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|  | **MINISTRY OF EDUCATION AND TRAINING** |

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| --- | --- | --- |
| **FPT UNIVERSITY** | | |
| CAPSTONE PROJECT DOCUMENT | | |
| **SITE BUILDER FOR PRODUCT CATALOGUE** | | |
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| **Supervisor** | Nguyễn Huy Hùng |
| **Capstone Project code** |  |

- Ho Chi Minh City, January/2014 -

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**Definition, Acronyms, and Abbreviations**

|  |  |
| --- | --- |
| **Name** | **Definition** |
| SBPC | Site Builder for Product Catalogue |
|  |  |

# Report No.1 Introduction

## Project Information

* Project Name: Site Builder for Product Catalogue
* Project Code: SBPC
* Product Type: Web application
* Start Date: January 6, 2015
* End Date: April 25, 2015

## Introduction

Nowadays, the development of internet and information technology led to the dramatic increase in online users. Among of them, a lot of users search for necessary products, suitable prices, brands and price comparison as well. Hence, more and more companies want to create a website for showing their product catalogue as an online marketing method.

Besides, we all recognized that creating a website for non IT Commercial Corporation is time consuming and expensive.

Currently, in Vietnam, there are some websites that provide site builder services for creating a commercial website. However, they are not easy to use and do not concentrate on any fields. Therefore, it is hard for corporations to use their services especially for creating products catalogue website.

From above mentioned reasons, this project is going to build a site builder for products catalogue.

## Current Situation

There are many websites services support for building site in Viet Nam, some of popular sites are websieutoc.vn, wevina.vn, and bizweb.vn. Those sites help user build various types of sites such as online ecommerce, medical, fashion, services and many other fields.

To begin using those sites services, user must register to system, then, user can move to site builder page. The system suggests user for default site templates or blank templates. At site builder page, a tool box helps user drag and drop content into their site. User can also customize site layout, background, header and footer.

Some of features require paying or upgrading account example mapping site domain. After completing building site, user can save their site and publish it if they want. The system supports for publishing with default domain, if choose another, user must pay.

## Problem Definition

Although many function of above mentioned websites, they still have weaknesses. They do not concentrate on any fields especially products catalogue sites. It is not easy to use their service for new user because of confuse interface and difficult manipulation on builder page. Moreover, the system does not support products detail management and website statistics.

## Proposed Solution

### Feature functions

This site builder mainly concentrates on creating products catalogue sites. It is not only offers to create site base on available templates but also offers to customize site base on default site template/theme. In addition, the site builder also supports for mapping user’s site domain. If user does not have any domains, the site builder will support for a default domain. User can view statistics about number of visitors to their website, which products visitors mostly view.

### Advantages and disadvantages

- Advantages:

* Focus on building products catalogue site
* Enhance visibility and effectiveness by drag and drop function
* Support website statistics
* Support products detail management

- Disadvantages:

* E-Commerce websites are not support
* Websites with volatile and complex data are not suitable.

## Functional Requirements

Function requirements of the system are listed as below:

* Account management
* Advantage template searching
* Default website template/theme creation
* Website template/theme customization
* Website’s statistics handler
* Product items management
* Payment method for premium features
* Website’s domain mapping

## Role and Responsibility

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Full Name** | **Role** | **Position** | **Contact** |
| **1** | Nguyễn Huy Hùng | Supervisor | Instructor | hungnh@fpt.edu.vn |
| **2** | Phạm Văn Thắng | Developer | Leader | thangpvse61092@fpt.edu.vn |
| **3** | Lê Trần Thịnh | Developer | Member | thinhltse61152@fpt.edu.vn |
| **4** | Phạm Khương Duy | Developer | Member | duypk60195@fpt.edu.vn |
| **5** | Lê Thanh Tuấn | Developer | Member | tuanltse60636@fpt.edu.vn |

Table 1: Roles and Responsibilities

# Report No.2 Software Project Management Plan

## Problem Definition

### Name of this Capstone Project

Site Builder for Product Catalogue (SBPC).

### Problem abstract

In Vietnam, many websites support for building products catalogue sites, but they have complex interface and manipulation. User cannot manage products detail information or view site statistics. In addition, they just support for adding products and categories simply or not support.

So, building a site builder service especially for products catalogue sites is very important and necessary. This system should have friendly interface and manipulation, it can help user create site with available templates, add products quickly and modify site content by dragging and dropping manipulation. Moreover, the system also shows site statistics, maps site domain as well as upgrading account for more features.

### Project Overview

#### Current Situation and Disadvantages

Some of the most popular site builder service websites in Viet Name are researched and listed below:

|  |  |  |
| --- | --- | --- |
| **Website name** | **Advantages** | **Disadvantages** |
| websieutoc.vn | * Support building variety sites such as products catalogue, services, fashion, beauty and medical. | * Confuse interface and system flow. * Some function are not perform correctly. |
| wevina.vn | * Can change site type between private and business. * Be able to disable site status from active to inactive and reverse. * Tool box for building site is accessible to user. | * Not support products and categories management. * Not support mapping domain. |
| bizweb.vn | * Tool box for building site is easy to use and also supports for adding products quickly. * Allow adding new module (photo gallery or map). * User can modify module position * Support for customizing CSS and HTML * Support order management. * Integrate store to facebook.com, hangtot.com | * User must remember their created website name to login. * Menu arrangement and interface are confused. * It is difficult to format layout and background. |

Table 2: Current sites builder services’ advantages and disadvantages.

#### The Proposed System

From above disadvantages, this project is going to build up a site builder for products catalogue. User can choose a default template and customize it. For site building manipulation, user can drag and drop elements from a tool box at builder page. User can also upgrade their account type to have more support features. When completing building site, user can preview site and mapping domain. For report, site statistics will show information about number of visitors and which products mostly viewed.

#### Boundaries of System

* The system is a web application, which concentrates on helping user build products catalogue sites only.
* For different account type (Gold, Silver, Free), users may have different features.
* Site statistics will show summary information about number of visitors and viewed products.

#### Development Environment

##### Hardware requirement

**For Server**

|  |  |  |
| --- | --- | --- |
| **Windows** | **Minimum Requirements** | **Recommended** |
| Internet Connection | Cable, Wi-Fi (4 Mbps) | Cable, Wi-Fi (8 Mbps) |
| Operating System | Window 7 | Window 7 |
| Computer Processor | Intel® Xeon® Quad Core 2.50 GHz | Intel® Core™ i3 (2.50GHz) |
| Computer Memory | 1GB RAM | 2GB or more |

Table 3: Hardware Requirement for Server

##### Software requirement

* + - .Net framework 4.5.
    - Microsoft Window 7.
    - Web browser: Firefox, Internet Explorer 10 or higher.

## Project Organization

### Software Process Model

In this project, we decided to use the Scrum model for developing.



Figure 1: SCRUM Overview Diagram

Because of the project characteristics, we decide to make progress in series of sprints which are time boxed iterations in one week. At the beginning of one sprint, through sprint planning meeting, all team members will discuss together to define sprint backlog which is suitable to be completed within a week. Daily meeting and online conference are used to manage all activities and issues troubleshoot. At the end of sprint, product owner and developer team will review completed product to figuring out the necessary changes for products.

### Roles and responsibilities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Full name** | **Team Role** | **Scrum Team Role** | **Responsibilities** |
| 1 | Nguyễn Huy Hùng | Supervisor | Product Owner | * Outline work in scrum backlog * Answer question and deliver direction |
| 2. | Phạm Văn Thắng | Team Leader | Scrum Master | * Facilitate productivity – maximize team performance * Complete all individual work |
| 3. | Lê Trần Thịnh | Team Member | Scrum Team Member | * Commit individual product on time * Support each other to complete team work |
| 4 | Phạm Khương Duy | Team Member | Scrum Team Member | * Commit individual product on time * Support each other to complete team work |
| 5 | Lê Thanh Tuấn | Team Member | Scrum Team Member | * Commit individual product on time * Support each other to complete team work |

Table 4: Project Role and Responsiility

**Product Owner** in this project is also Project Manager who supports the whole team by outlining works in the [scrum backlog](http://scrummethodology.com/the-scrum-backlog/), prioritizing it and being available to answer questions and deliver direction.

**Scrum Master** has responsibility to do everything he can do to facilitate productivity – address needs of the team and contribute to Product Owner to maximize team performance. As a real team player, he is required to complete all individual work.

**Scrum Team Member** is expected to be self-organized, cross-functional with high adaptability. All members have the right to do anything within the boundaries of project to meet the sprint goals and have responsibility not only to commit their individual product on time but also to support another members to ensure team can complete its work.

### Tools and Techniques

* Handle Products and sprints backlog: MS Excel 2013.
* Implement Website and service: Visual Studio 2013.
* Create and manage database for system: SQL Server 2012.
* Source control: Google code & TortoiseSVN 1.8.11.
* Create models and diagrams: Software Ideas Modeler.
* Communicate and meeting: Skype 7.0 and Google mail.
* System and platform development: Window 7.

## Project Management Plan

### Software development life cycle

Every sprint begins with sprint planning meeting, in which the Product Owner and team discuss the prioritized tasks in product backlog then add that tasks to sprint backlog. Once the time team commit sprint backlog, Product Owner can’t add more task.

During daily meeting, team have online meeting to update task status, discuss solution to challenges. It happens each day of the sprint.

At the ending of the sprint, that have a sprint review meeting, in which team present it works to the Product Owner. Project Owner decides each task is met acceptance criteria or not. If a task isn’t accepted, it’s rejected as incomplete.

All team also gather after end of each sprint to share what worked, what didn’t, and how processes could be improved. This meeting is called the sprint retrospective meeting.

### Phase Detail

#### Phase 1: Sprint 1

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Description** | **Person in charge** | **Estimate** |
| Design homepage theme | Using bootstrap, Jquery to create a responsive page, flat design | DuyPK | 20 |
| Design register/login/logout page | Login/register are show as a pop-up, support identity identifier (facebook, google) | DuyPK | 2 |
| Design dashboard page |  | TuanLD | 10 |
| Design site buider page |  | TuanLD | 10 |
| Design ERD | Using Microsoft Visio/StarUML (UML 2.0) | ThinhLT | 10 |
| Design Usecase | ThangPV | 20 |
| Design Systems Architect |  | TuanLD | 2 |
| Design Physical Database |  | ThinhLT | 2 |
| Report 2: |  |  |  |
| 1- Project definition |  | TuanLD | 4 |
| 2- Project oganization |  | DuyPK | 4 |
| 3- Project management plan |  | ThinhLT | 4 |
| 4- Coding convention |  | ThinhLT | 1 |
| Report review |  | ThangPV | 2 |

## Coding Convention

This project is applied some coding convention rules as listed below:

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | Type | Name | Description |
| 2.1 | Naming Convention | Capitalization Styles | Some capitalization rules for differences type of identifiers. |
| 2.2 | Abbreviations |  |
| 2.3 | Namespace Naming Guidelines |  |
| 2.4 | Class Naming Guideline |  |
| 2.5 | ADO.NET Naming class variable |  |
| 2.6 | Interface Naming Guideline |  |
| 2.8 | Enumeration Type Naming Guideline |  |
| 2.9 | Static Field Naming Guideline |  |
| 2.10 | Parameter Naming Guideline |  |
| 2.11 | Method Naming Guideline |  |
| 2.12 | Property Naming Guideline |  |
| 2.15 | Control Naming Standard |  |
| 2.16 | Constant Naming Guideline |  |
| 3.1 | Code Formats | Code Comments | Some rules to comment in code |
| 3.2 | Declarations | Guidelines to declare variables, class and interface, properties |
|  |  |  |  |

Table 5: Coding Convention

Reference Coding Convention document can be found at:

<http://caps-team7-fu.googlecode.com/svn/trunk/Document/C%20Sharp%20Coding%20Convention.doc>

# Report No.3 Software Requirement Specification

## User Requirement Specification

User who interact directly with the system can be divided into 4 kinds of actors as follows:

|  |  |  |
| --- | --- | --- |
| **No.** | **Actor** | **Description** |
| **1** | Guest | Anonymous visitors |
| **2** | Member | Guest who logged in |
| **3** | Site owner | Member who already has had at least 1 product catalogue sites. |
| **4** | Admin | User who has the right of administration: manage all activities happen in the system. |

### Guest Requirement

A guest should have the follow abilities:

* Login
* Register

### Member Requirement

A member should have the follow abilities:

* Get forgotten password
* Search template
* Manage site

### Site Owner Requirement

A site owner should have the follow abilities:

* Publish site
* Manage product items
* View site statistics

### Admin Requirement

A admin should have the follow abilities:

* Manage account type
* Manage user
* Manage template

## System Requirement Specification

### External Interface Requirement

### User Interface

General requirement for graphics user interface is the GUI should be simple, clear, intuitive, and reminiscent.

The interface design is an iterate process includes: design, sketching, prototyping, user assessment.

Some design principles will be taken into consideration:

* UI for business web applications - Janko Jovanovic [Ref: http://www.smashingmagazine.com/2010/02/25/designinguser-interfaces-for-business-web-applications/]
* Ten principles of effective web design – Vitaly Friedman [Ref: http://www.smashingmagazine.com/2008/01/31/10-principles-of-effective-web-design/]

### Hardware Interface

N/A

### Software Interface

Run with Cốc Cốc (version 35.0.1916.157), Firefox (33.1.0.5423), Chromes (version 39.0.2171.71) browsers or higher versions and must support JavaScript and HTML5.

The screen must bigger than (1024x768) to browse the completely part of document.

### Communication Protocol

Using HTTP/HTTPS protocol

### System Overview Use Case

This session provides a brief overview of all project feature.

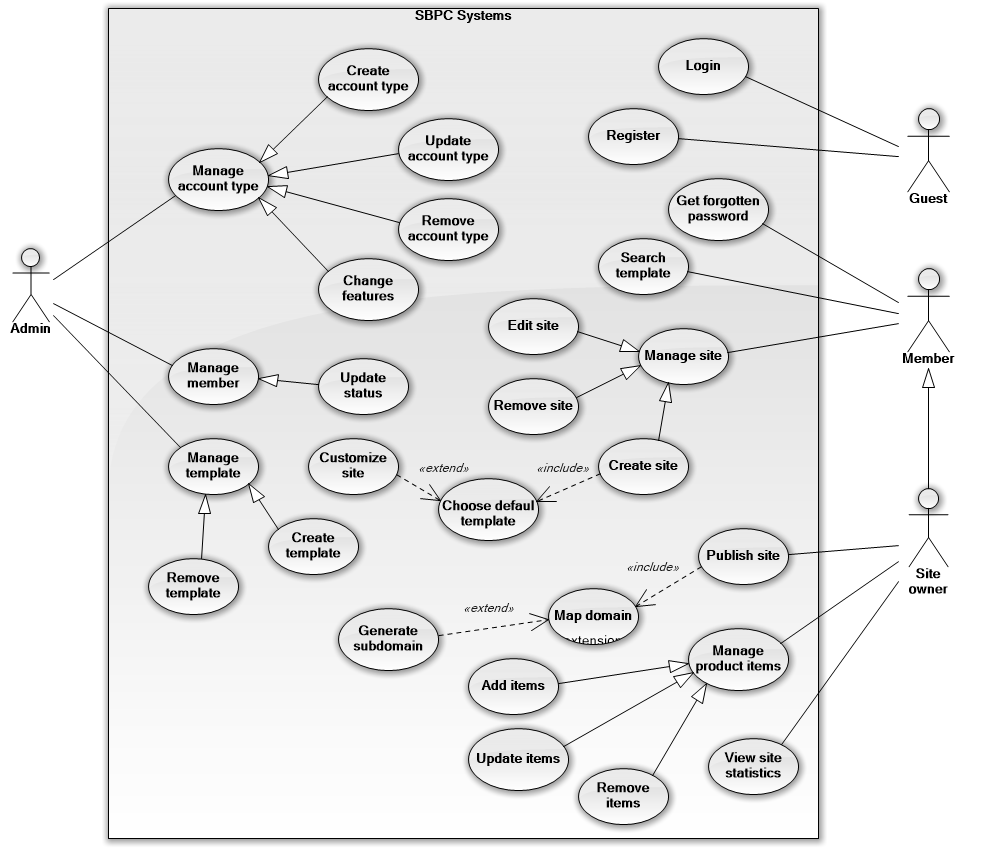


Figure 2: System Overview Use Case

### List of Use Case

### <Guest> Overview Use Case

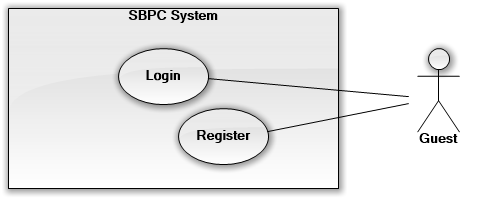


Figure 3: <Guest> Overview Use Case

### <Guest> Register

**Use Case Diagram**

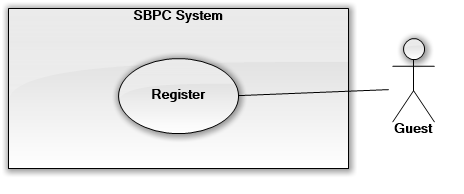


Figure 4: <Guest> Register

**Use Case Specification**

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE – SBPC** | | | |
| **Use Case No.** |  | **Use Case Version** | 1.0 |
| **Use Case Name** | Register | | |
| **Author** | ThangPV | | |
| **Date** | 19/01/2015 | **Priority** | Normal |
| **Actor:**   * Guest   **Summary:**   * This use case allows guest to become a system member by registering.   **Goal:**   * Guest can log in the system by registered account.   **Triggers:**   * Click “Register” button   **Preconditions:**  **Post Conditions:**   * **Success:** Show success message. * **Fail:** Show message error   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Guest click on “Register” link.  [Alternative 1] | Display “Register” page with text box for quest enter necessary information | | 2 | Guest input all required fields.  Click “summit” button. | Validate data [Exception 1]  System create new account for Guest  Show message: “Register successfully”  [Exception 2] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Click “Cancel” button | Discard all input information.  Redirect to “Home” page |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Invalid data | Do not insert to database  Show error message | | 2 | Connect to database fail | Show message “Database connection error, refresh your browser”. |   **Relationships:** N/A  **Business Rules:** | | | |

Table 5: <Guest> Register

### <Member> Overview Use Case

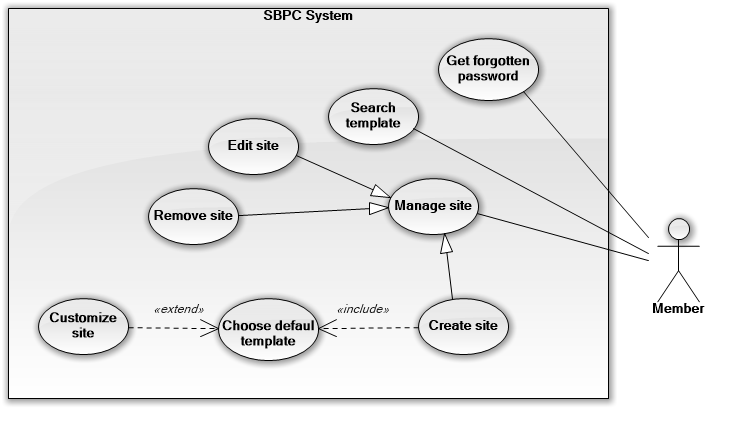


Figure 5: <Member> Overview Use Case

### <Member> Get Forgotten Password

**Use Case Diagram**

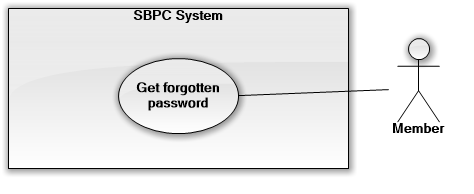


Figure 6: <Member> Get forgotten password

**Use Case Specification**

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE – SBPC** | | | |
| **Use Case No.** | SBPC | **Use Case Version** | 1.0 |
| **Use Case Name** | Get Forgotten Password | | |
| **Author** | ThangPV | | |
| **Date** | 19/01/2015 | **Priority** | Normal |
| **Actor:**   * Member   **Summary:**   * Member can find back his forgot password.   **Goal:**   * Member receives current password via registered email.   **Triggers:**   * Member clicks on “forget password” link.   **Preconditions:**   * Member has his account’s username.   **Post Conditions:**   * **Success:** Show success message, send email which include password information. * **Fail:** N/A   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User clicks on “Forget password” link. | Redirect to “Forget password” page which include text box username. | | 2 | User entered username of account which you intent to take back password.  Click “summit” button | Validate entered data.  Search for password which math with entered email. Then send password via that email.  Show notification message for success.  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot send email | Show message “Error, cannot send email”. |   **Relationships:** N/A  **Business Rules:**   * User must fill valid username. * User received an email which include information of current password. | | | |

Table 6: <Member> Get forgotten password

### <Member> Search Template

**Use Case Diagram**

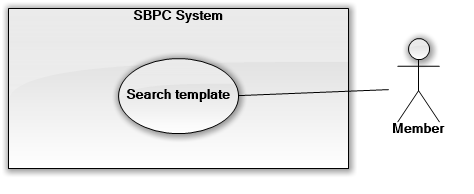


Figure 7: <Member> Search Template

**Use Case Specification**

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE – SBPC** | | | |
| **Use Case No.** | SBPC | **Use Case Version** | 1.0 |
| **Use Case Name** | Search template | | |
| **Author** | ThangPV | | |
| **Date** | 19/01/2015 | **Priority** | Normal |
| **Actor:**   * Member   **Summary:**   * Member can search template from all available templates.   **Goal:**   * Member view a list of all suitable template.   **Triggers:**   * Member clicks on “Search” button.   **Preconditions:**   * N/A   **Post Conditions:**   * **Success:** Result templates which suitable characteristics are shown. * **Fail:**   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Choose some site characteristic:   * Color * View properties | Retrieve suitable template from database  Show list of templates  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Connect to database fail | Show message “Error, cannot connect to database”. |   **Relationships:** N/A  **Business Rules:**   * Result template can be chosen to create product catalogue site or customize | | | |

Table 7: <Member> Search Template

### <Admin> Overview Use Case

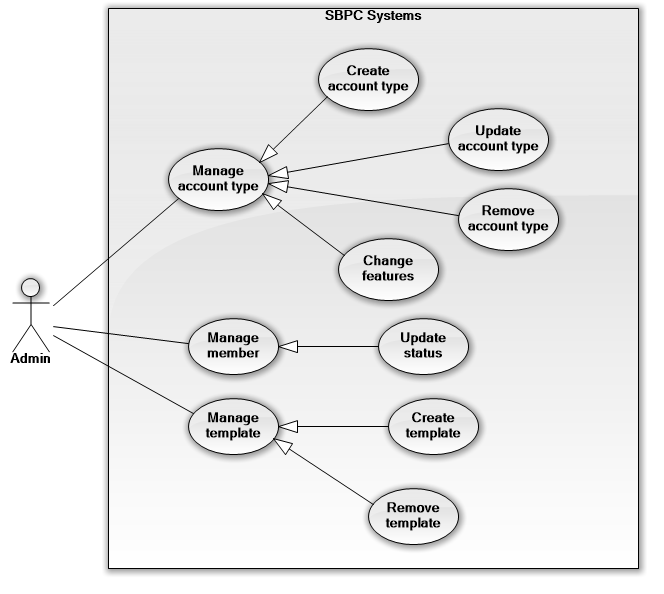


Figure 8: <Admin> Overview Use Case

### <Admin> Remove account type

**Use Case Diagram**

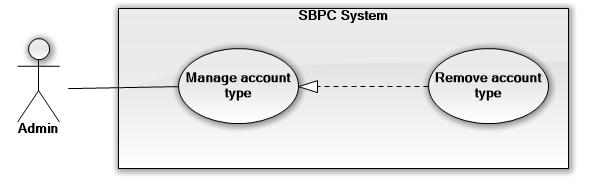


Figure 9: <Admin> Remove account type

**Use Case Specification**

|  |  |  |  |
| --- | --- | --- | --- |
| **USECASE – SBPC** | | | |
| **Use Case No.** | SBPC | **Use Case Version** | 1.0 |
| **Use Case Name** | Remove account type | | |
| **Author** | ThangPV | | |
| **Date** | 19/01/2015 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * Admin can remove an account type.   **Goal:**   * Changed account type information are updated.   **Triggers:**   * Admin clicks on “Delete” button.   **Preconditions:**   * Admin is being in “Admin dashboard” page. * At least one account type is available.   **Post Conditions:**   * **Success:** Account type will be deleted permanent from database. * **Fail:**   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Delete” icon that are shown at “Action” column. | Show confirmation popup. | | 2 | Click “Yes” button.  [Alternative 1] | Delete account type from database  [Exception 1]  Show notification message for delete successfully |   **Alternative Scenario:** N/A   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Click “No” button. | Discard and redirect to previous page |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Connect to system database fail | Show message “Connect fail, refresh your brower” |   **Relationships:** N/A  **Business Rules:**   * Account type information is deleted base on its ID. * If user don’t click “Yes” button, all new entered information are discard. | | | |

Table 8: <Admin> Remove account type

## Software System Attribute

### Usability

### Reliability

### Availability

### Security

### Maintainability

### Portability

### Performance

## Conceptual Diagram

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