



SocioNet-FriendBook

By

Sammi Kumar

(PT0882205)

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Supervised by Mrs. Geeta Nagpal

Advised by Mr. Arun Choudhary

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Abstract

These recent years witnessed a substantial emergence of social networking sites (SNSs) which some even refer as an arising phenomenon. Besides the main function of communication of SNSs, the applications integrated within the SNSs are of great popularity and thus help gain more users.

The project “**FriendBook**” is a Social Networking Website. The primary objective of project is to developing a web based online service, platform or site to focus on building and reflection of social relations among people. A FriendBook is consists of network services that will provide combination of good facilities of various social networking website and it also provide the facilities that are not present in others website to user over internet. Each process is converted into different module. Each module is connected to other and the data related to the software are stored in a single and centralized database.

When the system will implement the user can login themselves then after they can access various facilities such as file sharing and others as the requirement gathered by the developer.

In conclusion, evaluation of the created methodology is given. The thesis thoroughly evaluates in terms of philosophy, model, techniques and tools, scope, outputs, practice and product, based on which the future possible development is introduced.

Key words: application, methodology, Waterfall, SNS, SDLC.

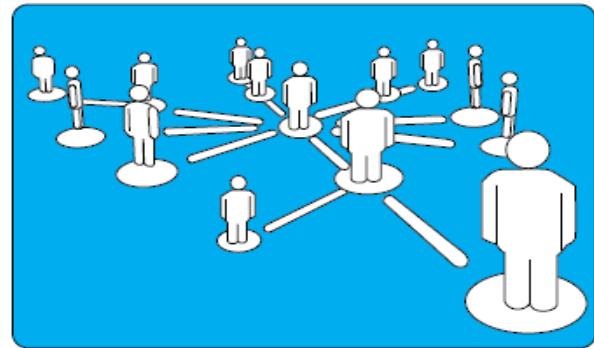
1. Introduction

1.1. Topic of the system:

SocioNet-FriendBook

1.2. Purpose of the system:

This is a 21st century; where people are inattentive with their busy work life so they do not have any time to spare for themselves. However, they have resorted to platforms like social networking for staying in touch with their dear ones and as we discussed above about the different problems which are facing by the society to overcome from that problem such system is required by the user by which the social networking site will act as a problem solver. It is very beneficial for share common interests. It also enables students to reach out to old friends and classmates, relatives who migrated to other countries and even for the professionals and business man for connect to people with the profession as yours for collaboration and discussion of ideas.



Source: Rachael King. 2006. CEO Guide to Technology: Social Networks—Who's Harnessing Social Networks? *BusinessWeek*. Available: http://images.businessweek.com/ss/06/09/ceo_socnet/source/1.htm

Moreover it makes people part of a worldwide community who come to explore technology to their advantage, whether for personal or business purpose. It is also beneficial to save time of the user to separately use of two different applications. In the other case if one person who change the phone number and his address it is very beneficial stage to share those things and make the people know about the information changes throughout the life. Social networking sites also help organizations to increase awareness about an issue, find signatures for a petition, and encourage supporters to take action (Kanter B, 2008). As we know that social networking is a wonderful platform to share information, but also the best platform for the same thinkers. If they are shy to express their thought this is definitely going to help those

Figure 1.1: A Social Network

type of people to express their feeling globally we can called it as a “GURU”, “EXPERT” and even “GOD”(July 19 2011). It’s a more of place to interact with peers than to engaged prospects. For example if we take the case of a corporation where the sharing of information are common among the employee in the form of hardcopy and both sided needs to come to an understanding, with management conceding that not all of the that peer interaction is a waste of time and employees focusing primarily on achieving business goals through social media activity during work hour by using of sharing of documents with the use of this social media. Based on the research from **MarketingSherpa** that while social media activities don’t usually produce high quantity of leads they do result in quality leads the kind that convert, and buy, at a higher rate. That makes sense that while social is more about branding then lead generation. Those days are gone when we needs to survey all the market and spend dollars to find out the competitors and person of prospective thinking. Now social networking is also a critical and cost-effective tool for gathering market and competitive intelligence. As a businessman it is also a good place to find the business partner who shows over their interest in your business.

Rationale: the following has highlighted some of the most common benefits for society by adopting the FriendBook

Intangible: -

- i. Being a registered user FriendBook enable peoples to connect globally.
- ii. It's fully beneficial for self-promoters because they can create profile globally.
- iii. Much more helpful to get connected with the same mind people.
- iv. FriendBook provide the searching option that enable user to connect with their globally located friend and families.
- v. Helps to store the file globally and access it.

Tangible: -

- vi. User can share the files with others. Enhance style of business.
- vii. By the facility of file sharing it is beneficial for business user and students which definitely save time and money as well.
- viii. It is also useful to save money because the person need not worry to buy the gift for the special occasion they can send the softcopy of greeting as their own choice and blessing.

1.3. Target Reader

The system which I am going to implement can be used by every types of audience whether they are novice user, casual user or they are expert user. The system is designed in such a way that it is easy to adopt by the students, employees and all type of social peoples. The facilities that “FriendBook” is providing are basically developed by concentrating students and professional/Businessman.

1.4. Project Background

Since their introduction, social networking sites (SNSs) such as Facebook, MySpace, Cyworld, and Bebo have attracted millions of users, many of whom have integrated these sites into their daily practices (Boyd & Ellison 2007). At the time being, there have been 122 million visitors surfing Facebook and 56 million using MySpace (Compete 2009). Among these users, more than 70% of them engage with the applications on the social networking platform (FacebookStatistics 2009).

In the current scenario with the fast growth of the economy it is very difficult to connect with the friends, families and various others people and give time to them. In this time people are having no particular time to share with the relatives. So the society needs a medium to share message to widely and connect the people with each other. And in the other side people are also wants that everyone should know about them and want to increase their links (network). The social networking is basically developed for increasing the social relationship. There are many ways to get recognized in the world but they need lots of money to be popular in the world. But in other hands, social networking is one of the best ways to get recognized without any cost. If we talk in the term of different situations where the people need something which is not provided by that application then they have to use other resources whether those are urgently required by them. So in that situation it is very much time taking to collect that resources and use that for the own purpose. The application will allocate the bridge among the people to connect the person with the entire world and provide lots of features within that application.

1.5. Problem Context and rationale

Without social networking sites peoples are facing different problems in the personal as well as in professional life. As we know that social networking is basically developed for the social relationship among the people. But unfortunately not everyone has this mindset when they go to the social media sites. There are lots of people are over social networking who are there for protecting dollars. If we think in the term of the new business makers it is very difficult for him to become popular in the market and they require a lots year to give flash in the market. If we consider about our past lots of best friends of us are missed up just because of that they situated in different place after leaving the school and all in the other word we can say that just because of distance and lack of communication media between them. Another problem which we obviously face without social networking site is lack of knowledge sharing. If the medium is not with us then it is very difficult to get idea or share the idea with the people. There are lots of other examples can arrive if we think our self without the social networking site. So it takes an important place in the life of human being.

1.6. Objectives of System:

Basically the main objectives of this project to develop a centralize application which will help the peoples to promote themselves globally. And the system not only providing the feature of promoting it is also providing the facility of sharing of information and transfer of data.

System Scope

By having the idea of creating profile, transferring messages, commenting, uploading of pictures, sharing of documents, view friends activities and sending wishes by the help of greeting the society can use the system for their promotion as well as connect themselves globally where their information is stored over web increase broadcast their knowledge and information. By adopting this application people can able to search the loving ones. To make this idea possible the certain modules I am using in this application which are given below which are categorized in three terms fist one is core features, second one is enhanced features and the last one is extra feature.

1.7. Functionality of System

1.7.1. Core Features:

1.7.2. Login module:

- 1.7.2.1. **Registration:** By having registration module the user will get the privilege to register themselves as a member of the FriendBook. By giving their basic information
- 1.7.2.2. **Login:** After being as a registered user then he will have to login into the system after that he can utilize the functionalities of the application

1.7.3. User Relationship module:

- 1.7.3.1. **Creation/Removal/ approval:** These are the privileges provided to the registered user that they can create user relationship by adding their loving ones to their own profile and even they can remove them from his/her friend list by the help of removal privilege. In case if someone sends you the friend request then you can also approve their friend request and be connect with him/her until you will remove them from your friend list.
- 1.7.3.2. **Blocking:** In case if will frustrate from someone and want to block him/her by which for a certain period that friend will not treat as an added friend till the blocking is not removed.
- 1.7.3.3. **View friend list:** This will allow registered user to view the list of their friends. If we talk in more technical word then we can say that all of the friends which were added at earlier as a friend all the list of them will appear.
- 1.7.3.4. **Private message:** This feature will allow the user to send the private message to their friends.
- 1.7.3.5. **Comment:** Application wills also providing the privilege to users so the user can comment on the pictures and other.

1.7.4. Request invitation:

1.7.4.1. ***Friend searching:*** This module allows user to find their loving one from the application who is as a registered user of FriendBook.

1.7.4.2. *Send friend request:* After searching the friends this module allows user to send friend request to them if he wants to add him/her to his friend list.

1.7.5. Activity module:

1.7.5.1. ***View activity of friends:*** This module allows user that he/she can always keep their eyes on the different activities of their friends. So the mean of information can able to transfer among the friends.

1.7.5.2. ***Uploading pictures:*** This module is much more interesting feature by which user can promote themselves and this is not only for the persons this concept can also applied as for the mean of interest and business. The feature is uploading of pictures which is also being used by the businessman for promoting and launches their products.

1.7.5.3. ***Post status:*** In this module user can able to post the status on their profile as we can say it as a status message which user write to show to their friends basically.

1.8. Enhanced Features:

There are list of the features that is specially provided by developer for making the system different and more usable by the mean of combining the features of several website. The list of functions are given

1.8.1. ***Theme selection:*** The function which will provide by the application for the user is that by which the user can select the background theme for their profile which will mostly signify the mood of the user that how he/she is.

1.8.2. *Email:* The feature that enable user to email from his profile of FriendBook itself. So user need not to visit to URL of the mailing site that will save the time of a user.

- 1.8.3. ***Set availability:*** This function will try solve the problem of the user by the interrupting others during the situation when he is busy. That facility enable user to set their status as busy or available. So the minimum interruption is face by the user.
- 1.8.4. ***Font Increment:*** This module of a function will enable user to increase the font size of a website so they can able to view the website in different font sizes.
- 1.8.5. ***File sharing:*** This is the most important function provided by the developer so the user of a FriendBook can able to share the file (documents) over the FriendBook.

1.8.6. Privacy:

- 1.8.6.1. ***Privileging the person of viewing of profile:*** In the privacy module the first function which is provided to the user that he/she can give the privilege to their friends that who can view his/her profile.
 - 1.8.6.2. ***Report abuse:*** As social networking is increasing the problem of fake profile is increasing, in this function if user found someone as a fake or inappropriate person so he/she can inform it about to the administrator.
- 3.5.6.2. Updating report:*** In this privacy function if any changes that is made with the user profile the detailed information is send to the email of the user.

1.9. Extra features:

- 4.1. Create greeting card:*** The extra and most interesting feature which is provided by the developer is that the user can able to create the greeting card for their mates and workers. This enables by the help of privileges of combining the pictures, words, and music so the user can able to create the greeting cards according to their choice for their loving ones.
- 4.2. Create groups:*** this module will help user to create their own group in which the selective person can collaborate.
- 4.3. Private Messages for specific group:*** This feature will help it out for the person who wants to send the private message to the person who is in the group only.

2. Problem Description

2.1. Introduction

We have the technology this way they live in a world that is changing people's communication and how to do business how they are formed. This traditional social network, dozens of friends from associates, friends of friends, has grown thousands of connections. As the name social networking website concerns the main aim to provide the services, so that the social people can get the benefit from this. But if we concentrate on the requirements of the social people it is so huge. In the current scenario the social networking services are providing mind blowing services to the user but heretofore the users are required to sharing of files over social networking website, creating greeting cards and many others and here what the problem arises. We live in a world where people would rather communicate by sending a text message from their mobile phone, post comments on their favorite online network.

However, as the technologies comes and just boom the market, most of the student concerns about their study needs to automate their study style, which is more advance in the term of earlier study standard. As the load of the study is increasing in the current scenario they basically don't want to waste their most of the curious time in giving their work and wait for their teachers to get marked. And the same condition is with professionals and businessman. As the world is running with the technology so all profession and business needs to step-up with it. According to Demos who is a British think tank "*has published finding that show bosses should not stop their staff using social networking sites because they could actually benefit their firm*" (Saunders S, 2011). They basically demands for the online services so the distance doesn't matter for them and wastage of time can be avoided. As we think in the term of the general people they are more concern about the time as well as money. As this is the era of globalization and in this era all the families are situated over globally. As the connection of the heart is there, accordingly people wants to share all the happiness and sorrow with their loving ones and for this greeting cards are most sweet and interesting way

to share feelings. But as the scenario and technology is changing the demands of the users are also going to change because of their distance and feelings. They want to wish their loving one but just because of it is very hard for them to do so. As they invest their money on purchasing greeting cards the cost of posting of that card is much more expansive then cost of that one. So they want these facilities present over internet therefore such situation should not arrive. As few of the website are giving these types of facilities but as the peoples are going to become the parts of social networking website so the demands of user are changing and now they want these facilities to be present over social networking website. So “FriendBook” is contains these facilities in itself. So most of people can use the system and can be benefited from it.

As we talk in the general term most of the people uses the social networking site for their promotion or we can say that for their personal branding (Whitehill N, 2008), for this they wants to share their pictures and thought as well as they are interested in others too. These facilities are provided by the other websites also but different website are providing different facilities but in the term of user, they like some of facilities of each website so this “friendBook” is providing combination of features of other social networking website.

At last the successful adoption “friendBook” is really much more beneficial for the user those are using social networking website. By comparing available social networking *Nate Whitehill* give his precious conclusion. According to him “*For making own personal branding and reputation then more that someone participates in online networking and brand building via social networking, the more professional opportunities that arise from being more well known*” (Whitehill N, 2008). For that reason, the assumption has to made by the developer that friendBook must have to comfort and beneficial for professionals too.

2.2 Challenges in Project

The development of “SocioNet-friendBook” calls for numerous challenges to be faced by the developer. The main challenge for developing such system is to understand the basic concepts and getting knowledge of social networking sites and as well as the essential key strategy for developing FriendBook in order to give us a interactive and adoptable social website. The system is too much huge so it is very difficult to complete the core features of the system. As well as developer also have to concern on the enhanced features and not only concern but develop too. The enhanced features in the system is such that which are complicated to develop for the developer. It includes lots of complex codes so that is also hectic task to learn those and self study of the technologies which are requiring developing those codes. The file sharing is also provided by the application which is very complicated feature and not even currently using by any of the social networking website. So I also have to research on that and get implement the technology. As my social networking is also providing the facilities to increment the size of the font and change of the theme of the website these tasks are not even close to be simple. For this developer has taken years of practice to gain knowledge from every single part of scripts, programming languages and coding. Even there are lots of programming technologies with which developer is left with and he have to teach yourself with such as J-Queries, .net, Sql Server Database, AJAX, XML and many others. Before developing the system this is requiring the capability of developer to educating all the programming languages, as it's not just require one type of programming skill that is require to develop a network site using that knowledge.

Last but not least system is providing the feature that allows user to create their own greeting cards by choice of their own images, text and song which is just not a simple task for developing. It is a very difficult task to attain.

2.3 Feasibility Study and Benefit Analysis

On the site of developer, the development of the system is technically, economically and operationally feasible to measure the feasibility study that has conducted.

2.3.1 Technical Feasibility.

The main function that the developer has to do is to list and determine whether all the resources necessary technical resources needed for development are available or not? Developer knocks the following hardware and software requirements.

Minimum Hardware Requirement

- **CPU:** 2.0 GHz Pentium IV or above,
- **Memory:** RAM 512 MB
- **Disk Space:** 5 GB space(at least)
- **Monitor:** Any Standard Monitor
- **Peripherals:** Mouse, Keyboard

Software Requirement

- **Operating System :** Windows® XP /Windows® 7
- **Server:** IIS
- **Software Development Tools:** Visual Studio
- **Project Management Tools :** Microsoft Project, Visio 2007
- **System Documentation and Presentation Tools:** Microsoft Office, Microsoft Power Point.
- **Case Tools:** Smart Draw, Visual Paradigm 6.0
- **Graphic Design Tools:** Adobe Photoshop CS4
- **Web Browser:** Any standard web browser.
- **Database:** SQL Server 2008 R2

As if we talk in the term of requirement of the hardware for the development of the project is easily available and developer's personal machine is fulfils all hardware requirements. Talking about software resources mostly all the development tools, IDE's and servers are available as open-source tools and can be freely downloaded from the

Internet or have to activate from properties of the system. The developer concluded that “friendBook” is technically feasible.

2.3.2 Economical Feasibility.

No investment is required by the developer to develop the system because the Microsoft Framework is already available with the developer other than that no more necessities are required. The proposed system will build the relation between the users and very much helpful to built new relationship. The project is also helpful for saving the money and time by its features. Therefore project is economically feasible.

2.3.3 Operational Feasibility.

Social networking can easily be operated by any sound person who are using internet and mostly all the person who are used to do so. As system is building according to gathered requirement by the users, so they are definitely going to use the system. Along with it developer has involved his ideas and findings to make system more usable and efficient accordingly the simple interface also leads the system to get the success. So by these all we can conclude that the developing system is operational feasible.

2.3.4. Schedule Feasibility.

The developer is aware about the importance of schedule and loyalty to deadlines, because delay in a project leads to failure. Therefore in order to obey with time in hand a timeline in the form of Gantt chart has to include.

3. Literature Review

3.1. Introduction

The amount of literature on various aspects of social networking website is overpowering. The developer has tried to review as much literature as possible, and specifically those that are relevant to this development process. This chapter has been divided into two parts. It starts with a detailed discussion on domain related topics, which discussed domain areas like social networking, their working etc. The second part of the chapter deals with market research whereby the developer talks about and presents his analysis of features that is of “**friendBook**”.

3.2. Advanced Preliminary

Before going into the deep domain knowledge the developer seeks to discuss few general topics related to the domain:

3.2.1 Social Networking- Growth and Importance

Social networking, the art of meeting and building contacts on the Web, is an increasingly popular way to gain personal and professional contacts, make new friends, develop professional relationships, promote personal or business Web sites, and even find a new job (Warner 2008, 277). Over the past few years, social networking sites (SNS) have received growing media attention. At many high schools and colleges, every student has a profile on at least one of the SNS such as MySpace and Facebook. (Farkas 2007, 109)

According to Farkas (2007, 109), people do not specifically use the sites to discuss common interests, but instead, they use SNS to display their identity and social network publicly and make new connections. This indicates a change in the way people build identity online and get to know each other. As shown in Figure 4, if A and B know each other very well, meanwhile,

A and C also know each other very well, then it is highly likely that B and C also know each other (Rettberg 2008, 59).

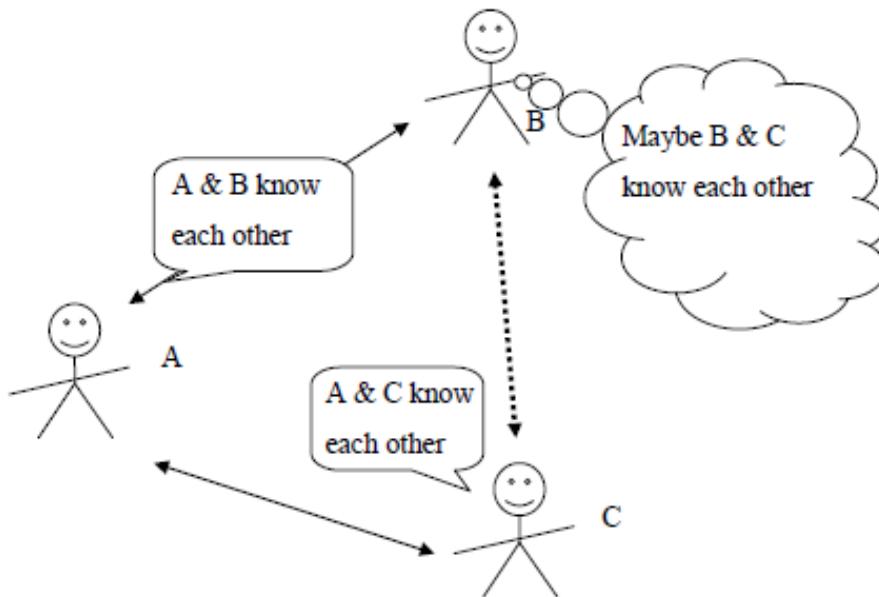


Figure 3.1.: Identity on and social network on SNS

In the mid-1960s, Stanley Milgram experimented to determine the structure of social networks. Milgram, a social psychologist, had a tremendous impact on the field of network theory, taking it from the realm of mathematics into the social world. The experiments are named from the common exclamation “What a small world!” when people realize they both know the same person. In the experiments, Milgram’s team asked each participants to send a letter to a stockbroker by forwarding it to a person they knew who was more likely than themselves to know the target. Although many of the letters never reached their target and the project had significant problems, the letters that did attain their goal had an average of six connections in the chain, leading the popular idea of there being “six degrees of connection” between any two people in the world. (Farkas 2007, 110)

In terms of Social networking sites, the theory posits the idea that one person’s connections to other people are more important than the person’s attributes. Following this logic, people can be judged for better or worse by their friends and acquaintances. On the other hand, people’s social networks can help them succeed in life, love and business. Therefore, the goal of SNS is to allow users to develop an online identity and grow a social network through establishing

business contacts, dating, or simply making new friends, while other kinds of online communities only enable communication, provide support and promote action.

As in current scenario social networking is placing an important part of people. Therefore they used to spend lots of time over these sites. There are few reason encounters in developer mind that may be the reasons for using social networking site are:

- i) **Recognition:** For crying out loud! Social networking site is one of the best for free exposure. As there are lots of ways to get your name out there and most of them are cost effective. It's better to take advantage of Social networking to connect with the artist and recognized person.
- ii) **Relationship:** Social networking site is better tool to built new relationship and friends. As developer is very shy in nature to talk with unknown person that creates a barrier to develop a new relationship with unknown person, and that's the story of many others also. So social networking site is a best way for this kind of person to share their view and makes new friends by the help of it.
- iii) **Resources:** Social networking can be wonderful places to learn and find solution to problems. More often than not, there is a guy lurking in the "logged in" list who's happier to help you figure out where that annoying high-pitched voice is coming from. So the developer is become the great source for him and in others case any other person can also become a great resource for someone else.
- iv) **Referrals:** This occur a huge in social networking website. Developer also gets a change over networking website to find his referral for tech-Mahindra Corporation, by which he can directly able to sit over interview chair. This really helps for the fresher's for starting their career.

3.2.2 Social Networking in an organization

According to developers view social networking allows the manager to visualize and understand the many of relationship that can either facilitate or impede knowledge creation and transfer. Basically the flow of information in an organization is in hierarchical way. So the subgroups emerged that are not sharing what they know as effectively as they should. The figure given below shows the flow of formal information that organizations are having with them.

In the given figure if the production department wants to communicate with the petrophysical department then they must have to follow the hierarchy of path to get communicate. So this is somewhat a barrier of knowledge transmission.

But the social networking gives the facility to an organization for informal communication between them so that better communication of information can take place. For example if organization conducted a network architecture of the system of managers in the exploration and production decision of an

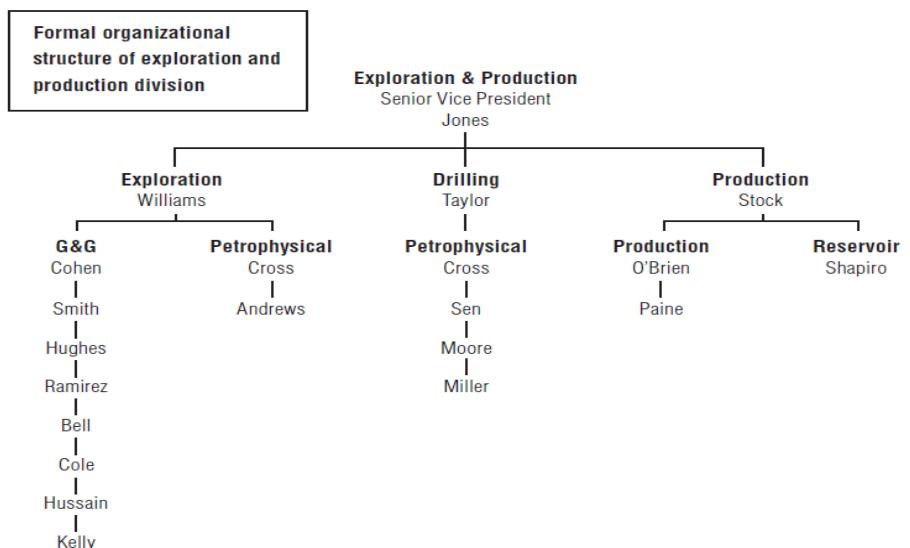


Figure 3.2: Hierarchy of flow of information in an organization

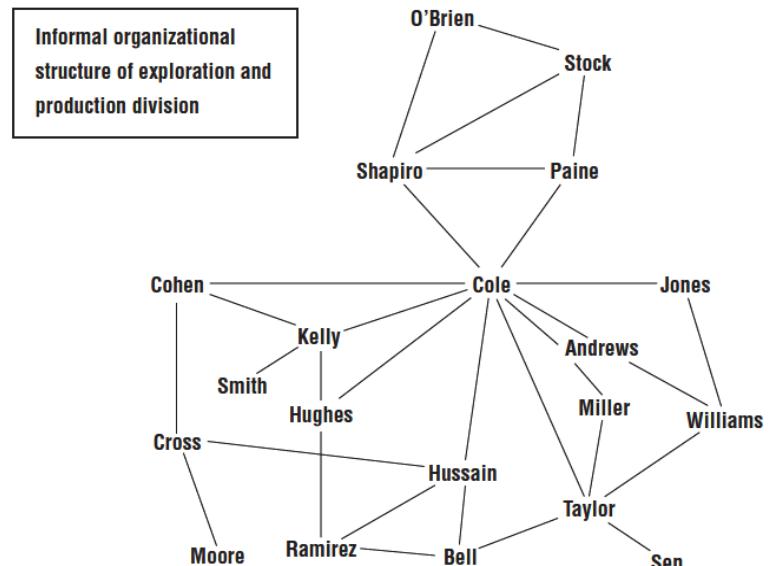


Figure 3.3: Hierarchy of flow of information via social networking

organization of large petroleum. This group was in the process of implementation a distributed technology to help transfer knowledge across drilling initiatives.

They were also interested in assessing their ability to create and share knowledge as a group. The hierarchy of communication with the help of social networking site can happen in a way that is represented in figure which is given in the figure.

3.3 Domain Research

If the software engineer does not grab the domain intricacies of the said domain correctly, he or she could end up developing software that is not useful to the client at all i.e. resulting in the user uttering the well-known phrase “this is not what we asked for” (Hudlicka, 1996 p.5). Therefore taking cue from this, the developer has done an extensive research in technical and domain subjects matter. A brief discussion on selected topics has been presented in the following sections:

3.3.1 Social Networking Concepts

Based on the six degrees of separation concept i.e. the idea that any two people could reach the earth by a chain of no more than five intermediaries (Whatis.com, Jan 31, 2006), provides social networks together to help Internet communities as personal networks, people to make known contacts would know too well for them, but that this had probably met otherwise. The forefront of new trends in social networking sites is the concept of "real-time web." "Real-time allows users to content which is then broadcast to help as they are uploaded - the concept is analogous to live radio and television.

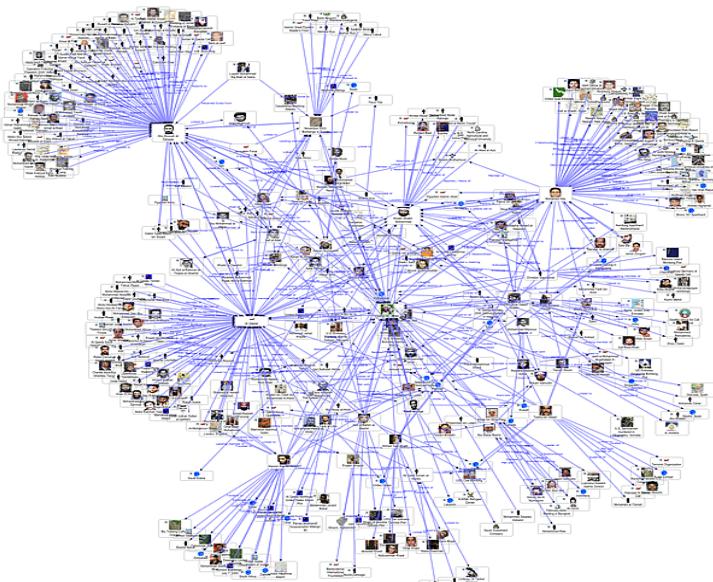


Figure 3.4: Networking (Interaction) among user

3.1.2 How social networking works (an overview)?

The easiest way to understanding social networking is to relate it like a high school. As we had friends in school, and we knew quite a few people even if we weren't friends with all of them, but it's likely that we didn't know everyone. And if we ever move to new school then we are having no friends. After attending classes the time is comes to make new friends and associates with similar interests and it becomes the part of our life.

Social networking is also referred to as social media, includes many internet based tool that make it easier for people to listen, interact, engages and collaborate with each other.

3.1.3 Why social Networking Website?

Social networking is a diverse tool and can access by anyone. One person can post or share information and it will be share with hundreds and even people within this world. So it acts as a knowledge sharing point in this way people change the sharing the way of knowledge sharing. In the past, when someone wanted to share something within large audience, a person had to enlist a newspaper, television or radio station but now it emerging with the social media and now social networking sites are more common form of social media.

3.1.4 What are the major components should have in the social networking website?

During research developer found components that should have in social networking website are:

Relationship Building: One of the more important sayings developer have heard is, "It is not what you know, it is not who you know, it is what you know about who you know." (Highfield R, 2007). Most of the people known other 250 or more people, this should have should be a relationship building strategy of establishing trust and credibility.

Users circle of Influence: As humans, our lives are shaped and influenced by a variety of factors and relationships are at the top of the list. As influential as the relationships are, most people are not aware of their biggest "circle of influence" is selected.

Virtual Marketing Effect: Viral marketing is an offensive term. Viral marketing describes a strategy to encourage that person to pass a marketing message to others, the potential for exponential growth in the message and impact. Like viruses, such strategies take advantage of rapid multiplication to explode the message to thousand of millions. The internet, viral marketing has called networking marketing. As word of mouth create a buzz media use. But on the Internet, for better or for worse, it is called viral marketing.

3.1.5 A history of Social Networking Sites

Social networking started with Generation X (a term used to refer to the generation born after the baby boom ended, extending from the early-to-mid 1960s to late 1970s), and dozens of social networking sites are geared primarily toward that demographic. Friendster (www.friendster.com), the first site that really made a name for it, opened to the public in 2002 and attracted 1 million users in less than a year. The site was initially geared toward 25- to 35-year-old urbanites, but as their social networks grew, friends around the globe began to join and network. (Farkas 2007, 112).

Anyone can join Friendster; they just need to create an account, create a profile, and add photos. Members can add their friends to their network, but a friend can only be added if that friend adds you as well. This is a measure designed to prevent people from adding hundreds of “friends” to their profile whom they do not really know. Once you have a group of friends, Friendster will show you your “second-degree” friends, or people who are listed as friends of your friends. The assumption is that you are more likely to have something in common with your friends’ friends than with a random person you might meet at a traditional dating site or networking event. (Farkas 2007, 112).

Friendster lets users post testimonials-things your friends write about you that are in many cases more telling than a profile. Friendster also lets users create individual blogs, share photos and videos, post to discussion boards, and chat with other Friendster. Finally, the site lets people create and join groups where they can meet members outside of their social circle with similar interests. This group membership information is geared to creating a richer profile, which is central to the site. (Farkas 2007, 112).

In 2003, social networking was all the rage among those in their 20s and 30s. By 2005, however, the frenzy over social networking among members of Generation X had calmed down significantly. Not only did usage of Friendster decline, but a number of social

networking sites shut down because of the lack of a loyal user base. Surprisingly, the trend is quite the opposite among members of Generation Y (The Millennial Generation, young people born in 1980-2000). Social networking sites designed specifically for that demographic have flourished.

Young people see sites like MySpace (www.myspace.com) and Facebook (www.facebook.com) as spaces designed for them, where they can express themselves freely and connect with friends online. (Farkas 2007, 113) MySpace began in mid-2003 after Friendster had already developed a significant membership base. MySpace quickly rolled out many features that distinguished it from Friendster and made it very attractive to teenagers and young adults. One of its most significant features is the ability to customize profiles. MySpace members can use HTML and CSS to personalize the look of their profiles and can add video and audio clips for visitors. (Farkas 2007, 113).

Hundreds of outside sites help MySpace users customize their profiles. As in Friendster, a member's friends are displayed in his or her profile. Instead of member testimonials, a comments section attached to each profile works much the same as a bulletin board where users post messages to each other. Blogs are also an integral part of MySpace. Each member has a personal blog with posts displayed on their profile. Because of these features, MySpace attracts those interested in self-expression as well as networking. By mid-2006, about 61 million people were registered MySpace users, and in July 2006, it became the No.1 Internet site in terms of traffic. (Farkas 2007, 113).

3.1.6 Research on Similar System

The purpose of the session is about allow the developer benchmarking or to study the functionality the proposed system with the other existing system in order to enhance the proposed system. As there are many similar systems are available but developer is mainly analyse three systems that are given below:

Product Name	Orkut	
Description	The service is designed to help users meet new and old friends and maintain existing relationships. Orkut is basically owned by Google. It is one of the most visited websites in India and Brazil, but its popularity in united state is less than competitors Facebook and MySpace.	
Functionality	<ul style="list-style-type: none"> ▪ Scraping ▪ Searching of friends ▪ Share interests ▪ Anyone can visit anyone's profile ▪ User can restrict information to view ▪ Chatting ▪ Can see list of visited person 	
Limitations(if any)	<ul style="list-style-type: none"> ▪ Does not allow to create groups ▪ Not providing facility of file sharing ▪ Not giving friend suggestion 	
User Reviews	<ul style="list-style-type: none"> ▪ An overall very good rating by user's functionality wise. ▪ Search features are less. ▪ Having less networking features. 	

Table 3.1: Analyzing Existing Systems- Orkut

Supporting data:



[Orkut](#)

orkut

Reviewer Comments	Read Review
Overall Rating	
Ratings	
Profiles	
Security	
Networking Features	
Search	
Help/Support	
Legitimate Friend Focus	

(TopTen Reviews, 2011)

Demographics	
Minimum Age to Join	18
Percentage of users Under 18	4
International Community	✓
Multilingual	✓
Advertisement Free	✓
Profiles	
Profile Editor (WYSIWYG)	
Custom Skins	
Customize Code (HTML or CSS)	
Personalized URL	
Photos	✓
Max. Photo Size	10MB
Post Comments	✓
Friends	✓
Blog/Journal	
Applications	✓
Security	
Privacy Settings	✓
Block Users	✓
Report Spam	✓
Report Abuse	✓
Safety Tips	✓
Networking Features	
ChatRooms	
Instant Messaging	
Tags	
Bulletins	
Groups	✓
Groups (Number of Categories)	28
Create a Group	✓
Forums	
Mail	✓
Grab/Copy/Share Photos	
Mobile	
Music	
Music Videos	
Commercial Videos	
Personal Videos	✓
Games	
Classifieds	
Events	
Books	
Search	

	Product Name	Facebook	
	Description	According to 2011 research Facebook is top visited and most using website in current days. Users can create profiles with photos, lists of personal interests, contact information, and other personal information. Users can communicate with friends and other users through private or public messages and a chat feature. They can also create and join interest groups	
	Functionality	<ul style="list-style-type: none"> ▪ Sending friend request ▪ Private message ▪ Like feature ▪ New feeds and notification ▪ Sharing of photos ▪ Status update 	
	Limitations(if any)	<ul style="list-style-type: none"> ▪ Does not allow to change skin of the website ▪ Doesn't allow sharing files. 	
	User Reviews	<ul style="list-style-type: none"> ▪ Number one rating website ▪ One of the most using and liking website 	

Table 3.2: Analyzing Existing Systems- FriendBook

Supporting data

	Excellent
	Very Good
	Good
	Fair
	Poor

[Facebook](#)

facebook

Reviewer Comments

[Read Review](#)

Overall Rating



Ratings

Profiles	
Security	
Networking Features	
Search	
Help/Support	
Legitimate Friend Focus	

(TopTen Reviews, 2011)

Demographics

[Minimum Age to Join](#) 13

[Percentage of users Under 18](#) 36

[International Community](#) ✓

[Multilingual](#) ✓

[Advertisement Free](#)

Profiles

[Profile Editor \(WYSIWYG\)](#) ✓

[Custom Skins](#)

[Customize Code \(HTML or CSS\)](#)

[Personalized URL](#)

[Photos](#) ✓

[Max. Photo Size](#) 4MB

[Post Comments](#) ✓

[Friends](#) ✓

[Blog/Journal](#)

[Applications](#) ✓

Security

[Privacy Settings](#) ✓

[Block Users](#) ✓

[Report Spam](#) ✓

[Report Abuse](#) ✓

[Safety Tips](#) ✓

Networking Features

[ChatRooms](#)

[Instant Messaging](#) ✓

[Tags](#) ✓

[Bulletins](#) ✓

[Groups](#) ✓

[Groups \(Number of Categories\)](#) 23

[Create a Group](#) ✓

[Forums](#) ✓

[Mail](#) ✓

[Grab/Copy/Share Photos](#) ✓

[Mobile](#) ✓

[Music](#) ✓

[Music Videos](#) ✓

[Commercial Videos](#)

[Personal Videos](#) ✓

[Games](#)

[Classifieds](#) ✓

[Events](#) ✓

[Books](#) ✓

	Product Name	<ul style="list-style-type: none"> ▪ Habbo 	
	Description	<ul style="list-style-type: none"> ▪ Developed to aimed teen. Many activities and features are available on Habbo's website. As of August 2011 over 230 million avatars have been registered 	
	Functionality	<ul style="list-style-type: none"> ▪ Regularly updated news and events ▪ Popular group pages ▪ Interest tags 	
	Limitations(if any)	<ul style="list-style-type: none"> ▪ Does not allow to block users ▪ Not having mailing facility ▪ Does not containing searching facility ▪ 	
	User Reviews	<ul style="list-style-type: none"> ▪ An overall good rating by user's functionality wise. ▪ Should contain searching facility 	

Table 3.3: Analyzing Existing Systems- Habbo

Supporting data

	Excellent
	Very Good
	Good
	Fair
	Poor



Reviewer Comments

Overall Rating

Ratings	
Profiles	
Security	
Networking Features	
Search	
Help/Support	
Legitimate Friend Focus	

Read Review

(TopTen Reviews, 2011)

Profiles	
Profile Editor (WYSIWYG)	<input checked="" type="checkbox"/>
Custom Skins	<input type="checkbox"/>
Customize Code (HTML or CSS)	<input type="checkbox"/>
Personalized URL	<input type="checkbox"/>
Photos	
Max. Photo Size	<input type="checkbox"/>
Post Comments	<input type="checkbox"/>
Friends	<input type="checkbox"/>
Blog/Journal	<input type="checkbox"/>
Applications	<input type="checkbox"/>
Security	
Privacy Settings	<input checked="" type="checkbox"/>
Block Users	<input type="checkbox"/>
Report Spam	<input type="checkbox"/>
Report Abuse	<input checked="" type="checkbox"/>
Safety Tips	<input checked="" type="checkbox"/>
Networking Features	
ChatRooms	<input checked="" type="checkbox"/>
Instant Messaging	<input checked="" type="checkbox"/>
Tags	<input type="checkbox"/>
Bulletins	<input type="checkbox"/>
Groups	<input checked="" type="checkbox"/>
Groups (Number of Categories)	<input type="checkbox"/>
Create a Group	<input checked="" type="checkbox"/>
Forums	<input type="checkbox"/>
Mail	<input type="checkbox"/>
Grab/Copy/Share Photos	<input type="checkbox"/>
Mobile	<input type="checkbox"/>
Music	<input type="checkbox"/>
Music Videos	<input type="checkbox"/>
Commercial Videos	<input type="checkbox"/>
Personal Videos	<input type="checkbox"/>
Games	<input checked="" type="checkbox"/>
Classifieds	<input type="checkbox"/>
Events	<input type="checkbox"/>
Books	<input type="checkbox"/>
Search	
By Name	<input type="checkbox"/>
By Email Address	<input type="checkbox"/>
By School	<input type="checkbox"/>
By City/ Zip Code	<input type="checkbox"/>
By Interests	<input type="checkbox"/>
By Keyword	<input type="checkbox"/>

Sammi Kumar[PT0882205]

Asia Pacific Institute of Information Technology
Staffordshire University

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3.4 Conclusion

After reviewing and research on existing systems, the developer observed that there were existing systems in the market which is some manner or other social networking websites. Developer shows that the most websites are having good features but also having some of disadvantages and also not containing the things that user needs. Developer saw that most of the system does not provide the facility of private messaging although users are required to have this feature in social networking site. Few of the websites are providing the facility of private messaging but again they are not proving the messaging service on the basis of group i.e. if user wants to send the message to a particular group so the member of that group can only get that message.

As analysis of the developer few of the social networking websites are providing the feature of setting the background colour and few are although not having such facility in itself. According the viewpoint of research user found that many of the social networking users wants the facility of setting their profile background by his own choice but such thing is not provided by a large amount of social networking website provider. A complete solution that the developer finds with this is to provide the facility to the user such as they can set their profile background according to their choice.

As document sharing is one of the major tasks of today's world. A few of the website are providing this facility but still they are not having other facilities like searching friends and other. So the developer mapped all these things with his creative idea and decided to develop such system which is having good facilities of all the websites as combined so the user can utilize the system in the better way.

4. Research Methods

4.1 Introduction

This chapter contains a detailed description of primary and secondary research conducted by the developer to needs analysis carried out in the proposed system.

The chapter has been mainly divided into two sections. The first section deals with primary research. It discusses primary research approach adopted by the developer. The necessary documents either in the form of questionnaires or interviews prepared and approved by the supervisor are also included with proper justifications. The second portion of the chapter covers secondary research conducted by the developer. It is divided into three sub-sections covering Domain, Academic and Technical research.

4.2 Primary Research

Primary research was conducted by the developer during the initial phase of the system. The developer's main aim in conducting primary research was to gather enough material which will subsequently help in further analysis and design of the proposed system. A major motive was also to determine the feasibility of the system based on the conclusions of the primary research.

Research is rather about answering unanswered questions or creating that which does not currently exist than just a process of gathering information (Goddard & Melville 2004, 1). As the line identically shows that, research procedures can also be employed to formulate intricate theories or laws that govern our lives. Therefore this part aims to clarify the research methodology that is employed in this idea.

Deferent perspectives with regards to research are discussed in the next few paragraphs including research type, research design and method of data collection.

Above all, the thesis is identified as a theoretical creative research. Theoretical creative research involves the development or creation of new models, theorems, procedures, etc. While Developer (2011, 9) categorizes it into pure research which containing such as, developing a sampling technique that can be applied to a particular situation and developing a methodology to assess the validity of a procedure.

Next, the research design plans the procedure that is adopted by the writer to answer questions validly, objectively, accurately and economically (Kumar 2011, 84). On this basis, the thesis is therefore written with theoretical study and observed study. Based on the theoretical study, a theory or a hypothesis is developed first, and then a research strategy is designed to test the hypothesis.

Moreover, a method for collecting data is used to find answers to the research question. The two basic approaches to inquiry data are quantitative and qualitative methods. According to developer (2012, 12), quantitative research is a method to quantify the variation in a phenomenon, situation, problem or issue. While Mohit (2011, 5) argues that qualitative research is best used to explore a concept or phenomenon when the variables and theory base are unknown.

Based on the proposed methodology, the action to develop an application on social networking site friendbook is conducted in each life cycle stage. In Chapter five, a thorough measurement of the methodology is given according to the actions' performance.

Summarize of research process:

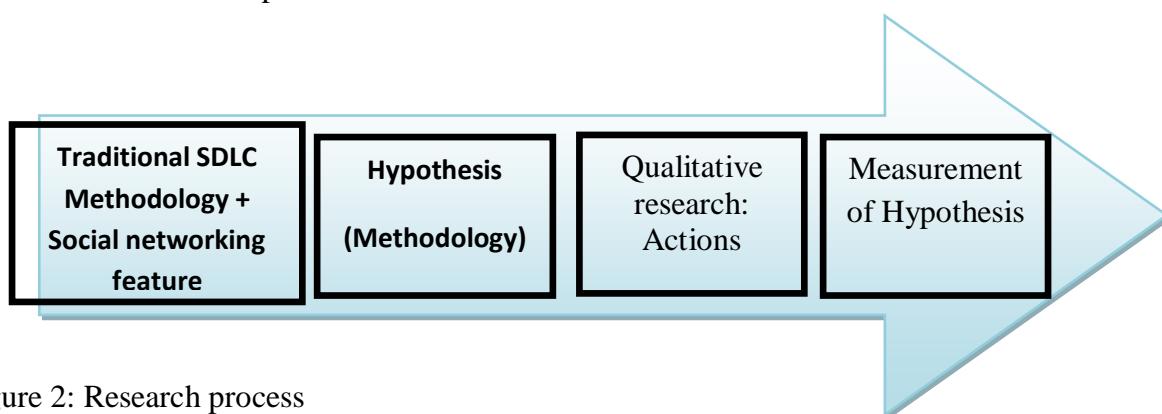


Figure 2: Research process

The following techniques of data gathering were adopted by the developer in the fact finding process:

- Questionnaires
- Interviews

4.2.1 Questionnaires

Objective of the Survey

The developer called for the survey in order to establish facts related to users and their use social networking website “FriendBook”. The main intention of the developer is know whether current users are satisfied with existing social networking or not? If no then what are the shortcomings with existing sites and what changes could be brought in. The developer also seeks to know from users what functionalities would they want from such a system as FriendBook.

Sampling Group

The developer has decided to restrict the sampling group to Students, professional/businessman. As the developer intends to develop the system for social use involved the students the students of APIIT is also involved.

Writing the Questionnaire

Developer designed the questions to ensure good structure and logic. Developer has been trying to avoid ambiguity and problems in the offensive questions.

The questions designed for the questionnaires have been included below along with justification for asking the question. The filled in questionnaires have been attached in the appendix section and the analysis for the questions have been provided in the next chapter.

These are the questionnaire questions:

Personal Information	
Name:	
Age:	
Sex:	
Profession	

- 1) Which of the following (if any) social networking sites are you a member of? You may select more than one option.

- Bebo Facebook Flixster
 Hi5 LinkedIn MySpace
 Orkut Other - please specify (1 only)

Justification: This question will help the developer to identify the features that the user is familiar with so that features developer can include in his system.

- 2) Please indicate who you speak to most using social networking site?

	Never	Rarely	Fairly often	Nearly Always
Clients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team Members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Strangers / people you do not already know

Justification: This question will help to developer so that he can identify the clients that whether what kind of people user wants to talk (connect) with so accordingly the features will provided by him.

3) Do you want to customize theme as per your choice?

- Yes
- No

Justification: Some of the user feels comfort with light background and some of the user wants background dark so according to visibility requirements will change so this question will help the user to understand the user of his system.

4) In which user ID you want to login to the account that you feel more secure and unique?

- Through name
- Through Email ID
- Through mobile number

Justification: This question will help the developer to identify the different ways that user wants to login to the system and feel most secure while using the system.

5) Are you used to email while using social networking website?

- Never
- Rarely
- Nearly Always

Justification: This question is asked for the getting the basic requirements of the user so that developer will able to understand that weather the user are often doing the emailing.

6) Do you think font increment facility will give benefit to you?

- Yes
- No

Justification: According to the visibility requirement of the user can change the font size so this question will help to the developer that weather such feature will require by the different user or not?

7) Do you use file sharing option for sharing the documents with your friends/ Clients.

- Never
- Rarely
- Nearly Always

Justification: As some of the users have to share the files and documents so they may prefer to use the system that will provide to facility to share the file in SN website. So that will help the developer to develop the system according to user.

8) What are the different privacy issue you are concerning about?

	Not at all	A little	Somewhat	Highly
Person that can able to view the profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Change in account details	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unwanted person activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Religious / political beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Justification: As per the different user they are using the personal data over the SN website. So by this the private information of the user can view by the different person and also the person with whom the user don't wants to share his information so this question will give the brief idea to the developer that while developing the system what are the security issue he have to concern.

9) Would you prefer to set your status/availability accordingly for the friends so they can understand that you are busy with some other work?

- Yes
- No

Justification: If in some case you are busy in some other task and also don't wants that some other person will interrupt you, so user can set their status accordingly.

10) Would you like to give message on the basis of group?

- Yes
- No

Justification: As the situation comes user wants to send the message to a particular group so no other person rather than that group can view that message. That will help the user to broadcast the message on the basis of group.

4.2.1 Interview

Developers want to use interview techniques, in addition to the implementation of the investigation. The information thus collected will help developers to follow up, enlarge and clarify the information has been collected. The developer has decided to organize the variety of interviews with students and professionals. Developer is aware, it is important to get the views of end users, while developing the system. As students are end users for friendBook, they must be involved to get all the views and ideas.

So these are the interview questions:

Personal Information	
Name:	
Age:	
Sex:	
Profession	

- How you want to improve visibility of the system, so you can easily read the sentence?*

Ans:

Justification: According to the visibility requirement, user can change the font size so this question will help to the developer that how such feature will beneficial for the different user.

-
-
- How you think the privacy is important to you, if you are using the social networking site?*

Ans:

Justification: This question will make the developer clear that how much users are concern about the security and privacy of the data so no other can view the details about him.

-
-
- If developer will include the facility of file sharing in a social networking site would you think it is beneficial for you and organization? If so yes then how?*

Ans:

Justification: As some of the users have to share the files and documents so they may prefer to use the system that will provide to facility to share the file in SN website. So this question will help the developer gain the view of the users regarding this feature.

4. What is your view if developer will give the chance to wish you friends in their best moment with greeting card without investing money?

Ans:

Justification: This question is asked to know about the views of different users that how much of them are interested and their views regarding creating greeting cards over SN Site.

5. Which privacy control you want to use in the SN website?

Ans:

Justification: This question is asked to know different stuff in which users not feel secure while using the SN Site.

6. Please feel free to add any comment or observations that you might like to share with us concerning enterprise social networking.

Ans:

4.3. Secondary Research

Preliminary studies have important information about the proposed system, but only are not enough. This is the second-inch development of research procedures intended to use two of the following sources:

- Books
- Internet search
- Journals
- Other resources

4.3.1 Technical Research

4.3.1.1 Programming Language

The purpose of this section is to discuss the possible development of programming languages can be used FriendBook. The proposed system consists of clients, therefore, different development environments and platforms need to be used. As the proposed system is a social networking site, so few languages to choose from and these are PHP, C# and VB. To choose the best suitable development language for the proposed system, developer carried out a lot of research on different languages and finally concludes that C#.net is better option for development of the project as per the features of proposed system.

Justification of choose C#.net programming Language:

- As system is too vast for develop so it require the fast development for the same so for that .net is better option which provides us the interface and tool for the development.
- As system is having the facility of creating greeting card which is totally based upon the interface design element which can be done easily using .net platform by using the div tags and its further elements.

Now the points arise that which programming language developer should use by using the .net framework because it provide us the privilege to use most of the languages like VB, C#, VC++, C++ etc. So after brain storming developer has decided to choose C# language because of the following reasons:

- Most of the things we can do by using different languages but the difference will come in the point of view of development code. As C# requires the less number of code as per the others languages, so that is very much important of small code for the system like social networking site because of its efficiency.
- A component-based design established through features such as XML comments, attributes, properties, events and delegates. As developer has used this feature of wall.
- Pragmatic language constructs, such as the foreach and using statements, which improve developer productivity that has used throughout the system by which developer simply using the predefined classes according to own purpose.
- Explicit interface implementation - an interface implemented in a base class can be re-implemented in a derived class. Of course, this makes the class more obscure in the same way that member hiding does.
- As we compare it with VB .net, In VB.NET we have to catch the exception to inspect exception details. This poses a problem as catching the exception also means the scope is changed from where the exception actually occurred to now be where the exception is caught, leaving local variables and general object state information unavailable. I haven't seen this problem discussed at all and when I brought it up in the VB.NET group it was brushed off as a non-issue. To me this is enough of a reason to use C#.
- For fast accessing of the system C# is having the feature of object orientation programming languages i.e. of encapsulation, inheritance and polymorphism. These components are converted into XML web services so that they can be called up across from any language over the Internet so it will become easy to load and run the so heavy system easily over internet as friendbook is having.
- Garbage collection is a feature that is initialized automatically by the environment type safe variables. It helps to eliminate costly software programming errors. C# makes it simple for the developer to write and maintain programs that give solutions for complex business problems.

Critical Analysis of technical research

Almost all the languages are good in its way. C# have a powerful frontend tool for fast development by the help if IDE. So depends on situation and environment that in which situation what language should use. So developer has chosen .net with c# scripting language because of his prior knowledge and as well as according to scenario it requires speedy development because it's too large project and have to complete in specific timeline. And according to the large system the code behind allows easier to maintain the code also it provides freedom of whole .NET class library and lots of third party components out there for .NET rather than others. And by the help of c# developer can use the OOPS concept also where it provides a good framework for code libraries where supplied software components can be easily adapted and modified by the developer. (DevtheWeb.Net, 25 AUG 2009)

Namespace (packages) that has been required

Model Imports System.Data

 Imports System.Data.SqlClient

View Import.System.Date

 Import.System.GridView

Controller Import.Util

 System.Linq

 System.Web.UI.WebControls;

4.3.1.2 Database

During the research part developer has analyzed that the proposed system is data intensive system. It requires a huge amount of data to be stored in it and for this it requires a strong database. There are various options are there in front of developer with the critical comparison of different databases developer analyze that SQL Server is best suited for the development of “friendbook”.

4.3.1.2.1. SQL Server 2008 R2 Express: Microsoft SQL Server is a relational database server, developed by Microsoft. It is a software product whose primary function is to store and retrieve data as requested by other software applications. Microsoft SQL Server aimed at different audiences and for different workloads.

There are certain points which keep in consider while choosing the database are

DBMS Type:	Transactional Relational database server
Cost:	\$7,499/processor license OR \$1,849/server with 5 CALs
Hardware/Software Requirements	CPU Pentium III-compatible processor or faster, Minimum 512 MB RAM, 3GB HD Space, Windows XP Professional SP2 or upgraded with .net Framework 2008 with having service pack 2 or upgraded.
Advantages:	More reliable than one might expect from Microsoft, supports enterprise-class reliability and security features, compatible with many third-party application servers, can run multiple databases on one server.
Disadvantage:	Expensive, requires a Windows 2000 Server, can be difficult to administer.
Limitation	The sum of the number of all objects in a database cannot exceed 2,147,483,647
ACID Compliance	Yes
Reliability	Supports failover clusters, point-in-time recovery and other enterprise-class reliability features, can automatically restart itself if stopped.
Security	User authentication with option to integrate database security with Windows 2000 security, transaction logging.

Source:	http://www.microsoft.com/sqlserver/en/us/get-sql-server.aspx
---------	---

Table 4.1: Database Choosing Criteria

Developer found that SQL Server is having such features that are beneficial for development of friendbook that features are:

- High capacity of storage of files and data stored by the users.
- Security of personal data of each user of friendbook.
- Easy installation and usages of database.
- Supported features of .net environment with SQL Server so no problem will faced during connectivity of frontend with database.
- Easy to develop the schema with visual studio.

Therefore as a complete analysis SQL Server is chosen for backend of “**friendBook**”.

4.3.1.3 Methodology

For completion for software project development methodology is necessary for it. The provision of development plan works as guideline providing a set of guidelines that help us confine milestones and achieve deadlines. To start in on with software methodology has to be selected. A methodical approach to software development results in fewer defects and, therefore, ultimately provides shorter delivery times and better value. For software development methodologies the sole purpose is to manage the system although with improvement of the management and development process, structuring and simplifying the process, as well as standardizing the development process and product by specifying activities to be done and techniques to be used.

4.3.1.3.1. Specification and Reason for Software Methodology

The success of proposed system is based primarily in whether the methodology chosen for software development is appropriate or not enough? Improper selection can break the best idea. On the other hand the correct methodology can drive to success, providing a framework within which the process of development increases and good management will be

done. Given how much is at risk, the developer should be analyzed carefully to decide on an appropriate methodology. Creator of the contest, choose the method that meets the specific framework of time, resources, goals, and quality needs and expectations of its target user (students and professionals), and the organization based on information gathered in the primary research. By selecting a wrong methodology developer can face the problems such as delay in the completion of the project, errors in the software created and even total failure of the project. Therefore, it took much research to be done before the method ends.

During research on the methodology developer found that there are many advantages of each methodology but in same on other hand they also contain the drawback. In order to come in a certain result of selecting methodology developer has done a comparison analysis for that. After the analysis was made the developer came up with the following conclusion that waterfall model is best suited according to our purpose and requirements. Some description of waterfall model is given below:

Waterfall model:

This is the classic software lifecycle model where software evolution proceeds through an orderly sequence of transmission of one phase to the next order. Here all the evaluation is accomplish during the phase itself. And evaluation represents quality and decision points for enduring.

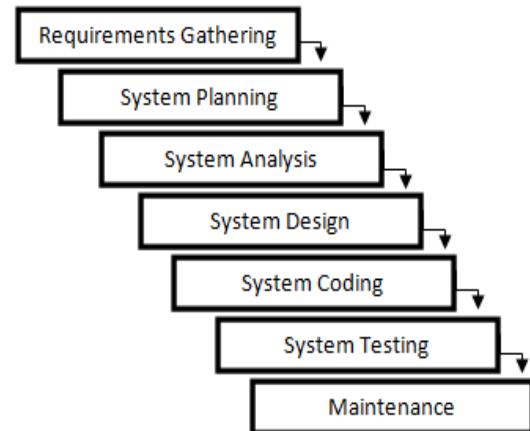


Fig 4.1: Waterfall methodology

4.3.1.3.2. Justification for waterfall model

After several discussion and brainstorming about the project developer has been fixed for using the waterfall model for the development of this system. The main reason for selecting the waterfall model is the freezing of requirements. While submission of the Project Specification form the developer has fixed the requirements of the system and same case happen in waterfall model which is very well suited to the developer. By this developer has to perform one action at a single time and after completion with the single task it does require testing of each stage. Phase wise distribution in case of a waterfall model coincides with the distribution of our FYP module. In this the initial stage of research and design only needs to

be done, as is the case with our FYP. The implementation will start only after the designing phase will complete which developer have to do in next semester. And at last project will submitted to after completion of all the phases.

Similar as waterfall model we also essential to do documentation at every stage that's also a significant reason for selecting waterfall model. Waterfall model is a solid model of a well-organized process, will provide a more secure and reliable software.

Our FYP doesn't involve much risk during its phase and same thing is to concern with the waterfall model that the project should not involve much risk in its self.

We prefer to choose other model when requirements are not clear with it and side by side risk is also involved on that. As all the parameter is already defined so there is no brain to go with other software development methodology.

4.3.2 Academic Research

For successfully completion of this project a broad research is also important. The Academic research includes book, journals and other sources. Following are the list of books, journal and website that help me to understand and to get broad idea about the project.

Working of Social networking Website

Websites:

- Bryan, S, *Understanding Social Networking Websites*, Reviewed on 1st October 2011 from http://www.scribendi.com/advice/understanding_social_networking_websites.en.html.
- Butler, J, *Understanding Social Networking*, Reviewed on 11th October 2011 from <http://www.computorcompanion.com/LPMArticle.asp?ID=301>.Roos, D, *How Networking Works*, reviewed on October 11th 2011, from <http://communication.howstuffworks.com/how-social-networks-work.htm>
- Parrott, S, *Social Networking*, Reviewed on 14th October 2011 from <http://www.socialnetworkingarticles.com/>

- Steven, J, 2010, *How Social Networking Works*, Reviewed on 10th September 2011 from <http://www.itworld.com/software/91803/how-social-networking-works>.
- Wavecrest, c, *Social Networking* , Reviewed on October 21st 2011, from http://www.wavecrest.net/editorial/include/SocialNetworking_SocialNotworking.pdf

PDF:

- Dwyer, C & Roxanne, S & Widmeyer, G, 2008, *Understanding Development and Usages of Social Networking Sites*, Pace University, New Jersey Institute of Technology.

Journals:

Jiming Liu, *The Journal of Social Networking Mining*, Inderscience Publishers,
C#/ASP.net programming language

Books:

- Balaguruswami, E, 2008, *Object Oriented Programming with c#, 4th edition*, Tata McGraw Hill, New Delhi (India).
- Kanetkar, Y, 2003, *C#.net Fundas*, BPB Publicaiton, New Delhi.
- MacDonald, M, 2000, *Beginning ASP.NET 3.5 in C# 2008 from novice to professional 2nd edition*, Springer India Private Limited.
- Martine, J & Tomson, B, 2002, *ASP.Net in 24 Hour*, BPB Publication, New Delhi.
- Nagel, C & Evjen, B & Glynn, J, 2007, *Professional C# 2005*, Wiley Publication (India).
- Mukhi, V & Mukhi S & Kotccha, N, 2001, *C# The Basics*, BPB Publication, New Delhi.
- Panikkar, S & Kumar S, *Magic of C# with .Net Framework*, Firewall India, Delhi.

- Schildt, H, 2002, *C# The Complete Reference*, McGraw-Hill, New Delhi (India).

PHP programming language

- Darie, C, 2008, *AJAX and PHP, Building Responsive Web Application*, DACKT, Mumbai.
- Jason, W, *Begging PHP and MY SQL from novice to Professional 3rd edition*, Springer India.
- Mercer, W, 2008, *Begging PHP 5*, Wiley India

Software Methodology and Software Engineering

- Aggrawal, K & Singh, Y, 2009, *Software Engineering 3rd edition*, New Age International Publisher, Delhi.
- Humphrey, W, *A Discipline for software Engineering*, Wesley Longman Publishing Co.
- Kothari, C, 2010, *Research Methodology &techniques (Second ravished edition)*, New Age International Publisher, Delhi.
- S Pressman, R, 2010, *Software Engineering –A Practitioners approach 7th edition*, MC Graw Hill, New Delhi (India).
- Schwalbe, K, 2006, *Information Technology Project Management 4th edition*, Course Technology, New Delhi.

Websites:

1. Barnes, S.B. (2006). A privacy paradox: Social networking in the United States. First Monday, 11(9). Retrieved from <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1394/1312>
2. Eysenbach, G. (2008). Medicine 2.0: Social networking, collaboration, participation, apomediation, and openness. Journal of Medical Internet Research, 10(3), e22. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2626430/>.
3. Kanetkar, Y. (2006). A catalog in C Sharp. First Monday, 11(9). Retrieved from <http://www.java2s.com/Tutorial/CSharp/CatalogCSharp.htm>

4. Jason, T. (2002). A C sharp Tutorial. First Monday, 11(9). Retrieved from <http://www.homeandlearn.co.uk/csharp/csharp.html#>

PDF e-book:

- <http://www.sdprocess.com/pdf/S1-Kruchten2004Toronto.pdf>
- <http://www.relativitycorp.com/projectmanagement/article1.html>
- <http://www.sdprocess.com/pdf/S1-Kruchten2004Toronto.pdf>
- <http://www.relativitycorp.com/projectmanagement/article1.html>

Whitepaper and journals:

- A Guide to the Project Management Body of Knowledge (PMBOK ® Guide) By Project Management Institute.
- Social networking in Business word: A Strategic Approach By BLOXX tru

5. Analysis and Design

5.1. Analysis

5.1.1. Introduction

Analysis phase basically defines the results of research and development results conclude the definition of requirements specification and drugs aspect of the project. In the first part of this chapter contains a discussion and analysis of the results of basic research. As the developer implemented primary research through questionnaires and interview, analysis and conclusions provide answers.

Primary study ultimately gives importance to on user requirements of the proposed system. We got the summery and conclusion of secondary research at the final part of the analysis. The conclusion from both primary and secondary research analysis helped shape the developer a complete model of the system at the design phase. Designed model will converts the analyzed part to the proposed system.

Critical evaluation of questionnaires

- It categorizes the familiarity of user with the social networking sites.
- It was very much helpful for developer to define the scope and limitation of the application such as kind of people with which user used to communicate.
- It evaluated the information regarding users choice such as customization facility.
- It flashes out the user's habit and security issue such as login into the system.
- This leads developer to implicit about the user's choice and their requirement such as whether they are frequently uses the email during accessing internet and many others.
- This evaluated that the developed system which meets users requirements and their needs such as some of the users have to share the files and document so they may prefer system that will provide facility to share the files
- It also helped user to understand about the security fear of the user. It yield that many of the people are concern about the security while accessing the software because of

the personal data shared globally.

- It is evaluated very clearly that people doesn't wants to become disturbed while he/she is doing some important task parallel using the Social Networking Site.
- **Evidence through observation:** These questionnaires are the avoidance for the user's requirements and their need that are required by the users.
- **Context:** These questionnaires are mainly prepared to in context of developing system which is easily adoptable and usable by the users. This is also a relevant criterion for making the judgment well according to user's choice.

Applicable theoretical constructs for understanding the problem and the question at hand

Table 5.1: Critical evaluation of questionnaires

Critical evaluation of interview questions

- As the questions are asked from different users it is evaluated very much clearly that users wants the customization features because of their personal requirements.
- It is evidently appraised by the user that they are very much sensitive about their personal information so the system must able to concern about security while developing the system.
- It is clearly evaluated by the interviewee answers that most of them are require sharing some files.
- The evaluated that users are getting benefitted if system will provide the facility of creating greeting cards.
- It is noticed that users are more concern about the private message to their friends.
- Uploading picture is the most demand feature that user wants to be inside it.
- Demand of comment wall is most common among the user by which they will able to comment on updated status.

Table 5.2: Critical evaluation of interview questions

Traceability matrix

	Fm	Scope	Cst	Login	Email	FS	Privacy	Status	Font Size	Msg	GC
Q1	✓										
Q2		✓									
Q3			✓								
Q4				✓							
Q5					✓						
Q6								✓			
Q7						✓					
Q8							✓				
Q9								✓			
Q10										✓	
IQ1									✓		
IQ2							✓				
IQ3						✓					
IQ4											✓
IQ5							✓				

Table 5.3: Traceability matrix

Details:

1. Q → Questionnaire
2. IQ → Interview Question
3. Fm → Familiarity
4. CST → Customization
5. FS → File Sharing
6. MSG → Message
7. GC → Greeting Card

Wrap-Up of Research

Critical Analysis of Literature Review

To understand the operation of proposed system developer has researched on the similar system so it is useful to interpret. After all research on the similar systems the developer is conclude that the system is useful to develop and required by the society. Most of the requirements are finalized to implement. Domain area and technical areas were explored where the developer learnt about C# technology.

Methodology Analysis

The proposed system has many key constraints that a methodology must support in order to meet its objectives. In support to meet with the objective of the proposed system, the methodology is having number of importance, as it helps in providing a structural and systematic way to development of project.

The developer has analyzed all the five development methodology and came to the conclusion that Waterfall model provides more flexibility in developing the system than the rest of methodologies. As a conclude waterfall model has chosen for development of the system because it provides certain advantages and principles which are more suitable according to the scenario and environment of the system also it may be beneficial in the long run of the development process.

After analyzing the proposed system according to the software development method, selected or not selected is a specific method, there were many restrictions to do so. After a brainstorming by the developer, he comes on conclusion that waterfall methodology is appropriate being used for the proposed system because it demands for the early requirements of the system and accordingly our FYP is also divided in such a way that first research and analysis will be done, then designing, implementation, testing and at last project will be delivered. Waterfall model is a linear sequential model that follows a systematic, sequential approach to software development that begins at the system level and progresses through analysis, design, coding, testing and support (Pressman, S, 2001, p. 28-30).

Justification for the Chosen Programming Language

After research concluded in programming language, developer concluded that C#.Net will be the best language for the development of the “friendBook”. After research it was found that .NET standardizes the exception handling across languages and C# is using the facility of object oriented concept. Besides this .NET class library and lots of third party components out there for .NET as well as system is too big, Microsoft framework has provides the facility to fast development by dragging of tools so it will beneficial to complete the achieving target on time. And as the complete .Net is providing the facility of code behind approach in which the interface (HTML) and the programming logic is kept separately so it will beneficial to use it. And finally as the developer prior knowledge about technology it is also beneficial to choose this language so this will not require much time to understand and learn the technology.

5.2. Design

5.2.1 Introduction

If we go through practically the design phase contains more complexity and creativity within itself. It basically deals with the logical development of the new system. Designing of the system is very critical part of the software development life cycle which contain the wide scope within itself where the designer have to plan each and every step of the development phase which will followed and maintained to complete the project within given time period to achieve functional, reliable and error free system. Design phase is followed and initiate with creation of model using **modeling diagrams**. Once the design becomes ready then developer gain the sufficient information about the modeling of the system. By accordant of supervisory instruction and developer's experience the modeling is done using use case, explaining scenario and eventually providing any necessary sub-use case, sequence and activity diagrams for the appearance of the system.

And as we talk in the term of database class diagram, context diagram, data flow diagram and entity relationship diagram is to be considered for the success of the system.

5.2.2 Modelling Diagram Used

It becomes very easy for developer to demonstrate about the users need by using the diagrams about user's activities and how the system plays its role to helping them to achieve their goals. Modeling SocioNet-FriendBook will comprise of a set of UML diagrams, each one of which will focus on a different aspect of users need. Use cases, Activity Diagrams, sequence diagram and class diagram are the diagram which is also known as UML diagram is used to model the system.

Justification of using these diagrams:

Use Cases: Use case diagrams will use as a behavior diagram which is used to describe a set of actions that Socionet-FriendBook will perform in collaboration with one or more external users of the system. <http://www.uml-diagrams.org/use-case-diagrams.html>

Activity Diagram: An UML activity diagram is basically used to document the logic of a single operation, a single use case, and the flow of logic of a SocioNet-FriendBook process.

Sequence Diagram: As developer wants to look at the behavior of several objects within a single use case so sequence diagram is best way to do so to achieve this need. It is also help developer to showing collaborations among the objects.

Class Diagram: The developer constructed class diagram is to depict the classes within the model. In an object applied classes have attributes operations and relationship with other classes. The UML class diagram can depict all these things quite easily.

The main aim of modeling:

- Is to reduce non-compliance with the requirements of gaps.
- Is to reduce operational requirements necessary to respond to changes.
- Is to clear relationship between requirements and testing the model used as a basis for system testing.
- It helps in planning the order in which properties will be developed.

5.2.2.1 Use Cases

With the help of use case diagrams developer wishes to discussion and communication with:

- The scenario in which the FriendBook will interact with the users.
- The goal that is helps those actors achieve.
- The scope of FriendBook.

In any case, the use of diagrams to show the details only in cases of any functional use cases, actors and some relations between the two systems can summarize. In particular, the diagram of the steps used to achieve the objectives for each executive for the demonstration.

The developers approach:

Developer has prepared a high level use case diagram with all specification so that the reader can understand it very easily. After the announcement with a full set of pre-conditions, post conditions, happy way, turn the path (if any), and each is formed with reference to the exception path.

With use case diagram the sequence diagram is also constructed where it needs to developed for.

5.2.2.1.1. Use Case Diagram



Fig 5.1: Use Case Diagram

5.2.2.1.2. Actor List

Actor	Description
User	Any user who wants to use the facilities of FriendBook.
System Admin	A software administrator who manage all over the system.

Table 5.4: Table showing list of actors

5.2.2.1.3 Use-case List

Use-Case ID	Use-Case Name	Description
UC-01	Theme selection	Allows user to set website background according to their choice.
UC-02	Post message	Allows user to post message to the website
UC-03	Set availability	Allows user to set their availability that weather they are busy or available
UC-04	File sharing	Allows user to share the file over website
UC-05	Email	Allows user to send email using social networking website.
UC-06	Create greeting card	Allows user to create greeting card on social networking website.
UC-07	Upload photo	Allows user to upload photo
UC-08	Font increment	Allows user to adjust font size of website.
UC-09	Check user account	Authenticate user to check friends profile

UC-10	Edit profile	Allows user to edit content about them.
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Table 5.5: Table showing list of use-cases

Use case diagram dependency

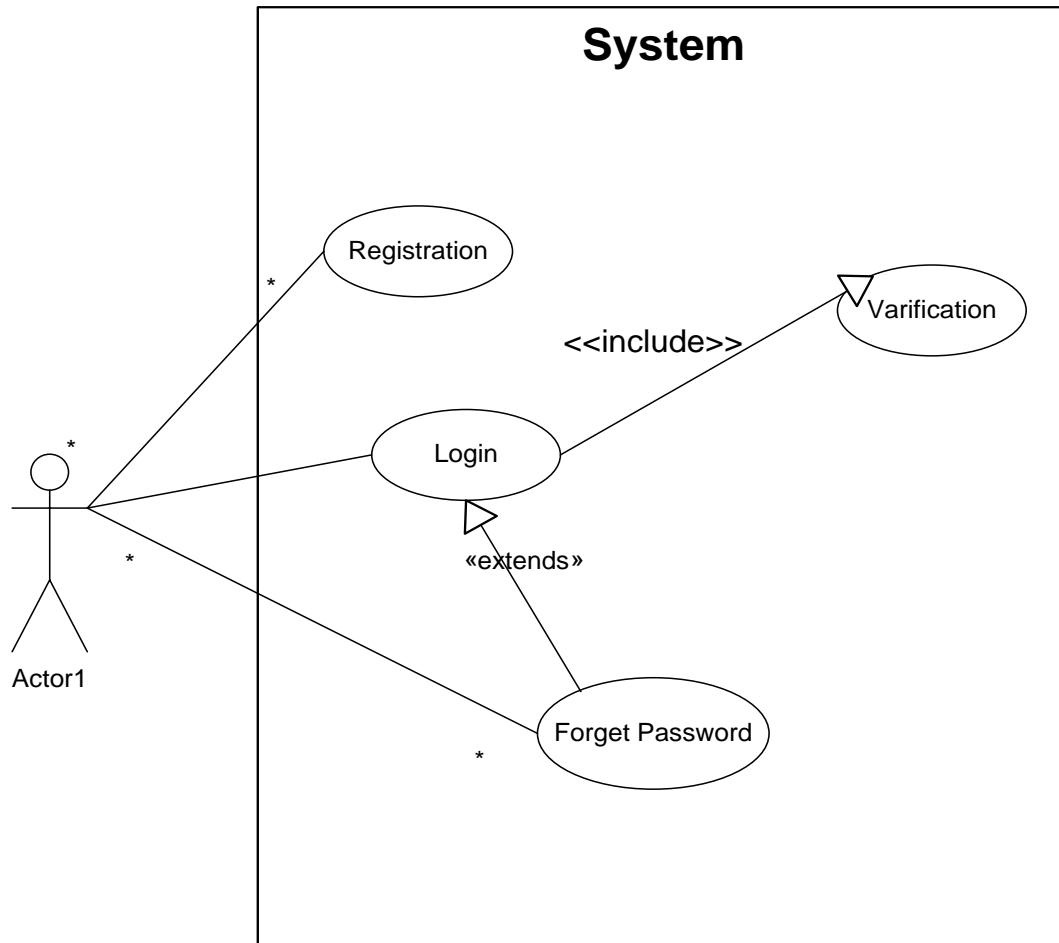


Fig 5.2: use case diagram for Login

Activity Diagram (Login)

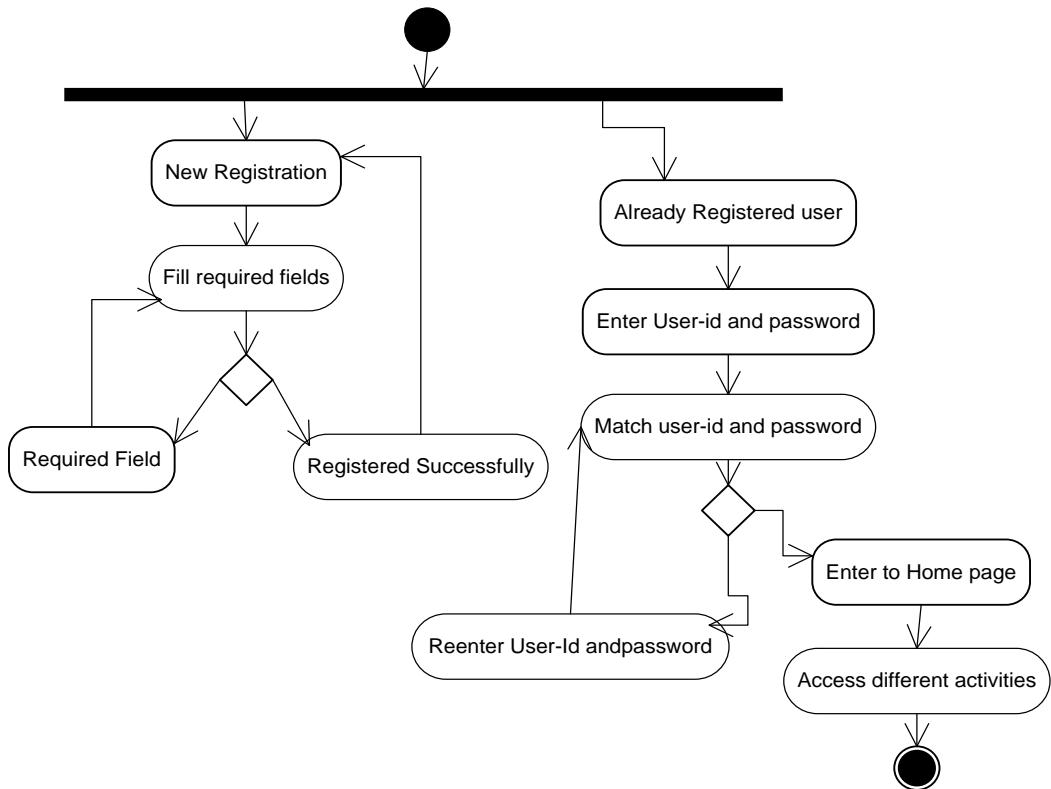


Fig 5.3: Activity Diagram for login

Sequence Diagram Login

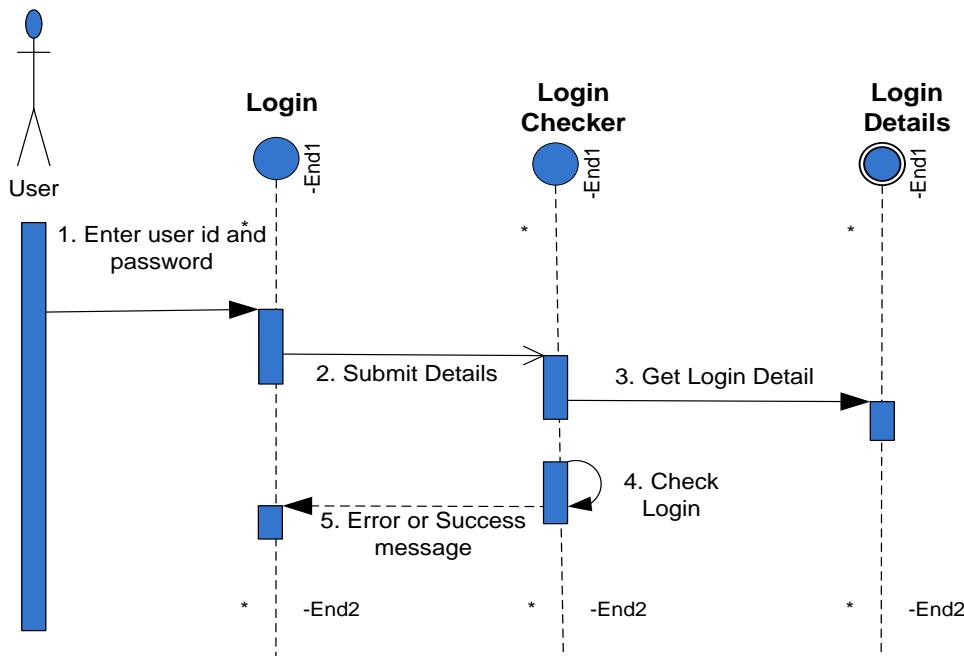


Fig 5.4: Sequence Diagram for login

5.2.2.1.7. Use Case UC-02 (Upload Picture)

Name: Upload Picture Use Case ID: UC-02	
Description:	Use Case initiates when user wants to upload a picture to there profile.
Goal:	To upload picture.
Actor(s):	Any friendBook user.
Assumption(s):	User is already registered to friendBook and holding an account.
Pre-condition(s):	The user should be logged in to the friendBook.
Post-condition(s):	Picture will upload to users account.
Primary (Happy) Path:	
<p>User selects `upload photo` menu option and choose file to upload.</p> <ol style="list-style-type: none"> 1. The user selects the ‘upload photo’ menu option. 2. User has to choose a picture. 3. Then upload button to upload image. 	
Alternate Pathway(s):	
None	
Exception Pathway(s):	

User selects `upload image` menu option image is not in the form of jpg or png format then it will not going to upload that image format and ask to Choose correct format of file.

1. The user selects the ‘Send Message’ menu option.
2. Then write message content to the textbox and press submit button.
3. User doesn’t able to send message to the target user.

Table 5.6: Table showing sending message use case specification

Use case: Photo Upload

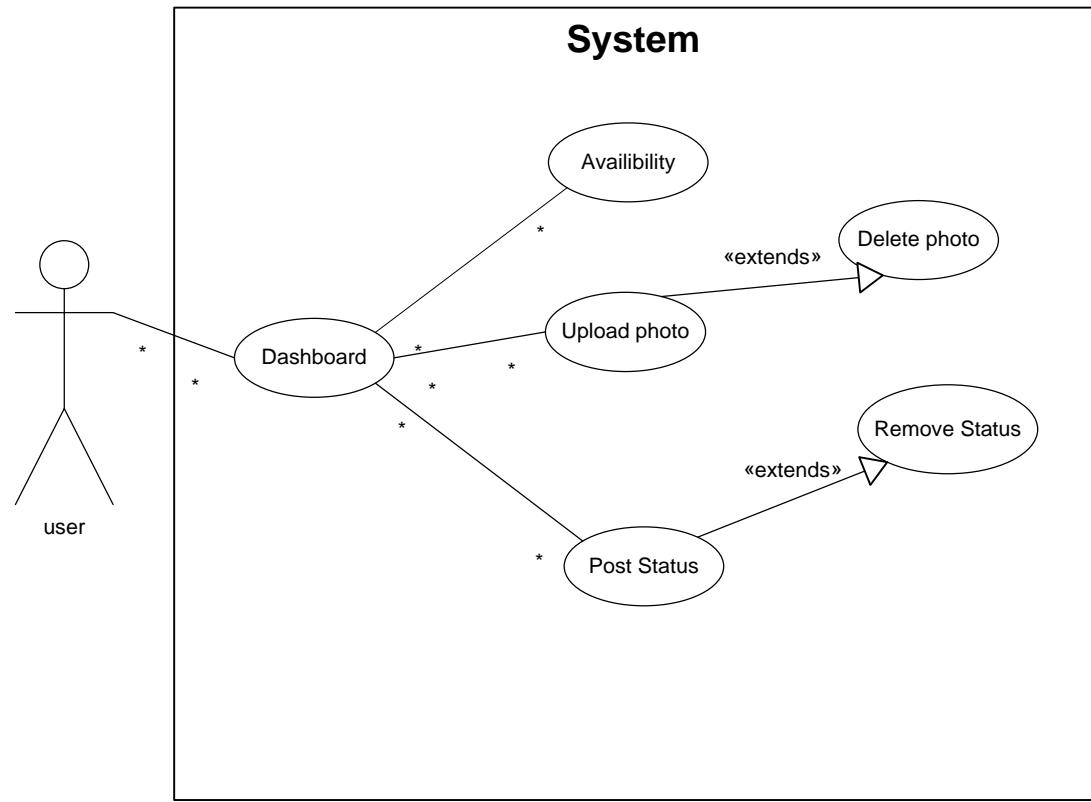


Figure 5.5: Figure showing Photo upload use case diagram

Activity Diagram (Photo upload)

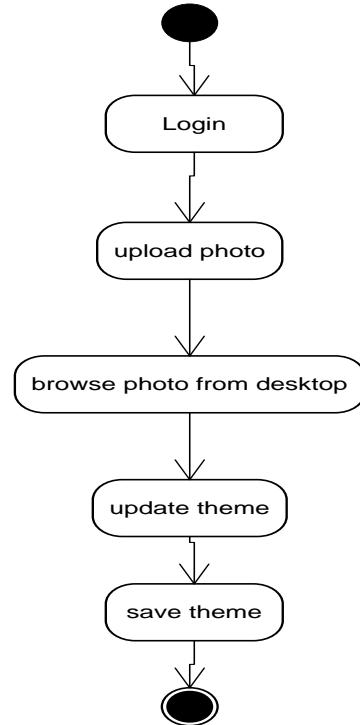


Figure 5.5: Figure showing Photo upload Activity diagram

Sequence Diagram (Photo Upload)

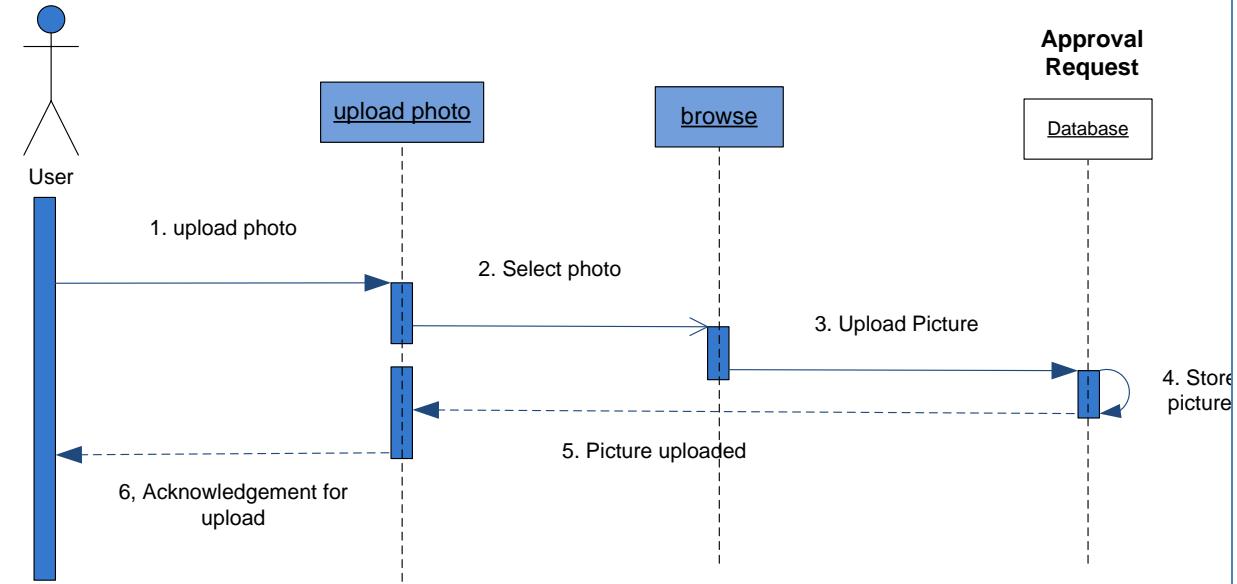


Figure 5.6: Figure showing Photo upload sequence diagram

5.2.2.1.10 Use Case UC-03 (Create Greeting)

Use Case Specification

Name:	Manage	Processes	Use	Case
ID: UC-03				
Description:	Use Case initiates when user selects will create greeting option for a particular client.			
Goal:	To be able to create greeting as per users choice			
Actor(s):	User.			
Assumption(s):	The user is having pictures on their computer and he must a registered user of a friendBook.			
Pre-condition(s):	The user should be logged in and 'create greeting' option is selected.			
Post-condition(s):	After selection of picture user needs to write a message over greeting by using textbox provided by the friendBook.			
Primary (Happy) Path:				
<p>User selects 'Create Greeting' main menu option and write message body within it which is sent to the target client.</p> <ol style="list-style-type: none"> 1. The user selects the Create Greeting menu option. 2. The application ask for choose picture. 3. The user enters the message using provided text field. 4. User needs to select a target user to whom he wants to deliver that Greeting. 5. After clicking on submit button the greeting will send to users person messages. 				
Alternate Pathway(s):				
Non				
Exception Pathway(s):				

User selects `Send greeting` menu option and select a picture from the list of available pictures commands and not selected the target user and click submit button, but the command does not get executed for the target user and no response is received.

1. The user selects the ‘Send Greeting’ menu option.
2. The user selects the picture and writes a text within it and press submit button.
3. Greeting card doesn’t deliver to the target user.
4. User is notified of the unsuccessful message command and ask for userid.

When user selects send greeting the request will process where the user needs to select the sample picture (format) for creating it now when he entered a text field the text is combined with the picture and show as a single message. Then after clicking to submit button it goes to the database and save it as a message body for a particular user.

Table 5.7: Table showing create greeting use case specification

Use case diagram

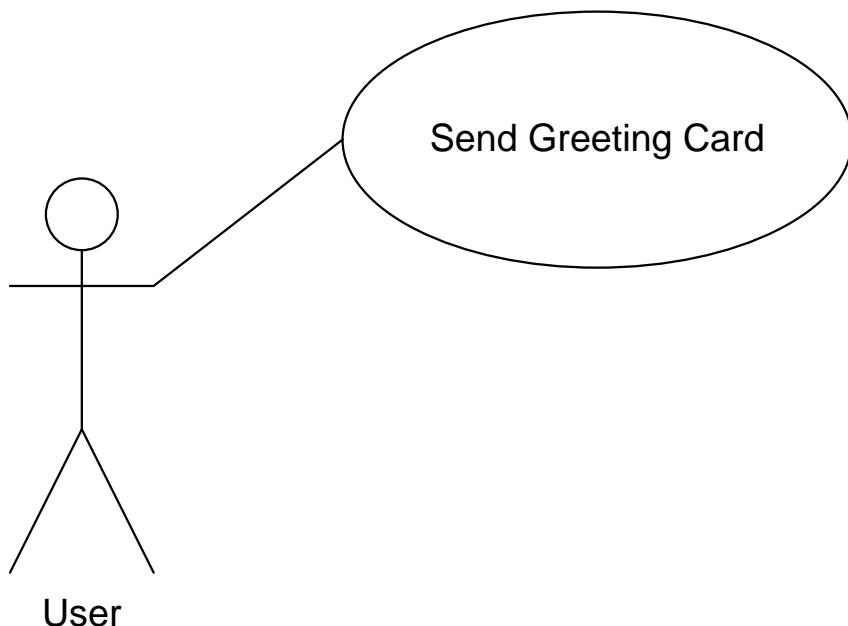


Figure 5.7: Figure showing create greeting use case diagram

5.2.2.1.11 Activity Diagrams (Create Greeting)

(Due to page restrictions only selected activity diagrams for manage process have been included)

Activity Diagram – Get Process List

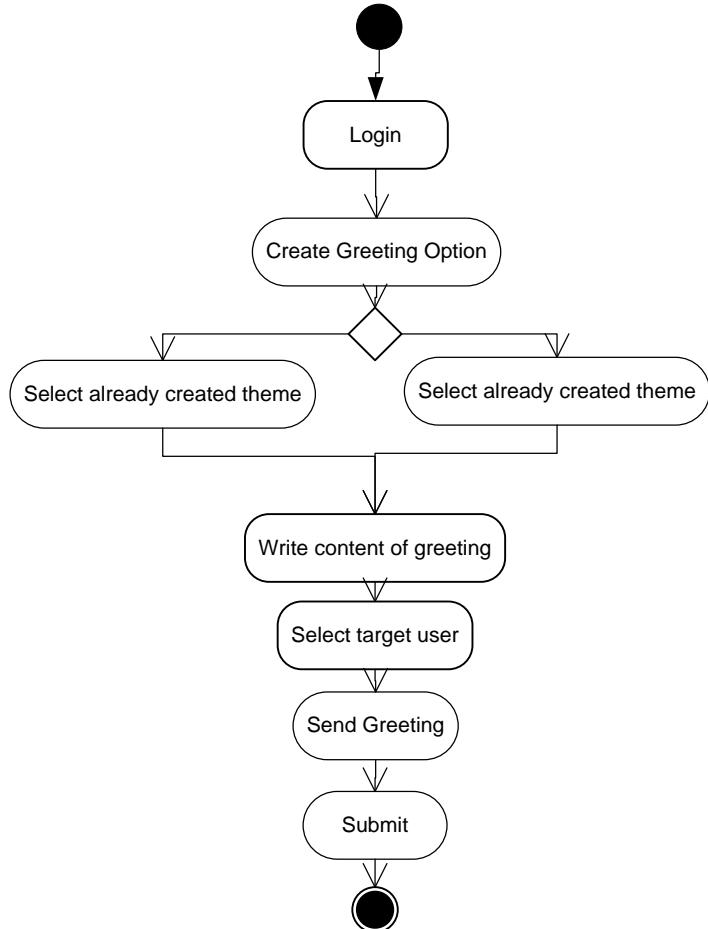


Figure 5.8: Figure showing Create greeting card activity diagram

5.2.2.1.12 Sequence Diagrams(Create Greeting)

(Due to page restrictions only selected sequence diagrams for manage process have been included)

Sequence Diagram – Create Greeting

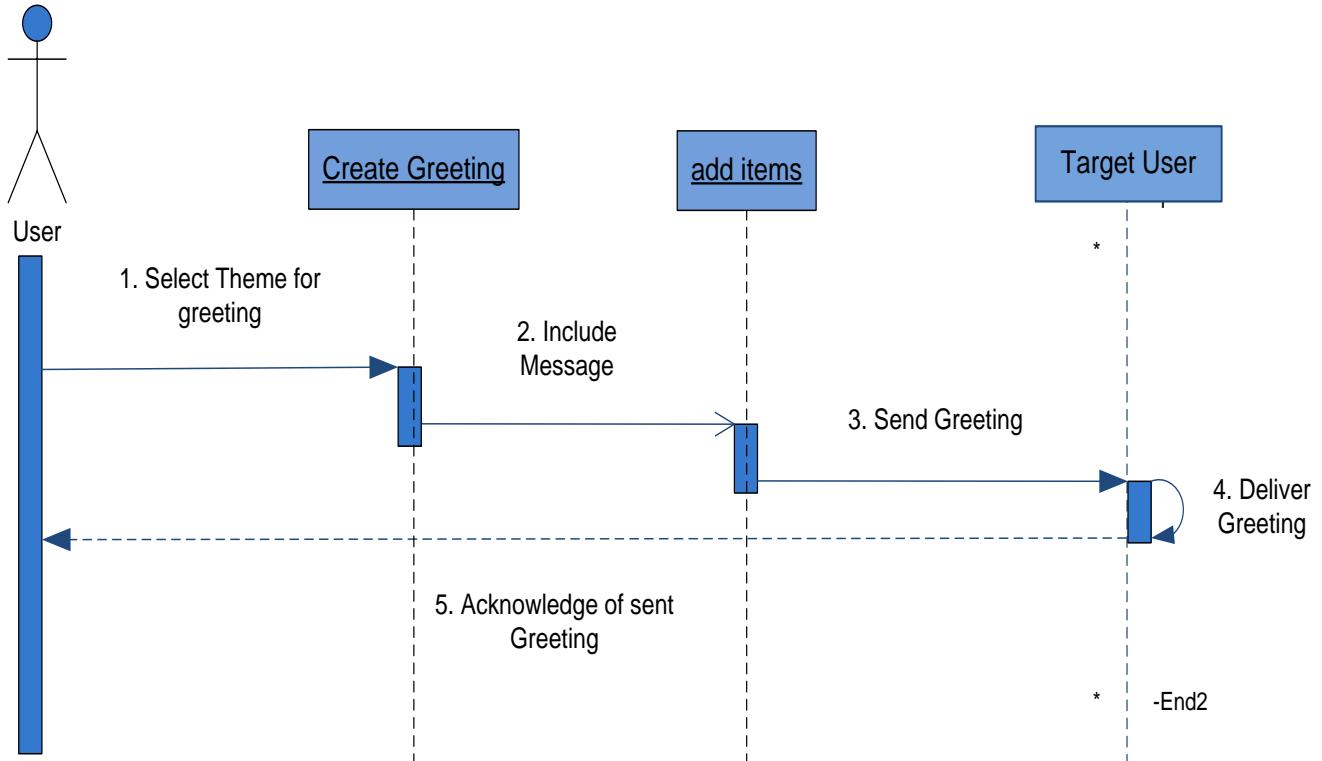


Figure 5.9: Figure showing Create greeting sequence

5.2.2.1.13 Use Case UC-04 (File Sharing)

Use File Sharing Case Specification

Name: File sharing Use Case		ID: UC-04
Description:		Use Case initiates when user selects the file share menu option for the sharing of files.
Goal:		To share a file among users.
Actor(s):		Any user.
Assumption(s):		The user is registered to the website and client is having some document to share.
Pre-condition(s):		The user should be logged in and file sharing option is selected.
Post-condition(s):		The file will store to a central repository and can be used by user.
Primary (Happy) Path:		
User selects `file share` main menu option in his home page and selects any one of the file which he wants to share, which is used to download by the target user.		
<ol style="list-style-type: none"> 1. The user selects the “file share” menu option. 2. The application asks to select the file from user’s computer. 3. The user selects a file to share. 4. The system will store the file to central repository. 5. The corresponding user can download a file from that. 		
Alternate Pathway(s):		
Non		
Exception Pathway(s):		

User selects `file share` menu option and selected no files from his computer, the command gets executed but user will not get expected output.

1. The user selects the ‘file share’ menu option from the main menu options.
2. The application asks for the document link.
3. User does not choose any file.
4. User is notified of the unsuccessful message.

Description: When user selects file share from menu option, the command request is ask to select the file.

File sharing use case

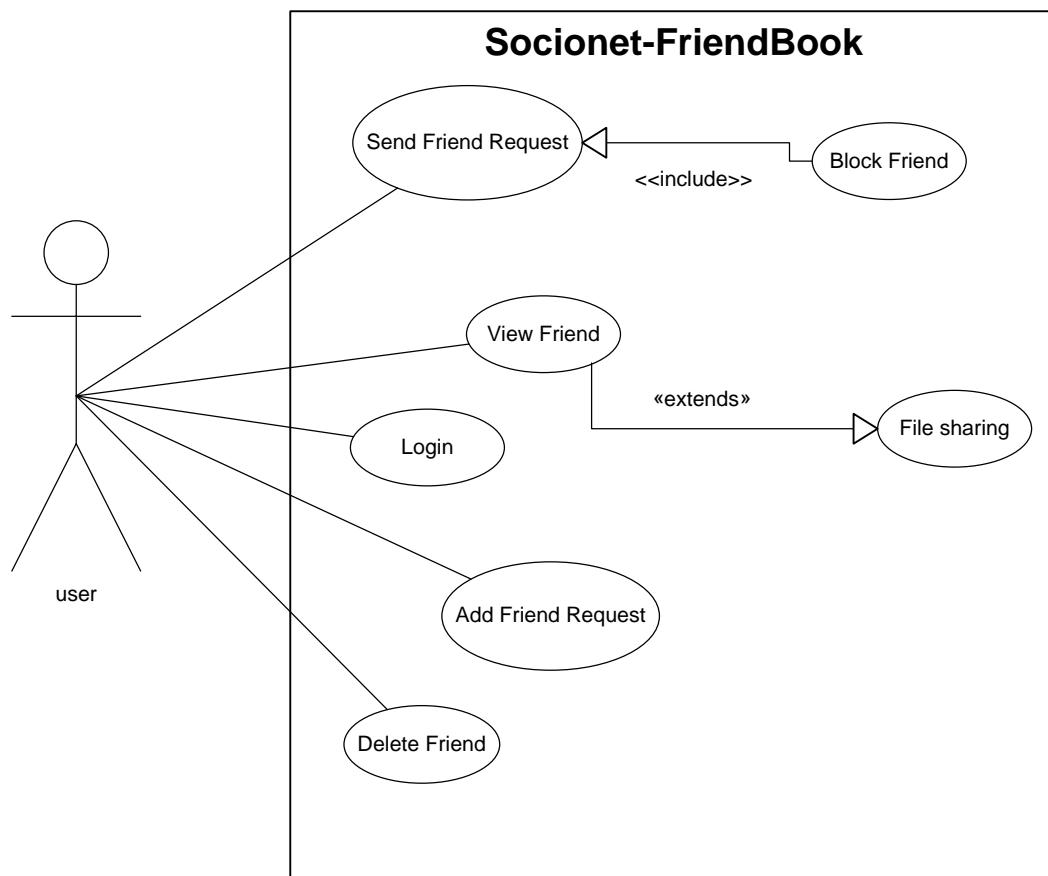


Figure 5.10: Figure showing File sharing Use Case

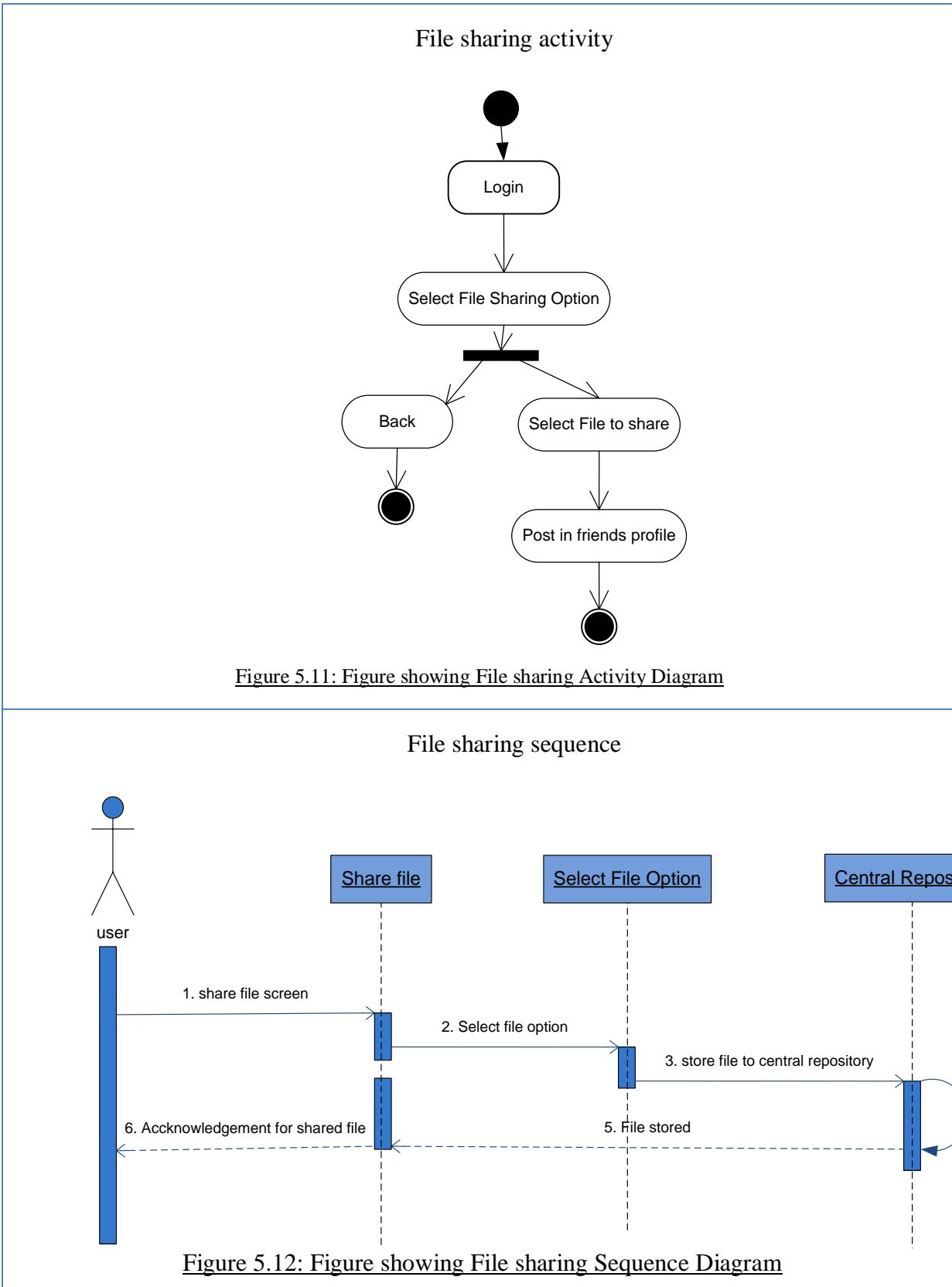


Table 5.6: Table showing file share use case specification and diagram

5.2.2.1.14 Use Case UC-05 (Send Message)

Use Case Specification

Name: Message Use Case	ID: UC-05
Description:	Use Case initiates when user selects send message menu option for a particular friend from the list of friends.
Goal:	To be able to send textual information on any selected user.
Actor(s):	Any User.
Assumption(s):	That user added to his friend list to which message would me sent.
Pre-condition(s):	The user should be logged in and would be select that particular user.
Post-condition(s):	Message body must be filled.
Primary (Happy) Path:	<p>User selects `Send Message` main menu option and selects the target user from your friend list and then sender have to write the message content to textbox and press submit button. After delivering the message user will get the feedback that message has been sent.</p> <ol style="list-style-type: none"> 1. The user selects the “send message” menu option. 2. The user selects a target user to whom he wants to send message. 3. Write content of message to textbox and submit it. 4. The response will come whether your message is sent or not.
Alternate Pathway(s):	

User select target friend and go to his profile in which there is a option of send message after clicking on that option user needs to fill the text field as a message body and Press submit button to send message.

1. The user selects the target friend and goes to his/her profile.
2. User has to click 'send message' option.
3. Write content of message on textbox.
4. Click submit button to send message.

Exception Pathway(s):

User selects `Send Message` menu option and without writing the content of message us click send message button.

1. The user selects the 'send message' menu option.
2. The application processes the request and provides a test field to fill the message conte and submit button.
3. Message would not been sent and user didn't get desired output.

Send Message use case

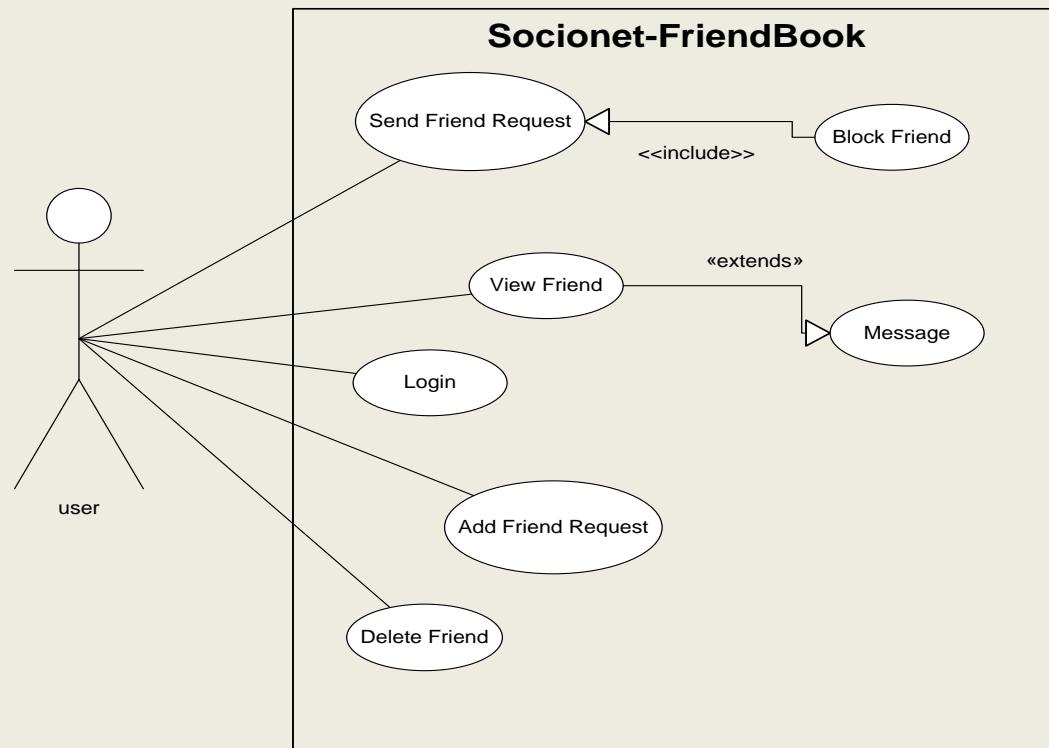


Figure 5.13: Figure showing Send message Use case Diagram

Send Message sequence

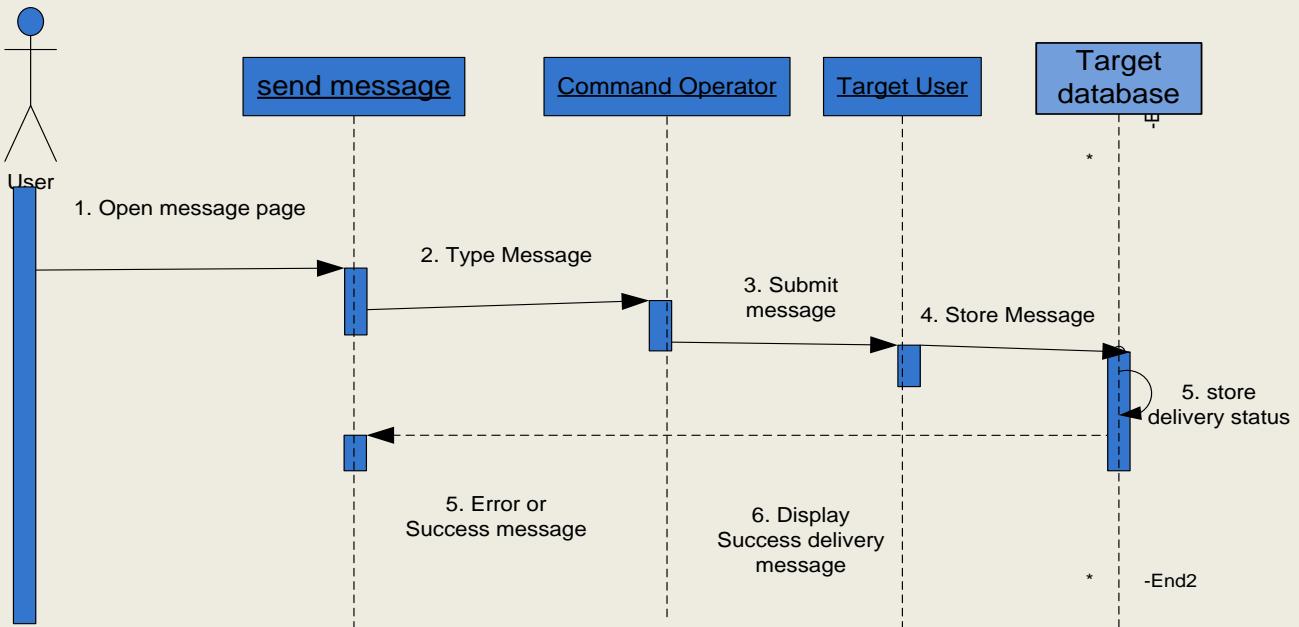


Figure 5.14: Figure showing Send message Sequence Diagram

Send Message Activity

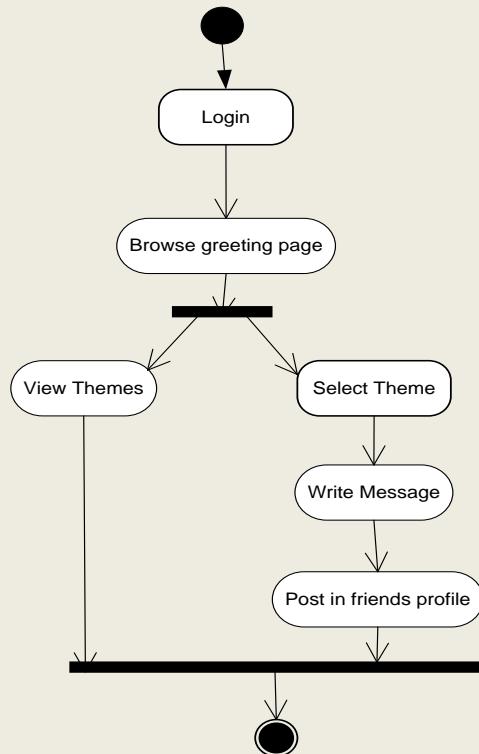


Figure 5.15: Figure showing Send message Activity Diagram

Table 5.7: Table Send message use case specification

5.2.2.1.5 Use Case UC-04 (Theme Selection)

Theme selection Use Case Specification

Name: Theme selection Use Case		ID: UC-04
Description:	Use Case initiates when user selects the “theme change” menu option for the change theme.	
Goal:	To change to skin of the website.	
Actor(s):	User.	
Assumption(s):	The user is registered to the website.	
Pre-condition(s):	The user should be logged in and theme selection option being selected.	
Post-condition(s):	The background of the website will change.	
Primary (Happy) Path:	<p>User selects `theme change` main menu option in his home page and selects the theme which he wants to set as his background.</p> <ol style="list-style-type: none"> 1. The user selects the “change background” menu option. 2. The application asks to select the theme from existing theme or browse the theme from computer. 3. The user selects a theme. 4. The system will store the theme for particular user. 	
Alternate Pathway(s):		
None		
Exception Pathway(s):		

User selects `change background` menu option and selected no theme. The command gets executed but user will not get expected output.

1. The user selects the ‘select theme’ menu option from the main menu options.
2. The application asks for select theme from a list.
3. User does not choose any theme.
4. User is notified of the unsuccessful theme change message.

Theme selection use case

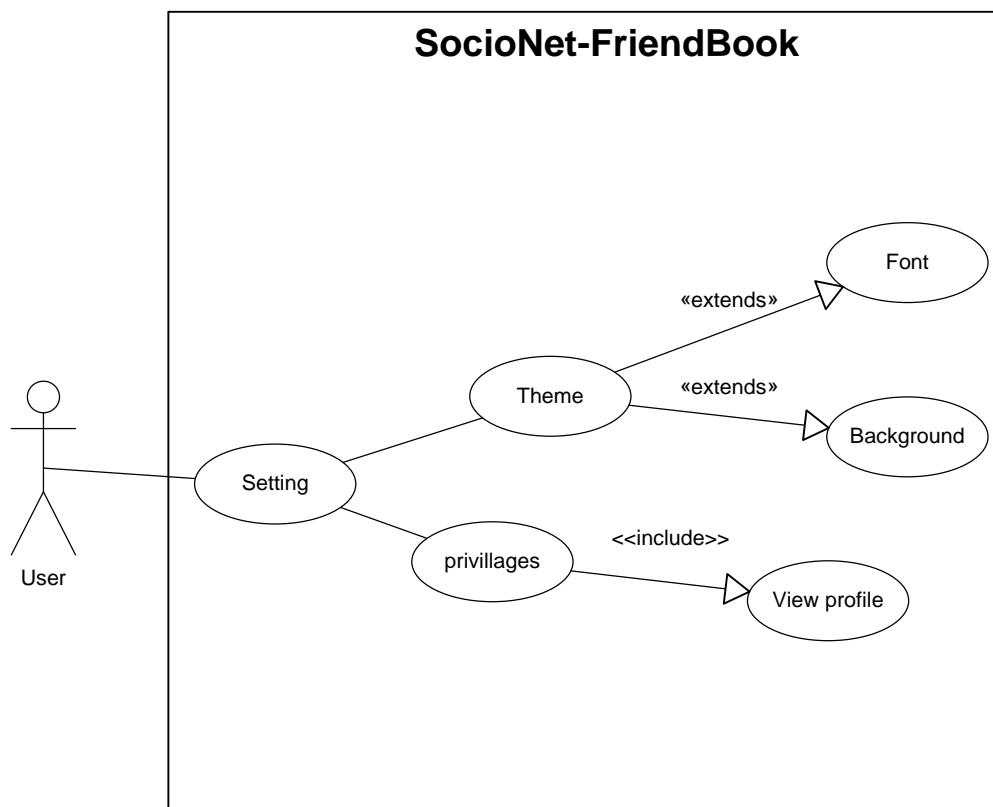


Figure 5.15: Figure showing Theme selection Use case Diagram

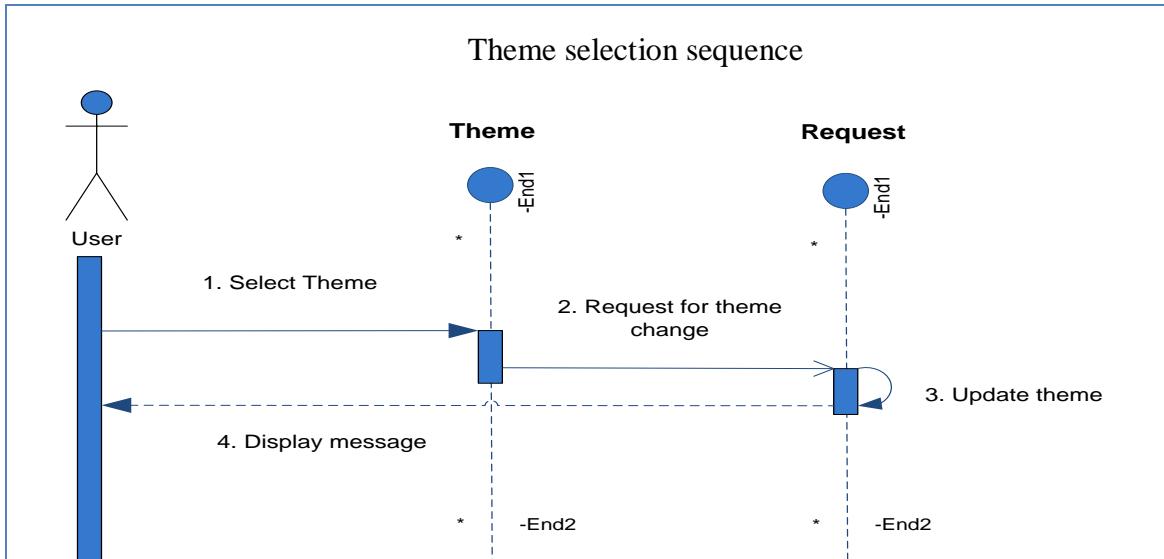


Figure 5.16: Figure showing theme selection Sequence Diagram

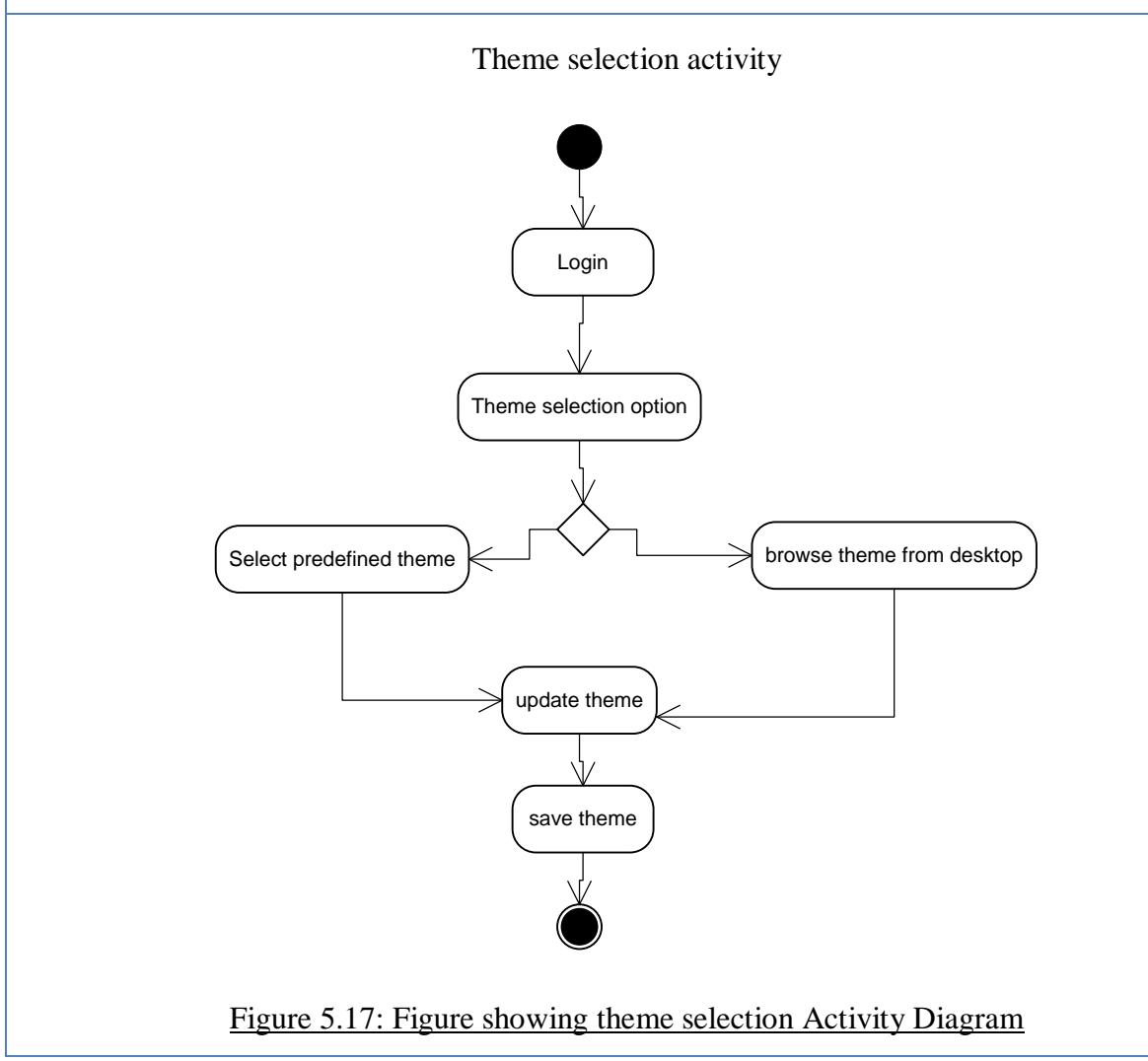


Figure 5.17: Figure showing theme selection Activity Diagram

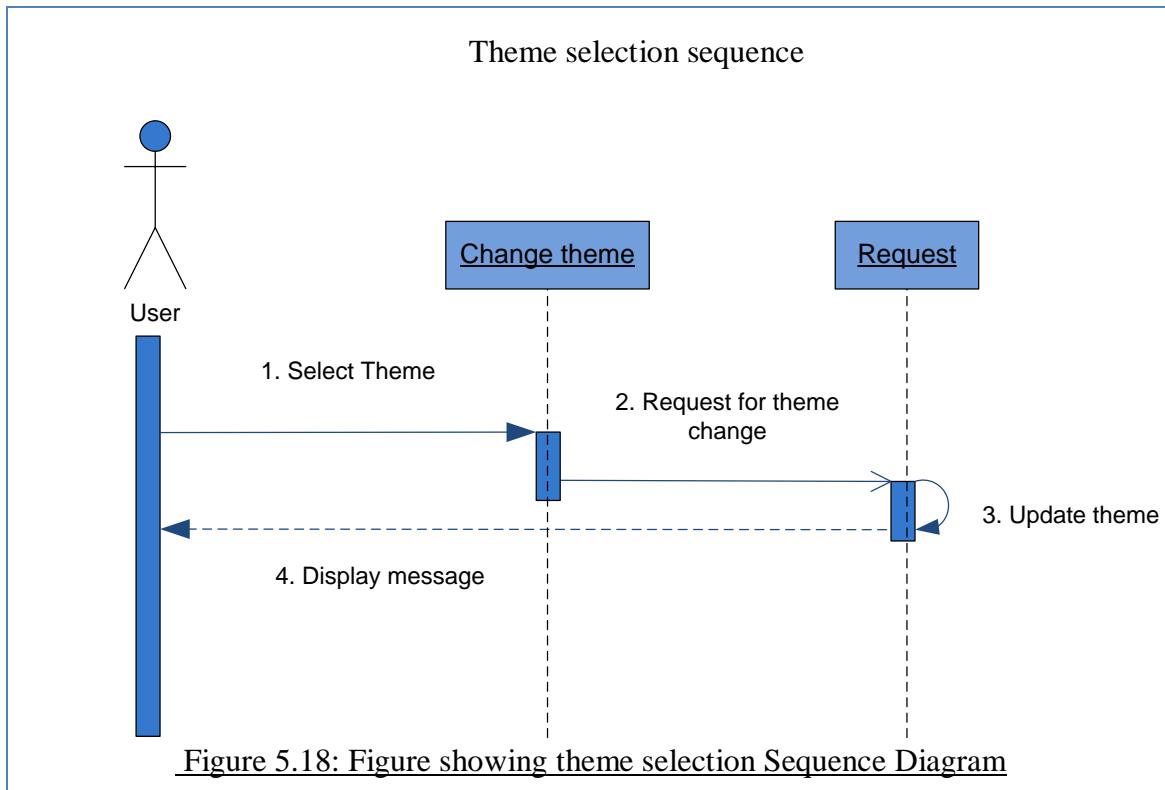


Table 5.8: Table showing theme changing use case specification and diagram

5.2.2.2.1 Class Diagram

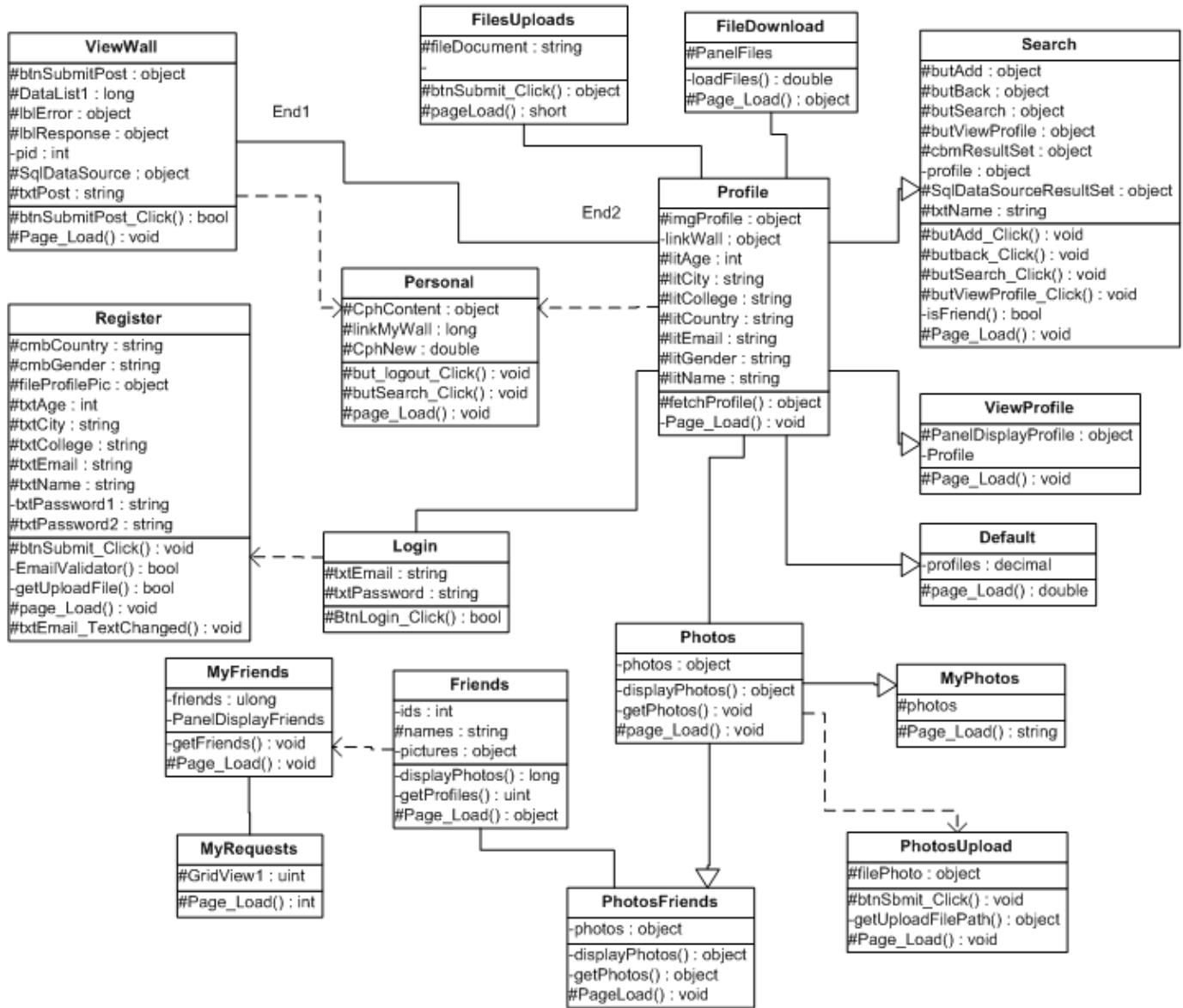


Figure 5.19: Figure showing class diagram of friendbook.

5.2.2.3 Database Design

FriendBook is the web application where all the information of users is going to store to the database. So it is important to design the database in such a way that it should handle the data's in correct format. So the table for users is requiring from where data can fetch when it requires.

The table structure and field description are as follows:

5.2.2.3.1 Table Structure – (tbl_user)

User Table		
Column Name	Data type	Description
Uid	int	It is a unique user identification number.
Email	Varchar(150)	Store email address
Pass	Varchar(150)	Store password
Name	Varchar(150)	Contain name of user
Gender	Varchar(6)	Store gender information of user
College	Varchar(150)	Used to store College of user
City	Varchar(150)	Store city
State	Varchar(150)	Store state
Country	Varchar(150)	Used to store country from which user is used to belong.
Pic	Varchar(150)	Used to store picture of user

Figure 5.9: Table showing request table structure

Tbl relation		
Column name	Data Type	Description
Pid_sender (PK) (FK)	Int	Store the user id of first user who sent the friend request
Pid_Reciever (PK) (FK)	Int	Store the user id of second user to who request has been sent.
isApproved	Bit	Store the status of request that whether request is accepted or not.
Relation_Type	Nchar	Store type of relation

Figure 5.9: table showing friendship table structure

Tbl_Msg		
Attribute	Data Type	Description
mid (PK)	int	It is a unique message identification number.
UidFrom (FK)	int	Store the id of user who send the mail
UidTo (FK)	int	Store the id of user to who message has been sent.
Title	Varchar(50)	Store the title of the message
Body	Varchar(150)	Store message content

Figure 5.10: Table showing message table structure

Tbl_Wall		
Attribute	Data Type	Description
wid (PK)	int	It is a unique wall identification number.
Uid (FK)	int	Store user id
Body	Varchar(500)	Store Content of the wall

Figure 5.11: Table showing wall table structure

Tbl_Photos		
Attribute	Data Type	Description
pid (PK)	Int	It is a unique photo identification number.
Uid (FK)	int	Store user id that from which user photo is belongs.
Pic	Varchar(500)	Store image

Figure 5.12: Table showing picture table structure

5.2.2.3.9 Entity Relationship Diagram

FriendBook - Entity Relationship Diagram

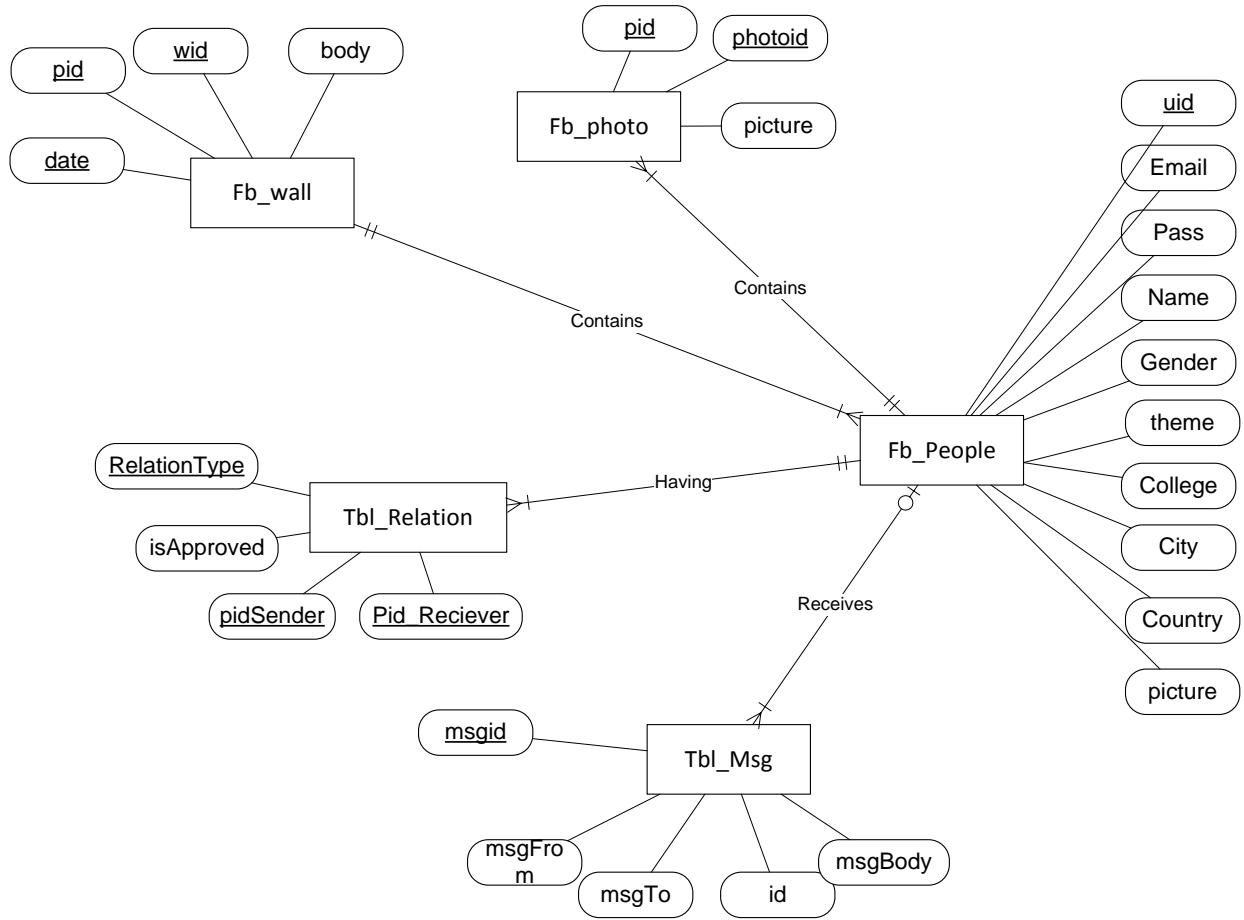


Figure 5.20: Figure showing ER Diagram.

4.2.2.3.10 Data Flow Diagram

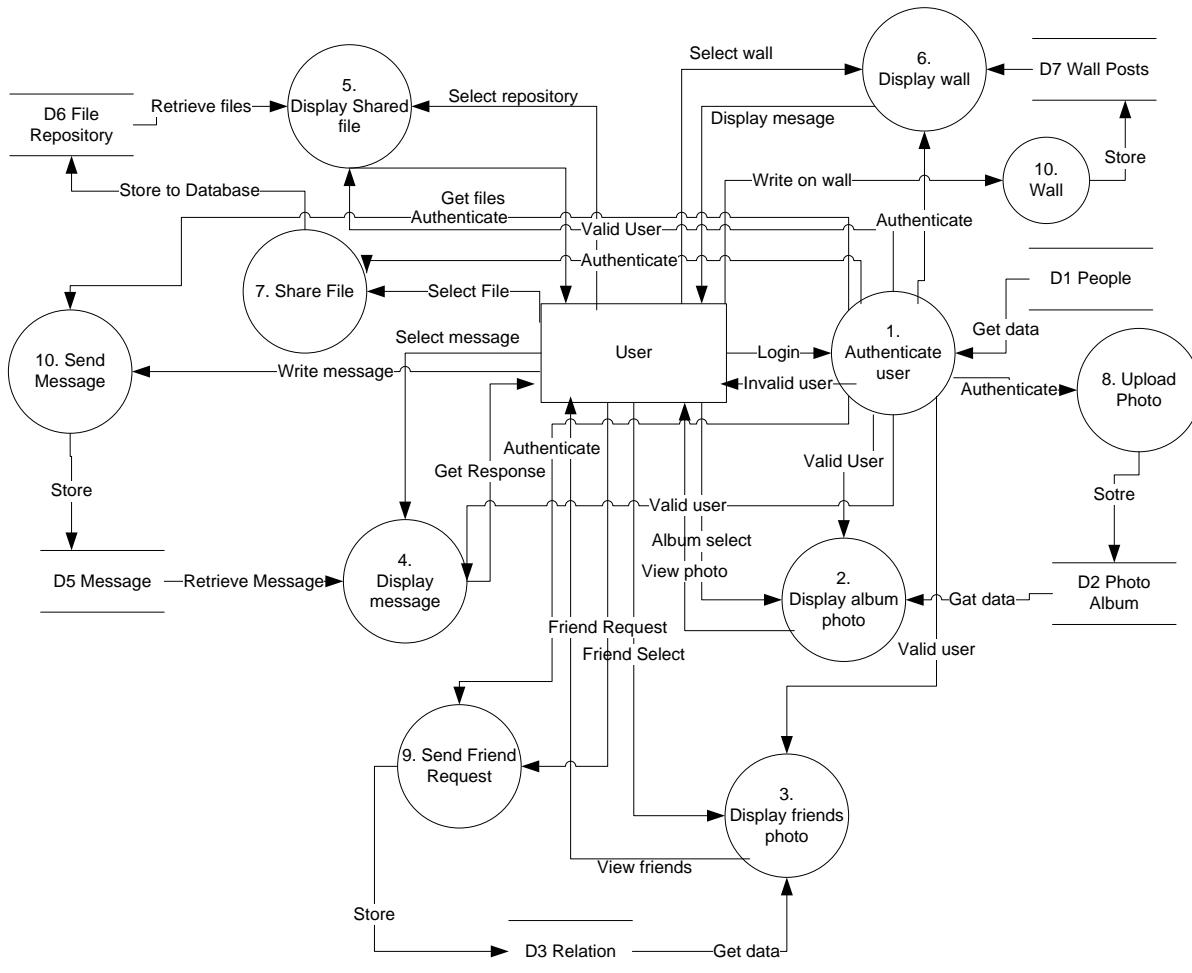


Figure 5.21: Figure showing Level 0 Data Flow Diagram.

Description:

Here first user will login to get authentication of the system then many processes are there in front of him/her. So after that control will flow towards display album photo process under which it will request to database for viewing of the photos this will fetch the photos from user will able to view it. In the same way user control flow towards display friends photo which will retrieve photos of friend from database and view to user.

Similarly user control will flow towards the display message process under which process requests for the message from message table and view it to user,

For sending friend request user needs to be login to the system and go for the authentication process, after that he will search the friend request within which details of request will retrieve to the process user and user will able to view the all friend requests come to him/her.

For viewing the messages process will request to database and it will request to display the contents from database.

4.2.2.3.11 Level 1 Data flow Diagram

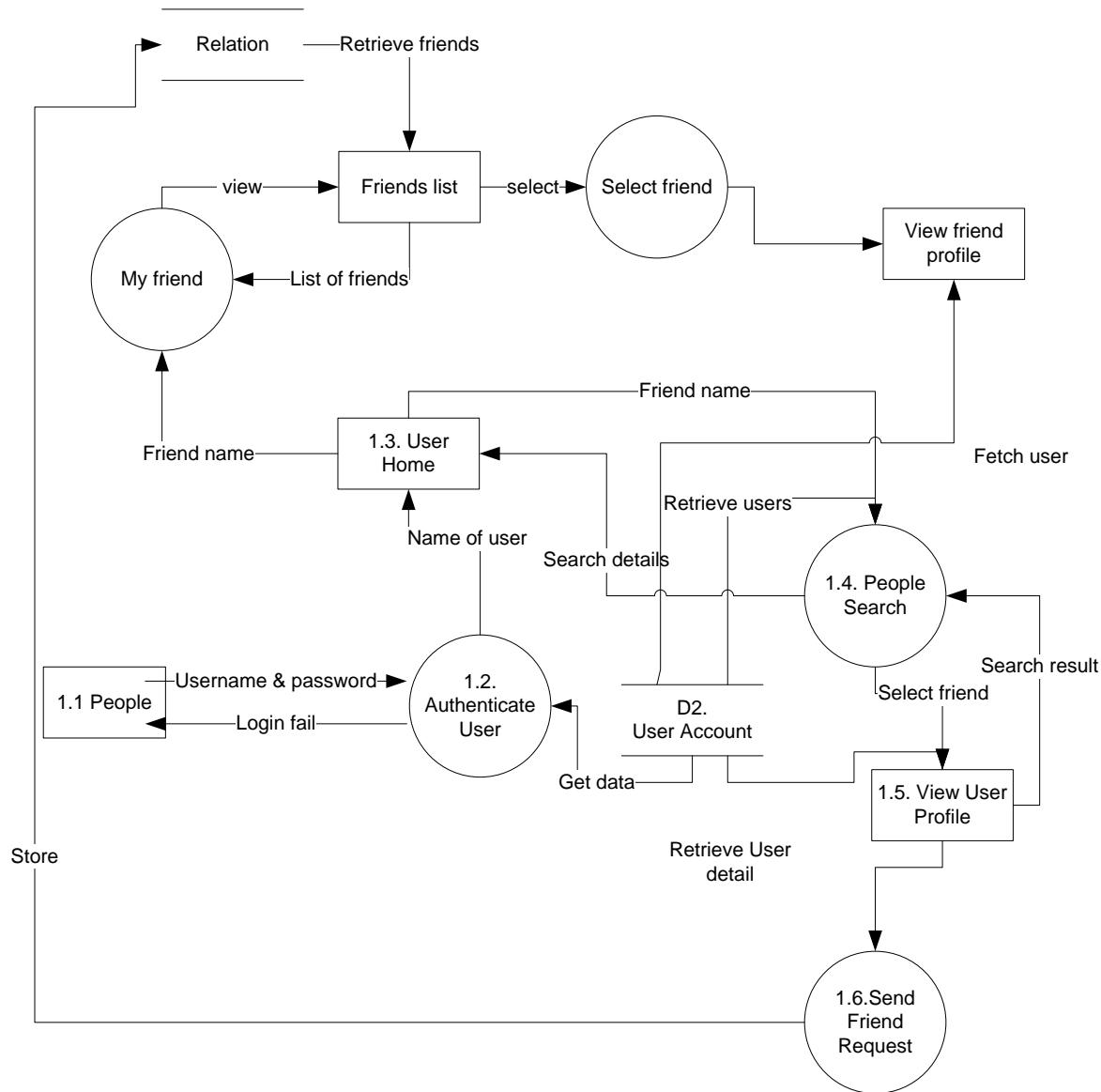


Figure 5.21: Figure showing Level 1 dataflow diagram for friends

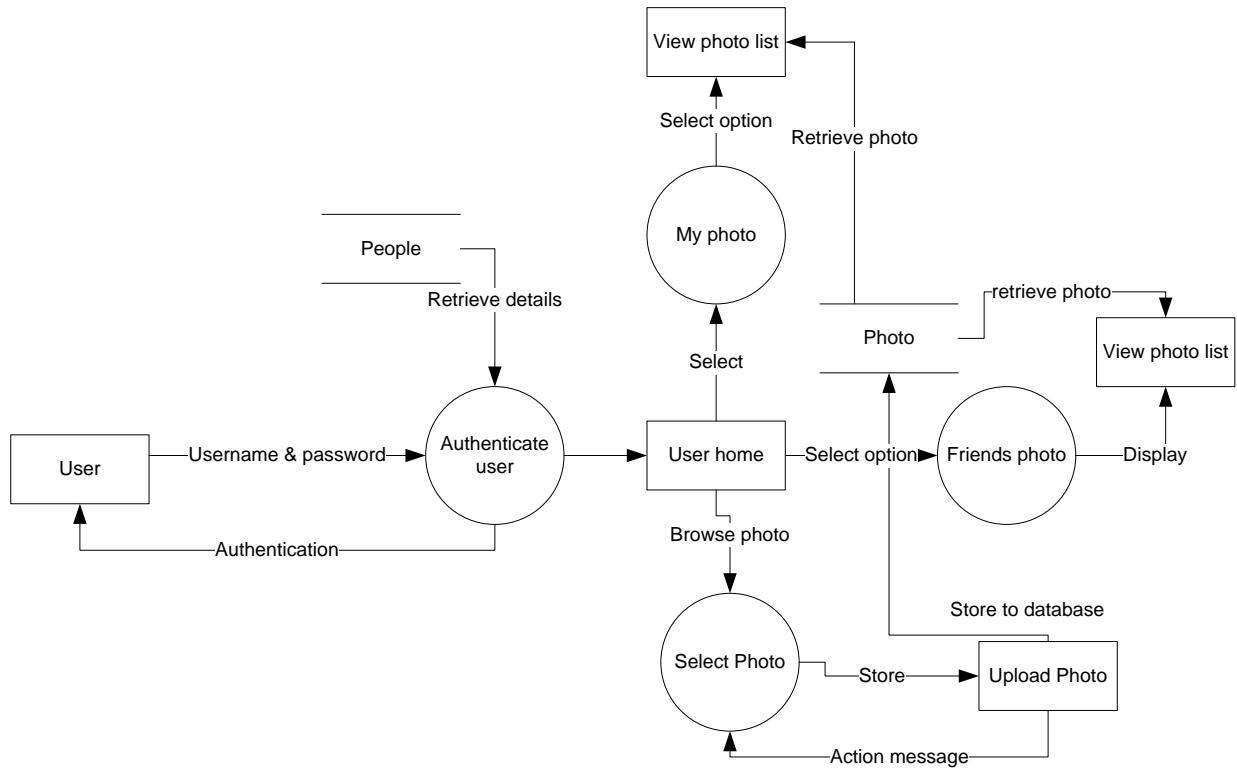


Figure 5.21: Figure showing Level 1 dataflow diagram Photos

Description: Here user will provide username and password for authenticate to the system which redirects user to user home page, after that user selects the process of friends Photo, which directs flow and entity which will display message by retrieving photos from photo table. After that connector moves towards the my photo process in which user select photo so photos were displayed on the screen after retrieving photos from photo table. And for storing photo the connector connect from select photo process to upload photo entity which will store photo to the photo table.

Note: Due to page limitation DFD of complex modules are shown only.

4.2.2.3.12 Normalization

Normalization basically used to make data non redundant. It refers the level to which redundant data is being eliminated from a relational database. If developer uses higher degree of normalization in the database it will be well and good for the system because redundant data will be eliminated. The normalization can be attained by changing the design of the relational model of the database. It can be done by following Dr. EF Codd database formula for i.e. breaking tables to sub tables, making foreign keys, primary keys, using constraints etc.

Developer has done the normalization up to the 3rd normal form so that there will not be any redundancy occurs in the database. Firstly let's take the example of User table:

p id	password	name	Gender	city	state	mid	pic	friends	message s	Wall
sammiapiit @gmail.com	abc	Sammi Kumar	Male	Panipat	harya na	1 3 4	Pic1 Pic2 Pic3	Sonu Soma aman	--aa-- --bb-- --cc--	--xx-- --yy-- --zz--
sonukumar @gmail.com	xyz	Sonu Kumar	male	Panipat	harya na	5 6 7	Pic6 Pic7 Pic8	Sammi Soma aman	--ll-- --mm-- --nn--	--tx-- --rr-- --cc--

Figure 5.13: Table showing Un-Normalized Database

Problem: Repeating Element or groups of elements

By answering question such as How many friends are having with Sammi Kumar?

- How many pictures Sonu Kumar is having?
- So for this repeating groups of elements table have to go through first normalization form.

First Normal Form

First normal form says that there will be atomic values in the columns i.e. **single data row**, this means that only one field in the table can hold only one value. In the above given table in the field of users there are repeating values and more than one values are there. The column of 1 data rows is divided into 3 data rows. So it is not in the state of 1NF, therefore developer has created another table to figure out the normalization:

pid	password	name	Gender	city	state	mid	pic	friends	message s	Wall
sammiapiit @gmail.com	abc	Sammi Kumar	Male	Panipat	hary ana	1	Pic1	Sonu	--aa--	--XX--
sammiapiit @gmail.com	abc	Sammi Kumar	Male	Panipat	hary ana	3	Pic2	Soma	--bb--	--yy-
sammiapiit @gmail.com	abc	Sammi Kumar	Male	Panipat	hary ana	4	Pic3	aman	--cc--	--zz-
sonukumar @gmail.com	xyz	Sonu Kumar	male	Panipat	hary ana	5	Pic6	Sammi	--ll--	--tx--
sonukumar @gmail.com	xyz	Sonu Kumar	male	Panipat	hary ana	6	Pic7	Soma	--mm--	--rr--
sonukumar @gmail.com	xyz	Sonu Kumar	male	Panipat	hary ana	7	Pic8	aman	--nn--	--cc--

Figure 5.14: Table showing 1st normalization form table

Problem: Partial dependencies on a concatenated key.

That means there should be a primary or concatenated key on which all non key fields should depends.

Second Normal Form

Next we test each table for partial dependencies on a concatenated key. This means that tables should only contain the data which is related to one entity that is described by the primary key, each column in a table that is not part of the primary key must depends upon the concatenated key for its existence. “uid” is the ID number of user which is allocated to the user just after creating a new profile as a user. The table “user” given below shows that all the columns are dependent on primary key (“uid”) of the user table. In this email address is of particular user for the same user id name, gender, city, state, friends, message are there. So alone “uid” is defining the each column of user table. Same as table user a new table message is created which will store all the information related to message for a particular user. Here mid is a primary key of the table which is uniquely defining the each row of it, which is title and body of the message. Similarly in table wall and photo where “wid” and “pid” is defining its table attributes. Therefore table is in second normal form.

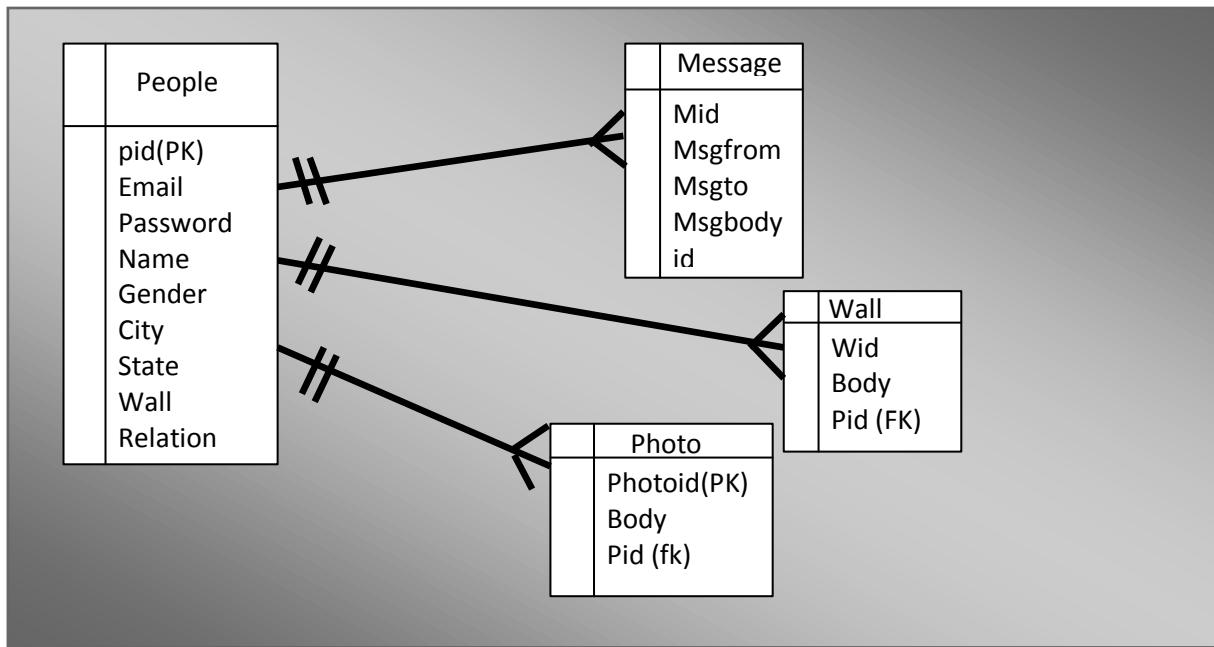


Fig: Showing Relationship between tables

Table : people							
pid(PK)	Email	password	name	Gender	city	state	Relation
1	sammiapiit@gmail.com	abc	Sammi Kumar	Male	Panipat	Haryana	-No--
2	sonukumar@mail.com	xyz	Sonu Kumar	Male	Panipat	Haryana	--yes--

Figure 5.15: Table showing 2nd normalization form User table

Table: Message				
mid(PK)	Msgfrom	msgto	Title	Body
11	1	2	Regards	--sdfgg--
12	2	1	Thanks	--ewre---

Figure 5.16: Table showing 2nd normalization form message table

Table: Wall		
wid(PK)	Body	Pid (FK)
111	--ere---	1

121	--dfd---	2
-----	----------	---

Figure 5.17: Table showing 2nd normalization form wall table

Table: Photos		
photoid(PK)	pic	Pid (FK)
123	dfd	1
152	eee	2

Figure 5.18: Table showing 2nd normalization form photo table

Problem: dependencies on non-key attributes.

Here if we concentrated on User table then we found that relation message not totally depends on the primary key of the table so for that we have to eliminate these kind fields from table itself on third normalization form.

Third Normal Form

Third Normal form defines that table should satisfy the second normal form and all non-key attributes are mutually independent. This means there should not be any inter dependencies between the attributes. Developer has created a table which has interdependencies i.e. in message table it also stores that message is from which user (uidfrom), who sends the message (uidto); which is working as a foreign key of the table. Similarly in the wall and message table the foreign key is defined. Therefore we can say that database of “friendbook” is in normalized up to Third Normal Form.

Table : User						
uid(PK)	Email	password	name	Gender	city	state
1	sammiapiit@gmail.com	abc	Sammi Kumar	Male	Panipat	Haryana
2	sonukumar@gmail.com	xyz	Sonu Kumar	Male	Panipat	Haryana

Table 5.19: Table showing 3rd normalization form User table

Table: Message				
mid(PK)	uidfrom(FK)	Uidto (FK)	Title	Body
11	1	2	Regards	--sdfgg--
12	2	1	Thanks	--ewre---

Table 5.20: Table showing 3rd normalization form Message table

Table: Wall		
wid(PK)	uid(FK)	Body
111	1	--ere---
121	2	--dfd---

Table 5.21: Table showing 3rd normalization form wall table

Table: Photos		
pid(PK)	uid(FK)	pic
123	1	--Dfd--
152	2	--sad--

Table 5.22: Table showing 3rd normalization form photo table

Table: Relations			
pidSender(Fk)	pidReciever(FK)	isApproved	RealationType
1	2	True	Friend
2	3	True	Friend

Table 5.23: Table showing 3rd normalization form realation table

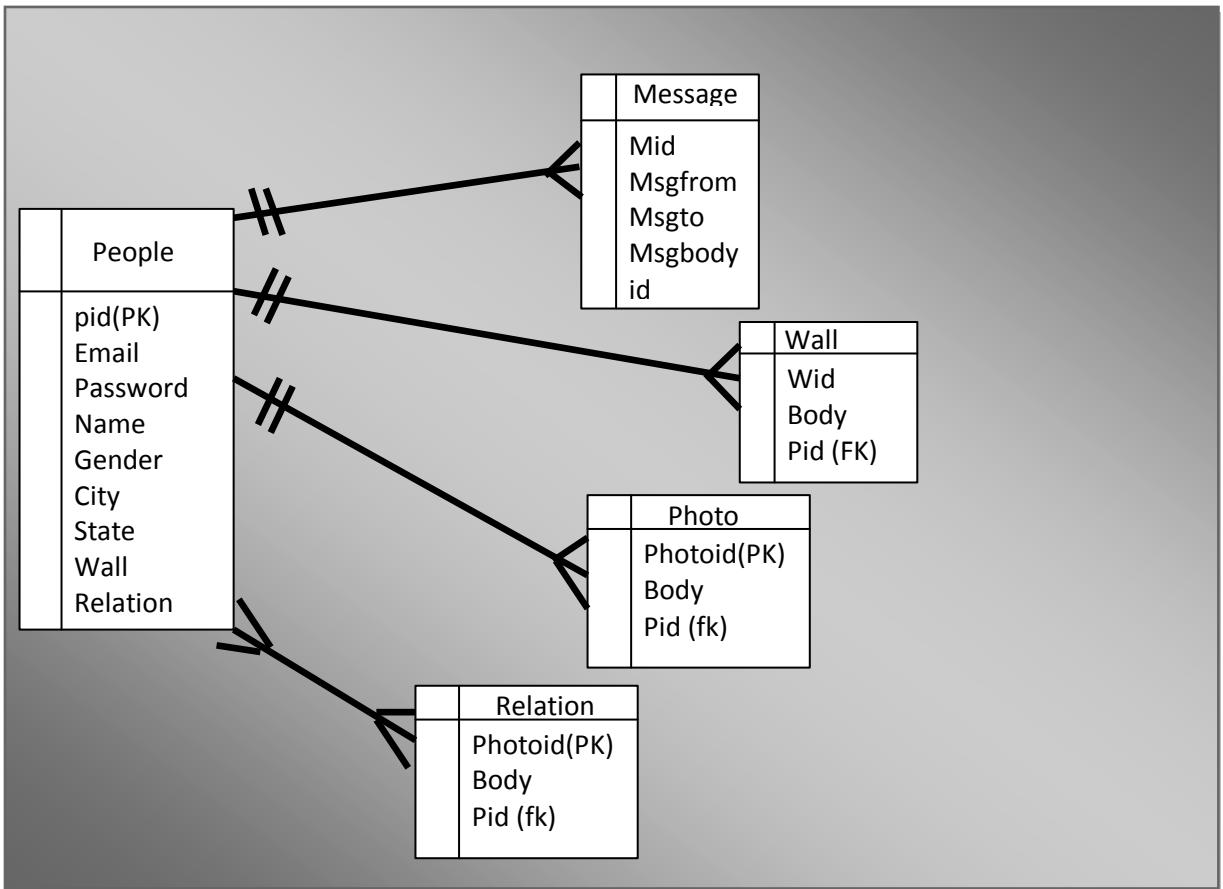


Fig: Showing Relationship between tables

6. Implementation

6.1 Introduction

The implementation of the new system is led by various procedures followed by the previous stage. It involves creating or acquiring the various system components detailed in the systems design, assembling them, and placing the new or modified system into operation. Implementation involves transforming the design of the system into an actual working system. The main facilitator utilized in achieving the physical system is a suitable programming language of the developer's choice or as per the client's demand. An excess of other tools and techniques are utilized along the way.

This chapter describes the implementation process which was carried out in order of core, enhanced and special functionalities. The same have been clearly depicted in requirement modelling in use-case and other diagrams. The main goal of this phase is to implement the design in the best possible manner. The implementation phase affects both testing and maintenance phase deeply. Thus it should be strongly clear to the developer that the goal during coding should not be to reduce implementation cost, but it should be to reduce the cost of later phases, even if the cost of this phase has to be increased. In other words the work of this phase is not to simplify the coding of the system but to simplify the work of the tester.

6.2 Implementation Plan

An implementation plan was necessary to be prepared to ensure that the development was constantly on the right track and to ensure project delivery in right time. As the project in hand had several smaller modules to be developed, the development had to be such phased out that no two modules conflicted with each other.

The developer decided to stick on to the following work plan:

- First develop the interface for the website where a user could log in and exercise further actions.
- The developer decided to first implement all functionalities described in the use case section in the previous chapter for the website.

For the benefit of the reader the developer has included a detailed description of all modules to be developed in a following section. The developer advises the reader to go through this section to get a full understanding of the functionalities.

6.2.1 Tools Used for Implementation

No.	Case Tools	Purpose
1	Microsoft Visio 2007	To draw all the UML diagrams.
2.	Microsoft Project	To draw Project Gantt chart
3.	Visual Paradigm UML	To draw ERDs and UML Diagrams

Table 6.1: Table showing case tools used for development

No.	Development Tool	Purpose
1	Visual studio 2010	Used as interface for coding.
2.	Macromedia Dreamweaver	Used for design the interface of website.
3.	Sql Server 2008 R2 Edition	Used as the backhand of the system for storing and retrieving of data.
4.	Firefox, Google Chrome	Used as the primary browser for all activities during development.
5	Adobe Photoshop CS4	For design images for the system

Table 6.2: Table showing IDE's and other SDK's used

No.	Others	Purpose
1	Microsoft Word 2007	To document the report.
2.	Microsoft PowerPoint 2007	To prepare presentation slides.
3.	Adobe Photoshop CS5	For image and logo creation.

Table 6.3: Table showing other general purpose tools used

6.2.2 Implementation Approach

While proceeding through implementation firstly developer has defined the implementation approach which is used to complete the system on time. The strategy and approach which is followed by the developer is given below:

- ✓ Identify all the modules
- ✓ Define the priorities of the modules
- ✓ Identify the modules so that no module will effect or clash with other module
- ✓ The module of higher priority should be developed first
- ✓ Develop the each module on priority basis on time

The description of modules defined by the developer is given below:

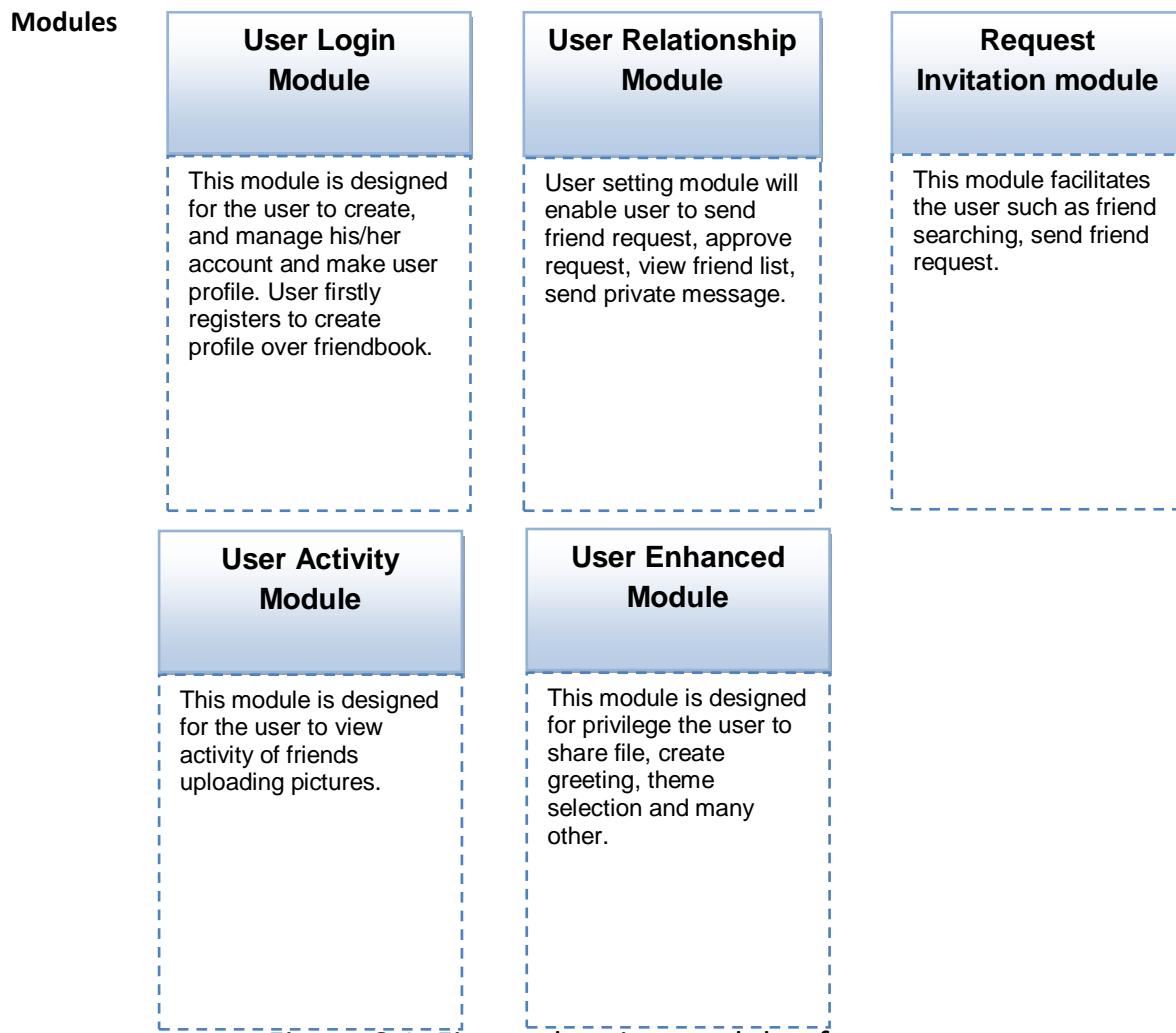
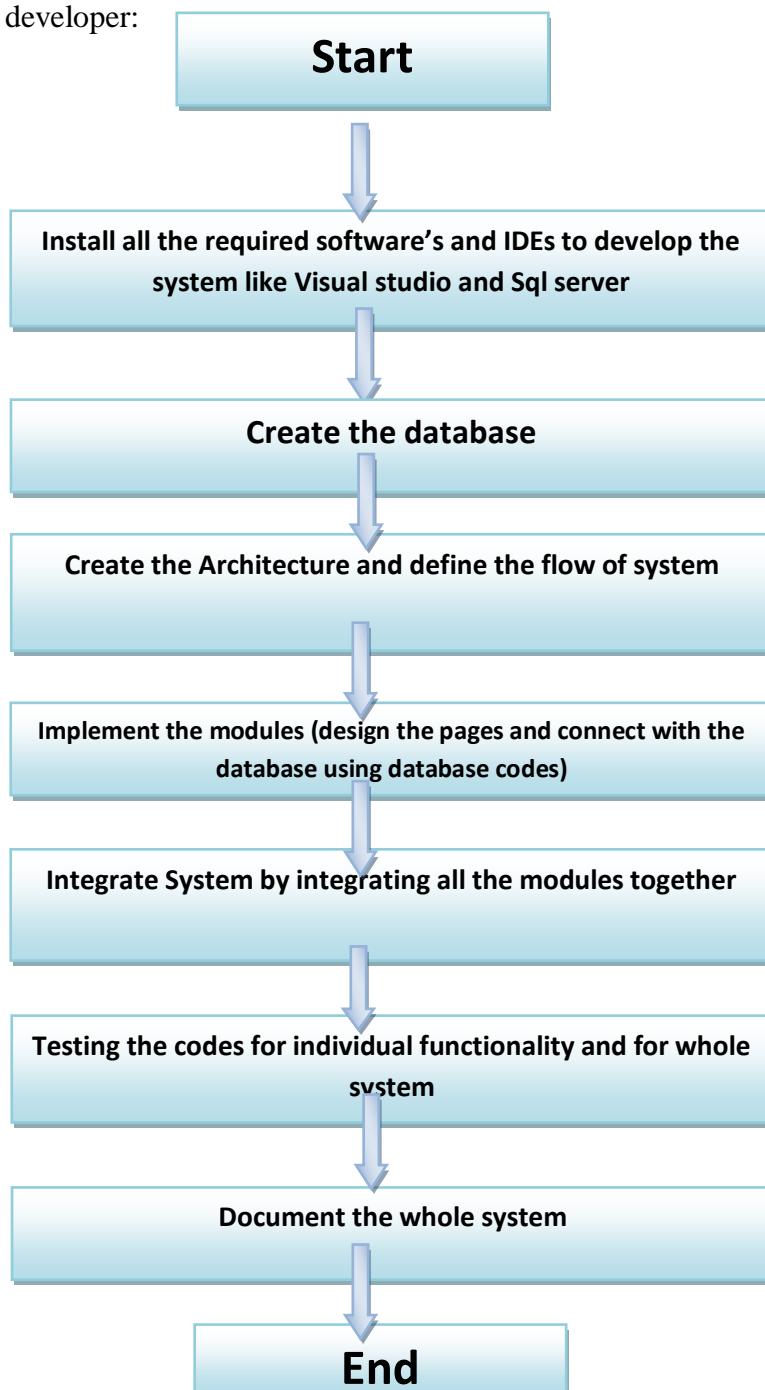


Figure 6.1: Figure showing module of system

6.2.2.1 Approach Flow Diagram

It shows the complete flow of the implementation approach to make this system by the developer:



As looking on the implementation approach flow diagram, it is clearly seen that developer has taken all the inputs of design phase and according to that he proceeds through the implementation of all the modules of this system.

The outputs achieved from this implementation phase will be acted as input of the next phase which will be the testing phase.

Figure 6.2: Figure showing Approach Flow Diagram

6.2.2.2 Coding Standards Followed

Use of proper naming conventions so that one can identify and understand the code

Use of comments to make the code more readable and understandable

Exceptional handling techniques should be used throughout the program to catch exceptions.

Avoidance of problem creating statements

Figure 6.3: Figure showing Coding standard Followed diagram

6.3. Implementation of Modules

6.3.1. User Account and profiling module

This module is designed for the users to create and manage his/her account and profile. The main task of developer was to make it simple, easy and user friendly as possible.

6.3.1.1 Objectives

The main objective of the developer is to make it so simple and user friendly so that it will take lesser operation time than any other social networking sites. All the sub modules should be well navigated so that user can't feel any complexity while using the system.

6.3.2 Description

This module covers the following functionalities and sub modules:

1. Registration:

2. Login:

User will register to the system by filling all the required details. Then user can login to the system and view his/her account and profile page. It can also be managed or edited by the user. User can also see the profiles of other featured users of this system who are already

registered. Friend requests, sharing messages others will be the most interactive features of this module.

6.3.1.2 Problems Encountered and Solutions

The major problems encountered in this module are as follows:

Problem 1: The first problem encountered in the registration page of the system. In this system when user registers to the system with the same email id which he/she is already registered, then it was showing an error in inserting the value. Because of the primary key constraints as it doesn't accept duplicate value as well as there are some validations on each field which are to be entered by user.

Solution: Developer encountered this problem by using custom validate which will check the already existence of email id by doing coding on the client side to validate email field as a standard system did. The code fragment and steps by which developer has solved this problem is given below:

Step 1: First of all developer has searched the fields which has to be validated on the user registration form.

Step 2: Developer has include the custom validation to solve these problems like checking for blank textboxes which are mandatory, checking of password match with confirm password, checking of numbers and length in the contact no. field etc some of the code snippets are given below:

```
1 START
2 READ INPUT EMAIL
3 FOR I=0 TO END OF FILE
4   IF INPUT EMAIL=I(EMAIL) THEN
5     SHOW EMAIL ID ALREADY REGISTERED
6   ELSE
7     REGISTRATION SUCCEED.
8   END IF
9 END
10
```

```
public partial class Register : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
    }

    protected void txtEmail_TextChanged(object sender, EventArgs e)
    {
        EmailValidator.Validate();
    }

    protected void EmailValidator_ServerValidate(object source,
ServerValidateEventArgs args)
    {
        string email = txtEmail.Text.ToLower();
        string conString =
System.Configuration.ConfigurationManager.ConnectionStrings["FriendbookConnectionString"].ConnectionString;
        string command = "Select [email] from [FB_People] Where email='"
+ email +
""";
```

Validating email address

Figure 6.4: Figure showing code of registration

This code snippet shows the functions for registration of the user details so that user will enter the correct email in the respective field.

The screenshot of this implementation is given below:



Figure 6.5: Figure showing interface of login

Problem 2: The second problem encountered in the login page of the system. Whenever user will enter wrong email id and password then system will not allow user to go for user's home page. Because of the condition for wrong user id and password was entered after successful condition so that it does not match the false statement.

Solution: Developer encountered this problem by apply the password check constraints for the password as the incorrect password.

Step 1: Read the password as user is entered into text box

Step 2: match the password with the password which was read from the database. If it is found as an invalid one then ask for reenter the username and password field.

```

1 START
2     READ username and password
3     CONNECT to database
4     SEND the username and password as query string
5     READ response from database
6     IF(User Exists)
7         Show Home page
8     Else
9         Back to Login Screen
10    END IF
11 End

```

```

if (!reader.HasRows)
{
    lblError.Text = "Invalid Email!";
    return;
}

password = reader.GetString(2);
if (txtPassword.Text != password)
{
    lblError.Text = "Invalid Password!";
    return;
}

```

After solving the problems which are encountered developer has successfully implement this module. After the implementation, the basic flow of this module is given below:

- ✓ Create user account
- ✓ User Login
- ✓ View Profile Details
- ✓ Edit Profile Details

6.3.2. Problem in User Relationship module:

6.3.2.1 Objective

The main objective of this module is to provide such facilities to the user so that he/she can establish a relation with the other user of friendbook. For this module system is providing the functionalities that are given below:

- Sending friend request,
- Approval of friend request,
- View friend list,
- Sending private message to their friends,

Flow Chart for Sending friend Request, Approval of friend Request and View friend List

```

1 START
2 ENTER USERNAME
3 FOR I=0 TO END OF FILE SELECT ALL FROM DATABASE WHERE NAME=USERNAME
4     DISPLAY USERNAME
5 NEXT
6 STOP
-
1 START
2 ENTER USERNAME AND PASSWORD
3 FOR I=0 TO END OF FILE
4     DISPLAY USERS WHERE FRIENDS WITH USERNAME
5 NEXT
6 STOP
-
1 START
2 IF REQUEST>0 THEN
3     IF ADD =TRUE THEN
4         ....USER1+USER2=FRIENDS
5     END IF
6 END IF
7 STOP
8

```

6.3.2.2 Problems Encountered and Solutions

Problem1: The biggest problem faced by the developer while user1 is sending friends to user 2 then the request doesn't come to user 2. So the invitation module is not able to complete successfully.

Solution: Developer encountered this problem after reviewing the code of the system. As the connectivity of the code which is written by developer missing the statement by which the request doesn't get added to the request table and also not able to display over form.

Modified Code

```
<asp:SqlDataSource ID="SqlDataSource1" runat="server"
    ConnectionString="<%$ ConnectionStrings:FriendbookConnectionString %>" 
    SelectCommand="select pid, email, name, isApproved from FB_People, FB_Relation where pid=pidSender and isApproved='false' and pidReceiver=@pid;
    UpdateCommand="UPDATE FB_Relation SET isApproved='true' WHERE (pidSender=@pid and pidReceiver=@pidReceiver);"
>
```

6.3.3. Request Invitation Module

6.3.3.1. Objective:

The main objective of this module is to provide user to find their loving one on the friendBook as well as after searching user can also add them to his friend list. For performing this event system is providing the functionality that is given below.

- Friend Searching
- Send Friend Request

```
1 START
2 READ SEARCHNAME
3 FOR I=0 TO ENDOFFILE
4 READ NAME
5 IF NAME=SEARCH NAME THEN
6 DISPLAY NAME
7 END IF
8 NEXT
9 STOP
10
```

6.3.3.2. Problem encountered and Solutions:

Problem 1: As friend request is sent by the user1 to user2 then it is not able to view by the user 2. The main problem is that developer noticed that it is not going to add to the request table so it became difficult for user2 to add user1 as a friend.

Solution: Developer planned to present the data in grid view because it will become easy for him to show the records on hierarchical manner.

Problem solver code is given below as it present the required data directly in tabular view.

```
30 </asp:GridView>
31 <asp:SqlDataSource ID="SqlDataSource1" runat="server"
32     ConnectionString="<%$ ConnectionStrings:FriendbookConnectionString %>" 
33     SelectCommand="select pid, email, name, isApproved from FB_People, FB_Relation where pid=pidSender and isApproved='false' and pidReceiver=@pid;
34     UpdateCommand="UPDATE FB_Relation SET isApproved='true' WHERE (pidSender=@pid and pidReceiver=@pidReceiver);"
35   >
36   <SelectParameters>
37     <asp:SessionParameter Name="pid" SessionField="id" />
38   </SelectParameters>
39   <UpdateParameters>
40     <asp:Parameter Name="pid" />
41     <asp:SessionParameter Name="pidReceiver" SessionField="id" />
42   </UpdateParameters>
43 </asp:SqlDataSource>
```

6.3.4. Activity Module

6.3.4.1. Objective

- To design the module in such a way so that user can do more activities in the friendbook.
- Design all the sub modules so that these can be integrated easily.
- Design the whole module more and more interactive and user friendly.
- Design the module in such a way that user can easily perform all the operations by performing large number of task in short period of time like uploading pictures, post status etc.

6.3.4.2. Description:

The main objective of this module is related to the activity of the user it can be in the term of anything that is completely related to the user. It is basically cover the following functionalities;

- View activity of friends
- Uploading pictures
- Post status

Flow Chart for Reading wall and uploading photo

```
1 START
2 READ USEREMAIL_ID
3 FOR I=0 TO ENDOFFILE
4 IF WALLID=USEREMAIL_ID THEN
5 DISPLAY WALL DATA
6 END IF
7 NEXT
8 READ STATUS
9 WALLDATA= WALLDATA+STATUS
10 STOP
11
12
13 START
14 READ PHOTO
15 IF PHOTO=.JPG OR PHOTO=.GIF THEN
16 TABLEPHOTO=TABLEPHOTO+PHOTO
17 ELSE
18 DISPLAY CHOOSE JPG OR GIF FORMATE
19 END IF
20 STOP
```

6.3.4.2. Problem encountered and solutions;

Problem: While uploading the developer faced a problem of photo extension that what type of photos should uploaded to the system and in that if user select the other than jpg or gif picture then it was showing error.

Solution: developer encounters the problem by putting condition over photo uploading that it will accept only .png or .jpg formatted photos.

The sample code for that is given below.

```
private string getUploadFilePath()
{
    if ((filePhoto.HasFile) && ((System.IO.Path.GetExtension(filePhoto.FileName) == ".jpg") || (System.IO.Path.GetExtension(filePhoto.FileName) == ".png")))
    {
        string path = "~/PeopleFiles/Photos/" + Session["id"] + "_" + filePhoto.FileName;
        filePhoto.SaveAs(MapPath(path));
        return path;
    }
    return null;
}
```

6.3.6. File sharing

6.3.6.1. Objective:

The main objective of this module is to enable users of ‘friendbook’ is to provide the feature of sharing of file so that they will able to share the things easily. As well as the feature of create greeting card is also an better extra feature that friendbook is providing to their user for sharing

6.3.6.2. Description:

For achieving this functionality system is providing different functionalities to their user such as

- File sharing
- Create greeting card
- Create groups and send message to specific group

Flow chart for file sharing

```
1  START
2  IF FILE IS SELECTED THEN
3      FILE PATH =FILE PATH+USERID+FILE DOCUMENT NAME
4      FILE DOCUMENT SAVE TO FILE PATH
5      DISPLAY UPLOAD SUCCESS
6  ELSE
7      DISPLAY NO SPECIFIED PATH
8
9  END IF
```

6.3.6.2. Problem encountered and solution:

Problem: developer faced the problem while uploading the file. He was not able to understand that what path it should give to upload it in correct location of file.

Solution: As developer brainstorm upon this and finally come into conclusion that it should upload to the particular folder where it will store all the photos and the path and name of the file will store to the database for further usage. The defined code is given below

```
protected void btnSubmit_Click(object sender, EventArgs e)
{
    if (fileDocument.HasFile)
    {
        string path = "~/PeopleFiles/Files/P" + Session["id"] + "_" + fileDocument.FileName;
        fileDocument.SaveAs(MapPath(path));
        lblResponse.Text = "Upload Success!";
    }
    else
        lblError.Text = "No file specified!";
}
```

6.4. User Manual:

The “friendbook” is very attractive and user friendly web application. It facilitates the users with all the mailing features and applications. The flow and navigation of the system is very simple and very simple to use. The steps to use the system are discussed below:

- **User Registration:** This feature enables the user to register for the system with unique mail id. It also requires the personal information about the user who wants to register because it will require by the other user to recognize.

The screenshot of registration page is given below:

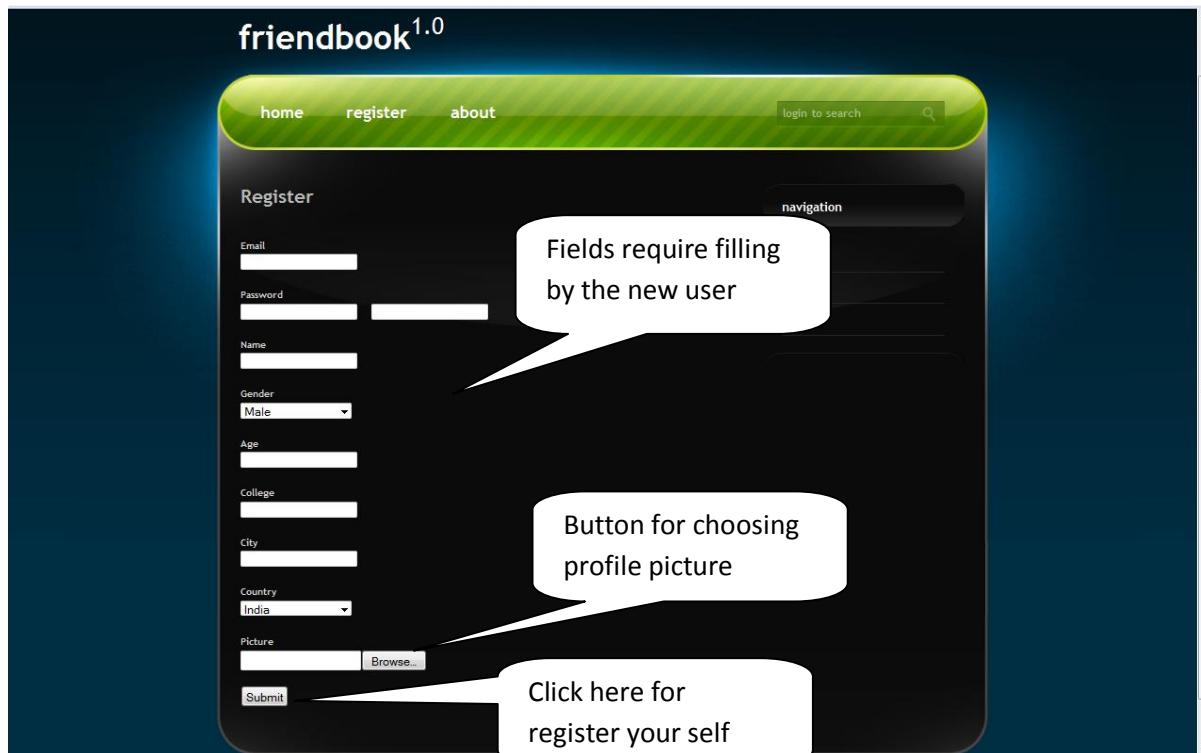


Figure 6.6: Figure showing screen shot of registration page

- **Login:** If the user is getting registered by email then that mail id will work as a user id for login and user has to click registration link to approve him/her. Then user is navigated directly to the login page which looks like :

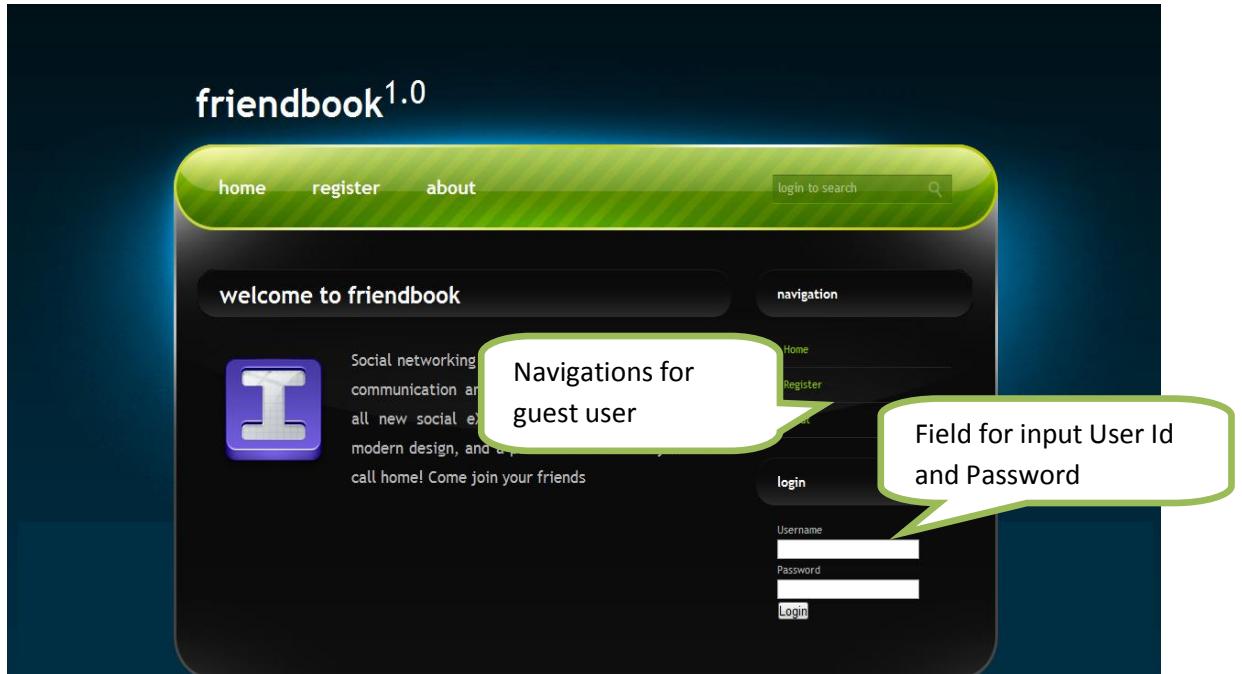


Figure 6.7: Figure showing screen shot of login page

- **Home Page:** After logging in into the system user can get his/her homepage which has the links to navigate through whole system. The screenshot of this page is given below:

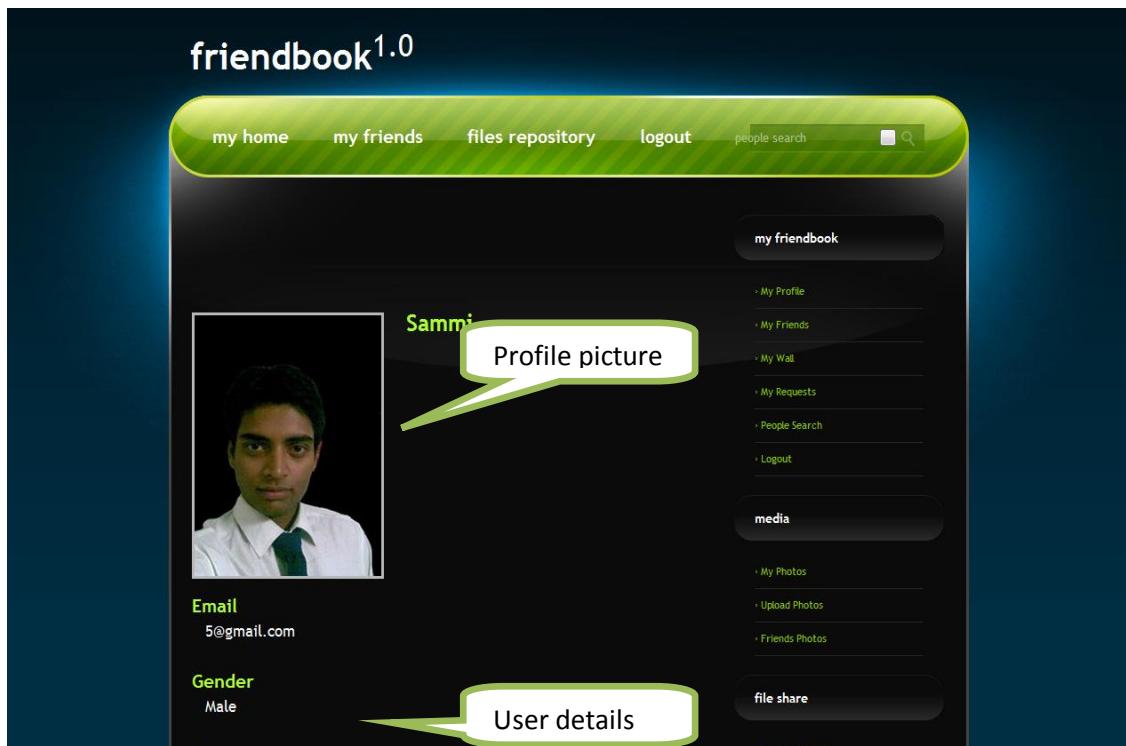


Figure 6.8: Figure showing screen shot of profile page

By clicking on links user can navigate through all the pages of the system. The different navigating pages view is given below:

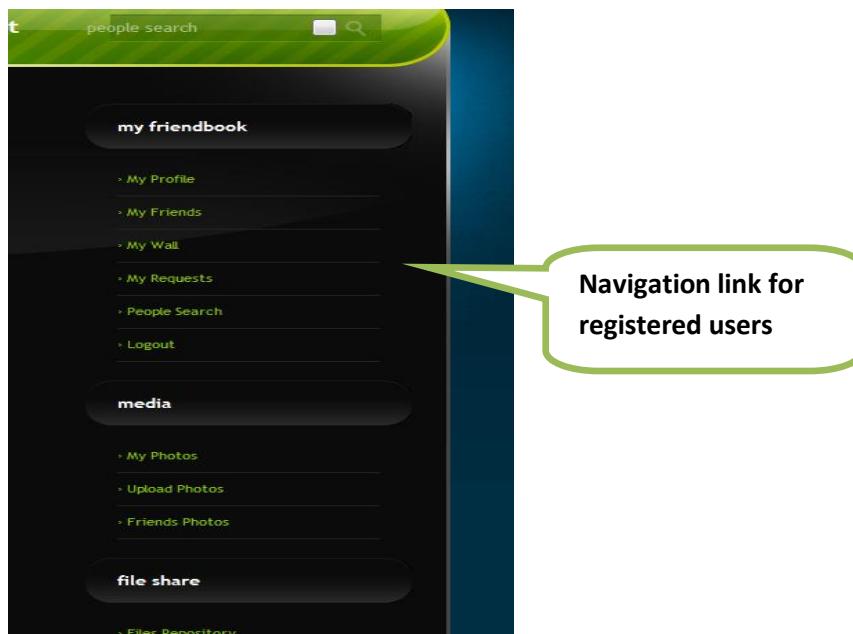


Figure 6.7: Figure showing screen shot of navigation menu bar

- **User Profile and account:** User can view his/her profile and account details by clicking on the link of profile. The screenshot is given below:

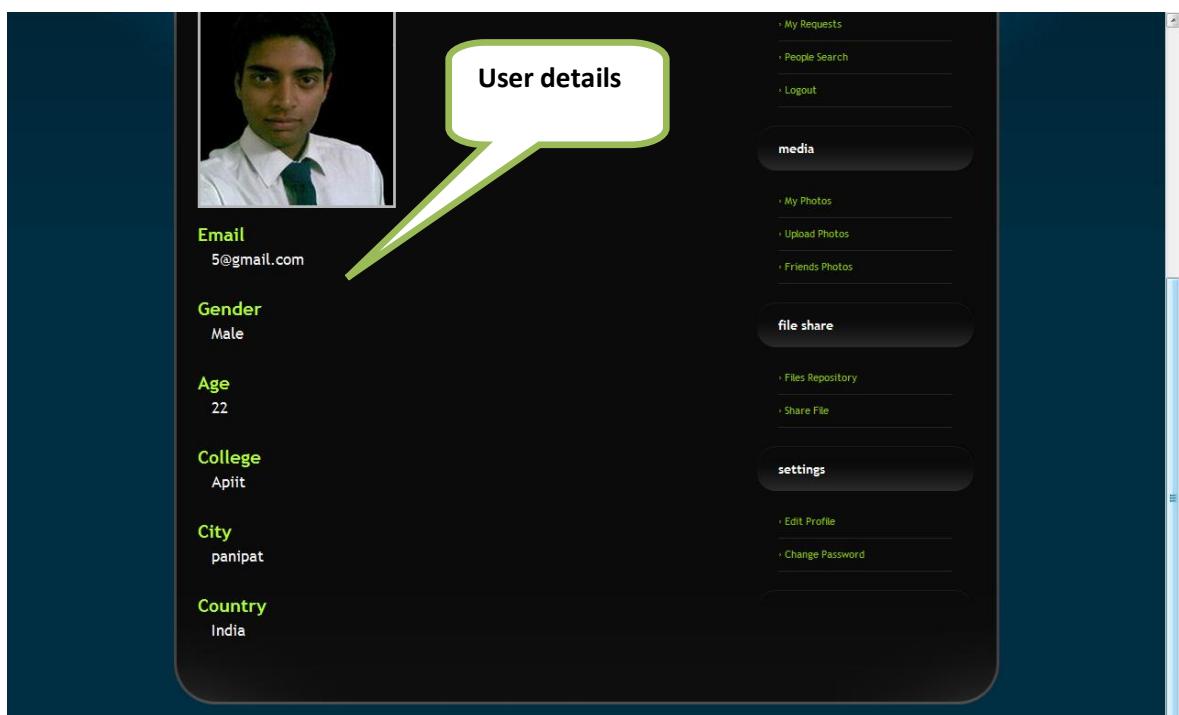


Figure 6.7: Figure showing User profile details

- **Upload photo:** User can upload image and view it. The screen shot of uploading image is given below.

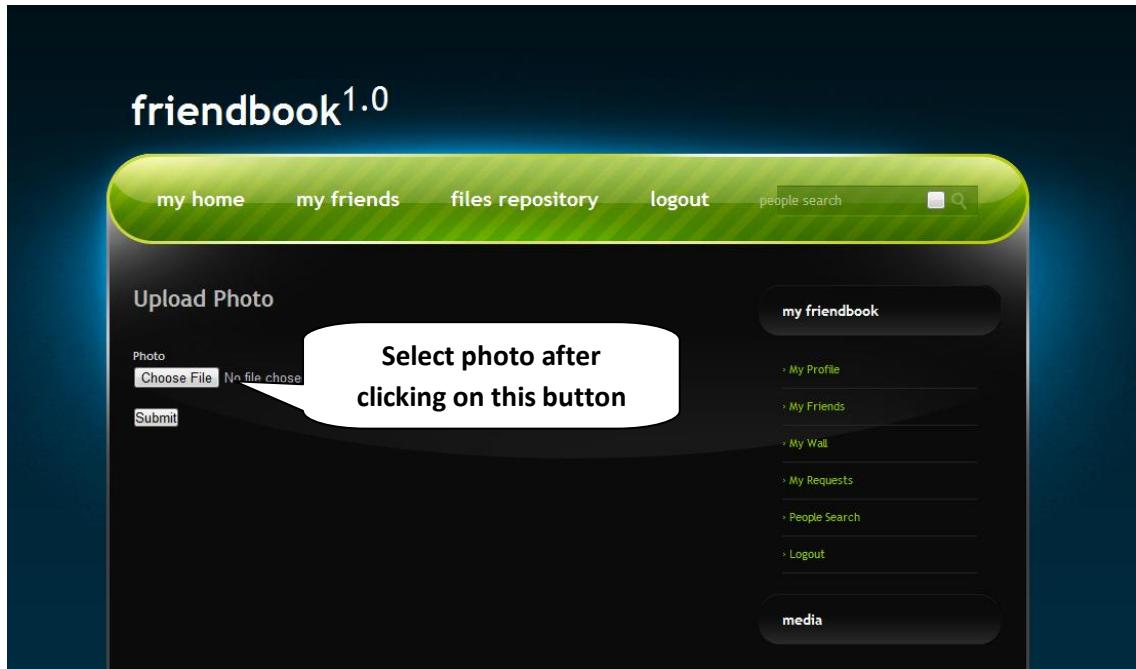


Figure 6.8: Figure showing uploads image screen shot

View image

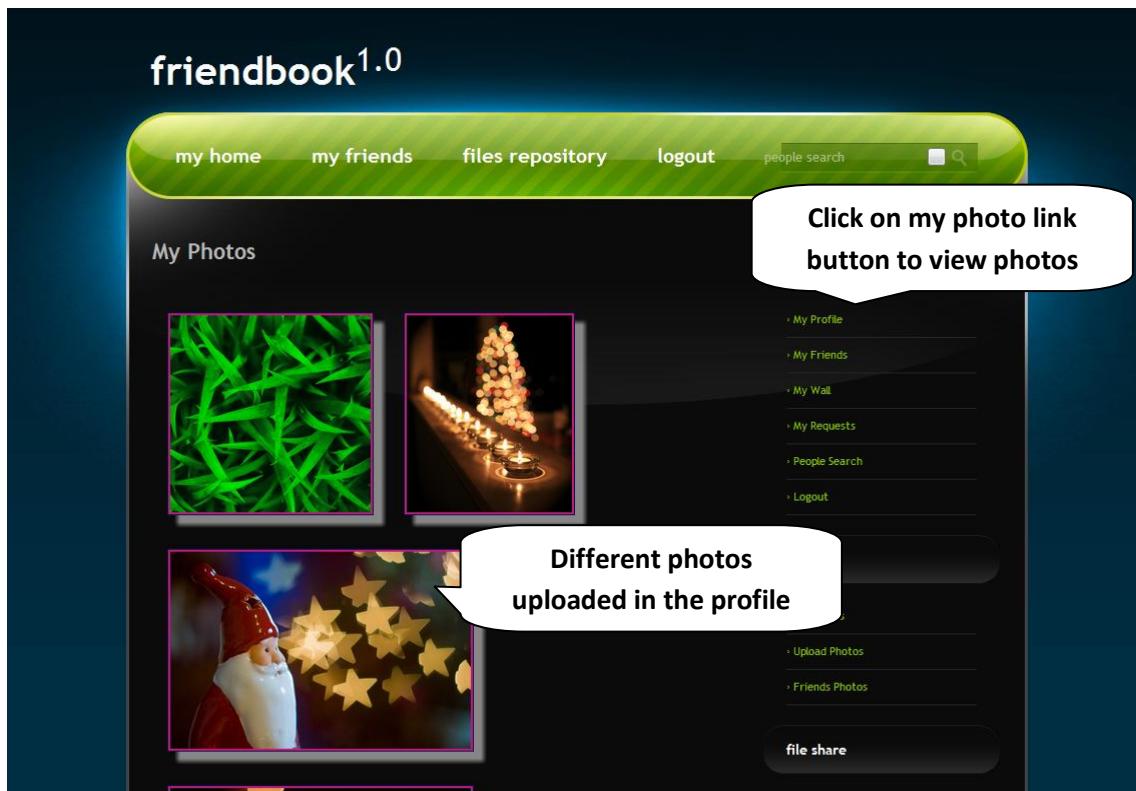


Figure 6.9: Figure showing view image screen shot

- **Wall:** User can view his/her wall. The screenshot is given below:

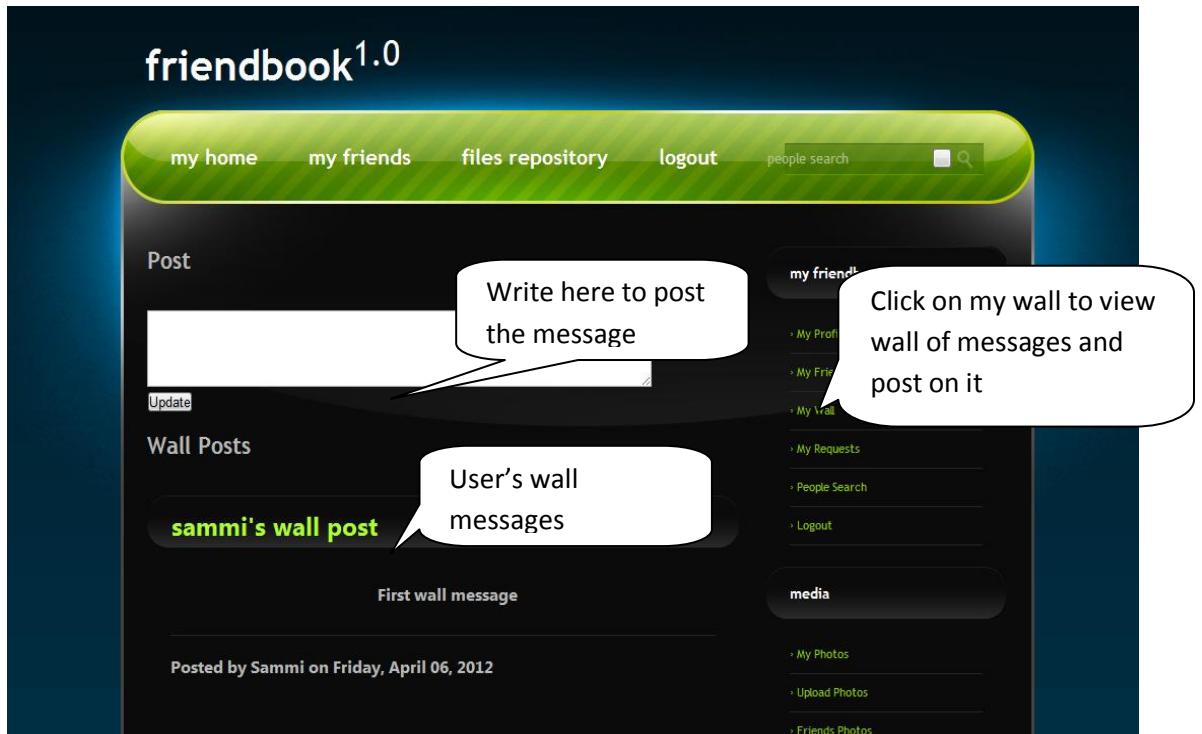
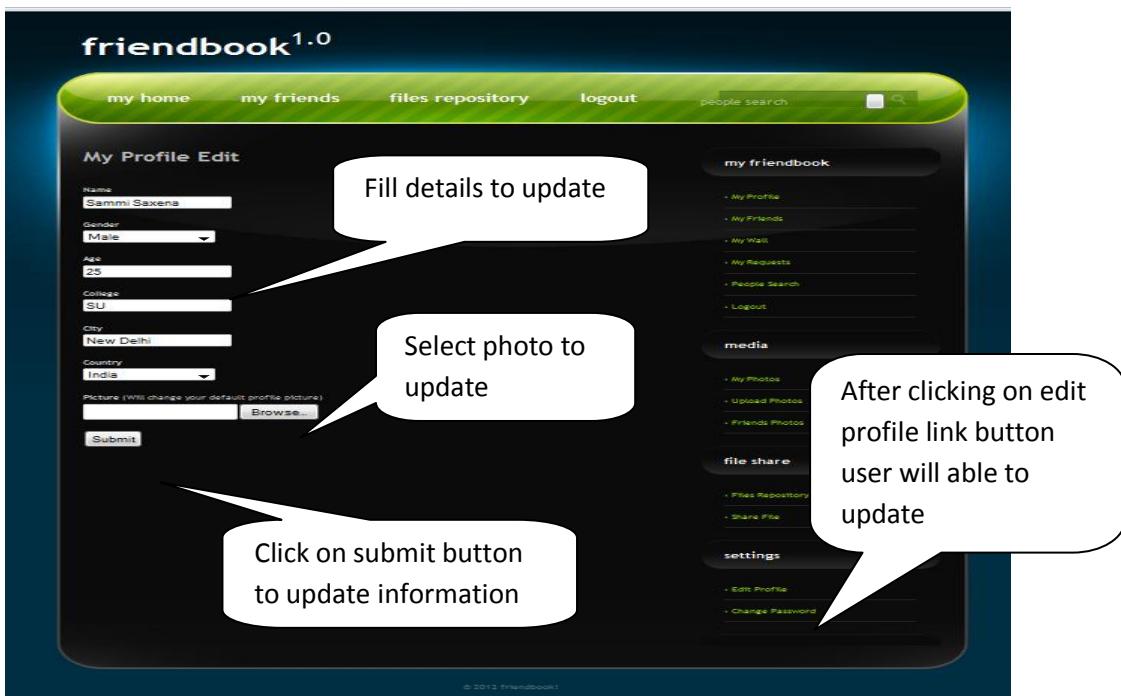


Figure 6.10: Figure showing users wall and its message

- **Update profile:** This page will help you to update information related to you as you were filled at the time of registration.



Note: due to page limit screen shot of limited pages are given

6.4.1. Site Map

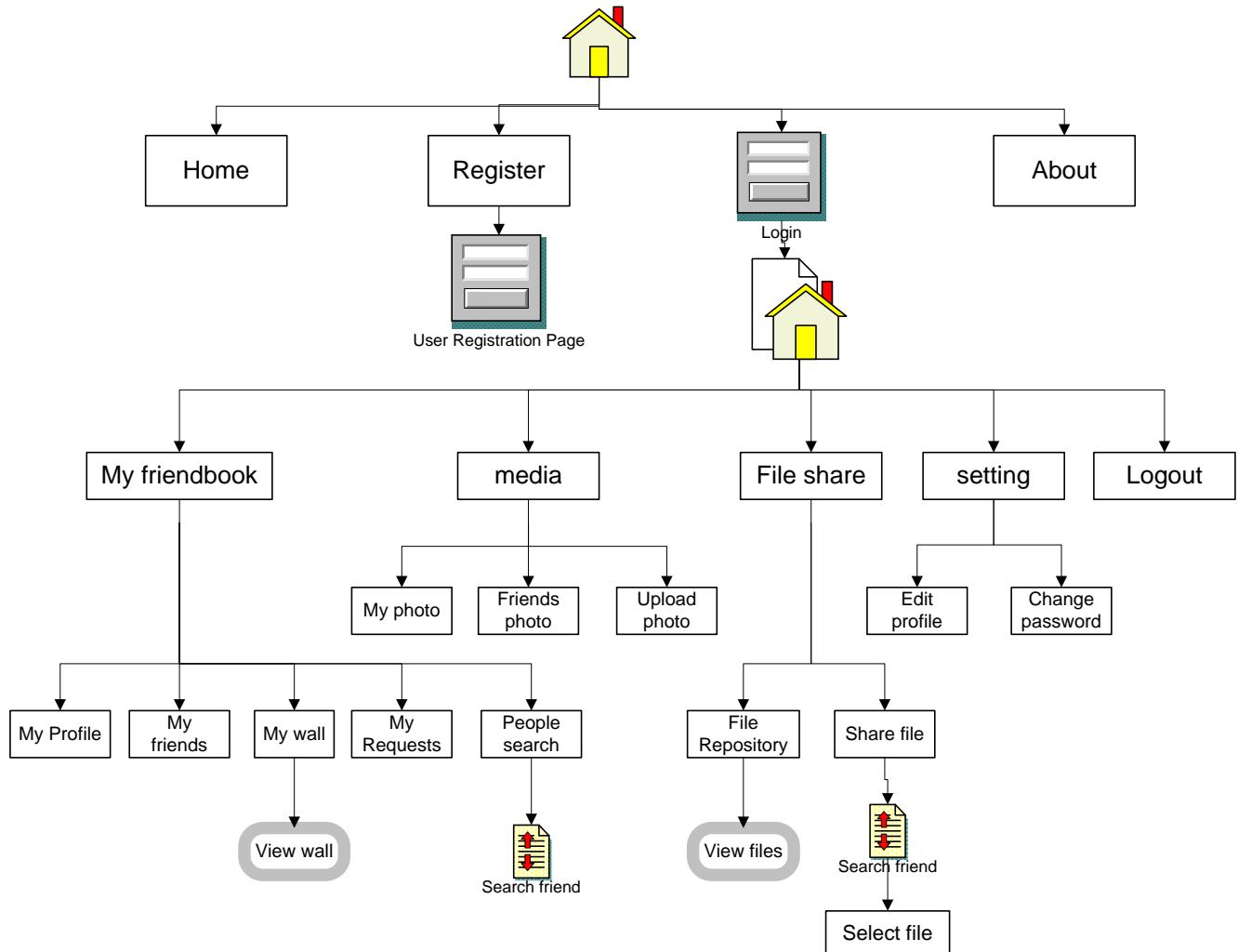


Figure 6.11: Figure showing site map of friendbook

7.4.5 Technical Manual

As friendbook is a web application so deployment of this application on web server is necessary. Technical manual provides the users or customers a method to implement this web application deployment. The basic steps to deploy any web application on the web are as follows:

- Find out the companies or websites which provide the hosting and deployment services
- Find out domain availability for setting an URL to run this web application.
- Find out the best suitable plan to host the web application.
- Create the user account on the hosting website and get full access to it.

- Select the host plan and pay according to that to get the web space on the server.
- Web service provider gives the user a username and password for control panel.
- Put the proper authentication details on the control panel and get access to it.
- Go to the administrator tools icon.
- Click on the icon
- Put the edited and compiled .war file into the control panel folder.
- Attach the database .dbo files into the database folder.
- Host the application and feel free to use the web application on the web.

User will able to access the website on the local host also for this user required to following some basic steps which are compulsory to get executed.

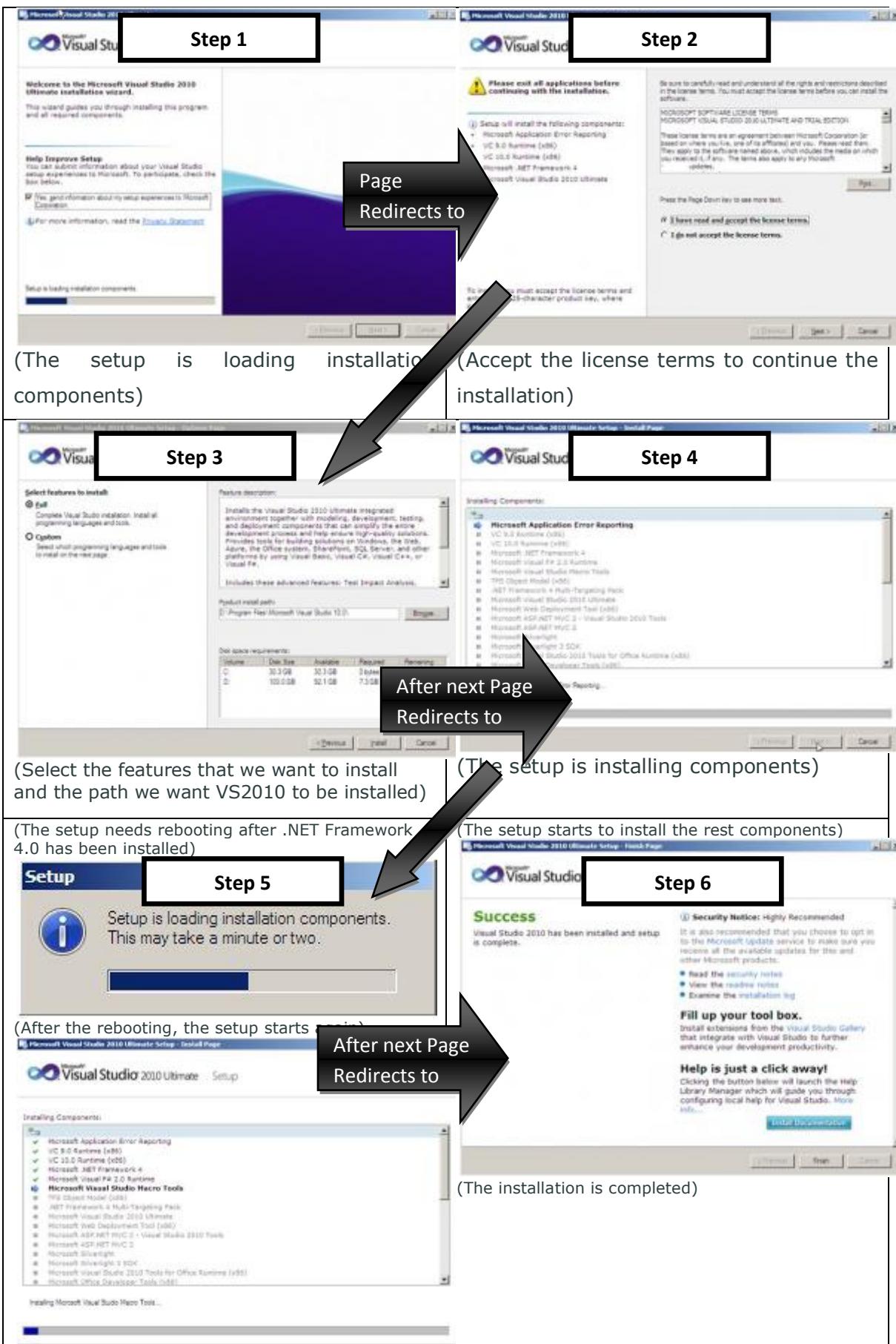
For installation of SQL Server database user required to install the Microsoft Visual Studio 2010 edition fist because SQL Server R2 Required the Service pace 2 or upgraded version of Studio.

So for installing the visual studio 2010 the following things to be consider:

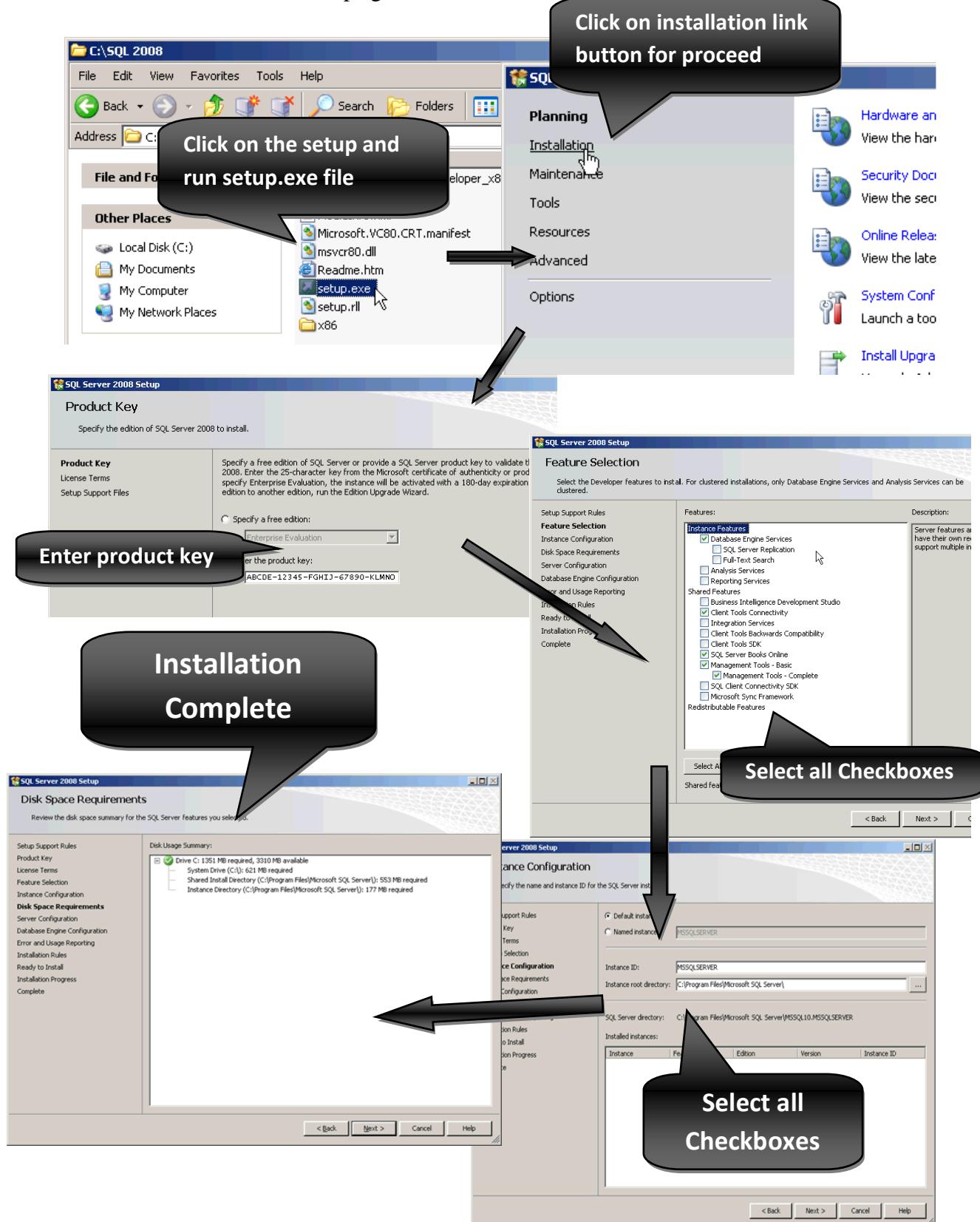
Ensure that all of the pre-release (Beta or CTP versions) components on your machine have been removed

- Disable your Anti-Virus or Anti-Spyware software
- Be sure that your OS has been "patched" up – Update your computer (Windows)
- Complete or dismiss Windows Update before installation. Please don't forget to turn it on later
- Make sure that the installation media is healthy. If the installation from disc drive is not working well, you can try copying the contents of the disc to the hard disk and installing from the hard disk.

After the preparation has been done, we double-click the setup.exe file to start Visual Studio 2010 products installation.



After installation of visual studio user required to install the SQL Server 2008 R2 Edition so for that user have to follow the steps given below:



For attaching the database the following steps user needs to be follow:



7. Testing

7.1. Introduction

"Exploratory testing is not so much a thing that you do; it's far more a way that you think. ", by: Michael Bolton

Clearly the lines speak to the importance of testing in software development. Further testing is always the most important phase of software development project in recent times has become. It plays an important role in the success of this product. In appraising various attributes of a system and eventually determining whether they meet all requirements it really helps the developer(s).

This chapter details out the various tests that were conducted during the duration of development of **Friendbook**. The highlights of this chapter include:

- The different types of testing done.
- The duration taken to test.
- The person(s) involved.
- The reported errors.
- The measures taken.

7.2 Friend-Book Testing Strategy

In order to execute a successful systematic and effective testing, a proper test plan is required and therefore needs to be drafted. The test plan provides a set of activities and builds a framework which is essential for successful testing. The developer created a test plan for **FriendBook** and adopted the following general strategy:

- Step 1: Planning of testes to be performed.
- Step 2: Designing of the required test cases.
- Step3: Execution of program according to test cases.
- Step4: interpretation of outcome.

7.2.1. Types of Testing Done

The figure given below is describing about the testing phase of the web App. It is important to note that the testing flow proceeds from left to right and top to bottom; user-visible elements of the web App design are tested first, followed by infrastructure design element.

No.	Method	Details
0.	Content Testing	In this testing the Correctness and Grammatical issues were tested.
1.	Unit Testing	In this testing activity the developer tested each friendbook functionality separately in an isolated manner from the rest of the application; There were various techniques available to conduct the unit testing, but the developer selected and used the Component Testing techniques which if followed by: <ul style="list-style-type: none"> • Black Box Testing • White Box Testing
2.	Integration Testing	In this testing activity the developer combined and tested different modules. The basic aim here was to check intercommunication between different modules of friendbook .
3.	System Testing	Here the developer performed testing on the complete, integrated system. All friendbook modules namely login , activity, relationship, request invitation and enhanced modules are combined and tested together to evaluate the system's compliance with the specified requirements.
4.	Configuration Testing	Here the developer tested the friendbook on different versions of web browsers and other screen resolutions.
5	Usability Testing	Here developer has tested about the Usability issue of the system.
6	Security Testing	Here developer basically check for the security issue i.e. Login and others
7	User Acceptance Testing	The system was given to a user experience and he was asked to test the system in his sense of inputs. Under this User interface testing has done.

Table 7.1: Showing types of testing done

7.2.2 Persons Involved

Testing Type	Tester Name
Unit	Developer (Sammi Kumar)
Integration	Developer (Sammi Kumar)
System	Developer (Sammi Kumar)
Compatibility	Developer (Sammi Kumar)
User Acceptance	Developer (Sammi Kumar, Mr. Mohit Garg, Mr Santosh Kumar)

Table 7.2: Table showing persons involved in testing

7.2.3 Test Duration

Test Strategy	Start Date	End Date
Unit Testing	1 st Feb 2012	7 th Feb 2012
Integration Testing	8 th Feb 2012	14 th Feb 2012
System Testing	15 th Feb 2012	21 st Feb 2012
Compatibility Testing	22 nd Feb 2012	26 th Feb 2012
User Acceptance Testing	27 th Feb 2012	2 nd Mar 2012
Usability Testing	3 rd March	4 th March

Table 7.3: Table showing test duration dates

7.2.3 Pass/Fail Criteria

Before moving ahead with performing the actual tests using the test cases developed, the developer set down few criteria which he thought, must anyhow be achieved to consider the system successful. The following list presents some of the identified requirements:

- All functionalities promised by the application should be working properly.
- System response time should be in acceptable range.
- Interface should be simple and minimal and easy to use for the remote user.
- Remote user must be able to perform all the operations he intends to.

In the forthcoming sections all testing done will be presented in detail with test cases and their results and any associated remarks.

7.0. Content testing:

Content testing attempts to uncover these and many other problems before the user encounters them.

7.0.1. Objective: The main objective of the content testing is given below

1. To uncover syntactic errors (i.e. typos, grammar mistakes) on text based documents, graphical representations and other media.
2. To uncover semantic error (i.e. error in the accuracy of completeness of information) in any content object present as navigation occurs.
3. To find error in the structure of content that is presented to the end user.
4. Overall aesthetics
5. Default values

Here the test of each pages were done by considering following consideration

Project name: SocioNet-FriendBook		
Test Case# About us	Date :23 rd March,2012	Time taken: 1 hours
Type of testing: Content Test 1		Tested By: Sammi Kumar
Objective: To test the content of home page and Documentation		
Test Case # 1		
Function To Test:	Syntactic and Semantic error	
Execution Steps:	On the “friendbood” application goes to about us page and go through the all the contents displayed over it and check it with the standard of US English format. And the similarly content of document will follow the testing steps	
Expected Result	Actual Result	Status
All the contents are checked and evaluated for checking its correctness.	Evaluated Successfully	Pass.
Remarks:	NIL	
Test Case# Update profile		
Type of testing: Content Test 2		Tested By: Sammi Kumar
Objective:	All the fetched records of user must be related to him	
Execution Steps:	Login to “friendbook”. Go to update profile link	
Expected Result	Actual Result	Status
All the information all the information fetched from database must related to that user only.	All the information's are related to that person only.	Pass.
Remarks:	The message displayed because there was some error with the database connectivity. This problem overcame by performing white box testing where code was analyzed and a small change was made. And the problem was solved.	

7.1 User Interface Testing

In this testing strategy the developer will uncover errors related to specific interface mechanism and also uncover the error such that the interface implements the semantic of navigation, web app functionality, or content display.

7.2 Unit Testing

7.2.1. Objective:

This testing is during requirement analysis having the main purpose is to insure that it conforms the user requirements and to other elements of the requirements model. For this developer planned to do unit testing for the system.

7.2.2. Justification of unit testing in the system

As any system consists of many modules therefore it is easy to locate errors in module base functionalities of the system. As this system also having many modules therefore it is justified that unit testing will be required for this system for finding out the errors and outputs properly and efficiently.

Once each interface mechanism has been unit tested the focus of interface testing changes to consider of interface semantics. Interface semantics will evaluates that how well the design takes the core of the user, offer the clear direction, delivers feedback and maintain consistency of language and approach.

Black box Testing

7.2.2.1. Login Module

Project Title	SocioNet-FriendBook 1.0	Testing Date	Date :2 nd Feb 2012
Test Name	Registration module		
Test ID	Friendbook UT-BlackBox-1		
Conducted By	Sammi Kumar		
Description	When user visited friendbook as a guest user and wants to become a registered user.		

Project name: SocioNet-FriendBook		
Test Case# Login	Date :2 nd Feb,2012	Time taken: 2 hours
Type of testing: Black Box 1		Tested By: Sammi Kumar
Objective: To test the working of Login module		
Test Case # 1		
Function To Test:	Prompt User if the fields are left empty	
Execution Steps:	On the “friendbook” login screen press submit button. Or only username or password field is filled by user and login button is clicked.	
Expected Result		Actual Result
A red color star should appear near the fields with tooltip prompting “Fields cannot be left blank”.	Prompt appeared.	Pass.
Remarks:	NIL	
Test Case # 2		
Function To Test:	User should be prompted when invalid email ID and Password is entered.	
Execution Steps:	On “friendbook” wrong email address and Password has been entered.	
Expected Result		Actual Result
A message to be displayed	Message does not appear	Fail.

about invalid user name and password.		
Remarks:	The message displayed because there was some error with the database connectivity. This problem overcame by performing white box testing where code was analyzed and a small change was made. And the problem was solved.	

Test Case # 3		
Function To Test:	User should be prompted if the user's email address is already registered earlier.	
Execution Steps:	On "friendbook" registration page already registered email address is input as a new registration.	
Expected Result	Actual Result	Status
A message should be displayed as "Already registered" if the email address is already registered.	"Already Registered" message was displayed in first testing scenario.	Pass.
Remarks:	Nil.	
Test Case # 4		
Function To Test:	User should not be allowed to create account if email id is in incorrect format.	
Execution Steps:	In registration page enter mail address in incorrect format.	
Expected Result	Actual Result	Status
Error message "invalid email address" should appear and Registration should not be completed.	Registration is complete.	Fail
Remarks:	The message displayed because some validation text are not properly added and that changes are made during white box testing.	
Test Case # 5		
Function To Test:	No fields must be left blank.	
Execution Steps:	On "friendbook" registration page fields are empty and login button is clicked.	
Expected Result	Actual Result	Status

A red color star should appear near the fields with prompting error text “Fields cannot be left blank”.	Prompt appeared.	Pass.
Remarks:	Nil.	

Table 7.4: Table showing Login Module Test cases

Project Title	friendbook 1.0	Testing Date	3 rd Feb 2012
Test Name	Friendbook searching module		
Test ID	friendbook-UT-BlackBox-2		
Conducted By	Sammi Kumar		
Description	Searching the friends over friendbook and add him/her as a friend.		

Project name: SocioNet-FriendBook		
Test Case# Searching	Date :3 rd Feb,2012	Time taken: 3 hours
Type of testing: Black Box		Tested By: Sammi Kumar
Objective: To test the working of searching module		
Test Case # 1		
Function To Test:	Searching of friend over friendbook.	
Execution Steps:	On the “friendbook” search page write name of friend and press search button.	
Expected Result		Actual Result
Profile picture of friend should appear as search query was passed.	Image appeared.	Pass.
Remarks:	NIL	
Test Case # 2		
Function To Test:	Friend request sending	

Execution Steps:	On “friendbook” after searching, click button to add as a friend.	
Expected Result	Actual Result	Status
Friend Request should send to the particular user of friendbook.	Request sent	Pass.
Remarks:	Nil.	
Test Case # 3		
Function To Test:	Weather friend request came or not.	
Execution Steps:	On “friendbook” login as another user and go to “my request” link. View the list of friend requests.	
Expected Result	Actual Result	Status
List of friend request should appear in the after clicking requests link button “request”.	List of friend request was empty	Fail.
Remarks:	The request doesn't come because the request table was empty and changes are made during white box testing and after that requests are properly coming.	
Test Case # 4		
Function To Test:	Acceptance of friend request.	
Execution Steps:	On “friendbook” select the request list value. Click accept button.	
Expected Result	Actual Result	Status
Friend should add in friend list and that particular request should delete from the list of request.	User is added in the friend list and from “my request” list that particular request was deleted.	Pass.
Remarks:	Nil.	

Project Title	friendbook 1.0	Testing Date	4th Feb 2012
Test Name	Friendbook searching module		
Test ID	friendbook-UT-BlackBox-3		
Conducted By	Sammi Kumar		
Description	Uploading images		

Test Case # 1		
Function To Test:	Uploading of pictures	
Execution Steps:	Login on “friendbook” and click on upload photo link button.	
Expected Result	Actual Result	Status
Browse window should appear and after selecting photo that should store.	Picture is selected and added to picture of user.	Pass.
Remarks:	Nil.	
Test Case # 2		
Function To Test:	Appearance of photo in “my photos”.	
Execution Steps:	On “friendbook” select the “my photo” link button.	
Expected Result	Actual Result	Status
The pictures uploaded by the particular user should display.	Photos displayed.	Pass.
Remarks:	Nil.	

Table 7.5: Table showing Searching Module Test cases

Project Title	friendbook 1.0	Testing Date	4 th Feb 2012
Test Name	Friendbook wall.		
Test ID	friendbook-UT-BlackBox-3		
Conducted By	Sammi Kumar		
Description	User’s wall posts will displayed		

Test Case # 1		
Function To Test:	Appearance of wall	
Execution Steps:	Login on “friendbook” and click on “my wall” link button.	
Expected Result	Actual Result	Status
After clicking on my wall all posts should appear.	The wall was empty and doesn't show any message.	Fail.
Remarks:	The posts of messages where not appeared because there was some problem while retrieving data from the database which was solved during white box testing and after that it is working properly.	
Test Case # 2		
Function To Test:	Post on the wall of other friends	
Execution Steps:	On “friendbook” go to friends profile after that post message on wall of friend.	
Expected Result	Actual Result	Status
The message should posted on the friends wall	Message was posted	Pass.
Remarks:	Nil.	
Test Case # 3		
Function To Test:	Post message on own wall.	
Execution Steps:	Login on “friendbook” and click on “my wall” link button.	
Expected Result	Actual Result	Status
Text written over input box of wall should add in wall after click on post button.	Message posted.	Pass.
Remarks:	Nil.	

Table 7.6: Table showing Wall Module Test cases

Project Title	friendbook 1.0	Testing Date	4 th Feb 2012
Test Name	Friendbook Repository		
Test ID	friendbook-UT-BlackBox-4		
Conducted By	Sammi Kumar		
Description	Users of friendbook can able to share the files with friends.		

Table 7.7: Table showing file sharing Module Test cases

Project Title	friendbook 1.0	Testing Date	4 th Feb 2012
Test Name	Friendbook edit profile		
Test ID	friendbook-UT-BlackBox-5		
Conducted By	Sammi Kumar		
Description	Users of friendbook can able to update his/her personal information.		
Expected Result	Actual Result	Status	
After clicking on “share file” link button browse menu should appear in which selected file should store in the repository.	File is not able to upload by the system.	Fail.	
Remarks:	The uploading of file is not able to completed successfully because the extension of files are not specified which is corrected successfully during white box testing.		
Test Case # 2			
Function To Test:	View uploaded files		
Execution Steps:	On “friendbook” after login go for “file repository” option and view uploaded files.		
Expected Result	Actual Result	Status	
The uploaded files should view and accessed by the user.	File shown.	Pass.	
Remarks:	Nil.		

Test Case # 1		
Function To Test:	Retrieve personal information	
Execution Steps:	Login on “friendbook” and click on “edit profile” option.	
Expected Result	Actual Result	Status
After clicking on “edit profile” link button all the personal data should appear in the text box fields.	All personal information appeared.	Pass.
Remarks:	Nil.	

Test Case # 2		
Function To Test:	Edit personal information	
Execution Steps:	After changes on the text field update button is pressed.	
Expected Result	Actual Result	Status
After clicking on update button update successful message should displayed.	Update successful message is appeared.	Pass.
Remarks:	Nil.	

Table 7.8: Table showing edit profile Test cases

7.3.1.2 White Box Testing

White box testing differs significantly from black box testing. It is very different in nature from black box testing. In black box testing, the focus of all activities is only on the functionality of the system and not on what is happening inside the system. (**Anand Ramdeo 2011**). As though white box testing can be done at the unit, integration and system levels of the software testing process, the developer has decided to execute it at the unit level. Here the primary aim of the developer is to test the codes of the system. (**Only failed test cases have been given due to restriction on number of pages**)

Project Title	friendbook 1.0	Testing Date	5 st Feb 2012
Test Name	Friendbook Login Authentication		
Test ID	friendbook-LA-WhiteBox-6		
Conducted By	Sammi Kumar		
Description	Allow user to login		

Table 7.9: Table showing Login authentication testing details

Friendbook-LA6 -Test Case #1		
Function to Test:	Whenever user will enter wrong email id and password then system will not allow user to go for user's home page.	
Execution Steps:	On the friendbook Login screen enter an incorrect set of email id and password and then click on submit button.	
Expected Result	Actual Result	Status(Pass/Fail)
A message to be displayed about invalid user name and password.	Message does not appear and user get logged into home page	Fail
Code Errors Identified:	<p>What happen when login button was clicked? After reviewing the code, the developer saw that condition for wrong user id and password was entered after successful condition so that it does not match the false statement.</p> <p>What was the error? <code>txtPassword.Text != password</code></p>	
Tested Code:		

```

try
{
    dataCommand.Connection.Open();
    reader = dataCommand.ExecuteReader(CommandBehavior.CloseConnection);
    reader.Read();

    if (!reader.HasRows)
    {
        lblError.Text = "Invalid Email!";
        return;
    }

    People person=new People();
    person.pid = reader.GetInt32(0);
    person.email = reader.GetString(1);
    person.password = reader.GetString(2);
    person.name = reader.GetString(3);
    person.age = reader.GetInt32(4);
    person.gender = reader.GetString(5);
    person.college = reader.GetString(6);
    person.city = reader.GetString(7);
    person.country = reader.GetString(8);
    if(!reader.IsDBNull(9))
        person.picture = reader.GetString(9);

    Session["id"] = person.pid;
    Session["person"] = person;
    Session["isInSession"] = true;

    reader.Close();
    Response.Redirect("~/Personal/");
    password = reader.GetString(2);
    if (txtPassword.Text != password)
    {
        lblError.Text = "Invalid Password!";
        return;
    }
}

```

Rectified Code:

```

try
{
    dataCommand.Connection.Open();
    reader = dataCommand.ExecuteReader(CommandBehavior.CloseConnection);
    reader.Read();

    if (!reader.HasRows)
    {
        lblError.Text = "Invalid Email!";
        return;
    }

    password = reader.GetString(2);
    if (txtPassword.Text != password)
    {
        lblError.Text = "Invalid Password!";
        return;
    }

    People person=new People();

    person.pid = reader.GetInt32(0);
    person.email = reader.GetString(1);
    person.password = reader.GetString(2);
    person.name = reader.GetString(3);
    person.age = reader.GetInt32(4);
    person.gender = reader.GetString(5);
    person.college = reader.GetString(6);
    person.city = reader.GetString(7);
    person.country = reader.GetString(8);
    if(!reader.IsDBNull(9))

```

**Code after white box
testing**

Project Title	friendbook 1.0	Testing Date	5 th Feb 2012
Test Name	Friendbook Login Validation		
Test ID	friendbook-LA-WhiteBox-7		
Conducted By	Sammi Kumar		
Description	Allow user to login		

Table 7.9: Table showing Login validation testing details

Friendbook-LA7 -Test Case #1

Function to Test:	Actual Result	Status(Pass/Fail)
A message to be displayed about invalid user name and password.	Message does not appear and user get logged into home page	Fail
Code Errors Identified: What was the error? Validation expression was missing with some code		After reviewing the code, the developer saw that code for checking the format of input is not properly arranged.

Tested Code:

```
<p>
    <strong>Email</strong> <br />
    <asp:TextBox ID="txtEmail" runat="server" AutoPostBack="True"
        ontextchanged="txtEmail_TextChanged" ValidationGroup="registerValidationGroup"></asp:TextBox>
    <asp:RequiredFieldValidator ID="RequiredFieldValidator1" runat="server"
        ControlToValidate="txtEmail" CssClass="error" Display="Dynamic"
        ErrorMessage="*" ValidationGroup="registerValidationGroup"></asp:RequiredFieldValidator>
    <asp:RegularExpressionValidator ID="RegularExpressionValidator1" runat="server"
        ControlToValidate="txtEmail" CssClass="error" Display="Dynamic"
        ErrorMessage="Invalid Email"
        ValidationExpression="\w+([.-]\w+)*@\w+([.-]\w+)*\.\w+([.-]\w+)" ValidationGroup="registerValidationGroup"></asp:RegularExpressionValidator>
    <asp:CustomValidator ID="EmailValidator" runat="server"
        ControlToValidate="txtEmail" CssClass="error" Display="Dynamic"
        ErrorMessage="Already Registered"
        onservervalidate="EmailValidator_ServerValidate"
        ValidationGroup="registerValidationGroup"></asp:CustomValidator>
</p>
```

Rectified Code:

```
<p>
    <strong>Email</strong> <br />
    <asp:TextBox ID="txtEmail" runat="server"
        ontextchanged="txtEmail_TextChanged"
        <asp:RequiredFieldValidator ID="RequiredFieldValidator1" runat="server"
            ControlToValidate="txtEmail" CssClass="error" Display="Dynamic"
            ErrorMessage="*" ValidationGroup="registerValidationGroup"></asp:RequiredFieldValidator>
    <asp:RegularExpressionValidator ID="RegularExpressionValidator1" runat="server"
        ControlToValidate="txtEmail" CssClass="error" Display="Dynamic"
        ErrorMessage="Invalid Email"
        ValidationExpression="\w+([-.\w+]*)@\w+([-.]\w+)*\.\w+([-.]\w+)*"
        ValidationGroup="registerValidationGroup"></asp:RegularExpressionValidator>
    <asp:CustomValidator ID="EmailValidator" runat="server"
        ControlToValidate="txtEmail" CssClass="error" Display="Dynamic"
        ErrorMessage="Already Registered"
        onservervalidate="EmailValidator_ServerValidate"
        ValidationGroup="registerValidationGroup"></asp:CustomValidator>
</p>
```

Validation expression after white box testing

Project Title	friendbook 1.0	Testing Date	5 th Feb 2012			
Test Name	Friendbook list of friend request					
Test ID	friendbook-LA-WhiteBox-8					
Conducted By	Sammi Kumar					
Description	List of friend request should appear after clicking "my request" link option.					
<u>Table 7.9: Table showing Login validation testing details</u>						
Friendbook -LA8 -Test Case #1						
Function to Test:	Appearance of friend list.					
Execution Steps:	On the friendbook after login go for the "my request" link button.					
Expected Result	Actual Result	Status(Pass/Fail)				
List of all friend requests should display in list box. And after selecting it should add in the friend list.	Request send by the other users doesn't add in the list.		Fail			
Code Errors Identified:	What happen when click "my request" link button? The grid view doesn't contain any value within it. And not a single record was displayed. What was the error? The connectivity code was matching the user with the request id instead of user id.					
Tested Code:						

```

        UpdateImageUrl="/images/save.png" />
    <asp:BoundField DataField="pid" HeaderText="ID" InsertVisible="False"
        ReadOnly="True" SortExpressions="pid" Visible="false" />
    <asp:BoundField DataField="email" HeaderText="Email" SortExpression="email"
        ReadOnly="True" />
    <asp:BoundField DataField="name" HeaderText="Name" SortExpression="name"
        ReadOnly="True" />
    <asp:CheckBoxField DataField="isApproved" HeaderText="Approve"
        SortExpression="isApproved" />
</Columns>
<EditRowStyle BackColor="#7C6F57" />
<FooterStyle BackColor="#1C5E55" Font-Bold="True" ForeColor="White" />
<HeaderStyle BackColor="#1C5E55" Font-Bold="True" ForeColor="White" />
<PagerStyle BackColor="#666666" ForeColor="White" HorizontalAlign="Center" />
<RowStyle BackColor="#E3EAE8" />
<SelectedRowStyle BackColor="#C5BBAF" Font-Bold="True" ForeColor="#333333" />
<SortedAscendingCellStyle BackColor="#F8FAFA" />
<SortedAscendingHeaderStyle BackColor="#246B61" />
<SortedDescendingCellStyle BackColor="#D4DFE1" />
<SortedDescendingHeaderStyle BackColor="#15524A" />
</asp:GridView>
<asp:SqlDataSource ID="SqlDataSource1" runat="server"
    ConnectionString="<%$ ConnectionStrings:FriendbookConnectionString %>">
    SelectCommand="select pid, email, name, isApproved from FB_People, FB_Relation where pid=pidSender and isApproved='false' and pidRec"
    UpdateCommand="UPDATE FB_Relation SET isApproved='true' WHERE (pidSender=@pid and pidReceiver=@pidReceiver);"
    >
    <SelectParameters>
        <asp:SessionParameter Name="pid" SessionField="id" />
    </SelectParameters>
    <UpdateParameters>
        <asp:Parameter Name="pid" />
        <asp:SessionParameter Name="pidReceiver" SessionField="id" />
    </UpdateParameters>
</asp:SqlDataSource>

```

Rectified Code:

```

20     <EditRowStyle BackColor="#7C6F57" />
21     <FooterStyle BackColor="#1C5E55" Font-Bold="True" ForeColor="White" />
22     <HeaderStyle BackColor="#1C5E55" Font-Bold="True" ForeColor="White" />
23     <PagerStyle BackColor="#666666" ForeColor="White" HorizontalAlign="Center" />
24     <RowStyle BackColor="#E3EAE8" />
25     <SelectedRowStyle BackColor="#C5BBAF" Font-Bold="True" ForeColor="#333333" />
26     <SortedAscendingCellStyle BackColor="#F8FAFA" />
27     <SortedAscendingHeaderStyle BackColor="#246B61" />
28     <SortedDescendingCellStyle BackColor="#D4DFE1" />
29     <SortedDescendingHeaderStyle BackColor="#15524A" />
30 </asp:GridView>
31 <asp:SqlDataSource ID="SqlDataSource1" runat="server"
    ConnectionString="<%$ ConnectionStrings:FriendbookConnectionString %>">
    SelectCommand="select pid, email, name, isApproved from FB_People, FB_Relation where pid=pidSender and isApproved='false' and pidReceiver=@pid"
    UpdateCommand="UPDATE FB_Relation SET isApproved='true' WHERE (pidSender=@pid and pidReceiver=@pidReceiver);"
    >
    <SelectParameters>
        <asp:SessionParameter Name="pid" SessionField="id" />
    </SelectParameters>
    <UpdateParameters>
        <asp:Parameter Name="pid" />
        <asp:SessionParameter Name="pidReceiver" SessionField="id" />
    </UpdateParameters>
</asp:SqlDataSource>

```

Connectivity code to retrieve data from database and show it to grid view.

Project Title	friendbook 1.0	Testing Date	5 th Feb 2012
Test Name	Friendbook wall		
Test ID	friendbook-LA-WhiteBox-9		
Conducted By	Sammi Kumar		
Description	User's wall should appear after clicking "my wall" link option.		

Friendbook -LA9 -Test Case #1

Function to Test:	Appearance of user's wall.	
Execution Steps:	On the friendbook after login go for the “my wall” link button.	
Expected Result	Actual Result	Status(Pass/Fail)
After clicking on “my wall” all posts should appear in a grid view so after that user will able to read their wall messages.	Grid view does not contain any value and shows no data found message.	Fail
Code Errors Identified:	What happen when click “my wall” link button? Not wall posts were displayed. What was the error? Incorrect SQL command was written where data field was bounded for displaying the data in data list.	

Tested Code:

```

    UpdateImageUrl="~/images/save.png" />
<asp:BoundField DataField="pid" HeaderText="ID" InsertVisible="False"
    ReadOnly="True" SortExpression="pid" Visible="false" />
<asp:BoundField DataField="email" HeaderText="Email" SortExpression="email"
    ReadOnly="True" />
<asp:BoundField DataField="name" HeaderText="Name" SortExpression="name"
    ReadOnly="True" />
<asp:CheckBoxField DataField="isApproved" HeaderText="Approve"
    SortExpression="isApproved" />
</Columns>
<EditRowStyle BackColor="#7C6F57" />
<FooterStyle BackColor="#1C5E55" Font-Bold="True" ForeColor="White" />
<HeaderStyle BackColor="#1C5E55" Font-Bold="True" ForeColor="White" />
<PagerStyle BackColor="#666666" ForeColor="White" HorizontalAlign="Center" />
<RowStyle BackColor="#E3EABE" />
<SelectedRowStyle BackColor="#C5BBAF" Font-Bold="True" ForeColor="#333333" />
<SortedAscendingCellStyle BackColor="#F8FAFA" />
<SortedAscendingHeaderStyle BackColor="#246B61" />
<SortedDescendingCellStyle BackColor="#D4DFE1" />
<SortedDescendingHeaderStyle BackColor="#15524A" />
</asp:GridView>
<asp:SqlDataSource ID="SqlDataSource1" runat="server"
    ConnectionString="<%$ ConnectionStrings:FriendbookConnectionString %>">
    SelectCommand="select pid, email, name, isApproved from FB_People, FB_Relation where pid=pidSender and isApproved='false'
    UpdateCommand="UPDATE FB_Relation SET isApproved='true' WHERE (pidSender=@pid and pidReceiver=@pidReceiver);"
    >
    <SelectParameters>
        <asp:SessionParameter Name="pid" SessionField="id" />
    </SelectParameters>
    <UpdateParameters>
        <asp:Parameter Name="pid" />
        <asp:SessionParameter Name="pidReceiver" SessionField="id" />
    </UpdateParameters>
</asp:SqlDataSource>
```

Rectified Code:

1 - Notepad++

it Search View Encoding Language Settings Macro Run Plugins Window ?

1

```

Wall Posts</h1>
<asp:DataList ID="DataList1" runat="server" DataSourceID="SqlDataSource1"
    Font-Bold="True" Font-Names="Segoe UI" Font-Size="Medium" RepeatLayout="Flow">
    <ItemTemplate>
        <div class="post">
            <div class="title">
                <h2 style="color: greenyellow;"><%=((People)Session["person"]).name + "'s Wall Post" %></h2>
                <p></p>
            </div>
            <div class="entry">
                <p><%# Eval("body") %></p>
            </div>
            <div class="meta">
                <p class="credit">Posted by <%=((People)Session["person"]).name%> on <%# Eval("date", "(0:D)") %></p>
                <p class="edit">
                    ...
                </p>
            </div>
        </div>
    </ItemTemplate>
</asp:DataList>

<asp:SqlDataSource ID="SqlDataSource1" runat="server"
    ConnectionString="<%$ ConnectionStrings:FriendbookConnectionString %>">
    SelectCommand="SELECT [date], [body] FROM [FB_Wall] WHERE pid=@pid ORDER BY [date] DESC"
    <SelectParameters>
        <asp:SessionParameter Name="pid" SessionField="id" />
    </SelectParameters>
</asp:SqlDataSource>
```

SQL selection code after white box testing

Project Title	friendbook 1.0	Testing Date	5 th Feb 2012
Test Name	Friendbook wall		
Test ID	friendbook-LA-WhiteBox-10		
Conducted By	Sammi Kumar		
Description	File uploading is not working properly.		
Friendbook –LA9 -Test Case #1			
Function to Test:	Appearance of user's wall.		
Execution Steps:	Login to the system and go for “share file” option.		
Expected Result	Actual Result	Status(Pass/Fail)	
After clicking on “share file” link button browse menu should appear in which selected file should store in the repository.	File is not uploaded to the system.	Fail	

Code Errors Identified:	What happen when click “my wall” link button? Not file is able to upload. What was the error? In correct location of file is provided in the link
Tested Code:	
<pre>namespace Friendbook.Personal { public partial class FilesUpload : System.Web.UI.Page { protected void Page_Load(object sender, EventArgs e) { } protected void btnSubmit_Click(object sender, EventArgs e) { if (fileDocument.HasFile) { string path = "~/Files/P" + Session["id"] + "_" + fileDocument.FileName; fileDocument.SaveAs(MapPath(path)); lblResponse.Text = "Upload Success!"; } else lblError.Text = "No file specified!"; } } }</pre>	

Rectified Code:

```
namespace Friendbook.Personal
{
    public partial class FilesUpload : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void btnSubmit_Click(object sender, EventArgs e)
        {
            if (fileDocument.HasFile)
            {
                string path = "~/PeopleFiles/Files/P" + Session["id"] + "_" + fileDocument.FileName;
                fileDocument.SaveAs(MapPath(path));
                lblResponse.Text = "Upload Success!";
            }
            else
                lblError.Text = "No file specified!";
        }
    }
}
```

Correct file location after white box testing

7.3.2 Integration Testing

Integration testing is a logical extension of unit testing. Integration testing identifies problems that occur when units are combined. (**MSDN 2003**)

Unit testing tests the individual functionalities of a system, whereas integration testing tests all the modules together as a whole system. Integration testing identifies problems that occur when units are combined.

7.3.2.1. Justification of using Integration testing in the system

As friendbook has lots of modules so developer needs to test all the modules as a unit, which means integration testing is required to find out the proper flow and interface between all the modules.

Before listing the details of the integration of unit testing, the developer wants to inform the reader that which units were combined together to form which modules.

Units Combined	Module Name
Login Unit	Friendbook login Module
User relationship unit	Friendbook relationship Module
Request invitation unit	Friendbook invitation Module
Activity unit	Friendbook activity Module
Advanced features unit	Friendbook advanced Module

The integration testing can happen in variety of ways but the following are three common strategies:

- A top-down approach
- A bottom-up approach
- An umbrella approach

Developer has used the top-down integration testing approach for this system because it requires the highest-level modules be tested and integrated first. The Top-down integration approach is followed where the control and interface are the most troublesome part of the

project. Friendbook demands proper flow throughout the project, so, to implement this, proper control is required and to test this, Top-down Integration testing is most suitable.

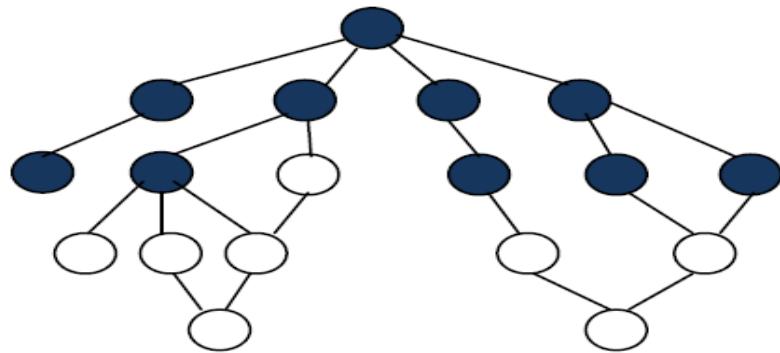


Fig.7.1: Top down Integration Approach

Project Title	Socionet-Friendbook			
Test Case ID	ITTC01			
Test Case Name	Friendbook-registration			
Date and Time Taken	8 th Feb 2012 to 14 th Feb 2012 and 3 hour			
Type of Testing	Integration			
Written by	Sammi Kumar			
Tested By	Sammi Kumar			
Objective	Test out the working of registration module as a whole			
Friendbook-LA6 -Test Case #1				
Function to test	Registration and Login			
Execution step	Provide details for complete registration			
Expected Result	Actual Result	Status (Pass/Fail)		
Registration should complete	Registration completed	Pass.		

Remarks:	Nil	
Friendbook-LA6 -Test Case #2		
Function to test	Request invitation	
Execution step	Login to the system as user-1 Search user-2 over friendbook who doesn't added in friend list. Send friend request. Login to friendbook as user-2. Go to my requests link button	
Expected Result	Actual Result	Status (Pass/Fail)
Friend should search and friend request should get.	Friend Searched and Request sent.	Pass.
Remarks:	Nil	
Friendbook-LA6 -Test Case #3		
Function to test	User relationship	
Execution step	Login to the friendbook as user2 Go to my requests link button Click to add button. View list in "my friends". While sending message it should delivered.	

Expected Result	Actual Result	Status (Pass/Fail)
Request should accepted by another user and that request will found in friend list.	Request accepted and message sent.	Pass.
Remarks:	Nil	
Friendbook-LA6 -Test Case #4		
Function to test	User Activity	
Execution step	<ol style="list-style-type: none"> 1. Login to the friendbook 1.1.Go to “Upload photo” link 1.2.Choose photo. 1.3.Click upload. 1.4.View in photos. 2. Post status 2.1.Go to home page. 2.2.Write status on the wall. 	
Expected Result	Actual Result	Status (Pass/Fail)
<ol style="list-style-type: none"> 1. After choosing photo, it should upload to profile. 2. After posting the status it should appear in user's wall. 	Photo is uploaded. Status is posted.	Pass.
Remarks:	Nil	

Friendbook-LA6 -Test Case #5		
Function to test	User Advance	
Execution step	<ol style="list-style-type: none"> 1. File sharing <ol style="list-style-type: none"> 1.1.Go to “share file” option. 1.2.Browse file which user wants to share. 1.3.Select file and share with friends. 2. View sharing <ol style="list-style-type: none"> 2.1.Click to user’s “Dashboard” option. 2.2.View the shared file. 	
Expected Result	Actual Result	Status (Pass/Fail)
File should upload and shared and other user will able to view	File is shared. It is available on repository.	Pass.
Remarks:	Nil	

Table 7.10: Table showing integration testing test cases details

7.3.3 System Testing

System testing was finally conducted on the complete, integrated system to evaluate the system's compliance with its set requirements. The purpose of system testing is to validate an application's accuracy and completeness in performing the functions as designed. System testing simulates real life scenarios in a test environment. (**Robda vispe 2004**)

System testing is deemed complete when actual results and expected results are either in line or differences are explainable or acceptable based on client input. (**Beizer, 1984, p. 24-25**)

Justification of using system testing in the system

A friendbook is a social networking website system; therefore it should be tested as a whole and on different environments. System testing focuses of complete impact of the system as web based system needs it.

Project Title	friendbook – A Social networking website
Test Case ID	STT01
Test Case Name	Social Networking System
Date and Time Taken	15 th Feb 2012 and 2 hour
Type of Testing	System
Written by	Sammi Kumar
Tested by	Sammi Kumar
Objective	Test out the working of whole system
Test Case	01
Module to Test	Social networking
Expected Results 1	Registration and login should proper
Expected Results 2	Searching of friend should proper and friend request should send

Expected Results 3	Photo should upload properly and able to view it in gallery
Expected Results 4	File sharing should proper and available in repository.
Expected Results 5	Wall should view to user and he can write something on it.
Expected Results 6	User should able to edit their profile.
Actual Result 1	Registration and login is properly working
Actual Result 2	Searching of friend and friend request is sending successfully
Actual Result 3	Photo is uploading properly and able to view it in gallery
Actual Result 4	File sharing is properly happening and available in repository.
Actual Result 5	Wall is viewable to user and he can write something on it.
Actual Result 6	User is able to edit their profile effectively.
Status	Successful
Remarks	Nil
Conclusion	Approximately all the modules of the system are working properly
Reported errors	0
Measures taken	No

Table 7.10: Table showing System testing details

7.3.3 Configuration Testing

Compatibility testing is the most important testing for any web application. It tests the systems for different scenarios, environments and platforms for whether it is working in each environment.

Mainly the compatibility testing of any web application is done to ensure that it should work on the most popular list of browsers like Mozilla, Internet Explorer, and Safari etc. it can be viewed on any resolution with proper formatting.

Browser Compatibility	
Name	Compatibility
Mozilla Firefox 4.0	Successful
Internet Explorer 9.0	Successful
Safari	Successful
Google Chrome	Successful
Result	Successful
Resolutions	
1024x768 Pixels	Successful
1280x800 Pixels	Successful
800x600 Pixels	Successful
Result	Successful
Operating Systems	
Name	Compatibility
Windows 98	Successful
Windows XP	Successful
Windows Vista	Successful
Windows seven	Successful
Result	Successful

Table 7.11: Table showing compatibility testing details

7.3.4. Usability Testing

Usability testing is the part of system testing. It is done to evaluate that users can use the system with no confusion and with full efficiency. It is totally based on the users and done by the users. Developer has chosen the 10 students from APIIT India to test out the strength and weaknesses of this system. These volunteers have used the system and filled out the questionnaires form which has given by the developer. The main features which are accessed during usability testing are following:

- Learnability
- Visibility
- Consistency
- Feedback
- Efficiency

Sample Questionnaires:

Question 1	Mark the time period required learning the system?			
<input type="checkbox"/> Less than 0.5 hour	<input type="checkbox"/> 0.5 hour to 1 hour	<input type="checkbox"/> 1 hour to 2 hours	<input type="checkbox"/> Not clear	
Question 2	Are all the functionalities are clear and correct of the system?			
<input type="checkbox"/> Yes	<input type="checkbox"/> No			
Question 3	What do you think about the consistency between the pages and other modules?			
<input type="checkbox"/> Poor	<input type="checkbox"/> Average	<input type="checkbox"/> Good	<input type="checkbox"/> Excellent	
Question 4	Give the feedback response to the system in percentage? (According to likeness)			
<input type="checkbox"/> 20-30%	<input type="checkbox"/> 30-50%	<input type="checkbox"/> 50-80%	<input type="checkbox"/> 80-100%	

Table 7.11: Table showing sample question for usability testing

Usability Response (out of 10 people)

	Positive	Negative
Learnability	9 persons	1 person
Visibility	8 persons	2 persons
Consistency	9 persons	1 persons
Feedback	8 persons	2 persons

Efficiency	10 persons	0 persons
------------	------------	-----------

Table 7.12: Table showing result of usability testing

So according to the user responses it can be stated that this system has satisfied the usability principles. The friendbook is entirely a highly usable system with strong recital and user satisfaction scores. All types of users were found as instinctive and trouble free while using the system.

7.3.5 Security Testing

Because of society's increasing concern about privacy, many programs have specific security objectives. For the friendbook the security is basically limits to the login module. The test case for login module is done by test cases as given below:

Project name: SocioNet-FriendBook		
Test Case# Login	Date :23 rd March,2012	Time taken: 1 hours
Type of testing: Security Test 1		Tested By: Sammi Kumar
Objective: Login should not authenticate the anonymous user as they insert wrong password.		
Test Case # 1		
Function To Test:	Proper login to the system with correct username and password testing	
Execution Steps:	On the "friendbook" got to login page Insert wrong username and password	
Expected Result	Actual Result	Status
After inserting wrong username and password page should not redirect to home page	Page do not redirects to home page.	Pass.
Remarks:	NIL	

7.3.6 User Acceptance Testing

User acceptance testing is usually the last stage of the testing process. The question is who is the user? Here the user means the common persons, who will have to operate the website. A developer cannot perform this type of testing only based on his assumption the different views need for the system.

The developer contacted Mr. Mohit Garg, a close friend and **expert user of internet**. In order to perform the user acceptance testing on **friendbook** the developer also asked Mr. Santosh Kumar, **casual user of internet** to test the system according to his choice.

Project Title	friendbook 1.0	Testing Date	27 th to 2 nd Mar 2012			
Test Name	friendbook User Acceptance Test					
Test ID	friendbook-UA-1					
Conducted By	Mr. Mohit Garg, Mr. Santosh Kumar					
Description	Test in real environment					
friendbook-UA -1 -Test Case #1	Mr. Mohit Garg		Mr. Santosh Kumar			
Test	Status	Excellence %	Status	Excellence %		
Able to register and Login	Yes	100%	Yes	98%		
Able to search friends.	Yes	100%	Yes	97%		
Able to send friend request	Yes	98%	Yes	99%		
Able to upload and view photo's	Yes	100%	Yes	100%		
Able to write on wall	Yes	100%	Yes	100%		
Able to share file	Yes	100%	Yes	100%		
Able to download file from repository	Yes	100%	Yes	100%		

Table 7.13: Table showing output of usability testing

Signoff			
No.	Name	Date	Signature
1.	Mr. Mohit Garg	1 st April 2012	
2.	Mr. Santosh Kumar	4 th April, 2012	

7.4 Critical Evaluation of Testing

Testing "friendbook" has the most difficult stages. Developer time and efforts are invested in the testing process. In testing process and a lot of mistakes that have been identified and addressed at a later date during the development.

Unit test is very much useful and efficient in the term of error identification and correctness. It involved black box and white box testing methods of the application; a large number of black box test cases were produced and the eventual tests were performed. In the documentation above only those test case descriptions were provided which the developer assumed would be of reading interest to any reader. The white box testing phase was very lengthy and nerve cracking session for the developer as hundreds of lines of codes had to be reviewed and tested numerous times before the final desired outcome was achieved.

To test interoperability between different units of "friendbook" **integration testing** was conducted by developer. As the developer mentioned in above sections, a number of different varied modules posed a serious challenge for the developer to integrate. Units from different applications with totally different platforms had to be checked for compatibility.

Most of the testing job of developer is done by the unit and integration testing as the errors had been identified and solved. Therefore, it was time to test the system, the main task was not expected that the errors in the location and function, but to ensure the proper conduct of the project specification. **System testing** was a challenge to established social networks to simulate the test environment.

Compatibility testing was a quite tedious task for developer because friendbook is a web application and there is no surety about the user and system that they are running. But finally a standard was fixed which would run on most browsers.

8. Critical Evaluation

Critical Evaluation is very much essential part of a project. As developer is successfully completed various phases of the system then it is of extreme important that the developer does the critical evaluation of the complete project module wise.

So, on the completion of the project it was evaluated for the benefits it gives to the targeted end users.

8.1 Project Success Assessment

Modules are considered on the basis of certain criteria of success. The aim is described in detail in subsequent chapters.

Success Criteria Point	Description
Functional requirements:	Should be met to satisfy end-users
Non functional requirements	To do better system
Usability	It is essential of user acceptance
Quality	It is necessary to ensure both product and process quality.
Academic Goal	This project targets the academic field of project management, skills, knowledge and experience.
User response	Feedback is necessary to adopt by the user.

8.1.1. Module based Assessment

8.1.1.1. User Relationship module:

Primary and secondary researches have been done to help developer to understand the functions built into this module. In order to facilitate the implementation the requirements were translated into UML based model. UML diagrams are very much helpful to modularize and make the system more manageable and reusable components such as message module. Before the integration of all modules, sub modules, developed and tested for the first time. Finally, for increasing the functionality other features were added by the developer.

8.1.1.2. Request invitation:

For building the module the necessary research had been done and for the defining requirements and evaluate them into design the study greatly helped to developer. First of all the functionality working of single friend searching and request send sub-module was checked firstly then after successful working of these sub-modules they are integrated and then after a combined module were evaluated.

8.1.1.3. Activity module:

Although requirements were clearly defined after the research, there were some issues to be addressed for design and implementation. A major issue was uploading pictures and view the pictures of friends for this developer was decided to display the combined picture of friends as well as own pictures in a single page.

8.1.1.4. Personalize module:

Theme selection of the system consists basically for the personalization of the website according to choice and compatibility of user as they choice. It mainly consider about the theme selection, Email, file sharing and availability of user. By completion of this user will able to utilize the facilities so effectively and use it as working purpose.

8.1.1.5. Privacy module:

Friendbook provides privacy facility to the user that they can able to manage the privacy so that they will get all the details related to their profile as they are modified and changed.

8.1.1.6. Enhanced module:

This module basically includes the creating greeting card and creating groups and send message accordingly. It provides the facility of to user that they can create the greeting cards according to their choice and requirement.

8.1.2. Overall Assessment

After the development of individual module, integrated module was tested and evaluated that weather system fulfills the basic requirements without any problem. Request invitation, user relation module, activity file sharing and email are part of extra functionalities are enhanced functionality and create greeting card is the extra functionality. They are also implemented successfully. Beside from that many features are also included during the development phases which are not considered at the early stage.

Quality of the system was evaluated in process and product aspects. The project management book by MCGRAW helped the developer follow the standard project management movement to ensure about the quality of process through managing changes and risks.

8.2. Has the success criteria been met?

To identify the degree of project success, developer defines the success criteria which are included in chapter 1. Developer Succeed by exploring the answers to these questions in this section of the evaluation criteria.

8.2.1. Reason to claim the success of the system

Criteria	Result	Met?
Requirement	It is very much important to assess the system for confirmation of system meets so that it will lead system towards success. For verification requirements evaluation and testing were done.	Y
Non Functional Requirements	Performance, reusability and future enhancements are important factors in software engineering to reduce cost.	Y
Usability	For the successful system Usability testing is very much important. The “friendbook” meets the usability criteria	Y

	according to the testing.	
Quality Assessment	The five layer of testing has been done for ensuring the appropriateness of the system and beside from that the instruction of MCGRaw is followed as specified for quality in Project Management book for quality of the project.	Y
Academic Goal	The developer planned and followed WBS and Gantt chart for successful project management. It was an academic goal to effectively communicate with users, supervisor and project manager.	Y

Table 7.14: Table showing output of usability testing

8.3. Possible Future Enhancements

Each and every system has many enhancements to do to make system better for the users because no system is perfect. Some of the identified future enhancements are:

- Video calling and conferencing by which two or more people will able to communicate online and will able to do conference.
- Timeline of each user which will display all the details of the user till they are join the site from their existence.
- Activity feed: The most recent activity of friends will display as a as instantly it has been done.
- Enhanced wall: wall of user which will display the recent profile created by the user of the system.
- Provide more personalization criteria for the user so they feel more comfort and easy while using the system.

Table 7.14: Table showing future enhancement

8.4. Skills, knowledge and Experience

The system gave lots of experience and knowledge to developer such as capability to learn new technology, acquire knowledge of system development process and gain experience. The main aim of the software development project is to increase experience of the developer which will help him in future. Even though developer has passed through many problems, so in each problem teach a lesson to developer. The Project assisted the developer in acquiring depth knowledge in the following areas:

<ul style="list-style-type: none">• Working on Grid• Object oriented paradigm• Creating wall• Mails• Use of XML• Project management and application of it.• Analytical and Modelling skills	<ul style="list-style-type: none">• Problem solving skills• Programming skills and design• Design making• Testing procedures and steps• Research
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9. Conclusion

This has been no less than a journey. A year round of work has finally culminated in a beautiful and successful project. Right through the project phase from initiation to completion, a large trove of knowledge and hands on experience has been gained by the developer. The knowledge and experience are surely going to drive and guide the developer to be a more better IT professional and towards a bright future.

At the outset the developer wished to discuss few such things which have till now remained in the back burner, like does the system solve the problem it was suppose to? What limitations have yet remain untouched? Are there any bugs in the final system? What is the future of the software? What are the possible future enhancements? What if the developer was asked to restart the development from scratch, what would be the changes the developer would like to see? What posed as the main computational challenge for the developer and over all discuss his yearlong learning experience.

5.1 Evaluation of the Waterfall methodology in SNS

To evaluate methodologies are always thought as a difficult task since different writers of methodologies might have various criticism views. According to Avison et al. (2003, 555), this chapter introduces a simple set of views to evaluate the Waterfall methodology (see figure 22). The evaluation is represented by a subjective view rather than a statement of “facts” about methodologies.

Definition Study / Analysis

Basic Design

Technical Design/ Detailed Design

Construction/Implementation

Testing

Integration

Management and Maintenance.

Fig 22: Phases of Waterfall model

Definition Study / Analysis: During this phase research is being conducted which includes brainstorming about the “friendbook”, what it is going to be and what purpose is it going to fulfil.

Basic Design: If the first phase gets successfully completed and a well thought out plan for the “friendbook” development has been laid then the next step involves formulating the basic design of the website on paper.

Technical Design / Detail Design: After the basic design gets approved, then a more elaborated technical design had been planned. Here the functions of each of the part are decided and the engineering units are placed for example modules, programs etc.

Construction / Implementation: In this phase the source code for the system had been written.

Testing: At this phase, the whole design and its construction is put under a test to check its functionality. If there are any errors then they had surface at that point of the process.

Integration: in the phase of Integration, the company puts it in use after the system has been successfully tested.

Management and Maintenance: Maintenance and management is needed to ensure that the system will continue to perform as desired.

Through the above mentioned steps it is clearly shown that the Waterfall model was meant to function in a systematic way that takes the development of the “friendbook” from the basic step going downwards towards detailing just like a Waterfall which begins at the top of the cliff and goes downwards but not backwards similar as the our Final year project flow.

9.1 Success Criteria

How are we thought to measure the success criteria of newly developed software? What is going to be the criteria? According to the developer if the software solves the problem it set out to do, fulfilling all functional requirement then it can be said to be a success.

View layer:

Features to be used: The feature that has been used in the system is leads the system to the success. As the most of the core and advanced functionalities are completed and covered by the developer so it can be conclude that the developed system is leads towards its success.

Features of object oriented concepts: As the Object Oriented features are to be use in the system makes the code more simple and reusable.

Follow of HCI concepts: As the system will follow the HCI concept this make system more ease of use of friendbook which leads system towards success.

Better Interface: Better Interface Comforts the user's mind and leads towards success.

Business Layer:

Functionality of Module: File sharing, messaging, posting in wall, Photo uploading and many others are tested by different testing strategies i.e. Unit testing, Black box testing, white box testing, integration testing, system testing, compatibility testing and finally the user acceptance testing by which the different modules are tested in different situation i.e. independent and combined by the developer. So lots of errors are encountered by the developer that leads system towards success.

9.2 Limitations

Developer acknowledged the fact that every system has some limitations and some functionality have been left. Similar is the case with the proposed system. Developer is not able to employ some of the functionality due to time constraints. The list of functions that could have been implemented but were not included in the final system, due to the lack of time, are listed below.

- The development of creating groups.
- Private messaging to the specific group.

As the system having also some boundaries which it cannot perform those are following:

- Cannot prevent from anonymous profile creation.
- It will not support multiple languages as required by different cultures.
- It will not maintain proper financial records.
- This site will not support by mobile browsers.

9.3 Possible Future Enhancement

Each and every system has many enhancements to do to make system better for the users because no system is perfect. Some of the identified future enhancements are:

- Video calling and conferencing by which two or more people will be able to communicate online and will be able to do conference.
- Timeline of each user which will display all the details of the user till they are join the site from their existence.
- Activity feed: The most recent activity of friends will display as soon as instantly it has been done.
- Enhanced wall of user which will display the recent profile created by the user of the system.
- Provide more personalization criteria for the user so they feel more comfort and easy while using the system.

The hardest Part and Its description

- 3.1. Create greeting card:** The extra and most interesting feature which is provided by the developer is that the user can able to create the greeting card for their mates and workers. This enables by the help of privileges of combining the pictures, words, and music so the user can able to create the greeting cards according to their choice for their loving ones.
- 3.2. File sharing:** This is the most important function provided by the developer so the user of a FriendBook can able to share the file (documents) over the FriendBook.
- 3.3. Creating wall and comment of wall:** This most interesting activity that user can perform that he/she can post some status on the friend's as well as in its own wall.

9.4 Learning Experience

1) Time Management

The proposed system is an individual project so developer realized the importance of time. Time should be managed in such a way so that the entire project will be completed as per schedule.

2) Tools and Techniques

Developer studied many tools and techniques during the development of the proposed system. To implement these techniques developer studied many books. These books gave developer a great experience that helped developer to successfully complete this project on time.

3) Project Management and Communication Skills

Various project management methodologies are applied in the proposed system. These taught many things to developer such as how to manage risks in project.

4) High Motivation

The proposed system development gives developer a high motivation and positive attitudes. Motivation makes developer to complete this project successfully. Developer came to know that motivation will increase the developer and software success.

After completion of the project developer realize that it was an essential experience before entering into the corporate environment. However, it is the developer's perception, that experience gained from final year project would be good start for work in an industry.

9.5. Benefit of System for Target Users

Following are the terms of the benefits it provides:

- Be as a registered user of FriendBook enable peoples to connect globally.
- Benefitted for the user to who wants to share the file among friends.
- Benefit for storing the data on internet.
- It's fully beneficial for self-promoters.
- Much more helpful to get connected with the same people by wall posting.
- Friendbook provide the searching option that enable user to connect with their globally located friend and families.
- Use the feature of different social networking site website in a single one.
- It will work as a helping hand for multitasking people like professionals and students because it included the feature of emailing creating greeting cards within itself.

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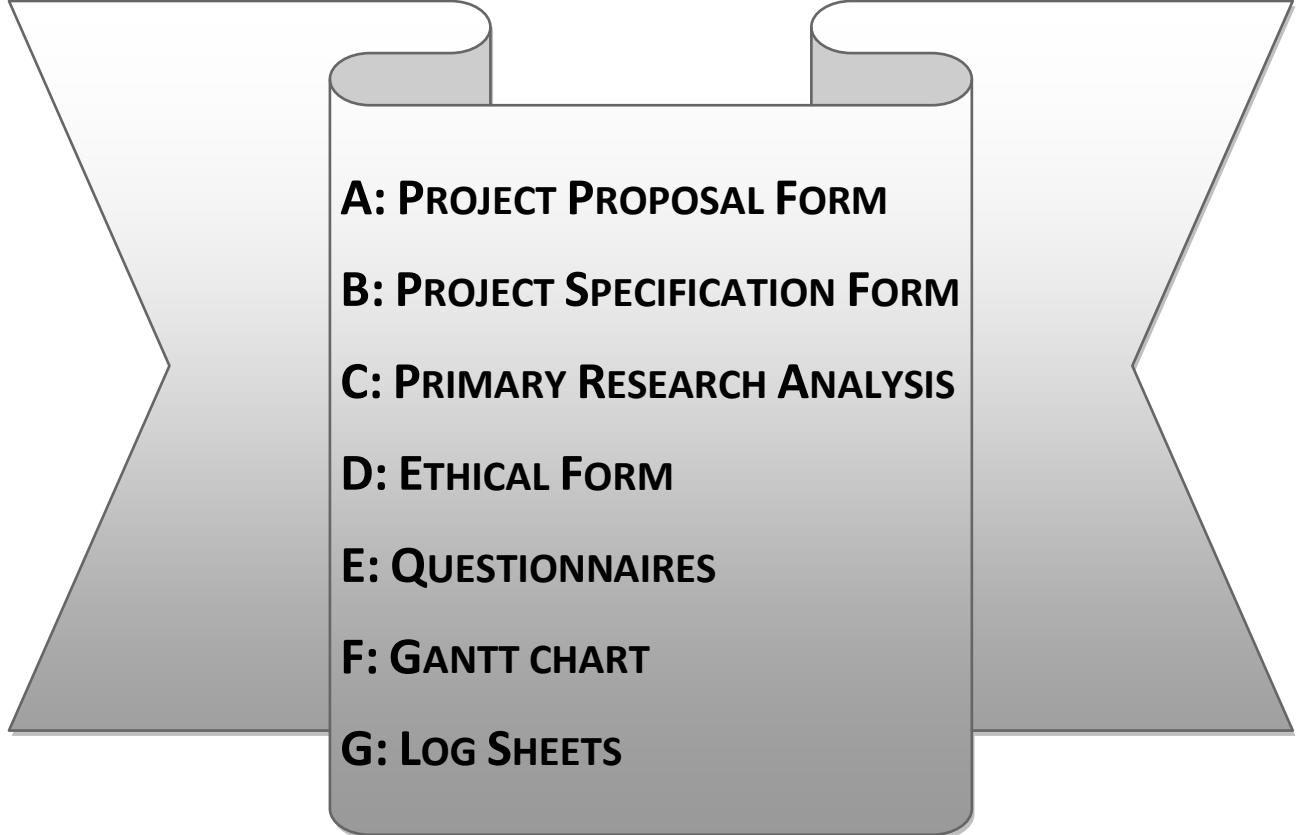
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Appendices

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- A: PROJECT PROPOSAL FORM**
 - B: PROJECT SPECIFICATION FORM**
 - C: PRIMARY RESEARCH ANALYSIS**
 - D: ETHICAL FORM**
 - E: QUESTIONNAIRES**
 - F: GANTT CHART**
 - G: LOG SHEETS**

APPENDIX A: PROJECT PROPOSAL FORM

SocioNet-Friendbook

Type of the system being developed:

The System “SocioNet –FriendBook” is an online site that is mainly developed for establishing social relationship among the people. The system makes it possible to connect people who shares interest and activities across political, economic, and geographic borders. The system is web based and provides means for users to interact over the internet such as instant messaging. Online community is also a part of the system which is mainly considers as a social networking service, which allow users to share ideas, activities, events and interest within their individual networks. The system will also include the emailing, messaging features. The system will help the users to share the file over the social networking site. As per the file sharing is concern the privacy is also concern. As well as the system will also provide the well environmental background to the chatting interface.

Who is system being developed for?

The system is very beneficial for the person who is interested to share their activities and ideas. This system is the best tool to connect with friends, family or clients, the same concept can be use by the various organization and different co-optations for their benefits. System will allow scientific groups to expand their knowledge base and share ideas, and without these new means of communicating their theories might become "isolated and irrelevant". Social networks are also being used by teachers and students as a communication tool. Teachers and Professors can extend classroom discussion to posting assignments, tests and quizzes, to assisting with homework outside of the classroom setting.

Why is such a system required?

The system is online so it is available 24*7. So it is stay in touch with contacts, reach out to new people, and show the community you care about company-to-client communication! Social networking sites are important now for professional persons too. Social media participation has become an essential tool for networking with professional contacts, making new contacts as well as keeping-in-touch with the world. And if we talk about in the term of existing website in the market there is no feature of messaging, emailing, file sharing, for this we have to use the another website so it's better way to combine the sites according to need

of the users. And in the term of chatting the environment is also matters while sharing the feelings therefore it is more beneficial and entertaining for the purpose of chatting. In the term of viewing this system user can view the font in different font size.

What will be the main challenge in building the system?

The main challenge is that I have to deeply understand the concept and the theory of each module of the social networking website and research on already existing system in the market. Apart from these all I also have to include extra features that the other social networking site is not providing till this time. So this is very difficult task to elaborate and develop such things. As the system is having feature of changing the chat interface as per users need and as well as the increment in the size of font of website as per the user need it is a very difficult task to apply to the system. Sharing of file over the social networking is also a challenging task to develop. And on the other side this type of system is extremely sophisticated to create, develop and publish. It's not at all even close to being simple. This type of system programming takes year to develop and manage everything. Developing this system require a mixture of programming languages. Developing this system is not all the simple. Just learning the basics and advanced parts of all the topics below, takes years of practice to gain knowledge from every single part of scripts, programming languages and coding.

What new ideas and theory will need to learn to build the system?

The main theory behind the System which I am developing is that it is having the good features of several websites. In this system I will combine the facilities provided by the several website in one, so the users can get the benefit and enjoy the features of several website in one system only. For developing the system lots of programming languages it requires such as J-Queries, .net, Sql Server Database, AJAX, XML and many others and it'll also needs to know how to create and store the value inside the database. Before developing the system this require the capability of educating yourself all the programming languages, as it's not just require one type of programming skill that is require to develop a network site, there are many more topic fields I'll need to have knowledge of, like, for example different programs used, which will make other types of modules used for the system. Programming scripts have specific functions. JavaScript won't able to help to learn .net. So it require to have educate by own throughout every single topic and cover all its basic and advanced coding too.

APPENDIX B: PROJECT SPECIFICATION FORM

Section A: Project Title

SocioNet-FriendBook

Section B: Brief description on project background

In the current scenario with the fast growth of the economic it is very difficult to connect with the friends, families and various others people and give time to them. In this time people are having no particular time to share with the relatives. So the society needs a medium to share message to widely and connect the people with the each other. And in the other side people are also wants that everyone should know about them and want to increase their links (network). The social networking is basically developed for increasing the social relationship. There are many ways to get recognized in the world but they need lots of money to be popular in the world. But in other hands, social networking is one of the best ways to get recognized without and cost. If we talk in the term of different situations where the people need something which is not provided by that application then they have to use other resources whether those are urgently required by them. So in that situation it is very much time taking to collect that resources and use that for the own purpose. The application will allocate the bridge among the people to connect the person with the entire world and provide lots of features within that application.

Current Situation (Problems Context):

Without social networking sites peoples are facing different problems in the personal as well as in professional life. As we know that social networking is basically develop for the social relationship among the people. But unfortunately not everyone has this mindset when they go to the social media sites. There are lots of people are over social networking who are there for protecting dollars. If we think in the term of the new business makers it is very difficult for him to become popular in the market and they require a lots year to give flash in the market. If we consider about our past lots of best friends of us are missed up just because of that they situated in different place after leaving the school and all in the other word we can say that

just because of distance and lack of communication media between them. Another problem which we obviously face without social networking site is lack of knowledge sharing. If the medium is not with us then it is very difficult to get idea or share the idea with the people. There are lots of other examples can arrive if we think our self without the social networking site. So it takes an important place in the life of human being.

1.1. Why such system is required?

In this 21st century, people are inattentive with their busy work life that they do not have any time to spare for themselves. However, they have resorted to platforms like social networking for staying in touch with their dear ones and as we discussed above about the different problems which are facing by the society to overcome from that problem such system is required by the user by which the social networking site will act as a problem solver. It is very beneficial for share common interests. It also enables students to reach out to old friends and classmates, relatives who migrated to other countries and even for the professionals and business man for connect to people with the profession as yours for collaboration and discussion of ideas. Moreover it makes people part of a worldwide community who come to explore technology to their advantage, whether for personal or business purpose. It is also beneficial to save time of the user to separately use of two different applications. In the other case if one person who change the phone number and his address it is very beneficial stage to share those things and make the people know about the information changes throughout the life. Social networking sites also help organizations to increase awareness about an issue, find signatures for a petition, and encourage supporters to take action. As we know that social networking is a wonderful platform to share information, but also the best platform for the same thinkers. If they are shy to express their thought this is definitely going to help those type of people to express their feeling globally we can called it as a "GURU", "EXPERT" and even "GOD". It's a more of place to interact with peers than to engaged prospects. For example if we take the case of a corporation where the sharing of information are common among the employee in the form of hardcopy and both sided needs to come to an understanding, with management conceding that not all of the that peer interaction is a waste of time and employees focusing primarily on achieving business goals through social media activity during work hour by using of sharing of documents with the use of

this social media. Based on the research from **MarketingSherpa** that while social media activities don't usually produce high quantity of leads they do result in quality leads the kind that convert, and buy, at a higher rate. That makes sense that while social is more about branding then lead generation. Those days are gone when we needs to survey all the market and spend dollars to find out the competitors and person of prospective thinking. Now social networking is also a critical and cost-effective tool for gathering market and competitive intelligence. As a businessman it is also a good place to find the business partner who shows over their interest in your business.

Rationale: The following has highlighted some of the most common benefits for society by adopting the FriendBook

Intangible: -

- ix. Be as a registered user FriendBook enable peoples to connect globally.
- x. It's fully beneficial for self-promoters.
- xi. Much more helpful to get connected with the same mind people.
- xii. FriendBook provide the searching option that enable user to connect with their globally located friend and families.
- xiii. Social networking sites offers campus surveys, event listings and other information that communicates the "pulse" of a campus culture. Therefore, they can be a great way to understand and stay connected to your campus community as a whole.

Tangible: -

- xiv. Enhance style of business.
- xv. By the facility of file sharing it is beneficial for business user and students which definitely save time and money as well.
- xvi. It is also useful to save money because the person need not worry to buy the gift for the special occasion they can send the softcopy of greeting as their own choice and blessing.

1.2. Description of problem area

The scope of developing such Social networking website system is extremely wide because it needed that what the social environment are needed. For that reason, the system is being developed as generic one which cater for social use with the most common feature implemented whereby in order to fulfilled entire project requirement with such a given time duration.

1.2.1. The major limitation of the system is that it can only work on the windows platform because the development of the system in the .net so as we know that .net is platform dependent language.

1.2.2. Moreover limitation of functionality is explained after researching on the topic. According to current research system will not able to provide the chatting facility to their customer so the instant messaging is not able to possible.

1.3. The nature challenge for building such system:

The main challenge for developing such system is to understand the basic concepts and getting knowledge of social networking sites and as well as the essential key strategy for developing FriendBook in order to give us a interactive and adoptable social website. The system is too much huge so it is very difficult to complete the core features of the system. As well as we also have to concern on the enhanced features and not only concern but develop too. The enhanced features in the system is such that which are complicated to develop for the developer. It includes lots of complex codes so that is also hectic task to learn those and self study of the technologies which are requiring developing those codes. The file sharing is also provided by the application which is very complicated feature and not even currently using by any of the social networking website. So I also have to research on that and get implement the technology. As my social networking is also providing the facilities to increment the size of the font and change of the theme of the website these tasks are not even close to be simple. For this developer has taken years of practice to gain knowledge from every single part of scripts, programming languages and coding. Even there are lots of programming technologies with which developer is left with and he have to teach yourself with such as J-Queries, .net, Sql Server Database, AJAX, XML and many others. . Before developing the system this is requiring the capability of developer to educating all the programming languages, as it's not just require

one type of programming skill that is require to develop a network site using that knowledge.

Last but not least system is providing the feature that allows user to create their own greeting cards by choice of their own images, text and song which is just not a simple task for developing. It is a very difficult task to attain.

Types of targeted Audience / User who'll use the system:

The system which I am going to implement can be use by every types of audience weather they are novice user, casual user or they are expert user. The system is designed in such a way that it easy to adopt by the students, employees and all type of social peoples.

Section C: Brief description of project objectives. (I.e. scope of proposal and deliverables)

1. Project Objectives

Basically the main objectives of this project to develop a centralize application which will help the peoples to promote themselves globally. And the system not only providing the feature of promoting it is also providing the facility of sharing of information and transfer of data.

2. System Scope

By having the idea of creating profile, transferring messages, commenting, uploading of pictures, sharing of documents, view friends activities and sending wishes by the help of greeting the society can use the system for their promotion as well as connect themselves globally where their information is stored over web increase broadcast their knowledge and information. By adopting this application people can able to search the loving ones. To make this idea possible the certain modules I am using in this application which are given below which are categorised in three terms fist one is core features, second one is enhanced features and the last one is extra feature.

3. Core Features:

3.1. Login module:

- 3.1.1. **Registration:** By having registration module the user will get the privilege to register themselves as a member of the FriendBook. By giving their basic information
- 3.1.2. **Login:** After being as a registered user then he will have to login into the system after that he can utilize the functionalities of the application

3.2. User Relationship module:

- 3.2.1 **Creation/Removal/ approval:** These are the privileges provided to the registered user that they can create user relationship by adding their loving ones to their own profile and even they can remove them from his/her friend list by the help of removal privilege. In case if someone sends you the friend request then you can also approve their friend request and be connect with him/her until you will remove them from your friend list.
- 3.2.3. **View friend list:** This will allow registered user to view the list of their friends. If we talk in more technical word then we can say that all of the friends which were added at earlier as a friend all the list of them will appear.
- 3.2.4 **Private message:** This feature will allow the user to send the private message to their friends.
- 3.2.5 **Comment:** Application wills also providing the privilege to users so the user can comment on the wall of other.

3.3. Request invitation:

- 3.3.1 **Friend searching:** This module allows user to find their loving one from the application who is as a registered user of FriendBook.
- 3.3.2 **Send friend request:** After searching the friends this module allows user to send friend request to them if he wants to add him/her to his friend list.

3.4. Activity module:

- 3.4.1. **View activity of friends:** This module allows user that he/she can always keep their eyes on the different activities of their friends. So the mean of information can able to transfer among the friends.
- 3.4.2. **Uploading pictures:** This module is much more interesting feature by which user can promote themselves and this is not only for the persons this concept can also applied as for the mean of interest and business. The feature is

uploading of pictures which is also being used by the businessman for promoting and launches their products.

- 3.4.3. Post status:** In this module user can able to post the status on their profile as we can say it as a status message which user write to show to their friends basically.
- 3.5. Enhanced Features:** There are list of the features that is specially provided by developer for making the system different and more usable by the mean of combining the features of several website. The list of functions are given
- 3.5.1. Theme selection:** The function which will provide by the application for the user is that by which the user can select the background theme for their profile which will mostly signify the mood of the user that how he/she is.
 - 3.5.2. Email:** The feature that enable user to email from his profile of FriendBook itself. So user need not to visit to URL of the mailing site that will save the time of a user.
 - 3.5.3. Set availability:** This function will try solve the problem of the user by the interrupting others during the situation when he is busy. That facility enable user to set their status as busy or available. So the minimum interruption is face by the user.
 - 3.5.4. Font Increment:** This module of a function will enable user to increase the font size of a website so they can able to view the website in different font sizes.
 - 3.5.5. File sharing:** This is the most important function provided by the developer so the user of a FriendBook can able to share the file (documents) over the FriendBook.
 - 3.5.6. Privacy:**

3.5.6.1. Privileging the person of viewing of profile: In the privacy module the first function which is provided to the user that he/she can give the privilege to their friends that who can view his/her profile.

3.5.6.2. Report abuse: As social networking is increasing the problem of fake profile is increasing, in this function if user found someone as a fake or inappropriate person so he/she can inform it about to the administrator.

3.5.6.3. Updating report: In this privacy function if any changes that is made with the user profile the detailed information is send to the email of the user.

4. Extra features:

4.4. Create greeting card: The extra and most interesting feature which is provided by the developer is that the user can able to create the greeting card for their mates and workers. This enables by the help of privileges of combining the pictures, words, and music so the user can able to create the greeting cards according to their choice for their loving ones.

4.5. Create groups: this module will help user to create their own group in which the selective person can collaborate.

4.6. Private Messages for specific group: This feature will help it out for the person who wants to send the private message to the person who is in the group only.

5. Learning Objective:

Throughout system development the primary learning objective would be learn and apply those software engineering, project management and human computer interaction usability concept and principles and as well as components based development principles in order to produce highly reusable quality software on time. Besides, another major learning objectives would also including of performing thorough research and understand on the essential knowledge management development principles and techniques that require for building a such social based system.

6. Assumption made:

The successful development of the social networking site is really much depending on that what functions make people to use the system. It is much moreover depending on the functionality and privileges provided to the user of the system.

Section D: Brief description of the resources needed by the proposal.

The following are the list of those **hardware resources** that required for developing and running the system :-

A. For developing the system:-

- i. CPU: Pentium IV with at least 1.6 MHz
- ii. Hard Drive Space: At least 5GB Free space

- iii. Memory: 256MB
- iv. Monitor: Any Standard Monitor.
- v. Graphic Card: Intel Extreme Graphic with 64MB

B. For running the system:

- i. Web Browser: Any Standard Browser.

The following listed of **software resources** that I would most probably look into that used for developing the proposed system (but some of it still under my considerations):

- i. Operating System : Windows® XP Professional SP2 and advanced
- ii. Software Modelling Tools: Rational Rose Enterprise Edition / Visual Paradigm and Microsoft Visio.
- iii. Project Management Tools : Microsoft Project
- iv. System Documentation and Presentation Tools: Microsoft Office
- v. Graphic Design Tools: Adobe Photoshop CS or Macromedia Fireworks MX.
- vi. Web Browser: Any standard web browser.

(Note: These requirements can be change on the further research and findings)

After the domain and technical research, the user's involvement is definitely required during preliminary research which involves of the interviewer those who fills in the questionnaires and as well as those who participate during system testing phase like beta or acceptance testing which must require the user's involvement.

For gathering information and user requirements, the following have highlighted the three fact-finding techniques will consider to be use throughout the research stages.

These techniques are listed below:

i. Research

Research is one of the most important fact-finding techniques. The research includes of searching in World Wide Web (WWW), reviewing journals, white paper, books or e-books and as well as any benchmarking the existing Social networking application that available on the current market.

ii. Observation:

This involves spending time for developer with the user in his day to day task and observe the user how he uses the system and what all difficulties he faces while accomplishing his/her job. Here different things are observed by the observer. It helps to understand the nature and the task. This technique is best way to understand the psychology of the user so it is better way to understand the task and difficulty where the user are facing so by this developer can improve the nature of the system.

iii. Questionnaire

The questionnaire is distributed mainly to those personnel who used to spend much of their time on social networking instead of interviewing all of them because it is time consuming. The main reason doing the questionnaire for this project "SocioNet-FriendBook" was to seek and gather all the necessary information might beneficial for the development of proposed system such as "Do you agree that social networking site who'll give you privileges for file sharing and creating greeting instead of chatting is better?

iv. Interview

This involves direct face to face contact with the user in a personal interview face to face. In this developer have to design some predefined random questions are put before the user and the questioner gets good opportunity to explore the user for all the issues that could concern the user.

**Section E: Academic research being carried out and other information,
techniques being learnt.**

A broad research must be conceded out in order to complete this project fruitfully. The following have listed the various techniques, programming languages and research areas that need to be done:-

- i. Key Concepts and Strategy of developing Social Networking Site.
- ii. Concepts of Web Design Usability.

- iii. Human Computer Interaction Principles.
- iv. The Searching Strategies and Methods such as Free-Text Searching, Taxonomy Searching, Meta Searching, Advance Searching, Ontology Searching, and Content Searching.
- v. Data Mining and Data Warehousing
- vi. Server-Side Scripting Language like .NET, AJAX, XML, J-QUERIES and as well as Client-Side Scripting Language like Java Script and C#.

(Note: These requirements can be change on the further research and findings)

The following are the list of books title (some sources obtain from Staffordshire University – Library System), journal and website that planning to be read and research on throughout the system development:

Knowledge Management Concept

1. Books:

- 1.1.** Roger S. Pressman (2010). Software Engineering- A practitioner approach. 7th ed. New York: McGraw-Hill. p530-552.
- 1.2.** Yochai Benkler (2006). The Wealth of Networks. New Haven and London: Yale University Press. p 301-349.
- 1.3. David Teten (2005). The Virtual Handshake: Opening Doors and Closing Deals Online. New York : AMACOM. p 121-150.

2. Web Site:

- 2.1.** Phil Green (@inmagic). (2010). *5 Steps for a Successful Social Knowledge Network Implementation*. Available: <http://www.cmswire.com/cms/enterprise-20/5-steps-for-a-successful-social-knowledge-network-implementation-008423.php>. Last accessed 20th Sep 2011.
- 2.2. Beth Kanter. (2008). *Determining Your Social Network Needs* . Available: <http://www.techsoup.org/learningcenter/internet/page8054.cfm>. Last accessed 21th Sep 2011.
- 2.3. phil green. (2010). *How Social Knowledge Networks can Help Global Organizations Capture and Retain Knowledge*. Available:

<http://www.ebizq.net/topics/collaboration/features/12580.html>. Last accessed 16th Sep 2011.

3. The Knowledge Management Advantage

Programming Language

3.1. Books

- 3.1.1. Deitel & Deitel, Listfied,Nieto, Yaeger, and Zlatkina, C# for Experienced Programmers, 2003, Prentice Hall.
- 3.1.2. Matthew MacDonald (2008). Beginning ASP.NET 3.5 in c# 2008. 2nd ed. New Delhi: Springer. p 789-820.
- 3.1.3. Brian Larson, Microsoft SQL Server 2008 McGraw Hill.
- 3.1.4. [Matthew MacDonald](#), *ASP.NET: The Complete Reference*, McGraw Hill.
- 3.1.5. [Marco Bellinaso](#), [Kevin Hoffman](#), *ASP.NET Website Programming: Problem - Design - Solution, C# Edition*, 2002 , Wrox

3.2. Web Sites

For .Net

- 3.2.1. www.asp.net
- 3.2.2. www.w3schools.com

Section F: Brief description of the development plan for the proposed project

It is better to plan before development until it becomes too late. If the task is divided earlier then it better to work on it because it insure the success or failure of the system in starting. So we have to be with the development plan since it often to tell that "if we fail to plan then we should ready to fail". Basically, a plan serves as an outline or a map for us to finish the tasks on time. Therefore, a suitable methodology needs to be selected before writing a plan because a software methodology provided a framework which we can manage software projects more efficiently. With A suitable methodology will lead to success of a project since different software methodology cater for different project because each project will have its own characteristics and needs in regards to an appropriate process.

1. Justification for choosing waterfall model

After some deliberation and discussion the developer settled upon using Waterfall Model for the development of this system.

- i. The most tempting factor for selection of Waterfall model is the freezing of requirements. With the submission of Project Specification Form (PSF) the developer has fixed the requirements and there will no looking back. Always one activity is performed at a time.
- ii. Verification at each stage ensures early detection of errors/misunderstanding. It is easy to track development.
- iii. The phase wise division in case of waterfall matches with the distribution of our FYP modules. In the initial phase only research and design needs to be done as is the case with our FYP modules.
- iv. Implementation will be started only after completion of designing phase that is our next semester FYP subject. Project is released to the supervisor near the end of the software life cycle or semester.
- v. Another important reason to choose waterfall model is that it is document driven; documentation is produced at every stage. Waterfall model is a well organized process model which will lead to a concrete, more secured and reliable software.
- vi. Not much risks are involved in this project, which is concurrent to the fact that waterfall model too does not involve much risk assessment.
- vii. Spiral model, Prototyping model and Incremental model are chosen specifically when user requirements are not clear and risk is involved. As parameters are already defined in this application it is not advisable to go for other software development methodology.

2. Time division

Starting date of the project: 2nd August 2011-09-2011

Ending date of the project: 30th April 2012

Total duration: 33-39 week

- Project definition (concept and operation) Duration 2 weeks (2nd August-16th Aug):
 - a. Submission of abstract draft proposal
- Project planning (In concept and Operation) Duration 2 weeks (16th Aug-1st Sep)
 - a. Project proposal form submission

- b. Work Breakdown Structure schedule and time estimation
 - c. Other project management activities
- Requirement Engineering (Requirement and Architecture) Duration: 3 weeks.
- a. Identify project specification
 - b. Project specification form
 - c. Data gathering from academic and primary research
 - d. Data gathering from primary research and secondary research.
 - e. Requirements analysis (questioners and observation)
- System design (Detail design) duration: 9 weeks (22nd sep -14th Nov)
- a. Database design
 - b. Architecture design
 - c. Interface design
 - d. Navigation design
 - e. Design for test plan
- Development of the system (In Implementation) Duration 13 weeks(26th Nov-25th Feb)
- a. Creating user interface and entering sample records
 - b. Implementation of Website model
 - c. Implementation of website module
 - d. Integration of module in a single system.
- Testing and Evaluation Duration: 6 weeks (26th Feb-7th March)
- a. Content testing
 - b. User interface testing
 - c. Component testing
 - d. Configuration testing
 - e. Security testing
- Project ending (In System Verification and Validation) Duration: 4 weeks (10th March-20th April).

3. List of that tasks (technical) will be the hardest, and description of tasks

3.4. Create greeting card: The extra and most interesting feature which is provided by the developer is that the user can able to create the greeting card for their mates and workers. This enables by the help of privileges of combining

the pictures, words, and music so the user can able to create the greeting cards according to their choice for their loving ones.

3.5. File sharing: This is the most important function provided by the developer so the user of a FriendBook can able to share the file (documents) over the FriendBook.

3.6. Create groups: this module will help user to create their own group in which the selective person can collaborate.

3.7. Private Messages for specific group: This feature will help it out for the person who wants to send the private message to the person who is in the group only.

Section G. Brief description of the evaluation and test plan for the proposed project

For the satisfaction of the user of the FriendBook the developer will provide the fully functional and error free application to them. For achieving this goal the developer only have to go through a tremendous amount of testing because in this web development the developer is everything as we talk in the sense of requirement gathering, development, testing etc. Generally, the objective of testing web application is to ensure that all the quality and to overcome from error in a Web App environment and the performance of the system will achieve optimal result that met the expectation of the user and is also known as the process of verification and validation of the system requirements. Moreover, a high-quality testing must have to follow a few important principles and it should be suspiciously planned.

1. Content Testing

As testing web applications, **first the testing shall initiate** by undergoing content testing it is having three important objectives first one is to uncover syntactic errors (i.e. have to check the types and grammar mistakes in FriendBook contents) in text based documents, graphical representation and other media. **Second is to uncover semantic errors** (i.e. error in accuracy or completeness of information such that the information provided by the FriendBook). And the last and third one is to find the error in organization or structure of content or the structure of information to present to the end user. In this process the Database testing is also involved. In this test is designed to uncover errors make in translating the user's request into a form that can be

processed by the DBMS. Then next is the dynamic content object(s) must be transmitted to the client in the form that can be displayed to the end user.

2. User Interface testing

On next level of testing during requirement analysis having the main purpose is to insure that it conforms the user requirements and to other elements of the requirements model. During the design of the design interface design model is reviewed to ensure that generic quality criteria established for all user interfaces. In this testing strategy the developer will uncover errors related to specific interface mechanism and also uncover the error such that the interface implements the semantic of navigation, web app functionality, or content display.

After the completing with the interface testing strategy testing interface mechanism will be done in which a brief overview of testing consider for each interface mechanism is presented in the paragraphs that follows:

- Links
- Forms client side scripting
- Popup windows
- CGI scripts
- Streaming content
- Cookies

Once each interface mechanism has been unit tested the focus of interface testing changes to consider of interface semantics. Interface semantics will evaluate that how well the design takes the core of the user, offer the clear direction, delivers feedback and maintain consistency of language and approach.

After completion of the testing interface semantics testing we'll start the **usability testing** that will be focusing intently on the semantic of some interactive objective, usability reviews and tests are designed to determine the degree to which the web app makes the users life easy.

Then after the testing navigation syntax will be done in which the navigation links, redirects, bookmarks, frames and framesets and lastly site maps are tested.

3. Component Testing

After completion with the user interface testing now component testing will starts which is also well known as function testing focus on a set of test that attempt to uncover errors in web app.

Each web app function is a software component and can be tested using **black box and in somewhat white box techniques.**

4. Configuration Testing

After completion with the component testing the configuration testing will be starts. Where the mostly the configuration related testing will be done which is mostly effecting the web app development. In which the first issue we check the server side issues. On the server side, configuration test cases are designed to verify that the projected server configuration can support the web app. Then after we will go through the client side issues in the client side, configuration tests focus more heavily on web app compatibility with configuration that contains one or more permutations.

5. Security Testing

The security is also plays a great role during the web app development process. The security matters in web app. So the security testing is to be done after completion of the configuration testing. Security tests are designed to probe vulnerabilities of the client side environment, back again and the server side environment.

APPENDIX C: PRIMARY RESEARCH ANALYSIS

Primary research is carried out in the form of questionnaire and interview. The analyses of both the data gathering techniques are as following:

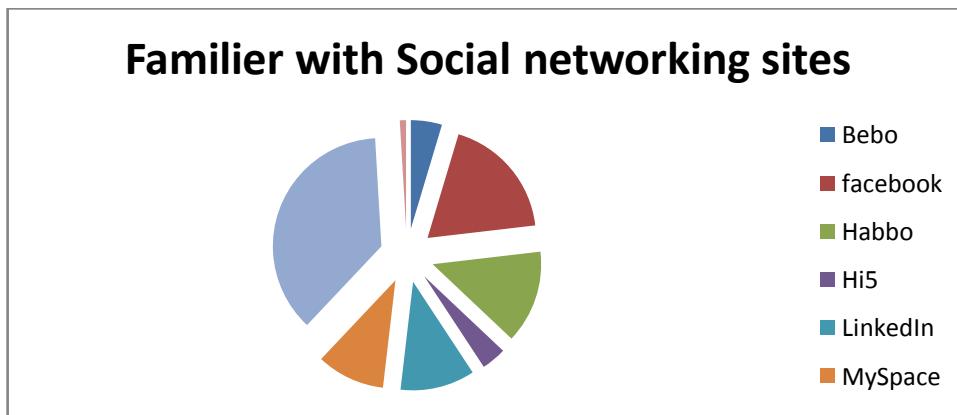
Questionnaire Analysis

Question 1 Which of the following (if any) social networking sites are you a member of? You may select more than one option.

- Bebo Facebook Habbo
 Hi5 LinkedIn MySpace
 Orkut Other - please specify (1 only)

Justification This question will help the developer to identify the features that the user is familiar with so that features developer can include in his system.

Response



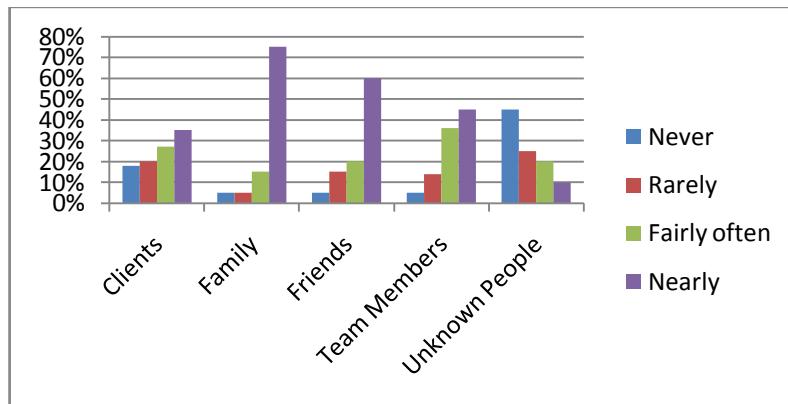
Analysis Major of people are using Orkut. So developer has analyzed that features should accordingly or nearly similar as Orkut.

Question 2 Please indicate who you speak to most using social networking site?

	Never	Rarely	Fairly often	Nearly
Clients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team Members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strangers / people you do not already know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Justification *This question will help to developer so that he can identify the clients that weather what kind of people user wants to talk (connect) with so accordingly the features will provided by him.*

Response



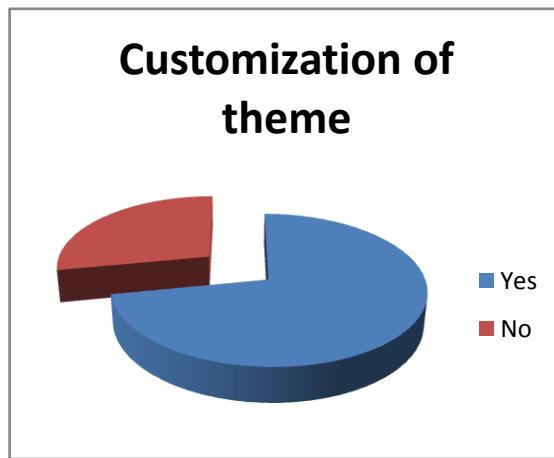
Analysis Majority of the peoples used to communicate with the family, friends and Team members very often. So developer comes in a decision that the features of the “frinendBook” will be according to these data.

Question 3 Do you want to customize theme as per your choice?

Yes

No

Justification *Some of the user feels comfort with light background and some of the user wants background dark so according to visibility requirements will change so this question will help the user to understand the user of his system.*

Response

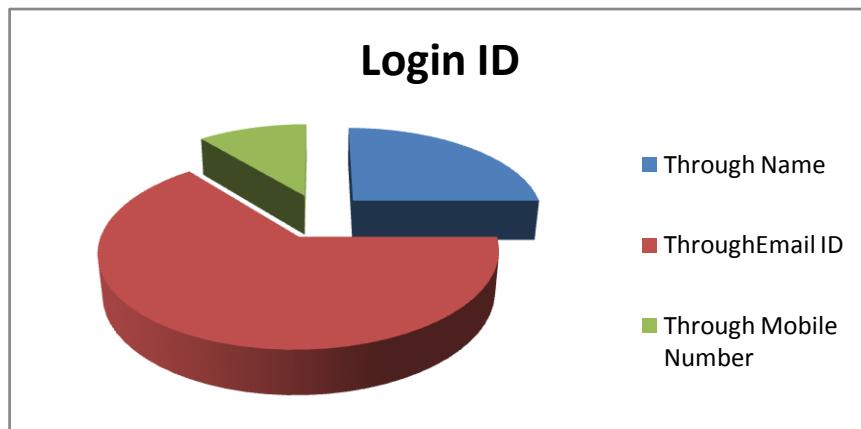
Analysis 80% of the user wants to go for the customization feature, so majority is having with it. So with no doubt developer is decided to include theme customization feature in “friendBook”.

Question 4 In which user ID you want to login to the account that you feel more secure and unique?

- Through name
- Through Email ID
- Through mobile number

Justification *This question will help the developer to identify the different ways that user wants to login to the system and feel most secure while using the system.*

Response



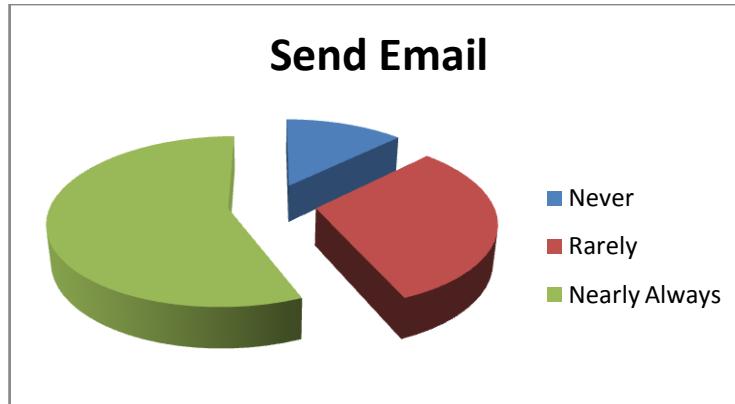
Analysis As a larger amount of people supported to login with Email ID so developer is now not in confusion to make Email Id as a Login ID for “friendBook”.

Question 5 Are you used to email while using social networking website?

- Never
- Rarely
- Nearly Always

Justification This question is asked for the getting the basic requirements of the user so that developer will able to understand that weather the user are often doing the emailing.

Response



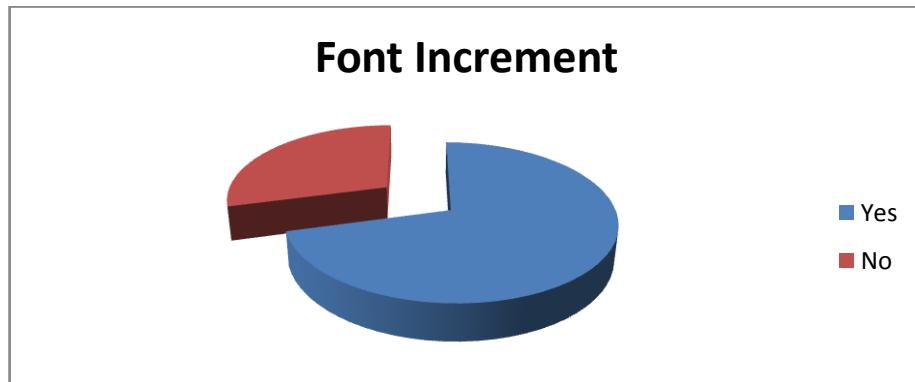
Analysis More than half of the user used to send email while using the social networking site. So developer decisive to include Email facility to “friendBook”.

Question 6 Do you think font increment facility will give benefit to you?

- Yes
- No

Justification According to the visibility requirement of the user can change the font size so this question will help to the developer that weather such feature will require by the different user or not?

Response



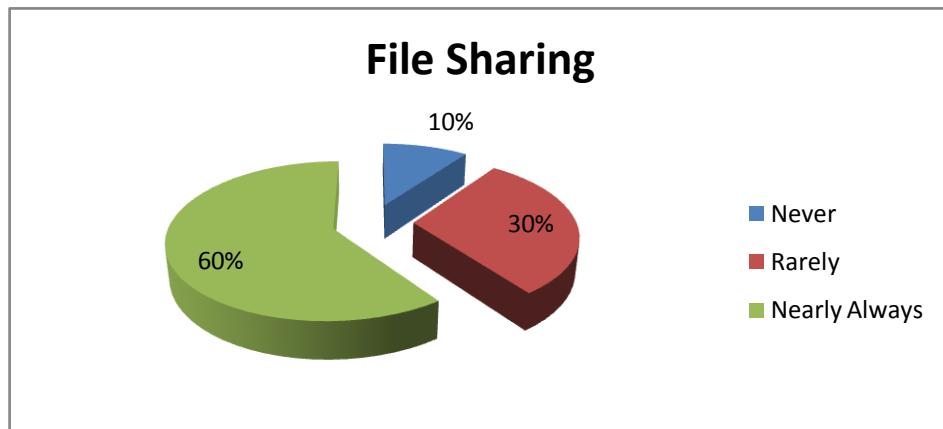
Analysis By observing the data developer found that 75% of the user wants to use this facility. So it's for sure by developer to include this facility in the “friendBook”.

Question 7 Do you use file sharing option for sharing the documents with your friends/ Clients.

- Never
- Rarely
- Nearly Always

Justification As some of the users have to share the files and documents so they may prefer to use the system that will provide the facility to share the file in SN website. So that will help the developer to develop the system according to user.

Response



Analysis Major of the people use to share the file during working with social networking website but via some other resources. So developer has planned to integrate file sharing feature with “friendBook”.

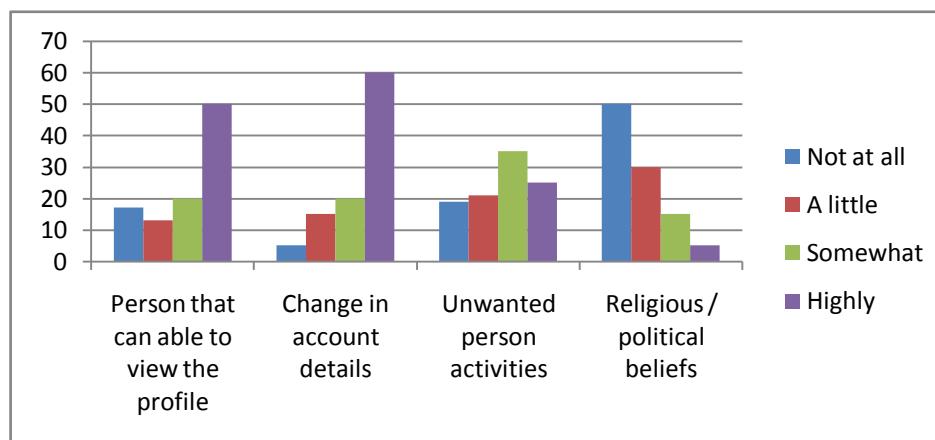
Question 8 What are the different privacy issue you are concerning about?

	Not at all	A little	Somewhat	Highly
Person that can able to view the profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Change in account details	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unwanted person activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Religious / political beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Justification

As per the different user they are using the personal data over the SN website. So by this the private information of the user can view by the different person and also the person with whom the user don't wants to share his information so this question will give the brief idea to the developer that while developing the system what are the security issue he have to concern.

Response



Analysis

As per the data gathered by the developer we can clearly see the how much user are concerns about the privacy of the data related to user's profile. So developer has decided to more concern the security feature in the "friendBook".

Question 9

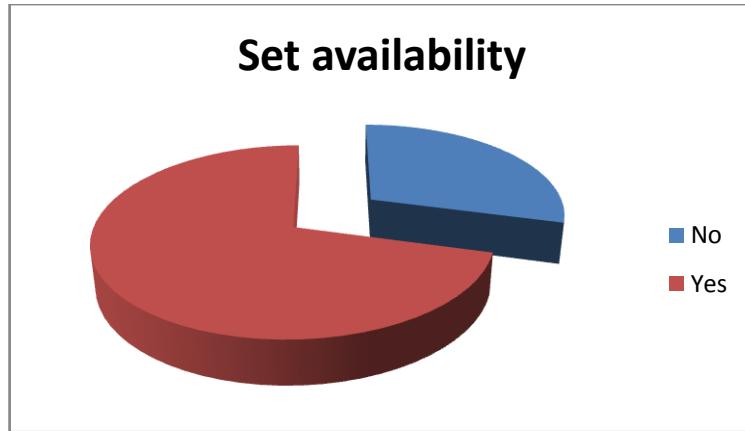
Would you prefer to set your status accordingly for the friends so they can understand that you are busy with some other work?

- Yes
- No

Justification

If in some case you are busy in some other task and also don't wants that some other person will interrupt you, so user can set their status accordingly.

Response



Analysis As majority of people wants to set their availability as in case if they are busy. So the developer decided to include this feature to “friendBook”, so maximum user will satisfy with the system.

Question 10 Would you like to give message on the basis of group?

- Yes
 No

Justification *As the situation comes user wants to send the message to a particular group so no other person rather than that group can view that message. That will help the user to broadcast the message on the basis of group.*

Response



Analysis As in chart most of the user wants to send message according to group so developer is planned to include grouping message in “friendBook”.

Interview Analysis

Question 1 How you want to improve visibility of the system, so you can easily read the sentence?

Justification *According to the visibility requirement, user can change the font size so this question will help to the developer that how such feature will be beneficial for the different user.*

Concluding Answer Font Increment can improve the visibility of the system.

Analysis The developer has determined that he must have to include the facility of font increment in the “friendBook”.

Question 2 How you think the privacy is important to you, if you are using the social networking site?

Justification *This question will make the developer clear that how much users are concerned about the security and privacy of the data so no other can view the details about him.*

Concluding Answer Users are often more concerned about the security and privacy of the system. They are mainly concerned about their profile.

Analysis The developer has decided to include the privacy features in the “friendBook” so that profile of the user can be set according to him therefore profile of the user will be more secure and private.

Question 3 If developer will include the facility of file sharing in a social networking site would you think it is beneficial for you and organization? If so yes then how?

Justification *As some of the users have to share the files and documents so they may prefer to use the system that will provide to facility to share the file in SN website. So this question will help the developer gain the view of the users regarding this feature.*

Concluding Answer Most of the users are often use to share the file according to their needs and requirements but they are using different source for it. So it will be beneficial for the user if the same facility will provide by the social networking site itself.

Analysis Developer is decided to include the facility of file sharing to the social networking website.

Question 4 What is your view if developer will give the chance to wish you friends in their best moment with greeting card without investing money?

Justification *This question is asked to know about the views of different users that how much of them are interested and their views regarding creating greeting cards over Social Networking Site.*

Concluding Answer Almost the entire user used to wish their friends and family members in their birthday and other precious moments. But they are using different source like postal and other information sites which are giving only the facility of greeting cards.

Analysis The developer is decided to include the facility of creating greeting cards to the user of “friendBook” will get beneficial from that and can able to show their feelings towards their loving ones.

Question 5 Which privacy control you want to use in the SN website?

Justification *This question is asked to know different stuff in which users not feel secure while using the SN Site.*

Concluding User wants to get the information regarding each update to their email Id.

Answer

Analysis Developer is willing to give update information to user via sending email to their account so user can get information if some other will misuse their account.

Question 6 Please feel free to add any comment or observations that you might like to share with us concerning enterprise social networking.

Justification *This question is asked to know users view.*

Concluding Answer Functionality and accessibility is the bone of any system.

Analysis Developer is decided to more concentrate on the functionality of the system.