­­Triibe

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**INFORMATION TECHNOLOGY**

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Abstract

These recent years witnessed a substantial emergence of social networking sites (SNSs), some even refer to 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 “Triibe” is a Social Networking Website. The project’s primary objective is to develop a web-based online service, platform, or site to focus on building and reflecting social relations among people. The Project consists of network services that will provide a combination of good facilities for various social networking websites, and it also provides the functionalities that are not present on other websites. Each process is converted into a different module. Each module is connected to another, and the data related to the software are stored in a single and centralized database.

When the system is implemented, the users can log themselves in. They can access various facilities such as sending messages, creating posts, sharing files, and many other functionalities.

In conclusion, we think that a network of websites, which the users use daily, could provide the functionality of an Internet-connected world.

Acknowledgment

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Glossary of Terms

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# Introduction

Social Networking - It's the way the 22nd century communicates now. Social networking is the grouping of individuals into specific groups, like small rural communities or a neighborhood subdivision. Although social networking is possible in person, especially in the workplace, universities, and high schools, it is most popular online. This is because unlike most high schools, colleges, or workplaces, the internet is filled with millions of individuals who are looking to meet other people.

A social network is the mapping and measuring of relationships and flows between people, groups, organizations, computers, URLs, and other connected information/knowledge entities. The nodes in the network are the people and groups while the links show relationships or flows between the nodes. The social network provides both a visual and mathematical analysis of human relationships.

The Social Networking Website project itself is a huge project comprising various features like profile updating, friend list organization, and various other applications to enhance the overall look and feel of the website. However, in this project, we are working on three essential features or modules (GROUPS & COMMUNITY PAGES & PROFILE MANAGEMENT).

The GROUPS module offers members the opportunity to establish and join groups of similar people and interests, and to see members sharing common interests that can bring benefits to each other.

COMMUNITY PAGES The goal of community pages is to unite communities on certain topics. It helps users to learn about a certain topic and exchange their views and thoughts on it.

The PROFILE MANAGEMENT module maintains a user's profile like a name, likes, dislikes, hobbies, status, etc.

Profiles and Friends lists are two key features on social network sites. The third is a public commenting feature ('Testimonials', 'Comments', 'The Wall'). This feature allows individuals to comment on their Friends' profiles. These comments are displayed prominently and visible to anyone who has access to that profile.

## Project Background

Since their introduction, social networking sites (SNSs) such as Facebook, WhatsApp, and Instagram have attracted millions of users, many of whom have integrated these sites into their daily practices. At the time being there have been ~ 2 billion Active Users surfing these websites daily.

Currently, students are having no time to share with their friends. So, universities need a medium to share messages widely and connect with others. And on the other side, people also want that everyone should know about them and want to increase their links (network).

There are many ways to get recognized in the world, but they need lots of money to be effective. But on the other hand, social networking is one of the best ways to get recognized without cost. If we talk in the term of different situations where the people need something which is not provided by that application, then they must use other resources whether those are urgently required by them. So, in that situation, it is very much time taking to collect those resources and use that for their purpose.

The application will allocate the bridge among the students to connect the individual with the entire university and provide many features that will help him be more productive and successful.

## Problem Statement

Without social networking sites, people are facing different problems in their personal and professional lives. As we know that social networking is developed for social relations among people.

Recent technological developments have reduced the barriers between people but

In the scope of students inside their universities, social life can be somewhat unorganized and complicated.

A study by researchers at the University of Minnesota “found that of the students observed, 94 percent used the Internet, 82 percent go online at home and 77 percent had a profile on a social networking site.” (University of Minnesota, 2008).

According to a survey that was conducted by Whitmore School of Business and Economics and by the University of New Hampshire, they interviewed 1,127 college students. Among these students, 96% of them use Facebook, 8.4 out of 10 use YouTube, 20% use blogs, 1.4 out of 10 of them use Twitter, 12% use “Myspace”, and 1 out of 10 of them use LinkedIn. Also, 81% of college students use social sites (oclc.org). These statistics seem to show that many college students often use social networks or social media, but the number of these websites is high enough to make the usage of these websites unorganized and unmanaged, which will leave some students unable to connect with their colleagues and teachers. (Whitmore School of Business and Economics, University of New Hampshire).

Another problem that we face without social networking sites is a lack of knowledge sharing. If the medium is not with us, then it is very difficult to get an idea or share the idea with people. There are lots of other examples that can arrive if we think of ourselves without the social networking site. So, it takes an important place in the life of human beings.

## Project Objectives

The main objective of this project is to develop a centralized application that will help students to promote themselves within the university. And the system not only provides the feature of promoting it is also provides the facility of sharing of information and transfer of data.

A list of the main project objectives:

* Texting with students or teachers.
* Connecting with other students by video call.
* Reach the audience easier and faster with groups.
* Sharing files or pictures or videos with others.
* Sharing your location with other members.
* Reach learning resources easier.
* Get some housing and transportation and study locations guidance.
* Entertainment and having fun.

## Project Significance

Social network sites sometimes give advantages to students inside their universities or among certain institutions outside of colleges, by sharing information and files among the university students, these activities are also considered by teachers who wish to support the college's professional community. and considered by the university president where he can encourage the use of these types of platforms.

With "Triibe" students, teachers, employees can easily communicate with each other as well as share files, pictures, videos inside the platform, "Triibe" solves the problem where students must use different social network sites to communicate and achieve what they were making, which makes it more efficient and effective for the students, also "Triibe" can help teachers by spreading their word across the students using groups inside the platform.

Using "Triibe" also helps students and teachers to keep in contact with old friends and colleagues.

## Table Description automatically generatedProject Gantt Chart

Figure 1.1: Project Gantt Chart (Tasks)

Figure 1.2: Project Gantt Chart (Chart)

Table

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# LITERATURE REVIEW

## Definitions

**Social networks**: they are a virtual environment for communication between users over the Internet in several ways by sending messages (text, voice messages, images, or video) and allowing subscribers to conduct live interactive discussions in a way (written, audio/visual, or audio and video meetings and conferences). From different regions, the lectures can also be broadcast live, and there are more than 500 social networks around the world, social networking sites, like many things, have their pros and cons.

**Social media** is a group of Internet-based applications that builds on the ideological and technological foundations of Web 2.0, and that allows the creation and exchange of user-generated content.

## Advantages of social network

* Get job opportunities and marketing for professional jobs.
* Permanent contact with the world and expanding the circle of social relations
* Opening new and great horizons for pioneering ideas i.e. e-marketing.
* Follow world news.

## Disadvantage of social network

* The Impact on family relationships.
* An increase in the number of hours an individual spends on social media, and this may interfere with his or her responsibilities at work.
* Social isolation and the illusion of virtual communication.
* Risks of fraud or identity theft.
* Addiction.

## Social networks in learning environments

A recent report studying the uses of social software in education found that educational goals for employing SNS included initiating new ways of learning, giving control to students, providing transferable skills, supporting peer-to-peer learning, enhancing reflective learning, creating a digital identity, and fostering social engagement. The case studies reviewed showed multiple benefits in using SNS, including retention, socialization, collaborative learning, student engagement, sense of control and ownership, problem-solving and sense of achievement, visibility of artifacts created, integration of multimedia, adding novelty and excitement to the learning environment, overcoming isolation and geographic differences, and students’ positive perceptions of the educator involved in SNS initiatives.

From a design perspective, these tools are well suited to provide a learner-centered orientation and support both formal and informal learning interactions seen as critical to community and collaborative meaning-making in constructivist learning.

### Facebook

According to 2011 research, Facebook is the top-visited and most used website. Where 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:

* Sending friend requests
* Private message
* Like feature
* Newsfeed and notification
* Sharing of photos
* Status update

Limitations:

* Does not allow to change the skin of the website
* Doesn’t allow sharing files.

### Twitter

Twitter is a real-time information network that connects you to the latest stories, ideas, opinions, and news about what you find interesting. Simply find the accounts you find most compelling and follow the conversations.

Functionality:

* Writing tweets and sharing them with others.
* Retweet feature.
* Following people.
* Scheduled Tweets.

Limitations:

* Posting limits.
* Spamming.
* Offensive Content.

### Instagram

Instagram is a social media app that lets users share photos and videos from their smartphones, as well as like and comment on other users’ posts, send private messages, search for relevant content, and more. Users can view their feed from any web browser but can only upload photos and videos through the native apps for iOS and Android. Instagram includes a range of filters and editing tools that users can apply to their photos and videos before posting. The exposure, brightness, contrast, saturation, warmth, fade, and other aspects of photos can be adjusted, and users can also add text and drawings on top of their photos and videos. Up to 10 photos and videos can be published in a single post, and filters can be applied in bulk across a whole post, or to individual images. Videos can be shared with or without audio, and users can control which frame of a video is presented as the cover image. Captions, hashtags, and locations can be added to posts, enabling users to search for relevant content.

## Tables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Functionalities | Facebook | Twitter | Instagram | Triibe |
| 1. Profile Editor | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill |
| 2. Custom Skins | Checkmark with solid fill | Checkmark with solid fill |  | Checkmark with solid fill |
| 3. Photos | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill |
| 4. Post Comments | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill |
| 5. Friends | Checkmark with solid fill |  | Checkmark with solid fill | Checkmark with solid fill |
| 6. Video | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill |
| 7. Weather |  |  |  | Checkmark with solid fill |
| 8. Privacy Settings | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill |
| 9. Black Users | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill |
| 10. Report Spam | Checkmark with solid fill |  | Checkmark with solid fill | Checkmark with solid fill |
| 11. Report Abuse | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill |
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| 13. Instant Messaging | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill | Checkmark with solid fill |
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| 15. Events | Checkmark with solid fill |  |  | Checkmark with solid fill |
| 16. Ad-Free |  | Checkmark with solid fill |  | Checkmark with solid fill |
| 17. Guides |  |  |  | Checkmark with solid fill |

Table 2.1: Comparison between different platforms

## Figures

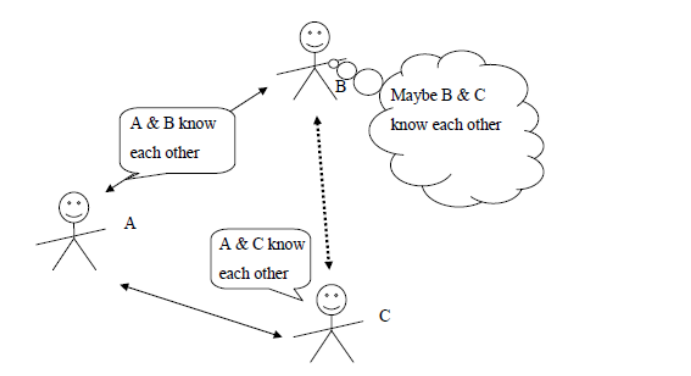


Figure 2.1: Identity on and social network on SNS

# Methodology

This chapter describes the Waterfall methodology—also known as the Waterfall model—as a sequential development process that flows like a waterfall through all phases of a project (analysis, design, development, and testing, for example), with each phase completely wrapping up before the next phase begins.

It is said that the Waterfall methodology follows the adage to “measure twice, cut once.” The success of the Waterfall method depends on the amount and quality of the work done on the front end, documenting everything in advance, including the user interface, user stories, and all the features’ variations and outcomes. With the majority of the research done upfront, estimates of the time needed for each requirement are more accurate, and this can provide a more predictable release date. With a Waterfall project, if parameters change along the way, it’s harder to change course than it is with Agile methodology.

## The Waterfall software development life cycle

The waterfall software development life cycle can be broken down into five steps: Requirements, Design, Implementation, Verification or testing, Deployment, and maintenance, as shown in figure 3.1.

Chart

Description automatically generated*Figure 3.1: waterfall methodology (Thompson, 2020)*

### Requirements

The Waterfall methodology depends on the belief that all project requirements can be gathered and understood up front. The project manager does their best to get a detailed understanding of the project sponsor’s requirements. Written requirements, usually contained in a single document, are used to describe each stage of the project, including the costs, assumptions, risks, dependencies, success metrics, and timelines for completion.

### Design

Here, software developers design a technical solution to the problems set out by the product requirements, including scenarios, layouts, and data models. First, a higher-level or logical design is created that describes the purpose and scope of the project, the general traffic flow of each component, and the integration points. Once this is complete, it is transformed into a physical design using specific hardware and software technologies.

### Implementation

Once the design is complete, technical implementation starts. This might be the shortest phase of the Waterfall process because painstaking research and design have already been done. In this phase, programmers code applications based on project requirements and specifications, with some testing and implementation taking place as well. If significant changes are required during this stage, this may mean going back to the design phase.

### Verification and testing

Before a product can be released to customers, testing needs to be done to ensure the product has no errors and all of the requirements have been completed, ensuring a good user experience with the software. The testing team will turn to the design documents, personas, and user case scenarios supplied by the product manager to create their test cases.

### Deployment and maintenance

Once the software has been deployed in the market or released to customers, the maintenance phase begins. As defects are found and change requests come in from users, a team will be assigned to take care of updates and release new versions of the software.

## Advantages of the Waterfall methodology

The Waterfall methodology is a straightforward, well-defined project management methodology with a proven track record. Since the requirements are laid out from the beginning, each contributor knows what must be done and when, and they can effectively plan their time for the duration of the project.

Other benefits of the Waterfall method include:

* Developers can catch design errors during the analysis and design stages, helping them to avoid writing faulty code during the implementation phase.
* The total cost of the project can be accurately estimated, as can the timeline after the requirements have been defined.
* With the structured approach, it is easier to measure progress according to clearly defined milestones.
* Developers who join the project in progress can easily get up to speed because everything they need to know should be in the requirements document.
* Customers aren’t always adding new requirements to the project, delaying production.

## Disadvantages of the Waterfall methodology

Like any development process, the strengths in one area might mean weaknesses in the other. The Waterfall methodology’s insistence on upfront project planning and commitment to certain defined progress mean that it is less flexible, or agile, later in the game. Changes that come further in the process can be time-consuming, painful, and costly.

Other reasons the Waterfall methodology may not work include:

* Projects can take longer to deliver with this chronological approach than with an iterative one, such as the Agile method.
* Customers aren’t always adding new requirements to the project, delaying production.
* Clients are not involved in the design and implementation stages.
* Deadline creep—when one phase in the process is delayed, all the other phases are delayed.

(Thompson, 2020)

# ANALYSIS AND DESIGN

In the previous chapter, the methodology of the project that was applied in this project has been explained considerably. The methodology consists of five phases which include requirements, design, implementation, verification and testing, deployment, and maintenance. In this chapter, these phases will be discussed in more detail.

## Analysis

The analysis phase defines the results of research and development results and concludes the definition of requirements specification and requirements determination of the project.

**Our project will be analyzed from a different point of views:**

### Triibe from the technical point of view

Triibe is a website that facilitates the sharing of ideas, thoughts, and information inside universities through virtual networks and communities, where the user can log into this virtual network to write and share posts and see what other students have shared in the network.

### Triibe from a risky point of view

On our website when the user tries to write a post, they might enter some inappropriate content that can be unsuitable and harmful for the university in general as well as they can spam some meaningless content into the community.

To solve this problem, we will implement some security measures such as limiting the student to one account so they can’t make fake accounts and limiting the student to write a fixed number of posts daily, as well as we will add a list of unsuitable content that will be excluded from the user post automatically.

### Triibe from an economical point of view

Before social media, you had to pay to get out information about your business. Now, every person and company is its own media brand - and there are significantly fewer barriers to reaching people.

With triibe, students can share their ideas with the community for free.

### Triibe from a SWOT point of view

"A SWOT analysis (alternatively SWOT matrix) is a structured planning method used to evaluate the strengths, weaknesses, opportunities, and threats involved in a project or a business venture

* Strengths: characteristics of the business or project that give it an advantage over others.
* Weaknesses: characteristics that place the business or project at a disadvantage relative to others.
* Opportunities: elements that the project could exploit to its advantage.
* Threats: elements in the environment that could cause trouble for the business or project"

(Humphrey, 2005)



*Figure 4.1: the SWOT analysis’s main components.*

**Strength:**

* There are so few websites focused on the communication between students within the university campus.
* Allows integration with many other websites that help the student.
* The user experience is excellent.
* Understands what the users need and want.

**Weakness:**

* Lacks some features like video chats and group chats.
* Weak protection of users’ information.
* Attitude towards users’ privacy creates a negative image.

**Opportunities:**

* Number of users who access social media via smart devices is increasing.
* Expansion to other types of learning facilities, such as schools and colleges.

**Threats:**

* Privacy issues like identity theft.
* Social media websites that aren’t limited to a specific facility, such as Facebook and Instagram.
* Some users refuse to use social media platforms and prefer to live an anti-social lifestyle.
* Some users don’t have smart devices to access the platform.

### Triibe from a Managerial point of view

With triibe, the university supervisors can manage the community, by having the access to edit and remove any unwanted content within the website.

As well as teachers can bring their students into groups that can help them communicate more effectively and efficiently.

### Triibe from the programming point of view

Our project will be implemented by using the PHP programming language for the following reasons:

* **Gives Web Developer More Control:** Compared to other programming languages, PHP allows the website developer to have more control. Other programming languages are bogged down by long, complicated scripts, but this isn’t true for PHP. A few simple lines of code are sufficient. Furthermore, PHP allows tags, and hence, website developers can add and/or mix HTML tags, making the content extremely dynamic**.**
* **Efficient Performance:** Depending on how the web developer codes, PHP has the potential to turn into an efficient language. It is scalable when used for writing codes and can also be used for creating a large number of applications. It is the programming language of choice when a website has several web pages.
* **Easy Integration and Compatibility:** PHP is compatible with a large majority of operating systems. It can easily run on different platforms, including UNIX, Solaris, and Linux. As it can be integrated without effort with other technologies, such as Java, existing software does not require re-development. This saves time and money.
* **Extremely Flexible:** PHP is highly flexible whether it is during an ongoing project or after completing the project. Flexibility in a scripting language is very crucial, as functionality can change anytime during the course of a project. The best part about PHP is the ability to make changes even after starting the project and this saves valuable time.

A developer does not have to write fresh codes or command functions, as changes to the existing codes and functions can be done and used.

* **Easy and Simple to Learn:** PHP is considered one of the easiest scripting languages. Compared to other web languages, PHP doesn’t require a manual or intensive studying. PHP syntax is logical and well-organized. Even command functions are easy to understand, as they tell the developer what function they perform. As a result, web developers find it very easy to create and optimize the application.

### Requirements Determination

**What are requirements?**

It may range from a high-level abstract statement of a service or of a system constraint to a detailed mathematical functional specification. This is inevitable as requirements may serve a dual function It May be the basis for a bid for a contract -therefore must be open to interpretation Maybe the basis for the contract itself - therefore must be defined in detail Both these statements may be called requirements.

#### functional requirements

In software engineering and systems engineering, a functional requirement defines a function of a system or its component, where a function is described as a specification of behavior between inputs and outputs. (Fulton R, Vandermolen R, 2017)

**Functional requirements of triibe:**

* **Registration:** A new user will be asked to register to the website by entering his personal information to the website.
* **Login:** the user will log in to the website. After logging in the user will be identified as a Registered User on the system and will be able to perform the appropriate actions.
* **Profile:** the user will be able to see all his profiles information from the different networks on one page divided by tabs.
* **Friends:**
  + View a list of friends that are registered to the community where the user is a member.
  + View a specific profile of a friend on the network.
* **Messages / Events:** the system allows the user to view a list of messages that were sent to him, so he can reply to them, as well as he can see events that are happening at the time being.
* **Single Shared Database:** all the data that was gathered from the website is saved in a single shared SQL-based database.
* **Posts & Stories:** the user will be able to write posts and create stories and share them with friends.

#### Non-functional requirements:

In systems engineering and requirements engineering, a non-functional requirement (NFR) is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. They are contrasted with functional requirements that define specific behavior or functions. The plan for implementing functional requirements is detailed in the system design. The plan for implementing non-functional requirements is detailed in the system architecture because they are usually architecturally significant requirements. (Chen, Lianping, Ali Babar, Muhammad, Nuseibeh, Bashar, 2013)

**Non-functional requirements of triibe:**

* **Safety & Security:** The passwords of the users of the website will be encrypted and saved on a decentralized database.
* **Portability:** The system should operate on any OS that has an internet browser and an internet connection.
* **Performance:** The system should operate on low-end computers easily.
* **Maintainability:** The system should be maintained with ease.

### System's Requirements

Our project requires the following:

* Our project requires an internet browser to access the website.
* Our project must be able to work in different environments of operating systems.
* The user must be able to come out of the website at any time he wants.
* Our project requires a stable internet connection.

## Design

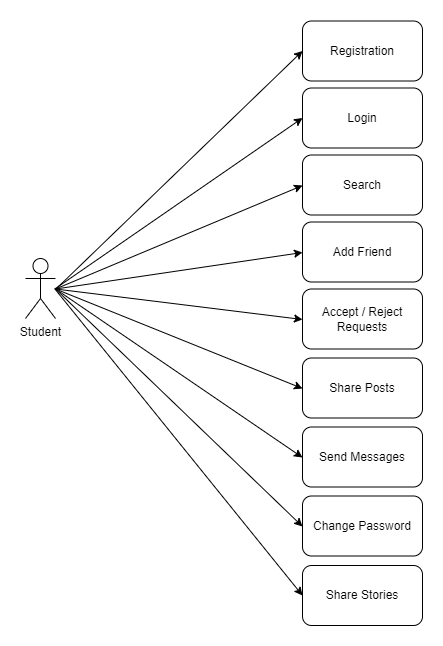
Theoretically, designing the project system involves two main processes that are categorized into logical design and physical design.

### Logical Design

Havner et al. (2004) explained that logical design is the phase where all functional features that have been chosen for the development of the system are described without regard to any computer platform. Assuming that the developed system could be implemented on any hardware or system software, this phase aims to make sure that the system can functions as it should be.

#### Use Case Diagram

**Use case scenario**: User opens the create a new account page where he can enter his information to make an account within the website after that he will have to log in to the website by entering his information inside the log-in page, then he will be able to access several functionalities that the website offers.



*Figure 4.2: Triibe use case*

**Triibe Actor list:**

* Student: will use most of the functionalities of the website

**Triibe use case list:**

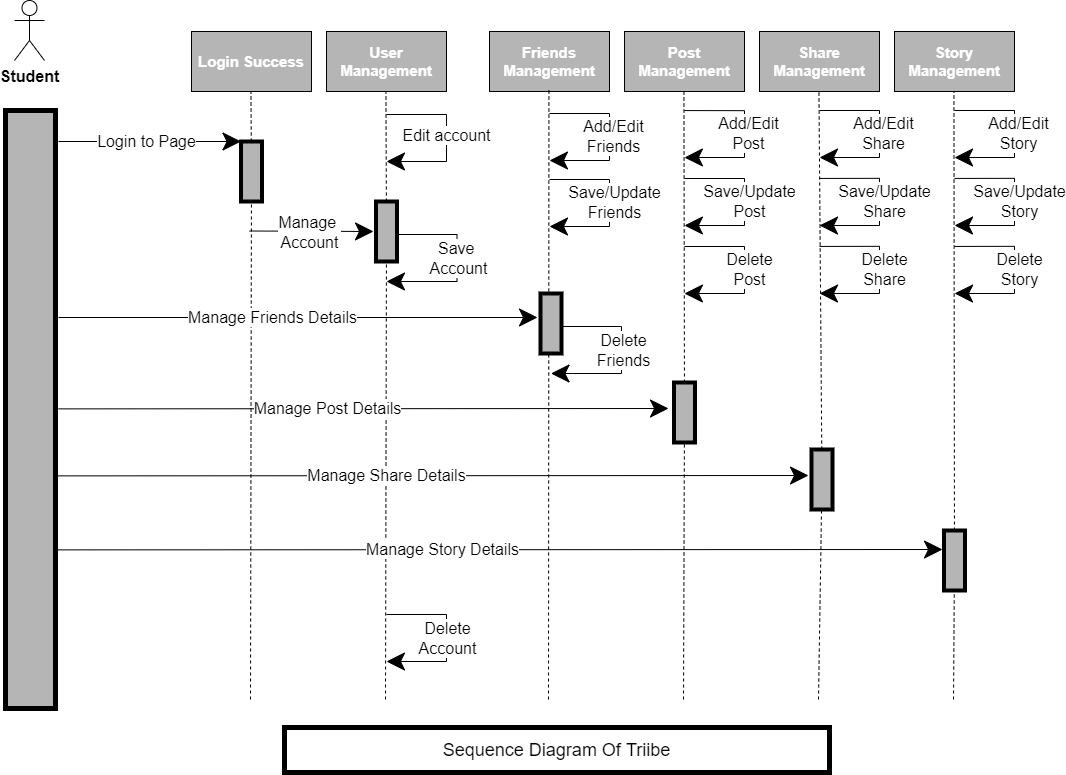
* Registration: The student will input the required information needed to join the website.
* Login: The student will input the required information needed to access the website.
* Search: The student will type a student name or a group name or a page name to access them and join them.
* Add Friends: The student will add a friend to see their posts in your feed.
* Accept / Reject Requests: The student can accept or reject a friend request that has been sent to them.
* Share Posts: The student can share a post with other students or groups or pages.
* Send Messages: The student can send a message to other students to communicate.
* Change Password: The student can change the password of their profile.
* Share Stories: The student can share stories that they have made with their friends.

*Table 4.1: description of each use case*

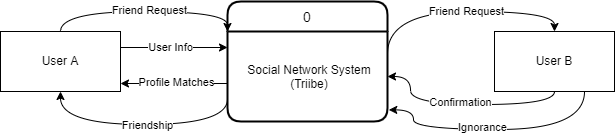
|  |  |  |  |
| --- | --- | --- | --- |
| Use case name | Actors | Preconditions | Description |
| Registration | Student | Be a university member | The student will enter his info in the appropriate place on the registration page |
| Login | Student | Have an account registered | The student will enter his info in the appropriate place on the login page |
| Search | Student | Be logged in to the home page | The student will search for friends in the search within the home page |
| Add Friends | Student | Have an account registered | The student will add a friend to his friend list within his friend account page |
| Accept / Reject Requests | Student | Have an account registered | The student can accept or reject a friend request that has been sent to them |
| Share Posts | Student | Have an account registered | The student can share posts with their friends on the home page |
| Send Messages | Student | Have an account registered | The student can send a message to other students within the chat tab |
| Change Password | Student | Have an account registered | The student can change the password of their profile within the login page |
| Share Stories | Student | Have an account registered | The student can share stories on the home page |

#### Sequence Diagrams

Sequence diagram scenario: User opens the create a new account page where he can enter his information to make an account within the website after that he will have to log in to the website by entering his information inside the log-in page, then he will be able to access several functionalities that the website offers.

*Figure 4.3: Triibe sequence diagram*

#### Context diagram



*Figure 4.4: Triibe context diagram for adding a friend*

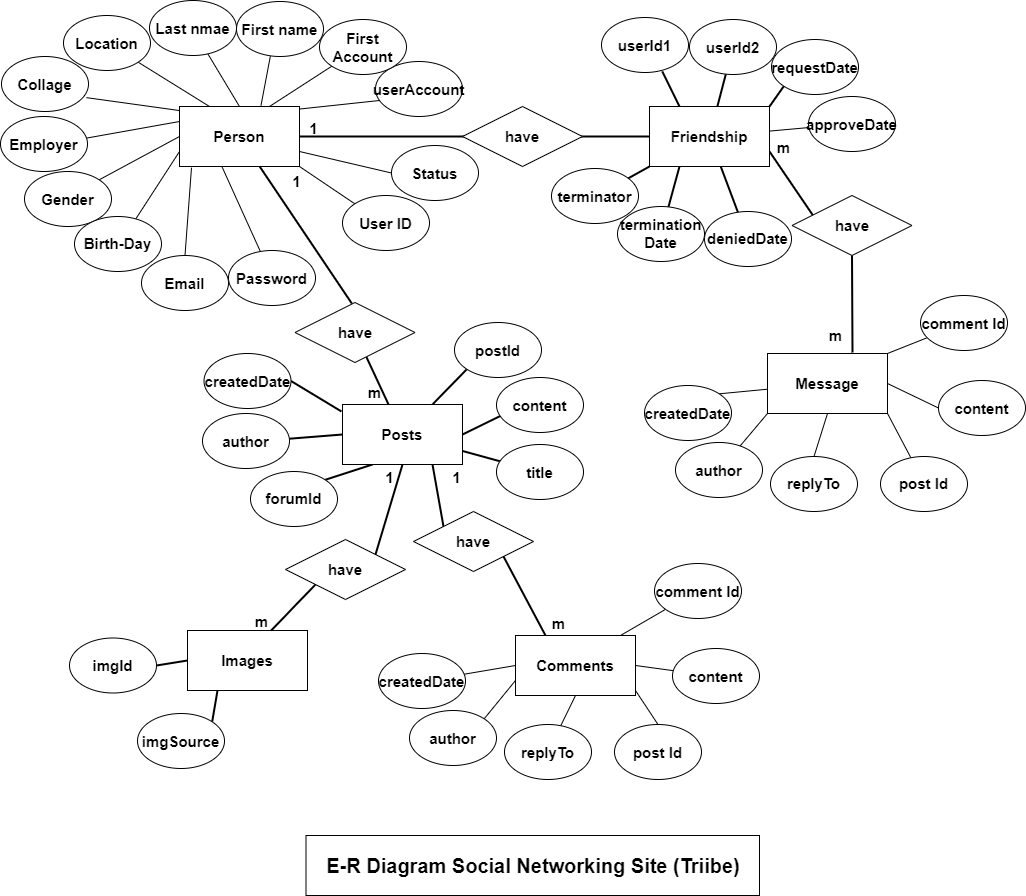
#### Data Flow Diagram

A picture containing application

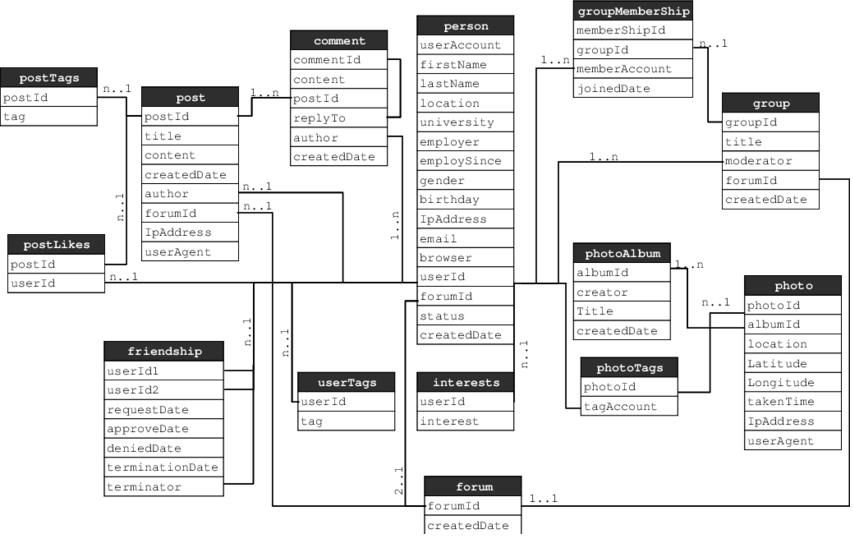
Description automatically generated

*Figure 4.5: Triibe data flow diagram (Level 0)*

#### Entity Relationship Diagram



*Figure 4.6: Triibe ER Diagram*



*Figure 4.7: Triibe DB schema*

### Physical Design

Meanwhile, physical design deals with the process of converting the logical design into a more technical specification of the system development. In designing the physical part of the system, all diagrams that were produced in the logical design were turned into a structured systems design.

During physical design, the researcher determined which programming language and database system will be used and determined which hardware platform, operating system, and network environment the system will run under. The specifications are portrayed in table 4.2.

Table 4.2: H/W. S/W Specifications

|  |  |
| --- | --- |
| Purpose | H/W. S/W Requirements |
| Programming Language | PHP |
| Operating System | Windows 7 & up |
| Hardware | Computers & smartphones |

# findingS

## Introduction

## Project Interfaces and their Description

# OBSERVE AND EVALUATE

This chapter discusses the analysis of the evaluation that will conduct for this project

# CONCLUSION

## Conclusion

## Limitations

## Future Works

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1. Sample Appendix

<This is a sample Appendix. Insert additional appendices with the “Start New Appendix” command.>