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Project Report Title: **IUTSOCIAL**

(A SOCIAL NETWORKING WEBSITE FOR IUT)

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Certification

This is to certify that this project report titled "*IUTSOCIAL*"is a true work of **Fouchimi Nvuh Ousmane** (123423)who successfully carried out the work project under the supervision of **Mr. Shariar Kaisar.** This project counts as our final year project which put an end to our four years program as BScTe (Bachelor in Science and Technical Education).

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Special attention and love for our beloved Head of the Department (Computer Science and Engineering) PROF.DR.M.A.MOTTALIB. We would also like to be thankful to our respective teachers, IUT staffs for their cooperation, and most importantly all friends of ours who help us in this project.

DEDICATION

This project of ours is dedicated to our beloved parents, May ALLAH grants them Paradise. We will also like to dedicate this work of ours to those who assisted us during this long journey of work. May ALLAH bless you all.

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ABSTRACT

People today are often working or performing necessary errands, but are unable to socialize due to a chaotic schedule or needs that required a great amount of attention and time. Hence, online communities were created to help those people to interact with each other in a new and unique fashion.

Our social network was created to help a particular group of people (IUTians) to come closer and share their personal information's and enjoy a lot more of our services. Here are just some featuresour socialnetwork provides: Creation of personal profile information, add members of the site in your friend list, unfriend unwanted member(s), send privates messages among friend members, chat with others, share videos and audios files, and a lot more.

  In short, IUTSOCIAL social network website is just a right tool for our university as it allows students within the campus, along with IUT members to interact and share information in order to produce both effective and efficient education. In brief our purpose was to bring online activities that take place within the campus in an online environment, where students from far distance can still keep at pace with what is actually going on in the university.In a nutshell IUTSOCIAL is a kind of mini-Facebook application that was created to help folks in IUT to keep in touch.

Chapter 1: THE OVERVIEW OF SOCIAL NETWORK

1.1 Introduction

Social network site was created to help people through the client web browser to communicate and pass on each other's information. This communication is being carried through the internet where billions of users are connected today via computer or mobile devices. Our software plays a great role by providing a very friendly user interface to users whose functionalities allow one to perform basics services. Our social network provides a means for meeting new people, as well as interacting with current online members or maybe even ex-IUTIANS. Essentially, our social network is another attempt to help IUTians reach out pretty easily and most importantly make their lives become more socially interactive.It is simple for the user to access the site and create a profile. Users are able to view their profile, make comments, and upload audio, videos files etc...

1.2 Definition of Social Network

Social network is a social structure made up of a set of actors (such as individuals or organizations) and the dyadic ties between these actors. Social networking, also referred to as social media, encompasses many Internet-based tools that make it easier for people to listen, interact, engage and collaborate with each other. Social networking platforms such as *Facebook, MySpace, YouTube, LinkedIn, Twitter, blogs, messages boards, Wikipedia* and countless are catching on like wildfire.

People use social networking to share recipes photos, ideas and to keep friends updated on their lives. In many cases, we can use social networking tool from mobile devices, such as Blackberries and iPhones, as easily as from PC or Mac.

By its very nature, social networking is interactive. We can tell anyone (that we want to talk to, and that wants to listen to us) anything about our opinions and experiences and vice-versa through blogs, Facebook pages, videos and even 140 character messages called tweets. We can equally build communities based on common interests, causes and concerns.

1.3 How does Social Network work

Social Network can be defined as *"Our Connections with other people"*. We're connected to our friends, who in turn are connected to their friends, and so on.Our relationship to others in the Social Network can be measured by degrees of separation. Our friends are one degree of separation from us. Our friend's friends are two degrees of separation away from us, and so on.

1.3.1 Social Networks as Social Capital

Social networks are important because they give us **social capital.** Social capital is the "resources accumulated through the relationships among people". These resources can come in several forms.

Useful information: Medical tips, driving directions, movie recommendations

Personal relationships: family, friends, neighbors, colleagues

Ability to organize and form groups: local government, sports teams knitting circles. Social capital makes it easier for us to find useful information and increases a community's capacity to organize and achieve goals. This figure below shows how connections happen.

1.4 Some merits of Social Network sites

A Social Networking site can be a good way to make connections with people with similar interest and goals. They can be a way to connect with or meet people that a student may not have had the opportunity to before including other students, staff, faculty and even alumni.

Thanks to Social Networking sites, meeting someone in person has become a thing of the past. "Poking" has become the new handshake. Making friends and renewing the old ones is easy. Thus, meeting people and staying
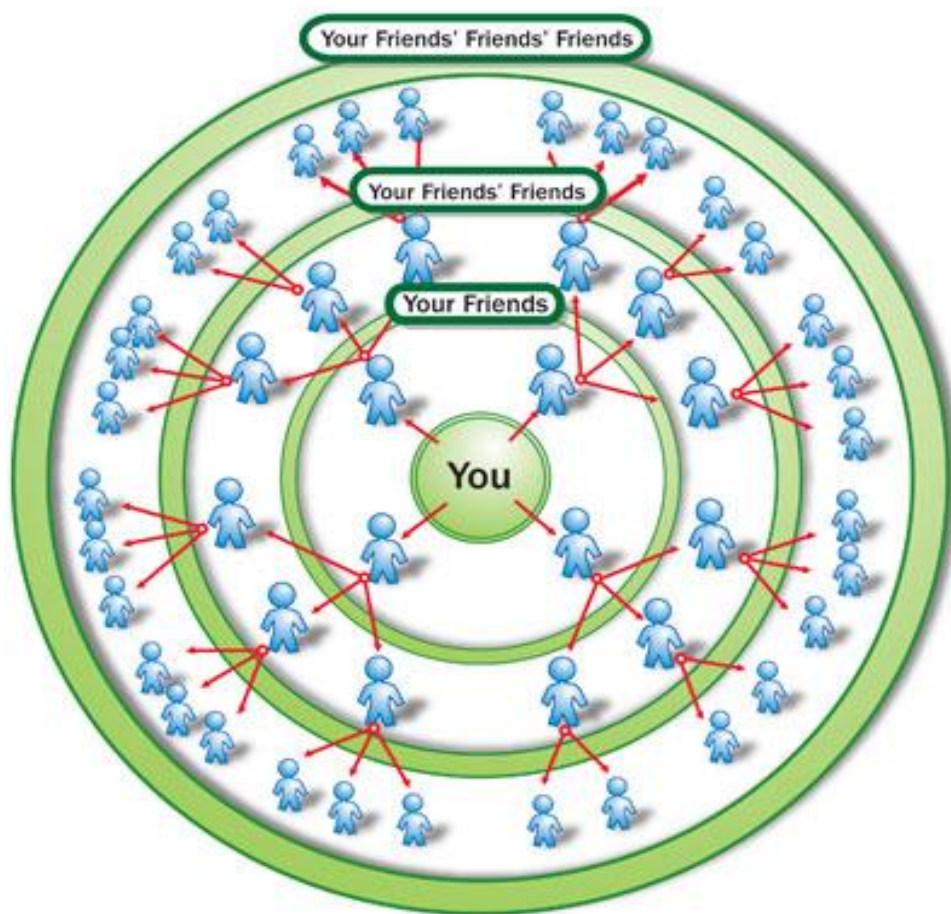
Figure: 1.1

Connected with classmates and friends is a major benefit of social networking sites?

Social networking sites offers campus surveys, "party" or event listings and other information that communicates the "pulse" of a campus culture. Therefore, they can be a great way to advertise and stay connected to our campus community as a whole.

1.5 Social Network and the World Wide Web (WWW)

To better understand how Social Networks are linked to World Wide Web (WWW), We Thought it will be helpful to define first what the World Wide Web is all about. The World Wide Web is a system of interlinked hypertext documents accessed via the internet. With a web browser, one can view web pages that may contain text, videos, and other multimedia, and navigate between them via hyperlinks. By looking carefully to the above definition of the World Wide Web we clearly understand that Social Networks sites are just applications programs that are running on Web browsers and the World Wide Web just make those applications available for those who have internet connection everyone around the globe.

Chapter 2: EMERGING TRENDS OF SOCIAL NETWORKS

2.1 Social Network and Science

One other use that is being discussed is the use of Social Networks in the science communities. Julia Porter Liebeskind et al. have published a study on how new biotechnology firms are using social technologies firms to share exchanges in scientific knowledge. They state in their study that by sharing information and knowledge with one another, they are able to "increase both their learning and their flexibility in ways that would not be possible within a self-contained hierarchical organization." Social Networking is allowing scientific group to expand their knowledge base and share ideas. And without these new means of communicating their theories might become "isolated and irrelevant".

2.2 Social Network and Education

Social networks are also being used by teachers and students as a communication tool. Because many students are already are already using a wide range of social networking sites, teachers have begun to familiarize themselves with this trend in order to leverage student interest in relation to curriculum content. Some of this includes creating chat-room forums and groups to extend classroom d discussion to posting assignments, test and quizzes, through to assisting with homework outside of the classroom setting. Social network services are also being used to foster teacher-parent communication. These services make it possible and more convenient for parents to ask questions and voice concerns without having to meet face-to-face children's teachers."***Education is a very essential part for an***

individual's life, for a teenager education is more valuable and important that anything."[1]

The use of online Social Networks by schools libraries is also increasingly prevalent and they are being used to communicate with potential library users, as well as extending the services provided by individual school libraries.

2.2.1 Professional uses within education

Professional use of social networking services refers to the employment of a network site to connect with other professionals within a given field of interest. SNSs like LinkedIn, a social networking website geared towards companies and industry professionals looking to make new business contacts or keep in touch with previous co-workers, affiliates, and clients. Other network sites are now being used in this manner, Twitter has become a mainstay for professional development as well as promotion and online SNSs support both the maintenance of existing social ties and the formation of new connections. Much of the early research on online communities assume that individuals using these systems would be connecting with others outside the pre-existing group or location, liberating them to form communities around shared interests, as opposed to shared geography. Other researchers have suggested that professional use of network sites provide "social capital". For individuals social capital allows a person to draw on resources from other members of the networks to which he or she belongs. These resources can take the form of useful information, personal relationships, or the capacity to organize groups.

2.2.2 Curriculum uses within education

Curriculum uses of social networking services also can include sharing curriculum-related resources. Educators tap into user-generated content to find and discuss curriculum-related content for students. Responding to the popularity of social

networking services among many students, teachers are increasingly using social networks to supplement teaching and learning in traditional classroom environments as they can provide new opportunities for enriching existing curriculum through creative, authentic and/or flexible, non-linear experiences. Some social networks, such as English, baby! And LiveMocha, are explicitly education-focused and couple instructional content with an educational peer environment. The new Web 2.0 technologies built into most social networking services promote conferencing, interaction, creation, research, on a global scale, enabling educators to share remix and , repurpose curriculum resources. In short, social networking services can become research networks as well as learning networks.

2.2.3 Learning uses within education

In a formal learning environment, goals or objectives are determined by an outside department or agency. Tweeting, instant messaging, or blogging enhances student involvement. Students who would not normally participate in class are more apt to partake through social network services. Networking allows participants the opportunity for just-in-time learning and higher levels of engagement. The uses of SNSs allow educators to enhance the prescribed curriculum. Whenlearning experiences are infused into a website, students utilize every day for fun;students realize that learning can and should be a part of everyday life. It does not have to be separate and unattached. Informal learning consists of the learner setting the goals and objectives. It has been claimed that media no longer just influence our culture. They are our culture. With such a high number of users between the ages of 13-18, a number of skills are developed. Participants hone technical skills in choosing to navigate through social networking services. This includes elementary items such as sending an instant message or updating a status. The developments of new media skills are paramount in helping youth navigate the digital world with confidence. Social networking services foster learning through what Jenkins (2006) describes as a "Participatory Culture." A participatory culture consists of a space that allows engagement, sharing, mentoring, and an opportunity for social interaction.

Participants of social network services avail of this opportunity. Informal learning, in the forms of participatory and social learning online, is an excellent tool for teachers to sneak in material and ideas that students will identify with and therefore, in a secondary manner, students will learn skills that would normally be taught in a formal setting in the more interesting and engaging environment of social learning.[Sites like Twitter provide students with the opportunity to converse and collaborate with others in real time. Social networking services provide a virtual "space" for learners. Registered users share and search for knowledge which contributes to informal learning.

2.2.4 Constraints of Social Networking services in education

In the past social networking services were viewed as a distraction and offered no educational benefit. Blocking these social networks was a form of protection for students against wasting time, bullying, and privacy protection. In an education setting, Facebook is seen by many instructors and educators as a frivolous, time-wasting distraction from schoolwork, and it is not uncommon to have Facebook banned at junior high or high school computer labs. Cyberbullying has become an issue of concern with social networking services. According to the UK Children Go Online survey of 9-19 year olds found that a third have received bullying comments online. To avoid this problem, many school districts/boards have blocked access to social networking services like Facebook, MySpace, Twitter, and so on, within the school environment. Social networking services often include a lot of personal information posted publicly and many believe that sharing personal information is a window into privacy theft. Schools have taken action to protect students from this. It is believed that this outpouring of identifiable information and the easy communication vehicle those social networking services opens the door to sexual predators, cyberbullying, and cyber stalking. It has been suggested that if schools block them [social networking services], they're preventing students from learning the skills they need. Banning social networking is not only inappropriate but also borderline irresponsible when it comes to providing the best educational experiences for students.[Schools and school districts have the option of educating safe media usage as well as incorporating

digital media into the classroom experience, thus preparing students for the literacy they will encounter in the future.

2.3 Social Network and grassroots organizing

Social networks are being used by activists as a means of low-cost grassroots organizing. Extensive use of an array of social networking sites enabled organizers of the 2009 National Equality March to mobilize an estimated 200,000 participants to march on Washington with a cost savings of up to 85% per participant over previous methods.The August 2011 England riots were similarly considered to have escalated and been fuelled by this type of grassroots organization.

2.4 Social Network and employment

A final rise in social network use is being driven by college students using the services to network with professionals for internship and job opportunities. Many studies have been done on the effectiveness of networking online in a college setting, and one notable one is by Phipps Arabie and Yoram Wind published in *Advances in Social Network Analysis*. Many schools have implemented online alumni directories which serve as makeshift social networks that current and former students can turn to for career advice. However, these alumni directories tend to suffer from an oversupply of advice-seekers and an undersupply of advice providers. One new social networking service, Ask-a-peer, aims to solve this problem by enabling advice seekers to offer modest compensation to advisers for their time.

2.5Social Interaction

Put simply, social networking is a way for one person to meet up with other people on the net. People use social networking sites for meeting new friends, finding old friends, or locating people who have the same problems or interests they have, called niche networking.

More and more relationships and friendships are being formed online and then carried to an offline setting. Psychologist and University of Hamburg professor Erich H. Witte says that relationships which start online are much more likely to succeed. Witte has said that in less than 10 years, online dating will be the predominant way for people to start a relationship. One online dating site claims that 2% of all marriages begin at its site, the equivalent of 236 marriages a day. Other sites claim 1 in 5 relationships begin online.Social networking sites play a vital role in this area as well. Being able to meet someone as a "friend" and see what common interests you share and how you have built up your friend base and "likes" you can truly see a fuller picture of the person you are talking with. Most sites are free instead of being paid based which allows younger people with stricter budgets to enjoy some of the same features as those of adults who are more likely to be able to afford pay based sites. While not the intended or original use for these social sites, a large area of their current function has stemmed from people wanting to meet other people in person and with the extremely busy schedules of most people, it is a fast, reliable and easy way in which to do so that costs you little time and money (if any). Users do not necessarily share with others the content which is of most interest to them, but rather that which projects a good impression of themselves.

2.6 New Trends in Social Networking

Next-door is a new private social networking site aimed at neighborhoods to help strength and enhance social ties. This SNS will help to bring together communities since neighbors drifted away because of the digital era.

More and more Americans are using social networking sites as their primary sources for information. The percentage of those who have used social networking sites to find new has increased, and nearly doubled, from 9% to 19%

since 2010. This percentage is higher than those who get their news from other social media sites, new blogs and news podcasts.

Chapter 3: APPLICATION DOMAINS OF SOCIAL NETWORK

3.1 Government Applications

Social networking is more recently being used by various government agencies. Social networking tools serve as a quick and easy way for the government to get the opinion of the public and to keep the public updated on their activity. The Centers for Disease Control demonstrated the importance of vaccinations on the popular children's siteWhyville and the National Oceanic and Atmospheric Administration has a virtual island on Second Life where people can explore underground caves or explore the effects of global warming. Likewise, NASA has taken advantage of a few social networking tools, including Twitter and Flickr. They are using these tools to aid the Review of U.S. Human Space Flight Plans Committee, whose goal it is to *ensure that the nation is* on a vigorous and sustainable path to achieving its boldest aspirations in space*.*

3.2 Business Applications

The use of social networking services in an enterprise context presents the potential of having a major impact on the world of business and work (Fraser &Dutta 2008).

Social networks connect people at low cost; this can be beneficial for entrepreneurs and small businesses looking to expand their contact bases. These networks often act as a customer relationship management tool for companies selling products and services. Companies can also use social networks for advertising in the form of banners and text ads. Since businesses operate globally, social networks can make it easier to keep in touch with contacts around the world.

Two examples of social networking being used for business purposes are LinkedIn.com and Youngblackprofessionals.org. LinkedIn aims to interconnect professionals. LinkedIn has over 100 million users in over 200 countries.Youngblackprofessionals.org or YBP aims to do the same thing, but is targeted toward professional minorities.

Another is the use of physical spaces available to members of a social network such as Hub Culture, an invitation-only social network for entrepreneurs, and other business influential, with Pavilions in major cities such as London, UK. Having a physical presence allows members to network in the real world, as well as the virtual, adding extra business value.

Applications for social networking sites have extended toward businesses and brands are creating their own, high functioning sites, a sector known as brand networking. It is the idea that a brand can build its consumer relationship by connecting their consumers to the brand image on a platform that provides them relative content, elements of participation, and a ranking or score system. Brand networking is a new way to capitalize on social trends as a marketing tool.

The power of social networks it beginning to permeate into internal culture of businesses where they are finding uses for collaboration, file sharing and knowledge transfer. The term Enterprise Social Software is becoming increasingly popular for these types of applications.

"Highly 'Networked individuals' (helped by new platforms like social networking and messaging) can move across, undermine and go beyond the boundaries of existing institutions. This provides the basis for the pro-social networks that compose what I am calling the Fifth Estate."[3]

3.3 Dating Applications

Many social networks provide an online environment for people to communicate and exchange personal information for dating purposes. Intentions can vary from looking for a one time date, short-term relationships, and long-term relationships.

Most of these social networks, just like online dating services, require users to give out certain pieces of information. This usually includes a user's age, gender,

location, interests, and perhaps a picture. Releasing very personal information is usually discouraged for safety reasons. This allows other users to search or be searched by some sort of criteria, but at the same time people can maintain a degree of anonymity similar to most online dating services. Online dating sites are similar to social networks in the sense that users create profiles to meet and communicate with others, but their activities on such sites are for the sole purpose of finding a person of interest to date. Social networks do not necessarily have to be for dating; many users simply use it for keeping in touch with friends, and colleagues.

However, an important difference between social networks and online dating services is the fact that online dating sites usually require a fee, where social networks are free. This difference is one of the reasons the online dating industry is seeing a massive decrease in revenue due to many users opting to use social networking services instead. Many popular online dating services such asMatch.com, Yahoo Personals, and eHamorny.com are seeing a decrease in users, where social networks like MySpace and Facebook are experiencing an increase in users.

The number of Internet users in the U.S. that visit online dating sites has fallen from a peak of 21% in 2003 to 10% in 2006.[Whether it's the cost of the services, the variety of users with different intentions, or any other reason, it is undeniable that social networking sites are quickly becoming the new way to find dates online.

3.4Educational applications

The *National School Boards Association* reports that almost 60 percent of students who use social networking talk about education topics online, and more than 50 percent talk specifically about schoolwork. Yet the vast majority of school districts have stringent rules against nearly all forms of social networking during the school day — even though students and parents report few problem behaviors online.

Social networks focused on supporting relationships between teachers and their students are now used for learning, educator professional development, and content sharing.*Ning* for teachers,*Term Wiki,* Learn Central,*TeachStreet* and

other sites are being built to foster relationships that include educational blogs, eportfolios, formal and ad hoc communities, as well as communication such as chats, discussion threads, and synchronous forums. These sites also have content sharing and rating features.

Social networks are also emerging as online *yearbooks*, both public and private. One such service is *My Yearbook*, which allows anyone from the general public to register and connect. A new trend emerging is private label yearbooks accessible only by students, parents, and teachers of a particular school, similar to *Facebook's* beginning within Harvard.

3.5 Finance Applications

The uses of virtual currency systems inside social networks create new opportunities for global finance. Hub Culture operates a virtual currency Ven used for global transactions among members, product sales and financial trades in commodities and carbon credits. In May 2010, Carbon pricing contracts were introduced to the weighted basket of currencies and commodities that determine the floating exchange value of Ven. The introduction of carbon to the calculation price of the currency made Ven the first and only currency that is linked to the environment.

3.6 Medical and health applications

Social networks are beginning to be adopted by healthcare professionals as a means to manage institutional knowledge, disseminate peer to peer knowledge and to highlight individual physicians and institutions. The advantage of using a dedicated medical social networking site is that all the members are screened against the state licensing board list of practitioners.

A new trend is emerging with social networks created to help its members with various physical and mental ailments. For people suffering from life altering diseases,PatientsLikeMe offers its members the chance to connect with others dealing with similar issues and research patient data related to their condition. For alcoholics and addicts, SoberCircle gives people in recovery the ability to communicate with one another and strengthen their recovery through the encouragement of others who can relate to their situation. Social networks are beginning to be adopted by healthcare professionals as a means to manage institutional knowledge, disseminate peer to peer knowledge and to highlight individual physicians and institutions. The advantage of using a dedicated medical social networking site is that all the members are screened against the state licensing board list of practitioners.

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Some social networks aim to encourage healthy lifestyles in their users. SparkPeople offers community and social networking tools for peer support during weight loss. Fitocracy is focused on exercise, enabling users to share their own workouts and comment on those of other users is also a website that offers support groups for a wide array of topics and conditions, including the support topics offered by PatientsLikeMe and SoberCircle.

Some social networks aim to encourage healthy lifestyles in their users. SparkPeople offers community and social networking tools for peer support during weight loss. Fitocracy is focused on exercise, enabling users to share their own workouts and comment on those of other users.

"Discussions around personal health, and by extension healthcare, are no longer private issues, citizens today are taking keen interest in their health and prefer sharing heath related information with their peers. With governments across

the world re-looking at their healthcare systems and taking measures in a bid to extend healthcare benefits to as many citizens as possible, public health and associated policy remains a key topic of discussion. At the same time, the internet has emerged as the main medium to enable such information sharing, with social media taking the lead."[2]

3.7 Social and political applications

Social networking sites have recently showed a value in social and political movements. In the Egyptian revolution, Facebook and Twitter both played a pivotal role in keeping people connected to the revolt. Egyptian activists have credited social networking sites with providing a platform for planning protest and sharing news from Tahrir Square in real time. By presenting a platform for thousands of people to instantaneously share videos of mainly events featuring brutality, social networking proves to be a vital tool in revolutions

Chapter 4: OUR PROPOSED SYSTEM INFRASTRUCTURE

4.1 Determining the Architecture

Before we start coding, let's examine the ways in which we can architect the project. We need to outline the responsibilities among functional components, and determine how they will interact with each other.

When we work with PHP technologies, we can code all of our business logic in PHP pages using scriptlets. Scriptlets are snippets of PHP code enclosed in <? php ?> tags. However, there are several reasons why this practice should be avoided, especially when working in large projects.

These are some reasons why we should not do so:

- **Scriptlet code is not reusable:** Scriptlet code appears in exactly one place: The PHP code that defines it. If the same logic is needed elsewhere it must be included (decreasing readability) or copied and pasted into the new context.
- **Scriptlets mix logic with presentation:** Scriptlets are islands of program in a sea of presentation code. Changing either requires some understanding of what the other is doing to avoid breaking the relationship between the two. Scriptlets can easily confuse the intent of a PHP page by expressing the program logic within the presentation.
- **Scriptlets break developer role separation:** Because scriptlets mingle programming and Web content, Web pages designers need to know how to program or which parts of their pages to avoid modifying
- **Scriptlets make PHP pages difficult to read to maintain:** PHP pages with scriptlets mix structured tags with PHP pages delimiters, and perhaps JavaScript, or HTML code.

- **Scriptlet code is difficult to test:** Unit testing of scriptlet codeis virtually impossible. Because scriptlets are embedded in PHP pages, the only way to execute them is to execute the page and test the results.

  There are various design patterns already in existence which provide considerable benefits when applied. Once such pattern is the Model View Controller (MVC) paradigm which divides our application into three interoperable components.

  - **Model:** Represents the business data and any business logic that govern access to and modification of data. The model notifies views when it changes and lets the view query the model about its state. It also lets the controller access application functionality encapsulated by the model.

  - **View:** The view renders the contents of a model. It gets data from the model and specifies how that data should be presented. It updates data presentation when the model changes. A view also forwards user input to a controller.

  - **Controller:** The controller defines application behavior. It dispatches user requests and selects views for presentation. It interprets user inputs and maps them into actions to be performed by the model. In a web application, user inputs are HTTP GET and POST requests. A controller selects the next view to display based on the user interactions and the outcome of the model operations.
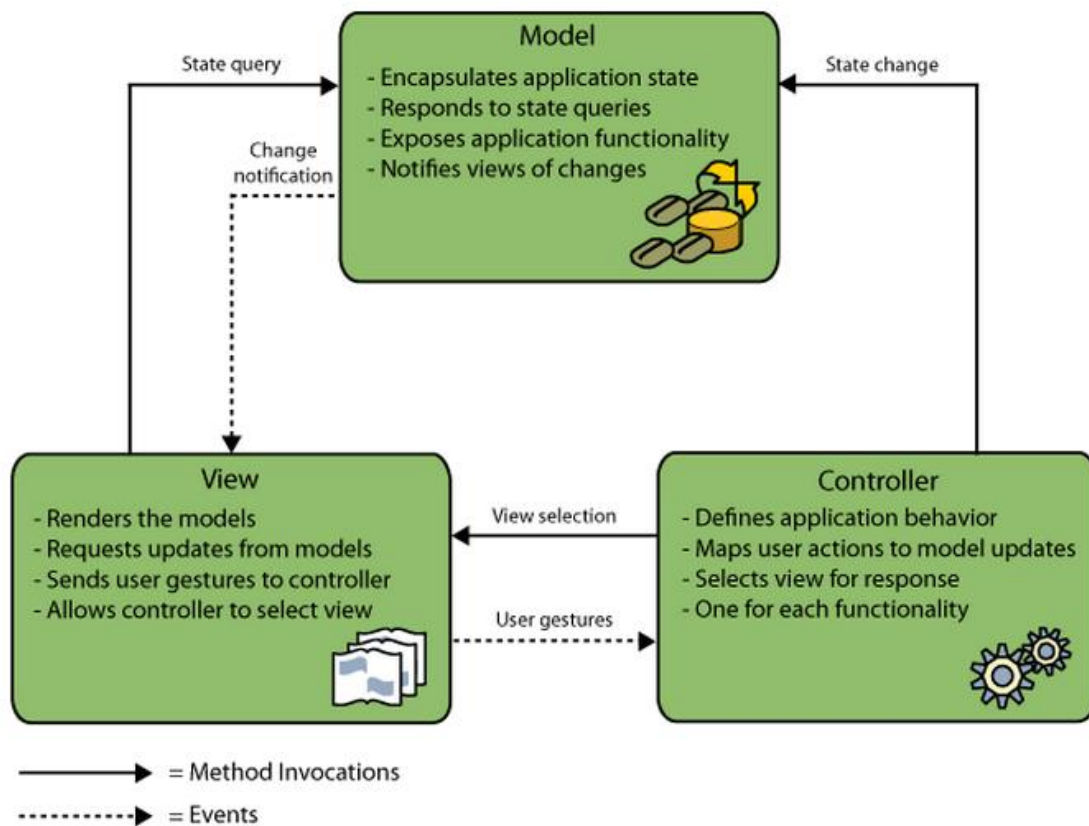
Figure 4.1

Adhering to the MVC design pattern provides you with numerous benefits:

- **Separation of design concerns:** Because of the decoupling of presentation, control, and data persistence and behavior, the application becomes more flexible; modifications to one component have minimal impact on other components. You can, for example, create new views without needing to rewrite the model.

- **More easily maintainable and extensible:** Good structure can reduce code complexity. As such, code duplication is minimized.

- **Promotes division of labor:** Developers with different skill sets are able to focus on their core skills and collaborate through clearly defined interfaces.
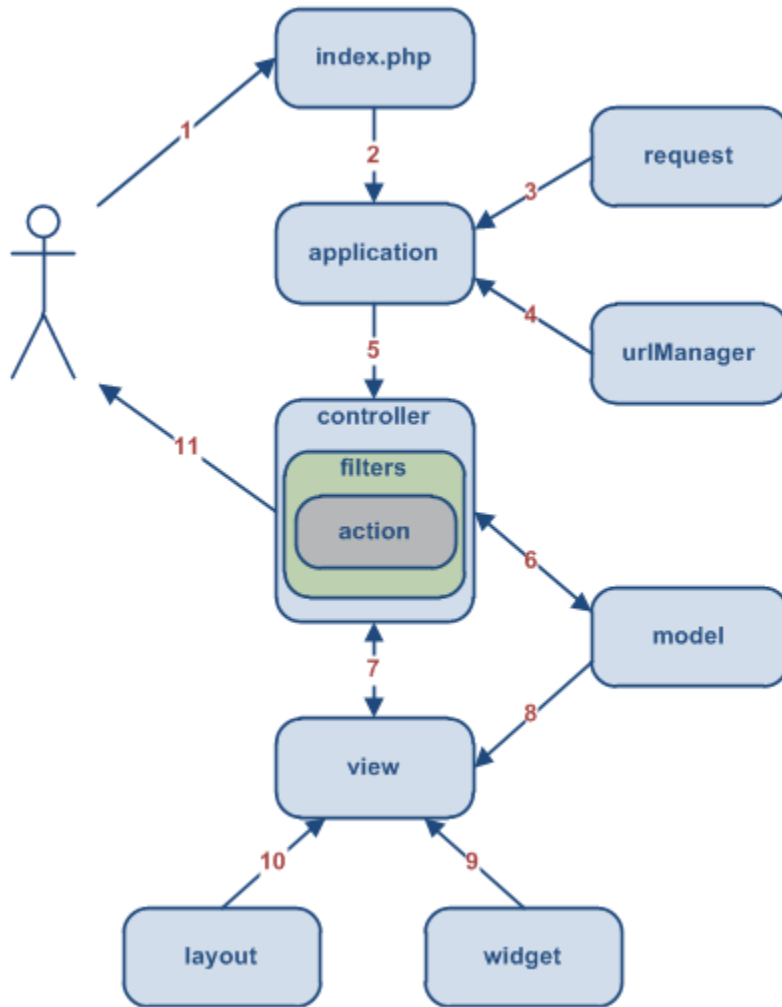
Figure 4.2
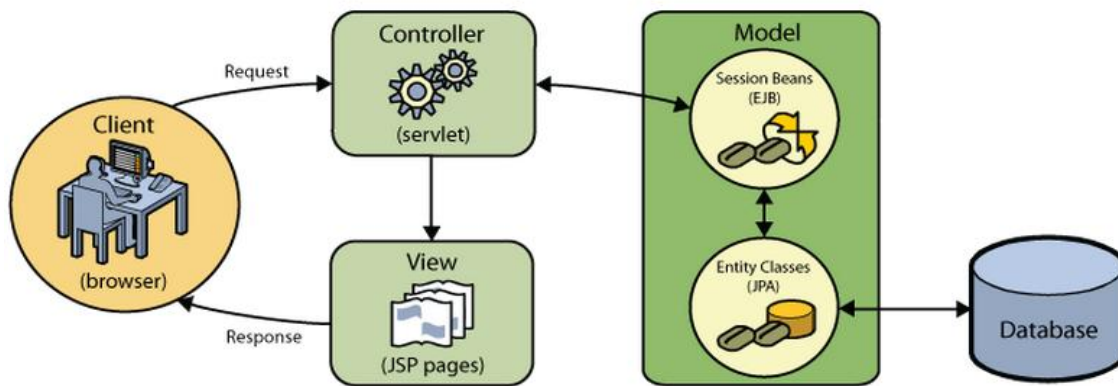
Figure 4.3

4.2 Motivation of Our System

What really strike use to come with such ideas is the fact that many Cameroonians nowadays are failing to keep in touch with each other after they have been separated for whatsoever reason that may be. And many Cameroonians cannot really afford travelling long distances to visit their relatives in order to spend a good time with them. And we also think about those educators out there who has no means to share their expertise online (teaching materials, and discussions over instructive forums).

4.2.1 Geographical Obstacle

As we already stated above, people separated by a large distance can hardly communicate easily especially for our third world country where life expense does not really satisfy many of us. For instance it might be two difficult for two colleagues to be calling each other via a telephone or any mobile device to talk about their private business, same apply for those students that graduate from the same high school but get admitted to two different universities separated by a large distance. Looking at these scenarios we thought it would be wonderful to come up with something that will ease the life of many Cameroonians and make their transactions safe and efficient.

4.2.2 Lack of social means in Academy to advertise talents of educators

It is with no doubt that, successful schools and universities nowadays provide a mean by which those students that cannot afford tuition fees to pursue an academic carrier, can earn well recognized certificates and compete on the stage with regular students. They do that by launching a site where users are able to create individual profile, subscribe to courses of their own choice, and then follow

those classes and earn a good certificate upon successful completion of the chosen courses. Therefore we say, why not create a social community website where school instructors will share their own expertise to contribute at the development of the country, while promoting at the same time the teachings abilities of their respective teachers.

4.3 Functionalities provided by our system

As any other social networking site, Camerfriends social network though providing only basics functionalities to its members yet ensure security of these members by means of authentication and authorization to specific roles members may require. Of those roles or functionalities these is a list a user can do.

IUTSOCIAL allows:

- ✓ a user to create an account by filling the registration form
- ✓ registered members to login into the system
- ✓ members to customize their individual profile information
- ✓ a user to request for a friend request to others members
- ✓ one to browse others members profile to view their information
- ✓ one to unfriend unwanted user from oneself list
- ✓ friendly users to send each other private messages
- ✓ users to delete old messages
- ✓ users to chat instantaneously with friend(s)
- ✓ users to upload oneself videos, audio files
- ✓ users to comment on others members posts
- ✓ user to set security on their profile, therefore allowing the user to decide who has the right to view his profile

4.4 Technologies used for the development

As young and dynamic software developers we thought we would be appropriate to use as much as possible various web technologies to proceed in this work, the reasons behind this, was first to grab knowledge of all kind of web technologies available and second to meet the standard of today way of web development procedure (Web 2.0). For that we used:

4.4.1 Design

- ❖ Adobe Fireworks (This was used to design our logo)
- ❖ Adobe Photoshop (This was mainly used for design picture such background pictures and ads)
- ❖ Adobe Flash was also used for design and animations
- ❖ HTML4 and HTML5 (Hypertext Markup Language) were used to format our forms
- ❖ CSS3 (Cascade Style Sheet) this is a scripting language mostly used for beautifying web pages. For instance CSS3 helps us choose what color, font, background color, padding precision, margin precision to apply on different tags

4.4.2 Form Validation

To validate our forms we mainly used the following technologies

4.4.3 Client-Side Validation

We all know of the experience of popular social network such as Facebook that before logging into our profile we have to provide a valid email address and password credentials. Camerfriends provide that level of security by using the following tools.

- JavaScript. This is a scripting language we used to add interactivity in the web browser. For instance when a client provide invalid email address or password she is prompt for the invalidity of her input and will need to correct to gain access to the system

- JQuery. This is another extension of JavaScript technology with the sole exception that it render web page with the results coming from the server

- Ajax which stands for asynchronous JavaScript help us also for validation and render pretty well results generated from the server side prior on the inputs fired by the user

- JSON stands for JavaScript Object Notation it helps in the communication between server and client, along with Ajax.

4.4.4 Server-Side Validation

In the Server-Side part we mainly used the following languages:

- Hypertext Preprocessor (PHP) is one of the most successful programming languages used by web developers nowadays due to its tremendous versatility, and feasibility. It embodies within it concept of Object Oriented Programming paradigm which is very handy to code module stepwise. We use it to generate queries requests to our database to achieve intended goals like updating, inserting, or deleting specific user information.

- Extensible Markup Language (XML) has also been used for a number of reasons. To make quick retrieval of user information we thought it would be logical to store permanent user information in a XML file than storing them in the database. Moreover adopting XML as part of our system benefited us to standardize our own tags which help us to better understand our system. Because we have defined our own tags, instead of relying solely on predefined tags offered by HTML

4.5 Server used

We all know that all social networking sites use a server to service client's requests. They server decides which view fit the request made by the client.

In our project we have used Apache Server to handle every request made by the client. We equally benefit from all the services provided by the server.

4.6 Database Version Used and Table Description

To properly handle all the queries we have used MySQL Database for storing database in our application. Our table consists of six tables basically.

We have as tables:

- **users**: table which holds the followings records (mem_id primary key, username, firstname, middlename, lastname, country, gender, birthday, state, city, zip, email, password, sign_up_date, last_log_date, biography, website, youtube, facebook, twitter, friend_array, account type, email_activated, login_verified);

   MyMembers table as we can observe gather basic information of the member of our system, the user has to be assigned an identification number which is labeled here as mem_id which served to uniquely identified a member in our system, she has to provide also information such as first name, middlename, last name, country, gender, birthday date, the state, city where the person may be living, the zip code if available , her email account for getting important notifications from the system, password that will be used for authentication and authorization of the user in the system, sign_up_date track the user login into the system to see how often she use the system, the last_log_date is also used to check how long does one stay before coming back on our system, the user may optionally provide information about her biography, which will let other

member to know more about her. Website, Facebook, twitter fields are used to send notifications about new updated feeds about the system if the user chooses to receive them. The friend_array field is used to store those members who are actually friends of the user. Account type field is used to differentiate about user who are actually members of the system and those who are not yet been validated as concrete members of our system. Login_verified field is used to check if the user is a valid user.

- **status**: table which holds the followings records(id primary key, mem_id, the_blab, blab_date);
  As we mentioned above our system allows one to post comments to his wall so that others can see and comment on the post. For that we have created a table called blabbing that will store all the post of the user and will display them on the welcome page of our website. As we can see the blabbing table uses an identification number which helps distinguish between two rows on our table, the mem_id field stores the id of the one who blab on the system, the_blab field actually the text being written by the user and the blab_date holds the date of the blab.

- **Chat**: table which holds the followings records(chat_id primary key, from, to, message, date, recd);
  We all know that popular social network provides the chatting features to members of the system to send one another instantaneous messages. Camerfriends also provides the chatting functionality by storing those instantaneous messages on the chat table which holds the chat_id primary key that is used to uniquely identify between two rows. The from and to fields are used for holding the member id of the sender, and the receiver of the system, the message is used to store the message sent by the sender and the recd field is used to check whether the receiver has actually received the message. We declared this field as an enumeration data type an assigned the default value of zero (0) to id, and whenever the receiver opens the message at the other end we update the value of this field to one(1).

- **walls** table which holds the followings records (post_id primary key, post_author, post_author_id, otid, datetime, type, view_count, section_title, section_id, thread_title, post_body, closed);

  The Forum_Posts table is used to store information about all possible topics members of the user may occasionally discuss. For that have used post_id as an identifier of tuples, post_author field store the name of the one who post on the forum, post_author_id is used to track the one who posted on the forum since the name is not sufficient to do that because two users might have the same name. The thread_title holds the title of a given thread, the post_body field holds the comment of any given user on a particular thread, and the closed field is a field to check if one has the right to discuss on the forum or not.

- **Forum Sections:** table which holds the followings records(forum_id primary key, title, ordered);
  We have divided our forum into section for instance we have a section which deals with academic matters and another which deals with professional matters. We have used the forum_id here as an identifier to distinguish between any two given rows.

- **Friends:** table which holds the followings records (frd_id primary key, mem1, mem2, timedate); this is the table that holds the ids of those users who wish to become friends. As we can see this table has three key the frd_id used as a primary to differentiate between any given two rows, and mem1, mem2 keys which hold both the key of the requester, and the receiver.
- **Private_Messages:** table which holds the followings records (mes_id primary key, to_id, from_id, time_sent, subject, message, opened, recepientDelete, senderDelete); This is the table that contains all the

private messages sent by any given two friends it has as attributes or fields the mes_id which helps as a primary key, to_id designating the receiver's id the from_id indicating the sender, time_sent recording when the message was sent, the subject field holds the title of the subject, message field is used to store the message body of the conversation between users. The opened, recepientDelete, and senderDelete fields are acting as flags in our database they help us to determine whether the user has viewed or opened a message or she has deleted any unwanted messages, or whether the sender would like to delete some of his/her messages.

- **Assignment table.** This table allows us to save records of individuals assignment uploaded both by the teacher and the student.

4.7 Database Schema Representation
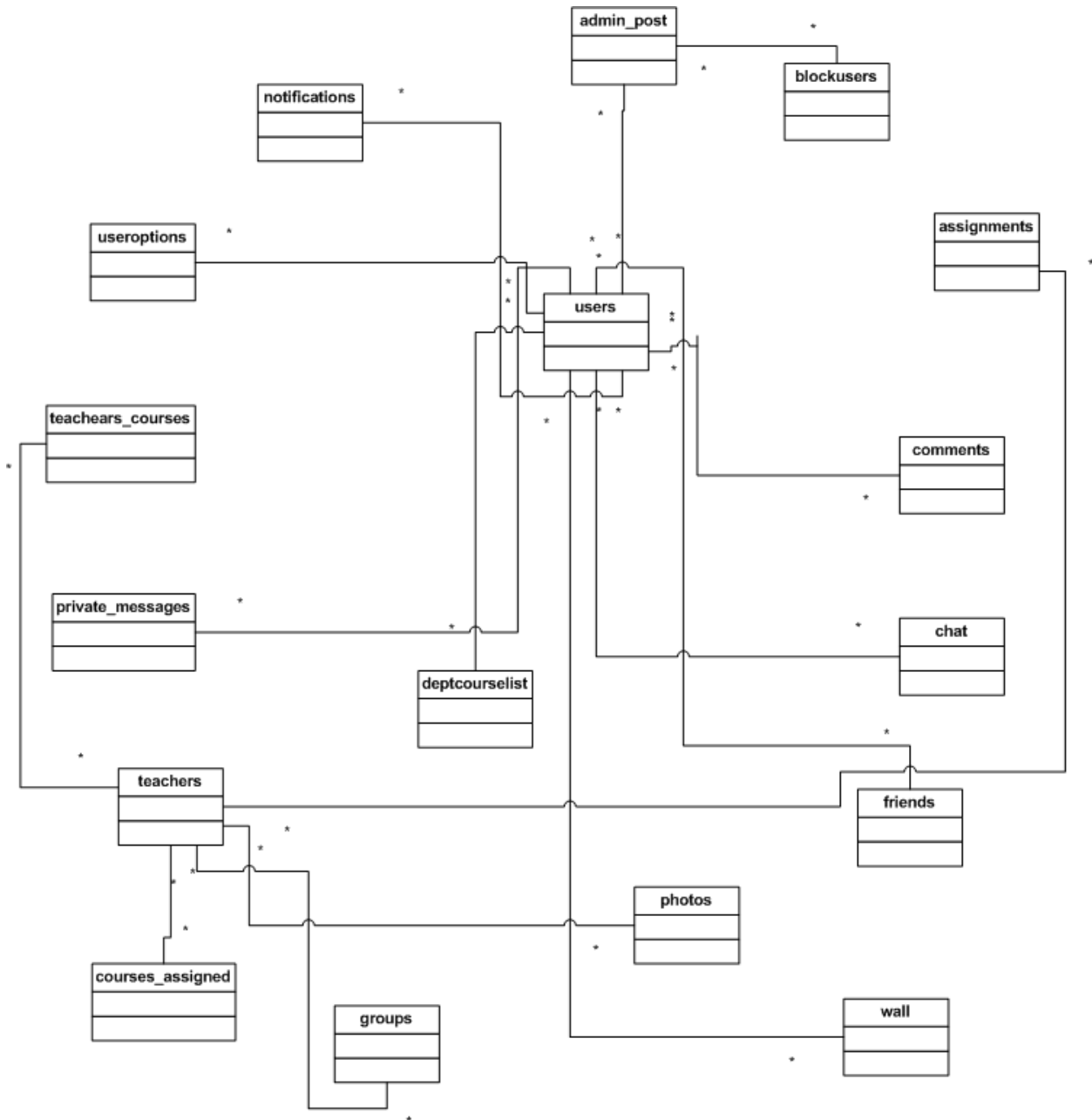
Figure 4.3

4.8) Table Description

Admin_post
-id
-posts
-datetime
-image

Wall
-id
-username
-wall_body
-date_added
-removed

Teacher_Courses
-id
-course_id
-course_name
-credit
-hd_num
-bsc_num
-teacher

Teachers
-id
-instructor_name
-id_num
-designation
-dept

Friends
-id
-user1
-user2
-date_made
-accepted

users
-id
-firstname
-lastname
-occupation
-username
-email
-password
-dept
-gender
-sign_up_date
-ip
-lastlogin
-activated
-notescheck
-userlevel
-country
-avatar

Assignments
-id
-username
-assign_title
-assign_desc
-course_id
-path
-postdate

Groups
-id
-owner
-group_name
-icon
-group_members
-date_created

Chat
-id
-from
-to
-message
-sent
-recd

Blockusers
-id
-blocker
-blockee
-blockdate

deptcourselist
-id
-course_num
-course_title
-semester
-dept
-credit
-icon
-assigned

course_assigned
-id
-username
-designation
-courselist
-dept

useroptions
-id
-username
-temp_pass
-background
-question
-answer

Comments
-id
-post_id
-posted_by
-commented_by
-comment_body
-date_added
-removed

Figure 4.4
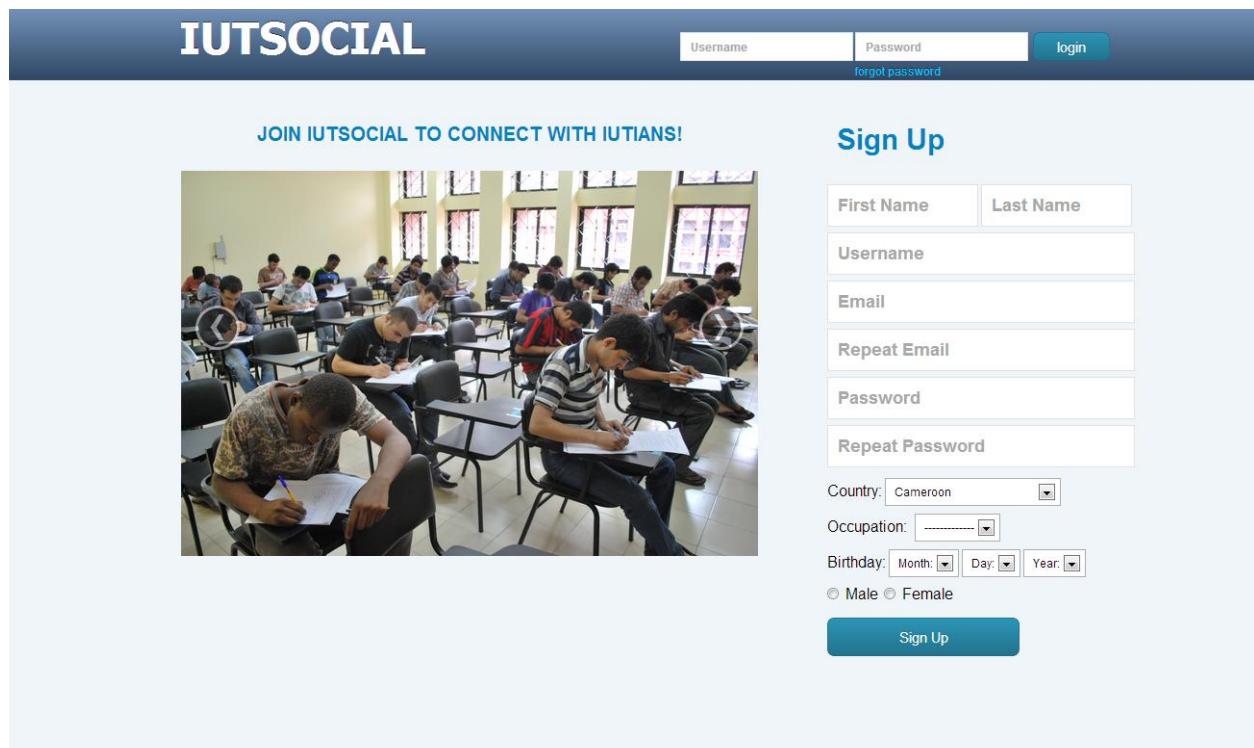
Chapter 5: SYSTEM IMPLEMENTATION

5. Implementation of Our System

IUTSOCIAL emulates merely the same structure and concepts of others popular networking websites. It has a home page which is a welcome page that a member is provided to interact with whenever she desired to log in or create an account.

5.1 Home Page

Figure 5.1

This is actually the welcome page the user sees whenever he/she hits our website. We have in our welcome page at the left the home link, the about link, the members link, and the forum link.

The Home link helps to view the welcome page.

The About link tells the user what the website is all about, and what are the terms to use it.

The Members link helps to browse through members of our website and

The forum link helps to go to the forum page.

At the right corner we have the profile link, Account link, and the Log Out link

The Profile link takes the user to his/her profile.

The Account link takes the user to his/her account information

The Log Out link allows the user to logout of the system

5.2 Profile Page

Figure 5.2

As we can see in this page we can view information about the number of friends of a particular user, For instance we can see his profile photo, his biography, his geographical location information via the Google map, his website as a developer, his number of friends, the button for sending each other request as a friend, and finally those members who are online and with whom the current log in member can chat with.

5.3 Account Information

Figure 5.3

As we see in this account page a user can update the following information

- **Profile Picture:** Here the user can update or change his/her profile picture
- **Personal Information:** Here the user can update information like firstname, lastname, country, State, and City.
- **Links and API Connections**: This is useful for those users who are developers. The user can provide his website link, his Facebook username account this will be helpful if he would like to connect to Camerfriends through Facebook by providing his Facebook email and password. Additionally the user can provide his or her YouTube channel if he/she likes

- **Description**: Here is the little biography of theuser.The user can let others know more about him by providing some information about him
- **Privacy and Email Alert Settings:** This feature is for special user that would like special services that we project implementing in the next future.
- **Accounts Settings.** Here the user can change his password, delete his account if he/she wishes to do so.

5.4 User Private Messages

Figure 5.4

The above figure shows the list of messages received by Ousmane and all the corresponding senders. Whenever Ousmane will click on a subject title the message body will slide down and the message will become readable by Ousmane. Ousmane might decide to reply to any given messages by clicking on the Reply link, and he will get the following figure.

5.5 Teacher Panel Form

Figure 5.5

Ousmane can therefore reply to the message sent by Kamdem via the above form and click to the button which indicates to which user Ousmane is currently writing to.

Insert Marks Below

Choose appropriately the number of field(s) you want to generate

Student ID	MidTerm Mark	Final Mark	Quizzes	Attendance Mark	
Student ID	midTerm	Final	quiz 1 / quiz 2 / quiz 3	attendance	validate
Student ID	midTerm	Final	quiz 1 / quiz 2 / quiz 3	attendance	validate
Student ID	midTerm	Final	quiz 1 / quiz 2 / quiz 3	attendance	validate
Student ID	midTerm	Final	quiz 1 / quiz 2 / quiz 3	attendance	validate
Student ID	midTerm	Final	quiz 1 / quiz 2 / quiz 3	attendance	validate

Figure 5.6

5.6Teacher videos
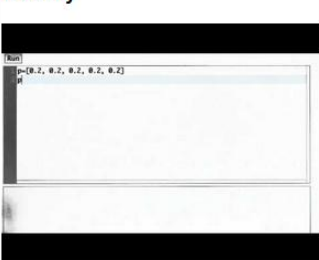
Figure 5.7

The form above indicates all the messages sent by Ousmane and the one ticked indicates that Ousmane does not want that message to persist in his message box anymore, therefore if Ousmane clicks on the above button Delete the message written to Kamdem will be deleted from his send box

5.7 Members page

Figure 5.8

The figure above shows the total number of users already registered in our system. There are currently eight users registered, but only one has provided his website information. Another feature is the pagination that allows the user to paginate through the page to view more members

Chapter 6: FUTURE WORK AND PLAN

6.1 Future Plan of Our System

As we already mentioned above our system just offer basic features of normal social network site such as,

- Registering via a form to create an account
- Managing Personal Information (Profile Information) The user is allowed to edit his/her profile information
- Requesting for a friend, adding a friend, removing a friend from a list
- Sending and Receiving Private Messages to /from   friends
- Uploading videos, and audio files,
- Chatting with online friends,
- Posting comments,
- Discussing over a forum etc…

It is with no doubt that our project has shortcomings and we are looking forward to overcome those shortcomings to better our project in the future.

The first thing we are going to do is to work in a known framework such as Zend because this will save our development time, increase the flexibility of our project and help us make use of utilities available to better our project.

There are a lot more features that our project does not provide such as Poking a friend, video chatting, voice chatting, uploading files of various extensions (PDF, docx, etc…), creating groups etc… Therefore we hope to add these services to give one credit more to our system.

6.2 Summary

IUTSOCIAL as a Social Network Community Website, has been built using latest technologies mentioned above, it provides great services that one can use to interact socially with others. IUTSOCIAL can just be termed as a mini-Facebook under construction. Though incomplete this system scale pretty well and is highly secure to resist to attacks

6.3 Conclusion:

Despite all the shortcomings of our system, we can see that our system provides a number of features even though one may argue it is not up to the standard to compete with great social network like Facebook, Twitter and the like. Our system is secure, scalable and fast it is also important to note that it works in major browsers such as Firefox, Opera, Google Chrome, Internet Explorer and others. As we mentioned above even though our primary target is to help IUT folks around the globe to come closer via a social means like IUTSOCIAL our ultimate goal is to battle one day with great Social Network such as Facebook, Twitter, MySpace and the like to grab as much people as possible.

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