is marked. 2. The system informs user that cannot compare more than 5 products by message.		Not run
[Store Main Page-12]	Check when user add product to cart, and the system will add this product to cart and calculate the price.	1. User select product. 2. User press button "Add to Cart".	1. The product selected is marked. 2. The product is added to cart and the price is displayed as sum of price of products in cart.		Pass

[Store Main Page-13]	Check when user add product to cart, and the system will add this product to cart and display total items in cart.	1. User select product. 2. User press button "Add to Cart".	1. The product selected is marked. 2. The product is added to cart and display total products in cart.		Pass
[Store Main Page-14]	Check when user add product to cart, and the system will allow user to add quantity before add product to shopping cart.	1. User select product. 2. User press button "Add to Cart". 3. User selects quantity.	1. The product selected is marked. 2. The system informs user that cannot compare more than 5 products by message. 3. The shopping cart update total price and number product items is cart.		Pass
[Store Main Page-15]	Check user can add more than 1 product to cart at once with quantity custom.	1. User select more than one product wants to add to cart. 2. User press button "Add to Cart". 3. User selects quantity of each kind of product.	1. The product selected is marked. 2. The system informs user that cannot compare more than 5 products by message. 3. The shopping cart update total price and number product items is cart.		Pass

Module	<i>View Store Detail</i>				
Code					
Test requirement	<i>See detail product, find position of store, vote for store, and leave comment.</i>				
Tester	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status

#### Check the accessing to View Store Detail page

[View Store Detail-1]	Check the accessing to View Store Detail page.	1. Click to link Store at the Home page 2. Click to Store Logo image at Store Main page	1. System displays Store Main page. 2. System displays View Store Detail page.		Pass
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[View Store Detail-2]	Check the accessing to View Store Detail page.	1. View product detail page. 2. Click to store at Product Detail page	1. View product detail page is displayed. 2. System displays View Store Detail page.		Pass
<b>Check the viewing store's product</b>					
[View Store Detail-3]	Check viewing store's product.	Click to Store's product tab.	System displays all products that are distributed by selected store must be displayed correctly in "Store's Products" tab.		Pass
[View Store Detail-4]	Check valid products which are displayed.	Compare product is displayed in store's product tab with DB (sql statement).	The same		Pass
<b>Check the viewing map</b>					
[View Store Detail-5]	Check viewing map of store	1. Click on Store's product tab at View Store Detail 2. Click on "View map" button.	1. The system displays all products in this store. 2. System displays positioning of this store on map and highlighted.		Not run
[View Store Detail-6]	Check position of store with DB.	Compare position of store with data in DB (sql statement).	The same.	[View Store Detail-5]	Not run
<b>Check the viewing promotion</b>					
[View Store Detail-7]	Check accessing to Promotion.	Click on the "Promotional" sign to move to "Promotional Detail" page.	System displays Promotional Detail page.		Not run
<b>Check the Rate function for store</b>					
[View Store Detail-8]	Check valid actor who can active with this function.	1. If actor is visitor (actor login unsuccessful). 2. If actor is a Registered member. (actor login successful)	1. System prevents this function. 2. System allow do this function		Pass

[View Store Detail-9]	Check rating store successful.	Click on the star sign to vote for the store.	System updates rank of store immediately.		Pass
[View Store Detail-10]	Check rating store unsuccessful.	Click on the star sign to rate for the store.	System doesn't update rank of store immediately.		Pass
<b>Check the leaving comment function for store</b>					
[View Store Detail-11]	Check valid actor who can active with this function	1. If actor is visitor (actor login unsuccessful) 2. If actor is a Registered member. (actor login successful)	1. System prevents this function. 2. System allows do this function.		Pass
[View Store Detail-12]	Check max length of [Comment] field.	Input more than 500 characters into [comment] field.	System blocks the inputted data input which is greater than 500.		Pass
[View Store Detail-13]	Check the leaving comment successful	1. Input character into [Comment] field 2. click to Post button	1. System inputted data into this field. 2. Comment was posted after member submits.		Pass
[View Store Detail-14]	Check the leaving comment unsuccessful	1. Input character into [Comment] field 2. click to Post button	1. System inputted data into this field. 2. Comment was not posted after member submits.		Pass

### 5.3.3. Promotion Component

<b>Module Code</b>	<b>Promotion Main</b>				
<b>Test requirement</b>	<i>View new promotions, more new promotions</i>				
<b>Tester</b>	<b>TuanQX</b>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
<b>Check the accessing to Promotion page</b>					
[Promotion-1]	Check the accessing to Promotion page	Click on promotion icon in the “Product Detail” page.	System displays Promotion page.		Not run
[Promotion-2]	Check the accessing to Promotion page	Click on promotion icon in the “Store Detail” page.	System displays Promotion page.		Not run
<b>Check the viewing new promotions</b>					
[Promotion-3]	Check viewing new promotions Precondition: - Promotion page is loaded.	Click the round small icon, another new promotion will show up, switch place the present one.	System displays ten promotions in the Promotion main page must be newest.		Not run
[Promotion-4]	Check valid value displayed	Compare ten promotions in list with data in DB (sql statement).	They are the same.		Not run
[Promotion-5]	Check viewing more new promotions Precondition: - Promotion page is loaded.	Click on the “more new promotion” link.	System views more new promotions within 1 month.		Not run
[Promotion-6]	Check valid value displayed	Compare promotions in list with data in DB (sql statement)	They are the same		Not run
<b>Check the viewing new near expired promotions</b>					
[Promotion-7]	Check viewing near expired promotions	Click on line near expired promotions	System displays ten promotion show in the Promotion main page must be the most near expired.		Not run
[Promotion-8]	Check valid value displayed.	Compare store in list with data in DB (sql statement).	They are the same.		Not run
[Promotion-9]	Check viewing more near expired promotions.	Click in “More near expired promotion” link.	All near expired promotion will show up.		Not run

[Promotion-10]	Check removing store out of list promotion.	Check viewing list promotion at (a) day and compare with (b) day (there are some store expired).	Store expired is removed out of list.		Not run
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Module Code	<b>Promotion Detail</b>				
Test requirement	<i>View information of selected promotion, see other promotions of the same store with the selected one</i>				
Tester	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status

#### Check the Viewing details information of selected promotion

[Promotion Detail-1]	Check the Viewing details information of selected promotion.	1. Click on Promotion link at home page. 2. Select one promotion from Promotion home page.	1. System displays Promotion home page. 2. System displays all details information of promotion.		Not run
[Promotion Detail-2]	Check valid displayed information.	Compare details information of selected promotion with DB (sql statement)	They are the same.		Not run
[Promotion Detail-3]	Check updating list Promotions daily.	See list promotions.	Expired promotions must be removed out of list and can't see information detail.		Not run

#### Check the Viewing other promotions.

[Promotion Detail-4]	Check viewing other promotions	1. Click on Promotion link at home page. 2. Click on title of other promotion.	1. System displays Promotion home, System displays all promotion of the same store will be displayed as the hyperlink under the form of title 2. System refresh details screen for updating new information		Not run
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[Promotion Detail-5]	Check valid displayed information	Compare details information of selected promotion with DB (sql statement)	They are the same		Not run
[Promotion Detail-6]	Check updating list Promotions daily	See list promotions	Expired promotions must be removed out of list and can't see information detail		Not run
<b>Check the viewing new near expired promotions</b>					
[Promotion Detail-7]	Check viewing near expired promotions	Click on line near expired promotions	System displays ten promotion show in the Promotion main page must be the most near expired.		Not run
[Promotion Detail-8]	Check valid value displayed	Compare store in list with data in DB (sql statement)	They are the same	[Promotion Detail-6]	Not run
[Promotion Detail-9]	Check viewing more near expired promotions	Clicks in "More near expired promotion" link	All near expired promotion will show up.		Not run
[Promotion Detail-10]	Check removing store out of list promotion	Check viewing list promotion at (a) day and compare with (b) day (there are some store expired)	Store expired is removed out of list.		Not run
<b>Check the viewing promotion category</b>					
[Promotion Detail-11]	Check displaying of promotion category	1. Click on other promotions 2. Click on Category promotion	1. System displays other promotions, doesn't display category promotion 2. System displays Category promotion and doesn't display other promotions.		Not run
[Promotion Detail-12]	Check viewing promotion category	Click on a promotion category	All promotion in the chosen category will be shown.		Not run
[Promotion Detail-13]	Check valid value displayed in promotion category	Compare list promotion category with valid value in DB (sql statement)	They are the same		Not run

[Promotion Detail-14]	Check updating promotion category daily	Check updating promotion category daily	System removes expired category out of list promotion category		Not run
<b>Check the viewing promotion filter</b>					
[Promotion Detail-15]	Check list item in Promotion filter	click on Promotion Filter combo box	System displays 3 item: Brand Store Date		Not run
[Promotion Detail-16]	Check reloading promotion filter when change value Promotion Filter combo box.	1. Select [Promotion Filter] = Brand 2. Select [Promotion Filter] = Store 3. select [Promotion Filter] = Date	1. System displays all promotion which is the same Brand 2. System displays all promotion which is the same Store 3. System displays all promotion which is the same Date		Not run
[Promotion Detail-17]	Check data is selected by [Promotion Filter] with DB	Compare list promotion category with valid value in DB (sql statement)	They are the same	[Promotion Detail-16]	Not run

### 5.3.4. Search Component

Module Code	<i>HomePage Processes</i>				
Test requirement	<i>Process in Home page from the unique tenant URL or the domain URL. Home page processes include search product, search suggestion, support virtual keyboard.</i>				
Tester	<i>TuanQX</i>				
ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
[HomePage Processes-1]	Check GUI of [Home page] section.  Precondition: - The address of the Home page is correct.	Look at this form screen.	GUI of this section is the same as figure 1 - [Home page] in requirement.		Pass
[HomePage Processes-2]	Check result is displayed relate to keyword user type on search box.  Precondition: - Main page loaded successfully. - User types some keyword in the search box.	1. User type keyword in the search box. 2. User presses Enter or Search button.	1. Keyword is displayed in search box.  2. Result page should show up with result (accurate result includes products which name contains the keyword).		Pass
[HomePage Processes-3]	Check nothing happen when user searches without enters keyword in search box.  Precondition: - Main page loaded successfully.	User click [Search] button or press Enter without enter keyword in search box.	Nothing happen.		Pass
[HomePage Processes-4]	Check result when keyword does not exist in database.	1. User type keyword does not exist in database in the search box. 2. User presses Enter or Search button.	1. Keyword is displayed in search box. 2. Result page inform user that: "Unfortunately, there is no result for: keyword". Then suggest user with another possible keyword.		Pass

[HomePage Processes-5]	Check cursor is in the Search box when Home page is load.	User type correct address of Home page of the website in the browser.	Home page is display and cursor icon is in the Search box.		Pass
[HomePage Processes-6]	Check an auto complete box will show up, suggest user with some popular keyword when user type something in the search box.	1. User types a character in the search box. 2. User uses the arrow button or mouse to select a keyword in the auto complete box. 3. User presses enter or click left mouse on to choice a keyword.	1. An auto complete box shows up with some keywords which are started with the input character. 2. Keyword in the auto complete box is display is Search box approximately. 3. Search engine will search for the chosen keyword and Search Result page show up.		Not run
[HomePage Processes-7]	Check the suggestion box show up if there is any possible keyword start with what user type in.	User type a character in the search box.	An auto complete box shows up with some keywords which are started with the input character.		Not run
[HomePage Processes-8]	Check the suggestion keyword must be changed whenever user type in a new character so that what user type in will be the start of the suggestion keyword.	1. User types a character in the search box. 2. User continues to enter character in the Search box.	1. An auto complete box shows up with some keywords which are started with the input character. 2. Auto complete change depend on the keyword, all suggestion is begin with keyword entered.		Not run
[HomePage Processes-9]	Check suggestion box will display up to 10 most popular keywords	1. User types a character in the search box. 2. See number suggests keyword in the box.	1. An auto complete box shows up with some keywords which are started with the input character. 2. Maximum is 10.		Not run

[HomePage Processes- 10]	Check suggestion box do not be close until user click mouse, press enter.	<ol style="list-style-type: none"> <li>1. User types a character in the search box.</li> <li>2. Do not press Enter or click left mouse.</li> <li>3. Press Enter or click left mouse.</li> </ol>	<ol style="list-style-type: none"> <li>1. An auto complete box shows up with some keywords which are started with the input character.</li> <li>2. Suggestion box is still displaying.</li> <li>3. Result page should show up with result.</li> </ol>		Not run
[HomePage Processes- 11]	Check shows the virtual keyboard.	<ol style="list-style-type: none"> <li>1. User left click on the keyboard icon near the search box.</li> <li>2. User uses mouse to click on a character on the virtual keyboard.</li> <li>3. User clicks again in the keyboard icon.</li> </ol>	<ol style="list-style-type: none"> <li>1. A virtual keyboard shows up under the icon.</li> <li>2. The character user just type in should be shown in the search box.</li> <li>3. The virtual keyboard close.</li> </ol>		Not run
[HomePage Processes- 12]	Check virtual keyboard must always available for anyone visits the website.	<ol style="list-style-type: none"> <li>1. Login as admin.</li> <li>2. Login as member.</li> <li>3. As visitor, do not login.</li> </ol>	<ol style="list-style-type: none"> <li>1. A virtual keyboard shows up.</li> <li>2. A virtual keyboard shows up.</li> <li>3. A virtual keyboard shows up.</li> </ol>		Not run
[HomePage Processes- 13]	Check user can use keyboard normally together with virtual keyboard.	<ol style="list-style-type: none"> <li>1. User uses mouse to click on a character on the virtual keyboard.</li> <li>2. Use keyboard to enter character.</li> </ol>	<ol style="list-style-type: none"> <li>1. The character user just select in should be shown in the search box.</li> <li>2. Character user just type show to the end of characters in step 1.</li> </ol>		Not run

<b>Module Code</b>	<b>Search Result</b>				
<b>Test requirement</b>	<b>Test: all results that related to the keyword user typed in search textbox.</b>				
<b>Tester</b>	<b>TuanQX</b>				
ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
[Search Result -1]	After searching the system will display all results on “Search Result” page, and results depend on the key word. Preconditions: - User input valid keyword - All results that suitable for keyword must be in database	1. Input keyword in search box. 2. Press “Search” button or hit Enter.	1. Keyword is displayed in search box. 2. The system will redirect user to “Search Result” page and display all results that related to the keyword user has input.		Pass
[Search Result -2]	After select category, , the system will display all results on “Search Result” page and result related to category that user choose	1. Choose one category on left menu.	1. The system will redirect user to “Search Result” page and display all results that related to the category user has chosen.		Pass
[Search Result -3]	Check system cannot search for result when input keyword doesn't have meaning.	1. Input keyword in search box. 2. Press “Search” button or hit Enter.	1. Keyword is displayed in search box. 2. System display “Unfortunately, there is no result for: keyword”. Then suggest user with another possible keyword.		Pass
[Search Result -4]	Check system cannot search for result when input keyword doesn't exist in the database.	1. Input keyword in search box. 2. Press “Search” button or hit Enter.	1. Keyword is displayed in search box. 2. System display “Unfortunately, there is no result for: keyword”. Then suggest user with another possible keyword.		Pass

[Search Result -5]	Check after searching the system display all results successfully, and user can see image of results.	1. Input keyword in search box. 2. Press "Search" button or hit Enter.	1. Keyword is displayed in search box. 2. The system will redirect user to "Search Result" page and display all results that related to the keyword user has input. Image of product is displayed represented for product.		Pass
[Search Result -6]	Check after select category the system displays all results successfully, and user can see image of results.	1. Choose one category on left menu.	1. The system will redirect user to "Search Result" page and display all results that related to the keyword user has input. Image of product is displayed represented for product.		Pass
[Search Result -7]	Check after searching the system display all results successfully, and user can see general information of the each result item.	1. Input keyword in search box. 2. Press "Search" button or hit Enter.	1. Keyword is displayed in search box. 2. The system will redirect user to "Search Result" page and display all results that related to the keyword user has input. Some basic information of the product is displayed: name, price.		Pass
[Search Result -8]	Check after select category the system displays all results successfully, and user can see image of results.	1. Choose one category on left menu.	1. The system will redirect user to "Search Result" page and display all results that related to the keyword user has input. Some basic information of the product is displayed: name, price.		Pass
[Search Result -9]	Check On "Search Result" page, user can compare more than 2 of related products to get expected information.	1. Click left mouse to choose products want to compare, number products is less than 5. 2. Click "Compare" button.	1. The image represented for product is marked. 2. The result page is navigated to Compare result page. And user can see the compare results.		Not run
[Search Result -10]	Check Compare button when result page has only 1 product.	See the Result page.	Compare button is not enable.		Not run

[Search Result -11]	Check user select more than 5 products to compare.	1. User selects more than 5 products. 2. User press Compare button.	1. The product selected is marked. 2. The system informs user that cannot compare more than 5 products by message.		Not run
[Search Result -12]	Check when user add product to cart, and the system will add this product to cart and calculate the price.	1. User select product. 2. User press button "Add to Cart".	1. The product selected is marked. 2. The product is added to cart and the price is displayed as sum of price of products in cart.		Pass
[Search Result -13]	Check when user add product to cart, and the system will add this product to cart and display total items in cart.	1. User select product. 2. User press button "Add to Cart".	1. The product selected is marked. 2. The product is added to cart and display total products in cart.		Pass
[Search Result -14]	Check when user add product to cart, and the system will allow user to add quantity before add product to shopping cart.	1. User select product. 2. User press button "Add to Cart". 3. User selects quantity.	1. The product selected is marked. 2. The system informs user that cannot compare more than 5 products by message. 3. The shopping cart update total price and number product items in cart.		Pass
[Search Result -15]	Check user can add more than 1 product to cart at once with quantity custom.	1. User select more than one product wants to add to cart. 2. User press button "Add to Cart". 3. User selects quantity of each kind of product.	1. The product selected is marked. 2. The system informs user that cannot compare more than 5 products by message. 3. The shopping cart update total price and number product items in cart.		Pass

### 5.3.5. Admin Component

<b>Module Code</b>	<b>Register (Front-end Mode)</b>				
<b>Test requirement</b>	<i>Accept term of use, Provide required information, Confirm registration and welcome</i>				
<b>Tester</b>	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
<b>Check the accessing to Register page</b>					
[Register-1]	Check actor who is allowed active at this page	If actor is a visitor and sign in this page	System allow active at this page.		Pass
[Register-2]	Check the accessing to Register page	Click on link Register from Home page	System displays Register page		Pass
[Register-3]	Check the accessing to Register page	Click on Register button in the Checkout page	System displays Register page		Pass
[Register-4]	Check the accessing to Register page	Click on Register button in the login fail page	System displays Register page		Pass
<b>Check Accept term of use</b>					
[Register-5]	Check condition allow user to Register	1. Click on link Register from Home page/ Register button in the Checkout page/ Register button in the login fail page 2. Tick on the accept check box and press enter or click on register button.	1. System displays the term of use 2. System allows visitor register to become a member.		Pass
[Register-6]	Check content of website term	1. Click on link Register from Home page/ Register button in the Checkout page/ Register button in the login fail page 2. Compare content with: "..."	1. System displays the term of use 2. They are the same		Pass

[Register-7]	Check reload page function when: - Connection too slow. - Connection not available.	Click F5	System reloads Register page		Pass
<b>Check Provide required information</b>					
[Register-8]	Check require field	Leave one of require fields: + User name. + Password. + Email. + Verify question.	System displays message box with content: user must fill in all mandatory fields.		Pass
[Register-9]	Check inputted data into User name field	input user name into [User Name] field - if user name is unique - if user name is existed	System check unique user name - System requires input other user name - System accepts user name.		Pass
[Register-10]	Check valid data in Password field	Input characters into Password field - if length <6 - if length >=6	System displays characters into this field. - System requires input least 6 characters. - System accept password.		Pass
[Register-11]	Check valid email of user	Input email into this field - if this email is existed - if this email is not used	System display addresses email into this field. - System requires input other email. - System accepts address email.		Pass
[Register-12]	Check list question	1. Input question into this field 2. Input answer for question	1. System verify question. 2. System verify answer and save in DB		Pass
<b>Check Confirm registration</b>					
[Register-13]	Check register successful	1. Input valid data into all require fields 2. Click on Complete Register button	1. System verifies and accepts data. 2. System sends an email to email address with content: register successful and welcome to "GoodsWay".		Pass

[Register-14]	Check new account	1. Input user name and password of new registration 2. Click on Login button	1. User name, password is displayed in these fields. 2. System login with new user name		Pass
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Module Code	<b><i>Login (Front-end Mode)</i></b>				
Test requirement	<b><i>Customer Login, Provide required information, and login</i></b>				
Tester	<b><i>TuanQX</i></b>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status

#### Check the accessing to Login page

[F_Login-1]	Check actor who is allowed active at this page	If actor is a visitor and sign in this page	System allow active at this page.		Pass
[F_Login-2]	Check the accessing to Login page	Click on link Login from Home page	System displays Login page		Pass
[F_Login-3]	Check the accessing to Register page	Click on Register button in the Checkout page	System displays Login page		Pass
[F_Login-4]	Check the accessing to Register page	Click on Register button in the login fail page	System displays Login page		Pass

#### Check Provide required information

[F_Login-5]	Check empty require field (Username and/or password).	Leave one of require fields: + User name. + Password.	System displays message box with content: user must fill in all mandatory fields.		Pass
[F_Login-6]	Check invalid username and/or password entered	User enters invalid data for username and/or password, and click Login.	System prompts user to enter the username and password with a message: "Invalid username and password. Please try again".		Pass

[F_Login-7]	Check valid username and/or password entered	User enters valid data for username and/or password, and click Login.	System redirected the user to the requested Web page or user profile page.		Pass
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Module Code	<i>Login (Back-end Mode)</i>				
Test requirement	<i>Administrator Login, Provide required information, and login</i>				
Tester	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
<b>Check Provide required information</b>					
[B_Login-1]	Check empty require field (Username and/or password).	Leave one of require fields: + User name. + Password.	System displays message box with content: administrator must fill in all mandatory fields.		Pass
[B_Login-2]	Check invalid username and/or password entered	User enters invalid data for username and/or password, and click Login.	System prompts administrator to enter the username and password with a message: "Invalid username and password. Please try again".		Pass
[B_Login-3]	Check valid username and/or password entered	User enters valid data for username and/or password, and click Login.	System redirected the administrator to the secure Web page.		Pass

<b>Module Code</b>	<b>Category management</b>				
<b>Test requirement</b>	<b>Check the CRUD (Create, Read, Update, and Delete) processes for category in administration panel.</b>				
<b>Tester</b>	<b>TuanQX</b>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
<b>Check the accessing to Category Management page</b>					
[Category-1]	Check user is allowed to view this page	1. If user is logged in. 2. If user has right to access category management page.	System allow user to view this page.		Pass
[Category-2]	Check add category	1. If user is logged in. 2. If user has right to access category management page. 3. Click on “Insert” button from Category page	System displays Category form page allow user to enter information for new category.		Pass
[Category-3]	Check edit category information	1. If user is logged in. 2. If user has right to access category management page. 3. Click on “Edit” link from Category page	System sends user to the Category page and allow user to edit category information		Pass
[Category-4]	Check delete category	1. If user is logged in. 2. If user has right to access category management page. 3. Click on “Delete” link from Category page	Selected category will be deleted		Pass
[Category-5]	Check empty require field (category name).	Leave require fields: + category name.	System displays message box with content: “Category Name must be between 2 and 32 characters!”		Pass
[Category-6]	Check status changing of category	User edit category status to “Enabled” or “Disabled”	System does correct action for this change		Pass

<b>Module Code</b>	<i>Manufacturer management</i>				
<b>Test requirement</b>	<b><i>Check the CRUD (Create, Read, Update, and Delete) processes for manufacturer in administration panel.</i></b>				
<b>Tester</b>	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
<b>Check the accessing to Manufacturer Management page</b>					
[Manufacturer-1]	Check user is allowed to view this page	1. If user is logged in. 2. If user has right to access manufacturer management page.	System allow user to view this page.		Pass
[Manufacturer-2]	Check add manufacturer	1. If user is logged in. 2. If user has right to access manufacturer management page. 3. Click on “Insert” button from Manufacturer page	System displays Manufacturer form page allow user to enter information for new manufacturer.		Pass
[Manufacturer-3]	Check edit manufacturer information	1. If user is logged in. 2. If user has right to access manufacturer management page. 3. Click on “Edit” link from Manufacturer page	System sends user to the Manufacturer page and allow user to edit manufacturer information		Pass
[Manufacturer-4]	Check delete manufacturer	1. If user is logged in. 2. If user has right to access manufacturer management page. 3. Click on “Delete” link from Manufacturer page	Selected manufacturer will be deleted		Pass
[Manufacturer-5]	Check empty require field (manufacturer name).	Leave require fields: + manufacturer name.	System displays message box with content: + “Manufacturer Name must be between 3 and 64 characters!”		Pass

<b>Module Code</b>	<b>Product management</b>				
<b>Test requirement</b>	<b>Check the CRUD (Create, Read, Update, and Delete) processes for product in administration panel.</b>				
<b>Tester</b>	<b>TuanQX</b>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
<b>Check the accessing to Product Management page</b>					
[Product-1]	Check user is allowed to view this page	1. If user is logged in. 2. If user has right to access product management page.	System allow user to view this page.		Pass
[Product-2]	Check add product	1. If user is logged in. 2. If user has right to access product management page. 3. Click on “Insert” button from Product page	System displays Product form page allow user to enter information for new product.		Pass
[Product-3]	Check edit product information	1. If user is logged in. 2. If user has right to access product management page. 3. Click on “Edit” link from Product page	System sends user to the Product page and allow user to edit product information		Pass
[Product-4]	Check delete product	1. If user is logged in. 2. If user has right to access product management page. 3. Click on “Delete” link from Product page	Selected product will be deleted		Pass
[Product-5]	Check empty require field (product name).	Leave require fields: + product name. + model	System displays message box with content: + “Product Name must be greater than 3 and less than 255 characters!” + “Product Model must be greater than 3 and less than 64 characters!” + “Required Data has not been entered. Check for field errors!”		Pass

<b>Module Code</b>	<i>Store management</i>				
<b>Test requirement</b>	<b>Check the CRUD (Create, Read, Update, and Delete) processes for store in administration panel.</b>				
<b>Tester</b>	<i>TuanQX</i>				
Test case ID	Test Case Description	Test Case Procedure	Expected Output	Inter-test case Dependence	Status
<b>Check the accessing to Store Management page</b>					
[Store-1]	Check user is allowed to view this page	1. If user is logged in. 2. If user has right to access store management page.	System allow user to view this page.		Pass
[Store-2]	Check add store	1. If user is logged in. 2. If user has right to access store management page. 3. Click on “Insert” button from Store page	System displays Store form page allow user to enter information for new store.		Pass
[Store-3]	Check edit store information	1. If user is logged in. 2. If user has right to access store management page. 3. Click on “Edit” link from Store page	System sends user to the Store page and allow user to edit product information		Pass
[Store-4]	Check delete store	1. If user is logged in. 2. If user has right to access product management page. 3. Click on “Delete” link from Product page	Selected product will be deleted		Pass
[Store-5]	Check empty require field (store name).	Leave require fields: + store name. + store url + store title + Default Items per Page (Catalog): + Product Image Thumb Size + Product Image Popup Size + Category List Size + Product List Size + Additional Product Image Size + Related Product Image Size + Cart Image Size	System displays message box with content: + “Store Name must be between 3 and 32 characters!” + “Store URL required!” + “Title must be between 3 and 32 characters!”		Pass

## 5.4. Checklists

### 5.4.1. Checklist of Validation

The following checklist is designed to provide direction during the preparation phase of a validation effort. Some or potentially all of the following information is generally available for an existing product, and collecting it is an important first step before moving onto the engineering phases of a validation effort.

In the case of a self-service validation, the information below is designed to provide informal guidance as to what preparations are generally useful in increasing the chances of success. The guidelines below may be seen as requirements for validation.

Checklist Name	<i>Validation Checklist</i>	
Member who responsible for	<i>All project member</i>	
No	Check Description	Result
<b>General Check</b>		
[General -1]	Assure the existence of the "Help" menu.	
[General -2]	Assure that the proper commands and options are in each menu.	
[General -3]	Assure that all buttons on all tool bars have a corresponding key command.	
[General -4]	Assure that each menu command has an alternative (hot-key) key sequence which will invoke it where appropriate.	
[General -5]	In drop down list boxes, ensure that the names are not abbreviations/cut short	
[General -6]	In drop down list boxes, assure that the list and each entry in the list can be accessed via appropriate key / hot key combinations.	
[General -7]	Ensure that duplicate hot keys do not exist on each screen	
[General -8]	Ensure the proper usage of the escape key (which is to undo any changes that have been made) and generates a caution message “Changes will be lost – Continue yes/no”	
[General -9]	Assure that the cancel button functions the same as the escape key.	
[General -10]	Assure that the Cancel button operates as a Close button when changes have been made that cannot be undone.	

[General -11]	Assure that only command buttons which are used by a particular window, or in a particular dialog box, are present. - i.e.: make sure they don't work on the screen behind the current screen.	
[General -12]	When a command button is used sometimes and not at other times, assures that it is grayed out when it should not be used.	
[General -13]	Assure that OK and Cancel buttons are grouped separately from other command buttons.	
[General -14]	Assure that command button names are not abbreviations.	
[General -15]	Assure that all field labels/names are not technical labels, but rather are names meaningful to system users.	
[General -16]	Assure that command buttons are all of similar size and shape, and same font & font size.	
[General -17]	Assure that each command button can be accessed via a hot key combination.	
[General -18]	Assure that command buttons in the same window/dialog box do not have duplicate hot keys.	
[General -19]	Assure that each window/dialog box has a clearly marked default value (command button, or other object) which is invoked when the Enter key is pressed - and NOT the Cancel or Close button	
[General -20]	Assure that focus is set to an object/button which makes sense according to the function of the window/dialog box.	
[General -21]	Assure that all option buttons (and radio buttons) names are not abbreviations.	
[General -22]	Assure that option button names are not technical labels, but rather are names meaningful to system users.	
[General -23]	If hot keys are used to access option buttons, assure that duplicate hot keys do not exist in the same window/dialog box.	
[General -24]	Assure that option box names are not abbreviations.	

[General -25]	Assure that option boxes, option buttons, and command buttons are logically grouped together in clearly demarcated areas “Group Box”	
[General -26]	Assure that the Tab key sequence which traverses the screens does so in a logical way.	
[General -27]	Assure consistency of mouse actions across windows.	
<b>GUI Check</b>		
[GUI-1]	Is the general screen background the correct color?	
[GUI-2]	Are the field prompts the correct color?	
[GUI-3]	Are the field backgrounds the correct color?	
[GUI-4]	In read-only mode, are the field prompts the correct color?	
[GUI-5]	In read-only mode, are the field backgrounds the correct color?	
[GUI -6]	Is all the screen prompts specified in the correct screen font?	
[GUI -7]	Is the text in all fields specified in the correct screen font?	
[GUI -8]	Is all the field prompts aligned perfectly on the screen?	
[GUI -9]	Are all the fields edit boxes aligned perfectly on the screen?	
[GUI -10]	Are all group boxes aligned correctly on the screen?	
[GUI -11]	Should the screen be resizable?	
[GUI -12]	Should the screen be minimizing?	
[GUI -13]	Is all the field prompts spelt correctly?	
[GUI -14]	Are all character or alpha-numeric fields left justified? This is the default unless otherwise specified.	
[GUI -15]	Are all numeric fields' right justified? This is the default unless otherwise specified.	
[GUI -16]	Is all the micro-help text spelt correctly on this screen?	
[GUI -17]	Is all the error message text spelt correctly on this screen?	
[GUI -18]	Is all users input captured in UPPER case or lower case consistently?	
[GUI -19]	Where the database requires a value (other than null) then this should be default into fields. The user must either enter an alternative valid value or leave the default value intact.	

[GUI -20]	Assure that all windows have a consistent look and feel.	
[GUI -21]	Assure that all dialog boxes have a consistent look and feel.	
<b>Business Logic</b>		
[Business -1]	Does a failure of validation on every field cause a sensible user error message?	
[Business -2]	Is the user required to fix entries which have failed validation tests?	
[Business -3]	Have any fields got multiple validation rules and if so are all rules being applied?	
[Business -4]	If the user enters an invalid value and clicks on the OK button (i.e. does not TAB off the field) is the invalid entry identified and highlighted correctly with an error message?	
[Business -5]	Is validation consistently applied at screen level unless specifically required at field level?	
[Business -6]	For all numeric fields check whether negative numbers can and should be able to be entered.	
[Business -7]	For all numeric fields check the minimum and maximum values and also some mid-range values allowable?	
[Business -8]	For all character/alphanumeric fields check the field to ensure that there is a character limit specified and that this limit is exactly correct for the specified database size?	
[Business -9]	Do all mandatory fields require user input?	
[Business -10]	If any of the database columns don't allow null values then the corresponding screen fields must be mandatory. (If any field which initially was mandatory has become optional then check whether null values are allowed in this field.)	
<b>Data Integrity</b>		
[Data-1]	Is the data saved when the window is closed by double clicking on the close box?	
[Data-2]	Check the maximum field lengths to ensure that there are no truncated characters?	

[Data-3]	Where the database requires a value (other than null) then this should be default into fields. The user must either enter an alternative valid value or leave the default value intact.	
[Data-4]	Check maximum and minimum field values for numeric fields?	
[Data-5]	If numeric fields accept negative values can these be stored correctly on the database and does it make sense for the field to accept negative numbers?	
[Data-6]	If a set of radio buttons represent a fixed set of values such as A, B and C then what happens if a blank value is retrieved from the database? (In some situations rows can be created on the database by other functions which are not screen based and thus the required initial values can be incorrect.)	
[Data-7]	If a particular set of data is saved to the database check that each value gets saved fully to the database. I.e.: Beware of truncation (of strings) and rounding of numeric values.	
<b>Modes (Editable/Read-only)</b>		
[Modes- 1]	Are the screen and field colors adjusted correctly for read-only mode?	
[Modes- 2]	Should a read-only mode be provided for this screen?	
[Modes- 3]	Are all fields and controls disabled in read-only mode?	
[Modes- 4]	Can the screen be accessed from the previous screen/menu/toolbar in read-only mode?	
[Modes- 5]	Can all screens available from this screen be accessed in read-only mode?	
[Modes- 6]	Check that no validation is performed in read-only mode.	
<b>Navigation</b>		
[Navigation -1]	Can the screen be accessed correctly from the menu?	
[Navigation -2]	Can the screen be accessed correctly from the toolbar?	
[Navigation -3]	Can the screen be accessed correctly by double clicking on a list control on the previous screen?	
[Navigation -4]	Can all screens accessible via buttons on this screen be accessed correctly?	
[Navigation -5]	Can all screens accessible by double clicking on a list control be accessed correctly?	

[Navigation -6]	Is the screen modal? I.e. Is the user prevented from accessing other functions when this screen is active and is this correct?	
[Navigation -7]	Can a number of instances of this screen be opened at the same time and is this correct?	
<b>Usability</b>		
[Usability -1]	Are all the dropdowns on this screen sorted correctly? Alphabetic sorting is the default unless otherwise specified.	
[Usability -2]	Is all date entry required in the correct format?	
[Usability -3]	Have all pushbuttons on the screen been given appropriate Shortcut keys?	
[Usability -4]	Do the Shortcut keys work correctly?	
[Usability -5]	Have the menu options which apply to your screen got fast keys associated and should they have?	
[Usability -6]	Does the Tab Order specified on the screen go in sequence from Top Left to bottom right? This is the default unless otherwise specified.	
[Usability -7]	Are all read-only fields avoided in the TAB sequence?	
[Usability -8]	Are all disabled fields avoided in the TAB sequence?	
[Usability -9]	Can the cursor be placed in the micro help text box by clicking on the textbox with the mouse?	
[Usability -10]	Can the cursor be placed in read-only fields by clicking in the field with the mouse?	
[Usability -11]	Is the cursor positioned in the first input field or control when the screen is opened?	
[Usability -12]	Is there a default button specified on the screen?	
[Usability -13]	Does the default button work correctly?	
[Usability -14]	When an error message occurs does the focus return to the field in error when the user cancels it?	
[Usability -15]	When the user Alt+Tab's to another application does this have any impact on the screen upon return to The application?	
[Usability -16]	Do all the fields edit boxes indicate the number of characters they will hold by their length? e.g. a 30 character field should be a lot longer	

### 5.4.2. Submission Checklist

Each submission must be accompanied by this checklist filled in by the “GoodBoys” team. Manuscripts submitted without checklist will be not accepted to send for instructors.

Before you prepare a manuscript, read carefully through the checklist and consult the latest “Submission Checklist”.

Checklist Name	<i>Submission Checklist</i>	
Member who responsible for	<i>All project member</i>	
No	Check Description	Result
<b>General manuscript requirements</b>		
[General -1]	Manuscript typed one spaced, 12-point font size with a left-hand margin of 2 cm and a right-hand margin of 2 cm on one side of A4-sized or American letter-sized paper.	
[General -2]	Text body is not justified on the right side.	
[General -3]	References in text body are quoted with the author name/year system. The ampersand is not used between names (use “and” instead). When 3 or more authors are cited, use the name of the first author, followed by et al.	
[General -4]	All citations in the text body are in the list of references at the end.	
[General -5]	All figures and tables are cited, in the correct order, in the text body.	
[General -6]	All references in the list are cited in the text body.	
[General -7]	“Approximately” and “maximum” are not abbreviated.	
[General -8]	The English has been checked by a native speaker (yes /no).	
<b>Structuring text/figure legends/figures/tables Full-length papers</b>		
[Structure -1]	Figures are numbered with numeric values.	
[Structure -2]	Tables are numbered with numeric values.	
[Structure -3]	Lettering on figures is consistent in font and size as these are not changed by the typesetters. Lettering always starts with a capital letter; thereafter only lower cases are used.	

[Structure -4]	List all non-standard abbreviations on Abstract page in alphabetical order.	
[Structure -5]	Hierarchy of subsections in the text body must be clear.	
[Structure -6]	First-order headings (e.g., <b>Materials and methods</b> ) and second-order headings are in bold without capitalizing main words (e.g., <b>Location and sampling sites</b> ); third-order headings bold headers plus 1 tab. Thereafter, text runs on.	
[Structure -7]	The list of references is on pages separate from remainder of the text body.	
[Structure -8]	All tables on separate pages with heading above and footnotes and explanatory material beneath each table.	

## 5.5. Other material

### APPENDIX A. TEST LOGS

Component	Module	Total testcase	Not run	Pass	Fail	Block	N/A
Product		<b>79</b>	<b>36</b>	<b>43</b>			
	<i>Product Detail</i>	18	6	12			
	<i>Product compare</i>	10	10				
	<i>Shopping Cart</i>	15		15			
	<i>Map</i>	16	16				
Store	<i>Header</i>	20	4	16			
		<b>29</b>	<b>10</b>	<b>19</b>			
	<i>Store Main Page</i>	15	7	8			
Search	<i>View Store Detail</i>	14	3	11			
		<b>28</b>	<b>11</b>	<b>17</b>			
	<i>HomePage Processes</i>	13	8	5			
Admin	<i>Search Result</i>	15	3	12			
		<b>45</b>		<b>45</b>			
	<i>Register (Front-end Mode)</i>	14		14			
	<i>Login (Front-end Mode)</i>	7		7			
	<i>Login (Back-end Mode)</i>	3		3			
	<i>Category management</i>	6		6			
	<i>Manufacturer management</i>	5		5			
Promotion	<i>Product management</i>	5		5			
	<i>Store management</i>	5		5			
		<b>27</b>	<b>27</b>				
	<i>Promotion Main</i>	10	10				
	<i>Promotion Detail</i>	17	17				

## 6.1. Installation Guide

In this part of the User’s Manual, we shall:

- ✓ Learn the system requirements needed to install GoodsWay
- ✓ Learn to download and upload “GoodsWay” files to a web server
- ✓ Learn to set file and folder permissions
- ✓ Learn to create a MySQL database and user
- ✓ Learn to complete installation with the “GoodsWay” wizard

This part is suggested for reading even if you are a tech-savvy computer user, as you can eliminate the possible problems while installing “GoodsWay”.

### 6.1.1. System requirements

We must install “GoodsWay” on our own computer or on a shared web hosting solution. “GoodsWay” system can run on an Apache or Windows server. Currently, “GoodsWay” supports only MySQL database. Overall, “GoodsWay” was designed to run using a Windows server, MySQL, and PHP.

The following table shows the minimum system requirements for “GoodsWay” for installation and running without problems.

Hardware	Required Settings
CPU	Intel(R) Pentium(R) 4 2.4 GHz or better supported
RAM	512MB RAM (768MB for Windows Vista/Win7)
Hard Drive	2GB of free space
Software	Required Settings
Windows	7
Firefox	Version 3.5 or higher
MySQL	Version 5.5.5
PHP Settings	Required Settings
PHP Version	5.0+
Register Global	Off
Magic Quotes GPC	Off
File Uploads	On
Extension	Required Settings
MySQL	On
GD	On
cURL	On
ZIP	On

### 6.1.2. Installing “GoodsWay”

Be sure that your web hosting solution meets the previous requirements before starting installation steps. The easiest way of determining this is to send a requirement list to web server technical support. We will complete installing “GoodsWay” using the following sections:

- ✓ Install AppServer (if you want to view “GoodsWay” on your own computer localhost).
- ✓ Upload “GoodsWay” files to a web host.
- ✓ Creating MySQL database and a user for “GoodsWay”.
- ✓ Edit configuration files for running GoodsWay.
- ✓ Browsing to “GoodsWay” administration homepage.
- ✓ Browsing to “GoodsWay” homepage.

Now, let's start to explore each section in detail.

#### 6.1.2.1. Installing AppServer

##### 6.1.2.1.1. What is AppServ?

**Note:** If you do not want to install “GoodsWay” on your local machine, you can skip this step and move to the next step: “6.1.2.2. Upload “GoodsWay” files to a web host”.

AppServ is a full-featured of Apache, MySQL, PHP, phpMyAdmin. You can setup in 1 minute.

##### Package of AppServ

- ✓ Apache
- ✓ PHP
- ✓ MySQL
- ✓ phpMyAdmin

All packages download from Official Binary Release. AppServ objective just make easy to setup. We do not provide anything else more than Official Binary Release package. Because we think the Official Binary Release work better than compile by individual or third-party binary.

AppServ have only special configuration when install, Apache configure httpd.conf, MySQL configure my.ini, and PHP configure php.ini. AppServ can guaranty any package from AppServ can work stable like Official of Apache, PHP, MySQL Release.

#### 6.1.2.1.2. How to install AppServ

##### Preparing package before install:

Download AppServ from <http://www.appservnetwork.com/index.php>, “GoodsWay” system uses AppServ 2.5.10 which includes:

- ✓ Apache 2.2.8
- ✓ PHP 5.2.6
- ✓ MySQL 5.0.51b
- ✓ phpMyAdmin-2.10.3

##### Download link

<http://prdownloads.sourceforge.net/appserv/appserv-win32-2.5.10.exe?download>

##### AppServ Installation Step by Step:

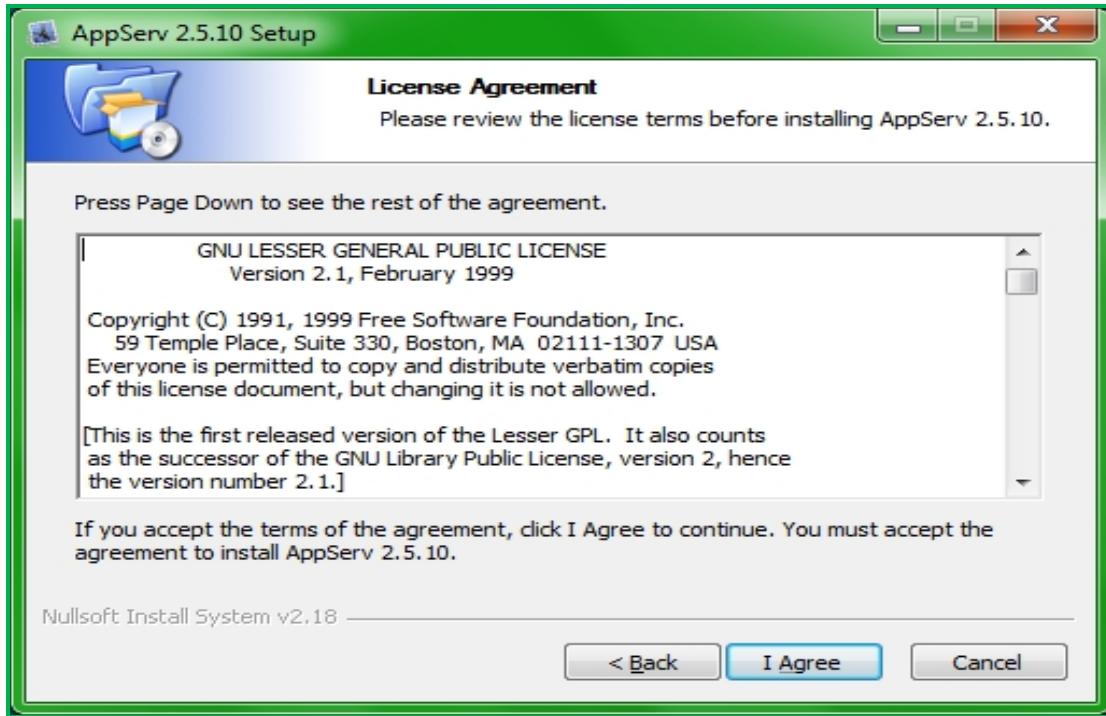
1. Double Click appserv-win32-2.5.10.exe to install AppServ on your computer.



**Figure 6.1:** AppServ Welcome Screen

**2. License Agreement:** AppServ distribution under GNU/GPL License. You must read license agreement before install.

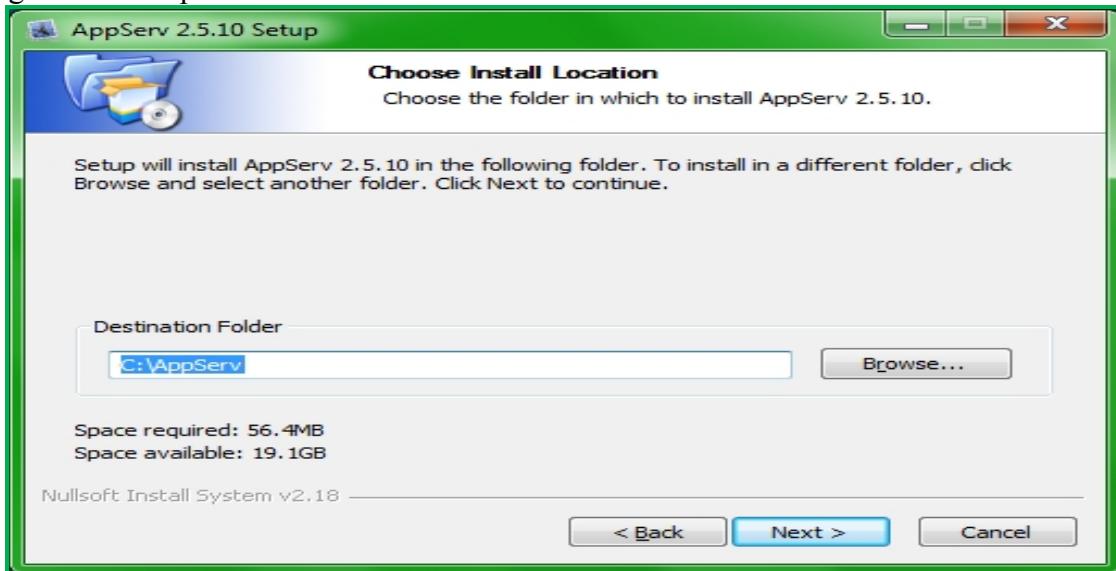
If you agree for this license click Next to go to next step. If you not agree click "Cancel" to cancel install.



**Figure 6.2:** GNU/GPL License Agreement screen.

**3. Choose Install Location:** AppServ default location is C:\AppServ. If you need to change destination.

Click Browse button to change your destination for AppServ program and then click Next to go to next step.



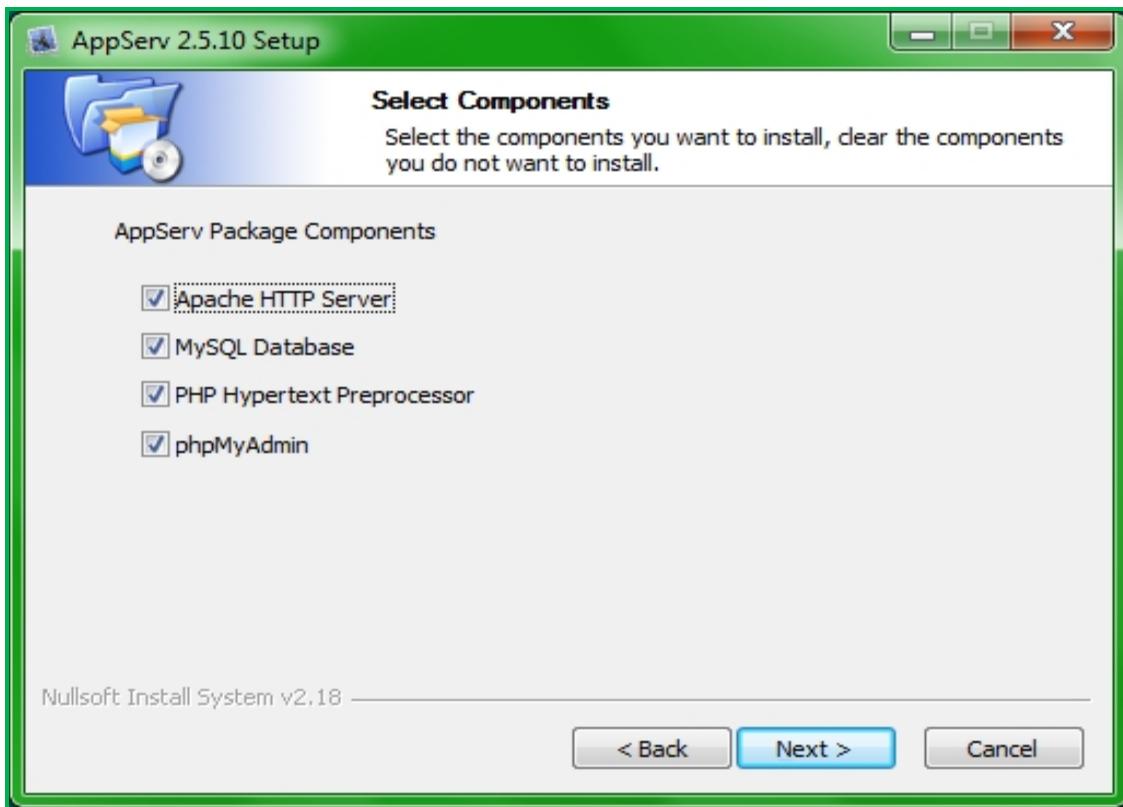
**Figure 6.3:** Choose Install location screen.

**4. Select Components:** AppServ default package components it's checked all package.

If you like to install some packages, you can click at check box.

- ✓ Apache HTTP Server is a Web Server
- ✓ MySQL Database is a Database Server
- ✓ PHP Hypertext Preprocessor is a PHP Programming processor
- ✓ phpMyAdmin is a MySQL Database control via WWW

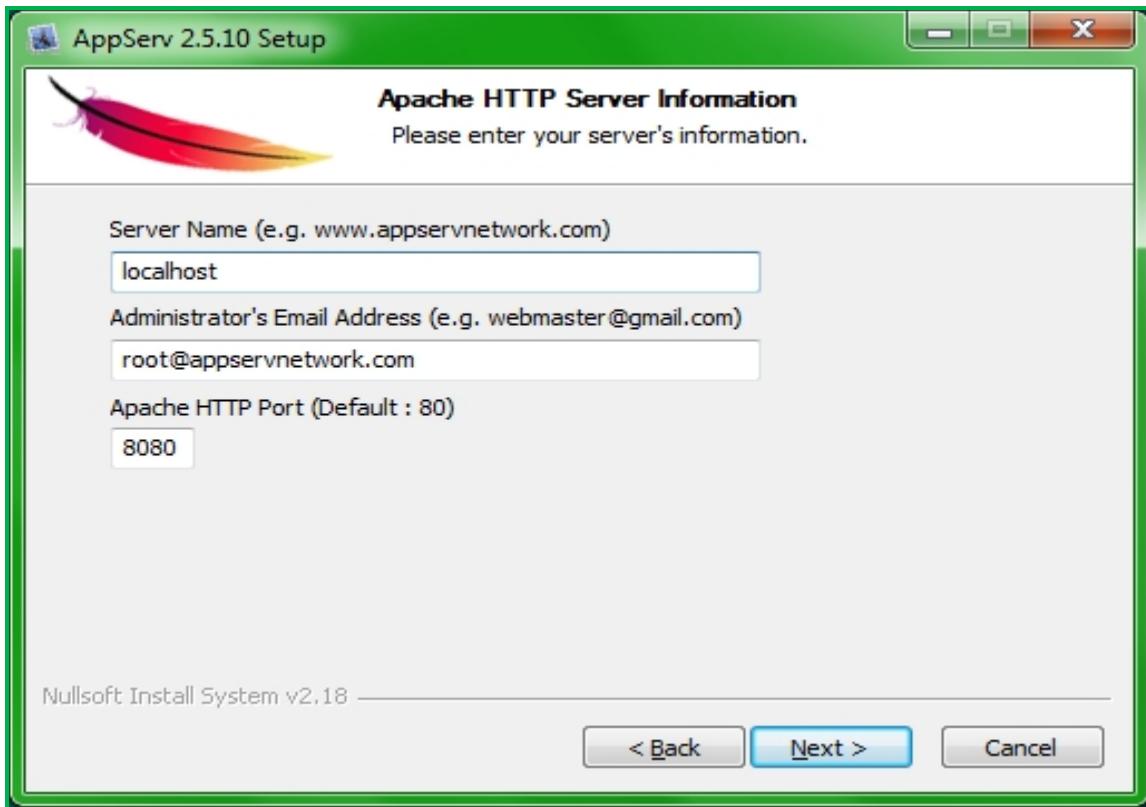
If you complete choosing it click Next to go next step.



***Figure 6.4:*** Choose Package Components screen.

**5. Apache Configuration:** This screen for specify Apache configure.

<b>Server Name</b>	You must specify Server Name e.g. <a href="http://www.appservnetwork.com">www.appservnetwork.com</a> .
<b>Admin Email</b>	You must specify Admin Email e.g. <a href="mailto:root@appservnetwork.com">root@appservnetwork.com</a>
<b>HTTP Port</b>	You must specify HTTP port for Apache Web Server.



**Figure 6.5:** Apache Web Server configure screen.

## 6. MySQL Configuration:

<b>Root Password</b>	You must enter root password for MySQL Database. Default user for this password is root.
<b>Character Sets</b>	Specify for data storage language and collations.
<b>Old Password</b>	If you have problem when you coding PHP code with Old MySQL API. And found error: Client does not support authentication protocol requested by server; consider upgrading MySQL client. You must check this option to avoid error.
<b>Enable InnoDB</b>	If you use InnoDB must check this option.

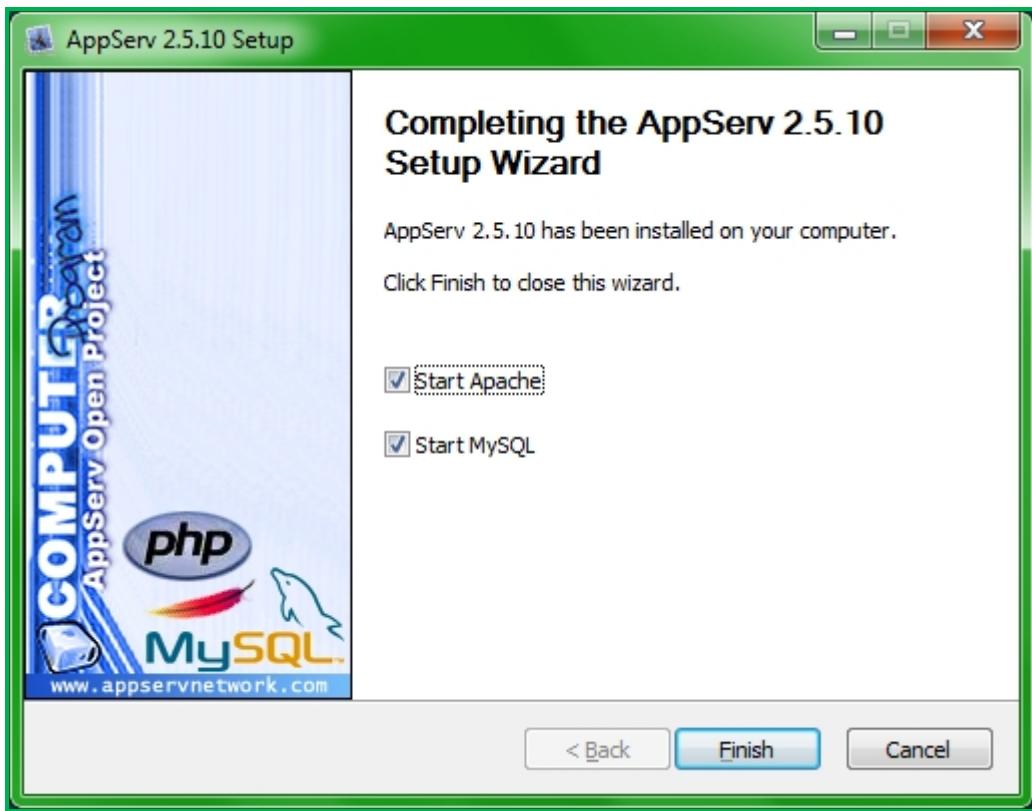


**Figure 6.6:** MySQL Database configure screen.

## 7. Complete AppServ setup:

Setup asks for start Apache and MySQL immediately.

Click Finish to end this setup and AppServ prompt to use.



**Figure 6.7:** Complete AppServ Setup screen.

### 6.1.2.2. Uploading “GoodsWay” files to a web host

#### 6.1.2.2.1. For localhost

This is a simple task for localhost; you only have to extract the “GoodsWay.zip” file to the installed folder of AppServer.

For this tutorial, the path is: C:\AppServ\www\[zip\_folder\_name], where [zip\_folder\_name] is the name of extracted “GoodsWay” zip file folder (**goodsway**).

Now you have the folder name “**goodsway**” with the folder path is “C:\AppServ\www\goodsway” which contains all the files of GoodsWay.

### 6.1.2.2.2. For web host

There are two common methods for uploading files to a web host:

- ✓ Using cPanel File Manager Utility
- ✓ Using an FTP Client

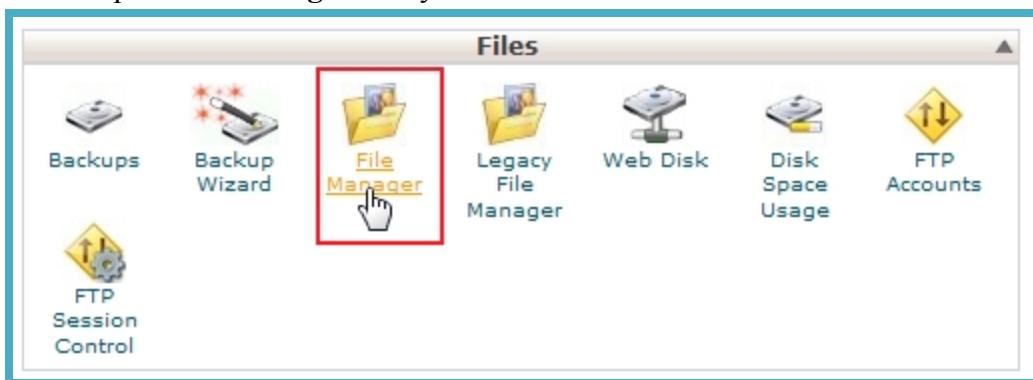
We will learn both the methods with examples.

#### 6.1.2.2.2.1 Uploading “GoodsWay” using cPanel File Manager

This is the first method of uploading “GoodsWay” files to a web host. Many modern web hosting solutions include a control panel called cPanel, and we can use the cPanel File Manager utility to directly upload a ZIP file to web host and decompress the files there easily.

In this example, we will install “GoodsWay” on the **goodsway** directory.

1. Let's open **File Manager** utility at cPanel.



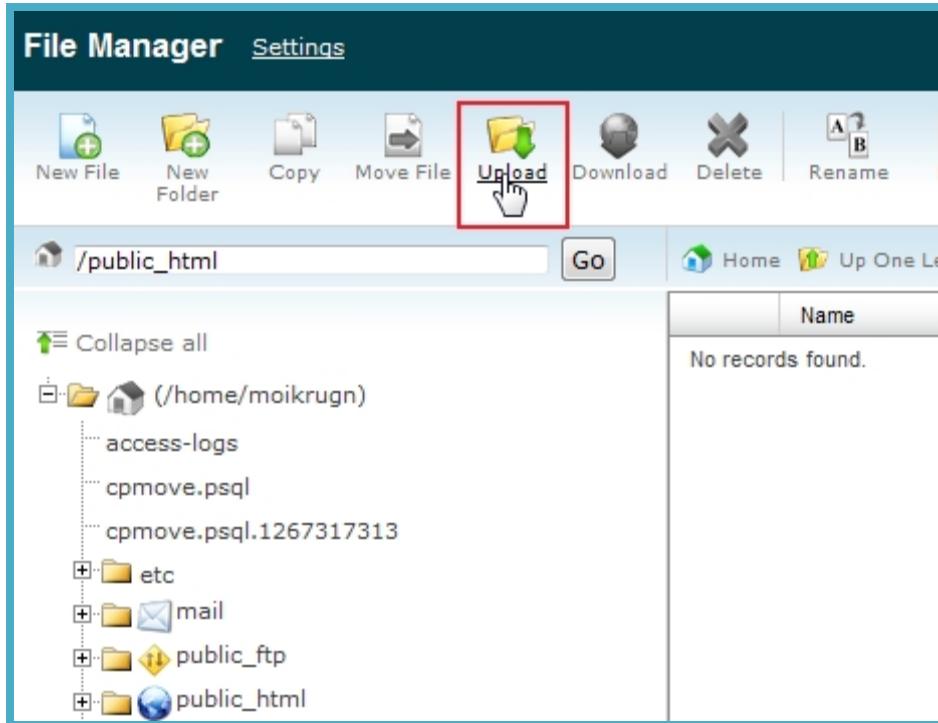
**Figure 6.8:** Open “File Manager utility”

2. It will choose the Web Root as default. We will continue with the **Go** button.



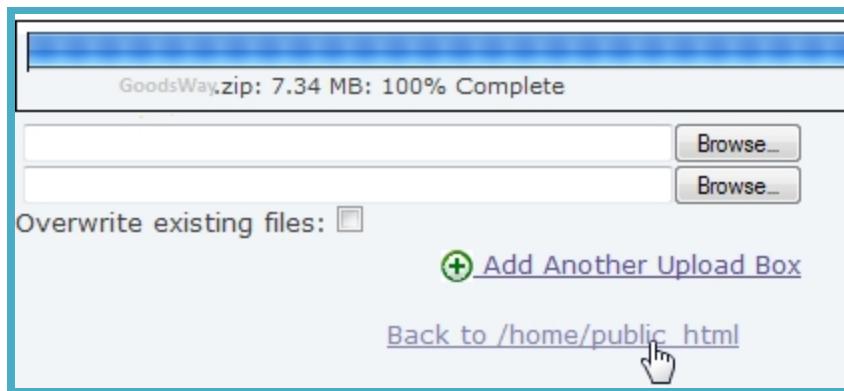
**Figure 6.9:** Choose web root default folder

3. Let's click on the **Upload** link.



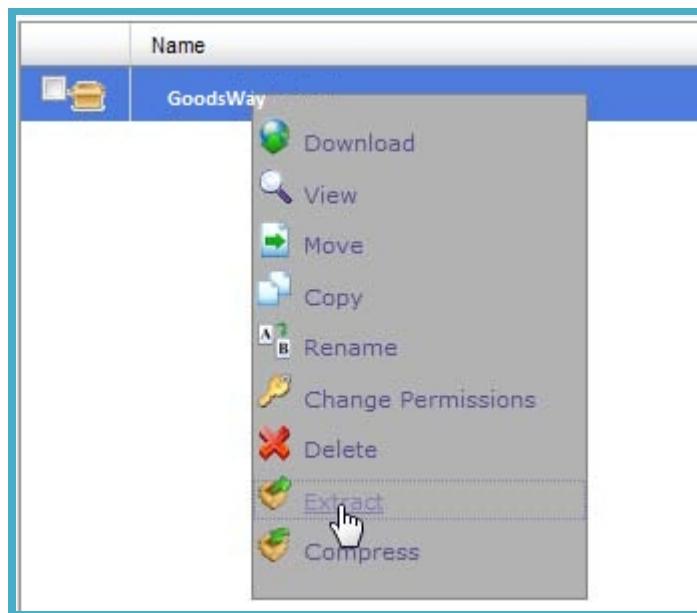
**Figure 6.10:** Click “Upload” link

4. Let's choose “GoodsWay.zip” file using the **Browse** button on the next screen. After the upload completes, we return back to the main cPanel File Manager screen.



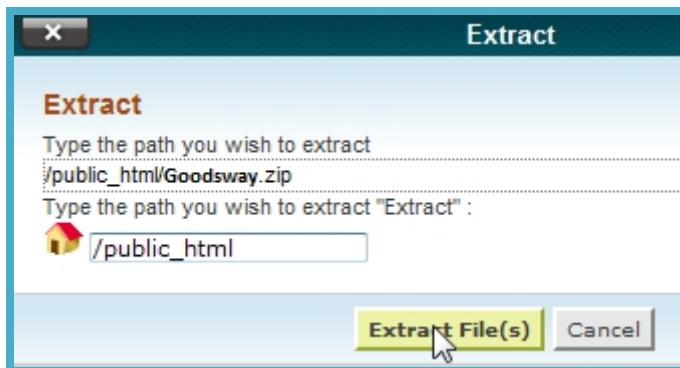
**Figure 6.11:** Upload “GoodsWay.zip” file

5. We will right-click on the file and select **Extract**.



**Figure 6.12:** Select “GoodsWay.zip” file to extract

6. It will open a pop-up window. Just press the **Extract File(s)** button to decompress the ZIP file into the root web folder.



**Figure 6.13:** Extract file popup

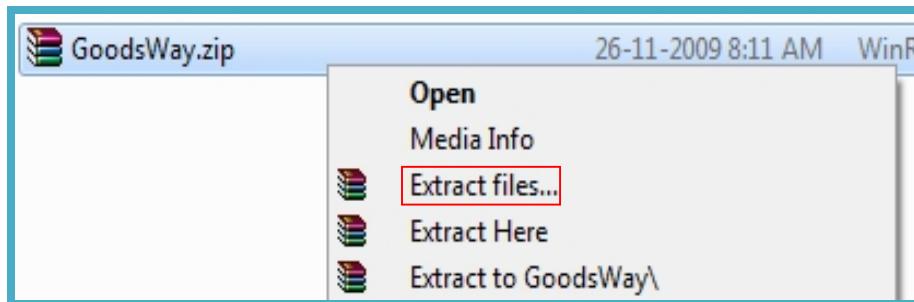
All files were extracted into a folder named **goodsway**.

### 6.1.2.2.2.2. Uploading “GoodsWay” using an FTP Client

This is the second method of uploading files to a web server.

In this section, we will learn how to decompress the “GoodsWay.zip” files in a local folder and upload to the root of web server using an FTP Client.

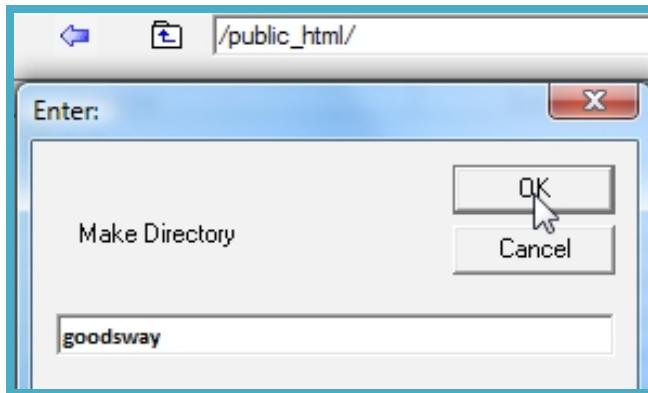
1. Right-click on the “GoodsWay.zip” file on your computer and click **Extract Here** option.



**Figure 6.14:** Choose “Extract Here” option

As a result, we will have a folder named **goodsway** with the structured folders and files inside.

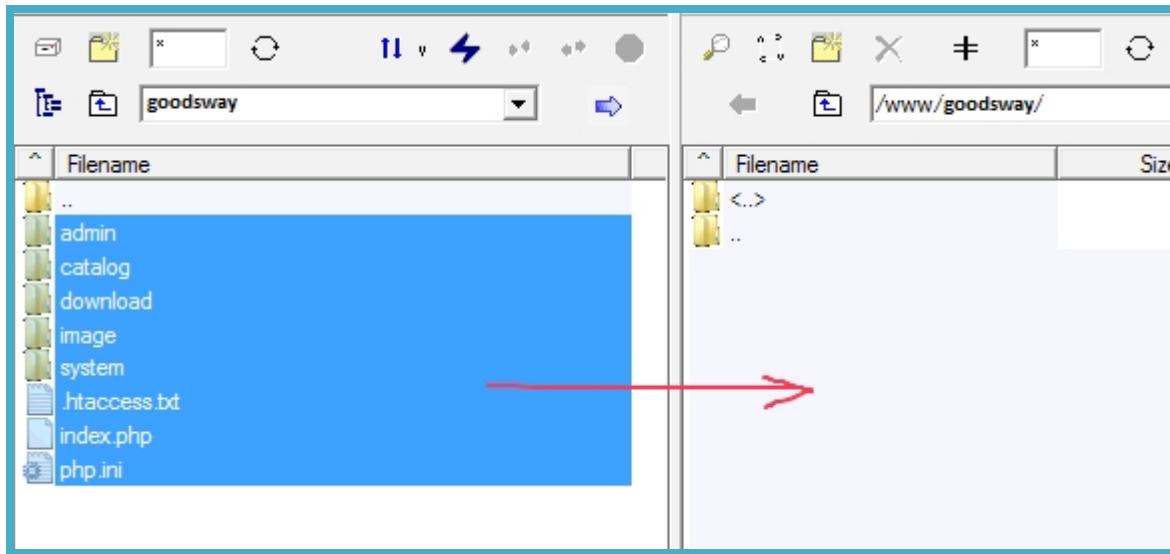
2. We will create a directory named as **goodsway** on the root of the website using the ftp **Make Directory** command.



**Figure 6.15:** Make directory “goodsway”

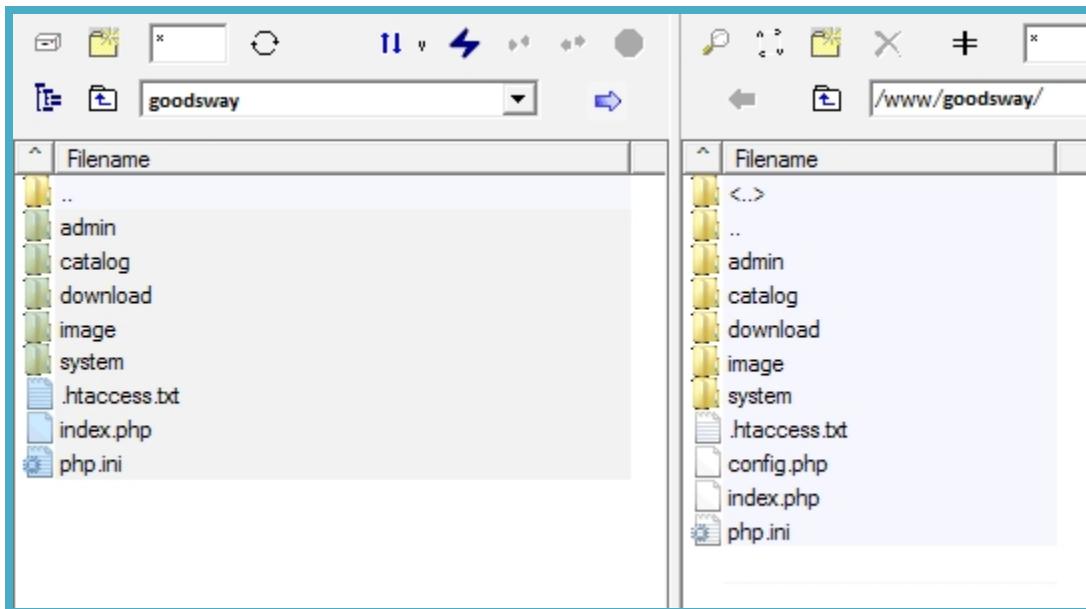
3. Upload all the files and the subfolders in **goodsway** folder to the web host in the /goodsway folder. We use free FTP client software called CoreFTP, which can be downloaded at <http://www.coreftp.com/>. Choose all the files and folders in the directory from the left panel and drag and drop into the right panel where the web root folder exists. In most cases, it is /www folder. So, our destination is /www/goodsway/.

The following screenshot shows the process before dragging and dropping the files:



**Figure 6.16:** Drag all files in the **goodsway** folder to **www/goodsway** folder

And the screenshot after uploading the files to the folder named as **goodsway** is as follows:



**Figure 6.17:** After drag all files in the **goodsway** folder to **www/goodsway** folder

Notice that it is a time consuming process since there are many files in “GoodsWay” system. Let's wait until all the files are uploaded to the web server.

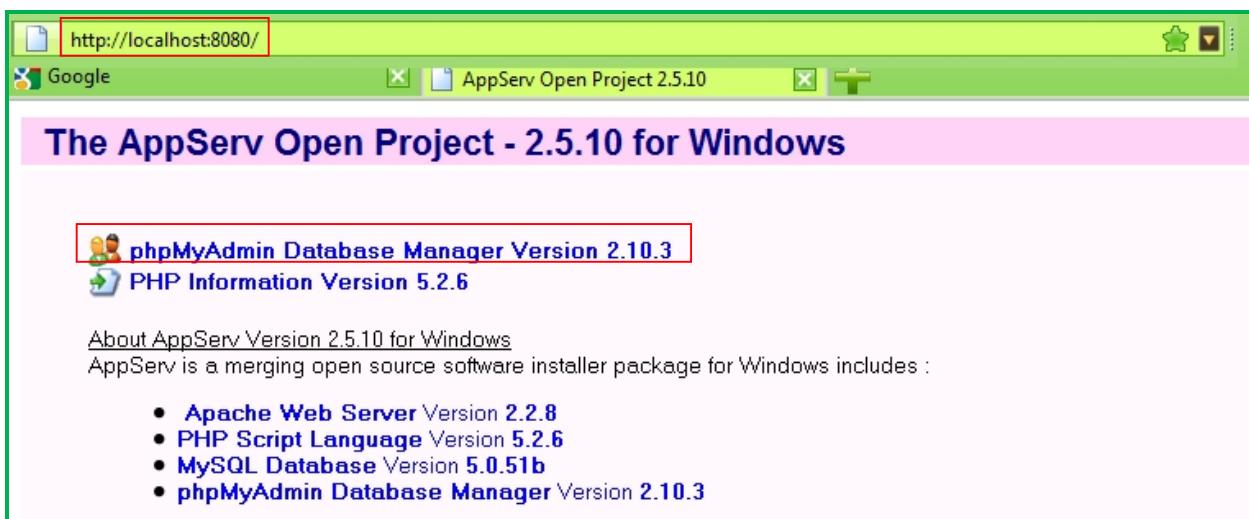
### 6.1.2.3. Creating MySQL database and a user for “GoodsWay”

This step is needed for “GoodsWay” to connect and store all the data in a MySQL database. We will learn how to create a new database and user for this database. We will later use this information in the **configuration for running “GoodsWay”** part.

#### 6.1.2.3.1. For localhost

1. Open your internet browser, type in the localhost address: <http://localhost:8080/> where 8080 is the port was set when we install AppServer in the previous part.

This will show you the AppServer’s homepage:



**Figure 6.18:** AppServer’s homepage

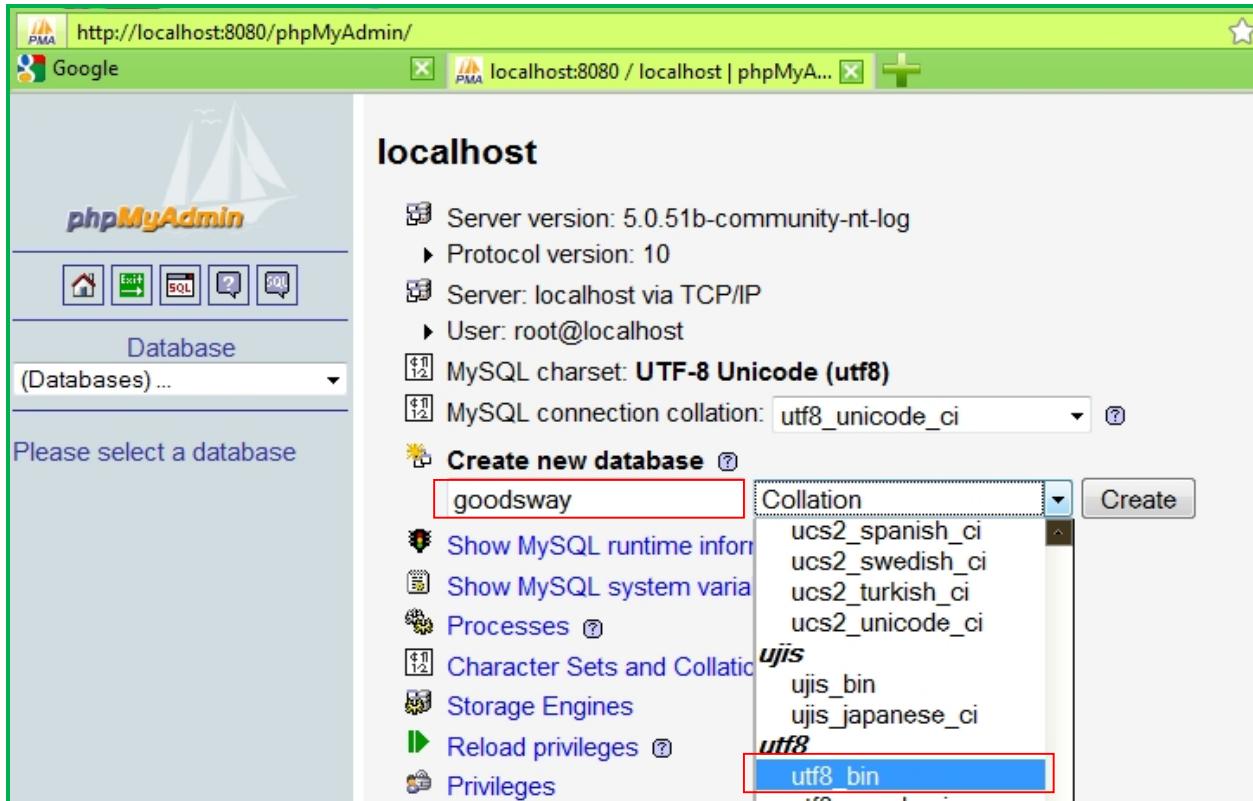
2. Click on the [phpMyAdmin Database Manager Version 2.10.3](#) hyperlink to access phpMyAdmin homepage, the pop-up window will displayed prompt you to enter the username and password for accessing to secure page.

Enter the username and password you’ve set in the previous part to complete this step



**Figure 6.19:** Popup window displayed to prompt user enter username and password

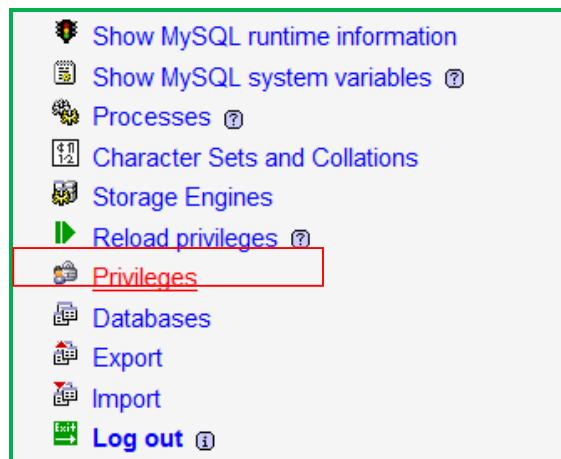
3. In the phpMyAdmin homepage, you enter the name for the database; please let it named **goodsway** for easier follow this step by step instruction, in the Collation dropdown list, select **utf8\_bin** and click on “Create” button.



**Figure 6.20:** Create **goodsway** database

4. Now, let's create a user and assign this user to our newly created database. We go back from database creation result page and jump to MySQL Users section.

Select “Privileges” hyperlink to create new user and grant privileges for him:



**Figure 6.21:** Select “Privileges”

Click on “Add a new user” link:

The screenshot shows the MySQL User overview page. At the top, there is a navigation bar with letters A through Z and a '[Show all]' link. Below this is a table with columns: User, Host, Password, Global privileges (with a lightbulb icon), and Grant. The table lists several users: 'Any' with host '%', 'localhost', and 'production.mysql.com'; and 'root' with host '127.0.0.1'. Most users have 'No' global privileges, while 'root' has 'ALL PRIVILEGES' and 'Yes' grant. At the bottom left of the table area, there is a link 'Check All / Uncheck All'. At the very bottom left of the entire page, there is a red-bordered button labeled 'Add a new User'.

**Figure 6.22:** Click “Add a new User”

Choose a **username** and **password**. Repeat the **password** on the last text box and be sure that the password is not very easy to guess for security preferably a mixture of letters and numbers.) We have chosen **canhbxb** as the username.

On “Global privileges” panel, click on “Check All” to grant all privileges to this user and click on “Go” button to finish this step.

The screenshot shows the 'Add a new User' configuration form. It is divided into several sections: 'Login Information' (User name: canhbxb, Host: localhost, Password: \*\*\*\*\*), 'Database for user' (None selected), 'Global privileges' (Check All checked), 'Data' (checkboxes for SELECT, INSERT, UPDATE, DELETE, FILE), 'Structure' (checkboxes for CREATE, ALTER, INDEX, DROP, CREATE TEMPORARY TABLES, CREATE VIEW, SHOW VIEW, CREATE ROUTINE, ALTER ROUTINE, EXECUTE), 'Administration' (checkboxes for GRANT, SUPER, PROCESS, RELOAD, SHUTDOWN, SHOW DATABASES, LOCK TABLES, REFERENCES, REPLICATION CLIENT, REPLICATION SLAVE, CREATE USER), and 'Resource limits' (input fields for MAX QUERIES PER HOUR, MAX UPDATES PER HOUR, MAX CONNECTIONS PER HOUR, MAX USER\_CONNECTIONS, all set to 0). At the bottom right, there is a red-bordered 'Go' button.

**Figure 6.23:** Create username, password, and grant privileges

#### 6.1.2.3.2. For web host

We will use MySQL Databases link on cPanel. Even though there can be slight differences on different cPanel versions, the main idea and the process is the same.

1. Click on MySQL Databases link on cPanel:



**Figure 6.24:** Choose MySQL Database on cPanel

2. Enter a name for the database. Here, we named the database as **goodsway**. Then, click on the Create Database button.



**Figure 6.25:** Create new database named **goodsway**

If we are on a share hosting, a prefix will be added automatically to the name we provided. This is generally the username which we use to log in to the cPanel. So, your database name will follow the template of cPanelLogin\_databasename.



**Figure 6.26:** Create database success information

Take a note of the database name including the prefix.

3. Now, let's create a user and assign this user to our newly created database. We go back from database creation result page and jump to MySQL Users section.

Choose a **username** and **password**. Repeat the **password** on the last text box and be sure that the password is not very easy to guess for security preferably a mixture of letters and numbers.) We have chosen **canhbtx** as the username. Click on the **Create User** button after filling all the required textboxes.

**MySQL Users**

**Add New User**

Username: canhbx canhbx ✓

Note: seven characters max

Password: \*\*\*\*\* ✓

Password (Again): \*\*\*\*\* ✓

Strength (why?): OK (54/100) Password Generator

Create User

**Figure 6.27:** Add new user

Please note that a prefix will be added to the user as well. Take a note of the username.

4. We need to add user to the database as the last step. Choose the newly created user and database for GoodsWay, and then click the **Add** button.

**Add User To Database**

User: moikrughn\_canhbx

Database: moikrughn\_goodsway

Add

**Figure 6.28:** Add user to database

5. In this step, we are going to assign privileges for the user in the database. Select the **All Privileges** option, and then press the **Make Changes** button to give all the privileges to the user.

**MySQL Account Maintenance**

**Manage User Privileges**

User: moikrughn\_canhbx  
Database: moikrughn\_goodsway

ALL PRIVILEGES	
<input checked="" type="checkbox"/> SELECT	<input checked="" type="checkbox"/> CREATE
<input checked="" type="checkbox"/> INSERT	<input checked="" type="checkbox"/> ALTER
<input checked="" type="checkbox"/> UPDATE	<input checked="" type="checkbox"/> DROP
<input checked="" type="checkbox"/> DELETE	<input checked="" type="checkbox"/> LOCK TABLES
<input checked="" type="checkbox"/> INDEX	<input checked="" type="checkbox"/> REFERENCES
<input checked="" type="checkbox"/> CREATE TEMPORARY TABLES	<input checked="" type="checkbox"/> CREATE ROUTINE

Make Changes

**Figure 6.29:** Grant privileges for user to database

The following screenshot shows the result page after clicking the **Make Changes** button:



**Figure 6.30:** After clicking “Make Changes” button

#### 6.1.2.4. Edit configuration files for running GoodsWay

##### 6.1.2.4.1. In folder named **goodsway**, edit the **config.php** file as below:

```

1 <?php
2 // DIR
3 define ('DIR_APPLICATION', 'C:\AppServ\www\goodsway\catalog/');
4 define ('DIR_SYSTEM', 'C:\AppServ\www\goodsway\system/');
5 define ('DIR_DATABASE', 'C:\AppServ\www\goodsway\system\database/');
6 define ('DIR_LANGUAGE', 'C:\AppServ\www\goodsway\catalog\language/');
7 define ('DIR_TEMPLATE', 'C:\AppServ\www\goodsway\catalog\view\theme/');
8 define ('DIR_CONFIG', 'C:\AppServ\www\goodsway\system\config/');
9 define ('DIR_IMAGE', 'C:\AppServ\www\goodsway\image/');
10 define ('DIR_CACHE', 'C:\AppServ\www\goodsway\system\cache/');
11 define ('DIR_DOWNLOAD', 'C:\AppServ\www\goodsway\download/');
12 define ('DIR_LOGS', 'C:\AppServ\www\goodsway\system\logs/');
13
14 // DB
15 define ('DB_DRIVER', 'mysql');
16 define ('DB_HOSTNAME', ''); // Where: C:\AppServ\www\goodsway
17 define ('DB_USERNAME', 'canhbx');
18 define ('DB_PASSWORD', ''); // Where: canhbx
19 define ('DB_DATABASE', 'goodsway');
20 define ('DB_PREFIX', '');
21 ?>

```

Where:

- C:\AppServ\www\goodsway**: For localhost, it is the directory path of AppServer: C:\AppServ. For webhost, it is the directory path of webhost.
- localhost**: For localhost, type in it: localhost.
- canhbx**: For webhost, type in it the webhost's name.
- canhbx**: Enter the password of user who was created and granted privileges on the previous step.

**Figure 6.31:** Edit **config.php** file in **goodsway** folder

**6.1.2.4.2.** In folder named **goodsway/admin**, edit the **config.php** file as below:

```

1 <?php
2 // HTTP
3 define('HTTP_SERVER', 'http://[REDACTED]/goodsway/admin/');
4 define('HTTP_CATALOG', 'http://[REDACTED]/goodsway/');
5 define('HTTP_IMAGE', 'http://[REDACTED]/goodsway/image/');
6
7 // HTTPS
8 define('HTTPS_SERVER', 'https://[REDACTED]/goodsway/admin/');
9 define('HTTPS_IMAGE', 'https://[REDACTED]/goodsway/image/');
10
11 // DIR
12 define('DIR_APPLICATION', '[REDACTED]\goodsway\admin/');
13 define('DIR_SYSTEM', '[REDACTED]\goodsway\system/');
14 define('DIR_DATABASE', '[REDACTED]\goodsway\system\database/');
15 define('DIR_LANGUAGE', '[REDACTED]\goodsway\admin\language/');
16 define('DIR_TEMPLATE', '[REDACTED]\goodsway\admin\view\template/');
17 define('DIR_CONFIG', '[REDACTED]\goodsway\system\config/');
18 define('DIR_IMAGE', '[REDACTED]\goodsway\image/');
19 define('DIR_CACHE', '[REDACTED]\goodsway\system\cache/');
20 define('DIR_DOWNLOAD', '[REDACTED]\goodsway\download/');
21 define('DIR_LOGS', '[REDACTED]\goodsway\system\logs/');
22 define('DIR_CATALOG', '[REDACTED]\goodsway\catalog/');
23
24 // DB
25 define('DB_DRIVER', 'mysql');
26 define('DB_HOSTNAME', '[REDACTED]');
27 define('DB_USERNAME', 'canhbx');
28 define('DB_PASSWORD', '[REDACTED]');
29 define('DB_DATABASE', 'goodsway');
30 define('DB_PREFIX', '');
31 ?>

```

Where [REDACTED] : For localhost, type in: localhost:8080  
                   : For webhost, type in: your\_webhost\_name  
                   [REDACTED] : For localhost, type in: C:\AppServ\www  
                   [REDACTED] : For webhost, type in: the directory path of webhost  
                   [REDACTED] : For localhost, type in: localhost  
                   [REDACTED] : For webhost, type in the webhost's name  
                   [REDACTED] : Enter the password of user who was created and granted  
                   privileges on the previous step.

**Figure 6.32:** Edit config.php file in **goodsway/admin** folder

### 6.1.2.5. Browsing to “GoodsWay” administrator homepage

Open your internet browser and type in your address bar:

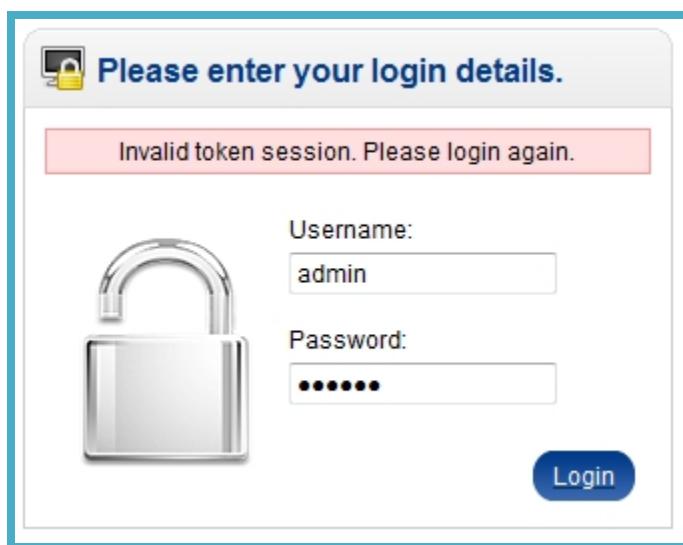
<http://localhost:8080/goodsway/admin/> or <http://yourdomain/goodsway/admin/>

1. The login for administration of “GoodsWay” will be displayed, that tells you to enter the username and password to access the secured page.

The username and password is set default values are:

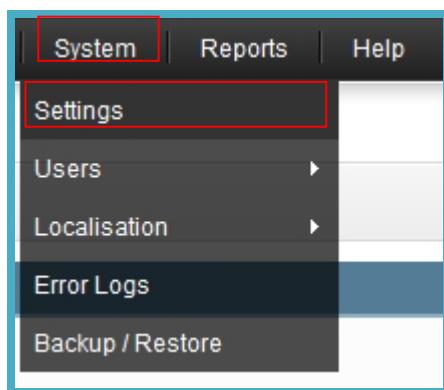
Username: admin

Password: 123456



**Figure 6.34:** Login to administrator panel

2. Check to see that the url for “GoodsWay” is correct by click on “System” tab, choose “Settings” option in the dropdown list.



**Figure 6.35:** Choose “Settings” option

3. The “Settings” page will be displayed as below:

Let ignore other option, we will discuss them later on; now our task will focus on the “General” tab in this page.

The screenshot shows the 'Settings' page with the 'General' tab selected. The page has a header 'Home :: Settings' and a title 'Settings' with a wrench icon. Below the title is a navigation bar with tabs: General, Store, Local, Option, Image, Mail, and Server. The 'General' tab is active. There are several input fields with validation messages:

- \* Store Name: GoodsWay
- \* Store URL:  
Include the full URL to your store.  
Make sure to add '/' at the end.  
Example:  
http://www.yourdomain.com/path/  
Value: http://localhost:8080/goodsway/ (highlighted with a red border)
- \* Store Owner: GoodBoys
- \* Address: FPT University
- \* E-Mail: canhbx@gmail.com

**Figure 6.36:** “Settings” page

In the store’s url textbox, by default it is set to <http://localhost:8080/goodsway/>, if you use “GoodsWay” on the other host, please enter the correct host name to replace the **localhost:8080** and click “Save” button.

The success message will be displayed which tells you that your change has been successful saved.

Success: You have successfully saved your settings!

**Figure 6.37:** Success message

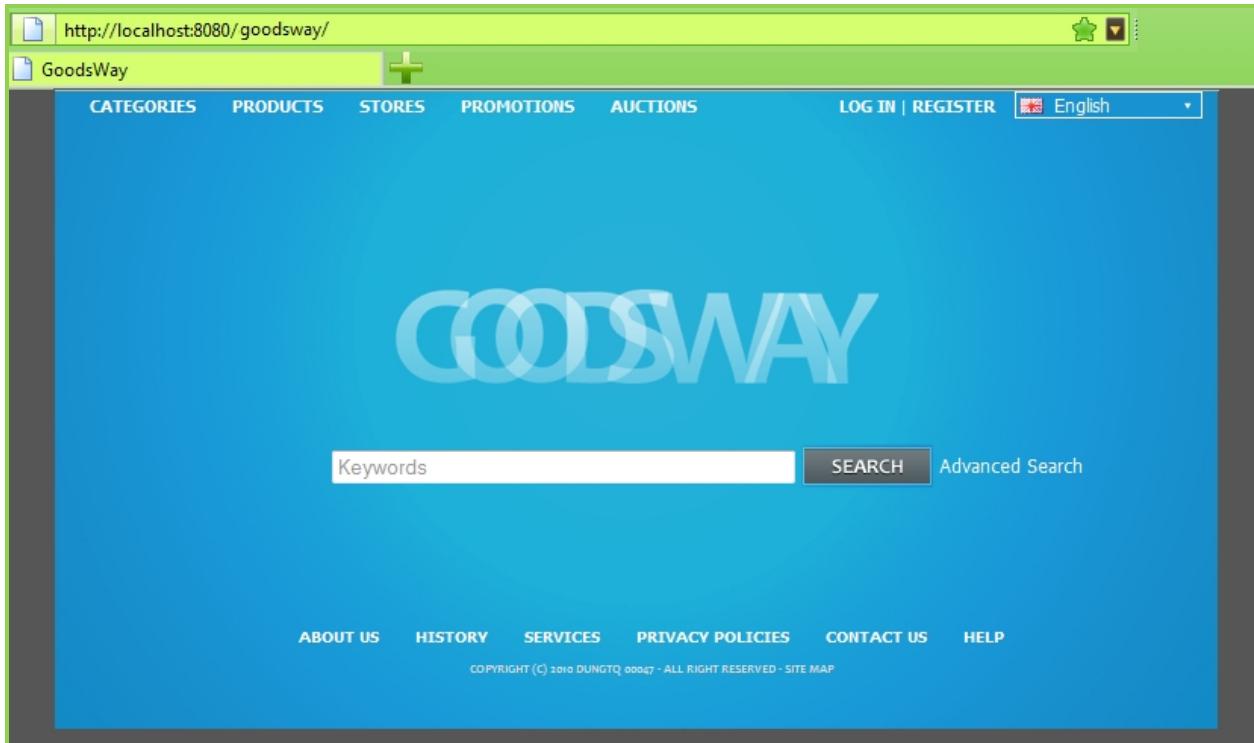
That enough for the administration now, next section will introduce you the “GoodsWay” homepage.

### 6.1.2.6. Browsing to “GoodsWay” homepage

Open your internet browser and type in your address bar:

<http://localhost:8080/goodsway/> or <http://yourdomain/goodsway/>

The homepage of “GoodsWay” will be displayed, that tells you the installation process is finished.



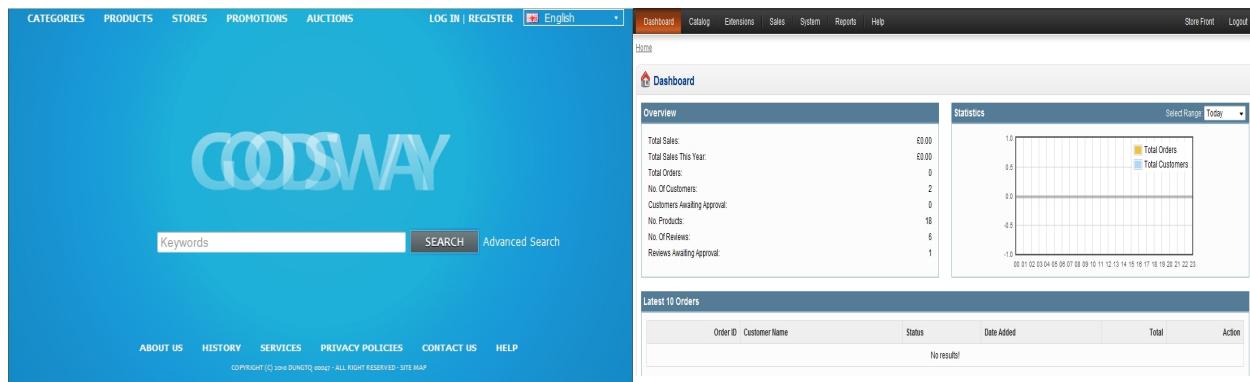
***Figure 6.38:*** “GoodsWay” homepage

## 6.2. User's Guide

### 6.2.1. The Public Interface Walk-through

"GoodsWay" is made up of two different interfaces. There is the public interface that is open to anyone who visits the web site and an administration interface, which can only be seen to those who have access.

Figure 6.39 shows a quick glance at both interfaces.



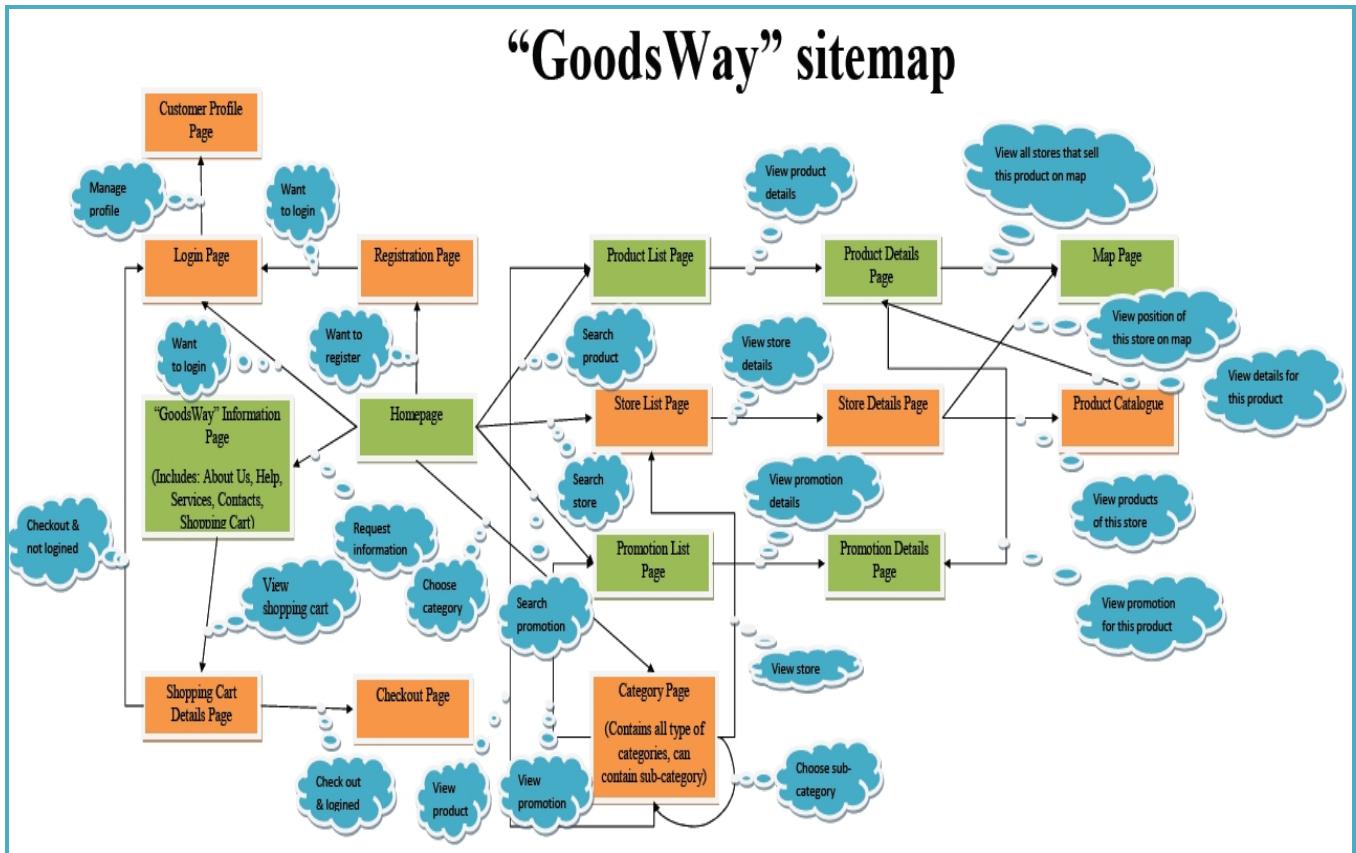
**Figure 6.39:** On the left is the public interface of "GoodsWay". On the right is administration interface. The administration interface is not viewable by the public.

The public interface of "GoodsWay" allows a user to search, view the stores and products stored in "GoodsWay" system, also allows user shopping through shopping cart with many build-in shipment and payment methods.

In this user guide part, you will be exploring the following sections of the public interface:

- ✓ Header page
- ✓ Footer page
- ✓ Homepage
- ✓ Search result page
- ✓ Store Category
- ✓ Store main page
- ✓ Store details page
- ✓ Product Category
- ✓ Product main page
- ✓ Product details page
- ✓ Login/Register page
- ✓ User profile page
- ✓ Shopping cart page
- ✓ Checkout page

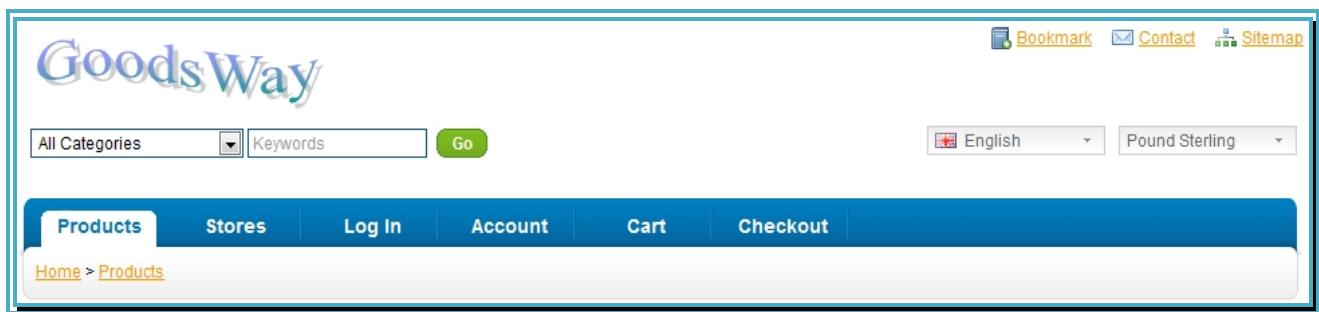
For now, let take a snapshot about how pages are organized in "GoodsWay" system, note that some features list here are not yet developed because of time restrictions for this capstone project.



**Figure 6.40:** "GoodsWay" site map

### 6.2.1.1. Header Page

The top of “GoodsWay” is the page header. The page header provides some important functionality to customers. It also includes a welcome message that gives customers a unique greeting.



**Figure 6.41:** “GoodsWay” page header

On the left-hand side of the page header is the “GoodsWay” logo. Click on this allow you to go to the “GoodsWay” search homepage.

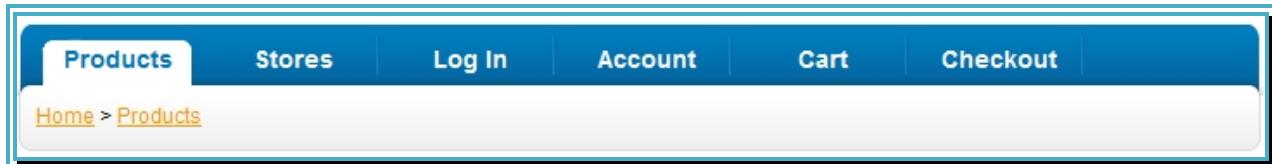
Below the “GoodsWay” logo, there is a search bar. Customers can search for products by using keywords or searching for text used in product descriptions. The category dropdown list allows user to limit the searching process in only selected category.

On the right-hand side of the page header, there are several links aimed at providing customers with additional information. They include the following:

- ✓ **Bookmark:** Allow user to store the current visiting link for easier access on the next time user revisit “GoodsWay” site.
- ✓ **Contact:** Provide the contact information for user: address, telephone number, email address.
- ✓ **Sitemap:** Allow user to take a general look about how page in “GoodsWay” site are organized.

Below these links are some option allow user to change the look and feel: change the displaying language and currency view. By the time of this instruction, “GoodsWay” only support user to view in 2 languages: Vietnamese and English, the currency displaying is limited with 3 common currencies: Pound, US Dollar, and Vietnam Dong.

The bottom section of the header is the several tab options aimed at providing customers to travel the main features and components of “GoodsWay” system.



**Figure 6.42:** Tab options

They include the following:

- ✓ **“Products” tab:** Select this tab allow user to view the products main-page in “GoodsWay” system, the details for this page will discussed later.
- ✓ **“Stores” tab:** Select this tab allow user to view the stores main-page in “GoodsWay” system, the details for this page will discussed later.
- ✓ **“Login” tab:** Once they have registered, returning customers have the ability to login to the “GoodsWay” web site. Registering also allows for customers to sign up to receive newsletters. Once logged in, this link will change to a “Logout”.
- ✓ **“Account” tab:** This link allows customers to view their order history, place product reorders, and view account information. The tab includes addresses associated with their account, lists of product reviews, and newsletter subscription management. If the customer not login before clicking on this tab, “GoodsWay” system will require user to login by sending user to the “Login” page.
- ✓ **“Cart” tab:** Customers can review, update, and delete products they have added to their shopping cart. Customers are also able to proceed to checkout from the Shopping Cart page.
- ✓ **“Checkout” tab:** This link will take customers directly to the checkout process with any products they currently have in their cart. If user is not logged in, “GoodsWay” system will require user to login by sending user to the “Login” page.
- ✓ **Breadcrumbs:** help user to know where his is in, for example, if he is in the product main page, the breadcrumbs will display [Home](#) > [Products](#) to tell him about his current place in “GoodsWay”.

### 6.2.1.2. Footer Page

The bottom of “GoodsWay” is the page footer. The page footer provides some important functionality to customers.



**Figure 6.43:** “GoodsWay” footer page

On the center of the page footer, there are several links aimed at providing customers with additional information about GoodsWay. They include the following:

- ✓ **About us:** Click on this link will send user to “About us” page which provide user the information of “GoodsWay” system and the founders – “GoodBoys” team.
- ✓ **History:** Click on this link will send user to “History” page which tells user about the history story of “GoodsWay”.
- ✓ **Services:** Click on this link allow user to view the list of services that “GoodsWay” can provide to customer.
- ✓ **Privacy policies:** Click on this link will provide user a legal document that discloses some or all of the ways “GoodsWay” system gathers, uses, discloses and manages a customer's data.
- ✓ **Contact us:** Provide the contact information of “GoodsWay” owners for customers. They include: email address, telephone number, address.
- ✓ **Help:** Provide the customer the instruction of how to use “GoodsWay” efficiently, it also include the FAQ that can act as the reference document for user.

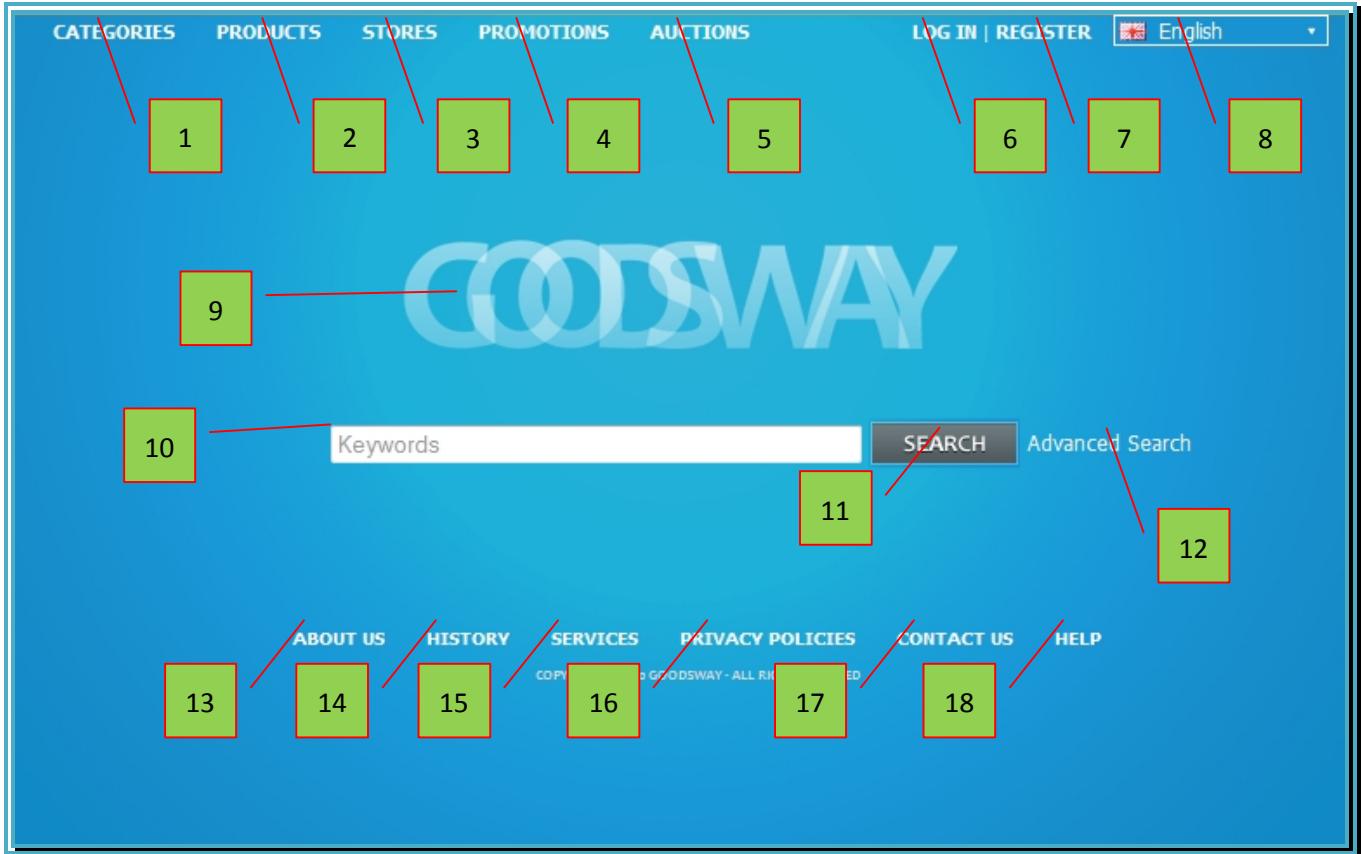
On the left-hand side of the footer page, “GoodsWay” systems list here the available payment methods which are supported by “GoodsWay”. As you can see on the Figure 38, at this time, “GoodsWay” support user three payment methods:

- ✓ PayPal
- ✓ VISA
- ✓ MasterCard

On the right-hand side of the footer page, there is the copyright of “GoodsWay” which tells user about the law of a jurisdiction to the author or creator of an original work, including the right to copy, distribute and adapt the work for entire “GoodsWay” system.

### 6.2.1.3. Homepage

When user visit “GoodsWay” website, homepage will be displayed. As shown in Figure, list of useful information of homepage.



**Figure 6.44:** “GoodsWay” homepage

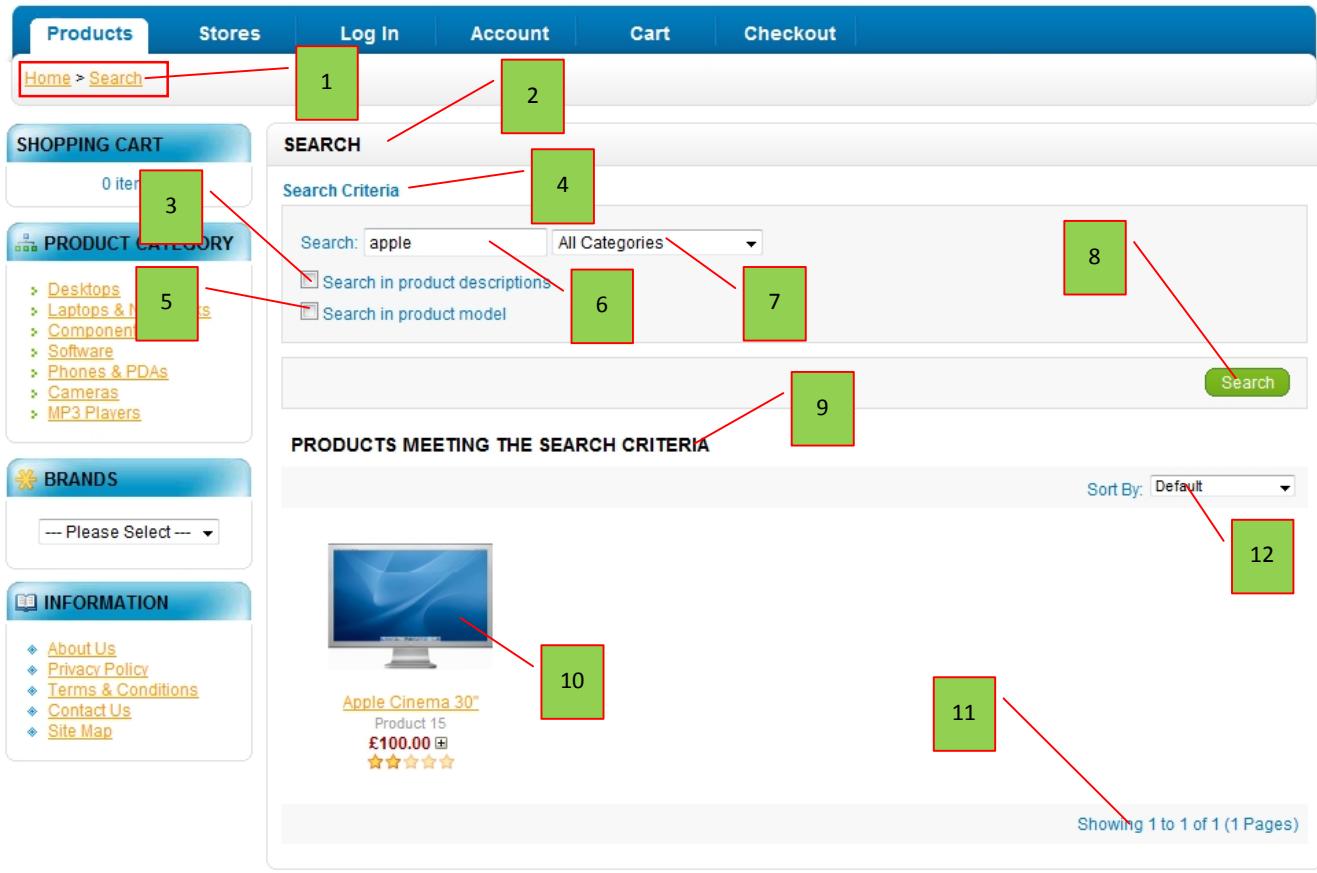
Below is the description for components listed in this page:

- ✓ [1] **“Categories” link:** when user click link, system will display categories page.
- ✓ [2] **“Products” link:** when user click link, system will display products page.
- ✓ [3] **“Stores” link:** when user click link, system will display stories page.
- ✓ [4] **“Promotions” link:** when user click link, system will display promotions page. In this version, this page hasn't implemented.
- ✓ [5] **“Auctions” link:** when user click link, system will display auctions page. In this version, this page hasn't implemented.
- ✓ [6] **“Login” link:** when user click link, system will display login page.
- ✓ [7] **“Register” link:** when user click link, system will display register page.

- ✓ **[8] "Language" combo box:** user can choose language which website show information.  
In this version, we support two languages: English and Vietnamese.
- ✓ **[9] "GoodsWay" logo:** logo of "GoodsWay" website.
- ✓ **[10] "Keyword" textbox:** User can input keyword to this textbox to search product.
- ✓ **[11] "Search" button:** user click this button action search will run and system will display search result page.
- ✓ **[12] "Advanced search" link:** user click link, system will display search result page.
- ✓ **[13] "About us" link:** Click on this link will send user to "About us" page which provide user the information of "GoodsWay" system and the founders – "GoodBoys" team.
- ✓ **[14] "History" link:** Click on this link will send user to "History" page which tells user about the history story of "GoodsWay". In this version, this page hasn't implemented.
- ✓ **[15] "Services" link:** Click on this link allows user to view the list of services that "GoodsWay" can provide to customer. In this version, this page hasn't implemented.
- ✓ **[16] "Privacy Policies" link:** Click on this link will provide user a legal document that discloses some or all of the ways "GoodsWay" system gathers, uses, discloses and manages a customer's data.
- ✓ **[17] "Contact us" link:** Provide the contact informations of "GoodsWay" owners for customers. They include: email address, telephone number, address.
- ✓ **[18] "Help" link:** Provide the customer the instruction of how to use "GoodsWay" efficiently, it also include the FAQ that can act as the reference document for user. In this version, this page hasn't implemented.

#### 6.2.1.4. Search result page

Search result pages allow user to communicate important information about products in “GoodsWay” system to customers. As shown in Figure, Search result page a list of useful information for customer.



**Figure 6.45:** Search Result page

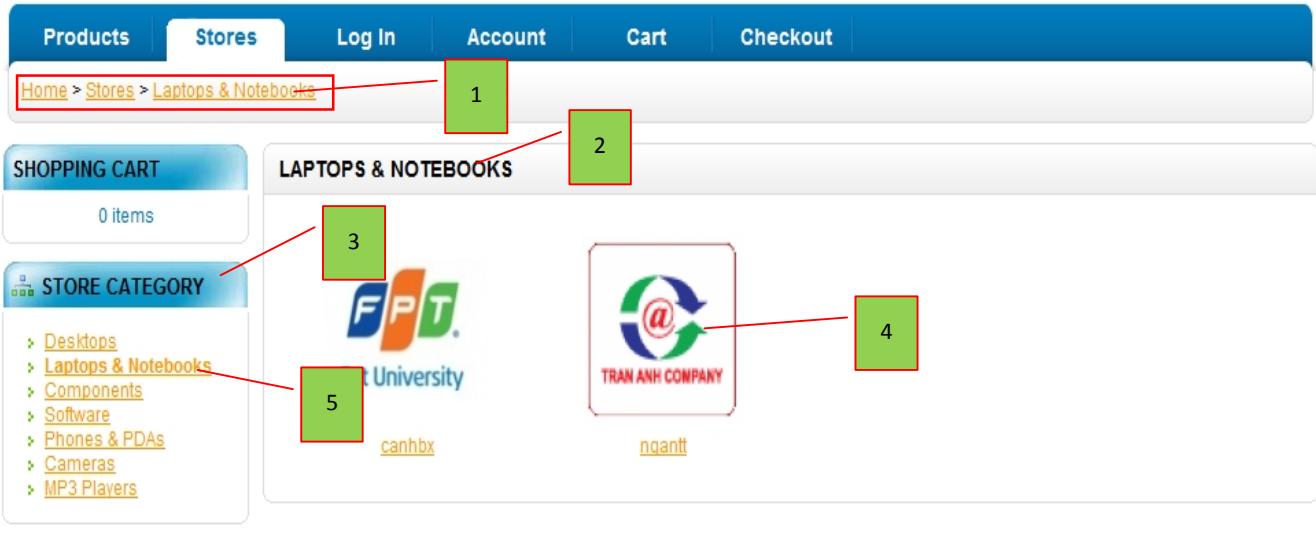
Below is the description for components listed in this page:

- ✓ **[1] Site map:** Allow user to take a general look about how page in “GoodsWay” site are organized.
- ✓ **[2] “Search” panel:** show information about selected condition and results of action “search”.
- ✓ **[3] “Product description” checkbox:** user choice this option to search phase in product description.
- ✓ **[4] “Search criteria” label:** follow area to show condition which user can choose to search.
- ✓ **[5] “Product model” checkbox:** user choice this option to search phase in product description.
- ✓ **[6] “Keyword” textbox:** User can input keyword to this textbox to search product.
- ✓ **[7] “Category” combobox:** Allow user to choose a category to search.

- ✓ **[8] "Search" button:** user click this button action search will run and system will return results.
- ✓ **[9] "Search result" panel:** system will show all results.
- ✓ **[10] "Search result" cell:** this cell is displayed in the search result panel contains the general and useful information about the specific product (the general information includes: product name, product model, product image, and product price).
- ✓ **[11] Pager:** show information about count of items and current page.
- ✓ **[12] "Sort by" combo box:** Click on this combo box will display list method to show information contain: Name A – Z, Name Z – A, Pricing Low – High, Pricing High – Low, Rating Highest, Rating Lowest, Model A – Z, Model Z – A.

#### 6.2.1.5. Store Category

The Store category page is the place where customer can view the store in “GoodsWay” system.



**Figure 6.46:** Store Category page

They include the following:

- ✓ **[1] Site map:** Allow user to take a general look about how page in “GoodsWay” site are organized.
- ✓ **[2] "Category" panel:** tell user which category panel is displaying. It will show list stores which category contains.
- ✓ **[3] "Store Category" panel:** tell user which product category panel is displaying.
- ✓ **[4] "Category" cell** this cell is displayed in the category panel contains the general and useful information about the specific store (the general information includes: store name, and store logo).
- ✓ **[5] "Category" link** Click on this link will display all the stores which category contains if category is sub – category or show list sub – category if category has some sub-category.

### 6.2.1.6. Store main page

The Store main page is the place where customer can view the stores in “GoodsWay” system, by default, “GoodsWay” allows user to view the latest stores added to system and featured stores.



**Figure 6.47:** Store main page

Below is the description for components listed in this page:

- ✓ [1] **“Featured Store” panel:** tell user which featured store panel is displaying.
- ✓ [2] **Featured Store cell:** this cell is displayed in the featured store panel contains the general and useful information about the specific store (the general information includes: store name, store image and link to store).

- ✓ **[3] "Latest Store" panel:** tell user which latest store panel is displaying.
- ✓ **[4] Latest Store cell:** this cell is displayed in the latest store panel contains the general and useful information about the specific store (the general information includes: store name, store image and link to store).
- ✓ **[5] "All Stores" panel:** tell user which all stores panel is displaying.
- ✓ **[6] All Store cell:** this cell is displayed in the all store panel contains the general and useful information about the specific store (the general information includes: store name, store image and link to store).

### 6.2.1.7. Store details page

Without a doubt the store page is the most important page inside of ecommerce website. Store pages allow user to communicate important information about store in "GoodsWay" system to customers. As shown in Figure, Store Details page a list of useful information for customer.



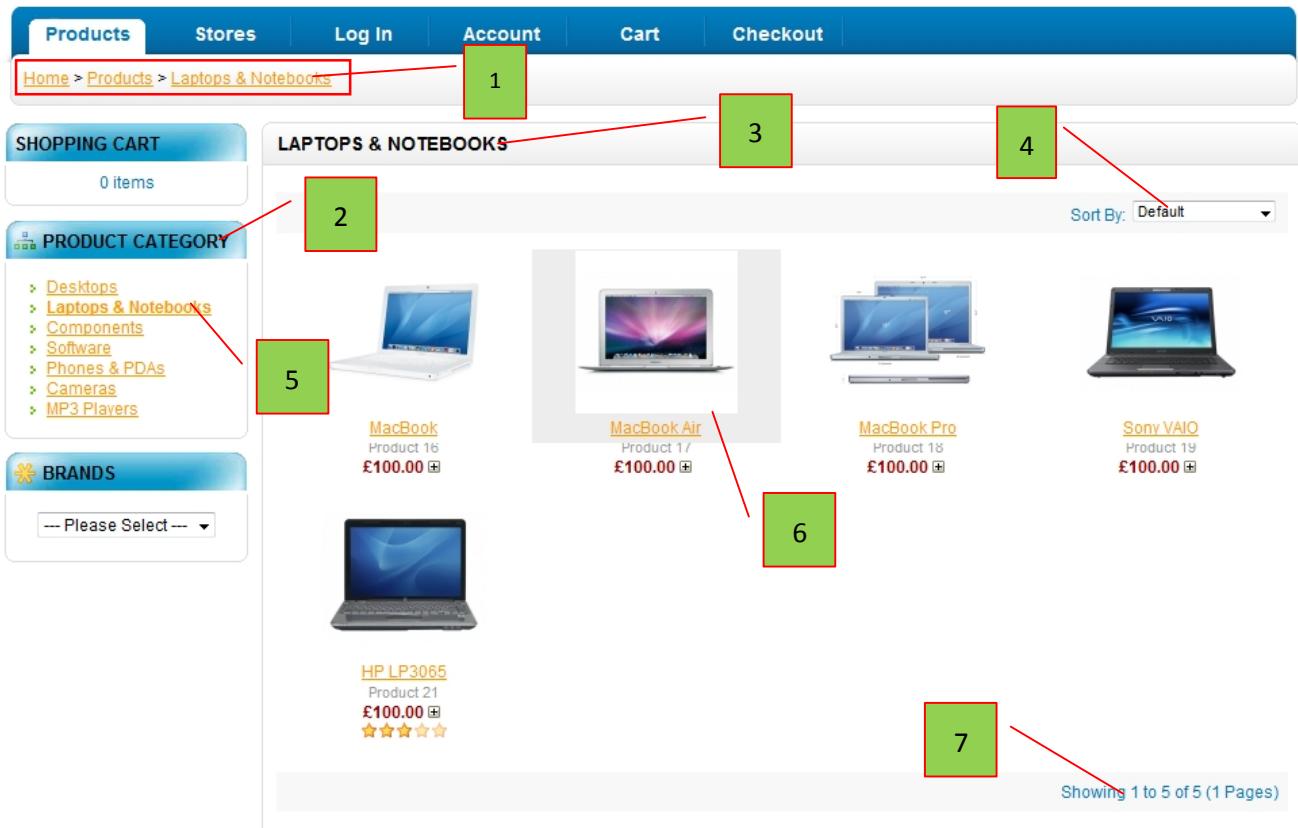
**Figure 6.48:** Store Details page

"GoodsWay" offers the following information for each store in Store Details page

- ✓ **[1] Site map:** Allow user to take a general look about how page in "GoodsWay" site are organized.
- ✓ **[2] Store name:** Tell user the name of product.
- ✓ **[3] Product Display Image:** The avatar of product.
- ✓ **[4] "Introduce" tab:** Click on this tab will display the details information for the store. By default when the Store Details page is loaded, this tab will be automatically selected.
- ✓ **[5] "Product" tab** Click on this tab will display all the products which sell this product with store's defined price. This tab also displays the basic information for products and category.
- ✓ **[6] "Promotion" tab** Click on this tab will display all the promotion.
- ✓ **[7] "Policy" tab:** Click on this tab will display store's policy information.
- ✓ **[8] "Review" tab:** Click on this tab will display all reviews of customers for this product.

#### 6.2.1.8. Product Category

The Product Category page is the place where customer can view the category in "GoodsWay" system.



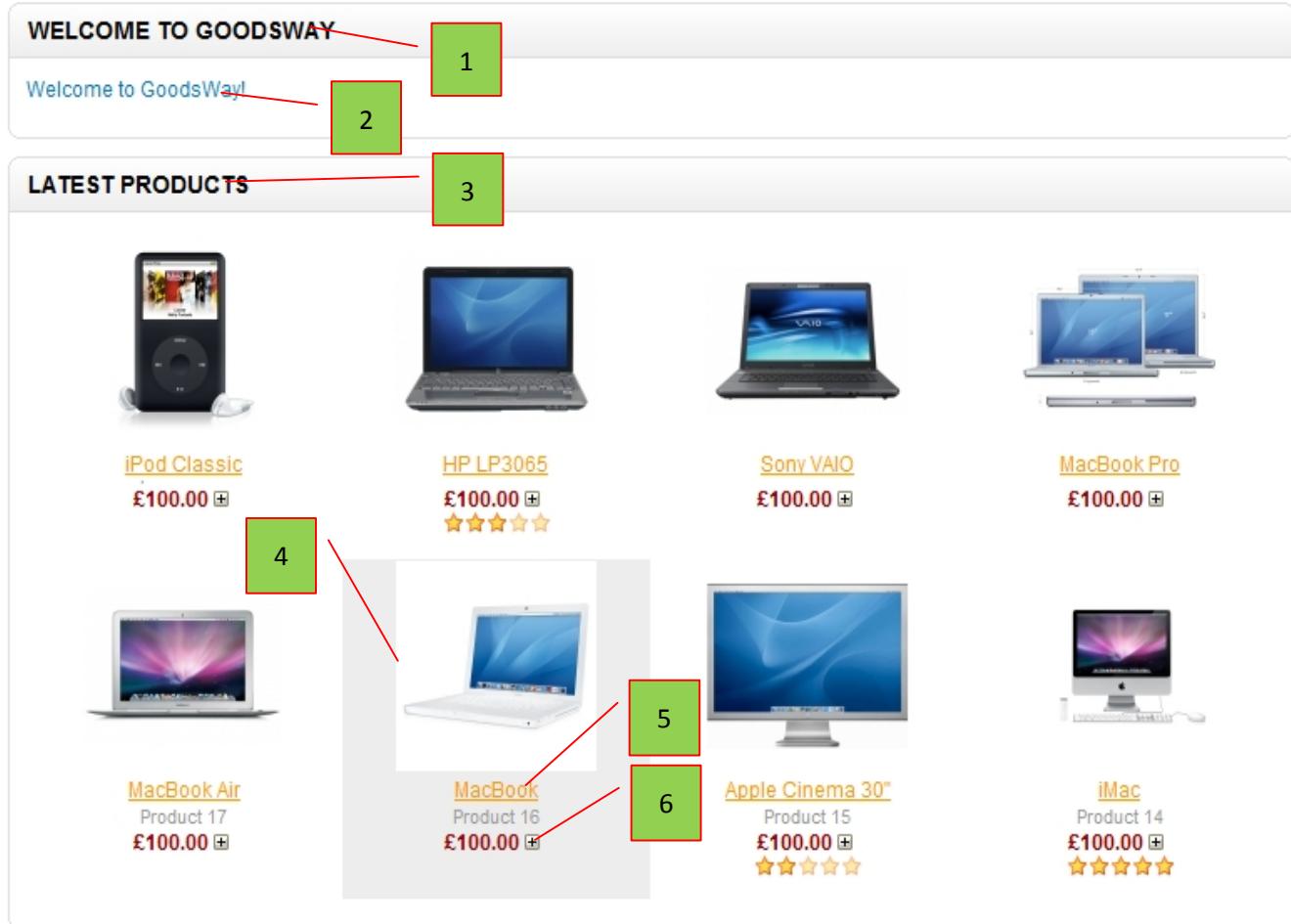
**Figure 6.49:** Product Category page

They include the following:

- ✓ **[1] Site map:** Allow user to take a general look about how page in “GoodsWay” site are organized.
- ✓ **[2] “Product Category” panel:** tell user which product category panel is displaying.
- ✓ **[3] “Category” panel:** tell user which category panel is displaying. It will show list sub-category or list products.
- ✓ **[4] “Sort by” combo box:** Click on this combo box will display list method to show information contain: Name A – Z, Name Z – A, Pricing Low – High, Pricing High – Low, Rating Highest, Rating Lowest, Model A – Z, Model Z – A.
- ✓ **[5] “Category” link** Click on this link will display all the products which category contains if category is sub – category or show list sub – category if category has some sub-category.
- ✓ **[6] “Category” cell** this cell is displayed in the category panel contains the general and useful information about the specific product (the general information includes: product name, product model, product image, and product price) or show the list sub-category if this category has some sub-categories.
- ✓ **[7] Pager:** show information about count of items and current page.

### 6.2.1.9. Product main page

The Product main page is the place where customer can view the products in “GoodsWay” system, by default, “GoodsWay” allow user to view the latest product added to system.



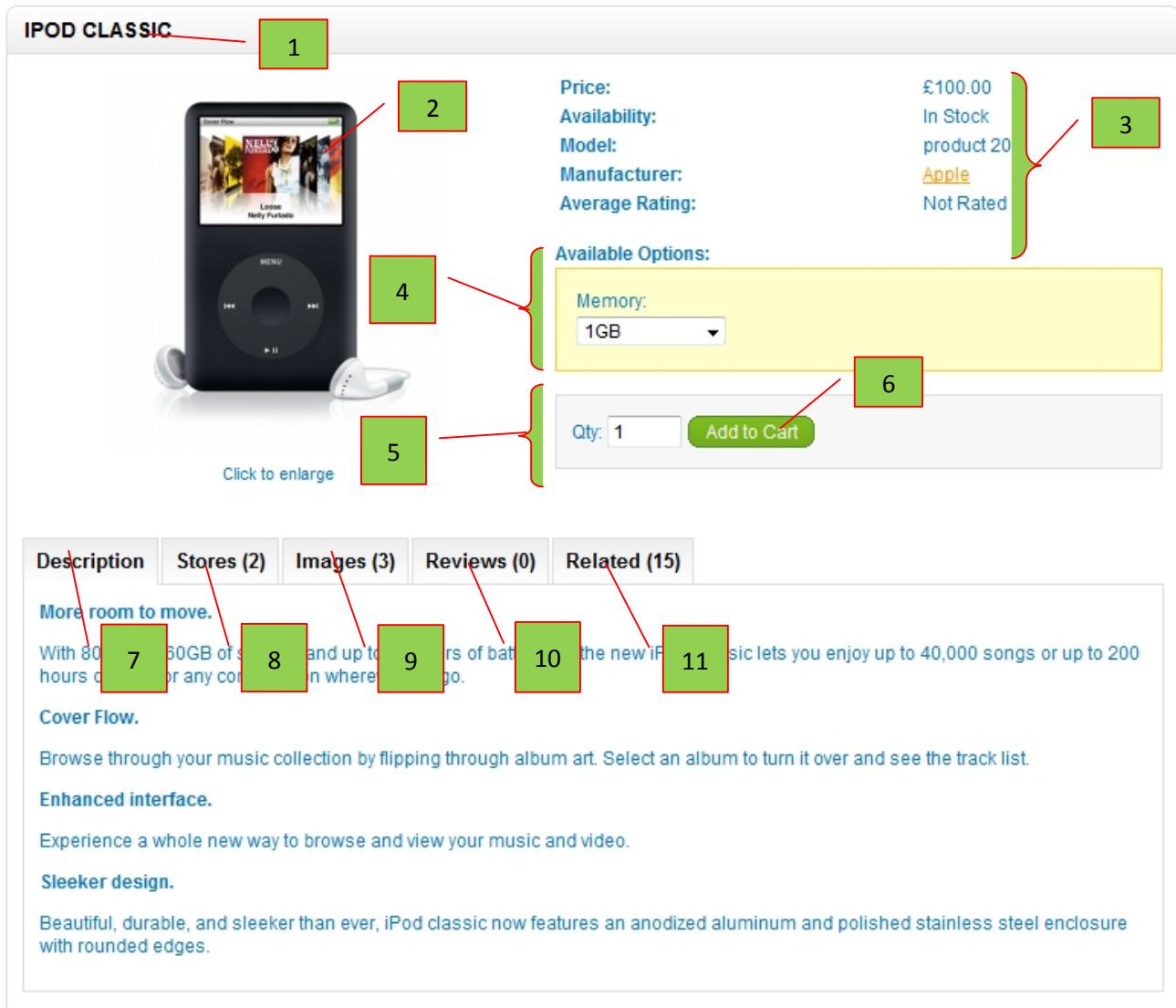
**Figure 6.50:** Product Main page

Below is the description for components listed in this page:

- ✓ **[1] Welcome panel:** this panel displays the welcome message from “GoodsWay” to customer.
- ✓ **[2] Welcome message**
- ✓ **[3] “Latest Product” panel:** tell user which product panel is displaying.
- ✓ **[4] Product cell:** this cell is displayed in the Latest product panel contains the general and useful information about the specific product (the general information includes: product name, product model, product image, and product price).
- ✓ **[5] Product link:** click on this hyperlink will send user to the details page of this product for further reading product’s details information.
- ✓ **[6] Small “Add to Cart” button:** click on this button allow user to add this product to his shopping cart and also send user to the Shopping Cart page.

### 6.2.1.10. Product details page

Without a doubt the product page is the most important page inside of eCommerce website. Product pages allow user to communicate important information about products in “GoodsWay” system to customers. As shown in Figure, Product Details page a list of useful information for customer.



**Figure 6.51:** Product Details Page

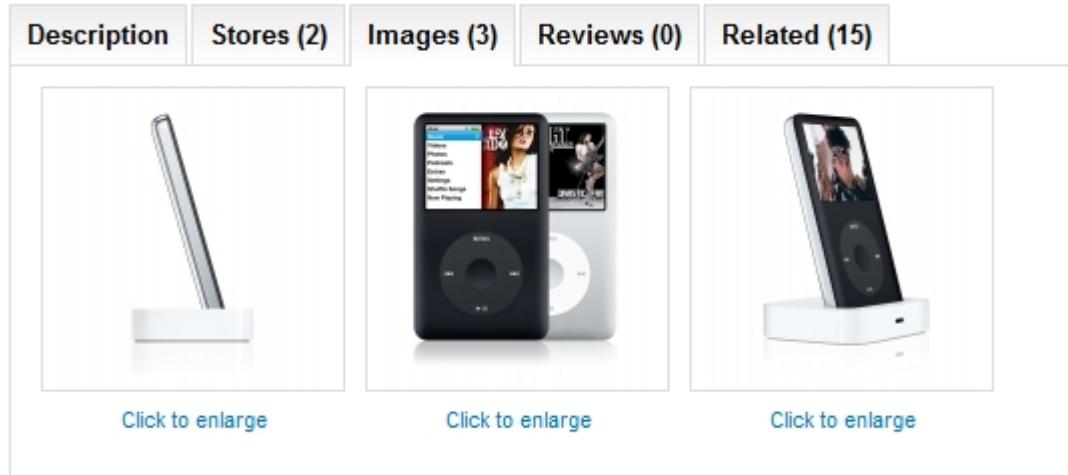
"GoodsWay" offers the following information for each product in Product Details page

- ✓ **[1] Product Name:** Tell user the name of product.
- ✓ **[2] Product Display Image:** The avatar of product.
- ✓ **[3] General information** for this product which includes: price (the lowest price of product), availability, product model, product's manufacturer, product's rating.
- ✓ **[4] Product options:** if a product has many options for user to choose (for example: size, color, capability...), this available options will be displayed to tell user which option he can choose before adding this product to his shopping cart. In the case the product has only one option, this panel will not display.
- ✓ **[5] Quantity panel:** allow user to type in the number of products with his selected option before adding to his shopping cart, the default value for this textbox is 1.
- ✓ **[6] "Add to cart" button:** click on this button will add the current product to user's shopping cart with the selected option and quantity for this product.
- ✓ **[7] "Description" tab:** Click on this tab will display the details information for the product. By default when the Product Details page is loaded, this tab will be automatically selected.
- ✓ **[8] "Stores" tab:** Click on this tab will display all the stores which sell this product with store's defined price. This tab also displays the basic information for each store. The figure below show you how stores are displayed inside this "Stores" tab:

Description					Stores (2)	Images (3)	Reviews (0)	Related (15)
#	Logo	Name	Price	Rating				
1	 Fpt University	canhbx	£100.00	★★★★★	<a href="#">View Map</a>	<a href="#">Add to Cart</a>		
2	 TRAN ANH COMPANY	Trần Anh Computer	£150.00	★★★★★	<a href="#">View Map</a>	<a href="#">Add to Cart</a>		

**Figure 6.52:** "Stores" tab

- ✓ [9] **"Images" tab:** Click on this tab will display all the additional images of this product  
The figure below show you how images are displayed inside this "Images" tab:



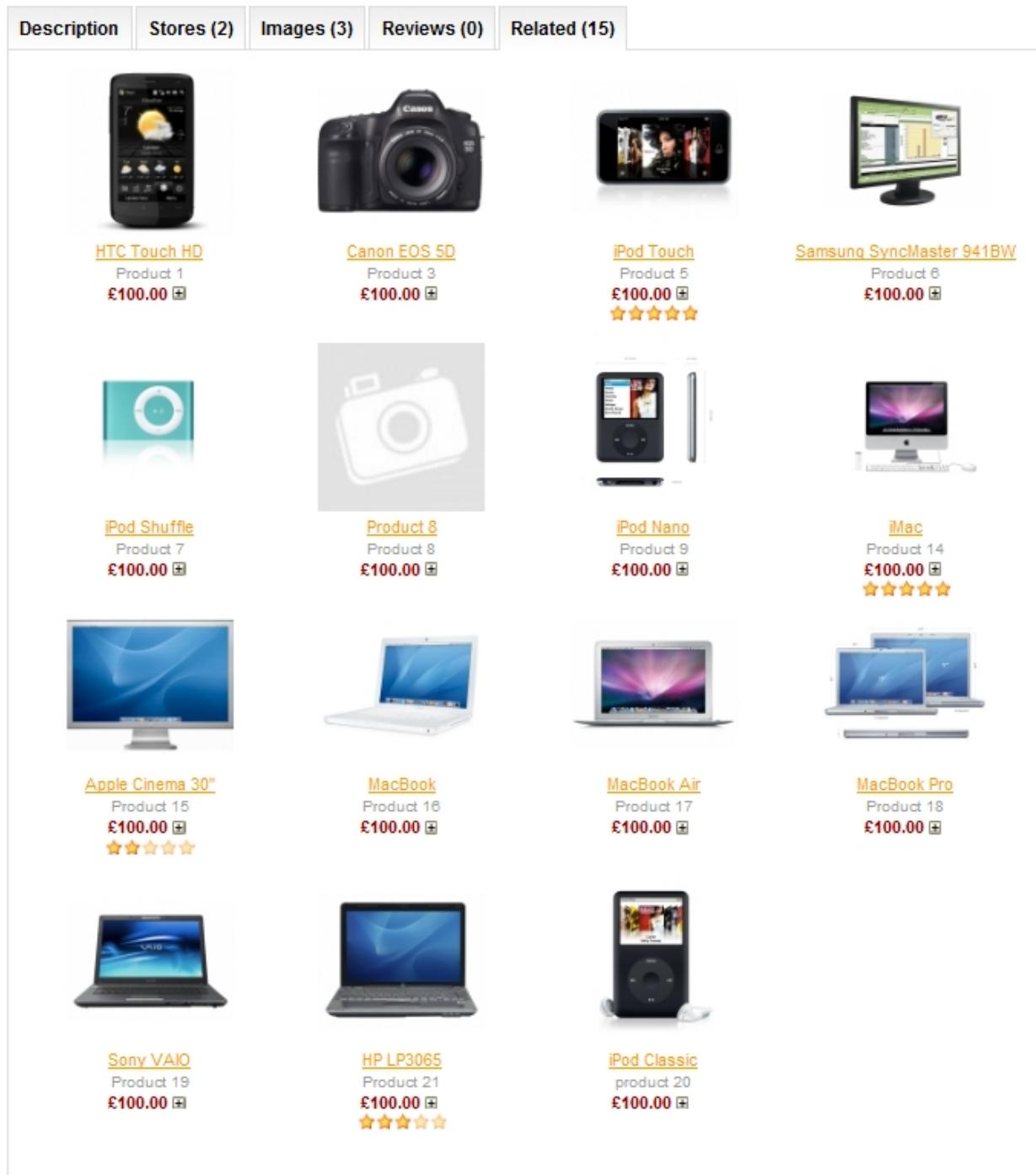
**Figure 6.53:** "Images" tab

- ✓ [10] **"Review" tab:** Click on this tab will display all reviews of customers for this product. It also allows user to add more review for this product The figure below show you how reviews are displayed inside this "Review" tab:

The image shows a screenshot of a review form. At the top, there is a horizontal navigation bar with five tabs: 'Description', 'Stores (2)', 'Images (3)', 'Reviews (0)', and 'Related (15)'. The 'Reviews (0)' tab is currently selected. Below the tabs, a message says 'There are no reviews for this product.' A section titled 'WRITE REVIEW' follows. It includes fields for 'Your Name:' (with a text input box), 'Your Review:' (with a large text area), and 'Note: HTML is not translated!' (in red). There is a rating scale from 'Bad' to 'Good' with five radio buttons. Below that is a CAPTCHA field with the code '8f507d' and two colored circles (blue and green). At the bottom right is a 'Continue' button.

**Figure 6.54:** "Review" tab

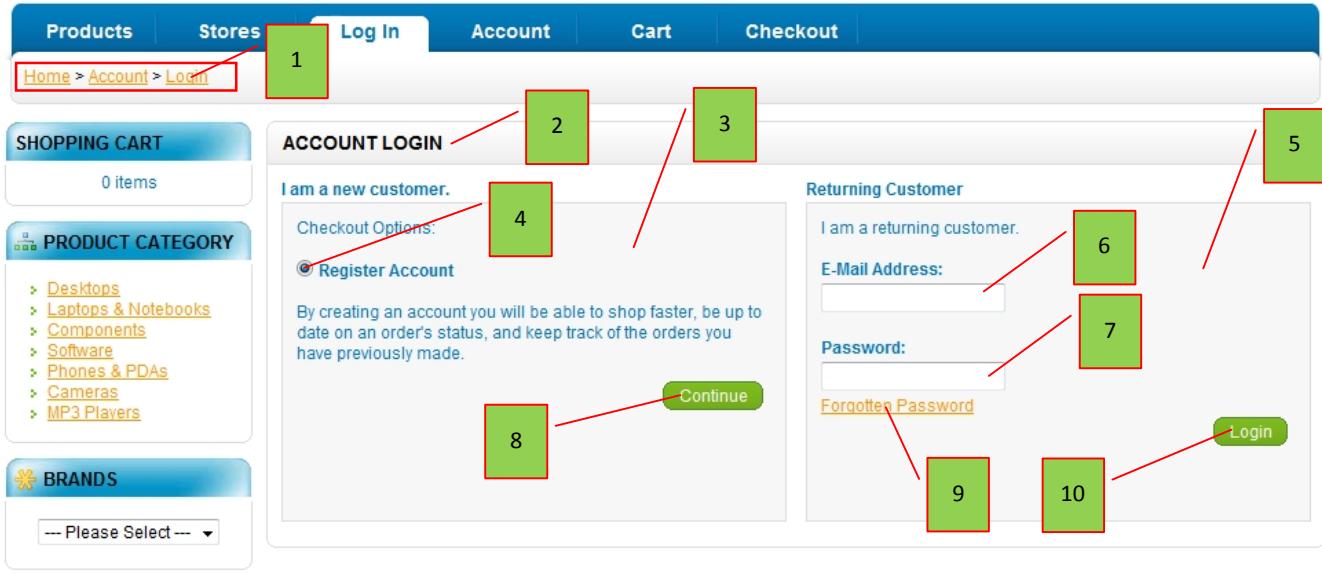
- ✓ [10] “**Related**” tab: Click on this tab will display all related products for this product. The products displayed here with the basic information for these product which include: product name, product price, product rating (if have), and the link to view the details of these products. The figure below show you how products are displayed inside this “Related” tab:



**Figure 6.55:** Product’s “Related” tab

### 6.2.1.11. Login/Register page

When user select “Login” tab on the menu bar, the system will redirect user to “Login” page, this page allow user to login to the system. If user don’t have account to login, he/she has to create new account by navigate to register page.



**Figure 6.56:** Login/Register page

Below is the description for components listed in this page:

- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system. On the picture above, the current page is login page.
- ✓ **[2] Panel header:** Tells user what panel is so user knows its functions.
- ✓ **[3] New customer frame:** This panel is used for new customers who want to create account. It displays some information for new customer so he/she know what the purpose of becoming a member is.
- ✓ **[4] “Register Account” checkbox:** This checkbox is displayed on screen to inform user that he /she will create new account after click on “Continue” button, that will be described below.
- ✓ **[5] “Continue” button:** After check on “Register Account” checkbox, user will click on this button to navigate to “Register” page to create new account.
- ✓ **[6] Member frame:** This frame will allow user to input needed information to login to the system. Include: email address, password. In case, user forgets his/her password, there is a link to support this.

- ✓ **[7] "Email address" text box:** Email address of customer (member).
- ✓ **[8] "Password" text box:** Password of customer (member).
- ✓ **[9] "Forgotten password" link:** When user forget his/her password, click on this link, the system will prompt user to re-input email address, after click submit button, the system will send an email automatically that contains user password.
- ✓ **[10]" Login" button:** After input email address and password successfully, user click on "Login" button to login to the system.

The registration page is a multi-step form. Step 1 highlights the breadcrumb trail 'Home > Account > Register'. Step 2 highlights the 'CREATE ACCOUNT' section title. Step 3 highlights the 'Your Personal Details' group, which includes fields for First Name, Last Name, E-Mail, Telephone, and Fax. Step 4 highlights the 'Your Address' group, which includes fields for Company, Address 1, Address 2, City, Post Code, Country (set to Viet Nam), and Region / State. Step 5 highlights the 'Your Password' group, which includes fields for Password and Password Confirm. Step 6 highlights the 'Newsletter' section, showing a 'Subscribe' checkbox with 'Yes' and 'No' radio buttons. Step 7 highlights the 'I have read and agree to the Privacy Policy' checkbox. Step 8 highlights the 'Continue' button. Step 9 highlights the 'Privacy Policy' link.

**CREATE ACCOUNT**

If you already have an account with us, please login at the [login page](#).

**Your Personal Details**

\* First Name:

\* Last Name:

\* E-Mail:

\* Telephone:

Fax:

**Your Address**

Company:

\* Address 1:

Address 2:

\* City:

\* Post Code:

\* Country:

\* Region / State:

**Your Password**

\* Password:

\* Password Confirm:

**Newsletter**

Subscribe:  Yes  No

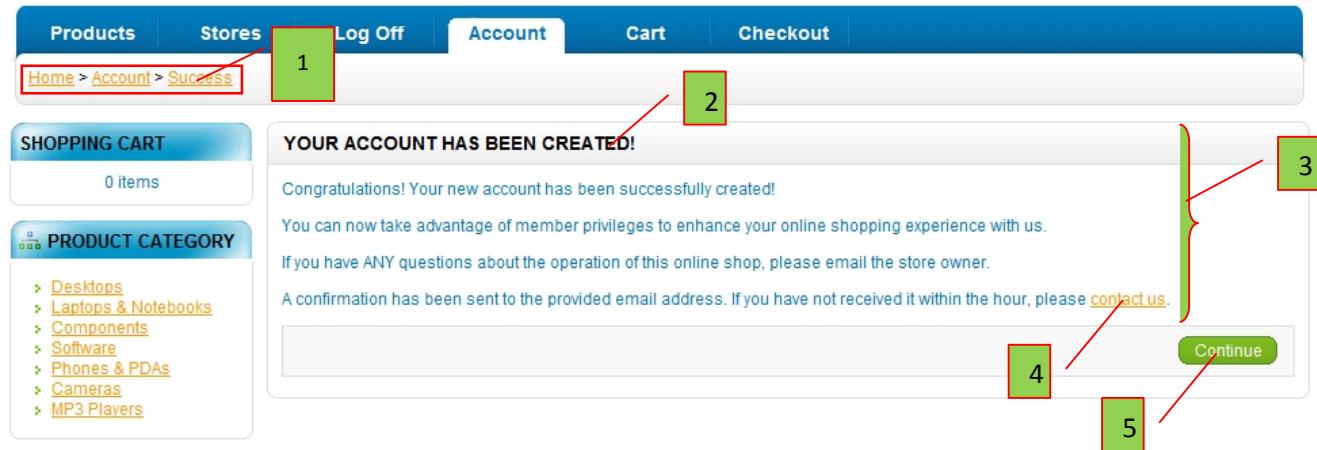
I have read and agree to the [Privacy Policy](#)

**Continue**

**Figure 6.57:** Registration page

This page allow user to create new account to login to the system. All required information must be inputted correctly or system will display error message to prompt to user.

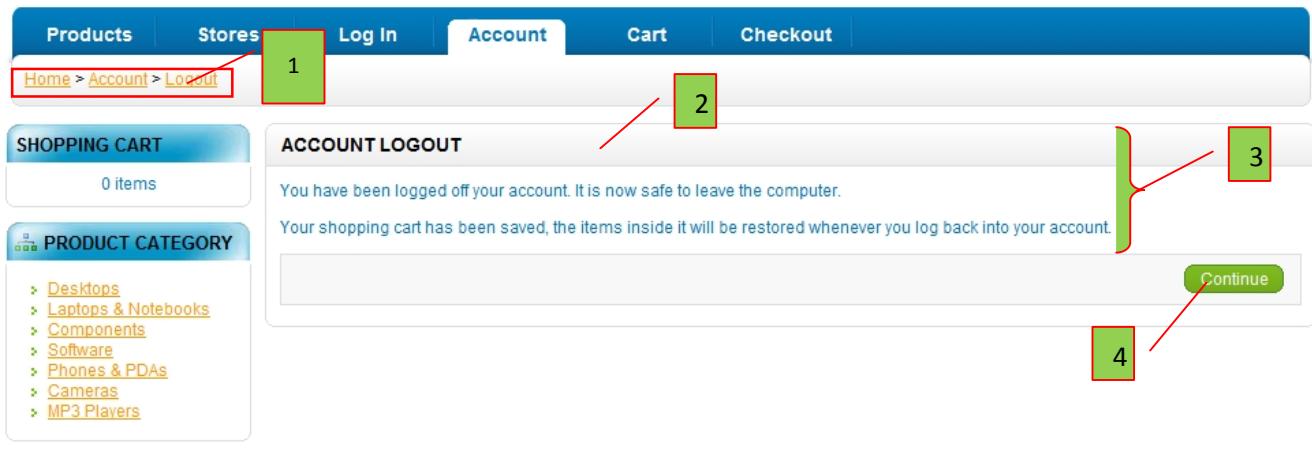
- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system.  
On the picture above, the current page is register page.
- ✓ **[2] Panel header:** Tells user what panel is so user knows its functions.
- ✓ **[3] "Personal details" section:** This section require user to input all his/her personal details information. All fields with red asterisk are mandatory fields, so user has to input data to all these fields.
- ✓ **[4] "Address" section:** This section require user to input all his/her address information. All fields with red asterisk are mandatory fields, so user has to input data to all these fields.
- ✓ **[5] "Password" section:** This section require user to input and confirm his/her password. The confirmed password must be exactly with inputted password. All fields with red asterisk are mandatory fields, so user has to input data to all these fields.
- ✓ **[6] "Newsletter" section:** This section is optional, user can choose to receive mail from admin or not.
- ✓ **[7] "Privacy Policy" link:** When register new account, user can read the privacy policy of "GoodsWay" by click on this link, and the system will display a pop up window to show policies of company.
- ✓ **[8] Confirm check box:** User has to check on this check box to confirm that, he/she agrees with the policies of "GoodsWay" and really want to create an account.
- ✓ **[9] "Continue" button:** After input all required information and agree with the policies of "GoodsWay", user click on this button to submit. The system will create new account and display successful message to prompt user that his/her account is created. This will be described below.



**Figure 6.58:** Account Create Success page

This page used to prompt successful message to user when user's account is created successfully.

- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system. On the picture above, the current page is success page.
- ✓ **[2] Panel header:** Tells user what panel is or display message to user.
- ✓ **[3] Message:** The message that is displayed by the system to prompt that: user account has been created. It includes some information also.
- ✓ **[4] "Contact us" link:** Click on this link to navigate to "contact us" section on info page.
- ✓ **[5] "Continue" button:** Click on "Continue" button to go to "User Profile" page with logged in account.



**Figure 6.59:** Logout page

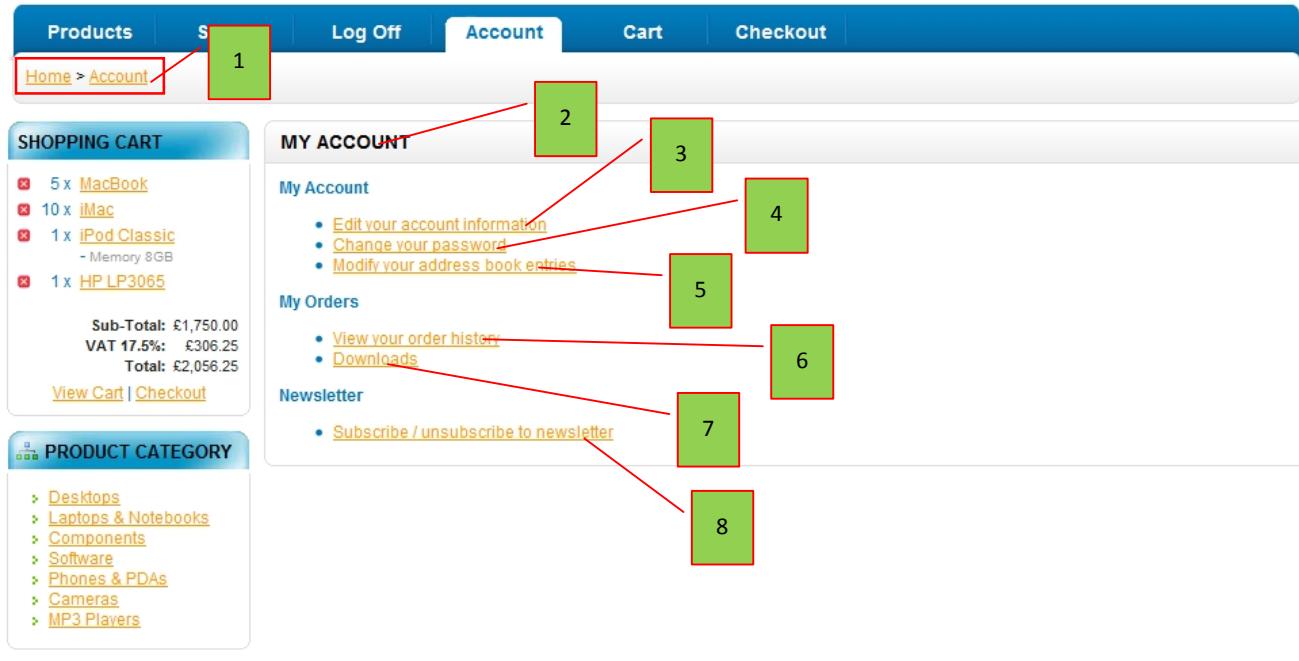
This page used to prompt user when he/she log out of the system.

- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system. On the picture above, the current page is log out page.
- ✓ **[2] Panel header:** Tells user what panel is or display message to user.
- ✓ **[3] Message:** The message that is displayed by the system to prompt that: user has logged out of the system. It includes some information also.
- ✓ **[4] “Continue” button:** Click on “Continue” button to go to main page.

### 6.2.1.12. User profile page

This page contains all information of customer, these information include:

- ✓ User account information management
- ✓ User orders information management
- ✓ Newsletter management



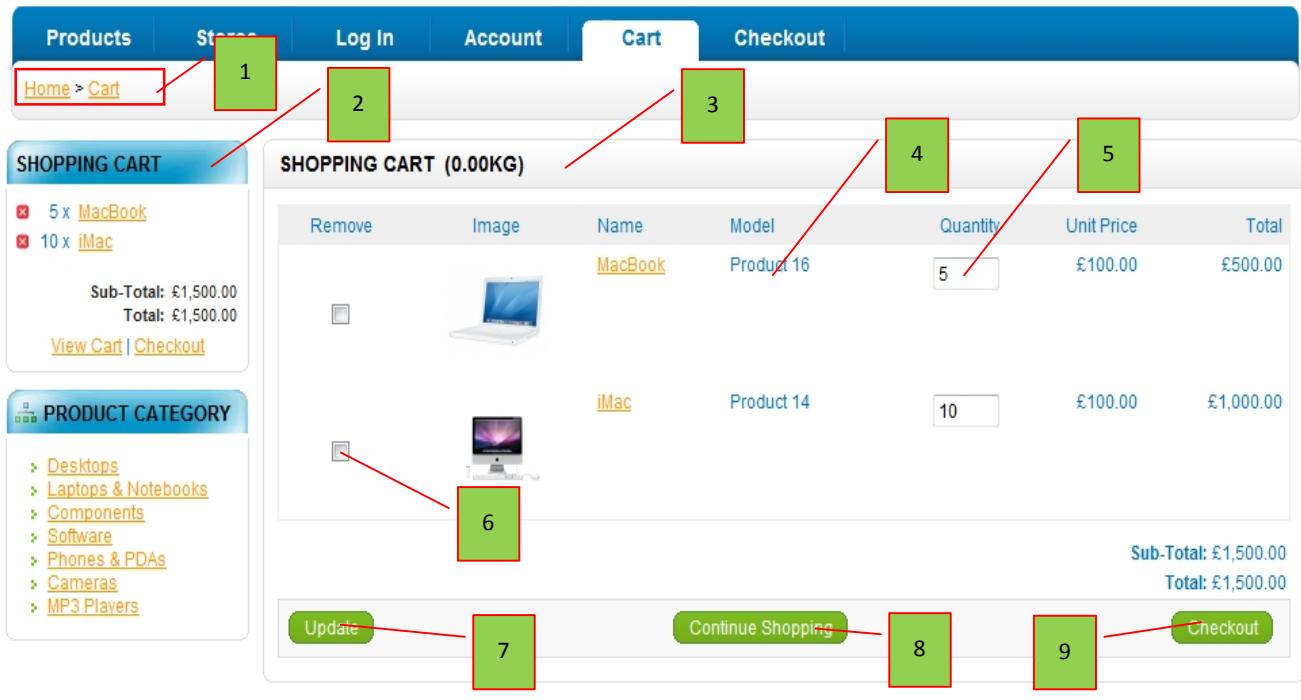
**Figure 6.60:** User Profile page

Below is the description for components listed in this page:

- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system. On the picture above, the current page is “Account” page.
- ✓ **[2] Panel header:** Tells user what panel is or display message to user.
- ✓ **[3] “Edit account information” link:** Click on this link and system allow user to edit account information.
- ✓ **[4] “Change password” link:** Click on this link and system will allow user to change current password.
- ✓ **[5] “Modify your address book entries” link:** Click on this link and system allow user to modify all personal details information, include: first name, last name, address, country, telephone ...
- ✓ **[6] “View orders history” link:** Click on this link and system allow user to view all details information of each order that user has done.
- ✓ **[7] “Downloads” link:** Click on this link and system allow user to view all downloadable orders.
- ✓ **[8] “Downloads” link:** Click on this link and system allow user to change newsletter configuration so user can receive newsletter or not.

### 6.2.1.13. Shopping cart page

This page used to help user manage his/her shopping cart. This page will display all information of all products that user has added to shopping cart, besides that, the system will calculate and display total money of all products in shopping cart also.



**Figure 6.61:** Shopping Cart page

Below is the description for components listed in this page:

- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system. On the picture above, the current page is “Account” page.
- ✓ **[2] Mini shopping cart:** Display general information of user shopping cart. Number of each product in cart and total value of it. User can choose to view details information in shopping cart or choose to check out.
- ✓ **[3] Full shopping cart:** Display all details information of user shopping cart, include: general information of each product, number of each type of product, total money of all products...
- ✓ **[4] Product information:** Display general information of product, so user has a general view about this product.
- ✓ **[5] Quantity of product:** Display number of each product.
- ✓ **[6] “Remove” checkbox:** The system allow user to remove products from shopping cart by checking on “Remove” checkbox. After remove product, the system will calculate the total money again then display on screen.
- ✓ **[7] “Update” button:** Allow user to update shopping cart page when user changes some information on page. For example: change quantity of products or remove products.

- ✓ **[8] “Continue Shopping” button:** Click on this button and system will redirect user to previous page.
- ✓ **[9] “Checkout” button:** When user wants to check out, click on this button, and system will navigate user to “Check out” page.

#### 6.2.1.14. Checkout page

This page is used to check out when user want to finish his/her orders and want to shipping those selected product to his/her address. User has to fill all required information to finish his/her check out, these include:

- ✓ Delivery information.
- ✓ Payment Information.
- ✓ Checkout confirmation.

The screenshot shows the 'Checkout' page of the GoodsWay application. At the top, there's a navigation bar with links for 'Products', 'Stores', 'Account', 'Cart', and 'Checkout'. Below the navigation bar, the URL 'Home > Cart > Shipping' is displayed. The main content area is divided into several sections:

- SHOPPING CART**: Shows a list of items: 5 x MacBook, 10 x iMac, 1 x iPod Classic (Memory 8GB), and 1 x HP LP3065. It also displays Sub-Total: £1,750.00, VAT 17.5%: £306.25, and Total: £2,056.25. Buttons for 'View Cart' and 'Checkout' are present.
- DELIVERY INFORMATION**: Contains a 'Shipping Address' section with a placeholder: 'Please choose from your address book where you would like the items to be delivered to.' A 'Change Address' button is available. To the right, a specific address is listed: Bùi Xuân Cánh, FPT University, Hanoi 12345. A red box labeled '3' points to this address.
- PRODUCT CATEGORY**: Lists categories: Desktops, Laptops & Notebooks, Components, Software, Phones & PDAs, Cameras, and MP3 Players. A red box labeled '4' points to this section.
- Add Comments About Your Order**: A large text input field for comments, with a red box labeled '4' pointing to it.
- Bottom Buttons**: Includes a 'Back' button on the left and a 'Continue' button on the right. A red box labeled '5' points to the 'Back' button, and another red box labeled '6' points to the 'Continue' button.

**Figure 6.62:** Shipping Information

On “Shipping” page, user can choose shipping methods or change the address where user want products are delivered to.

- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system. On the picture above, the current page is “Shipping” page.
- ✓ **[2] “Change address” button:** Click on this button and systems will allow user to change the address by redirect user to edit page.
- ✓ **[3] Shipping address information:** Display shipping address where user wants products is delivered to.
- ✓ **[4] Shipping method:** Allow user to choose delivery method. User can choose only one method for this option.
- ✓ **[5] “Add comment about your orders” area:** During the ordering process, or any comment that user want to take, user can fill comment in this free text area.
- ✓ **[6] “Back” button:** Back to previous page.
- ✓ **[7] “Continue” button:** In case, user doesn’t want to check out, and continue shopping, click this button and system will navigate user to shopping page.

The screenshot shows the 'Payment Information' page of the GoodsWay website. At the top, there's a navigation bar with links for Products, Stores, Log Off, Account (highlighted with a red box and green number 1), Cart (highlighted with a red box and green number 2), and Checkout.

**SHOPPING CART**

- 5 x MacBook
- 10 x iMac
- 1 x iPod Classic - Memory 8GB
- 1 x HP LP3065

Sub-Total: £1,750.00  
Flat Rate: £2.00  
VAT 17.5%: £306.60  
Total: £2,056.60

[View Cart](#) | [Checkout](#)

**PRODUCT CATEGORY**

- Desktops
- Laptops & Notebooks
- Components
- Software
- Phones & PDAs
- Cameras
- MP3 Players

**PAYMENT INFORMATION**

**Payment Address**

Please choose from your address book where you would like the invoice sent.

[Change Address](#) (highlighted with a red box and green number 3)

**Payment Address**  
Bùi Xuân Cảnh FPT FPT University Hanoi 12345 Ha Noi Viet Nam (highlighted with a red box and green number 4)

**Coupon:**  [Apply Coupon](#) (highlighted with a red box and green number 5)

**Payment Method**

Please select the preferred payment method to use on this order.

Cash On Delivery (highlighted with a red box and green number 6)

**Add Comments About Your Order**

(highlighted with a red box and green number 7)

[Back](#) (highlighted with a red box and green number 9)

I have read and agree to the [Terms & Conditions](#)  [Continue](#) (highlighted with a red box and green number 10)

[Continue](#) (highlighted with a red box and green number 11)

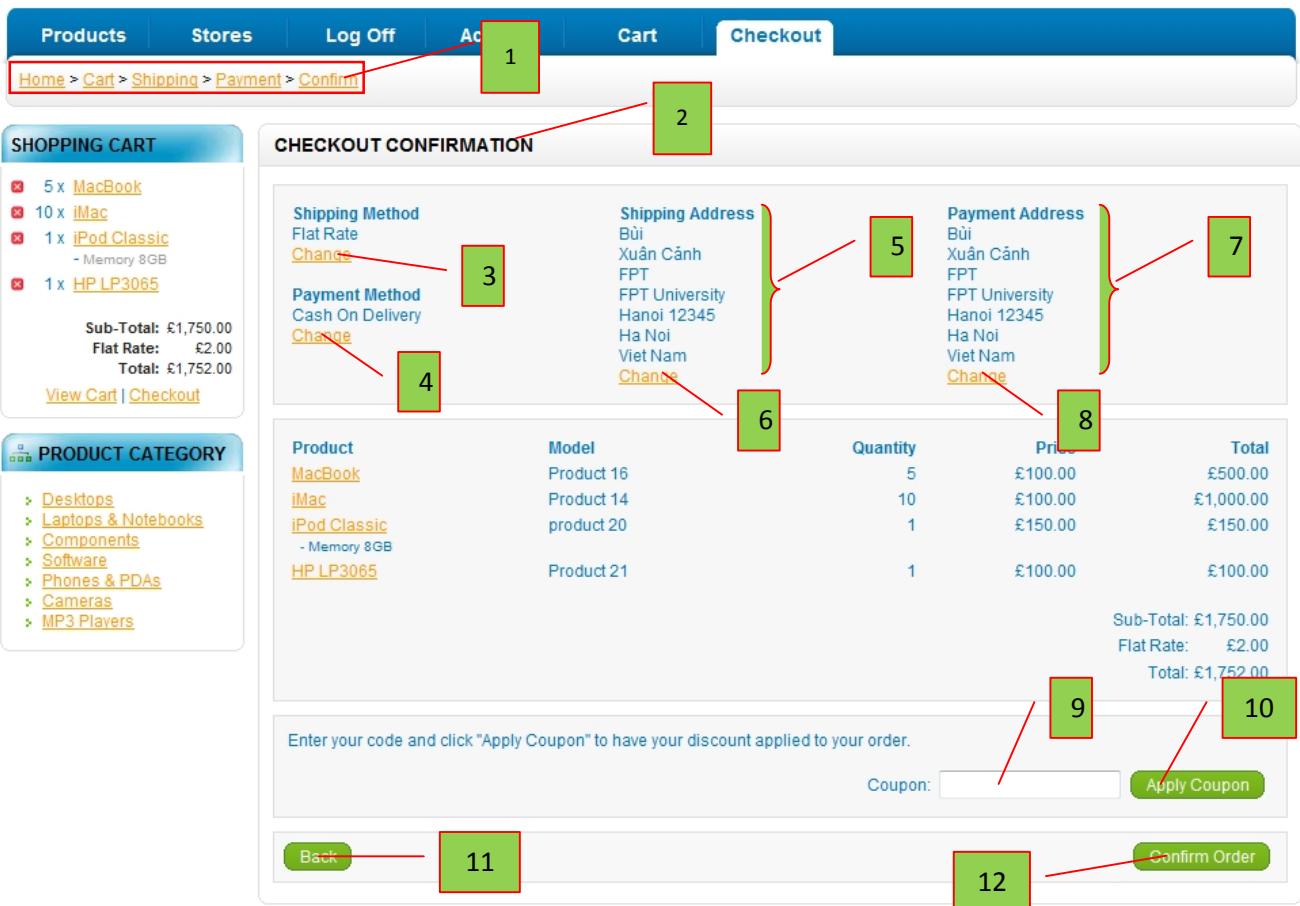
[Back](#) (highlighted with a red box and green number 12)

**Figure 6.63:** Payment Information

This page is used for taking payment information from user.

- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system. On the picture above, the current page is “Payment” page.
- ✓ **[2] Panel header:** Tells user what panel is so user knows its functions.
- ✓ **[3] “Change address” button:** This is used to allow user change the address where the invoice sent.
- ✓ **[4] “Payment address” information:** Display the address where user wants the invoice sent.
- ✓ **[5] “Coupon” text box:** Used to input number if user have discount for the selected orders.

- ✓ **[6] "Apply coupon" button:** Apply inputted coupon to have discount.
- ✓ **[7] "Payment" method:** Choose payment method for orders.
- ✓ **[8] "Add comment about your order":** During the ordering process, or any comment that user want to take, user can fill comment in this free text area.
- ✓ **[9] "Back" button:** Back to the previous page.
- ✓ **[10] "Term & conditions" link:** When input information for payment, user can read "Term and conditions" of "GoodsWay" for more details. By click on this link, the system will display a popup to display all term and conditions of "GoodsWay".
- ✓ **[11] "Confirm" check box:** Check to agree with "Term and Conditions" of "GoodsWay".
- ✓ **[12] "Continue" button:** Click on this button and the system will move user to the next step (next page) of check out process.

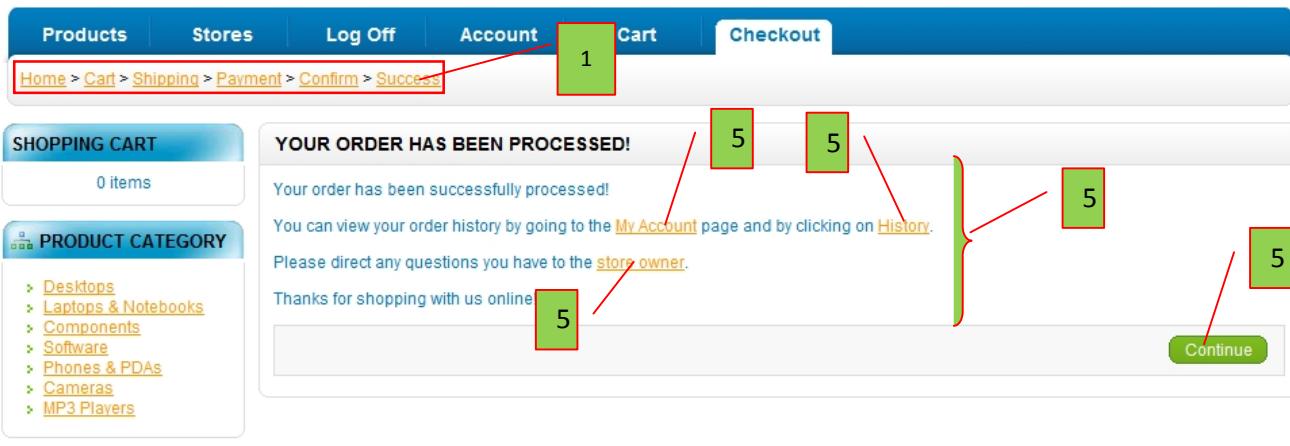


**Figure 6.64:** Checkout Confirmation

This page is used to show all information that user has done before, it allows user to check all these things and edit them if user want to. All general information of added products and total money of them in shopping cart will be displayed also, but user cannot remove these products there.

- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system. On the picture above, the current page is “Confirm” page.
- ✓ **[2] Panel header:** Tells user what panel is so user knows its functions.
- ✓ **[3] Change “Shipping method”:** Used to change shipping method.
- ✓ **[4] Change “Payment method”:** Used to change payment method.
- ✓ **[5] “Shipping address”:** Display address where products are delivered to.
- ✓ **[6] Change “Shipping address”:** Change shipping address.

- ✓ **[7] "Payment address":** Display address where user wants the invoice sent.
- ✓ **[8] Change "Payment address":** Change payment address.
- ✓ **[9] "Coupon" text box:** Used to input coupon if user has for orders.
- ✓ **[10] "Apply coupon" button:** Apply inputted coupon to get discount for orders.
- ✓ **[11] "Back" button:** Back to previous page.
- ✓ **[12] "Confirm Order" button:** Used to confirm orders when user is sure about his/her orders. Click on this button and the system will finish the check out process and display successful message, which will be described below.



**Figure 6.65:** Place Order success

- ✓ **[1] Navigation:** Tells user where he/she is in the system. The last link on this is the current page. Click on others link will navigate user to corresponded page in the system. On the picture above, the current page is "Success" page.
- ✓ **[2] "My Account" link:** Click on this link and the system will navigate user to "My account" page in the system.
- ✓ **[3] "History" link:** Click on this link and the system will navigate user to "Order history" to view all history orders of his/her.
- ✓ **[4] "Store owner" link:** If user has any question for the store that own the selected products, click on this link and the system allow user to input questions.
- ✓ **[5] Message:** Display successful message and others information to support user.
- ✓ **[6] "Continue" button:** Click on this button to continue the shopping, the system will navigate user to shopping page.

### 6.2.2. The Administration Interface Walk-through

The administration interface is responsible for controlling everything customer sees on the public interface. Administrator can view and manage orders, update customer information, add/update/delete category, add store to category, add product to category, and add new products to store. Before login it's important to know that the administrative interface relies heavily on JavaScript, and if you do not have JavaScript running on your browser you will not be able to login or be able to use the administrative interface at its full capacity.

You can login to your site's administrative interface by visiting:

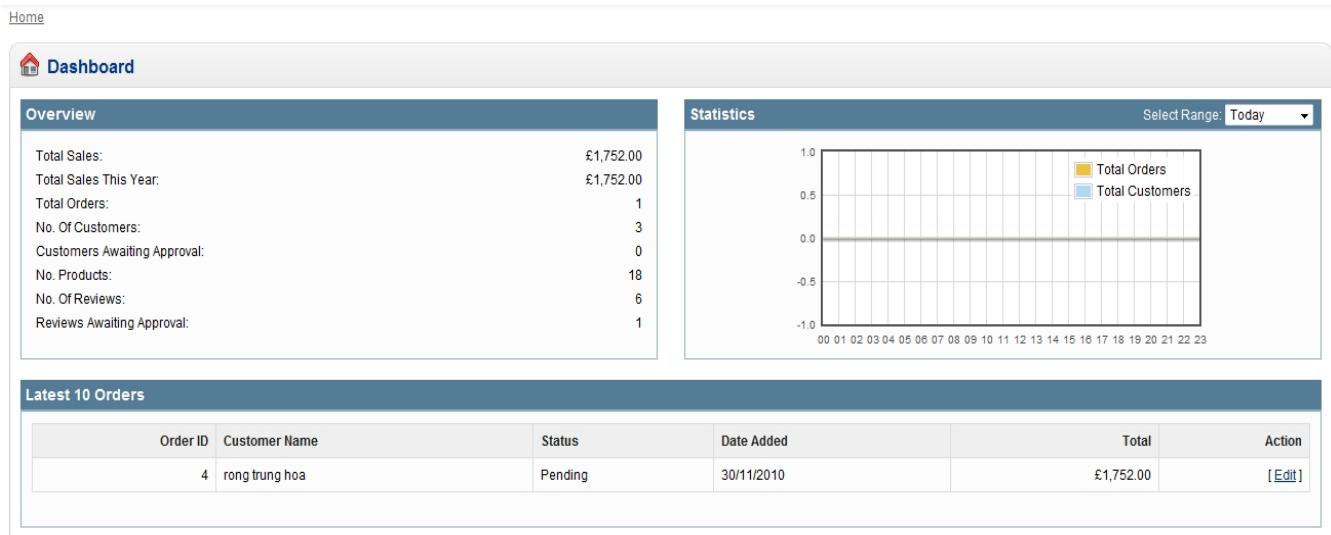
For localhost: <http://localhost:8080/goodsway/admin/>

For webhost: <http://yourdomain/goodsway/admin/>



**Figure 6.66:** The login panel to the administration interface

Once logged in, you will be redirected to the dashboard. The dashboard gives a quick overview of all the recent activity with “GoodsWay”. You can view overviews of lifetime sales, average order totals, order transaction totals over a given period, and recent product searches by customers.



**Figure 6.67:** “GoodsWay” Dashboard

The dashboard is the gateway to every other section in the administration interface. From the dashboard, you can navigate to each of these different sections:

- ✓ **Catalog:** Create and manage categories, products, manufacturers, reviews, and information (contains “About Us”, “Privacy policies”, “History”, etc).
- ✓ **Extensions:** Create and manage modules that can be used in “GoodsWay” system, also allows administrator to manage shipping and payment methods used in “GoodsWay”.
- ✓ **Sales:** View orders or create new orders, coupons, email, customer and customer group management.
- ✓ **System:** Contains all of the configuration details of “GoodsWay”, including individual store options, shipping settings, and cache management.
- ✓ **Reports:** View and export reports on a variety of different topics from sales and products.

### 6.2.2.1. Catalog Management

#### 6.2.2.1.1. Category

Home :: Category

Category Name	Sort Order	Action
Desktops	1	[Edit]
Desktops > PC	1	[Edit]
Desktops > Mac	2	[Edit]
Laptops & Notebooks	2	[Edit]
Components	3	[Edit]
Components > Monitors	1	[Edit]
Components > Printers	1	[Edit]
Components > Scanners	1	[Edit]
Components > Web Cameras	1	[Edit]
Software	4	[Edit]
Phones & PDAs	5	[Edit]
Cameras	6	[Edit]
MP3 Players	7	[Edit]

**Figure 6.68:** Category management homepage

Home :: Category

The screenshot shows the 'Category' management interface. At the top right are 'Save' and 'Cancel' buttons. Below them is a tab bar with 'General' and 'Data' selected. Underneath are two language tabs: 'Tiếng Việt' and 'English', with 'Tiếng Việt' currently active. The 'General' tab contains fields for 'Category Name' (with a required asterisk) and 'Meta Tag Keywords'. The 'Data' tab contains a 'Meta Tag Description' field and a large 'Description' field with a rich text editor toolbar.

**Figure 6.69:** Add/update category page

### 6.2.2.1.2. Product

Home :: Products

The screenshot shows a table titled "Products" with the following data:

	Image	Product Name	Model	Quantity	Status	Action
<input type="checkbox"/>		Apple Cinema 30"	Product 15	100	Enabled	[Edit]
<input type="checkbox"/>		Canon EOS 5D	Product 3	10	Enabled	[Edit]
<input type="checkbox"/>		HP LP3065	Product 21	9	Enabled	[Edit]
<input type="checkbox"/>		HTC Touch HD	Product 1	10	Enabled	[Edit]
<input type="checkbox"/>		iPod Classic	product 20	88	Enabled	[Edit]
<input type="checkbox"/>		iPod Nano	Product 9	8	Enabled	[Edit]
<input type="checkbox"/>		iPod Shuffle	Product 7	10	Enabled	[Edit]
<input type="checkbox"/>		iPod Touch	Product 5	10	Enabled	[Edit]

Showing 1 to 18 of 18 (1 Pages)

**Figure 6.70:** Product management homepage

Home :: Products

The screenshot shows the "Products" form with the "General" tab selected. The form includes the following fields:

- Product Name:** Apple Cinema 30"
- Meta Tag Keywords:** (empty input field)
- Meta Tag Description:** (empty input field)
- Description:** (rich text editor containing the following text)
 

The 30-inch Apple Cinema HD Display delivers an amazing 2560 x 1600 pixel resolution. Designed specifically for the creative professional, this display provides more space for easier access to all the tools and palettes needed to edit, format and composite your work. Combine this display with a Mac Pro, MacBook Pro, or PowerMac G5 and there's no limit to what you can achieve.

The Cinema HD features an active-matrix liquid crystal display that produces flicker-free images that deliver twice the brightness, twice the sharpness and twice the contrast ratio of a typical CRT display. Unlike other flat panels, it's designed with a pure digital interface to deliver distortion-free images that never need adjusting. With over 4 million digital pixels, the display is uniquely suited for scientific and technical applications such as visualizing molecular structures or analyzing geological data.

Offering accurate, brilliant color performance, the Cinema HD delivers up to 16.7 million colors across a wide gamut allowing you to see subtle nuances between colors from soft pastels to rich jewel tones. A wide viewing angle ensures uniform color from edge to edge. Apple's ColorSync technology allows you to create custom profiles to maintain consistent color onscreen and in print. The result: You can confidently use this display in all your color-critical applications.
- Product Tags:** comma separated (empty input field)

**Figure 6.71:** Add/update product page

Ch:

### 6.2.2.1.3. Manufacturer

Home :: Manufacturer

 Manufacturer		<input type="button" value="Insert"/>	<input type="button" value="Delete"/>
	Manufacturer Name	Sort Order	Action
<input type="checkbox"/>	Apple	0	<input type="button" value="Edit"/>
<input type="checkbox"/>	Canon	0	<input type="button" value="Edit"/>
<input type="checkbox"/>	HTC	0	<input type="button" value="Edit"/>
<input type="checkbox"/>	Hewlett-Packard	0	<input type="button" value="Edit"/>
<input type="checkbox"/>	Palm	0	<input type="button" value="Edit"/>
<input type="checkbox"/>	Sony	0	<input type="button" value="Edit"/>

Showing 1 to 6 of 6 (1 Pages)

**Figure 6.72:** Manufacturer homepage

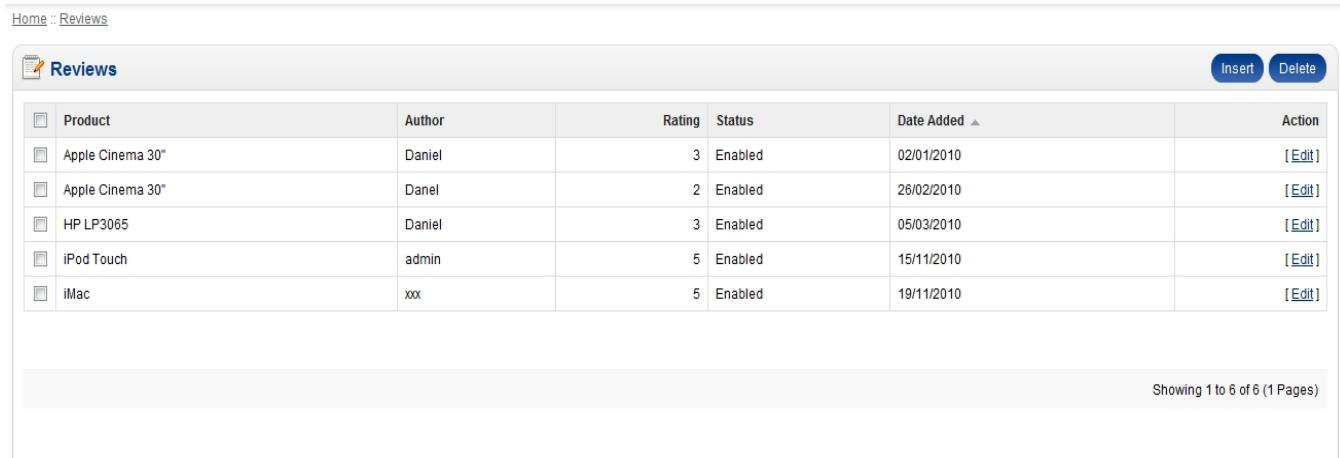
Home :: Manufacturer

 Manufacturer

* Manufacturer Name:	<input type="text" value="Apple"/>
Stores:	<input checked="" type="checkbox"/> Default <input type="checkbox"/> canhtbx <input type="checkbox"/> Trần Anh Computer
<a href="#">Select All</a> / <a href="#">Unselect All</a>	
SEO Keyword:	<input type="text" value="apple"/>
Image:	
Sort Order:	<input type="text" value="0"/>

**Figure 6.73:** Add/Update manufacturer

#### 6.2.2.1.4. Reviews

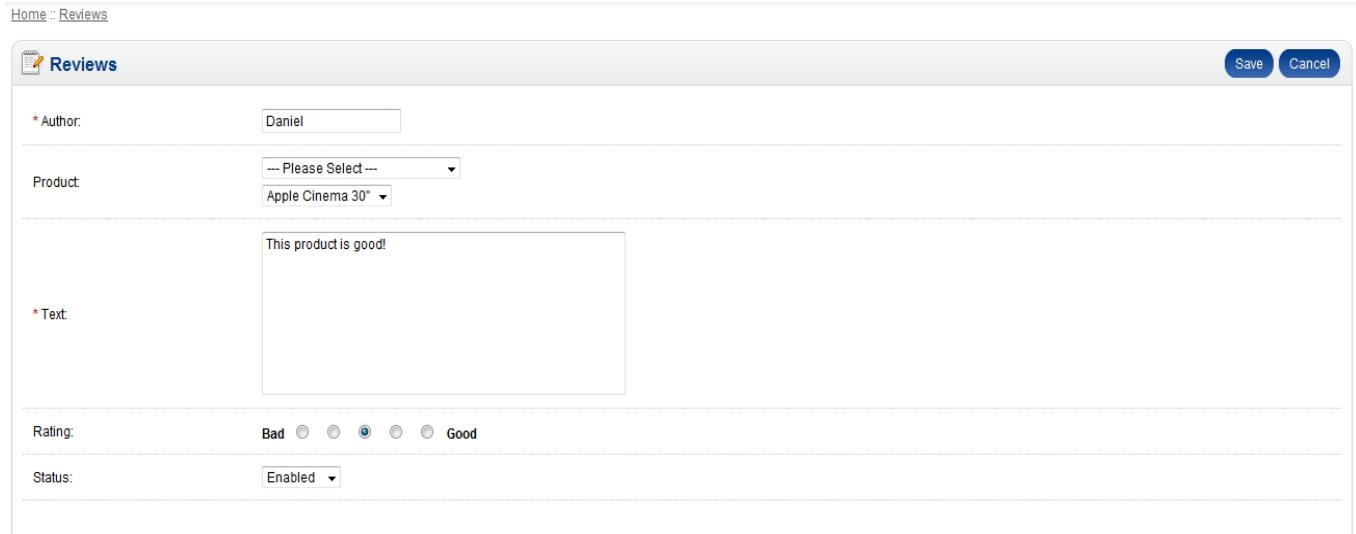


The screenshot shows a table titled 'Reviews' with the following data:

<input type="checkbox"/> Product	Author	Rating	Status	Date Added ▲	Action
<input type="checkbox"/> Apple Cinema 30"	Daniel	3	Enabled	02/01/2010	[Edit]
<input type="checkbox"/> Apple Cinema 30"	Danel	2	Enabled	26/02/2010	[Edit]
<input type="checkbox"/> HP LP3065	Daniel	3	Enabled	05/03/2010	[Edit]
<input type="checkbox"/> iPod Touch	admin	5	Enabled	15/11/2010	[Edit]
<input type="checkbox"/> iMac	xxx	5	Enabled	19/11/2010	[Edit]

Showing 1 to 6 of 6 (1 Pages)

**Figure 6.74:** Review homepage

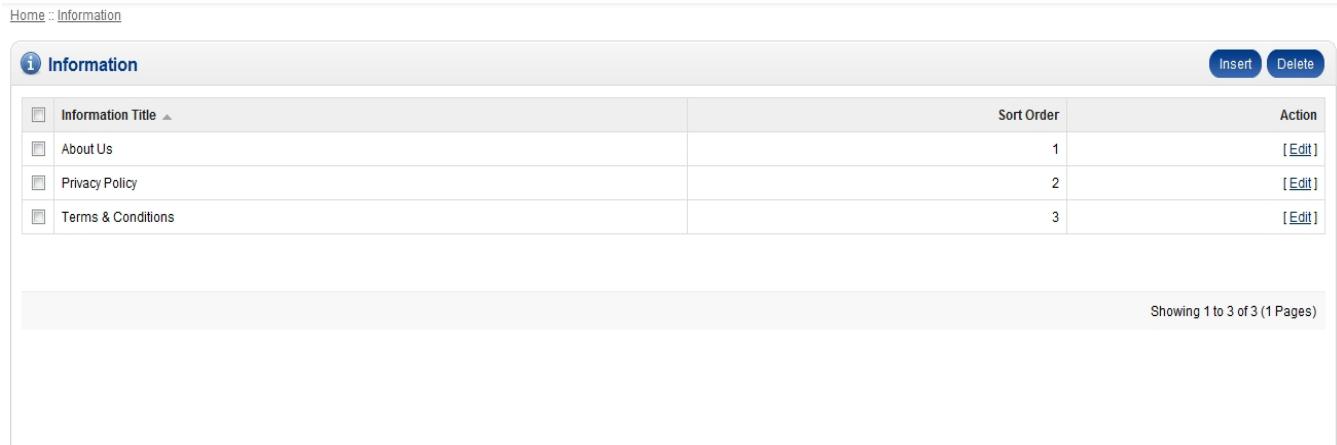


The screenshot shows a form for adding or updating a review:

- \* Author: Daniel
- Product: Apple Cinema 30" (selected from a dropdown menu)
- \* Text: This product is good!
- Rating: Bad (radio button selected)
- Status: Enabled

**Figure 6.75:** Add/Update review page

### 6.2.2.1.5. Information

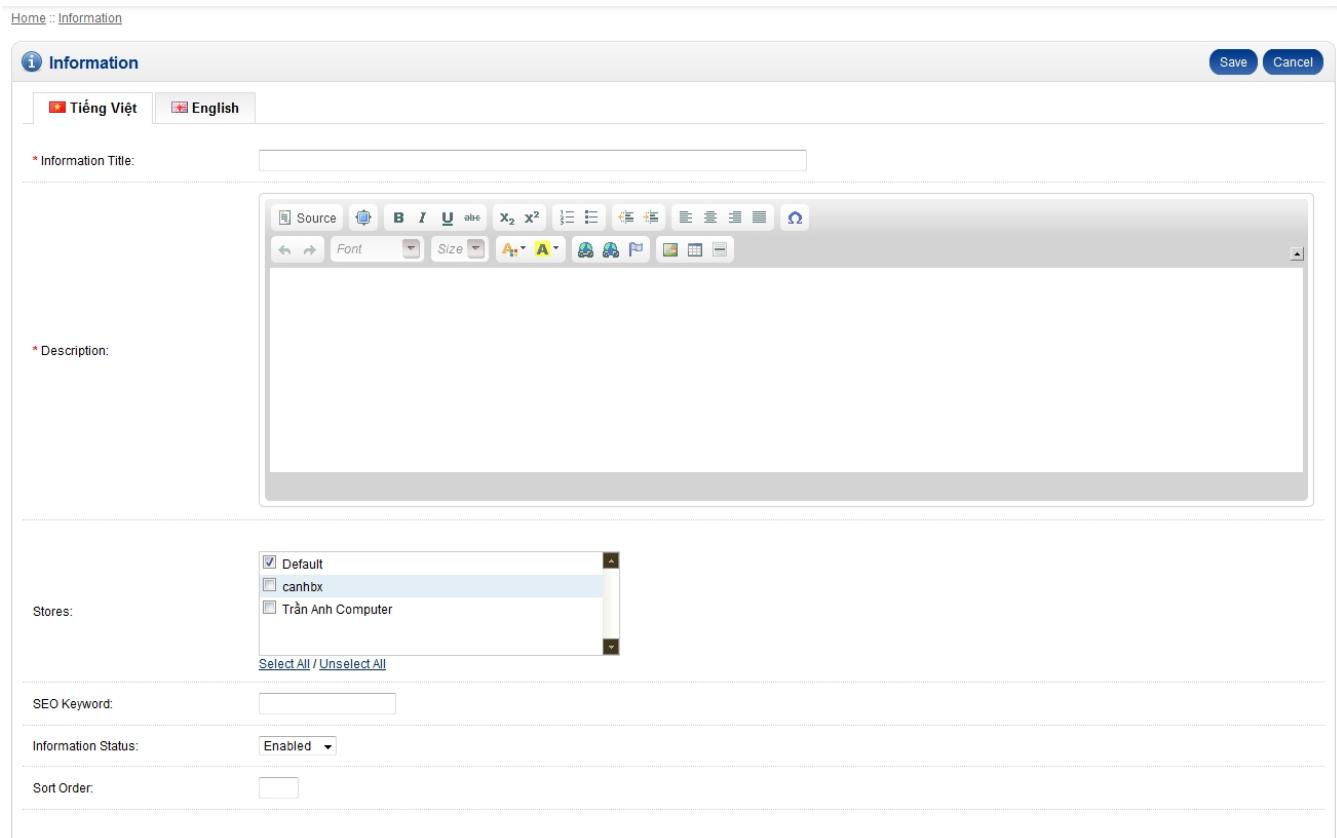


The screenshot shows a table titled 'Information' with four rows. The columns are 'Information Title', 'Sort Order', and 'Action'. The rows contain:

Information Title	Sort Order	Action
About Us	1	[Edit]
Privacy Policy	2	[Edit]
Terms & Conditions	3	[Edit]

Showing 1 to 3 of 3 (1 Pages)

**Figure 6.76:** Information homepage



The screenshot shows a form for adding or updating information. It includes the following fields:

- Languages:** Tiếng Việt, English
- Title:** \* Information Title: (text input field)
- Description:** (Rich Text Editor with toolbar)
- Stores:** (checkboxes)
  - Default
  - canhbx
  - Trần Anh Computer
- SEO Keyword:** (text input field)
- Information Status:** Enabled
- Sort Order:** (text input field)

**Figure 6.77:** Add/Update new information

## 6.2.2.2. Extensions Management

### 6.2.2.2.1. Module

Home :: Modules

Module Name	Position	Status	Sort Order	Action
Bestsellers		Disabled		[Install]
Cart	Left	Enabled	1	[Edit] [Uninstall]
Category	Left	Enabled	1	[Edit] [Uninstall]
Featured		Disabled		[Install]
Google Analytics		Disabled		[Install]
Google Talk		Disabled		[Install]
Information	Left	Enabled	3	[Edit] [Uninstall]
Latest	Home	Enabled	0	[Edit] [Uninstall]
Manufacturer	Left	Enabled	2	[Edit] [Uninstall]
Specials		Disabled		[Install]
All Stores	Home	Enabled		[Edit] [Uninstall]
Store Category	Left	Enabled	1	[Edit] [Uninstall]
Featured Stores	Home	Enabled	1	[Edit] [Uninstall]
Latest Stores	Home	Enabled		[Edit] [Uninstall]

**Figure 6.78:** Module management homepage

Home :: Modules :: Cart

AJAX Add To Cart:	Enabled
Position:	Left
Status:	Enabled
Sort Order:	1

**Figure 6.79:** Module configuration page

### 6.2.2.2. Shipping

Home :: Shipping

Shipping Method	Status	Sort Order	Action
Citylink	Disabled		[Install]
Flat Rate	Enabled	1	[Edit] [Uninstall]
Free Shipping	Disabled		[Install]
Per Item	Disabled		[Install]
Parcelforce 48	Disabled		[Install]
Pickup From Store	Disabled		[Install]
Royal Mail	Disabled		[Install]
UPS	Disabled		[Install]
United States Postal Service	Disabled		[Install]
Weight Based Shipping	Disabled		[Install]

**Figure 6.80:** Shipping methods management home page

Home :: Shipping :: Flat Rate

Flat Rate		Save	Cancel
Cost:	2		
Tax Class:	Taxable Goods		
Geo Zone:	All Zones		
Status:	Enabled		
Sort Order:	1		

**Figure 6.81:** Shipping method configuration page

### 6.2.2.2.3. Payment

Home :: Payment

The screenshot shows a table titled "Payment" with columns for "Payment Method", "Status", "Sort Order", and "Action". The table lists various payment methods, each with a small icon and a status indicator (Enabled or Disabled). The "Action" column contains links for "Edit" and "Uninstall".

Payment Method		Status	Sort Order	Action
AlertPay		Disabled		[Install]
Authorize.Net (AIM)		Disabled		[Install]
Bank Transfer		Disabled		[Install]
Cheque / Money Order		Disabled		[Install]
Cash On Delivery		Enabled	1	[Edit] [Uninstall]
Free Checkout		Disabled		[Install]
LIQPAY		Disabled		[Install]
Moneybookers		Disabled		[Install]
Paymate		Disabled		[Install]
PayPoint		Disabled		[Install]
Perpetual Payments		Disabled		[Install]
PayPal Website Payment Pro		Disabled		[Install]
PayPal Website Payment Pro (UK)		Disabled		[Install]
PayPal Standard		Disabled		[Install]
SagePay		Disabled		[Install]
SagePay Direct		Disabled		[Install]
SagePay (US)		Disabled		[Install]
2Checkout		Disabled		[Install]
WorldPay		Disabled		[Install]

**Figure 6.82:** Payment methods management homepage

Home :: Payment :: Cash On Delivery

The screenshot shows a configuration form for "Cash On Delivery" with fields for "Order Status" (Pending), "Geo Zone" (All Zones), "Status" (Enabled), and "Sort Order" (1). There are "Save" and "Cancel" buttons at the top right.

Order Status:	Pending
Geo Zone:	All Zones
Status:	Enabled
Sort Order:	1

**Figure 6.83:** Payment method configuration

### 6.2.2.3. Sales Management

#### 6.2.2.3.1. Order

Home :: Orders

	Order ID	Customer Name	Status	Date Added	Total	Action
						<a href="#">Filter</a>
	4	Bùi Xuân Cảnh	Pending	30/11/2010	£1,752.00	<a href="#">[Edit]</a>

Showing 1 to 1 of 1 (1 Pages)

**Figure 6.84:** Order management homepage

Home :: Orders

Order Details	Order ID: #4
Products	Invoice ID: <a href="#">Generate</a>
Shipping Address	Customer: Bùi Xuân Cảnh
Payment Address	Customer Group: Default
Order History	E-Mail: canhbx@gmail.com
	Telephone: 123456789
	Store Name: GoodsWay
	Store URL: <a href="http://localhost:8080/eclipse/goodsway/">http://localhost:8080/eclipse/goodsway/</a>
	Date Added: 30/11/2010
	Shipping Method: Flat Rate
	Payment Method: Cash On Delivery
	Order Total: £1,752.00
	Order Status: Pending

**Figure 6.85:** Order information page – tab “Order details”

**Orders**

Order Details	Product	Model	Quantity	Unit Price	Total
MacBook	Product 16	5	£100.00	£500.00	
iMac	Product 14	10	£100.00	£1,000.00	
iPod Classic - Memory 8GB	product 20	1	£150.00	£150.00	
HP LP3065	Product 21	1	£100.00	£100.00	
				Sub-Total:	£1,750.00
				Flat Rate:	£2.00
				Total:	£1,752.00

**Add Product(s)**

Choose Category:	Desktops
Choose Product:	Canon EOS 5D [Product 3] - £100.00
Choose Option(s):	
Tax:	0 %
Qty:	1

**Figure 6.86:** Order information page – tab “Products”

**Orders**

Order Details	First Name:	Bùi
Products	Last Name:	Xuân Cảnh
Shipping Address	Company:	FPT
Payment Address	Address 1:	FPT University
Order History	Address 2:	
	City:	Hanoi
	Post Code:	12345
	Country:	Viet Nam
	Region / State:	Ha Noi

**Update Address**

**Figure 6.87:** Order information page – tab “Shipping Address”

First Name: Büi

Last Name: Xuân Cảnh

Company: FPT

Address 1: FPT University

Address 2:

City: Hanoi

Post Code: 12345

Country: Viet Nam

Region / State: Hà Nội

**Update Address**

**Figure 6.88:** Order information page – tab “Payment Address”

Date Added	Status	Customer Notified
30/11/2010	Pending	Yes

Order Status: Pending

Notify Customer:

Append Comments:

Comment:

**Add Order History**

**Figure 6.89:** Order information page – tab “Order History”

### 6.2.2.3.2. Customer

Home :: Customer

<input type="checkbox"/> Customer Name ▲	E-Mail	Customer Group	Status	Approved	Date Added	Action
<input type="checkbox"/> Bùi Xuân Cảnh	canhbx@gmail.com	Default	Enabled	Yes	19/11/2010	[Edit]
<input type="checkbox"/> Quách Xuân Tuấn	tuanqx@gmail.com	Default	Enabled	No	01/12/2010	[Edit]
<input type="checkbox"/> Trần Quốc Dũng	dungtq@gmail.com	Default	Enabled	No	01/12/2010	[Edit]
<input type="checkbox"/> Vũ Hải Ninh	canhbx2@gmail.com	Default	Enabled	Yes	19/11/2010	[Edit]
<input type="checkbox"/> Đỗ Hoàng Duy	duydh@gmail.com	Default	Enabled	Yes	30/11/2010	[Edit]

Showing 1 to 5 of 5 (1 Pages)

**Figure 6.90:** Customer management homepage

Home :: Customer

<b>General</b>	
* First Name:	Bùi
* Last Name:	Xuân Cảnh
* E-Mail:	canhbx@gmail.com
* Telephone:	123456789
Fax:	
Password:	
Confirm:	
Newsletter:	Disabled
Customer Group:	Default
Status:	Enabled

**Figure 6.91:** Add/Update customer information page

### 6.2.2.3.3. Customer Group

Home :: Customer Group

<input type="checkbox"/> Customer Group Name ▲	Action
<input type="checkbox"/> Default (Default)	[Edit]
<input type="checkbox"/> Wholesale	[Edit]

**Figure 6.92:** Customer group homepage

The screenshot shows a form titled 'Customer Group'. At the top right are 'Save' and 'Cancel' buttons. Below the title is a field labeled '\* Customer Group Name:' containing the value 'Wholesale'. There is also a small icon of a person next to the title.

***Figure 6.93:*** Add/Update customer group**6.2.2.3.4. Coupon**

The screenshot shows a table titled 'Coupon' with four rows of data. The columns are: Coupon Name, Code, Discount, Date Start, Date End, Status, and Action. The data is as follows:

Coupon Name	Code	Discount	Date Start	Date End	Status	Action
Coupon (-10%)	2222	10.0000	27/01/2009	06/03/2010	Enabled	[Edit]
Coupon (-10.00)	1111	10.0000	01/01/2007	01/03/2011	Enabled	[Edit]
Coupon (Free Shipping)	3333	0.0000	01/03/2009	31/08/2009	Enabled	[Edit]

Showing 1 to 3 of 3 (1 Pages)

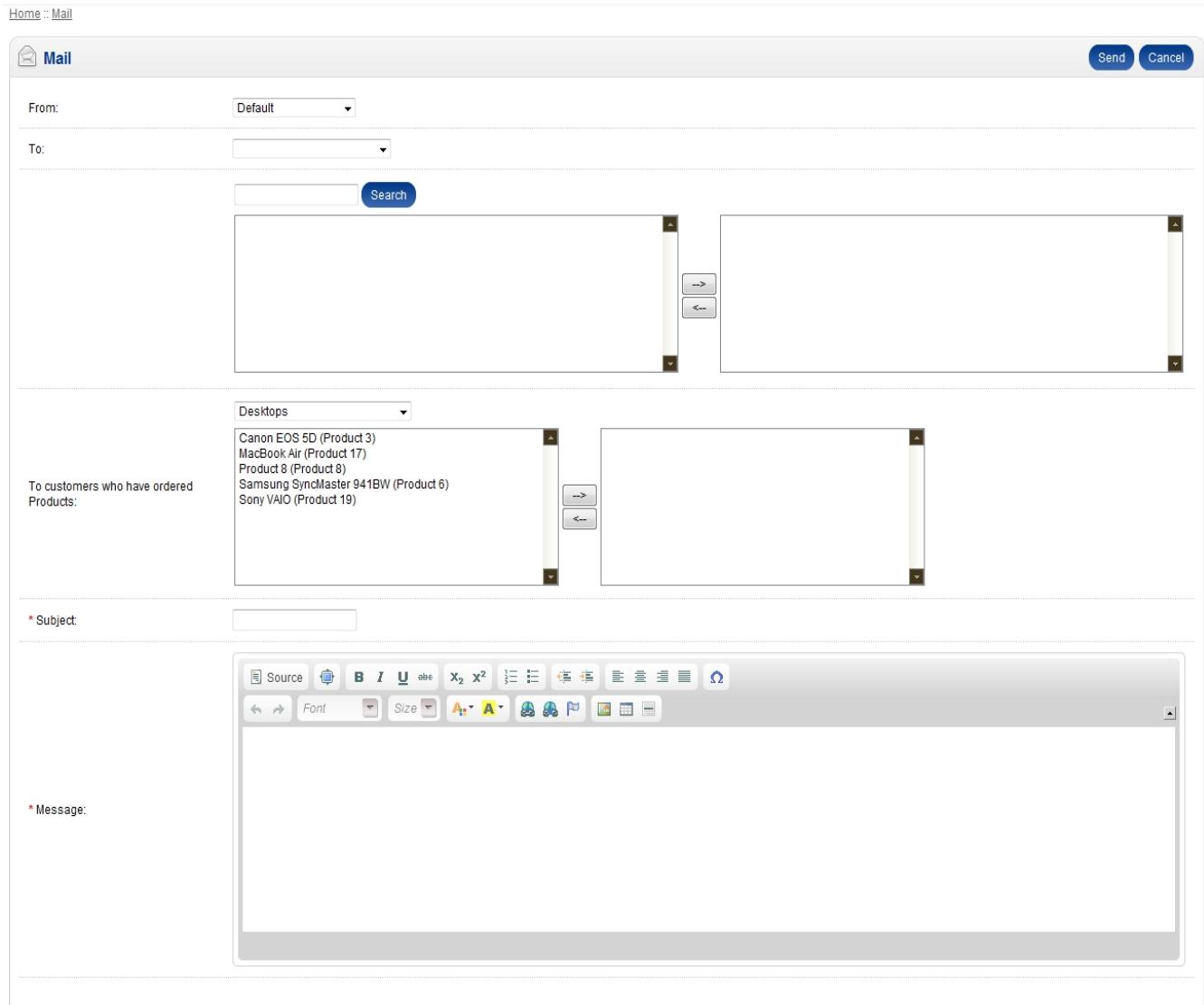
***Figure 6.94:*** Coupon management homepage

The screenshot shows a detailed configuration page for a coupon. It includes fields for Coupon Name ('Coupon (-10%)'), Description ('10% Discount'), Code ('2222'), Type ('Percentage'), Discount ('10.0000'), Total Amount ('0.0000'), Customer Login ('Yes'), Free Shipping ('Yes'), Products (a dropdown menu showing 'Desktops' and several product names like Canon EOS 5D, MacBook Air, etc.), Date Start ('2009-01-27'), Date End ('2010-03-06'), Uses Per Coupon ('10'), and Uses Per Customer ('10'). The status is set to 'Enabled'.

***Figure 6.95:*** Add/Update coupon information page

Char

### 6.2.2.3.3. Email



**Figure 6.96:** Email configuration page

#### **6.2.2.4. System Management**

#### **6.2.2.4.1. Setting**

Home :: Settings

 **Settings** Edit Store: Default [Create A New Store](#) [Save](#) [Cancel](#)

**General** [Store](#) [Local](#) [Option](#) [Image](#) [Mail](#) [Server](#)

---

\* Store Name:

\* Store URL:  
Include the full URL to your store.  
Make sure to add '/' at the end.  
Example:  
<http://www.yourdomain.com/path/>

\* Store Owner:

\* Address:

\* E-Mail:

\* Telephone:

Fax:

**Figure 6.97:** Settings page – “General” tab

**Figure 6.98:** Settings page – “Store” tab

Home > Settings

### Settings

Edit Store: Default

General	Store	Local	Option	Image	Mail	Server
Country:	Viet Nam					
Region / State:	Ha Noi					
Language:	Tiếng Việt					
Administration Language:	English					
Currency:	Pound Sterling					
Auto Update Currency: Set your store to automatically update currencies daily.	<input checked="" type="radio"/> Yes <input type="radio"/> No					
Length Class:	Centimeter					
Weight Class:	Kilogram					

**Figure 6.99:** Settings page – “Local” tab

Home > Settings

### Settings

Edit Store: Default

General	Store	Local	Option	Image	Mail	Server
Default Items per Page (Admin): Determines how many admin items are shown per page (orders, customers, etc.)	20					
Default Items per Page (Catalog): Determines how many catalog items are shown per page (products, categories, etc.)	20					
Display Prices With Tax:	<input checked="" type="radio"/> Yes <input type="radio"/> No					
Invoice Start No.: Set the starting number the invoices will begin from.	001					
Invoice Prefix: Set the invoice prefix e.g. IN/001	INV					
Customer Group: Default customer group.	Default					
Login Display Prices: Only show prices when a customer is logged in.	<input type="radio"/> Yes <input checked="" type="radio"/> No					
Approve New Customers: Don't allow new customer to login until their account has been approved.	<input type="radio"/> Yes <input checked="" type="radio"/> No					
Guest Checkout: Allow customers to checkout without creating an account. This will not be available when a downloadable product is in the shopping cart.	<input checked="" type="radio"/> Yes <input type="radio"/> No					
Account Terms: Forces people to agree to terms before an account can be created.	Privacy Policy					
Checkout Terms: Forces people to agree to terms before an a customer can checkout.	Terms & Conditions					
Display Stock: Display stock quantity on the product page.	<input type="radio"/> Yes <input checked="" type="radio"/> No					
Show Out Of Stock Warning: Display a warning message on the shopping cart page if a product is out of stock but stock checkout is yes. (Warning always shows if stock checkout is no)	<input type="radio"/> Yes <input checked="" type="radio"/> No					
Stock Checkout: Allow customers to still checkout if the products they are ordering are not in stock.	<input type="radio"/> Yes <input checked="" type="radio"/> No					

**Figure 6.100:** Settings page – “Option” tab

Home :: Settings

### Settings

Edit Store: Default

- 

Store Logo: 

Icon: The icon should be a PNG that is 16px x 16px.

\* Product Image Thumb Size: 250 x 250

\* Product Image Popup Size: 500 x 500

\* Category List Size: 120 x 120

\* Product List Size: 120 x 120

\* Additional Product Image Size: 150 x 150

\* Related Product Image Size: 120 x 120

\* Cart Image Size: 75 x 75

**Figure 6.101:** Settings page – “Image” tab

Home :: Settings

### Settings

Edit Store: Default

- 

Mail Protocol: Only choose ‘Mail’ unless your host has disabled the php mail function.

Mail Parameters: When using ‘Mail’, additional mail parameters can be added here (e.g. “-femail@storeaddress.com”).

SMTP Host:

SMTP Username:

SMTP Password:

SMTP Port: 25

SMTP Timeout: 5

Alert Mail: Send a email to the store owner when a new order is created.  Yes  No

Additional Alert E-Mails: Any additional emails you want to receive the alert email, in addition to the main store email. (comma separated)

**Figure 6.102:** Settings page – “Mail” tab

Home :: Settings

**Settings**

Edit Store: Default

**General** **Store** **Local** **Option** **Image** **Mail** **Server**

---

**Use SSL:**  
To use SSL check with your host if a SSL certificate is installed and added the SSL URL to the admin config file.

Yes  No

---

**Maintenance Mode:**  
Prevents customers from browsing your store. They will instead see a maintenance message. If logged in as admin, you will see the store as normal.

Yes  No

---

**Encryption Key:**  
Please provide a secret key that will be used to encrypt private information when processing orders.

---

**Use SEO URL's:**  
To use SEO URL's apache module mod-rewrite must be installed and you need to rename the .htaccess.txt to .htaccess.

Yes  No

---

**Output Compression Level:**  
GZIP for more efficient transfer to requesting clients. Compression level must be between 0 - 9

---

**Display Errors:**  Yes  No

---

**Log Errors:**  Yes  No

---

**\* Error Log Filename:**

---

**Ignore Tokens on these pages:**  
This version of OpenCart has a token system for admin security. Modules that have not been updated for token support yet can be checked to ignore the token check and allow them to work as normal.

catalog/category  
 catalog/download  
 catalog/information  
 catalog/manufacturer  
 catalog/product  
 Select All / Unselect All

**Figure 6.103:** Settings page – “Server” tab

#### 6.2.2.4.2. Users

Home :: User

**User**

<input type="checkbox"/> Username	Status	Date Added	Action
<input type="checkbox"/> admin	Enabled	09/11/2010	<a href="#">[Edit]</a>

Showing 1 to 1 of 1 (1 Pages)

**Figure 6.104:** Admin Users page

User Group		Action
<input type="checkbox"/>	User Group Name ▲	
<input type="checkbox"/>	Demonstration	[Edit]
<input type="checkbox"/>	Top Administrator	[Edit]

Showing 1 to 2 of 2 (1 Pages)

**Figure 6.105:** Admin User Group page**6.2.2.4.3. Localization**

Language		Action	
<input type="checkbox"/> Language Name ▲		Sort Order	
<input type="checkbox"/>	English	en	2 [Edit]
<input type="checkbox"/>	Tiếng Việt (Default)	vi	1 [Edit]

Showing 1 to 2 of 2 (1 Pages)

**Figure 6.106:** Language homepage

Language		Save	Cancel
* Language Name:	English		
* Code: Do not change if this is your default language.	en		
* Locale: e.g: en_US.UTF-8,en_US,en-gb,english	en_US.UTF-8,en_US,e		
* Image: e.g: gb.png	gb.png		
* Directory: name of the language directory (case-sensitive)	english		
* Filename: main language filename without extension	english		
Status: Hide/Show it in language dropdown	Enabled		
Sort Order:	2		

**Figure 6.107:** Add/Update language configuration page

The screenshot shows a table titled "Currency" with the following data:

Currency Title	Code	Value	Last Updated	Action
Euro	EUR	1.19770002	01/12/2010	[Edit]
Pound Sterling (Default)	GBP	1.00000000	01/12/2010	[Edit]
US Dollar	USD	1.55830002	01/12/2010	[Edit]
Việt Nam Đồng	VND	30387.00000000	01/12/2010	[Edit]

Showing 1 to 4 of 4 (1 Pages)

**Figure 6.108:** Currency management homepage

The screenshot shows a form for adding or updating currency information:

- \* Currency Title: Euro
- \* Code: EUR
- Symbol Left: (empty)
- Symbol Right: €
- Decimal Places: 2
- Value: 1.19770002
- Status: Enabled

**Figure 6.109:** Add/Update currency information page

#### 6.2.2.4.4. Error Log

The screenshot shows a table titled "Error Log" with the following data:

Error Log	
	Clear Log

**Figure 6.110:** Error log page

#### 6.2.2.4.5. Backup/Restore

The screenshot shows a web-based application interface titled "Backup / Restore". At the top right are "Restore" and "Backup" buttons. Below the title, there is a section labeled "Backup:" containing a list of items with checkboxes: "address", "category", "category\_description", "category\_to\_store", and "country". A "Browse..." button is located next to a file input field above the list. At the bottom left of the list area are "Select All" and "Unselect All" links.

***Figure 6.111:*** Backup/Restore page

#### 6.2.2.5. Reports Management

##### 6.2.2.5.1. Sales

The screenshot shows a "Sales Report" page. At the top, there are filters for "Date Start" (2010-11-24), "Date End" (2010-12-01), "Group By" (Weeks), and "Status" (All Statuses). A "Filter" button is located at the top right. Below the filters is a table with one row showing sales details. The table has columns for Date Start, Date End, No. Orders, and Total. The data row is: 30/11/2010, 30/11/2010, 1, £1,752.00. At the bottom right of the table area, it says "Showing 1 to 1 of 1 (1 Pages)".

Date Start	Date End	No. Orders	Total
30/11/2010	30/11/2010	1	£1,752.00

***Figure 6.112:*** Sales report page

### 6.2.2.5.2. Products

[Home](#) :: [Products Viewed Report](#)

Products Viewed Report				Reset
Product Name	Model	Viewed	Percent	
iPod Classic	product 20	300	55.05%	
MacBook Air	Product 17	70	12.84%	
iPod Nano	Product 9	32	5.87%	
iPod Touch	Product 5	30	5.5%	
HP LP3065	Product 21	28	5.14%	
Sony VAIO	Product 19	14	2.57%	
MacBook	Product 16	11	2.02%	
Nikon D300	Product 4	10	1.83%	
Canon EOS 5D	Product 3	9	1.65%	
iPhone	product 11	9	1.65%	
iMac	Product 14	8	1.47%	
Apple Cinema 30"	Product 15	8	1.47%	
Samsung SyncMaster 941BW	Product 6	7	1.28%	
HTC Touch HD	Product 1	5	0.92%	
iPod Shuffle	Product 7	2	0.37%	
MacBook Pro	Product 18	2	0.37%	
Palm Treo Pro	Product 2	0	0%	
Product 8	Product 8	0	0%	

Showing 1 to 18 of 18 (1 Pages)

**Figure 6.113:** Product Viewed Report page

[Home](#) :: [Products Purchased Report](#)

Products Purchased Report				
Product Name	Model	Quantity	Total	
iMac	Product 14	10	£1,000.00	
MacBook	Product 16	5	£500.00	
iPod Classic	product 20	1	£150.00	
HP LP3065	Product 21	1	£100.00	

Showing 1 to 4 of 4 (1 Pages)

**Figure 6.114:** Products Purchased Report page

## 6.3. Other

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