

***Software Requirement and Design Specifications***

***Social Butterfly***

***Version: 0.1***

|  |  |
| --- | --- |
| *Course Code* |  |
| *Instructor* | *Ms. Javeria Farooq* |
| *Project Team* | *Nabeel Farooqui k16-3627*  *Hira Kamal k16-3640*  *Syed Afroz Pasha k16-3643*  *Maham Shoaib k16-3973* |
| *Submission Date* | *10th Decemebr 2018* |



*Table of Contents*

[1. Introduction 4](#_Toc532231414)

[1.1. Purpose of Document 4](#_Toc532231415)

[1.2. Intended Audience 4](#_Toc532231416)

[1.3 Definition of Terms, Acronyms and Abbreviations 4](#_Toc532231417)

[1.4 Document Convention 4](#_Toc532231418)

[2. Overall System Description 5](#_Toc532231419)

[2.1. Project Background 5](#_Toc532231420)

[2.2. Project Scope 5](#_Toc532231421)

[2.3. Not in Scope 5](#_Toc532231422)

[2.4. Project Objectives 5](#_Toc532231423)

[2.5. Stakeholders 5](#_Toc532231424)

[2.6. Operating Environment 5](#_Toc532231425)

[2.7. System Constraints 5](#_Toc532231426)

[2.8. Assumptions & Dependencies 5](#_Toc532231427)

[3. External Interface Requirements 5](#_Toc532231428)

[3.1. Hardware Interfaces 5](#_Toc532231429)

[3.2. Software Interfaces 6](#_Toc532231430)

[3.3. Communications Interfaces 6](#_Toc532231431)

[4. Functional Requirements 7](#_Toc532231432)

[4.1. Functional Hierarchy 7](#_Toc532231433)

[4.2. Use Cases 7](#_Toc532231434)

[4.2.1. Add Friend / Follow 8](#_Toc532231435)

[4.2.2. Make Post 8](#_Toc532231436)

[4.2.3. Edit Profile 9](#_Toc532231437)

[4.2.4. Admin Access (Panel) 10](#_Toc532231438)

[4.2.5. Browse Newsfeed 11](#_Toc532231439)

[5. Non-functional Requirements 12](#_Toc532231440)

[5.1. Performance Requirements 12](#_Toc532231441)

[5.2. Safety Requirements 12](#_Toc532231442)

[5.3. Security Requirements 12](#_Toc532231443)

[5.4. User Documentation 12](#_Toc532231444)

[SDS 13](#_Toc532231445)

[6. System Architecture 14](#_Toc532231446)

[6.1. System Level Architecture 14](#_Toc532231447)

[Component Diagram 14](#_Toc532231448)

[Deployment Diagram 14](#_Toc532231449)

[6.2. Software Architecture 15](#_Toc532231450)

[7. Design Strategy 15](#_Toc532231451)

[8. Detailed System Design 16](#_Toc532231452)

[8.1. Database Design 16](#_Toc532231453)

[8.1.1. ER Diagram 16](#_Toc532231454)

[8.1.2. Data Dictionary 17](#_Toc532231455)

[Work 17](#_Toc532231456)

[Message 17](#_Toc532231457)

[Contact 17](#_Toc532231458)

[Users 17](#_Toc532231459)

[Posts 18](#_Toc532231460)

[Admin 18](#_Toc532231461)

[FriendRequest 18](#_Toc532231462)

[Education 19](#_Toc532231463)

[9. Application Design 19](#_Toc532231464)

[10. References 27](#_Toc532231465)

[11. Appendices 27](#_Toc532231466)

## 1. Introduction

#### 1.1. Purpose of Document

This document’s purpose is to explain the working of our project, Social butterfly. And to make it easier for the reader to understand the underlying architecture and limitations of it as well.

#### 1.2. Intended Audience

This document is intended for our course instructor and peers.

#### 1.3 Definition of Terms, Acronyms and Abbreviations

Not applicable

#### 1.4 Document Convention

This document will be using Arial font at 10 font size for paragraphs and various font sizes for headings and titles. It will also use **bold** and *italics* for emphasis where required.

## 2. Overall System Description

#### 2.1. Project Background

The project aims to help the developers learn how gigantic social networking websites function. As well as how their development process goes.

#### 2.2. Project Scope

The project aims to incorporate the main basic functionalities required for a social networking website to function. Secure account management and interacting with other users is the core part of the project.

#### 2.3. Not in Scope

The project at this stage does not intend to compete with any existing social networking service. Additionally the project is not intended to be used commercially, therefore it has no monetization features.

#### 2.4. Project Objectives

The project objectives include learning how social networking websites work. How they are developed and maintained.

#### 2.5. Stakeholders

The software will be used by the general public as it is a web based social networking website.

#### 2.6. Operating Environment

The software is web based, meaning it will work on any modern desktop web browser (tested on Chrome 71) regardless of operating system. Hardware wise is required a widescreen to work properly, i.e. smartphones and handheld devices are not supported at this time. The interface required a keyboard and mouse to interact.

#### 2.7. System Constraints

* Modern web browser required (tested on Chrome 71)
* English language interface
* Currently works on localhost, once live it will require internet access to use

#### 2.8. Assumptions & Dependencies

We assume that the website is being hosted on a web server with a separate database server for the sake of this report. Which will in turn make the product dependent on the server availability and the clients internet access.

## 3. External Interface Requirements

Not applicable

#### 3.1. Hardware Interfaces

Not applicable

#### 3.2. Software Interfaces

The software communicates with a MySQL server for its database requirements. It will also use a Linux based when deployed to access html files and php scripts which will be hosted on the web server.

#### 3.3. Communications Interfaces

The project is web based and uses php POST and GET to communicate and pass information between various web pages. The whole project runs within a web browser. It uses HTML, PHP, CSS therefore a modern updated browser is recommended. Database is accessed using standard queries.

## 4. Functional Requirements

### 4.1. Functional Hierarchy

1. User will register (if not registered otherwise login)
2. User will edit profile

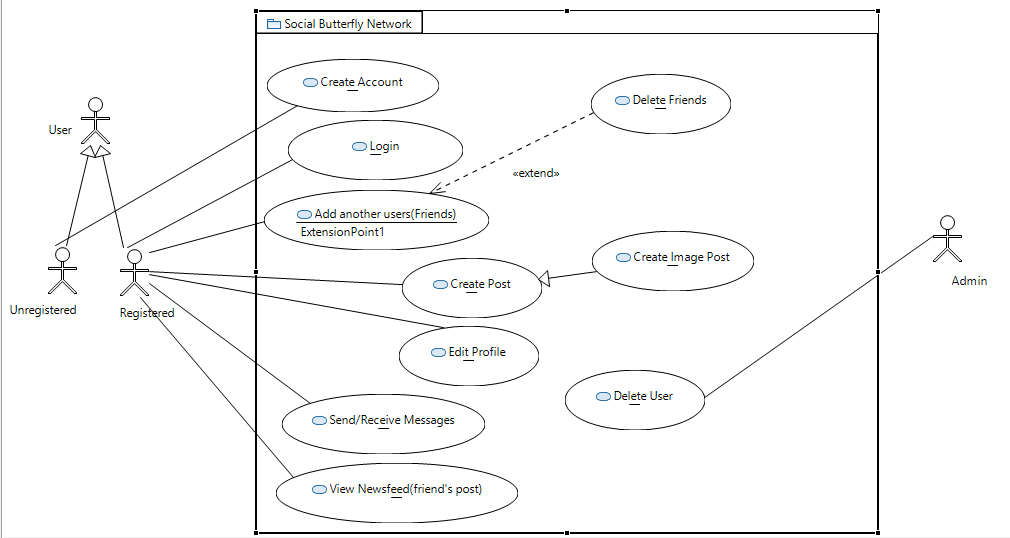
2.1. Insert Profile picture

2.2. Edit education info

2.3. Edit work info

1. User can add other users as friends
2. User can posts images and content
3. User can see other friends posts
4. User can send messages to other users

#### 4.2. Use Cases



##### 4.2.1. Add Friend / Follow

|  |  |
| --- | --- |
| **Use Case Description** | |
| **Use Case name:** Add Friend / Follow |  |
| **Use Case Description:**The user can browse for and add another user as a friend or follow them | |
| **Primary actor:**User | **Other actors:**Other existing users |
| **Stakeholders:** |  |
| **Relationships**:   * **Includes:** * **Excludes:** | |
| **Pre-conditions:**   * User is already logged in | |
| **Flow of Events:**   1. Actor requests list of users 2. Retrieve data from database 3. Display users 4. Actor selects user he/she wants to add/follow 5. Actor is redirected to another users timeline 6. Actor clicks on *add friend* | |
| **Alternative and exceptional flows:**  2.1. Database is empty. | |
| **Post-conditions:**Database is updated | |

##### 4.2.2. Make Post

|  |  |
| --- | --- |
| **Use Case Description** | |
| **Use Case name:** Make post |  |
| **Use Case Description:**The user can make new post | |
| **Primary actor:**User | **Other actors:**none |
| **Stakeholders:** |  |
| **Relationships**:   * **Includes:** * **Excludes:** | |
| **Pre-conditions:**   * User is already logged in | |
| **Flow of Events:**   1. Enter post content 2. Click on post | |
| **Alternative and exceptional flows:**   * 1. Click on image button   2. Click on browse   3. Upload image   4. Click on post | |
| **Post-conditions:** Database is updated | |

##### 4.2.3. Edit Profile

|  |  |
| --- | --- |
| **Use Case Description** | |
| **Use Case name:** Edit Profile |  |
| **Use Case Description:**The user can edit their profile | |
| **Primary actor:**User | **Other actors:**none |
| **Stakeholders:** |  |
| **Relationships**:   * **Includes:** * **Excludes:** | |
| **Pre-conditions:**   * User is already logged in | |
| **Flow of Events:**   1. Click on Account 2. Click on Edit profile 3. Change values if required 4. Upload new profile picture if required 5. Click on save | |
| **Alternative and exceptional flows:** | |
| **Post-conditions:** Database is updated | |

##### 4.2.4. Admin Access (Panel)

|  |  |
| --- | --- |
| **Use Case Description** | |
| **Use Case name:** Admin Access |  |
| **Use Case Description:**Admin can delete users | |
| **Primary actor:**Admin | **Other actors:**Users |
| **Stakeholders:** |  |
| **Relationships**:   * **Includes:** * **Excludes:** | |
| **Pre-conditions:**   * Admin is already logged in | |
| **Flow of Events:**   1. Open Search User Page 2. Click on Delete User button 3. Post of deleted user will also be deleted 4. Friendlist of deleted user will also be deleted 5. Profile of Deleted User will be deleted | |
| **Alternative and exceptional flows:** | |
| **Post-conditions:** Database is updated | |

##### 4.2.5. Browse Newsfeed

|  |  |
| --- | --- |
| **Use Case Description** | |
| **Use Case name:** Browse Newsfeed |  |
| **Use Case Description:**The user can browse their newsfeed and view other user’s posts and also visit their timelines from here. | |
| **Primary actor:**User | **Other actors:**none |
| **Stakeholders:** |  |
| **Relationships**:   * **Includes:** * **Excludes:** | |
| **Pre-conditions:**   * User is already logged in | |
| **Flow of Events:**   1. Click on newsfeed 2. View posts | |
| **Alternative and exceptional flows:**   * 1. Click on username of another   2. Visit their timeline | |
| **Post-conditions:** none | |

## 5. Non-functional Requirements

#### 5.1. Performance Requirements

The response rate of the website depends on the server it is deployed on. The project is precise and reliable as well. The hyperlinks generated point to the correct address. However the project is currently prone to SQL injection in this version.

#### 5.2. Safety Requirements

Not applicable

#### 5.3. Security Requirements

The information entered by the user and the posts made by the user as well as the profile picture uploaded is publically visible. Users must observe caution while using the website.

#### 5.4. User Documentation

Not applicable

## SDS

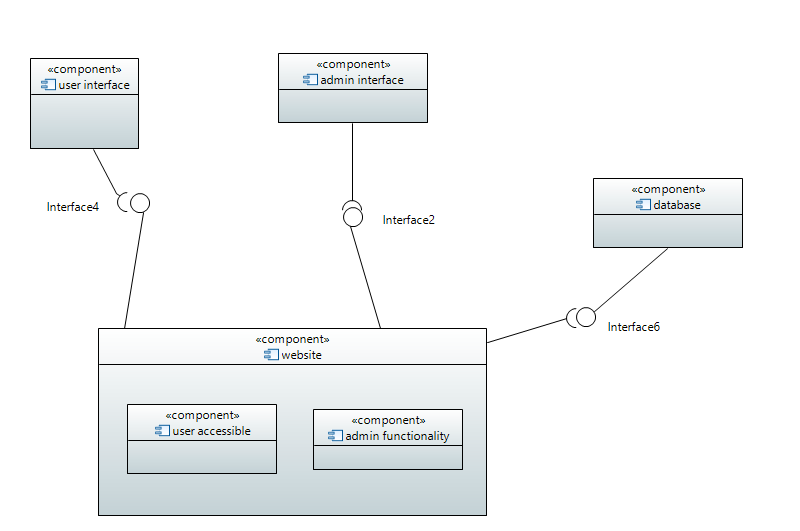
# 6. System Architecture

The project is a web based service, as such, it is divided into various web pages. There are php scripts that are included into various pages such as the database connection script and the header.php file. They are located in the root directory and in the scripts sub folder. The main webpages are accessible by visiting the correct url (localhost/social-butterfly/index-register.php or example) and then the others are available using the user interface such as the header or various hyperlinks throughout the website.

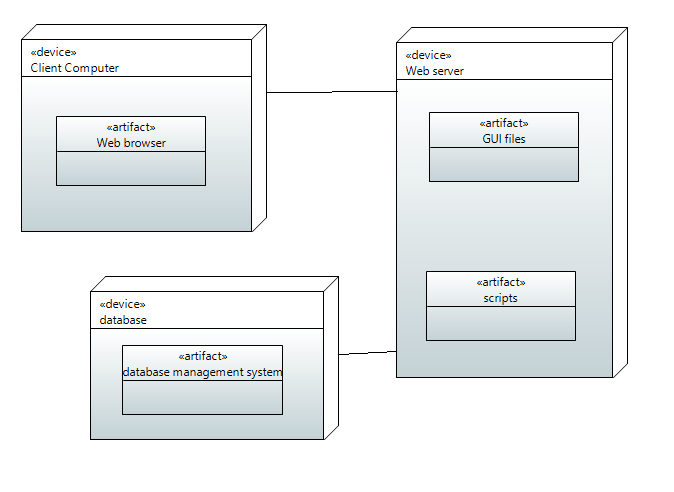
### 

### 6.1. System Level Architecture

#### Component Diagram



#### Deployment Diagram



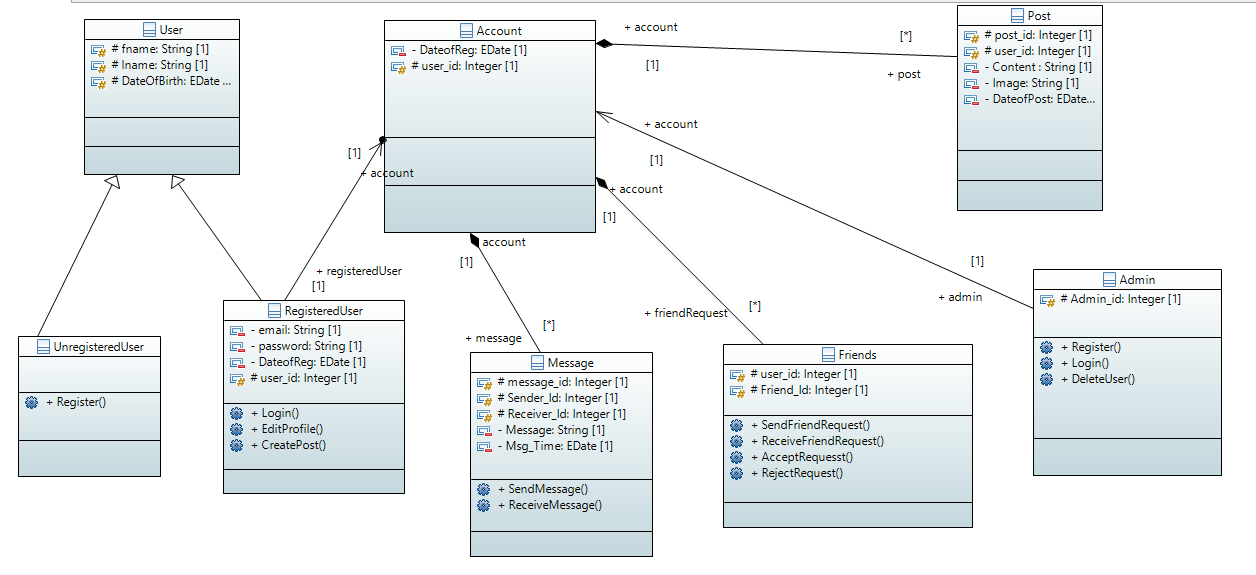
### 6.2. Software Architecture

Not Applicable

# 7. Design Strategy

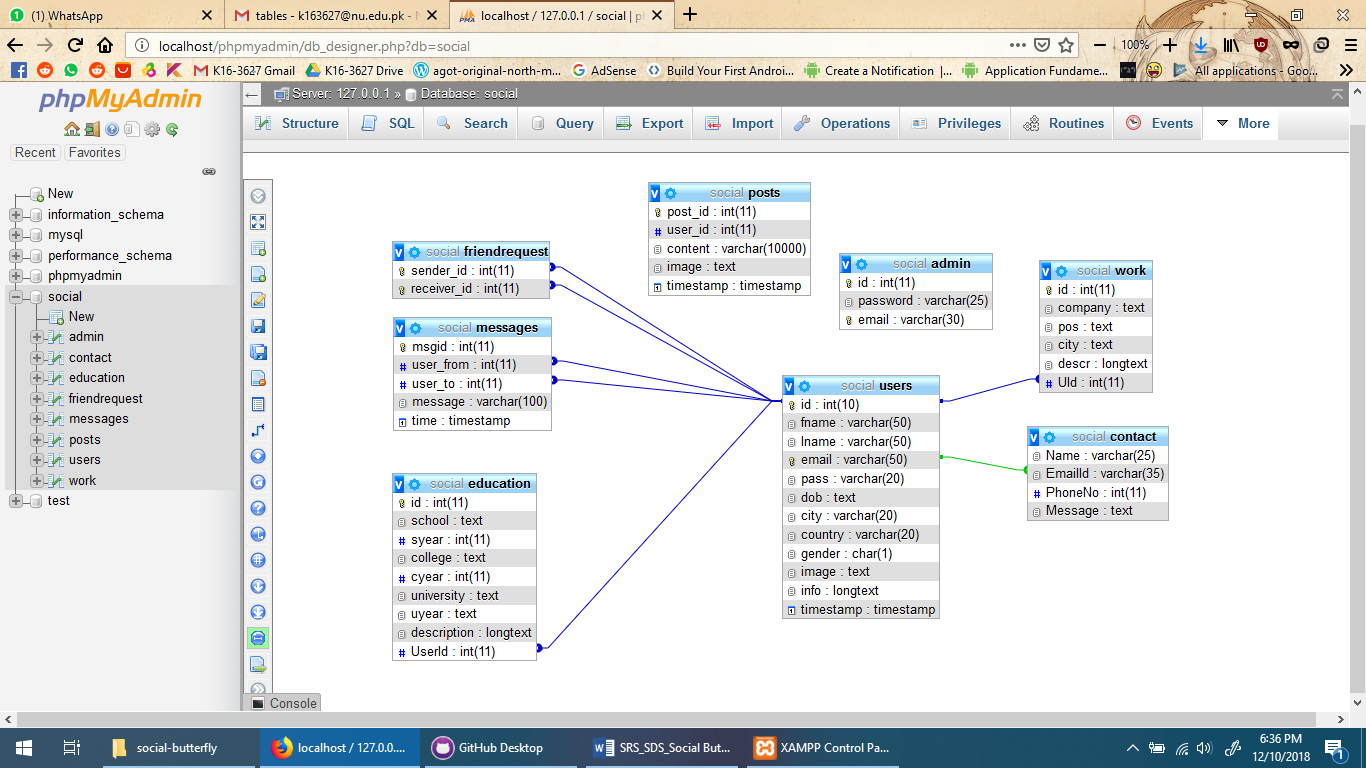
Not applicable

# 8. Detailed System Design



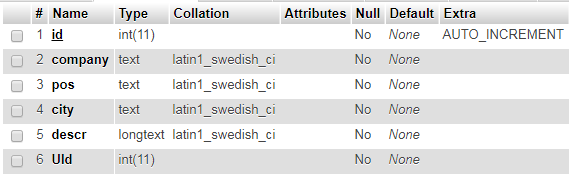
### 8.1. Database Design

#### 8.1.1. ER Diagram

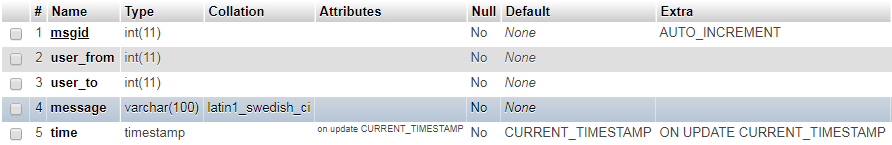


### 8.1.2. Data Dictionary

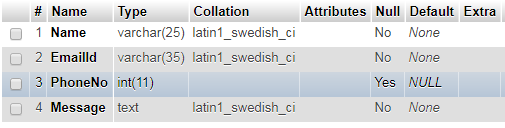
#### Work



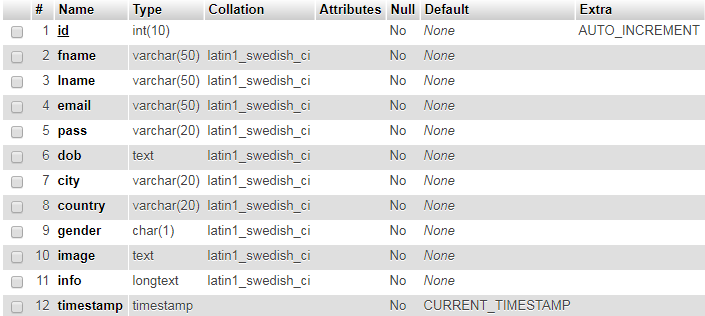
#### Message



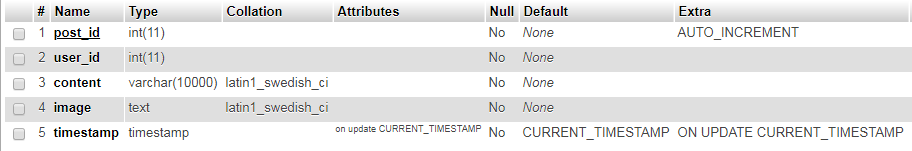
#### Contact



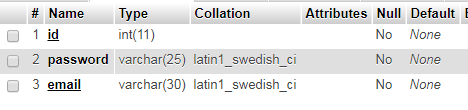
#### Users



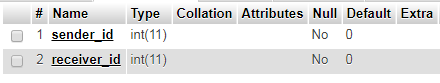
#### Posts



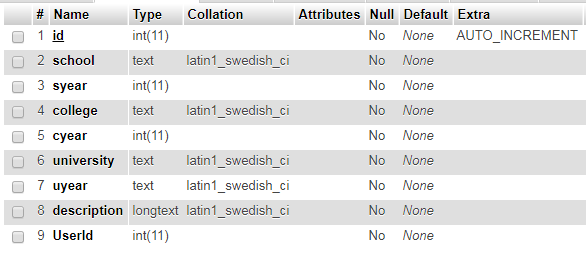
#### Admin



#### FriendRequest

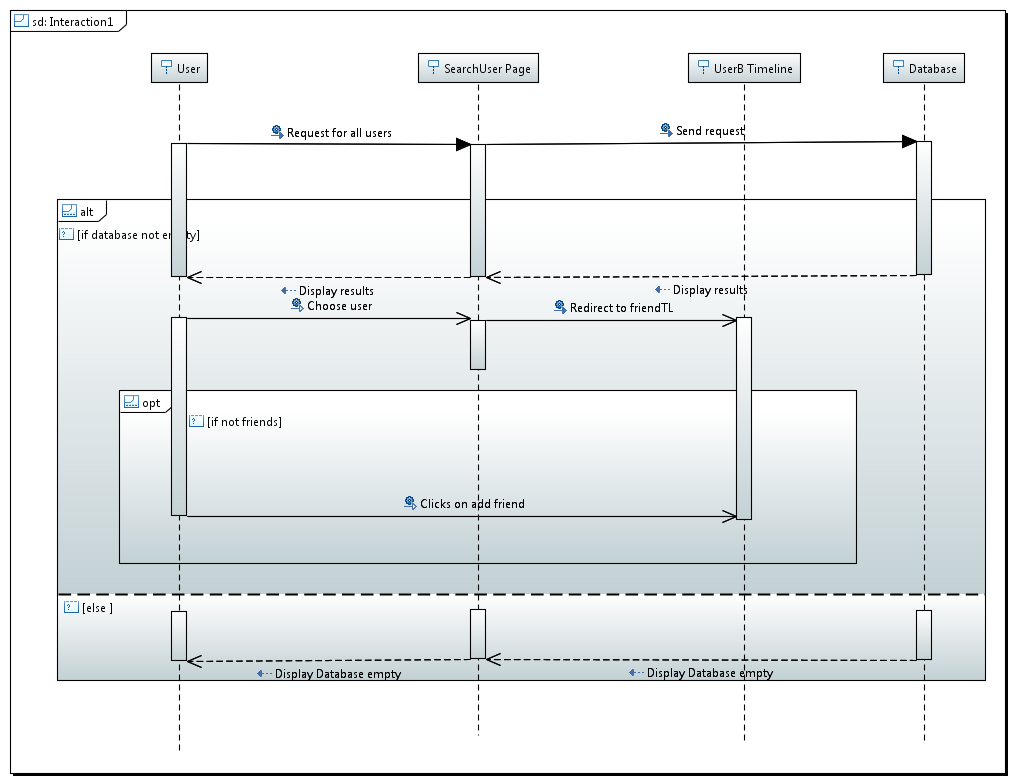


#### Education

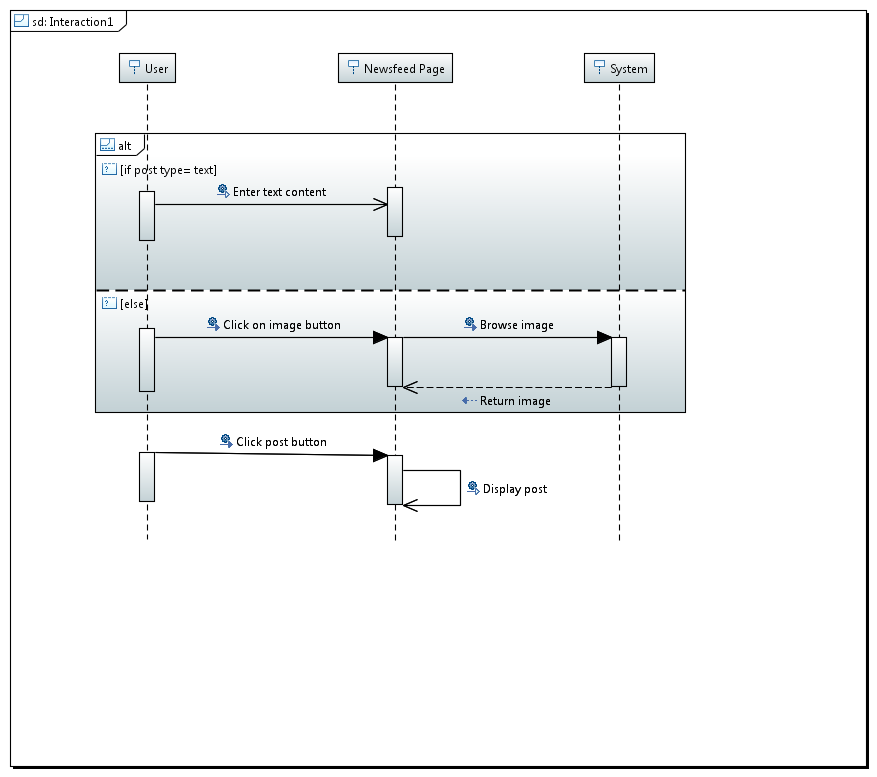


## 9. Application Design

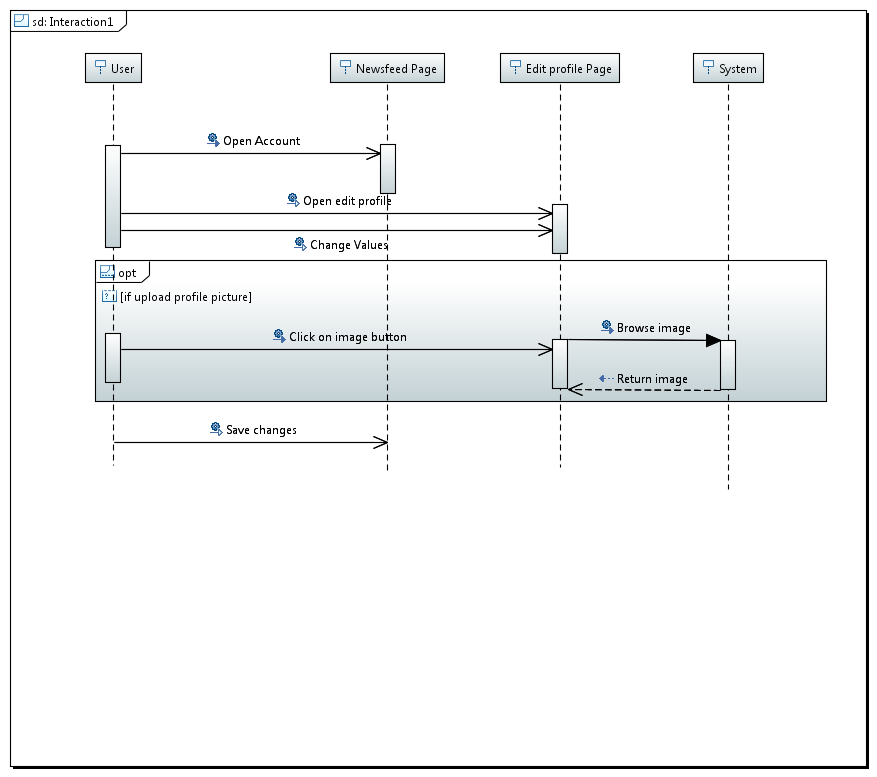
**9.1.2. Sequence Diagram**

**9.1.2.1 Add Friend / Follow **

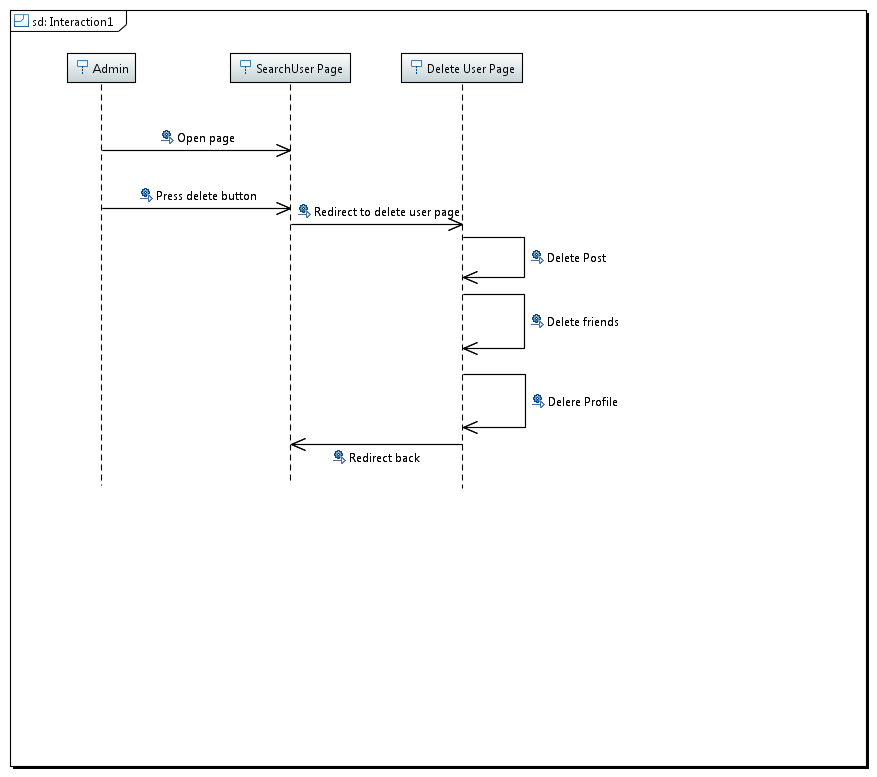
9.1.2.2 Make Post



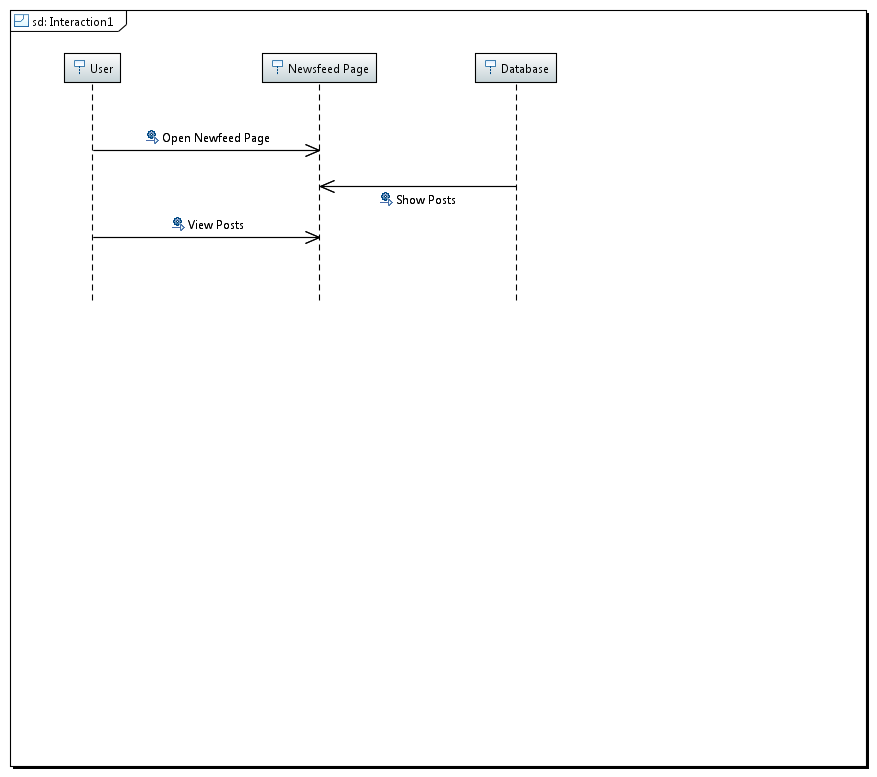
**9.1.2.3 Edit Profile**



**9.1.2.4Admin Access (Panel)**

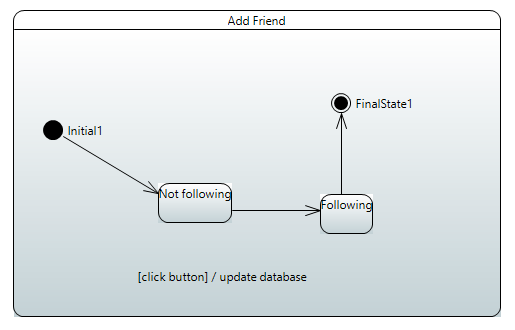
****

**9.1.2.5 Browse Newsfeed**

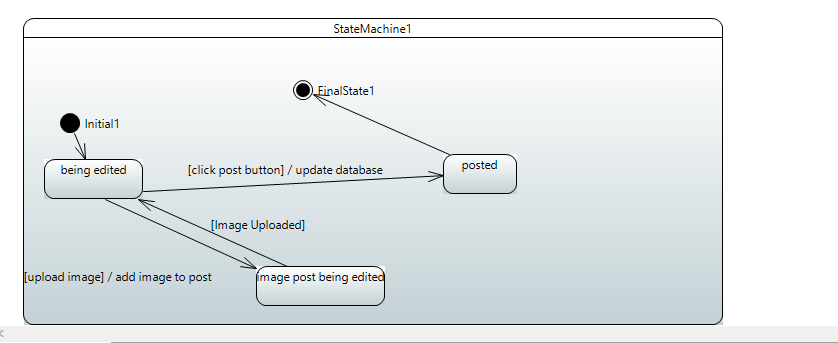


**9.1.3. State Diagram**

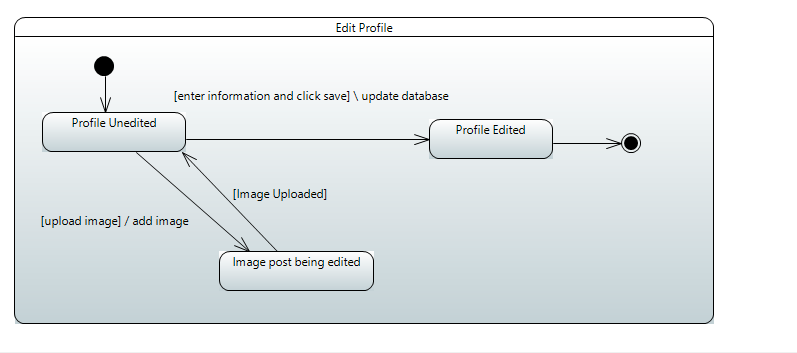
**9.1.3.1**



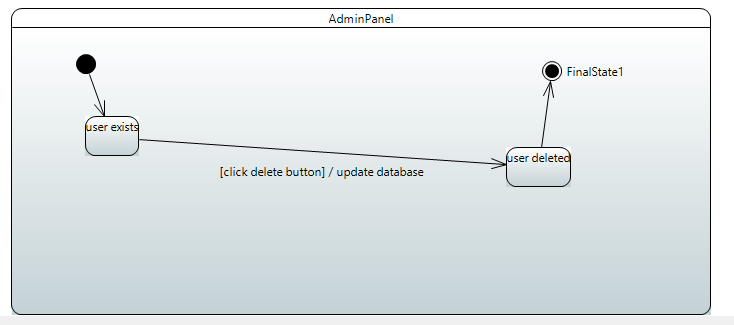
9.1.3.2



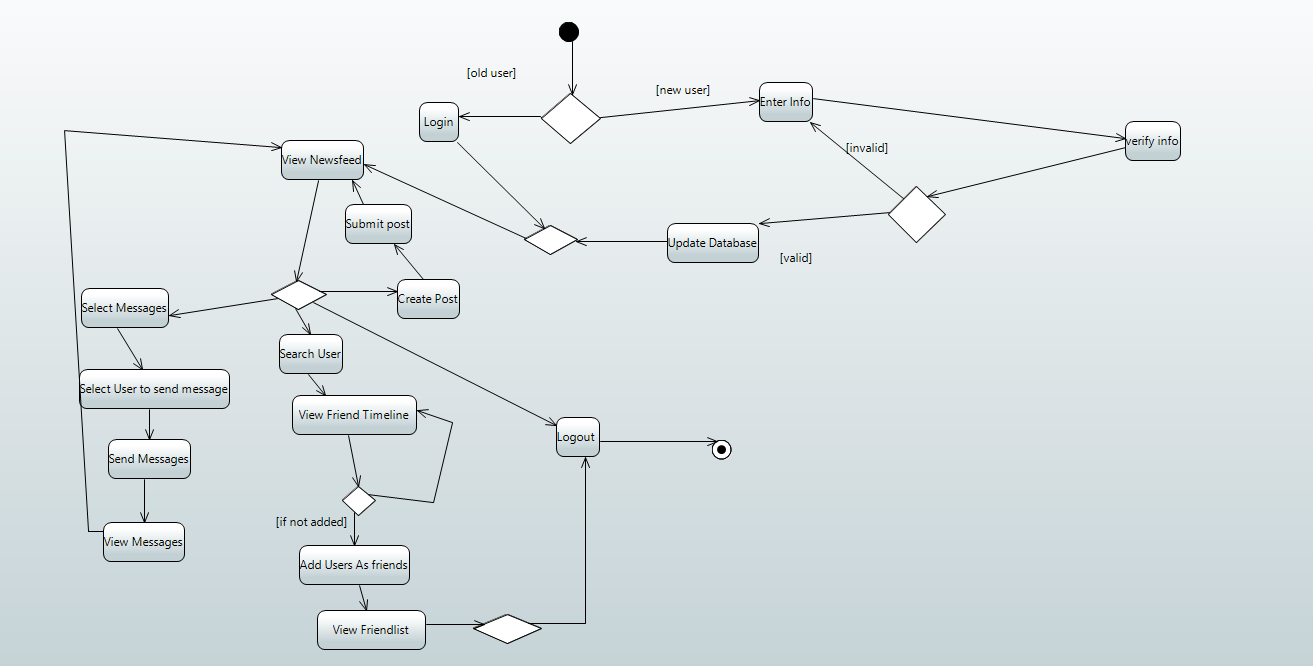
9.1.3.3



9.1.3.4



**9.1.4. Activity Diagram**



## 10. References

Not Applicable

## 11. Appendices

Not Applicable