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DEPARTMENT OF COMPUTING



HAMRO GHAR.COM

FINAL YEAR PROJECT

As part of The Degree Bsc (Hons) in Computing

Academic Year 2012

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I am grateful to LMU for providing me this opportunity. I am also glad to prove my academic capabilities to my college. This project had taught me a lot regarding my subject matter. It also had leaded me towards the professional project plan, management and handling lessons. I also would like to thank more to my project supervisor for enduring my steep mistakes. I would finally like to thanks all my friends and college team member who helped me during this Project and especial thanks to supervisor and college for accepting my project.

Mr. Hero Thapaliya

Plagiarism Declaration

I confirm that the enclosed written work along with my application code is entirely my own. I also declare that wherever I had copied, paraphrased, summarized by providing full credit to the respective author. More than this if any other material, word, sentences found will be just a mistake. I had tried to be full open n honest

ABSTRACT

Rapid growing technology challenges us in many different ways. Accepting those challenges there has been a lot of research from past to till dates. People are expecting fast, smooth, reliable, quality on their usability. We our self expect computer to be opened within a fractions of seconds as what television does. We also expects page to be load as we change channel on television. Yes this is what we expect today. People are trying to get all the facilities of their thoughts on real and are giving their cent percent effort for the achievements. Internet is also one of the most popular and rapid growing technology. Educations through internet, shopping through internet, payment, enquiry, friendship, work, chat and other more and more things what we know everything are dependent on Internet. This interim report is also related to the internet based web site named www.hamroghar.com till now today's date there is no any such a great achievements regarding this matter. People are not well familiar regarding these factors. So I am trying to come up with new concept which makes normal people familiar with web based services. In country like Nepal this would be the best invention and good starting. The aim of this report is to illustrate the project's subject matter, background knowledge of the subject, development and progress till today's date.

This report would be much beneficial for organization and individuals interested to work in web development. With the help of programming language of PHP and such related web applications I will be introducing one suitable website which deals with room, apartments and with flats. People who are in search of room, flat or an apartment this will be the suitable

At the very beginning in this chapter 1; this report portrays the importance of e-commerce website in Nepal with some of the examples which also supports the website "hamroghar.com". After that background section where apartment.com has been evaluated and with that reference "hamroghar.com" has been developed using PHP programming language which is explained in chapter 3 development engagement sections.

All the chosen methodologies their advantages and disadvantages and choosing of the best methodologies has been clarified in chapter 3. Also the detail information regarding Iterative Waterfall Model, which is also the adapted model for the preparation for the system, has been presented in chapter 3. The appendices are also attached with this main document which contains the diagrams of interface design and the source code of major classes.

CHAPTER 1: SYSTEMS INTRODUCTION

1.1 Introduction to subject Matter

The proposed website www.hamroghar.com is a web based social media website which deals with the people who are in search of room, flat or a residential house.

Website and internet is the primary mode for today's generation. People are expecting simple and easy means of communication. If we see the world history graph representing the website popularity then we will be amazed and shocked wow this is the speed. Previously in context to Nepal only fewer people were familiar with the term websites just only 10 years ago. But today's generation small boy from class 1 can explain what is internet and social sites. This shows the eagerness and popularity of technology. Today's famous site Harilo.com was not known previously but today if someone wants battery, laptops or any other electronic goods then they firstly consult their same goes with amazon.com also. So means popularity of websites indicates the importance and necessity of website in daily basis of human life.

www.hamroghar.com also deals with the internet e-commerce website. People can find apartments for rent, condos, townhomes and other rental homes. People can View videos, floor plans, photos and 360-degree views. No registration is required for viewing pages. Similar type of website was launched at 1999 named by Apartment.com also doing good business in USA. Here people can search by City, State or Zip. People looking to rent a house? Thinking a new condo, townhouse or single family home for rent would suit their needs Apartments.com has thousands of rental listings all over the country in all shapes and size. Many new condos for rent, houses and townhomes become available every day, making a wide variety of homes for rent just clicks away. They also can search by rent minimum to maximum price, numbers of bedrooms and bathrooms also. It has collaboration with Google for location search option. Later they also enhanced it and make it more comfortable and more facilitate by making it free to be followed on twitter and on face book. And latest changes and service is that they make it able to download android through that site. It is an amazing development. Including this there are many more apartment related websites some of them are:

- | | |
|----------------------------------|-----------------------------|
| a) Singapore Serviced Apartments | c) Queenstown Accommodation |
| b) Oak rest Apartments | d) San Antonio Apartments |

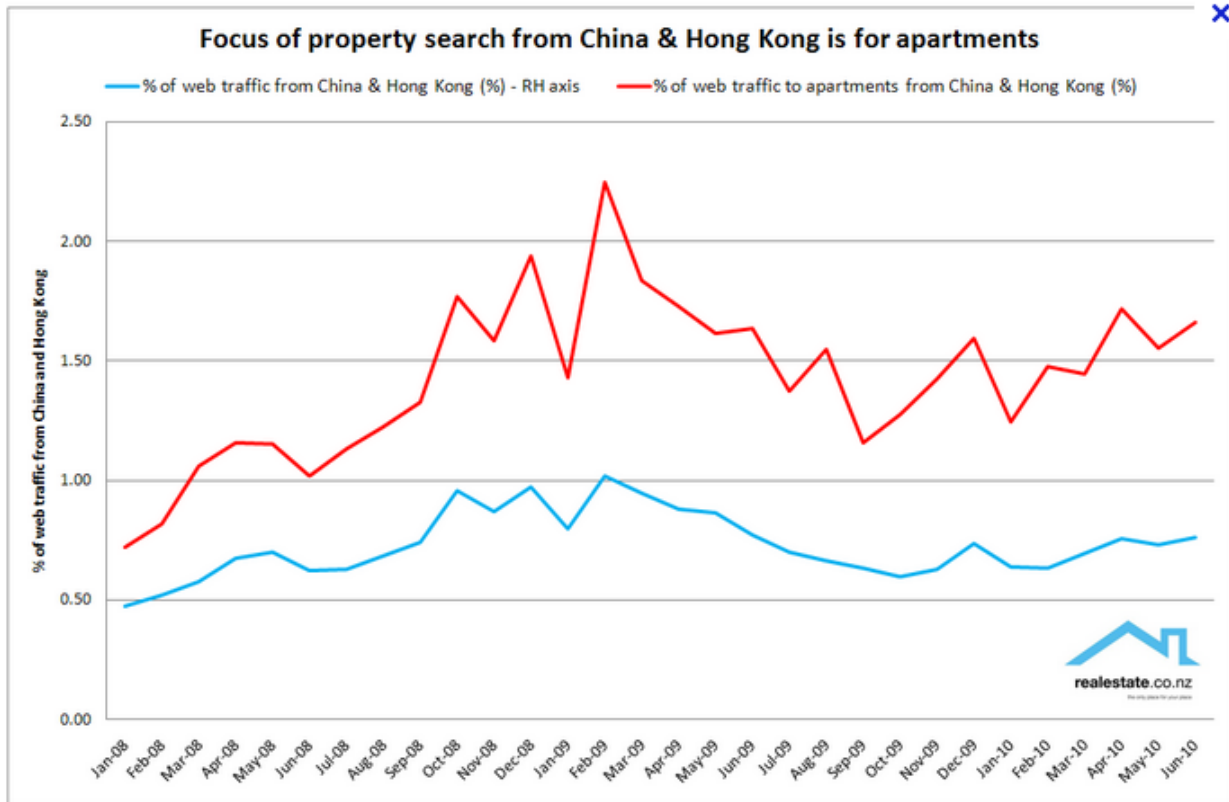
- e) Dallas Apartments
- f) Ace Apartments – UK
- g) Deep Blue Apartments
- h) Short Term Housing

1.2 Objectives of this chapter

The objective of the chapter is to provide the overview of the Website idea and to introduce the problem domain. This chapter also aims more by introducing more aspects like:

- a) Motivational Factors
- b) Project Background
- c) Problem Domain
- d) Scope of the project
- e) Aims and Objectives
- f) Project Time Plan

Showing Popularity of Website

Figure 1: Showing Popularity of Apartment.com

This shows how much people are excited, attracted and are interested towards website. This also proves that yes people used to search through internet and purchases rooms, apartments, flats etc. This is the supportive figure for my www.hamroghar.com

1.3 Problem Domain

As Nepal is under developing and agricultural country it is hard to get success in respective field. Most of the part are hilly and mountain regions. Due to geographical reason also it is very hard to make better performance in technology field. Only in cities area it is possible. In comparison tropical regions are far away than that of cities area and also we can say that hilly and mountain region are isolated in such cases.

Internet is the heart of website without internet it is a man out of soul and internet is not available all over the Nepal also we can say only it is available at cities areas only. Wherever many companies like NTC Nepal Tele communication, NCell, Hello Mobile, and some respective ISP are trying to introduce new services to those areas also but till now any results have not been flashed out. If we our self will be there then we also can't access internet over there. We can't check our emails, log on social sites or other internet related domain. This has significantly affected the people who visit those regions.

Internet and websites are only made for normal people not for any disable persons. They need Braille system but computer does not exist in such conditions. So due to this reason also some of the majority been loosed in my case. And also there are no such existing applications for them.

We may have demand of accessing internet while driving car, at bus or may be at any park and search for our related topics and also some businessman needs to make deal throughout his way but they cannot do so because of insufficient internet facilities. As of USA, UK and other developed countries we does not have such infrastructure. This is also a problem domain for e-business.

Along with above mentioned point's also Micro environment and Macro environment also equally effect in our business.

1. Environmental: As discusses already Environmental factors also affect in business organization. It holds of two categories :

a) Internal Factor: It includes those factors which exist within the premises of an organization and directly affects the different operations carried out in a business. Some of the internal factors are:

I. Value system: It implies the culture and norms of the business. Which means members of the organization should act within the limits of this framework.

II.Mission and objectives: In objectives of a business many priorities, policies and philosophies are guided.

III.Financial factors: It includes financial factors like financial policies, positions and capital structures.

b) External Factors: It includes all those factors which exists outside the firm and are often regarded as uncontrollable. Some of them are listed below:

❖ Macro Environment: It falls on external factor which includes the PEST factors.

a. Political Factor: If politics is not stable then it directly hit on any kind of business either big or small. And present condition of Nepal is not so good in this aspect. Unless political terms and conditions are not fixed and final till then it is hard to exist. All the Law and Act must be clear and also government must ensure of the cyber crime also so that business man can feel secure. It is important to have a political stability to maintain stability in the trade.

b. Economical Factor: It includes the economical factors including economic conditions and economic policies that together constitute the economic environment. It includes growth rate, inflation, and restrictive trade and so on.

c. Social Factors: It deals with the performances and priorities like the buying and consumption pattern, beliefs of people and their purchasing power.

d. Technological Factors: New friendly technology helps in improving the marketability of the product plus makes it more consumers friendly. So it is important to keep the new technology updates.

1.4 Proposed system for the problem domain:

At above statement I had explained the problem domain of the internet, its usability and unavailability of the website to the normal layman. So now what is the solution of this problem domain? Do we have some sort of solution or not? What can be the output of this problem domain? So and so many questions may arise in your mind? Isn't it?

Yes there is solution for any kind of problem, only the thing is that which takes what time and what is the solution method. I also come up with new ideas and modes of solution. There were many problem domain been discussed like; geographical factor, educational factor and also political factor. For all this there comes one simple solution which is named by www.hamroghar.com . In this website I had tried to minimize all the difficulties as I can. Even a normal layman can understand and use this site. As of other site it is not difficult in its interface. So I hope this system will help billions of users for easy search and solution of their solution.

1.5 Approaches Taken

The following approaches will be taken into consideration while building the proposed system

1. Research will be carried out on Social media websites related to www.hamroghar.com .
2. The related problems will be analyzed.
3. Detailed requirements will be collected.
4. A working version of prototype will be build/developed & will be modified according to needs & correction.

1.6 Motivational Factor

The Motivational factor of initializing this project is my supervisor Er. Mukesh Regmi. He gave a solid idea during his lecture. The demand of this website, its future scope was explained by him. The proposed system would not only ease the task and make them less time-consuming.

1.7 Project Aim and Objectives

The aim of the project is to develop a e-commerce website named by www.hamroghar.com which allows client to search apartment, room, flat, house from website using www.hamroghar.com

The objective of the project is listed as follows:

1. To provide information on online search of room, flat or house.
2. To make users update about their surroundings.
3. To resolve inability of people in Nepal to find apartment, room, flat from their laptop.
4. To provide ease of use in related search content.
5. To save time and provide easy services to the client.
6. To implement the new e-commerce system model in Nepal.
7. To raise the reputation of e-commerce website in other such relevant sites.
8. To make familiar and easy use to the local normal people of such related sites.
9. Deep study and deep analysis on e-commerce and e-business.
10. Compose executable user friendly website called hamroghar.com from PHP and other such related programming language.

1.8 Project Deliverables

Document consists of project proposal, design, testing reports and other important documents.

Administration section

Site users sections

1.8 Summary

This chapter briefly explains the background of the project, the motivational factors for making the project, the related problems with it, approaches to be considered, project aim & objectives and lastly, the time plan for the project and main important thing is what the solution for the problem domain was.

Introduction of Structure

Structure of my report is presented below:

Abstract:

Abstract describes the summary of the overall report.

Introduction:

Here all the subject matter of my report www.hamroghar.com has been described with its history and developments. It also contains problem domain, aim and objectives of the project.

Background/Context:

It introduces about the background and context related to the project also includes the technology used for the development of this project. It also includes the development related to this project with the key difference between them.

Development:

In this section all the analysis of the related mechanism and consideration which were made before the development of the project are introduced. Also development of the bit of the project till now along with screen shots and with a bit of related codes are been presented.

Progress:

Here all the achievements and progress report till the date of the period are presented and also discussed with the future remaining work. For this all Gantt chart will visualize.

Future Work:

Many more work is needed to be done. Only a bit of work had been started. Other rest of the part which needs to be completed is mentioned in this section. This is also called attention to the task section.

CHAPTER 2: LITERATURE REVIEW

2. Background/Context

The project is about the development of an e-commerce website called www.hamroghar.com. This website deals with the Apartments, rooms and flats for sells or for in rent. Every new updates are made through site and then the costumers can view page and can choose their choices. Internet is the most basic part of this section without internet no costumers can view the page. Taking from small office to big organization, student to old person enjoy and utilize using internet and their features. Domains like Yahoo, Hotmail, Gmail, Hi5, Face book and much more are the famous public services which are used most. For whatever purpose people use the domains ultimately they all need internet for the connection. Nepal Telecom, 28 different ISP, NCell, UTL are the basic means which provide internet services in Nepal.

And above we already mentioned the popularity and importance of the websites. How many people are habitual of working through internet all simple basic works to hard labor works like: Paying electricity bills, telephone bills, and water supply bill through internet? Transferring balance to other's A/C, buying and selling goods, selection of Girls and boys for marriage, selection of weekend spot and much more works are done through Internet. Also there is equal use and necessity of websites related to such Apartments, rooms, flat for sell and rent. Which saves the time of people, which helps from getting irritate from bargaining?

During development of this website first one fixed prototype is selected then according to that prototype every step will be followed accordingly. Rest of the analysis part is ok and for development and design PHP will be used. Every code will be written in that platform and other supportive languages like HTML, Java will also be used so that website looks much better. The primary role will be of analysis part; everything will be defined and planned on analysis part. So how much we will spend on analyzing the material that much effective will be the product. Rests of the other are only the implementation of that analysis part. In similar way the website will be ready. Its strong part will be the search engine according to district wise. If people click on Kathmandu button then the main part of Kathmandu will be displayed and they can search accordingly.

2.1 Related Work

There are many more such related types of websites in international market. As we take an example of USA, UK, and Australia and so on then there is infinite numbers. But in context to Nepal it is hardly found or we also can say rarely found.

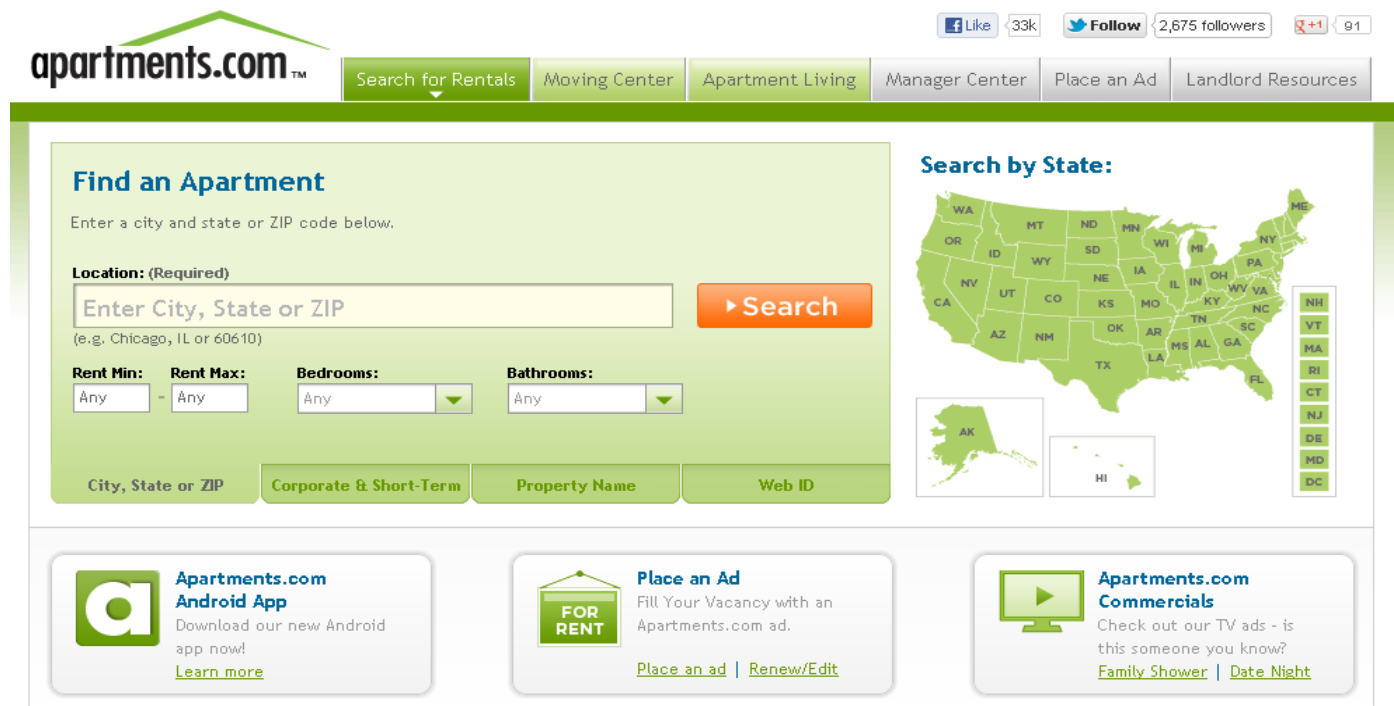


Figure 2: Apartment .Com Sample Screen Shot

This website was implemented on 1999 A.D. This website deals with in USA. Above we can see many states of US on search by state side. It has a search engine where we can search location by city, state, zip type. Also we can search by rent type minimum of this much amount and maximum to this much type also. Also we can search by required number of bedroom and bathroom type also. It also had given facilities through face book, twitter also which is the best part of this website.

Overall similar type of website will be of www.hamroghar.com also. It will also deals with district wise people can search by district wise. Additional feature will be picture of rooms, apartments and house will be placed so that costumer can have their view also and they may feel easy on selection of their choices.

Objective of this chapter

The main objective of this chapter is to provide depth information of the website www.hamroghar.com its relation with different related factors and the scope of the presented project.

2.2 Introduction

If we talk about the normal layman we all are totally dependent on internet isn't it? You can ask this statement to yourself also. For each and every simple we try to take help from internet in a similar way rest of the people also tries to take help from internet. So which means they also expect to find their room, flat and house from internet. And www.hamroghar.com is their solution. Viewers can easily get their findings over here. This is a new technology so many of them may not like or they take some more time to come out frank with other but this new starting will take high speed so soon.

2.3 Introduction to web based application and its benefit

Web based application is a browser based application system which is developed & programmed using various types of programming language such as PHP, .NET, AppleScript etc. It uses internet or intranet to get access over a network, database to store information & directly interacts with the user.

Due to the globalization in Web Systems, web application is widely used & popular.

Some benefits in Using a Web Based Application are

- a. Easy Maintenance: As web applications are installed in a server. It is easy to make changes or update the system as it does not disrupt the system and is easily maintained in the server.
- b. Low Costs: the cost of maintain web application is low as it requires minimal support & maintenance. It also depends on how larger the network of the system is.
- c. Compatibility: web application is compatible in any browsers like Fire fox, Internet explorer, Google chrome, and safari.
- d. Secure: the data in the websites are secure & easy to make a backup.

2.4 Importance of Web Based Application like www.hamroghar.com

Still I am starting this question to myself and to the reader. Do you have sufficient time to go out to find rooms, flats and houses in sunny day, rainy day, morning, evening and in holiday? Surely the answer will be No. we all have busy schedule isn't it? Yes surely we would like to prefer for a simple solution and simple solution is what? Simple solution is finding your solution through website which u can perform even on office, room, on the way, lift and even from toilet also.

It gives us chance to exchange ideas, grab knowledge and understanding of the world. Visiting places also refreshes our mind and helps us to know more about our surroundings but to the time saves website comes first than roaming around to find room. Also people are interested in new technologies which are creative, easy and fun to use. So there are much more benefit of web based application.

Suitability of proposed project in context to Nepal; In Nepal, IT sector is gaining a rapid growth. People are adapting to the new ways of communication. Most of the people are having busy schedule and also don't want to waste their valuable time in just searching room, flats and houses. So this may help and make culture of finding rooms, flats through website.

This also gives challenges to other brokers who have made their profession on finding rooms, flats and taking commission through them. This will also help from paying commission and also on bargaining.

2.5 Development Tools Used and its justification

The development tools used in the proposed system are

- I. PHP (PHP Hypertext preprocessor)
- II. Dreamweaver CS5
- III. Apache
- IV. MYSQL and
- V. XAAMP

PHP, an open source scripting language embedded with HTML It is chosen with Apache as a web server. Also, for database management, an open source MySql is chosen.

2.6 How php,apache & mysql work

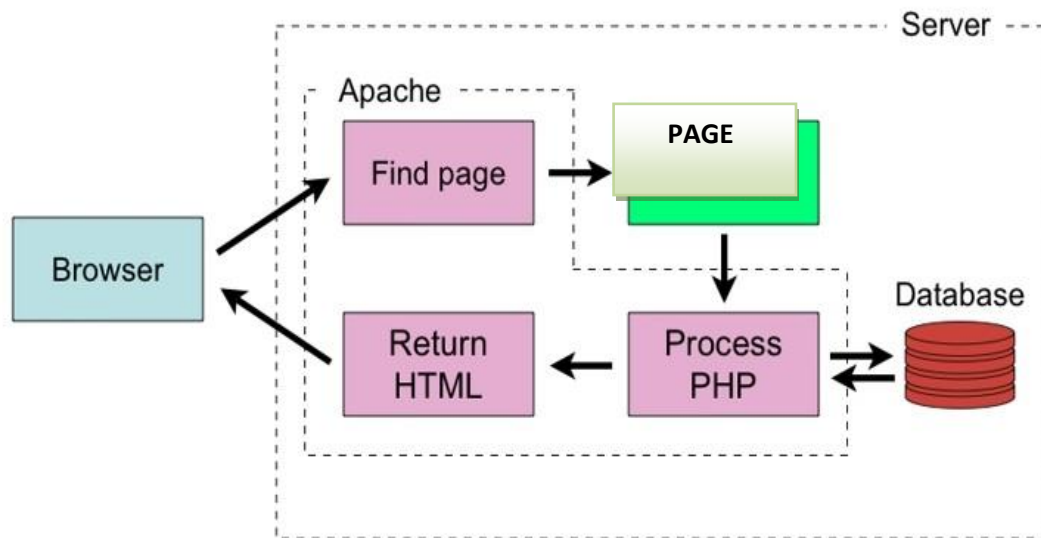


Figure 3: showing the working mechanism of PHP,apache and MySQL.

Apache web server is chosen for hosting files because of its

1. Features: Apache web server supports variety of programming languages.
2. Apache also include “SSL” & “TLS” support for encrypting data which helps to make a secure web.
3. Open Source: Apache web server is open source software. Due to this, it is constantly updated & used by the programmers all around the globe.

PHP is chosen for programming the system because

1. It is supported by Apache web server & My SQL
2. It is one of the most popular server side scripting language and easy to use, understand & create dynamic web sites.
3. It is object oriented language & platform independent
4. It supports most of Database related management systems.

My SQL is chosen as a database management tool as

1. It is fast, reliable & free open source database management tool
2. It is easy to learn & use
3. It has features like any other database management system like oracle.

Dreamweaver is chosen as a development tool because

1. Easy to build, develop and design websites quickly
2. The web page build in Dreamweaver supports all web browsers
3. Easy managing and updating of websites effectively

XAMP is chosen as a development tool as

1. It allows programmers to see their own work on computers
2. It supports My SQL for creating databases

XMPP (Extensible Messaging and Presence Protocol)

XMPP Standard Foundation (XSF) defines the protocol as “a set of open technologies for instant messaging, presence, multi-party chat, voice and video calls, collaboration, lightweight middleware, content syndication, and generalized routing of XML data.” (XSF, 2011a). The initial name of XMPP was Jabber and was developed by Jabber open-source community in 1999. XMPP’s first RFCs were produced in October 2004 by IETF’s XMPP Working Group. They were revised in 2011 which has resulted most up-to-date RFCs (RFC 6120, RFC 6121, RFC 6122). (XSF, 2011b)

Key advantages of XMPP

Sainte-Andre, et al. (2009, pp. xi-xii) has listed following key advantages of XMPP over other protocols

Services provided by XMPP implementation

The services (Sainte-Andre, et al., 2009, pp.4-5) provided by an application implementing XMPP are Channel Encryption, Authentication, Presence, Contact list, One to one messaging, Multi party messaging, Notifications, Service discovery, Capabilities advertisement, Structured data form, Workflow management and Peer to peer media session

2.7 Comparison of various methodologies

As we all know the various means of methodologies and also had discussed and well known among them also. As many methodologies we discuss read or know about them finally alternative will be the base of waterfall model because that is only one methodology which we can implement easily.

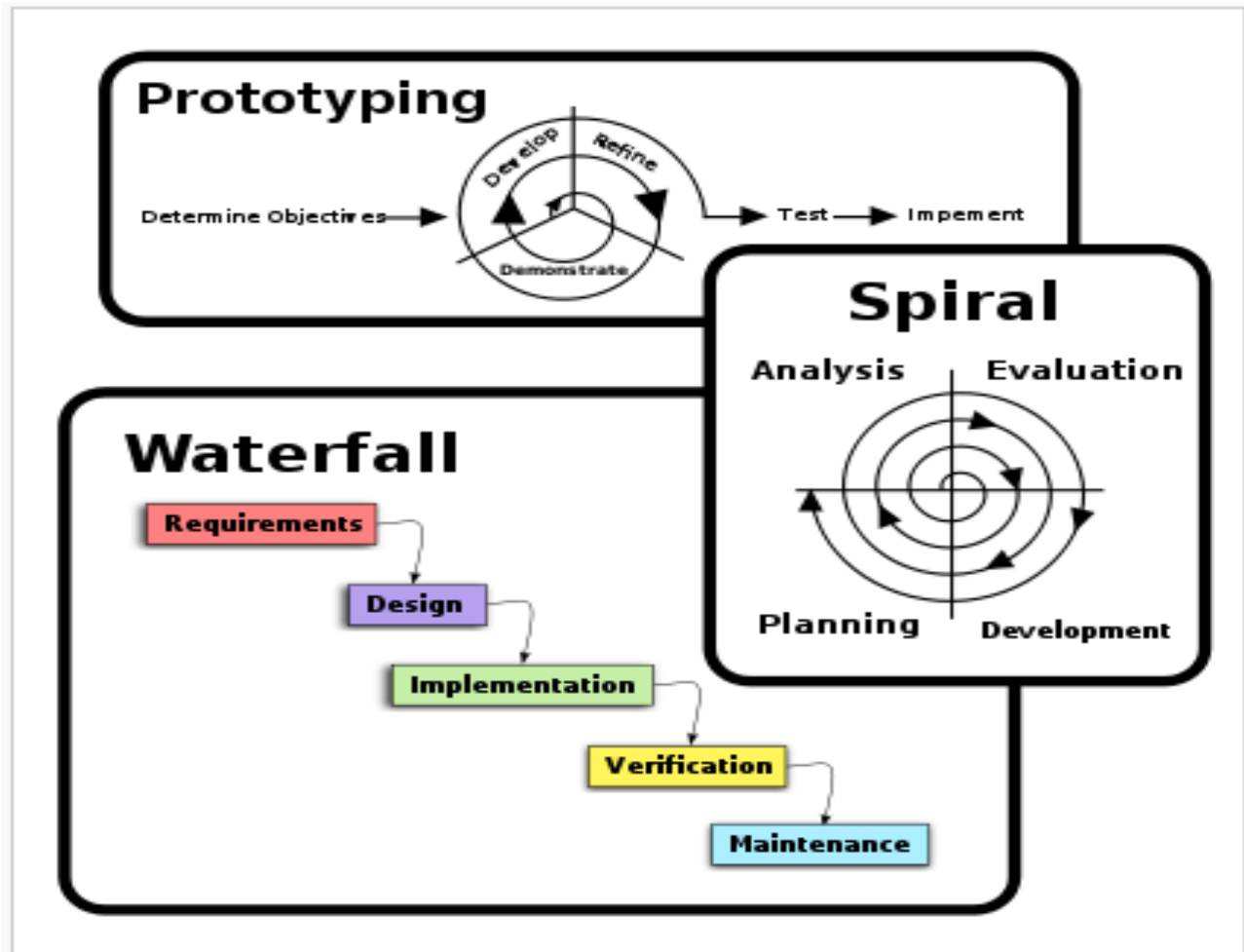


Figure 4: Showing different types of basic approaches applied to software development methodology frameworks

Above shown figure states the 3 methodologies which I have chosen for my software development. Among these 3 development method I will be implementing one of the suitable method as my primary development method. Now let us discuss the 3 different methodologies in detail.

2.8 History

The software development methodology (also known as SDM) framework didn't emerge until the 1960s. According to Elliott (2004) the systems development life cycle (SDLC) can be considered to be the oldest formalized methodology framework for building information systems. The main idea of the SDLC has been "to pursue the development of information systems in a very deliberate, structured and methodical way, requiring each stage of the life cycle from inception of the idea to delivery of the final system, to be carried out rigidly and sequentially" within the context of the framework being applied. The main target of this methodology framework in the 1960s was "to develop large scale functional business systems in an age of large scale business conglomerates. Information systems activities revolved around heavy data processing and number crunching routines" (Geoffrey Elliott, 2004)

The methodology framework is often defined in some kind of formal documentation. Specific software development methodology frameworks (noun) include:

- a) Rational Unified Process (RUP, IBM) since 1998.
- b) Agile Unified Process (AUP) since 2005 by Scott Ambler

The software development methodology is an approach used by organizations and project teams to apply the software development methodology framework (noun). Specific software development methodologies (verb) include:

1970s

- a) Structured programming since 1969
- b) Cap Gemini SDM, originally from PANDATA, the first English translation was published in 1974. SDM stands for System Development Methodology

1980s

- a) Structured systems analysis and design method (SSADM) from 1980 onwards
- b) Information Requirement Analysis/Soft systems methodology

1990s

- a. Object-oriented programming (OOP) developed in the early 1960s, and became a dominant programming approach during the mid-1990s
- b. Rapid application development (RAD), since 1991
- c. Dynamic systems development method (DSDM), since 1994
- d. Scrum, since 1995
- e. Team software process, since 1998
- f. Extreme programming, since 1999

2.9 Waterfall development

The Waterfall model is a sequential development approach, in which development is seen as flowing steadily downwards (like a waterfall) through the phases of requirements analysis, design, implementation, testing (validation), integration, and maintenance. The first formal description of the method is often cited as an article published by Winston W. Royce in 1970 although Royce did not use the term "waterfall" in this article. (Barry Boehm , 1996)

The basic principles are:

- a) Project is divided into sequential phases, with some overlap and splash back acceptable between phases.
- b) Emphasis is on planning, time schedules, target dates, budgets and implementation of an entire system at one time.
- c) Tight control is maintained over the life of the project via extensive written documentation, formal reviews, and approval/signoff by the user and information technology management occurring at the end of most phases before beginning the next phase.

The Waterfall model is a traditional engineering approach applied to software engineering. It has been widely blamed for several large-scale government projects running over budget, over time and sometimes failing to deliver on requirements due to the Big Design Up Front approach. Except when contractually required, the Waterfall model has been largely superseded by more flexible and versatile methodologies developed specifically for software development. See Criticism of Waterfall model (Georges Gauthier Merx & Ronald J. Norman, 2006).

Advantages and Disadvantages of Waterfall Model:

Advantages	Disadvantages
Easy to explain to the user· Structures approach· Stages and activities are well defined· Helps to plan and schedule the project Verification at each stage ensures early detection of errors / misunderstanding· Each phase has specific deliverables	Assumes that the requirements of a system can be frozen· Very difficult to go back to any stage after it finished. Little flexibility and adjusting scope is difficult and expensive. Costly and required more time, in addition to detailed plan

2.10 Prototyping

Software prototyping, is the development approach of activities during software development, the creation of prototypes, i.e., incomplete versions of the software program being developed.

The basic principles are:

- a. Not a standalone, complete development methodology, but rather an approach to handle selected parts of a larger, more traditional development methodology (i.e. incremental, spiral, or rapid application development (RAD)).
- b. Attempts to reduce inherent project risk by breaking a project into smaller segments and providing more ease-of-change during the development process.
- c. User is involved throughout the development process, which increases the likelihood of user acceptance of the final implementation.
- d. Small-scale mock-ups of the system are developed following an iterative modification process until the prototype evolves to meet the users' requirements.
- e. While most prototypes are developed with the expectation that they will be discarded, it is possible in some cases to evolve from prototype to working system.
- f. A basic understanding of the fundamental business problem is necessary to avoid solving the wrong problem (P. Loucopoulos and V. Karakostas (1995)).

Advantages and Disadvantages of Prototyping:

Advantages	Disadvantages
Reduced time and costs, but this can be disadvantage if the developer lose time in developing the prototypes· Improved and increased user involvement	Insufficient analysis· User confusion of prototype and finished system· Developer misunderstanding of user objectives·
	Excessive development time of the prototype
	Expense of implementing prototyping

2.11 Spiral development

The spiral model is a software development process combining elements of both design and prototyping-in-stages, in an effort to combine advantages of top-down and bottom-up concepts. It is a meta-model; a model that can be used by other models Xiao He (2007).

The basic principles are:

- a) Focus is on risk assessment and on minimizing project risk by breaking a project into smaller segments and providing more ease-of-change during the development process, as well as providing the opportunity to evaluate risks and weigh consideration of project continuation throughout the life cycle.
 - b) "Each cycle involves a progression through the same sequence of steps, for each part of the product and for each of its levels of elaboration, from an overall concept-of-operation document down to the coding of each individual program."
 - c) Each trip around the spiral traverses four basic quadrants:
 - 1) Determine objectives, alternatives, and constraints of the iteration;
 - 2) Evaluate alternatives; Identify and resolve risks;
 - 3) Develop and verify deliverables from the iteration; and Plan the next iteration.
- Begin each cycle with an identification of stakeholders and their win conditions, and end each cycle with review and commitment K. Robinson (1992).

Advantages and Disadvantages of Spiral Model

Advantages	Disadvantages
Estimates (i.e. budget, schedule, etc.) become more realistic as work progresses, because important issues are discovered earlier.	High cost and time to reach the final product. Highly customized limiting re-usability
Early involvement of developers· Manages risks and develops system into phases	Needs special skills to evaluate the risks and assumptions·

2.12 Development Methodology to be implemented

The Iterative waterfall methodology is proposed for the development of the program.

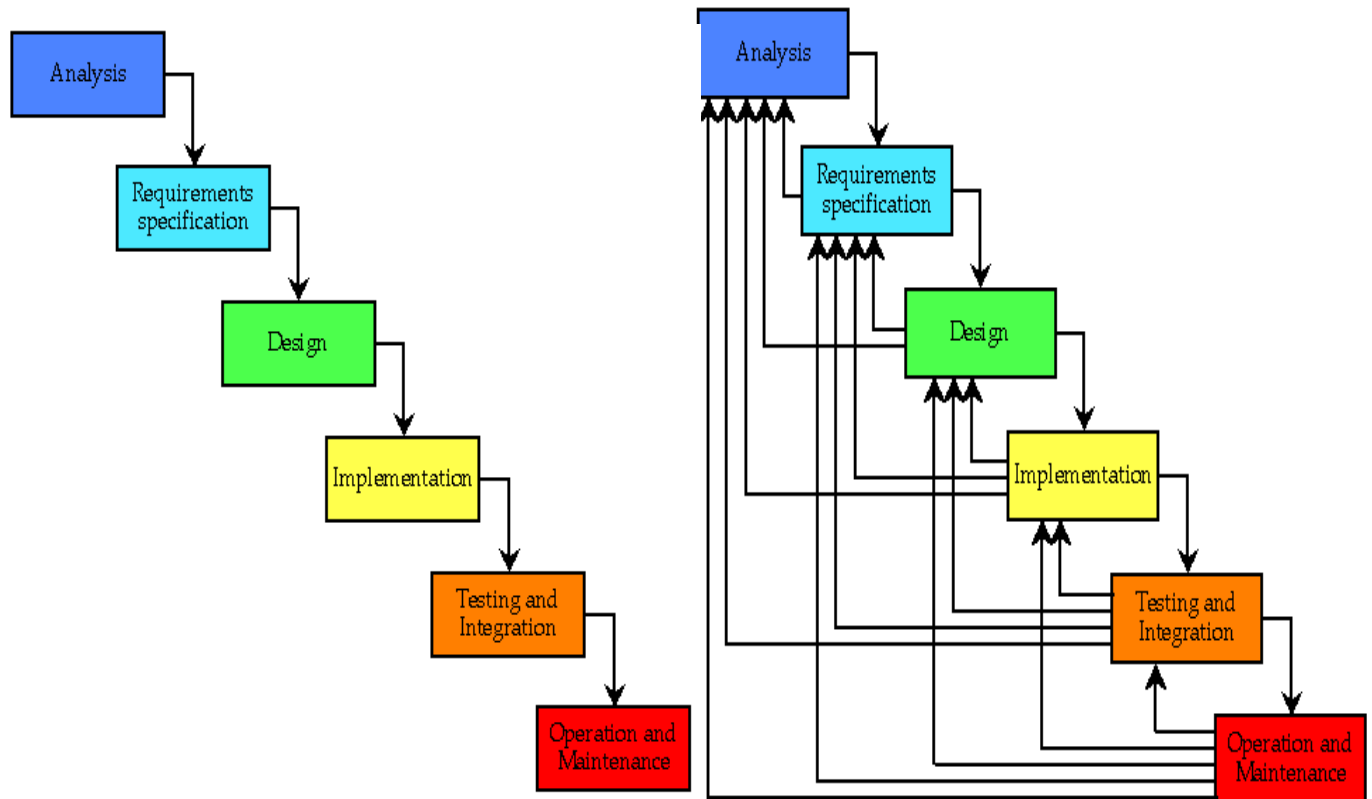


Figure 5: Traditional Waterfall Model (Smith, 2009)

What is the software development process? How they are analyzed to how they are made ready for use? These all sections will be defined here.

First the software development process it needs a perfect investigation in related field like in my case for www.hamroghar.com I need to clearly set out the necessary features of system which means its specifications. Then need to create a suitable solution which means now we need to design for system. Now its time for implementation need to develop the proposed solution, after implementation we need to test the system whether it works or not, are there any bug, does it operate functionally or not this is the testing phase, now must ensure that the solution works in context or not if not then need to modify the working solution as a new requirements need to be identified. So these all completes the software development process.

Iterative Waterfall Model is chosen for Development

As we know that waterfall model is one of the old traditional model. It is the simplest and accurate model till today. On many big types of software also this model is still used. And other rest of the model is also based on this model. As water level is used to build house similarly waterfall model is also used for software development process. This model uses the basic concepts starting from analysis yes which is the basic part of the development. And other rest of the required process is also involved here.

Why it is necessary to follow one prototype and what is its benefit it is discussed below:

1. Analysis:

- a. Don't know exactly what I want.
- b. Phase 1: Discovery listen and observe
- c. Phase 2: Refinement interrogate and clarify
- d. Phase 3: Modeling suggest and verify
- e. Outcome will be the sufficient understanding of the problem to write a requirements specification document.

2. Specification

- a. Last phase of the analysis task
- b. Need to write down unambiguously what the required behavior is
- c. Formal notations
- d. Structured documents
- e. Outcome will be the required specification that unambiguously communicates the required features of the system to the designer,

3. Design

- a. Design a solution meeting the requirements
- b. Draw on past experience
- c. May also generate many possible solutions
- d. Outcome will be a design document that unambiguously communicates the design to the implementers.

4. Implementation

- a. Writing code
- b. Documentation code
- c. Debugging code
- d. Preparing code for testing
- e. Feedback to designer or analyst
- f. Feed-forward to tester
- g. Outcome will be the writing code and documentation, ready to be tested

5. Testing and Integration

- a. Need to check that implementation matches the design or not
- b. Need to check that implementation meets the requirements or not
- c. Need to test individual modules and then complete system
- d. Outcome will be the tested code in working condition

6. Maintenance

- a. Changes in requirements may necessitate extra implementation and testing or additional design work, or even a new analysis.

CHAPTER 3: SYSTEM REQUIREMENT SPECIFICATION

3.1 Introduction

Requirement analysis is a most crucial phase of software development. This task of analysis begins after the completion of feasibility study. In this phase, tasks like fact-finding, current system overview and research overview are conducted in order to find out the actual facts or requirements for the proposed website. According to the feasibility report and above mentioned tasks, SRS is documented for the development of the website.

3.2 Purpose

SRS is a final well documented report that has to be generated at the end of requirement analysis phase. It covers the optimized form of requirements that has been gathered from the whole process of requirement analysis phase. The requirements may be in terms of technical and operational and is explained briefly to the point. This process of preparing SRS makes easier for system designers to understand the actual requirements as the main purpose of this document.

Intended Audience and reading suggestion

This section of SRS provides an explanation regarding the suitable readers of SRS including the reading suggestion for those of the intended readers.

Intended Audiences

The intended audiences of this document are as follows:

1. Designer: Since this document covers the overall description and overview of the system, so in designer's perspective it is important for designer to develop the system according to the System Requirement Specification. Through the SRS, they extract the needed specification and convert them to actual development process.

Reading Suggestions

In order to make this SRS document much effective, an appropriate suggestion has been mentioned in this section of SRS document according to the readers of this SRS document. The suggestions that have been prepared for the readers of this SRS document are as follows:

- a) The user can read the whole SRS document. But they are suggested to view only some of the sections of SRS document which includes Introduction, Overall Description and System Features as other sections of SRS is not requirement in the user context.
- b) The developer must go through this SRS document in detail understanding the actual requirements and functioning of software.
- c) The designer and coder must see the class diagrams and state transition diagram in order to code the modules.
- d) The tester must be aware of coding languages and visit through code section and check the required output.
- e) The document writer should write the qualitative document so it will be easier and simple to understand for everyone.

3.3 Development Consideration

To develop any kind of software there are many platforms and different languages which we can select on. Every platform and languages are equally strong. For the development of my e-commerce website www.hamroghar.com many related options were there just as C, C++, Java, Java Script, HTML, PHP, ASP.net and many more. Let me explain like this: every language holds their strong part strongly. In their particular field they are very strong, they have their own benefit, plus points, debugging process, platform dependency, run time environment and so on. It is not possible to analyze by people like us. But also we only can choose one with aspect to some good reasons which may suitable for us. Where ever other above mentioned platform also provides many facilities but I prefer PHP because it is one of the first developed server-side scripting language to be embedded into an HTML source document, it is open source software, PHP supports many databases like MySQL, Oracle, ODBC and much more and PHP is free to download and use. PHP is a scripting language designed for creating web applications where as C++ is a real programming language. C++ can create web applications but they need to be written to run in a web server context which is somewhat different from console or GUI applications. PHP files are returned to the browser as plain HTML, it also can contain text, HTML tags and Scripts and have a file extension of “.PHP”, “.php3”, “.phtml”.

If we compare PHP and ASP.net then we can say below mentioned points. PHP can be installed on any OS and Web server. But ASP.NET is recommended for IIS only. Both are not costly but if you compare, PHP is found to be a little bit cheaper. Both are same but ASP.NET is more on Rapid-Application-Development and PHP is more on Coding.

If we compare PHP with Java then java is just a general-purpose language whereas PHP is a server-side scripting language. Java is used for both server-side and desktop programming language whereas PHP is only used as a server-side language. PHP is dynamic typed language whereas java is compiled and strongly-typed language. Only for the server side programming the comparison between java and PHP makes sense.

Example on which popular sites run on what platforms:

Site	Up Since	Server Platform	Programming Language
Google.Com	November 1998	Linux	C, Java, C++, PHP & My SQL
Facebook.Com	February 2004	Linux	C++, PHP & My SQL
YouTube.Com	February 2005	Linux	C, Java and MySQL
Yahoo.Com	August 1995	Linux	C, C++, PHP, Java & My SQL
MSN.Com	August 1995	Windows	ASP.net
Live.Com	August 2008	Windows	ASP.net
Wikipedia	January 2001	Linux	PHP & My SQL
Amazon.Com	October 1995	Linux and Solaris	C++, Java & J2EE
Wordpress.com	November 2005	Linux	PHP & My SQL

Figure 6: Showing which site runs on which platforms

This above mentioned data shows the popularity of PHP in most of the popular and advanced website PHP had enrolled which proves that PHP holds a strong background. If the world's most famous search engine Google.com can use PHP means there might be some good features.

Web Architecture of PHP program:

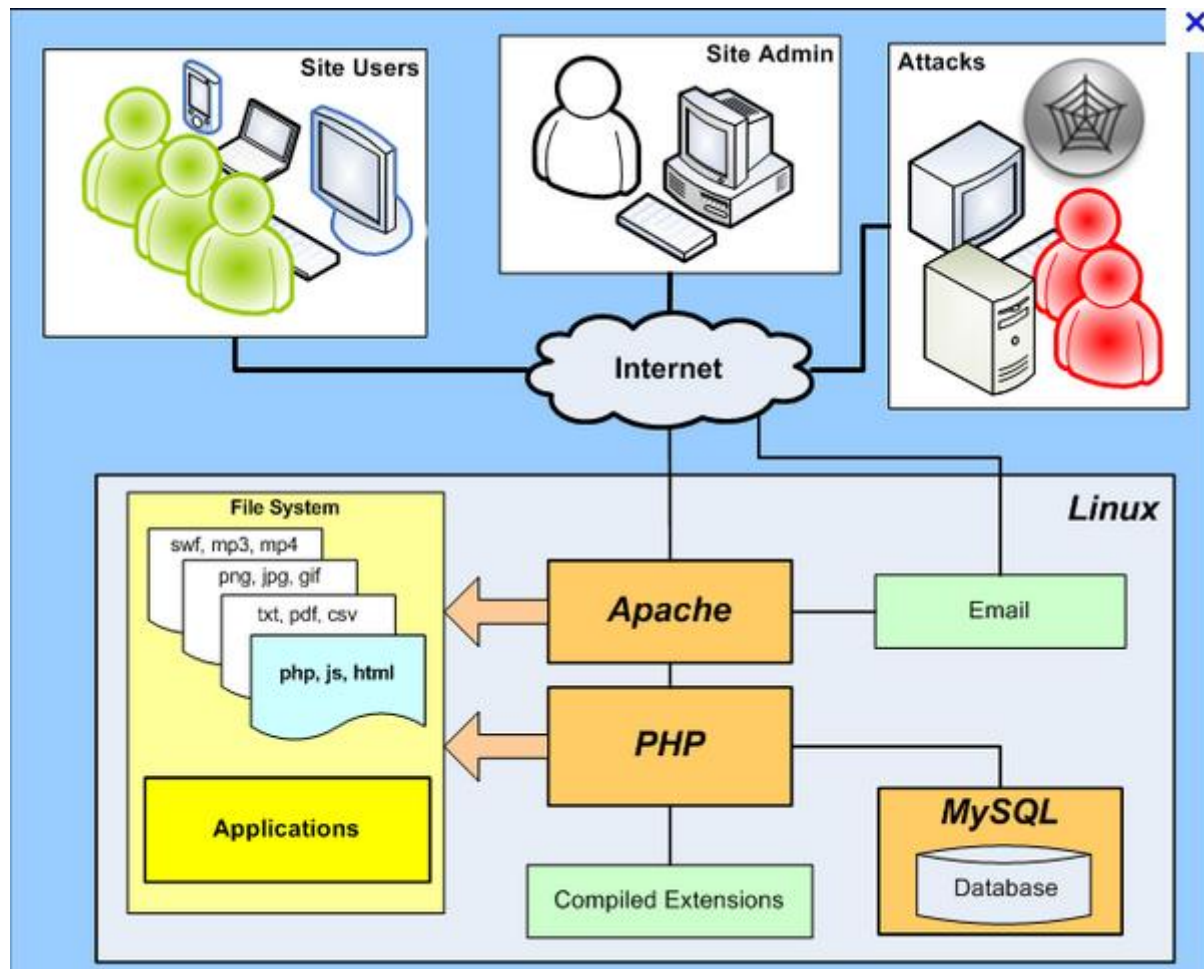


Figure 7: Web Architecture for PHP

This shows the mechanism how PHP programmer works, what are the file systems they use which server side they works on, database they used, threats for them and so on. if a website's home page is requested and the server has PHP installed, Apache will seek an index.php file in the root directory if there is no index.html file in the website root directory. It is this mechanism which is used to initialize applications like Joomla. The PHP scripts will be used to store and retrieve information and to render the HTML page layouts for transmission back to the user's browser by the Apache web server.

3.4 Development Engagement

www.hamroghar.com is an e-commerce website. People searching for apartment, flat, room will be searching here for their solutions. Searching apartment by state and location services is available here. They can view by different angled snap shots. I had tried to present some of my coding part and screen shots of Graphical User Interface (GUI).

```

2 <html xmlns="http://www.w3.org/1999/xhtml">
3 <head>
4 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
5 <link href="style/style.css" type="text/css" rel="stylesheet" />
6 <link href="style/nivo-slider.css" type="text/css" rel="stylesheet"/>
7 <link href="themes/default/default.css" type="text/css" rel="stylesheet"/>
8 <link href='http://fonts.googleapis.com/css?family=Fredoka+One' rel='stylesheet' type='text/css'>
9 <title>Hamro Ghar</title>
10 </head>
11
12 <body>
13 <script src="scripts/jquery-1.7.2.min.js" type="text/javascript"> </script>
14 <script src="scripts/top_nav.js" type="text/javascript"></script>
15 <script src="scripts/jquery.nivo.slider.js" type="text/javascript"></script>
16 <div id="wrapper">
17   <div id="header">Hamroghar.com</div>
18   <div id="top_navigation">
19     <ul>
20       <li><a href="#">Home<span>Home</span></a></li>
21       <li><a href="#">About<span>About</span></a></li>
22       <li><a href="#">Contact<span>Contact</span></a></li>
23     </ul>
24   </div>
25   <div id="featured">
26     <div class="slider-wrapper theme-default fixedsize_featured">
27       <div class="ribbon"></div>
28       <div id="slider" class="nivoSlider">
29         
30         
31         
32       </div>
33     </div>
34   </div>
35   <div id="search">
36     <h1 class="search_head">
37       Look Up for Apartment
38     </h1>
39     <form id="apartment_search" action="#" >
40       Select The City
41       <select>
42         <option>Kathmandu</option>
43

```

Figure 8: Small Sample Codes for [Www.hamroghar.com](http://www.hamroghar.com)

The above mentioned figure is the screenshot of codes of the module of my website www.hamroghar.com these could be further manipulated according to the choices and requirement of the website. GUI is shown in below figure.

Interface of www.hamroghar.com

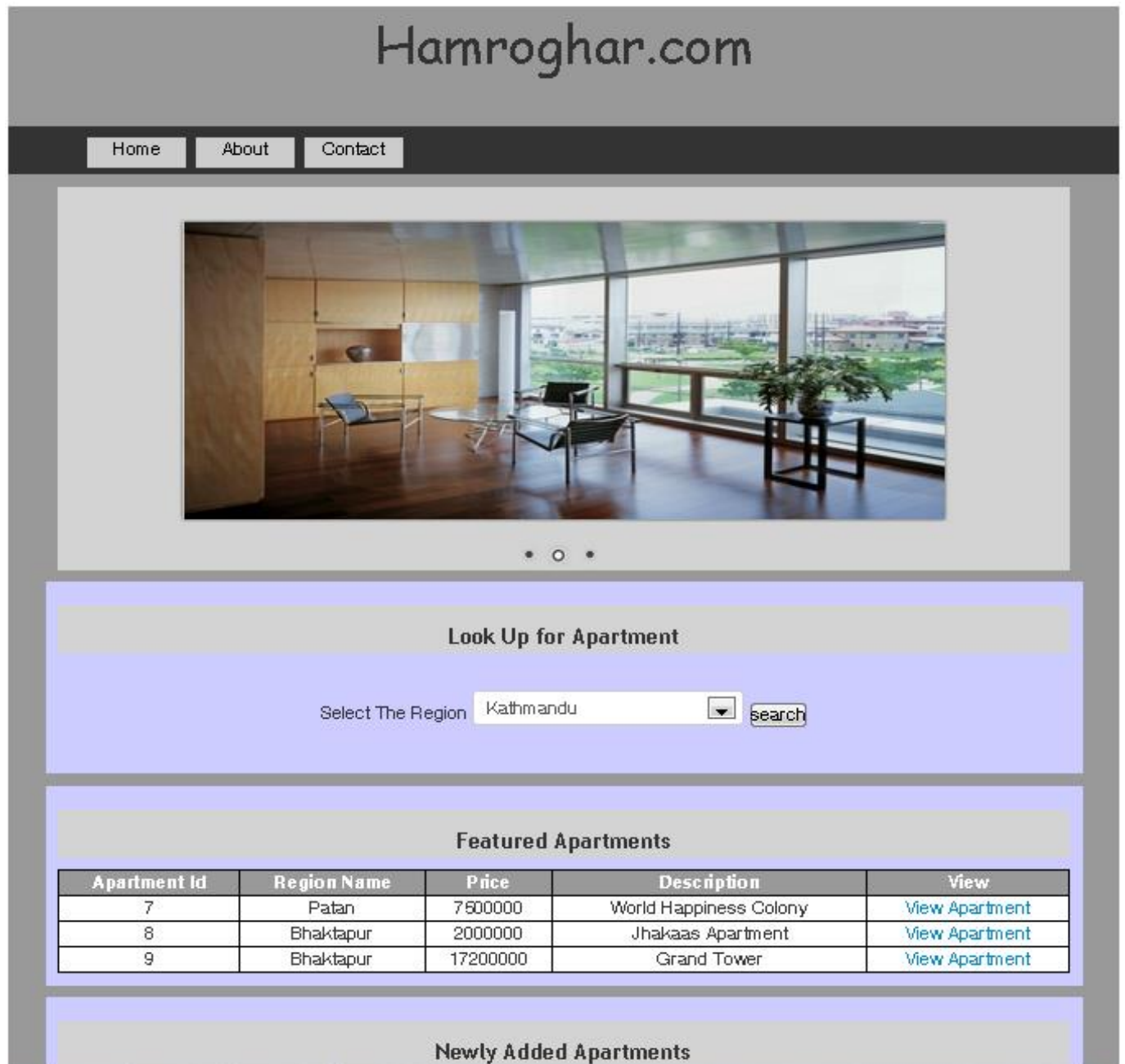


Figure 9: Screen Shot of Interface Design of Www.hamroghar.com

3.5 Tools used for software development

Rapid application development

Rapid application development (RAD) is a software development methodology, which involves iterative development and the construction of prototypes. Rapid application development is a term originally used to describe a software development process introduced by James Martin in 1991.

The basic principles are:

1. Key objective is for fast development and delivery of a high quality system at a relatively low investment cost.
2. Attempts to reduce inherent project risk by breaking a project into smaller segments and providing more ease-of-change during the development process.
3. Aims to produce high quality systems quickly, primarily via iterative Prototyping (at any stage of development), active user involvement, and computerized development tools. These tools may include Graphical User Interface (GUI) builders, Computer Aided Software Engineering (CASE) tools, Database Management Systems (DBMS), fourth-generation programming languages, code generators, and object-oriented techniques.
4. Key emphasis is on fulfilling the business need, while technological or engineering excellence is of lesser importance.
5. Project control involves prioritizing development and defining delivery deadlines or “timeboxes”. If the project starts to slip, emphasis is on reducing requirements to fit the timebox, not in increasing the deadline.
6. Generally includes joint application design (JAD), where users are intensely involved in system design, via consensus building in either structured workshops, or electronically facilitated interaction.
7. Active user involvement is imperative.
8. Iteratively produces production software, as opposed to a throwaway prototype.
9. Produces documentation necessary to facilitate future development and maintenance.
10. Standard systems analysis and design methods can be fitted into this framework (Kuhn, D.L, 1989).

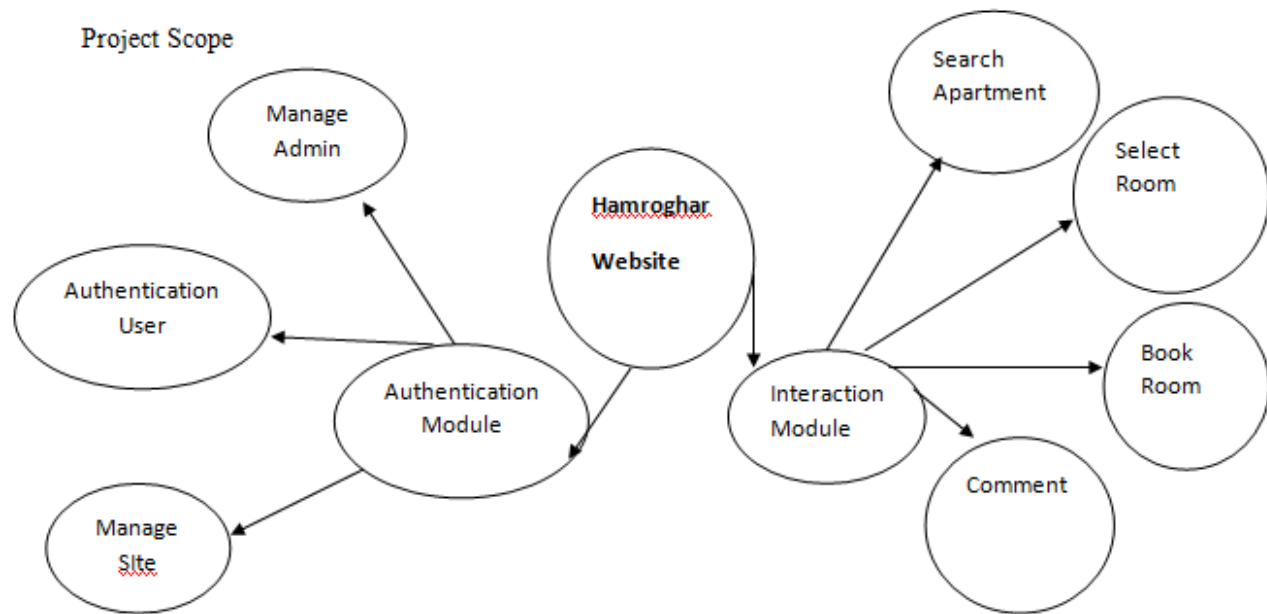
3.6 Computer-aided software engineering

Computer-aided software engineering (CASE), in the field software engineering is the scientific application of a set of tools and methods to software, which results in high-quality, defect-free, and maintainable software products. It also refers to methods for the development of information systems together with automated tools that can be used in the software development process. The term "computer-aided software engineering" (CASE) can refer to the software used for the automated development of systems software, i.e. computer code. The CASE functions include analysis, design, and programming. CASE tools automate methods for designing, documenting, and producing structured computer code in the desired programming language.

Two key ideas of Computer-aided Software System Engineering (CASE) are:

1. Foster computer assistance in software development and or software maintenance processes, an engineering approach to software development and or maintenance.
2. Typical CASE tools exist for configuration management, data modeling, model transformation, refactoring, source code generation, and Unified Modeling Language

3.7 Project Scope



The above outline is the proposed system of the www.hamroghar.com which shows the overall context of the new proposed system. As the reports obtained from the feasibility report this the new proposed system can be social hub for people who want to make interact with social sites like this. This website is for all kind of individuals of all group ages and sex. There we can see the two modules related to Hamroghar website one is authentication module and another Interactive module.

3.8 Overall Description

Product Perspective

This website will be available at internet and can be accesses easily by entering www.hamroghar.com on browser. While using the site, user can search apartment through region wise, there are 4 regions that are Kathmandu, Lalitpur, Bhaktapur and Patan respectively. They can view the portfolio of room of that apartment, rate of that apartment and other detailed information. But user cannot make any kind of changes on their wish.

3.9 Product features

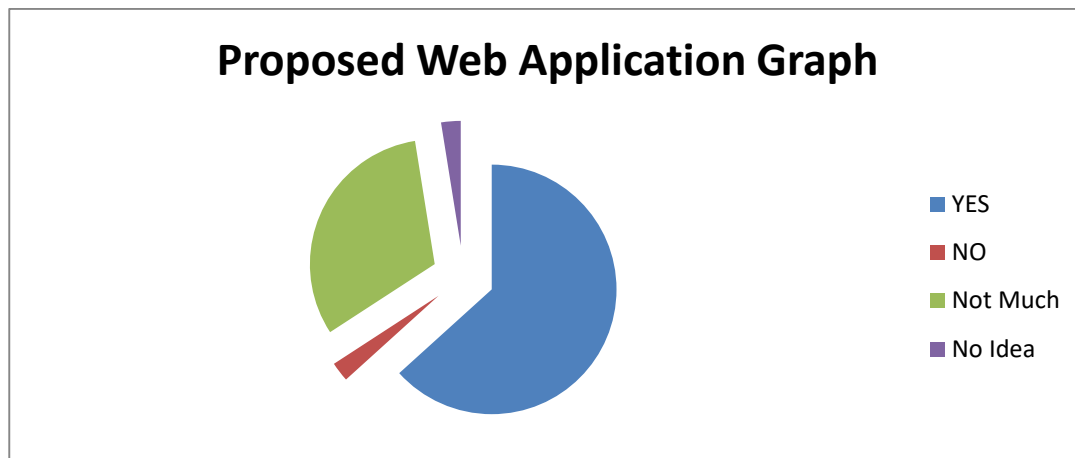
Here are the lists of features that shall be added in the website:

Features	Fact-Finding Techniques	Resources/ Subject
Authentication	Research Questionnaire	Website System User
Search	Questionnaire Research	Users Websites
Information on Places	Research Survey	Magazines Survey

3.10 Fact Finding: Questionnaire Sample

Questionnaire to access the website	
NameRam Chandra Acharya.....	
Do you use internet?	Yes / No
Do you know you can search apartment through Website?	Yes / No
Have you ever searched apartment through website?	Yes / No
Are you interested with this new technology?	Yes / No
Do you want to share this information among your friends?	Yes / No
Do you recommend your friend apartment you visit?	Yes / No
Do you think this website will take peak up?	No Idea
Is this site interesting?	Not Much
Have you ever visited such site before?	No
Have you ever heard of such website before?	Not Much
Will you choose apartment through such website?	Not much
Is this technology best for Nepal?	Not Much
Do you prefer commenting on this particular website	
What are your suggestions for www.hamroghar.com ?	

3.11 Outcome of the questionnaire:



As from the findings from a group of interested candidates, it was found out that 50% of the majority want the proposed website to have the features to be integrated where as 25% says Not much 5% vote for No and other 5% vote for no idea.

Research

Research is done so that we can find the facts behind the subject matter, what are the problem regarding the subject, what are the solution behind the matter. Also the issues and areas of the related subject matter. It also helps to find and figure out the core requirements. It also helps in understanding the requirements in bottom of the sea. After knowing the related issues, problem and solution we can complete our task easily.

Problems

The main problem to my website is that the given information may be vague. They may give wrong information. Everyone is not fair and honest so some may make fun and misuse the site. So on making belief on those clients we may sometime loose the real client or may find difficulties on handling other real consumers.

Solution

The solution is to make a useable and trusted user authentication and privacy securing steps while building the websites. The user should also participate in the issue with the timely feedback and suggestion to improve in increased security breach.

3.12 User classes and characteristics

Admin User

Admin of the website Hamroghar.com can operate basically 3 tasks.

- a. Add: Admin can add new apartment, flats, room with the featured or new item description.
- b. Update: Admin can update the new availability of the apartments.
- c. Remove: Admin can remove the contents and other information of the website.

Site User

Site user or we also may call the user of the website. user can view and book the chosen apartment.

Operating Environment

Design and Implementation (Constraints)

1. The authentication shall be done with email and password.
2. The customer should have a valid email id.
3. The costumer must have logic and intelligence to use the features of the site.

Assumptions and dependencies

Assumptions

1. In site user context, the website is accessed by e-mail and password.
2. Admin users can change the contents of the site.
3. Admin system can only be accessed by authorized username and password.

Dependencies

1. The site user cannot modify or make any changes.
2. User can only view and book the apartment.
3. The website can only be accessed in online state.

System Features

This section of the specifications refers to the detailed functional requirement of the proposed system.

Detailed product requirements

The detailed functional requirements are listed below:

Features	Use Case
Authentication System - Authentication admin	Validates Admin
Profile creation system - Create profile for the use of website	Create Profile
Interaction System - Interaction features like photo, booking.	User Interaction
Admin System	Admin Panel

3.13 External Interface Requirements


Site Admin login Panel



The diagram shows a login panel with a title "Login" at the top center. Below the title, there are two input fields: "Username" and "Password". To the right of the "Enter" button, there is a small rectangular box.

Detail Requirement

1. E-mail and password are mandatory for site admin login.
2. If username or password is wrong then admin cannot access the database.



The diagram shows an admin panel with a header bar containing four links: "Admin Page", "Admin Home", "View Site", and "Logout". Below the header bar, there is a list of menu items, each preceded by a right-pointing arrow: "Add Edit View Apartments", "Featured Apartments", "Add Edit View Region", "About Us", "Contact Us", and "Settings".

Figure 10: Showing the successful Login

If any one either of username or password is incorrect then it sends the authentication error message. Please recheck username and password and login again this is the login failure of my system.

Interface Desing

Now all the site user will only focus on interface design of the site. How the site looks like. The interface design is based on the requirements from the SRS. It is site users focused so the importance is given to them for more user friendliness and ease of use.

In order to verify the usability requirements, some interface prototype are shown below.

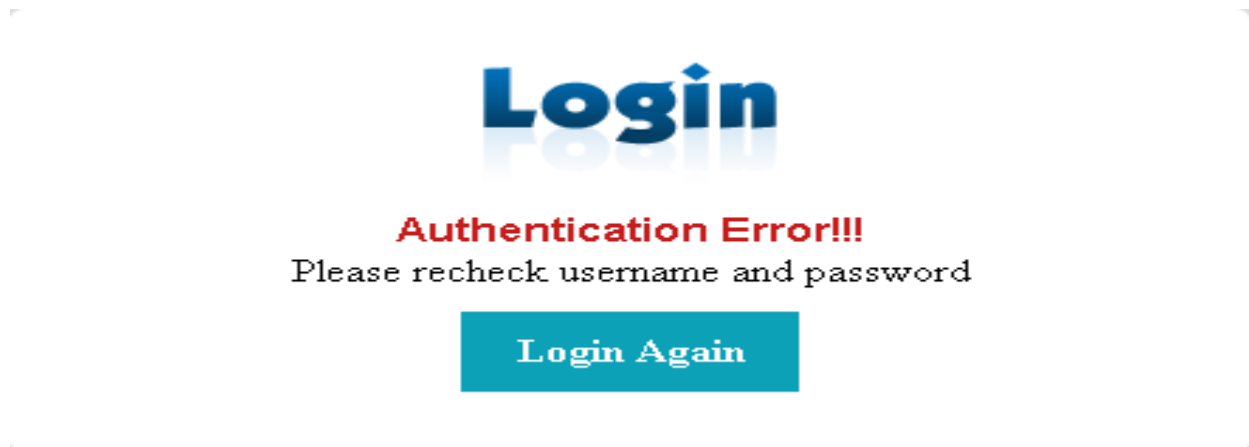


Figure 11: showing the login failure

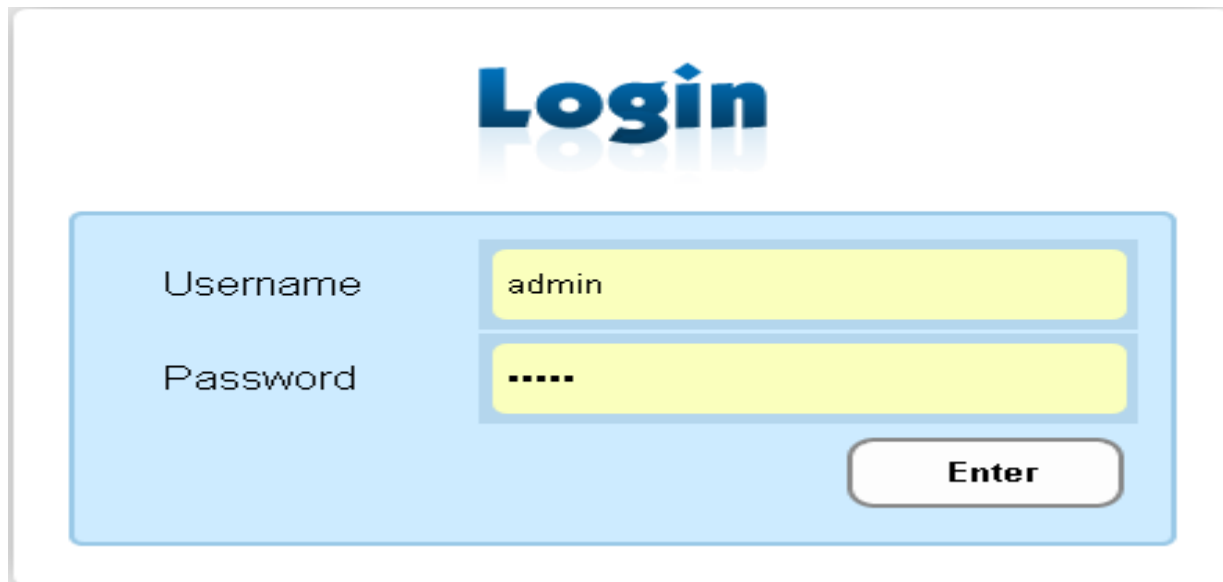
A screenshot of a web application's login page. At the top center, the word "Login" is displayed in a large, bold, blue font with a reflection effect. Below it is a light blue rectangular box containing the login form. Inside this box, there are two labels: "Username" and "Password". The "Username" label is positioned to the left of a yellow input field containing the text "admin". The "Password" label is positioned to the left of a yellow input field containing six dots. To the right of these input fields, within the same light blue box, is a white button with a black border and the text "Enter".

Figure 12: Showing the Login Page

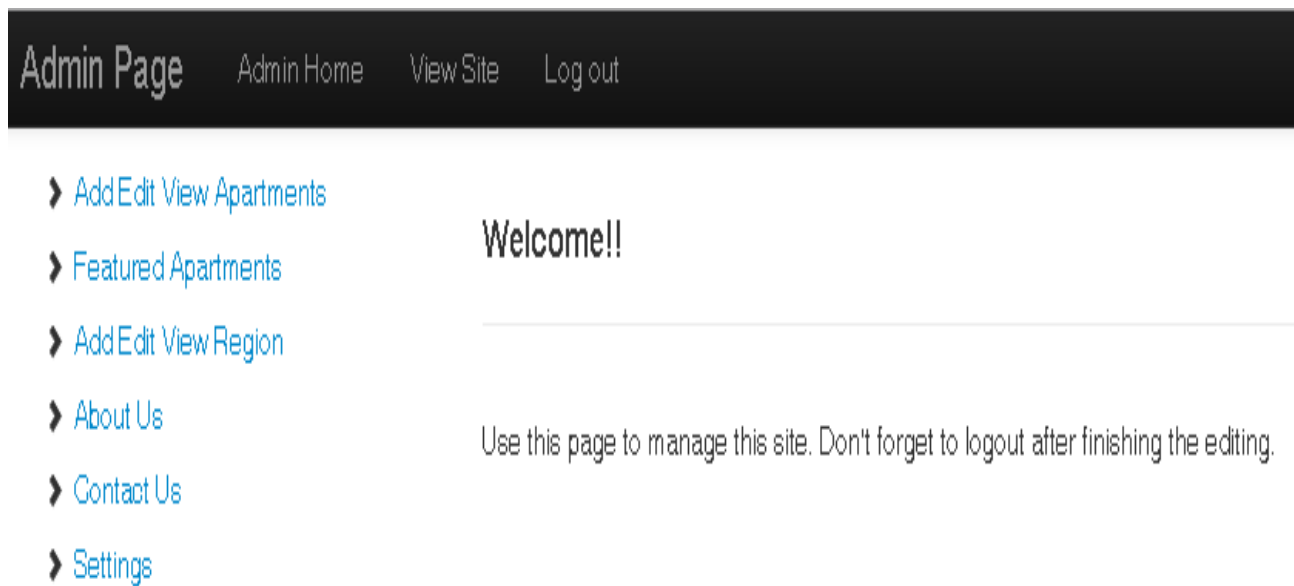


Figure 13: Showing the Successful Authentication and login to the admin home page.

User Home Page

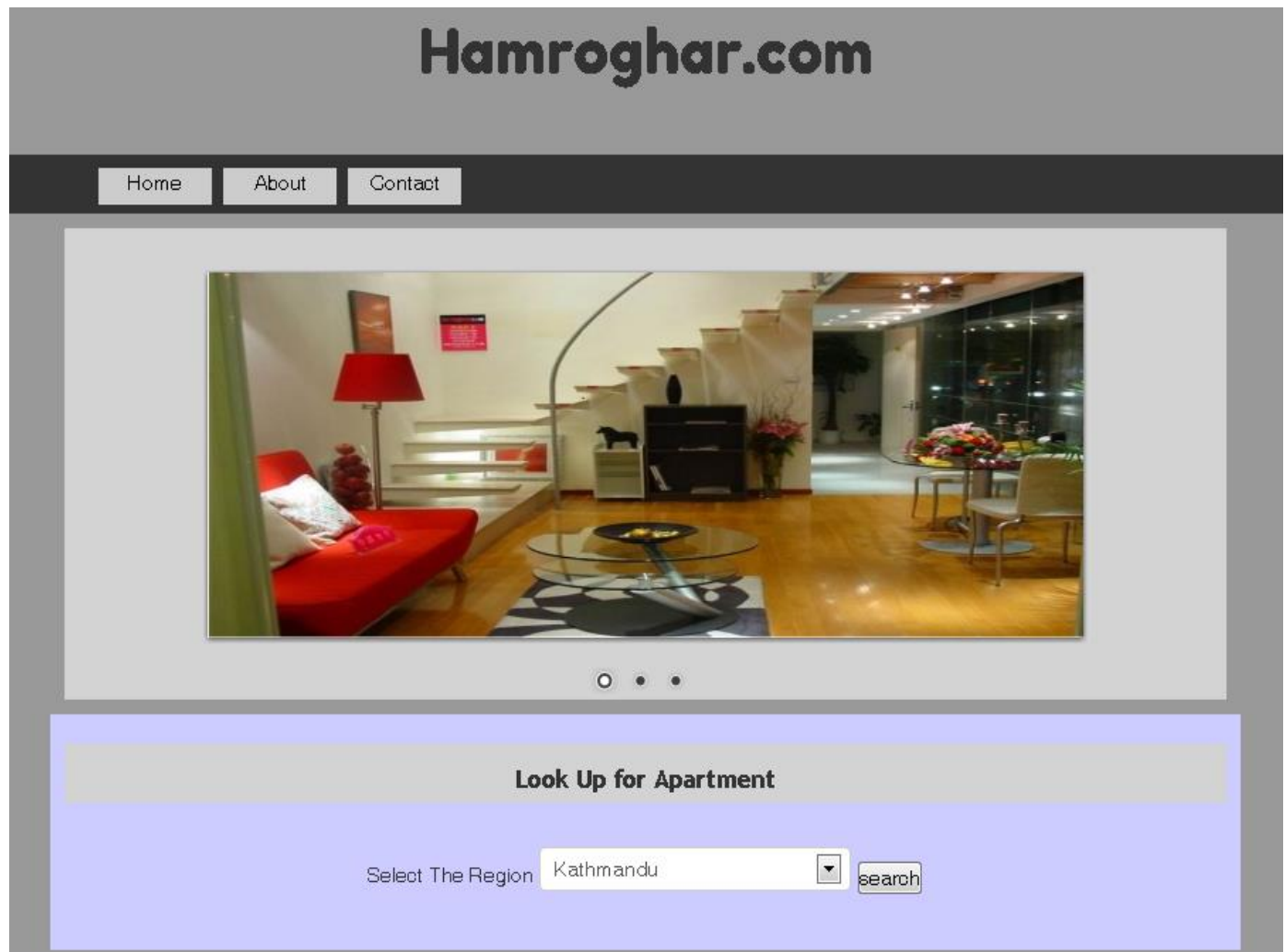


Figure 14: Showing the user home page Interface

Detailed Requirement

1. This is the page where users can view the home page of the site www.hamroghar.com
2. User can search for his region from the search button.
3. Look up for apartment help in finding the search results.
4. User can view about us, contact and home page at this particular page.

Featured Apartment

Hamroghar.com

Home About Contact

Look Up for Apartment

Select The Region

Featured Apartments

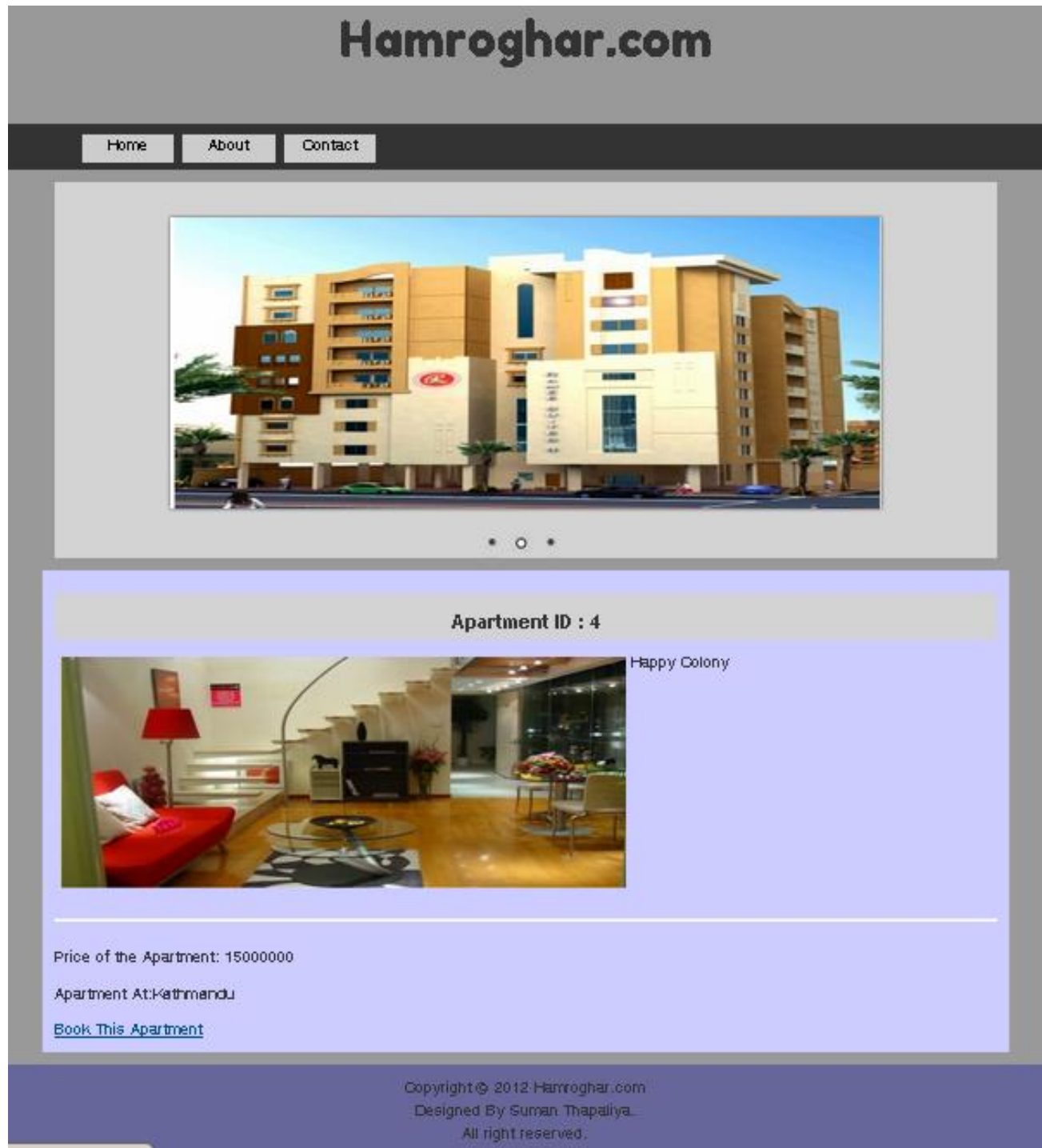
ApartmentId	Region Name	Price	Description	view
4	Kathmandu	15000000	Happy Colony	View Apartment
5	Kathmandu	12500000	Mast Plaza	View Apartment
8	Bhaktapur	2000000	Jhakaas Apartment	View Apartment

Newly Added Apartments

ApartmentId	Region Name	Price	Description	view
11	Lalitpur	2525000	Marina Bay	View Apartment
10	Lalitpur	2128000	Suntec City	View Apartment
3	Bhaktapur	17200000	Grand Tower	View Apartment
8	Bhaktapur	2000000	Jhakaas Apartment	View Apartment
7	Patan	7500000	World Happiness Colony	View Apartment
6	Patan	1000000	Highly featured apartment	View Apartment
5	Kathmandu	12500000	Mast Plaza	View Apartment
4	Kathmandu	15000000	Happy Colony	View Apartment

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Designed By Suman Thapaliya
All right reserved.


Above mentioned figure explains that the featured apartment shows the apartment ID, particular region name, price of the particular apartment, short description of that apartment and view option. On clicking the view option user can view the larger image of the apartment and other detailed featured with booking system. User can book the interested and liked apartment.



At the end we can view the Book this apartment option from where user can book the interested apartment.

Booking Option

[Home](#) [About](#) [Contact](#)



Name:

Email:

Comments:

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Now we can see the booking and sending message option. Nothing is mandatory over here. User need to enter their name, their email address and comments what they what to express and just need to click on the send message option. Then the message will automatically forward to the database email account and the rest of the processes go on.

Functional Requirements

1. Software Interface and
2. Communication Interface

Non-Functional Requirements

Non- functional requirements refer to those requirements that must be provided for the smooth running of the website. Here are the lists of the non-functional requirements that must be included for the smooth running of the system.

Performance Requirements

- a. Response Time (In Seconds)
- b. Notification Time (In Seconds)
- c. Crash Recovery Time (In Seconds)
- d. The user interface must be designed keeping in view, the customer's easiness.
- e. The application loading should be not take too longtime.
- f. The system must display proper messages in case of system error.
- g. The resources used by system (threads) must be well managed.

This website is totally website based and only runs in online mode so internet is the most to access the www.hamroghar.com site.

Safety and Security Requirements

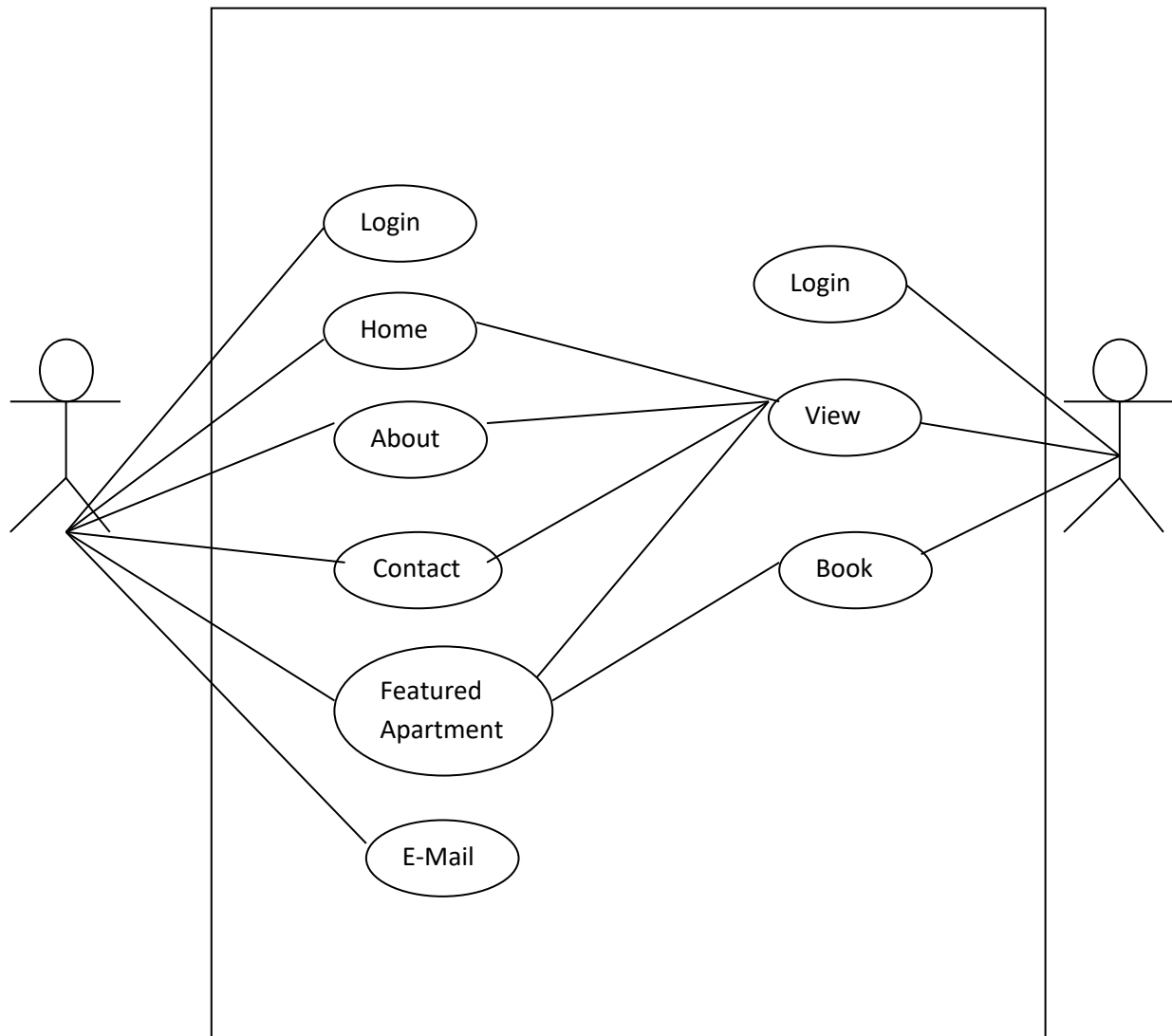
The overall system will be safe and secure as safety measures will be taken while authenticating users and site users.

- a. The authentication system will use password encryption for secure password validation.
- b. Session handling will be done for safe login and logout.

Other Software Quality Attributes

1. **Reliability:** The software will be reliable as it shall use strong authentication and validation of the username and password for safety measures. Encryption will be used for reliable payment procedure.
2. **User friendliness:** The software will be a simple and easy to use interface. The end users won't require special training to use the software and can navigate through different links at ease.
3. **Scalability:** The software shall be scalable as the need for the infrastructure can be scaled from time to time according to the need of the requirements.

Analysis Model (Use Case Diagram)



Use Case Details

Create Profile	Site user creates profile for using the website
Login	Authentication
Check Places	Site user checks places
Manage user	Admin user manages user to add in a admin panel
Manage site users	Admin user manages site users
Manage Apartment	Admin user adds, deletes, updates places and pictures

Conclusion

In this chapter, SRS is prepared with a detail view of the requirements providing a brief textual description and diagrammatic representation of the current application. All the work specification, work flow and process are also discussed in this chapter. An addition requirements have also been mentioned which guides to the usages of the web application system as well as resources need for the development and deployment of the system.

CHAPTER 4: SYSTEM DESIGN

4.1 Introduction

Purpose

The purpose of this design specification is to provide a pictorial representation of the proposed website www.hamroghar.com through various diagrams. It shows how the system flows and how the overall system works on the web application.

This also target to help to the developers design the system by helping them to picture the scenario and develop the intended system. It will present the reader with various diagrams such as UML diagrams and ER diagrams.

Initial Assumption

- a. In site user context, the website is accessed directly without any username or password.
- b. Admin user can change the contents of the responsible site.
- c. User can book the respective apartment through the booking system available at the website.

Normal Flow

Admin user creates and manages the site www.hamroghar.com . Only the admin is responsible to make any changes in the site. Admin will make changes in about us, contact us, featured apartment and on other databases. But user is not allowed to make any changes. One main thing that the user can do is book their choice apartment. All the updates and changes will be made by admin.

System Models

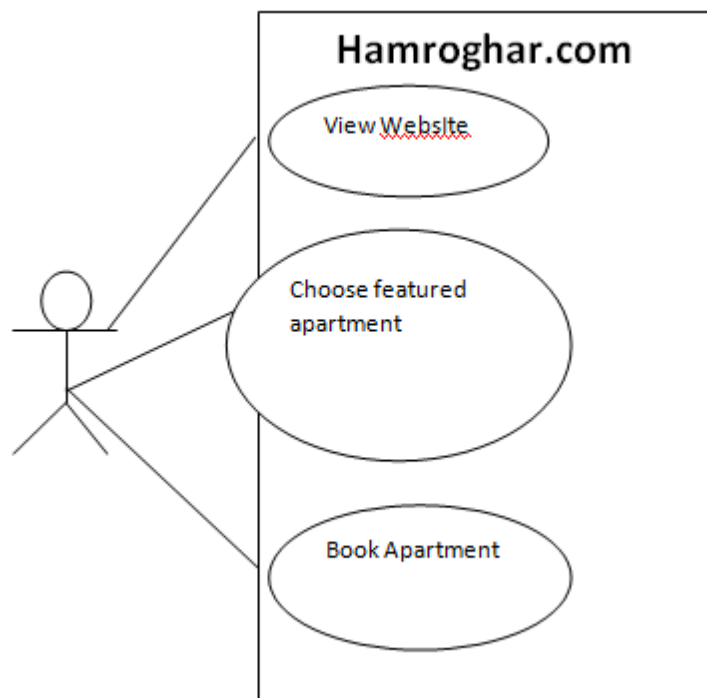
Scenario

Use case diagram is used to represent the scenario of the system. The system is divided into 3 distinct modules so as to make easier representation of the system. The modules are:

1. Site user module (User Interaction, Booking Apartment)
2. Authentication module (Validation for admin, admin login)
3. Admin module (Admin Panel)

Use Case

Booking Apartment



Use Case Description

Use Case	Use Case Description
View Website	User View the site
Choose Apartment	User choose his/her choice of apartment
Book Apartment	User book the chosen apartment

Class Diagram

In software engineering, a class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among the classes. The class diagram is the main building block of object oriented modeling. It is used both for general conceptual modeling of the systematic of the application, and for detailed modeling translating the models into programming code. Class diagrams can also be used for data modeling. The classes in a class diagram represent both the main objects, interactions in the application and the classes to be programmed.

In the class diagram, classes are represented with boxes which contain three parts.

1. The upper part holds the name of the class
2. The middle part contains the attributes of the class
3. The bottom part gives the methods or operations the class can take or undertake

In the design of a system, a number of classes are identified and grouped together in a class diagram which helps to determine the static relations between those objects. With detailed modeling, the classes of the conceptual design are often split into a number of subclasses.

In order to further describe the behavior of systems, these class diagrams can be complemented by state diagram or UML state machine. Also instead of class diagrams Object role modeling can be used if you just want to model the classes and their relationships.

Example:

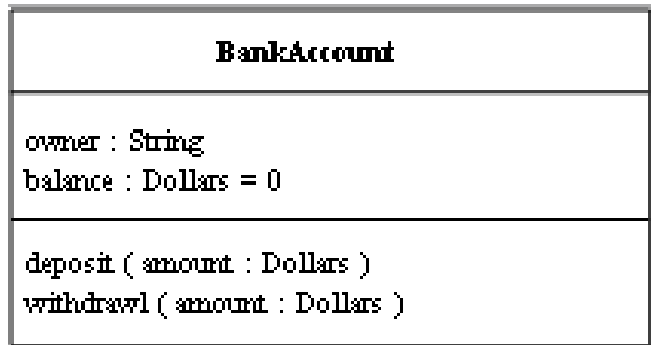


Fig: Showing the simple example of class diagram.

Textual Analysis

The objects, classes and their relationships are identified as follows:

<u>Noun</u>	<u>Verb</u>
Hamroghar	Sign in
Site user	Maintain guides
Admin	Maintain user
Apartments	Sign out
Rooms	Booking
Flats	

On the basis of the textual analysis carried out above following classes, objects, methods and relationships are identified:

Classes

Guide

Activity

Images

Comments

Site users

User

Photos

Name

Project Name

Objects

Object of user

- a. Site user
- b. Admin user

Attributes

Attributes of Apartment:

apartment_id	region_id	price	desc	featured	status	rating	views	timestamp
4	1	15000000	Happy Colony	0		0	0	0
5	1	12500000	Mast Plaza	0		0	0	1355220079

Attributes of Pages

region_id	region_name
1	Kathmandu
2	Patan
3	Bhaktapur
4	Lalitpur

Attributes of User

username	password
admin	admin

Attributes of Pages

pages_id	aboutus	contactus
1	<h4> WELCOME TO HAMRO GHAR </h4> <p>We would li...	<h5>Use the information below to contact us.</h5> ...

CLASS DIAGRAM

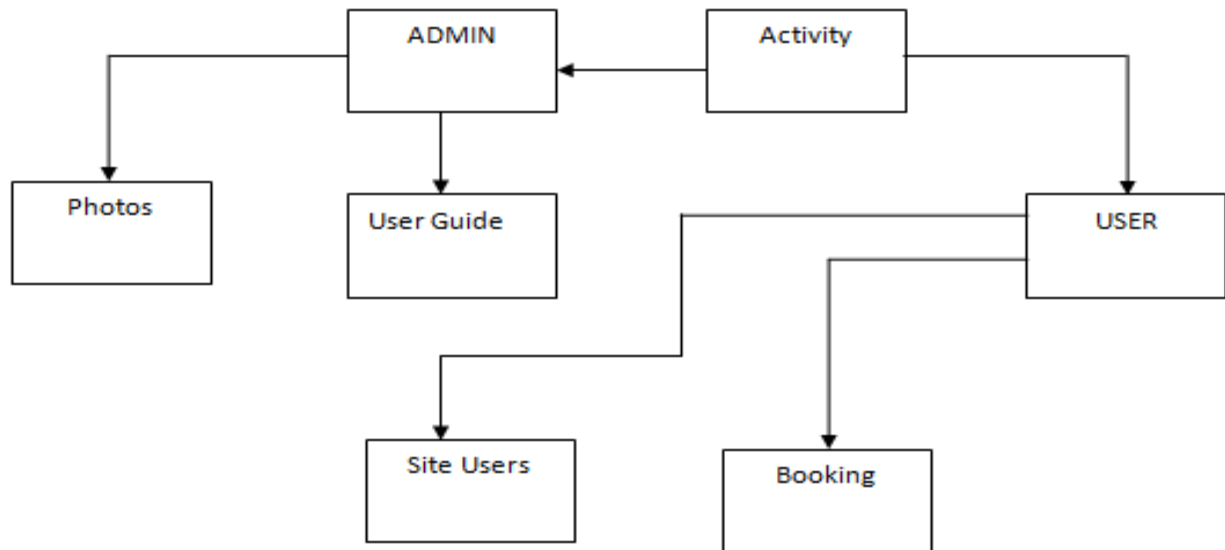


Figure 15: Showing the class diagram of the related website

Entity Relationship Diagram

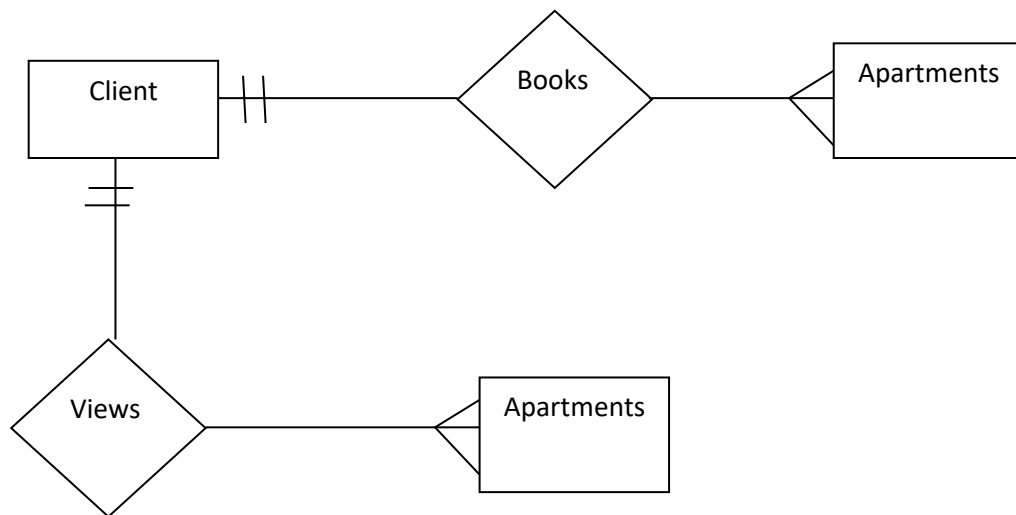


Figure 16: Entity Relationship Diagram

ACTIVITY DIAGRAM

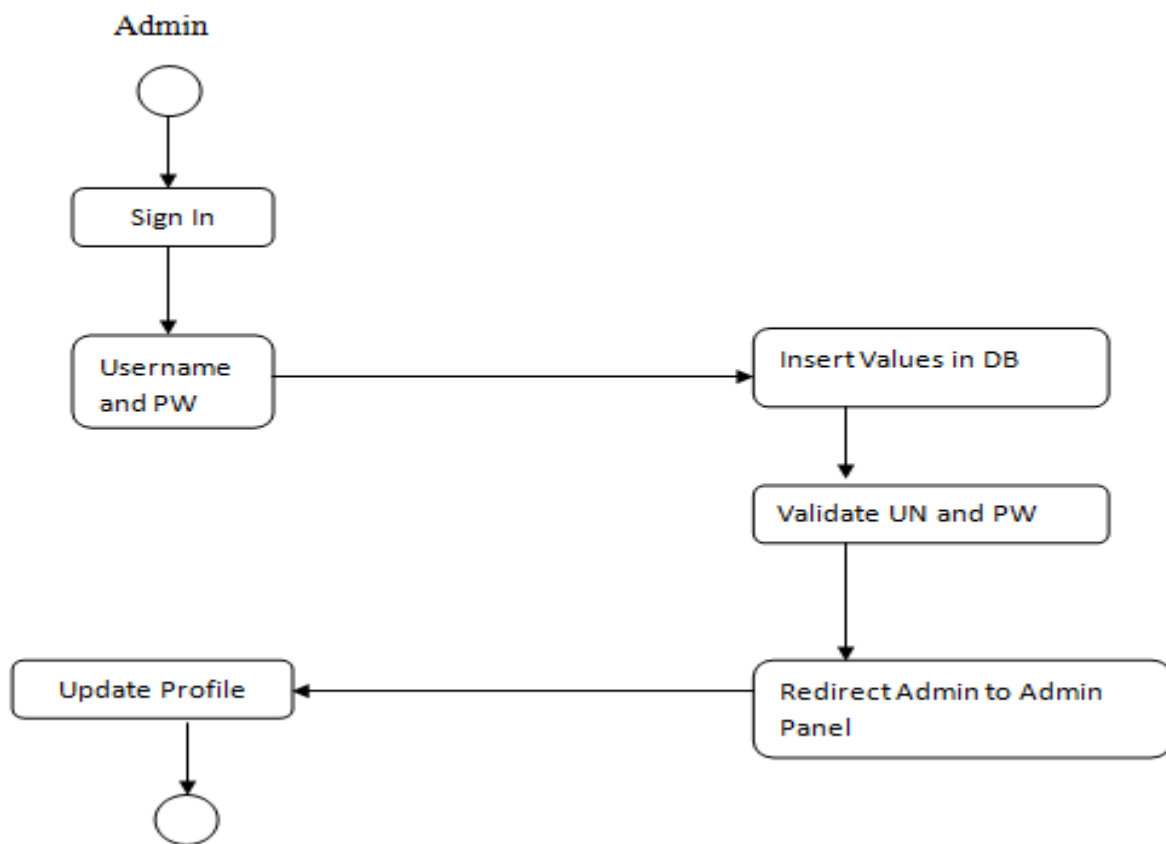
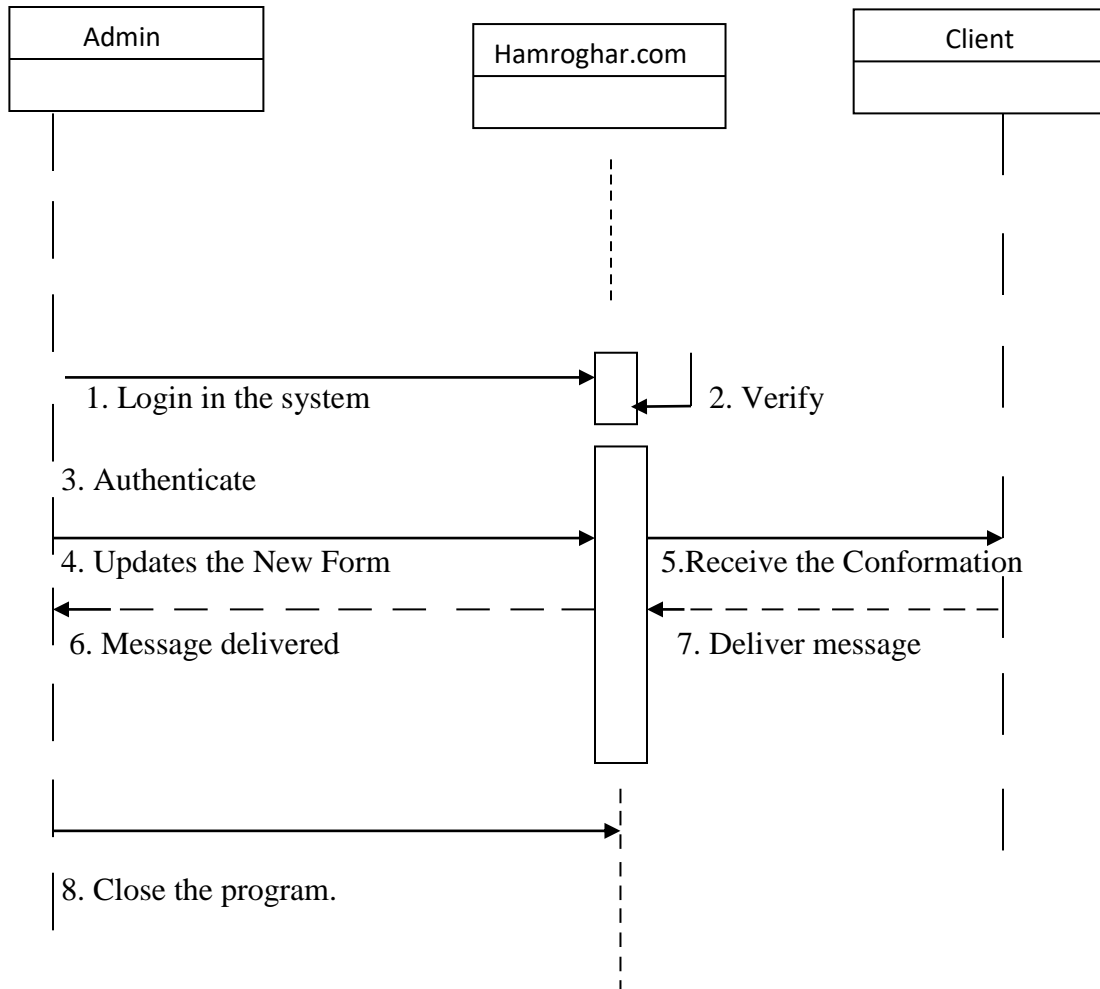


Figure 17: Showing the Activity Diagram of Admin

Sequence Diagram of hamroghar.com



Architecture Design

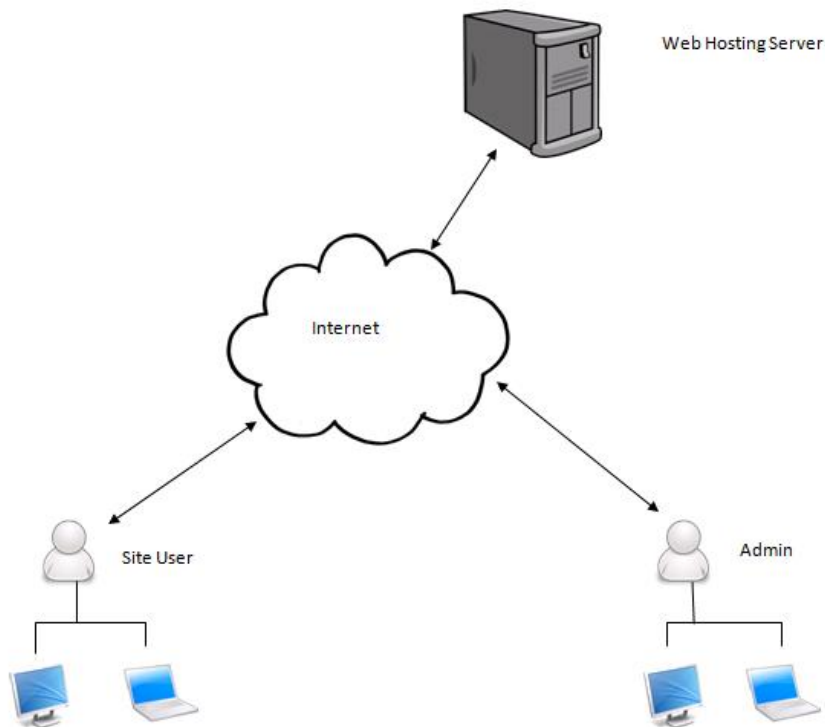


Figure 18: Architecture of the System

Above shown is the architectural design of website Hamroghar.com. If this site is hosted in any of the Domain then it will look like this. There will be a site user who will visit the page and book the apartment if they like any one of them and the booking detail will be send to the admin through the provided e-mail address. The admin will update, add and delete the contents as per the need and all the data will be stored in the registered domain database centre. Besides that, the server will also host Mysql database where Mysql 5.5.16 will be installed.

In the real time environment, the web hosting server hosts the website. The site will be hosted 24 hours. Site users access the website through internet. Similarly, Admin user also access to the website through internet by devices.

Assessment by Student

S.N	Task Assigned	Status
1.	Project Selection and Approval	Completed
2.	Project Specification Document	Completed
3.	Detail research on PHP and related platforms	Completed
4.	Chapter 1: Introduction	Completed
5.	Chapter 2: Literature review	Completed
6.	SRS Document	Completed
7.	Submission of Project Interim Report	Completed
	Development	
8.	System Design	Completed
9.	Test Document	Completed
10.	System Evaluation	Completed
11.	Project Conclusion	Completed
12.	Social And Ethical Issues	Completed
13.	Conclusion	Completed

From the above mentioned table we can know what are the tasks assigned to us and what the achievement that we achieve are. Are the work completed on time or not. This is also a indexing for project.

4.2 Revision to Schedule

The following date has been analyzed according to the Gantt chart that I had submitted previously before starting of my Project. Appendix section consists of the new review Gantt chart of this report.

S.N.	Tasks	End Date		Remarks
		Gantt Chart	Actual	
1	Prepare project plan and specification	11/28/2011	11/28/2011	On time
2	Research on PHP language and other relevant topics	1/4/2012	1/4/2012	On time
3	Preparation of SRS document	1/8/2012	1/8/2012	On time
4	Preparation and submission of interim report	1/5/2012	1/16/2012	Lead
5	Development of e-commerce website	8/11/2012	1/8/2012	Lead
6	System Design for website	9/1/2012	9/1/2012	On time
7	Test Document	11/5/2012	11/5/2012	On time
8	System Evaluation	12/5/2012	12/5/2012	On time
9	Project Conclusion	1/2/2013	1/2/2013	On time
10	Finalize Documentation	1/ 11/2013	1/ 11/2013	On time

According to the data illustrated in above mentioned table, the progress of the project is most of the time on time and some of them are even before time also. Each and every work which are required for the Interim Report are tried to complete in time honestly. Required amount of research for the development of the project are done well and paid dedicated time for the research to the related area. Hopefully report is liked to be looked.

CHAPTER 5 TEST DOCUMENT

Purpose

This document is prepared after the system is developed. This document illustrates range of test activities performed. The test activities ensure the system is free from errors and bugs. It is necessary activity for the validation and verification of the system. The test activity is divided into following portions;

- a. Test Plan
- b. Test Cases
- c. Test Log

5.1 Importance of Software Testing

Most of us have had an experience with software that did not work as expected. Software that does not work can have a large impact in business organization. It can lead to many problems some of them like:

- 1. Loss of Money
- 2. Loss of time
- 3. Damage to business reputation and much more.
- 4. Software Testing Techniques:

The importance of software testing and its impact on software cannot be underestimated. Software testing is a fundamental component of software quality assurance and represents a review and coding. The greater visibility of software systems and the cost associated with software failure are motivating factors for planning, through testing. It is not uncommon for a software organization to spend 40% of its effort on testing.

Testing Objectives

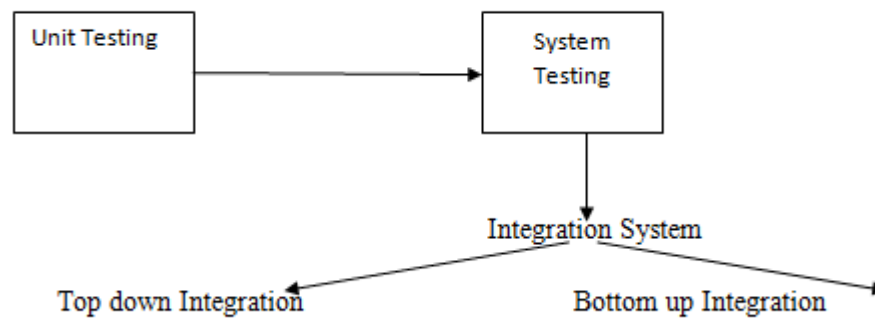
A number of rules that act as testing objectives are presented below:

- a. Testing is a process of executing a program with the aim of finding errors.
- b. A good test case will have a good chance of finding an undiscovered error.
- c. A successful test case uncovers a new error.

Test Guidelines

1. Test data (Input) must be selected such that the system is forced to generate errors.
2. Same test data may have to be used during testing for a number of repetitive times (Stress testing).

How to generate Test Cases



1. Object class Testing
 - a. Test cases based on
 1. Operations
 2. Interrogating attributes
 3. Different states of the object (Behavioral Model)
2. Interface Testing
 1. Unit testing
 2. Test case based on parameters
 3. Message passing

Some of the Major test processes involved in my project

1. Unit Testing: Unit testing is a software development process in which the smallest testable parts of an application, called units, are individually and independently scrutinized for proper operation. Unit testing is often automated but it can also be done manually. This testing mode is a component of Extreme Programming (XP), a pragmatic method of software development that takes a meticulous approach to building a product by means of continual testing and revision. Also In computer programming, unit testing is a method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures, are tested to determine if they are fit for use

2. Validation Testing: Validation represents dynamic testing techniques.

Validation ensures that the software operates as planned in the requirements phase by executing it, running predefined test cases and measuring the output with expected results.

Validation answers the question “Did we build the software fit for purpose and does it provides the solution to the problem”.

Validation is concerned with evaluating the software, component or system to determine it meets end user requirements.

3. Integration Testing: Integration testing (sometimes called Integration and Testing, abbreviated "I&T") is the phase in software testing in which individual software modules are combined and tested as a group. It occurs after unit testing and before validation testing. Integration testing takes as its input modules that have been unit tested, groups them in larger aggregates, applies tests defined in an integration test plan to those aggregates, and delivers as its output the integrated system ready for system testing.

4. System Testing: System testing of software or hardware is testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements. System testing falls within the scope of black box testing, and as such, should require no knowledge of the inner design of the code or logic.

5.2 Overall Test Cases

Test Cases	Objective
1	To check whether the email and password match with the email and password saved in the database or not.
2	To check if the new password in the text field matches with confirm new password or not.
3	To check whether password changes or not after clicking Save button.
4	To check whether the photos are displayed if photos are inserted.
5	To check whether photo upload shows in both home page and photos page after uploading a photo.
6	To check whether updated status shows in both home page and user profile page.
7	To check if delete icon deletes specific picture or not.
8	To check whether featured option are functioning or not
9	To test whether result displays in search page after entering keywords.
10	To test whether the search results from search page redirect to Region or not

Figure 19: Overall Test Cases

5.3 Individual Test Case of a proposed System

Test Case	1
Objective	To check whether the email and password match with the email and password saved in the database of site users.
Test Data	Database email and password
Expected Test Result	System will grant access to the Admin account after match of email and password.
Actual Test Result	System grants access.
Conclusion	Successfully done.

Test Case	2
Objective	To check if the new password in the text field matches with confirm new password or not.
Test Data	Check at database
Expected Test Result	The password should match the confirmed password
Actual Test Result	Password matches with the confirmed password.
Conclusion	Successfully done.

Test Case	3
Objective	To check whether password changes or not after clicking Save button.
Test Data	Check Users Password
Expected Test Result	The password should be Changed
Actual Test Result	Password changed
Conclusion	Successfully done.

Test Case	4
Objective	To check whether the photos are displayed if photos are inserted.
Test Data	Site users photos
Expected Test Result	The photos related of the site user should be displayed
Actual Test Result	Photos are displayed related to the site user
Conclusion	Successfully done.

Test Case	5
Objective	To check whether photo upload shows in both home page and photos page after uploading a photo.
Test Data	Site users photo
Expected Test Result	The photo should be displayed in home page and photos page of respective site user
Actual Test Result	The photo is displayed.
Conclusion	Successfully done.

Test Case	6
Objective	To check whether updated status shows in both home page and user profile page
Test Data	Featured Apartment
Expected Test Result	The updated status should be deleted from the database and not displayed in the result.
Actual Test Result	The updated status is deleted from the DB and not shown in the site.
Conclusion	Successfully done.

Test Case	7
Objective	To check if delete icon deletes specific picture or not.
Test Data	Delete Picture from viewing to User
Expected Test Result	The result should not display pictures to user
Actual Test Result	The picture is not displayed
Conclusion	Successfully done.

Test Case	8
Objective	To check whether featured option are functioning or not.
Test Data	Featured Apartment
Expected Test Result	The selected Number should be deleted from DB
Actual Test Result	The selected number is deleted or not shown if home page.
Conclusion	Successfully done.

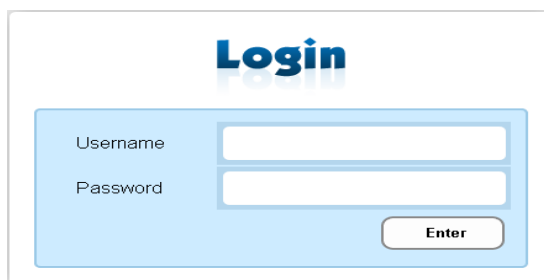
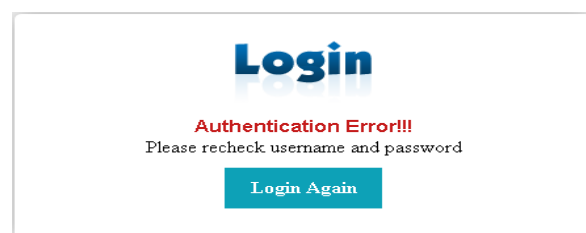
Test Case	9
Objective	To test whether result displays in search page after entering keywords.
Test Data	Region, New Apartment and Featured Apartment
Expected Test Result	The result should display all the test data.
Actual Test Result	The result is displayed
Conclusion	Successfully done.

Test Case	10
Objective	To test whether the search results from search page redirect to Region or not.
Test Data	Region, New Apartment and Featured Apartment.
Expected Test Result	The link should redirect to region.
Actual Test Result	The link redirects
Conclusion	Successfully done.

5.4 Validation Testing

Test Cases	Objective
1	To check whether validation messages shows up if Admin tries to login with empty fields in email and password or with other wrong Authentication process.
2	To check whether wrong password or email is entered and Admin tries to log in
3	To check whether error message displays when admin logout the page.
4	To check whether error message displays when the email is not in its format.
5	To check whether minimum password is set in the password field at user fill up form page
6	To check whether password field matches with the confirm new password or not at user fill up form page
7	To check whether the message displays when blank photo is tried to be uploaded on photo page

Test Case	1
Objective	To check whether validation messages shows up if Admin tries to login with empty fields in User name and password.
Test Data	Email and password
Expected Test Result	Message should appear
Actual Test Result	Message appears
Conclusion	Successfully done.

Test Case	2
Objective	To check whether wrong password or Username is entered and Admin tries to log in
Test Data	Email and password
Expected Test Result	Message should appear
Actual Test Result	Message appears
Conclusion	Successfully done.



Test Case	3
Objective	To check whether error message displays when admin logout the page.
Test Data	Registration data
Expected Test Result	Success Report should appear
Actual Test Result	Message appears
Conclusion	Successfully done.



- › [AddEdit View Apartments](#)
- › [Featured Apartments](#)

Welcome!!


Thank you for using

You have successfully log out

[Log in](#) [Visit Site](#)

Test Case	4
Objective	To check whether error message displays when the email is not in its format.
Test Data	email
Expected Test Result	Message should appear
Actual Test Result	Message appears
Conclusion	Successfully done.

[Home](#) [About](#) [Contact](#)



Name:

Email:

Comments:

hello

Test Case for Main Page

S.N	Tests	Objective	Tested Script
1	Main Page	To check whether the main page works or not.	PHP
2	Home	To check whether the Home page works or not.	PHP
3	Login Page	To check whether the Login page works or not.	PHP
4	About Us	To check whether the Gift Items page works or not.	PHP
5	Contact	To check whether the Contact page works or not.	PHP

Log File

S.N	Test Objectives	Test Results
1	Test Case 1	Successful
2	Test Case 2	Successful
3	Test Case 3	Successful
4	Test Case 4	Successful
5	Test Case 5	Successful

Final Home Page of hamroghar.com

Hamroghar.com

Home About Contact

Look Up for Apartment

Select The Region

Featured Apartments

ApartmentId	Region Name	Price	Description	View
7	Patan	7500000	World Happiness Colony	View Apartment
9	Bhaktapur	2000000	Jhakaas Apartment	View Apartment
3	Bhaktapur	17200000	Grand Tower	View Apartment

Newly Added Apartments

ApartmentId	Region Name	Price	Description	View
11	Lalitpur	2525000	Marina Bay	View Apartment
10	Lalitpur	2128000	Suntec City	View Apartment
3	Bhaktapur	17200000	Grand Tower	View Apartment
9	Bhaktapur	2000000	Jhakaas Apartment	View Apartment
7	Patan	7500000	World Happiness Colony	View Apartment
6	Patan	1000000	Highly featured apartment	View Apartment
5	Kathmandu	12500000	Mast Plaza	View Apartment
4	Kathmandu	15000000	Happy Colony	View Apartment

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CHAPTER 6 SYSTEM EVALUATION

6.1 Introduction

This chapter describes the importance of website evaluation in reference to the project. The main objective of this chapter is to check whether the application has met its requirements and fit for implementing it. This chapter includes how the solutions were carried out during implementing solutions and discussion of the evaluation on the project and its outcomes.

6.2 Evaluation Overview

The evaluation of the project is done against the project scope. The main aim and objective of the project scope was Creation of the profile of site user, connecting with friends, share photos and post comments on photos and also on the wall of friends. The study on the implementation of the project will be useful as it will help us to tackle with the problems and evaluate the information retrieved from the problems faced.

6.3 Evaluation of Project Deliverables

The main purpose of the implementation of the proposed web application is to help people socially interact who are interested on exploring new places. The solution to the use of website should be able to make users feel easy to share their thoughts and help them explore new places and guide them.

6.4 System Evaluation

The system evaluation of the website is done according to the requirements of the application. The functional evaluation of the project will find out the functional requirements of the project and also the implementation of the functions. The development of the project should be able to return the fulfilled requirements of the system.

6.5 Criteria

The criteria for the evaluation of the project will determine the overall aspects of the system.

6.6 Evaluation of the project practices

The project has been made according to the documentation approach. Every stage has been specified. As a result, the records have been made with the beginning of the system till its end. The study of the outcomes and the approach to each stages has been specified which will later help in future reference about the project and if any changes have to be made.

As in result with the evaluation of the project, it would be beneficial to learn in depth about the project and processes in future development.

6.7 Conclusion

The chapter contains the issues related to project implementation of the web application. The evaluation of the project has been shown on different practices, how the evaluation are done and presented with supportive description.

CHAPTER 7 PROJECT CONCLUSION

7.1 Introduction

This chapter shows the conclusion toward the project as a whole. It shows how much achievements have been made while being on the project scope. And also, the future arguments and the lessons learned during the development of the project.

7.2 Project Achievement

The main aim and objective of the project was to make a user friendliness application that can connect friends and share their ideas and thoughts on places and travels. The main thing to aim was to find the problem domain which is that what the users want in their social site and what they prefer related to travels and places. With accumulation of the user needs through various fact finding techniques the problem was able to be solved through analysis, design, development, testing and implementation of the project steps taken.

There were many challenges while developing the project as there was a risk where the requirements of the system might be incorrect and might lead to project failure. Other challenges were on development of the system. The right requirements were to be developed as according to the analysis and design.

As the project was completed step after steps, there were lots of achievements which were accomplished through detail study and logic behind the project. The outcome of the project has helped me immensely with new ideas and skill development on overall subject matter.

7.3 Future Escalation

At present, the module to view and search for the apartments, room and flat options are only made ready. There are a lot to do for my satisfaction also. I was supposed to implement many new concepts over here. Now pending many much more feature are need to be added which will be done on near future. Remaining work to be done is:

1. Complete whole development of www.hamroghar.com
2. Add additional required features.
3. Implement website.
4. Test the working system model for its efficiency and effectiveness.
5. Complete all challenging task ahead.
6. Implement Google Maps to find out the location of my apartment.
7. Make work the mailing booking system.

7.4 Critical Appraisal

First of all, I would like to thank Er Mukesh Regmi for accepting the project on behalf of being Project Supervisor and Mr. Prakash Shrestha Sir for being the second supervisor.

The project plan did not go according to plan at some stages as there were loads of pressures from college premises and personal works on hand. However, with hard work and dedication I was able to complete my project with satisfactory result on time.

7.5 Personal Achievement

There are many achievements that I have personally gained throughout this project. There were many tough times where I had learned from my mistakes and tried to rectify them.

Since the project was a one man project, I had to do all the works which was required from system analysis, design to whole documentation. For each steps I learned a handful of new things and experienced new ways of doing the work, finishing the work in time. I tried to implement all the works I knew about the subject matter and worked with it.

Due to Nepal's outgoing power cuts and personal problem there were times where going on with the plan was very difficult. Yet, the project was finished in time with hard work and dedication. Questionnaire was collected on time and research was collected from various sources.

I had to take counseling from lecturers and professionals from the development sectors. It was a nice experience collecting the logic behind networking sites, creating ideas and implementing them. Overall, it was a fun and educational project to work on.

7.6 Summary

This chapter concludes the understanding of the project through the outcomes of the project and its future escalation. It also covers the decisive judgment made throughout the project.

SOCIAL AND ETHICAL ISSUE

Social and ethical issues in collecting

2. Bias in the choice of what and where to collect data.
3. Accuracy of the collected data.
4. Copyright and acknowledgement of source data when collecting.
5. The rights to privacy of individuals on whom data is collected.

Social and ethical issues associated with organization

1. The increase in hypermedia as a result of the World Wide Web.
2. The ability of software to access different types of data.
3. A greater variety of ways to organize resulting from advances in display technologies.

Social and ethical issues associated with analysis

1. Unauthorized analysis of data.
2. Data incorrectly analyzed.
3. Erosion of privacy from linking databases for analysis.

Summary of social and ethical issues

1. The security of stored data.
2. Unauthorized retrieval of data.
3. Accuracy of data received from the internet.
4. Security of data being transferred.
5. Net etiquette.
6. Acknowledgement of data source.
7. The impact of the internet on traditional business.
8. Privacy of the individual.
9. Changing nature of work
10. Appropriate information use.
11. Copyright laws.

CHAPTER: 8 CONCLUSION

Starting the project with introduction of the website I concluded my website Hamroghar.com. During this project I had gone through the different related such kind of websites which looks and deals as like as my project. Background of the project, motivational factors, related problem and its solution are discussed in chapter1. I also had gone through the background and the different history of the websites which was detailed introduced in chapter 2 of my project.

My project Hamroghar.com is a small project which only deals with the room, apartment and flats. So there are not much more things that I need to do. User just needs to search the apartment according to the region based and I had included 4 major cities Kathmandu, Lalitpur, Bhaktapur and Patan. They can search apartment among those regions or cities. Featured apartment means the attraction apartment of the week and newly added apartment are the apartment which are newly opened or are in process to be opened. User can view and book the apartment of their choices. Chapter 3 system specifications and requirement explains more on Development session. What was the background, how the development were done, how the progress were made and what will be the future related work are also been discussed in same chapter of the documentation.

The entire user diagram, test cases of the delivered developed web application with valid reasons are presented at chapter 3 development engaged session. Introduction to the web based application and their benefits, its importance and the tools used for the development, working mechanism of the PHP are well researched and tried to evaluate in depth and tried to write well in my documentation.

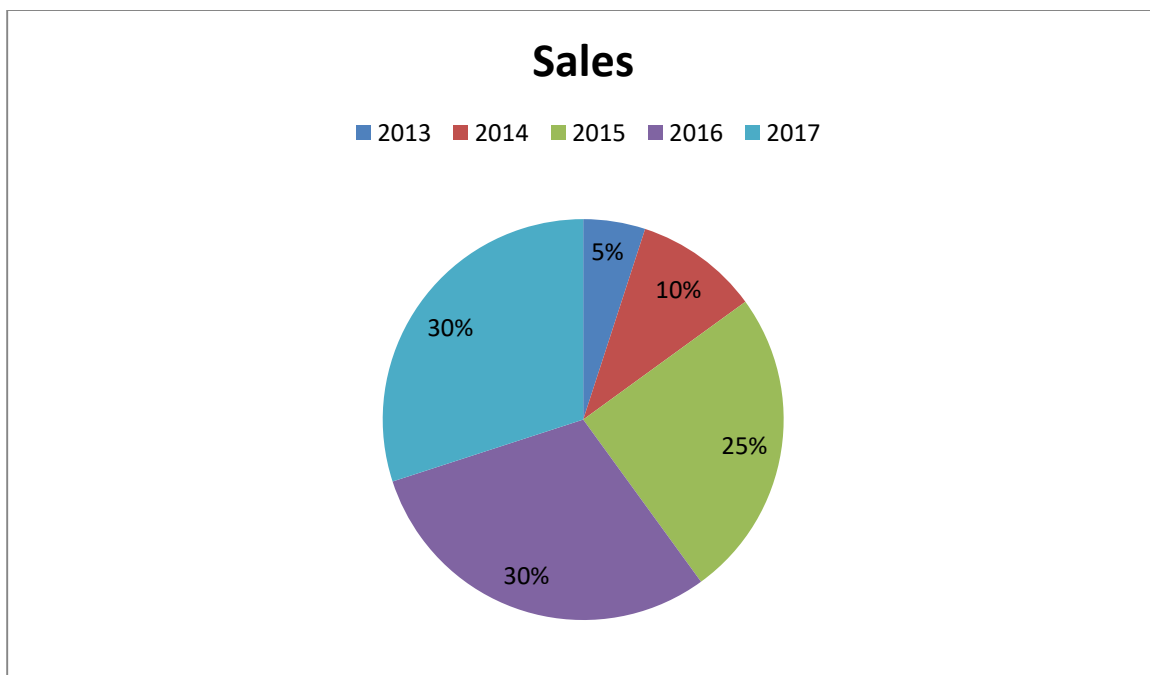
At last after a hard work and struggle I came to the conclusion of my project Hamroghar.com. There are many things that I came to learn during this project. I was totally unaware and unknown regarding the PHP. I also don't have any concept of developing website. Now after completion of this project I somewhat know the concept of website development, choosing the different methodologies are discussed in Chapter 2 session 2.7 in detail, deriving and testing the test cases.

Overall talking I came to learn some new things and also will try to do better in future. This project will handle me towards the success of development field. I will also add some other extra features and will make this application work on real time system. I had tried to register this website but due to some documentation process I was unable to register in this moment but will do it in near future.

FUTURE of hamroghar.com

Above in all chapters I had discussed the introduction, scope, aim, problems, solutions and scope of the website hamroghar.com. From the research on related items I came to know that this is the most working and useful web application for today's generation. This will provide so much of benefit to the people who feel irritate on walking to house to house for room, flats or apartments. This will help to find their problems solution easily through web.

If I will register this domain name and provide advertisements on related sites like Facebook, YouTubes, Twitter and other popular places then I had set one target of marketing strategy, which I had tried to figure out in one simple pie chart. This chart tries to figure out the statement of 5 next years.



According to this chart if registration is done on starting of 2013 and advertisements are made accordingly then business profitability on 2013 will be of 5% only as this will be the starting year. If same rate of acceleration is provided then on end of 2014 the rate will reach up to 10%. And the ways goes on and after 2016 the rate will remain constant after certain level that will be of 30%. This is just an assumption no any strong proof can be presented.

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[c381c1cc3496%40sessionmgr114&bdata=JnNpdGU9ZWZWhvc3QtbGl2ZQ%3d%3d#db=lih&AN=67633434](http://web.ebscohost.com/ehost/detail?vid=9&hid=126&sid=f25b1fb5-e76e-4aed-a530-c381c1cc3496%40sessionmgr114&bdata=JnNpdGU9ZWZWhvc3QtbGl2ZQ%3d%3d#db=lih&AN=67633434) [Last Accessed 12/12/2012]

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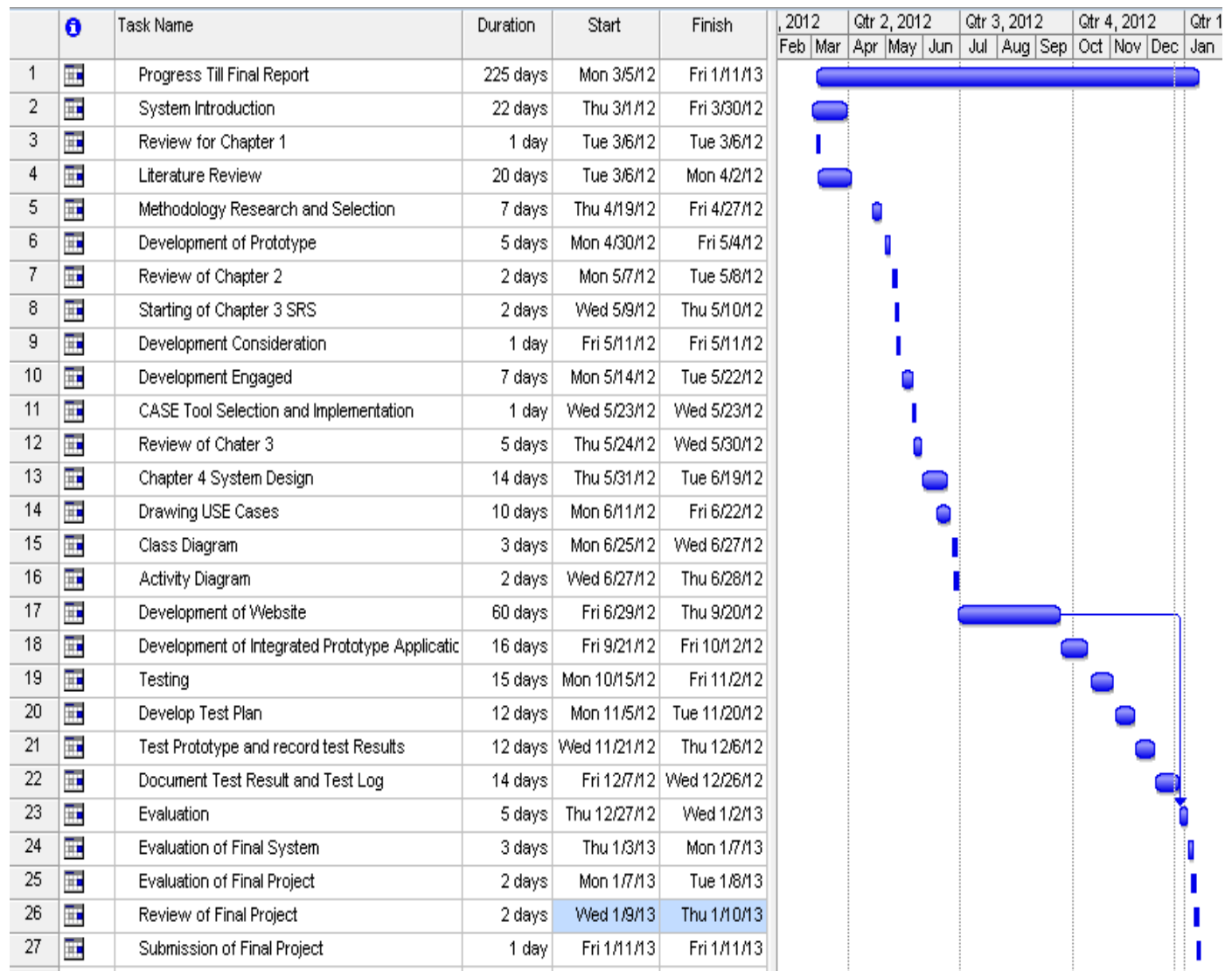
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REVIEW GANTT CHART

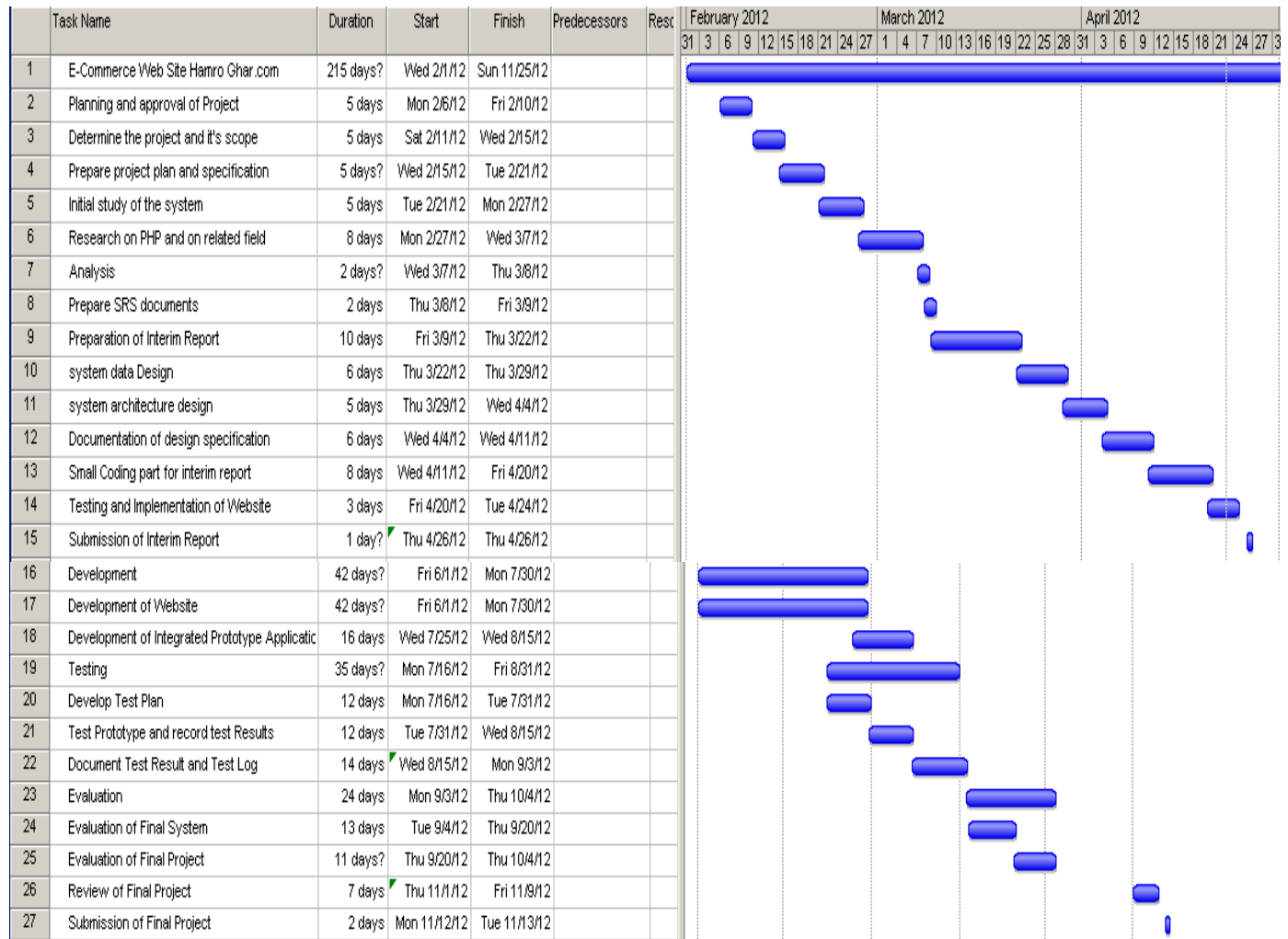


Name

Project Name

ANNEX

Revised Gantt chart

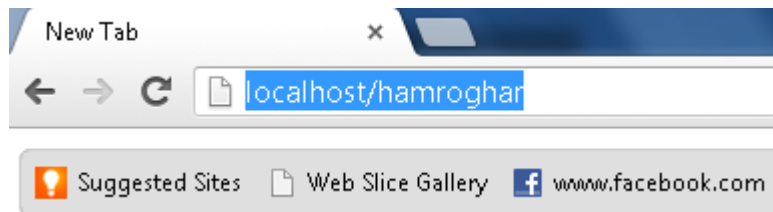


Questionnaire Sample

Questionnaire to access the website	
NameTo LMU Students.....	
Do you use internet?	Yes / No
Do you know you can search apartment through Website?	Yes / No
Have you ever searched apartment through website?	Yes / No
Are you interested with this new technology?	Yes / No
Do you want to share this information among your friends?	Yes / No
Do you recommend your friend apartment you visit?	Yes / No
Do you think this website will take peak up?	No Idea
Is this site interesting?	Not Much
Have you ever visited such site before?	No
Have you ever heard of such website before?	Not Much
Will you choose apartment through such website?	Not much
Is this technology best for Nepal?	Not Much
Do you prefer commenting on this particular website	We are unknown, may be later
What are your suggestions for www.hamroghar.com ?	You can add it to FB for more popularity.

USER MANUAL FOR hamroghar.com

1. Need browser Firefox, chrome or any other.
2. Type localhost/hamroghar



3. You will redirected to Main Home Page of the site hamroghar.com



4. To know about the page and their working principle you can click on About Us Button.
5. To know the detail information and for query you can click on Contact Us Button.
6. To know the detail information regarding the featured apartment you can click on view menu.

Featured Apartments				
Apartment Id	Region Name	Price	Description	View
7	Patan	7500000	World Happiness Colony	View Apartment
8	Bhaktapur	2000000	Jhakaas Apartment	View Apartment
9	Bhaktapur	17200000	Grand Tower	View Apartment

7. To book the liked apartment you can click on Book This Apartment button.

Price of the Apartment: **7500000**
 Apartment At: **Patan**
[Book This Apartment](#)

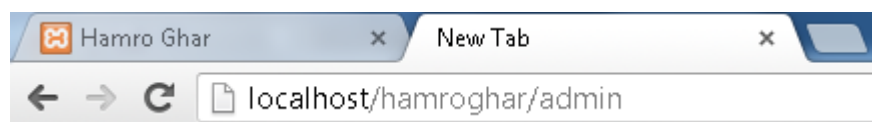
8. To search particular area there is search button.

Look Up for Apartment

Select The Region

Kathmandu
 Patan
 Bhaktapur
 Lalitpur

9. To access the admin page.



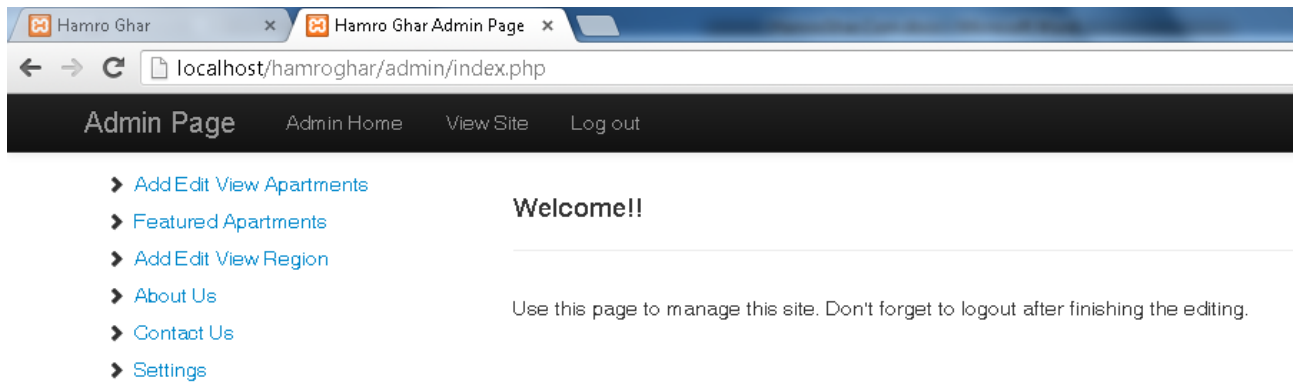
10. There will be a verification mode and it will be verified through UN and PW.

Login

Username

Password



11. After successful authentication you will reach to admin panel from where you can change the data.



12. Here you can manage as per your wish. For example add edit view apartments.

[Add New Apartment](#)

Existing Apartments

Apartment Id	Region Name	Price	Description	Files	Featured	Edit	Delete
4	Kathmandu	15000000	Happy Colony			Edit	Delete
5	Kathmandu	12500000	Mast Plaza			Edit	Delete

13. Edit Regions

[Add New Region](#)

1	Kathmandu	Edit	Delete
2	Patan	Edit	Delete
3	Bhaktapur	Edit	Delete
4	Lalitpur	Edit	Delete

14. Change User Name and Password.

[Change User Name](#)

[Change Password](#)

15. You can manage and handle whole system through this admin page.