# CAREER GUIDER

*(Student Academic Career Guider)*

Author

Muhammad Rehan Ajmal

Saif ur Rehman

Khizar Hayat

Shahzad Amjad Khan

Supervisor

Lec Ayesha Naseer

Submitted to the faculty of Department of Computer Software Engineering,
Military College of Signals, National University of Sciences and Technology,
in partial fulfillment for the requirements of B.E Degree in Software Engineering

(July), 2020

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Certified that work contained in this thesis titled“ Career Guider ”,carried out by Rehan Ajmal Mirza , Saif ur Rehman, Khizar Hayat, Shahzad Amjad under the supervision of Lec Ayesha Naseer for partial fulfillment of Degree of Bachelors of Electrical Engineering, in Military College of Signals, National University of Sciences and Technology, Islamabad during the academic year 2019-2020 is correct and approved. The material that has been used from other sources it has been properly acknowledged / referred.

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## Acknowledgements

I am thankful to my Creator Allah Almighty to have guided me throughout this work at every step and for every new thought which Your setup in my mind to improve it. Indeed, I could have done nothing without Your priceless help and guidance. Whosoever helped me throughout the course of my thesis, whether my parents or any other individual was Your (ALLAH) will, so indeed none be worthy of praise but You(ALLAH).

I am profusely thankful to my beloved parents who raised me when I was not capable of walking and continued to support me throughout in every department of my life.

I would also like to pay special thanks to Lec Ayesha Naseer for her tremendous support and cooperation. Each time I got stuck in something, she came up with the solution. Without her help I wouldn't have been able to complete my thesis. I appreciate her patience and guidance throughout the whole thesis. I would like to thank Lec Mobeena Shahzad for guiding us through the tough FYP procedures, Sir Athar Mohsin Zaidi for his guideline in SRE and SDA, in completing this project successfully. We express thanks to MCS, especially Dr Sherri and Dr. Adnan Ahmed Khan (HOD) for his guidance and facilitation for the Project.

*Dedicated to my exceptional parents and adored siblings whose tremendous support and cooperation led me to this wonderful accomplishment.*

# Abstract

Internet technology has become very advance and is used in many ways such as good or bad way. But information is scattered, so user faces problems to find specific information, which cause the wastage of time and time is money. During the net surfing users found most of the web sites which are social and comment oriented and everyone can share his/her idea there and everyone does not provide authentic information, so authenticity is the big issue.

The idea behind this project is to guide the students for their admissions. This project basically provides students a clear road map according to their merit. We will design a website which automatically collects the data from all the educational related websites. A student simply enters his marks, interested area etc. then he/she will get the list of all possible institutes and merit criteria. This website will also help the students for understanding the admission process. Website will automatically update when something new posted on educational websites and generates the SMS alarms to the registered members of the website. We want to give benefits to all students who does not know about admissions and do not know about all possible opportunities. Every member/user of the website is considered as “student”.

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**Key Words:** *Educational Website, Internet surfers.*

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## 1.1 Project Title

Career Guider

## 1.2 Project Overview

The idea behind this project is to guide the students for their admissions. This project basically provides students a clear road map according to their merit. We will design a website which automatically collects the data from all the educational related websites. A student simply enters his marks, interested area etc. then he/she will get the list of all possible institutes and merit criteria. This website will also help the students for understanding the admission process. Website will automatically update when something new posted on educational websites and generates the SMS alarms to the registered members of the website. We want to give benefits to all students who does not know about admissions and do not know about all possible opportunities. Every member/user of the website is considered as "student".

## 1.3 Project Goals & Objectives

The main goal of our project is to benefit those students who have no idea related to their further admission. If any students have any problem in their future planning then he/she just consult to our website and got the solution of that problem. This website gives the best options for their further studies. The main objective is that to guide the students and helps in their future studies.

## 1.4 High-level system components

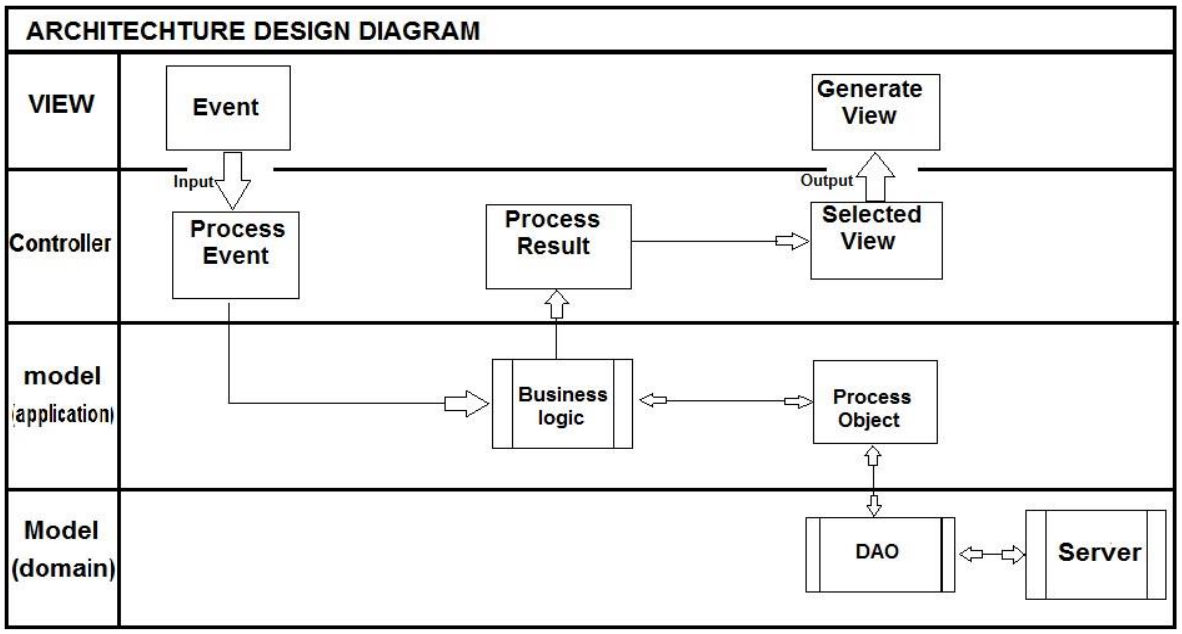
Our project has functionalities of a database with the web crawler which searches all the educational websites and gives the required result according to our website format. Our website will have all up to date information related to all the educational institutes

## 1.5 List of optional functional units

The optional functions will be that

- Automatic summarization.
- Query handling, which involves query receiving, summarization of that query and answering that query which is posted by any user.
- All possible Scholarships information (need base)

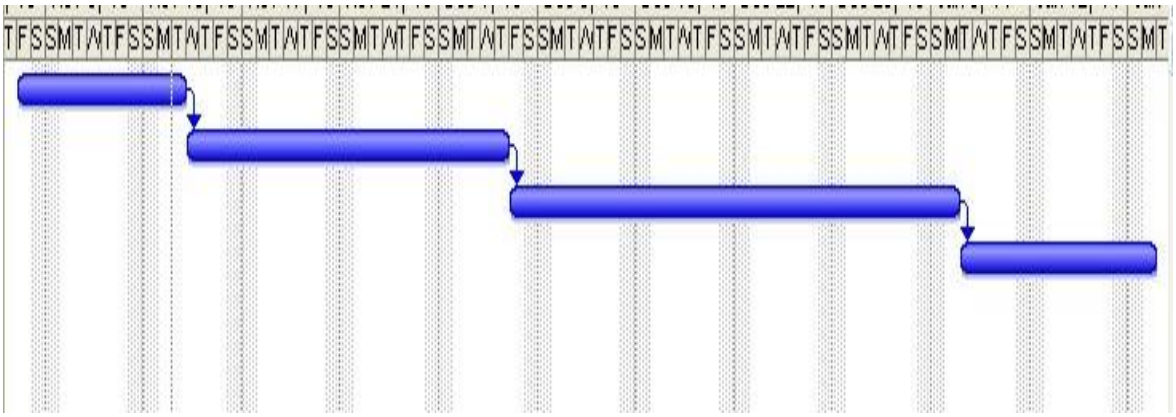
## 1.7 Application Architecture




## 1.8 Gantt chart

The Gantt chart enumerates the activities to be performed on the vertical axis and their corresponding duration on the horizontal axis. In our case it is as followed:

| | | Task Name | Duration | Start |
|---|---|---|---|---|
| 1 | | proposal | 8 days? | Fri 11 |
| 2 | | planning and requirements | 17 days? | Wed 11/1 |
| 3 | | detailed design | 22 days? | Fri 12 |
| 4 | | prototype review | 10 days? | Tue 1/7/1 |



## 1.9 Hardware and Software Specification

A laptop or PC or mobile which can access the internet.

## 1.10 Tools and technologies used with reasoning

The application tools, which are to be used on front and back end of the system to be developed, are listed below.

- **Windows XP/Windows 10/8/7** Operating System will be used.
- We will use **C# and ASP.NET** language.
- **Microsoft Visual Studio 2012** tool is used for building and testing the application.
- **Microsoft Word** will be used for the documentation purposes
- **Rational Rose** will be used for Entity Relation Diagram.
- **Adobe Photoshop** will be used for animation and design

# *2 Introduction*

It is basically a web-based project to help the students gather information regarding different events in different universities. Although we are targeting different types of events we are focusing on admission information. The idea behind this project is to guide the students for their admissions. This project basically provides students a clear road map according to the merit. We will design a crawler which automatically collects the data from all the educational websites. A student simply enters his marks, interested area etc. then he/she will get the list of all possible institutes and merit criteria. Our website will also help the students for understanding the admission process. Website will automatically update when something new posted on educational websites and generates the SMS/Email alarms to the registered members. We want to give benefits to all students who do not know about admissions and about other possible opportunities. Every member/user of the website is considered as "student".

## *2.1 Project/Product Feasibility Report*

### 2.1.1 Technical Feasibility

#### 1. Career Guider Work

Our project is a website. A student can simply access this through internet. He/she simply selects the criteria of search, after that he/she will enter his/her marks, city, province and area of interest. Our website will show the last year merit, number of seats and complete admission criteria so that a student can easily decide where to get admission and what is the criteria and merit required for admission.

#### 2. Development technologies

No special technology is needed apart from general development kits offered by .NET Framework. Microsoft Office, Rational Rose and SQL are required for documentation, project scheduling and costing, analysis and design diagrams and database management. All this software are available to us.

#### 3. Internet

So Internet is required to access the website.

### 2.1.2 Operational Feasibility

This is social website for students and not for economical purpose that's why it will be managed by us. We build a crawler that will manage the website for automatic updating the information. Other problems will be managed by our group manually.

### 2.1.3 Economic Feasibility

Career Guider requires no special technology that has some extra cost associated with it. Economically, the system can be categorized as follows:

- **Cost estimates**

- All the team members are university students and thus require no payment for work.

The cost associated with the system is:

- Internet connection @ Rs.1200/month
- Traveling cost and cast to purchase the domain to build the project @ Rs.40000

- **Benefit estimates**
  - Awareness about all possible opportunities for students.
  - More Accurate and Accessible results.
  - Beneficial for those students who have no idea of admission
  - The account holder of our site can also receive the alerts if any updates are done in website.

### 2.1.4 Schedule Feasibility

The total time to complete the project is eight months we have divided into segments and tasks are given to each member of the group and they are responsible to complete the task. The connectivity of different modules is scheduled so the project is also feasible with respect to schedule.

### 2.1.5 Specification Feasibility

The application is designed for students. They will use it free of cost. Required specifications of hardware and software for the completion of this project are feasible. Any operating system along with an internet connection and browser are enough to interact with our system.

Some Non- functional requirements are also considered important which are as follows:

- Security
- Performance
- GUI
- Scalability

### 2.1.6 Information Feasibility

For this Career Guider application we build a crawler that will gather information from required websites .Other information about whole project and its requirements will be gathered by our team.

### 2.1.7 Motivational Feasibility

This website will motivate our users in deciding their future and further admissions in universities.

### 2.1.8 Legal & Ethical Feasibility

This project supports legally and ethically to all users .We provides our disclaimer and our privacy policy to users. This warranty gives them specific legal rights and they may also have other legal rights for this application.

## *2.2 Project/Product Scope*

There are three main parts of project scope; time, money and people. The project duration is one year which is enough time required for completion. There may be very difficulties in our project, but we are four group members, so we will divide our work and we will do our responsibilities on time and make our project very well. There is no additional expenses in our project expect field work, so minimum cost of our project is 40,000 which is enough to get data from educational institutes if needed.

## *2.3 Project/Product Costing*

### 2.3.1 Project Cost Estimation by Function Point Analysis

| Information Domain Value | Count | Simple | Average | Complex | Total |
|---|---|---|---|---|---|
| External input | 5 | 1x3=3 | 2x4=8 | 2x6=12 | 23 |
| External output | 3 | 0x4=0 | 0x5=0 | 3x7=21 | 21 |
| External inquiries | 3 | 1x3=3 | 1x4=4 | 1x6=6 | 13 |
| Internal logical files | 9 | 3x7=21 | 2x10=20 | 4x15=60 | 101 |
| External interface files | 15 | 3x5=15 | 5x7=35 | 7x10=70 | 120 |
| Count Total | | | | | 278 |

**Value adjustment factor ∑ fi**

| Question # | Question | Estimated ranked(0-5) |
|---|---|---|
| 1 | Does system require reliable backup and recovery? | 5 |
| 2 | Are specialized data communications required to transfer info to or from the application ? | 4 |
| 3 | Are there distributed processing function? | 4 |
| 4 | Is performance critical? | 2 |

| | | |
|---|---|---|
| 5 | Will the system run in an existing, heavily utilized operational environment? | 3 |
| 6 | Does the system required online data entry? | 5 |
| 7 | Does the online data entry require the input transaction to be built over screen or operation? | 3 |
| 8 | Are the ILFs updated online? | 5 |
| 9 | Are the input outputs files or inquires complex? | 4 |
| 10 | Is the internal processing complex? | 4 |
| 11 | Is the code designed to be usable? | 4 |
| 12 | Are the convention and installation in different organization? | 0 |
| 13 | Is the system design for installation in different organization? | 0 |
| 14 | Is the application designed to fascinate change for ease of use by the user? | 4 |

**TOTAL =47**

To compute function points (FP), the following relationship is used:

**FP est. = Count Total *[0.65 + 0.01 * (Fi)]**

**FP est. = 278*[0.65 +0.01*47]**

**FP est. = 278*[0.65 +0.47]**

**FP est. = 278*1.12**

**FP est. = 311.36**

**Labour Rate = 40,000 RS per month**

**Productivity parameter = 40 function points per month**

Cost/FP =Labour Rate/productivity parameter

**Cost/FP =40,000/40**

**Cost/FP = 1000 per FP**

Total project cost = FP est. *(cost/FP)

**Total project cost =311.36*1000**

**Total project cost =311360RS**

**Total Estimated Effort = FP est. / productivity parameter**

Total Estimated Effort = 311.36/ 40

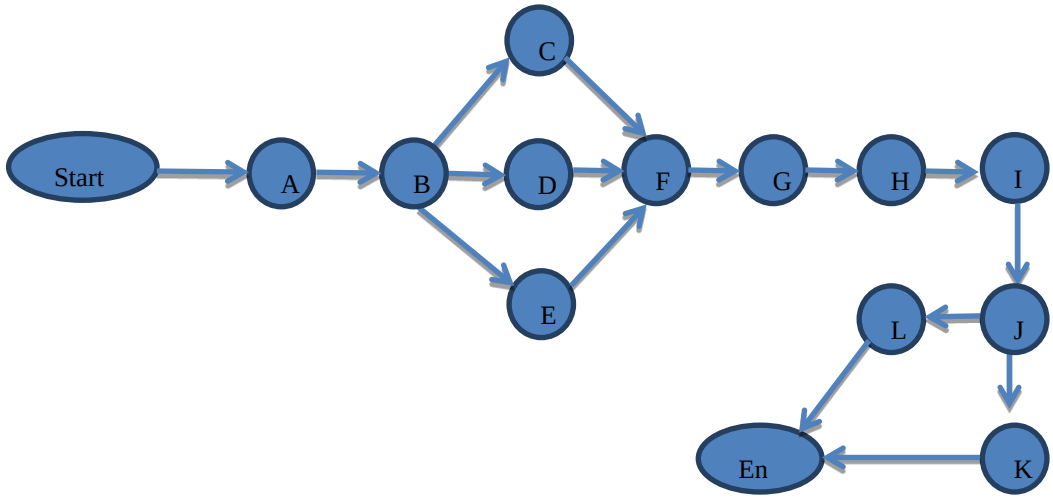
Total Estimated Effort = 7.784pm ~ 8pm

## 2.4 CPM - Critical Path Method

### List of Main Activities with duration:

| Activity | Activity Name | Predecessor | Duration |
|---|---|---|---|
| A | Planning | None | 4 |
| B | Project Feasibility | A | 2 |
| C | Project Costing | B | 2 |
| D | Vision document | B | 2 |
| E | Risk Identification | B | 2 |
| F | Requirement Engineering | C,D,E | 10 |
| G | Detail Analysis | F | 25 |
| H | Database Design | G | 20 |
| I | Implementation | H | 80 |
| J | Testing | I | 25 |
| K | Approval | J | 5 |
| L | Deployment | J | 4 |

## Network Diagram:




## CPM Table

| Activity | Duration | ES | EFi | LS | LF | TS | FS |
|---|---|---|---|---|---|---|---|
| A | 4 | 0 | 4 | 0 | 4 | 0 | 0 |
| B | 2 | 4 | 6 | 4 | 6 | 0 | 0 |
| C | 2 | 4 | 6 | 4 | 6 | 0 | 0 |
| D | 2 | 4 | 6 | 5 | 6 | 1 | 1 |
| E | 2 | 6 | 8 | 6 | 8 | 0 | 0 |
| F | 10 | 8 | 18 | 8 | 22 | 0 | 0 |
| G | 25 | 22 | 47 | 22 | 47 | 0 | 0 |
| H | 20 | 47 | 67 | 47 | 67 | 0 | 0 |
| I | 80 | 67 | 147 | 67 | 147 | 0 | 0 |
| J | 25 | 147 | 172 | 147 | 172 | 0 | 0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| K | 5 | 172 | 177 | 172 | 177 | 0 | 0 |
| L | 4 | 172 | 182 | 172 | 182 | 0 | 0 |

### Critical Path:

**A -> B -> E -> F -> G -> H -> I -> J -> K -> L**

**4 -> 2 -> 2 -> 10 -> 25 -> 20 -> 80 -> 25 -> 5 = 174**

## *2.5 Gantt Chart*

| | Task Name | Duration | Start |
|---|---|---|---|
| 1 | **Project Planning** | **4 days** | **Fri 08-11-** |
| 2 | Discuss Project idea | 1 day | Fri 08-11- |
| 3 | **Proposal Preperation** | **3 days** | **Sat 09-11-** |
| 4 | Make Proposal Documentation | 3 days | Sun 10-11- |
| 5 | Perform Studing of documentation style | 1 day | Mon 11-11- |
| 6 | **Deliverable 1** | **18 days** | **Thu 14-11-** |
| 7 | Make Project feasibility report | 2 days | Thu 14-11- |
| 8 | Make Function point analysis | 2 days | Sun 17-11- |
| 9 | Performed Critical path method | 2 days | Tue 19-11- |
| 10 | Draw Gantt Chart | 1 day | Thu 21-11- |
| 11 | Make Risk List | 1 day | Fri 22-11- |
| 12 | Create System Specification | 2 days | Sun 24-11- |
| 13 | Draw Context Level data flow diagram | 3 days | Sun 24-11- |
| 14 | Draw DFD | 1 day | Wed 27-11- |
| 15 | Identifiy Use cases | 1 day | Thu 28-11- |
| 16 | Draw High level use case diagram | 3 days | Fri 29-11- |
| 17 | **Deliverable 2** | **25 days** | **Mon 09-12-** |
| 18 | **Analysis** | **12 days** | **Mon 09-12-** |
| 19 | Perform Domain Analysis | 4 days | Mon 09-12- |
| 20 | Work Use Cases | 4 days | Fri 13-12- |
| 21 | Create Domain Model | 4 days | Wed 18-12- |
| 22 | **Design** | **13 days** | **Sat 21-12-** |
| 23 | Draw Sequence Diagram | 5 days | Sat 21-12- |
| 24 | Draw Collaboration Diagram | 5 days | Thu 26-12- |
| 25 | Draw Class Diagram | 5 days | Mon 30-12- |
| 26 | Prototype 1 | 17 days | Wed 01-01- |
| 27 | **Implementation** | **80 days** | **Fri 28-02-** |
| 28 | **Implimenting functionalities** | **79 days** | **Fri 28-02-** |
| 29 | Deside Web Design | 10 days | Fri 28-02- |
| 30 | Build Website | 20 days | Mon 03-03- |
| 31 | Implement Web Crawler | 15 days | Wed 12-03- |
| 32 | Implement Querry Handler | 30 days | Wed 26-03- |
| 33 | Make sms alert System | 15 days | Tue 29-04- |
| 34 | Combine Previous Functions | 10 days | Fri 16-05- |

## *2.6 Introduction to Team member and their skill set*

Their brief introduction is as follows:

## Muhammad Rehan Ajmal(Group leader)

Muhammad Rehan Ajmal possesses good managerial skills and a friendly nature. He is good at programming and likes to ponder over different algorithmic issues. His skills are as follows:

- Programming in C++, JAVA
- Website development using HTML, JSP and various JAVA technology
- Database development and management using MySQL, SQL Server and Microsoft Access
- Software engineering expertise using Object Oriented Analysis and Design (OOAD)
- Project management expertise
- Requirement engineering expertise
- Documentation expertise

## Saif ur Rehman

Saif ur Rehman possesses leadership qualities, good managerial ,strong communication skills, team spirit ,skills of team management and has a friendly nature. He has an interest in development and mathematical calculations. He is good at programming and software design. His skills are as follows:

- Programming in C, C++, JAVA
- Computer security and networking.
- Website development using HTML, JSP.
- Database development and management using MySQL, SQL Server and Microsoft Access  Software engineering expertise using Object Oriented Analysis and Design (OOAD)  Project management expertise.  Documentation expertise.

## Khizar Hayat

Muhammad Khizar Hayat has great leadership qualities, good friendly nature and has great qualities to do team work. He is good at programming and likes to ponder over different software design issues. His skills are as follows:

- Programming in C, C++, JAVA, and Assembly Language.
- Website development using HTML, JSP, JavaScript.

- Database development and management using MySQL and SQL Server.
- Software engineering expertise using Object Oriented Analysis and Design (OOAD)
- Dream viewer for web designing and development.
- Project management expertise
- Documentation expertise

## Shahzad Amjad khan

Shahzad Amjad Khan possesses great Research and Development (R&D) skills, team management skills and a friendly nature. He has an interest in development and requirement engineering. He is good at programming and likes to ponder over different software design issues. His skills are as follows:

- Programming in Assembly Language, C, C++, JAVA, C#
- Website development using HTML, JSP, JavaScript, ASP.NET and PHP.
- Database development and management using My SQL, SQL Server and Microsoft Access.
- Graphic designing using adobe Photoshop.
- Software engineering expertise using Object Oriented Analysis and Design (OOAD)
- Project management expertise
- Requirement engineering expertise
- Documentation expertise

## *2.7 Tools and Technology with reasoning*

The application tools, which are to be used on front and back end of the system to be developed, are listed below.

### 2.7.1 Adobe Photoshop

It will used for logo design and basic web designing.

### 2.7.2 Adobe Dreamweaver

It will used for advanced web designing and development.

### 2.7.3 Microsoft Word

Microsoft word is the word processor and would be used for documentation purposes throughout the whole project.

### 2.7.4Microsoft Excel

Microsoft excel is spreadsheet and would be used for data analysis throughout the whole project.

### 2.7.5 Microsoft Project

Microsoft Projects provides extensive features on project management with a prominent feature of project scheduling. Gantt charts, resource allocations, Critical path can all be managed through this tool. This would be used as a project management tool throughout the whole project.

### 2.7.6 Microsoft visual studio

Microsoft visual studio is the free development software which supports desktop/web development in a friendly environment. This tool would be used in the coding phase of proposed project.

### 2.7.7 Smart Draw

Smart Draws a tool for modeling different diagrams which would be addressed during analysis and design phases of the project.

### 2.7.8 Project Modeling

Rational Rose and Microsoft Visio are to be used to draw use cases with different perspectives as they support the language of Rational Unified Process (RUP). Use case diagram, Data Flow Diagram (DFD), domain model and all other OOAD analysis and design diagrams are supported.

## *2.8 Vision Document*

This section highlights the vision for Project Career Guider being developed

### 2.8.1 Problems

- Student does not know all the possible opportunities and criteria's for admission on time
- All information are not available on one platform
- It is overhead to update on the time and inform

Disconnectivity of internet

### 2.8.2 Successful Solution

Following solution is proposed to solve the problems mentioned above:

- Survey should be conducted from the student to understand the requirement
- We will provide all desired information on one platform
- Student can give suggestion after the deployment of project in order to improve
- Account holder will receive the alert when any update performs by the crawler
- User friendly interface to motivate the user

### 2.8.3 Project Features

Following are Project Features .

- **Search Format**

  User can search using different format like search based on area, region or field and according to its merit

- **Merit calculation**

User will get his appropriate merit to understand whether he can get admission or not in desired field and university according to his marks and ranking of that institute also

- **Update the site**

Crawler will be responsible to update the site on time and according to format

- **Alerts**

When any updating in information occur account holder will receive the alerts via email.

### 2.8.4 Assumptions and dependencies

Project Career Guider service has the following assumptions and dependencies:

- The system is dependent upon web network.
- Alerts generation through email.

### 2.8.5 User Environment

The user will be given a Graphical User Interface (GUI) through which all the features mentioned above can be toggled on/off and every processes can be handled.

## *2.9 Risk List*

The risk factors that are involved with this project are as follows.

- As Project Career Guider is social website so security is very important in risk list so that one user cannot see data of other.
- In case group leader is not giving us enough insight of the project
- Our required data collection is from university website so the risk is that we get our required data with the help crawler or not.
- Whenever any university does not give data through website then we collect data manually, so the issue is these universities give us data or not.
- Our website has limit of students to search their required data if in future it will increases then its again a risk
- Lack of coordination between team also can cause the project out of timmed schedule.
- As group leader is not providing us with the details in timely fashion so hard for other member to utilize their energies
- Unavailability of any user Career Guider  Unavailability of internet.
- Permanent failure of source servers

# 3 REQUIREMENTS ENGINEERING

## Systems Specifications

The following are the clauses that must be comprised while unfolding the system specifications.

### 3.1 Introduction

This website helps the students to find out the future planning about studies. If he/she wants to choose any interested area in studies then our requirements are:

(i) Grade in Matric, F.Sc etc.
(ii) Interested area (IT, Chemical Engineering, BBA etc.)

So after that our website told that the suitable option for their further studies. It will also describe whole data in summarize form and just related data only.

**Existing System**

In our website the main business areas are:

- news
- guidelines ( according to the interested area).
- Merit calculation
- Information about universities.

## Scope of the System

In Project website we will use the browsers like (goggle chrome, Mozilla Firefox, internet explorer etc...).

**Summary of Requirements (Initial Requirements)**

The initial requirements that are need to use our website are:

- An internet connection
- Any web browser to visit the website.
- A small information to use our website.

### 3.2 Identifying External Entities

The identification of the external entities will be based on the information contained in your Abstract.

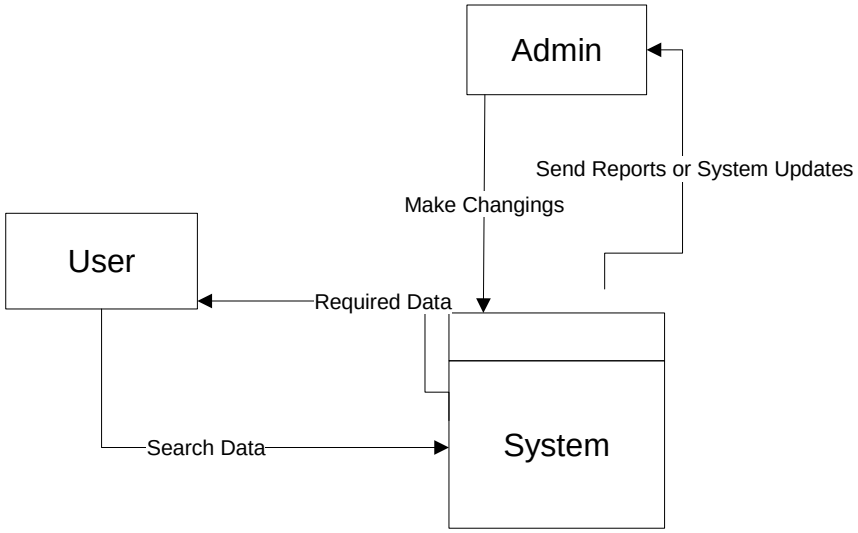
**a. Over Specify Entities from Abstract**

- Google chrome
- Internet explorer
- Web server

**b. Perform Refinement**

- User
- System
- Admin

### 3.3 Context Level Data Flow Diagram



### 3.4 Capture "shall" Statements

| Para # | External Entity | Initial Requirements |
|---|---|---|
| 1.0 | Admin | Admin “shall” login |
| 1.0 | Admin | A admin “shall” insert uniData |
| 1.0 | Admin | Admin “shall” delete specific user |
| 2.0 | User | User “shall” sign in |
| 2.0 | User | User “shall” sign up |
| 2.0 | User | User “shall” change information |
| 2.0 | User | User “shall” insert queries |
| 2.0 | User | User “shall” comments |
| 2.0 | User | User “shell” get query result |
| 2.0 | User | User “shell” get corresponding programs |
| 2.0 | User | User “shell” get calculated Merit |

### 3.5 Allocate Requirements

| Para # | Initial Requirements | Use Case Name |
|---|---|---|
| 1.0 | Admin “shall” login | AdminLogin |
| 1.0 | A admin “shall” insert uniData | InsertUniData |
| 1.0 | Admin “shall” delete specific user | deleteUser |
| 2.0 | User “shall” sign in | UserSignIn |
| 2.0 | User “shall” sign up | UserSignUp |

| | | |
|---|---|---|
| 2.0 | User “shall” change information | changeInfo |
| 2.0 | User “shall” insert queries | insertQuery |
| 2.0 | User “shall” comments | comments |
| 2.0 | User “shell” get query result | queryResult |
| 2.0 | User “shell” get corresponding programs | showPrograms |
| 2.0 | User “shell” get calculated Merit | showMerit |

### 3.6 Prioritize Requirements

| Para # | Rank | Use case ID | Initial Requirements | Use Case Name |
|---|---|---|---|---|
| 1.0 | Highest | UC_1 | Admin “shall” login | AdminLogin |
| 1.0 | Highest | UC_2 | A admin “shall” insert uniData | InsertUniData |
| 1.0 | Lowest | UC_3 | Admin “shall” delete specific user | deleteUser |
| 2.0 | Medium | UC_4 | User “shall” sign in | UserSignIn |
| 2.0 | Medium | UC_5 | User “shall” sign up | UserSignUp |
| 2.0 | Lowest | UC_6 | User “shall” change information | changeInfo |
| 2.0 | Highest | UC_7 | User “shall” insert queries | insertQuery |
| 2.0 | Medium | UC_8 | User “shall” comments | comments |

| | | | | |
|---|---|---|---|---|
| 2.0 | Highest | UC_9 | User “shell” get query result | queryResult |
| 2.0 | Highest | UC_10 | User “shell” get corresponding programs | showPrograms |
| 2.0 | Highest | UC_11 | User “shell” get calculated Merit | showMerit |

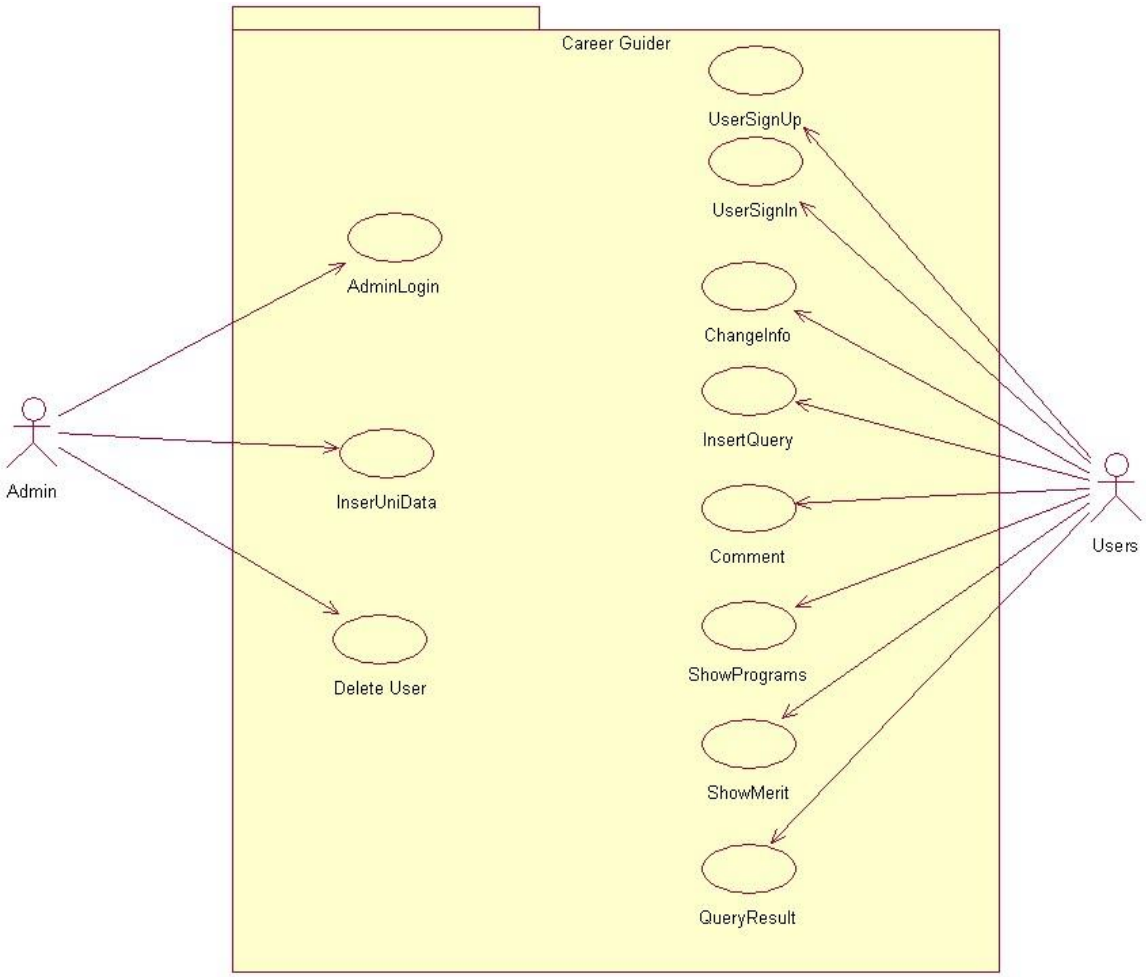
### 3.7 Requirements Trace-ability Matrix

The requirements trace-ability matrix is a table used to trace project life cycle activities and work products to the project requirements. The matrix establishes a thread that traces requirements from identification through implementation.

| *Sr #* | *Para #* | System Specification Text | Build | Use Case Name | Category |
|---|---|---|---|---|---|
| 1 | 1.0 | Admin “shall” login | B1 | AdminLogin | Business |
| 2 | 1.0 | A admin “shall” insert uniData | B1 | InsertUniData | Business |
| 3 | 1.0 | Admin “shall” delete specific user | B1 | deleteUser | Business |
| 4 | 2.0 | User “shall” sign in | B1 | UserSignIn | Business |
| 5 | 2.0 | User “shall” sign up | B1 | UserSignUp | Business |
| 6 | 2.0 | User “shall” change information | B1 | changeInfo | Business |
| 7 | 2.0 | User “shall” insert queries | B1 | insertQuery | Business |
| 8 | 2.0 | User “shall” comments | B1 | comments | Business |

| | | | | | |
|---|---|---|---|---|---|
| 9 | 2.0 | User "shell" get query result | B1 | queryResult | Business |
| 10 | 2.0 | User "shell" get corresponding programs | B1 | showPrograms | Business |
| 11 | 2.0 | User "shell" get calculated Merit | B1 | showMerit | Business |

### 3.8 High Level Use case Diagram



# 4 Use cases

## 4.1 Usecases

**Use Case Name:**

Startup

**Primary Actor:**

Admin

**Preconditions:**

- The Website code must present at server.
- Website must be registered with some domain.

**Post conditions:**

Home Screen will be displayed.

**Main Success Scenario:**

1. Admin will login on to the site he registered his website.
2. After that it will start the webserver.

**Alternative Scenario:**

2.1 Unable to open to Website either Server is down or no internet.

**Use Case Name:**

Login

**Primary Actor:**

Admin

**Preconditions:**

- Website should be opened.
- Admin must enter username and password to login.

**Post conditions:**

- Admin will be login.

**Main Success Scenario:**

1. Admin click on sign in button.
2. Admin shall enter his username and password.
3. Admin shall click on login button.
4. Database will check for the validity of account.
5. On successful validation user will be logged in and home screen shall be shown.

**Alternative Scenario:**

4.1 Not an Admin error message of user doesn't exist will be displayed.

**Use Case Name:**

Block User

## Primary Actor:

Admin

## Preconditions:

- Website should be opened.
- Admin will login first.
- User violates the defined rules.
- User use abusive language in comments.

## Post condition :

- User will b blocekd

## Main Success Scenario:

1. Admin will login first.
2. After login admin click on list of the users that violates the rules.
3. After that he blocks the user.

## Alternative Scenario:

2.1 There is no user in list to be blocked.

## Use Case Name:

Insert Data

## Primary Actor:

Admin

## Preconditions:

- Website should be opened.
- Admin will login first.
- Have the data that should be inserted.

## Post conditions:

- Data is successfully inserted into the database.

## Main Success Scenario:

1. Admin will login first.
2. After that it will clicks on the insert data.
3. After that he will select the category in which he wants to insert data.
4. After that he will enter the required Information.
5. After that he will click submit button.

## Alternative Scenario:

Nothing.

## Use Case Name:

Sign up

## Primary Actor:

User

## Preconditions:

- Website should be opened.
- User must open the sign up page.

## Post conditions:

- User will be signed up.

## Main Success Scenario:

1. User click on sign up button form will be displayed to user.
2. User shall fill all the details.
3. User shall click on signup button.
4. Database will verify all information entered.
5. On successful validation user will be logged in and home screen shall be shown.

## Alternative Scenario:

3.1 Not all necessary information is filled.
3.2 Too short password.
3.3 Invalid email entered.
4.1 User name already exist.

## Use Case Name:

Sign In

## Primary Actor:

User

## Preconditions:

- Website should be opened.
- User must enter username and password to Sign in .

## Post conditions:

- User will be Sign in.

## Main Success Scenario :

1. User click on sign in button.
2. User shall enter his username and password.
3. User shall click on login button.
4. Database will check for the validity of account.
5. On successful validation user will be logged in and home screen shall be shown.

## Alternative Scenario:

4.1 The user is not registered in the database.
Appropriate error message will be shown to the user to register first.

## Use Case Name:

Change info

## Primary Actor:

User

## Preconditions:

- Website should be opened.

- User must be login.

**Post conditions:**

update successfully.

**Main Success Scenario:**

1. User will login first.
2. After that it will clicks on the change info.
3. After that he selects which type of Information he wants to update.
4. Fill the required Information.
5. After that he will click submit button.
6. After that verify all the information in database.

**Alternative Scenario:**

5.1 Too short password.

5.2 Invalid Email entered.

6.1 User name already exist.

**Use Case Name:**

Insert Query

**Primary Actor:**

User

**Preconditions:**

- Website should be opened.
- User enters the query.

**Post conditions:**

- User gets the desired result. **Main Success Scenario:**
  1. User enters query in query bar.
  2. Then clicks on submit button.

**Alternative Scenario:**

1.1 Invalid query Enter.

**Use Case Name:**

Comment

**Primary Actor:**

User

**Preconditions:**

- Website should be opened.
- User must be login.

**Post conditions:** User posted the comment successfully..

**Main Success Scenario:**

1. User will login first.

2. After that it selects the type of comment.
3. Enter the text.
4. After that click on post.

**Alternative Scenario:**

Nothing.

**Use Case Name:**

Show programs

**Primary Actor:**

User

**Preconditions:**

Website should be opened.

**Post conditions:**

Details of selected program Shown to the user.

**Main Success Scenario:**

1. User selects the type of program.
2. After that click on search button.

**Alternative Scenario:**

Nothing.

**Use Case Name:**

Search

**Primary Actor:**

User

**Preconditions:**

- Website should be opened.
- User must enter some query in search bar.
- **Post conditions:** Results against query entered will be displayed.

**Main Success Scenario:**

1. User enters his query in search bar.
2. After that he clicks on search button.

**Alternative Scenario:**

2.1. Data against the query entered not found.

**Use Case Name:**

Getmerit

## Primary Actor:

User

## Pre-conditions:

- User must select the department for which he wants to get merit.

## Post conditions:

- Merit will be returned and displayed to the user.

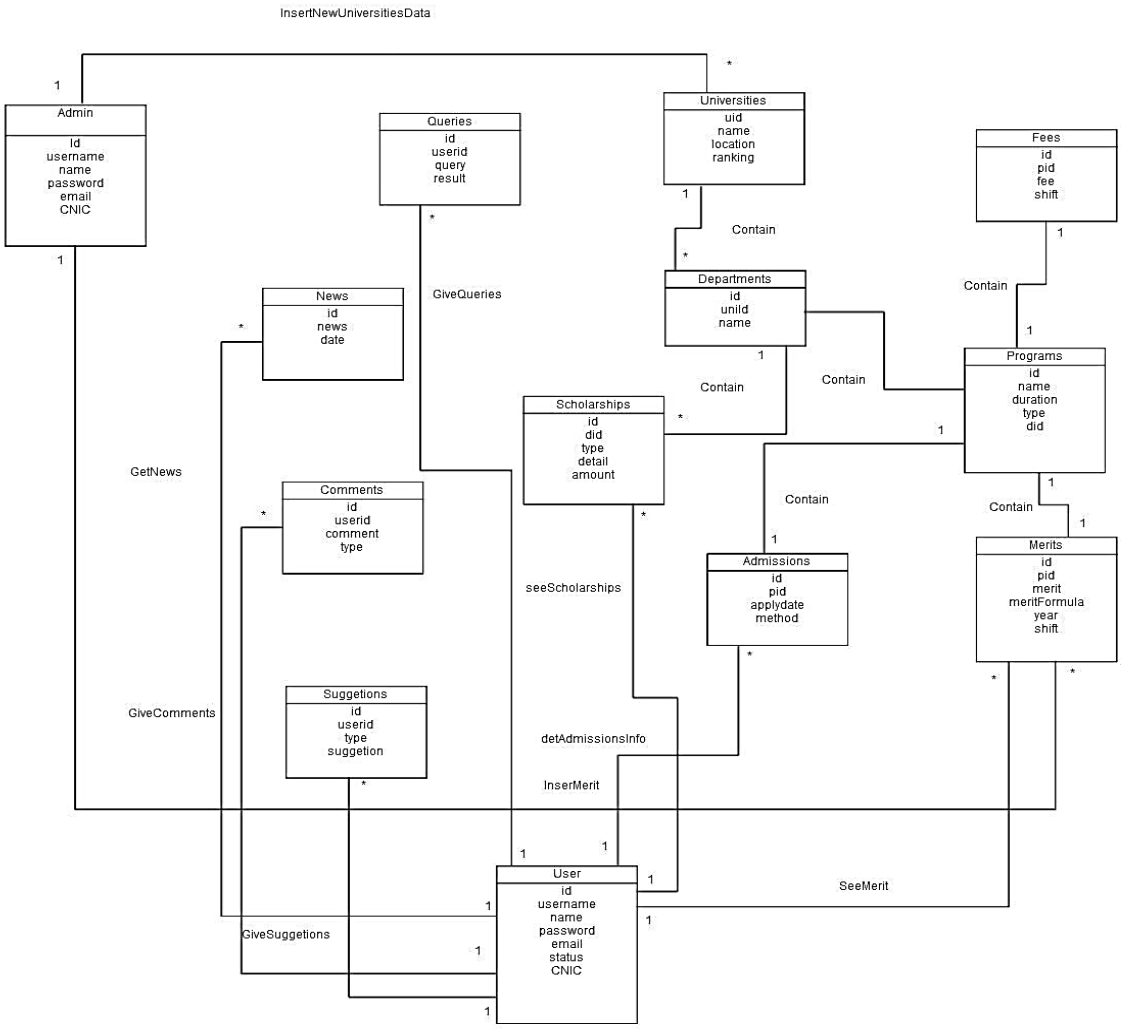
## Main Success Scenario:

1. User selects the department for which he wants to get merit.
2. After that he clicks on ok button.

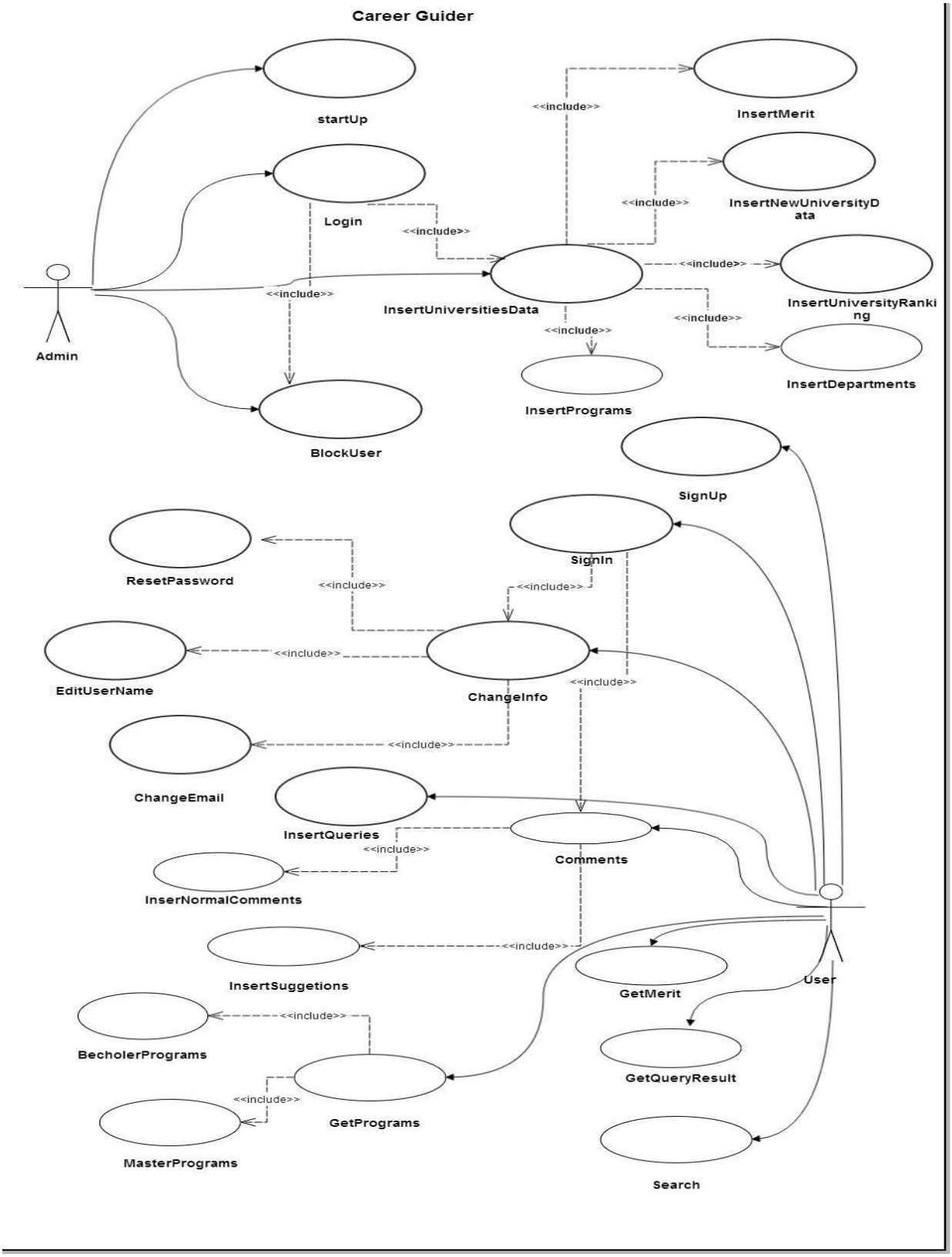
## Alternative Scenario:

Nothing.

## 4.2 Domain Model Diagram:-

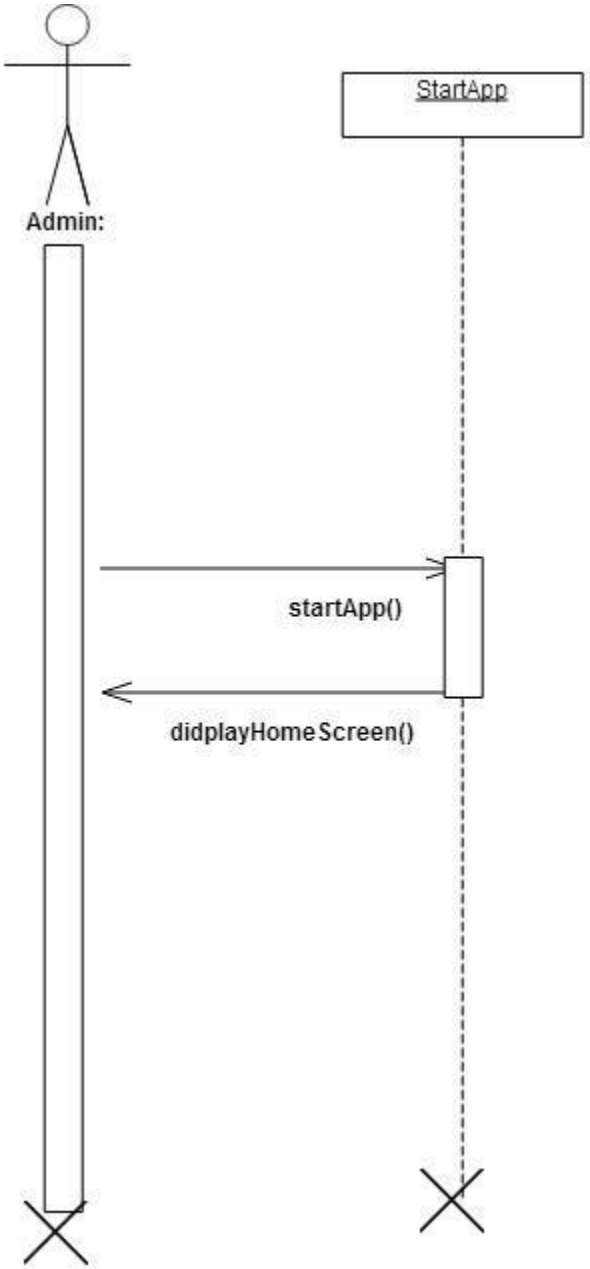


## 4.3 Use case Diagram (refined and updated)

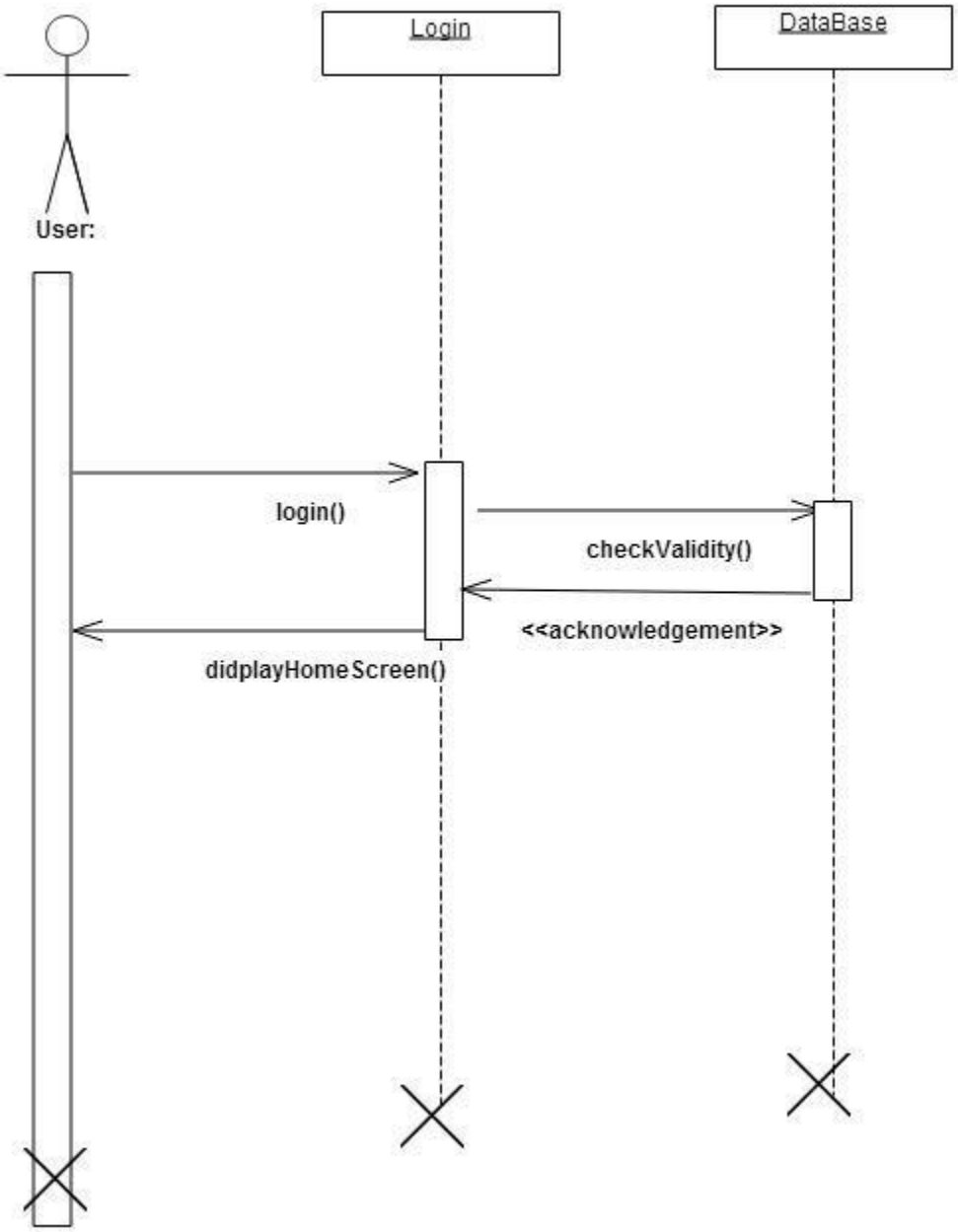


## *4.4 Sequence Diagram*

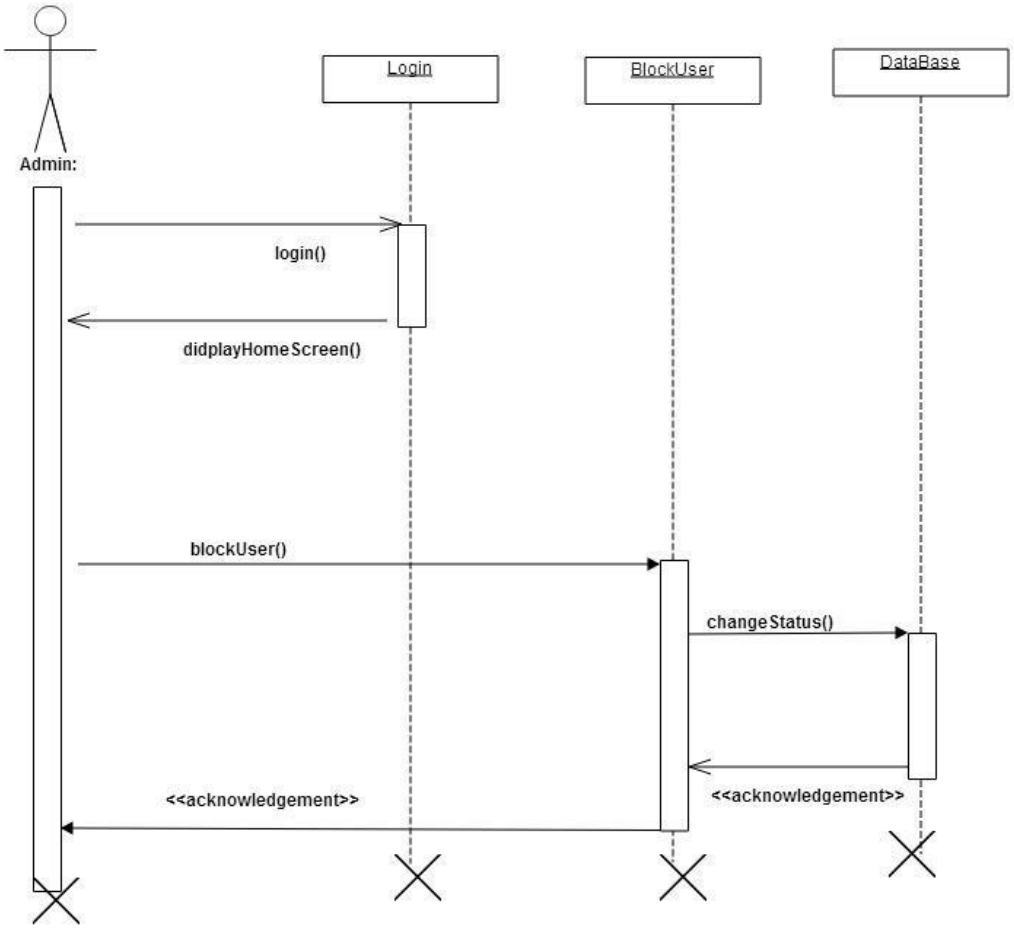
StartApp:-



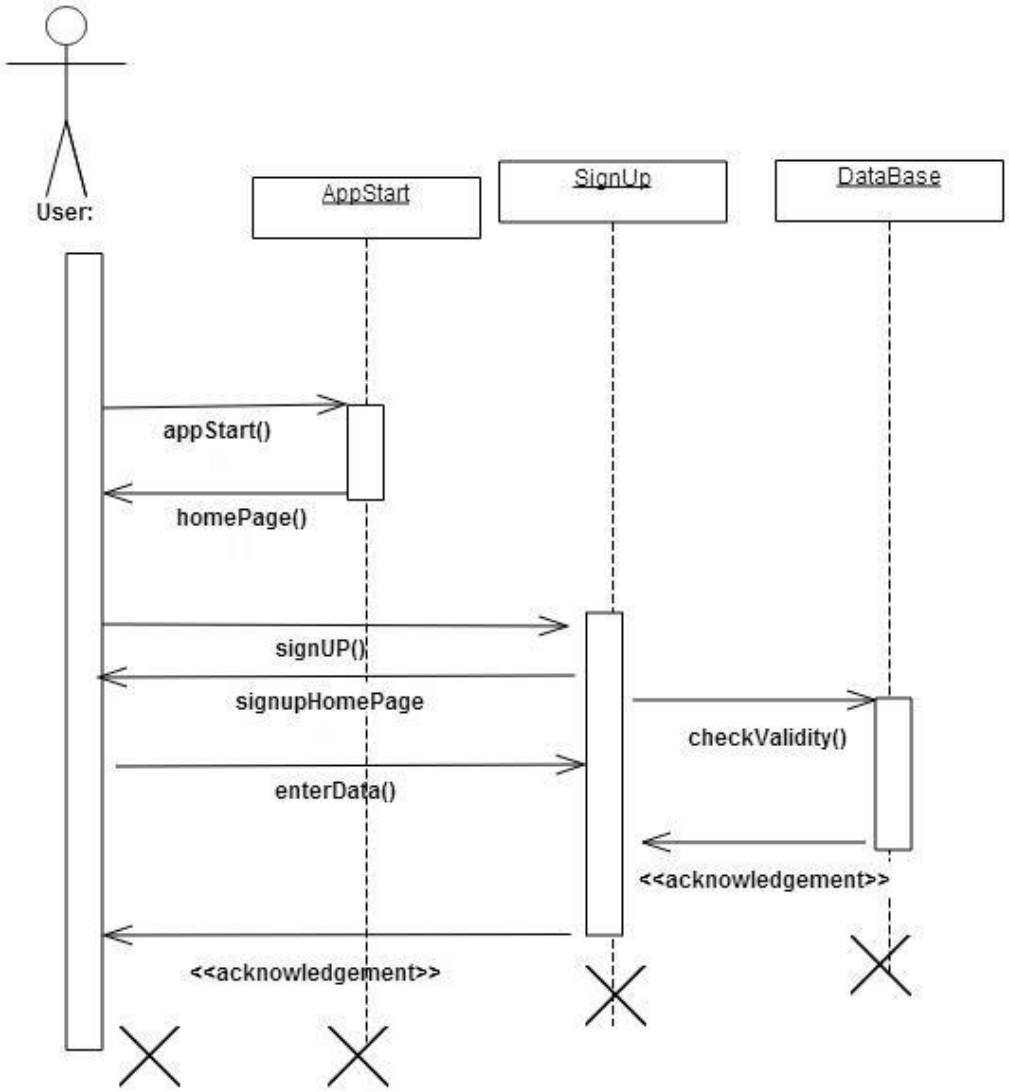
Login:-


Login
DataBase
User:
login()
checkValidity()
<<acknowledgement>>
didplayHomeScreen()

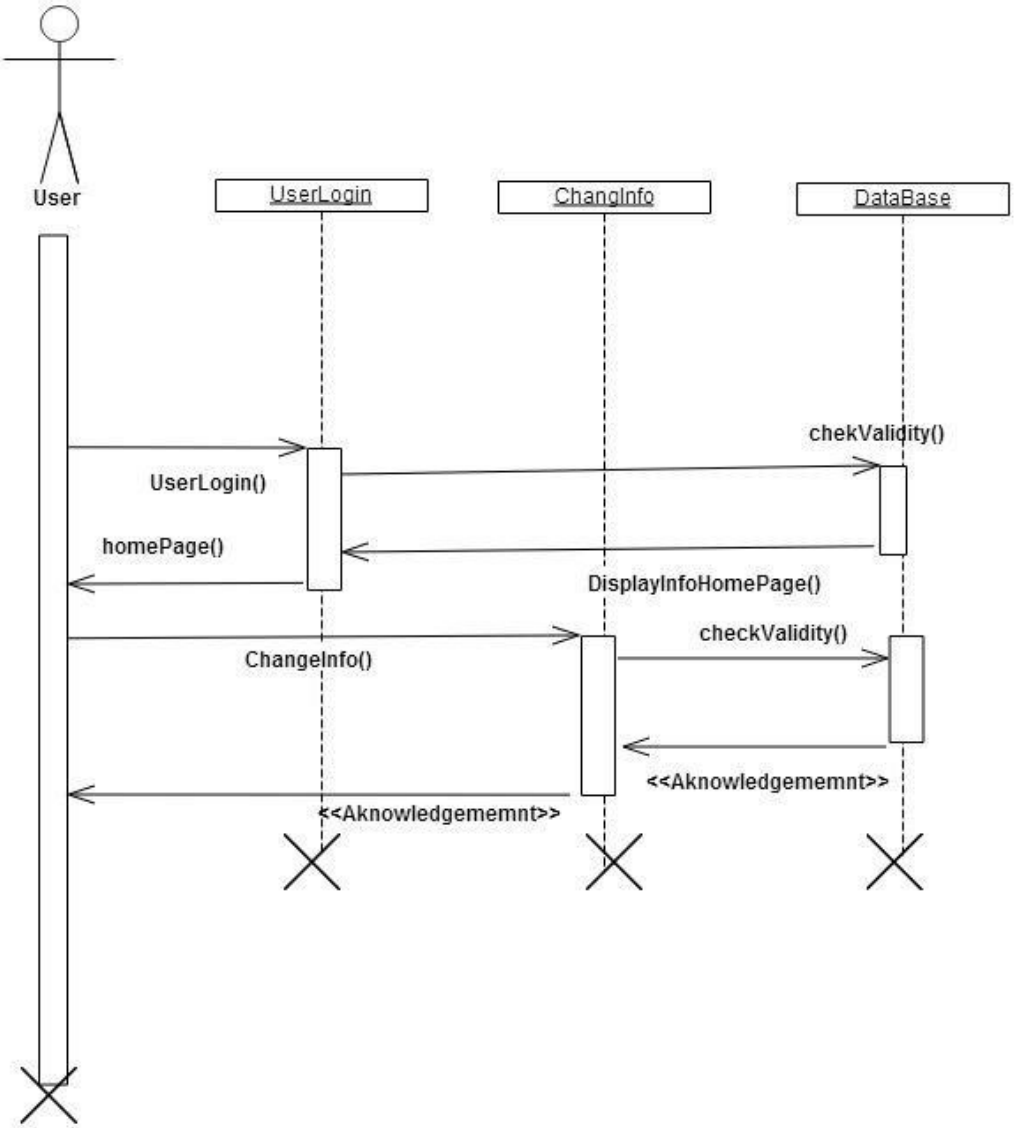
BlockUser:-


Admin:
Login
BlockUser
DataBase
login()
didplayHomeScreen()
blockUser()
changeStatus()
<<acknowledgement>>
<<acknowledgement>>

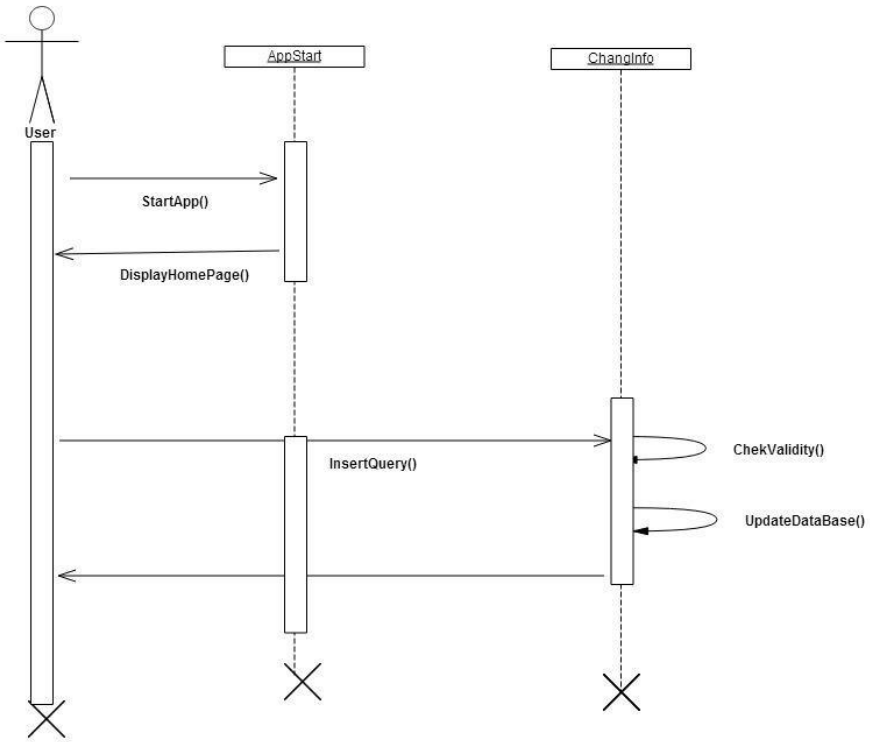
SignUp:-


User:
AppStart
SignUp
DataBase
appStart()
homePage()
signUP()
signupHomePage
checkValidity()
enterData()
<<acknowledgement>>
<<acknowledgement>>

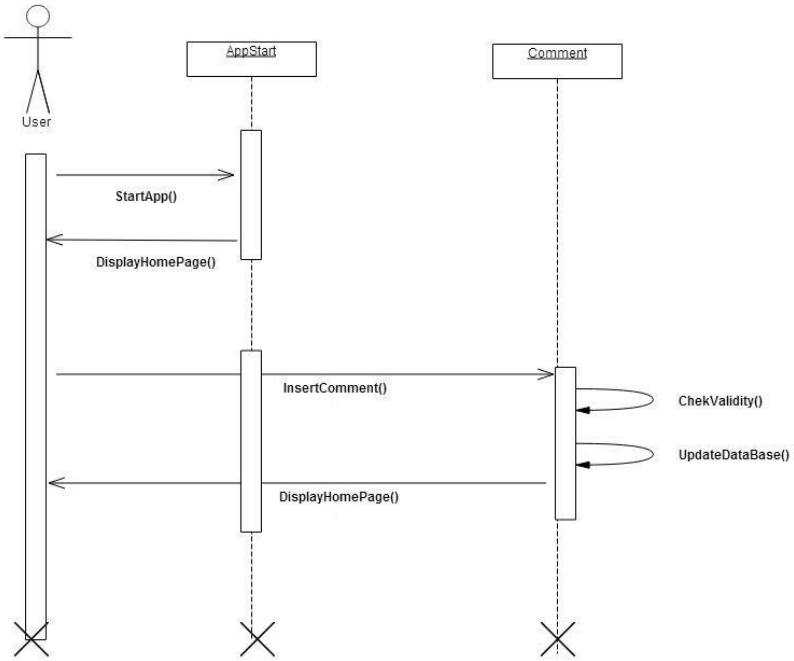
ChangInfo :-


User
UserLogin
ChangInfo
DataBase
chekValidity()
UserLogin()
homePage()
DisplayInfoHomePage()
checkValidity()
ChangeInfo()
<<Aknowledgememnt>>
<<Aknowledgememnt>>

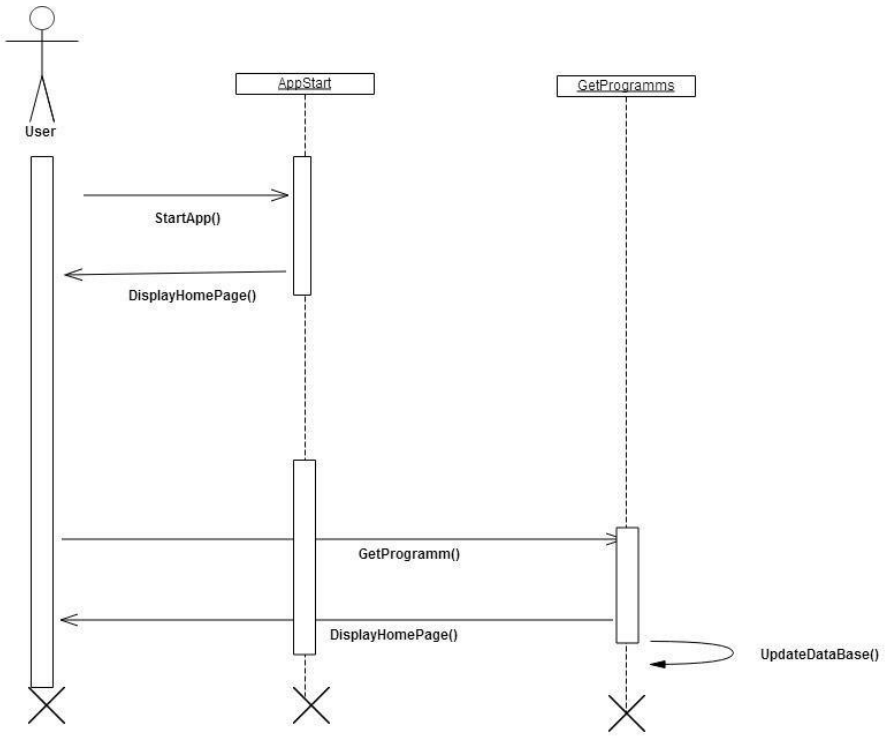
InsertQuery:-



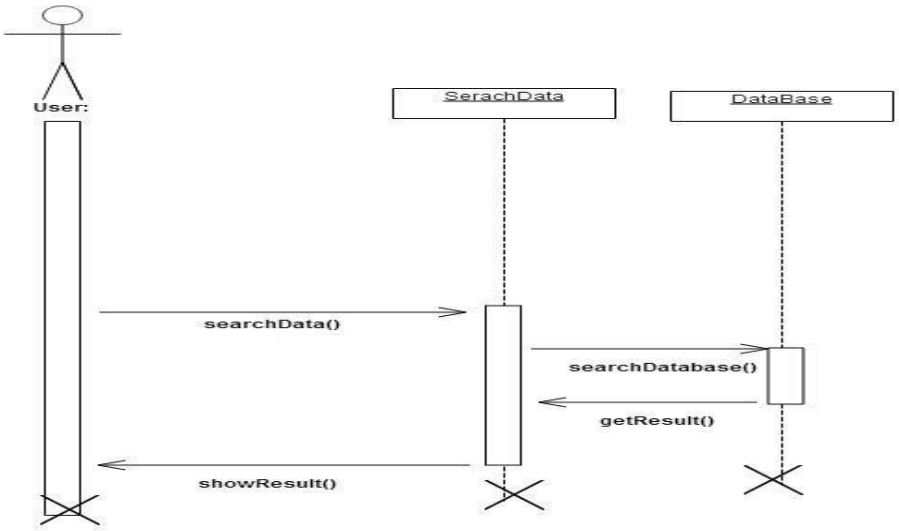

comment:-



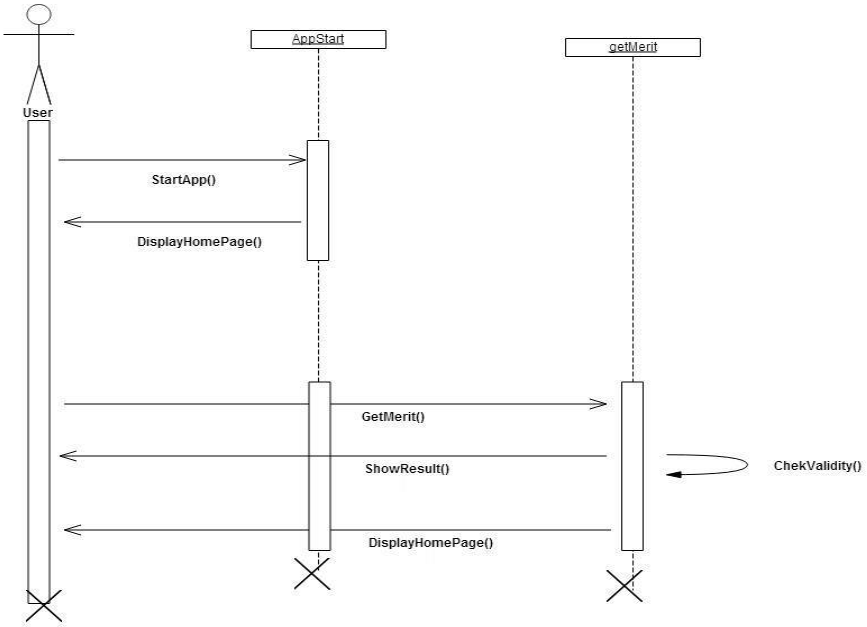
GetProgram:-



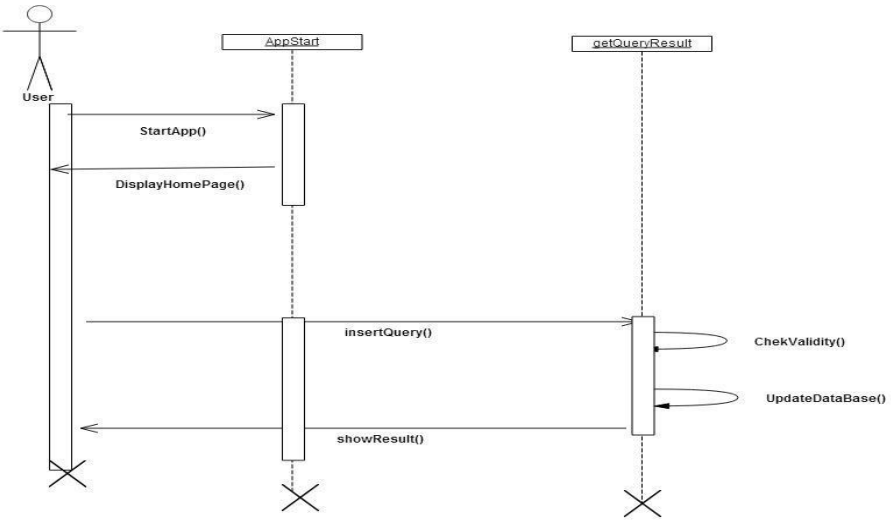

Search:-



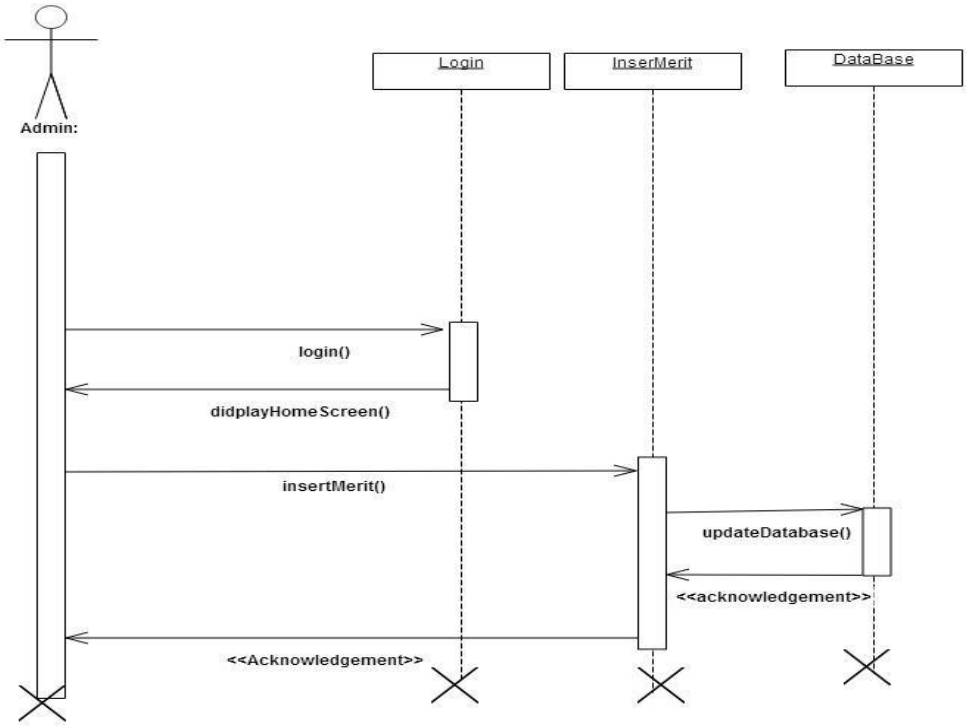
GetMerit:-



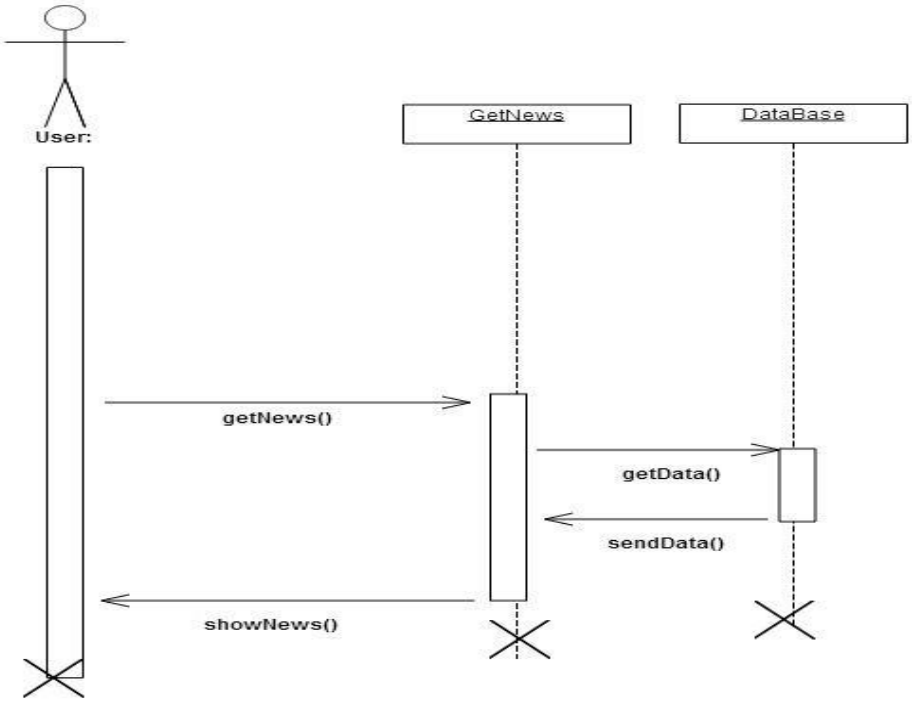

GetQueryResult:-



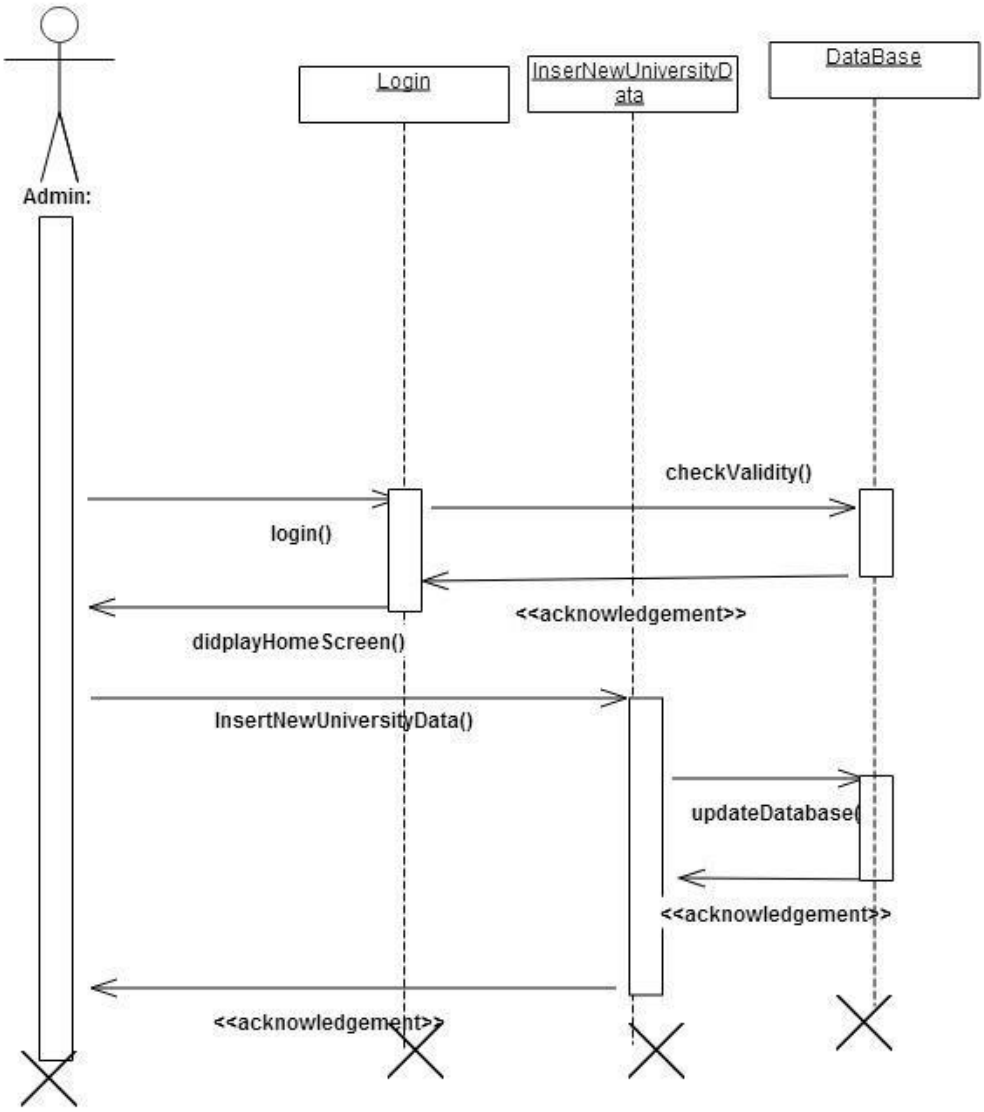

InsertMerit:-


Admin:
Login
InserMerit
DataBase
login()
didplayHomeScreen()
insertMerit()
updateDatabase()
<<acknowledgement>>
<<Acknowledgement>>

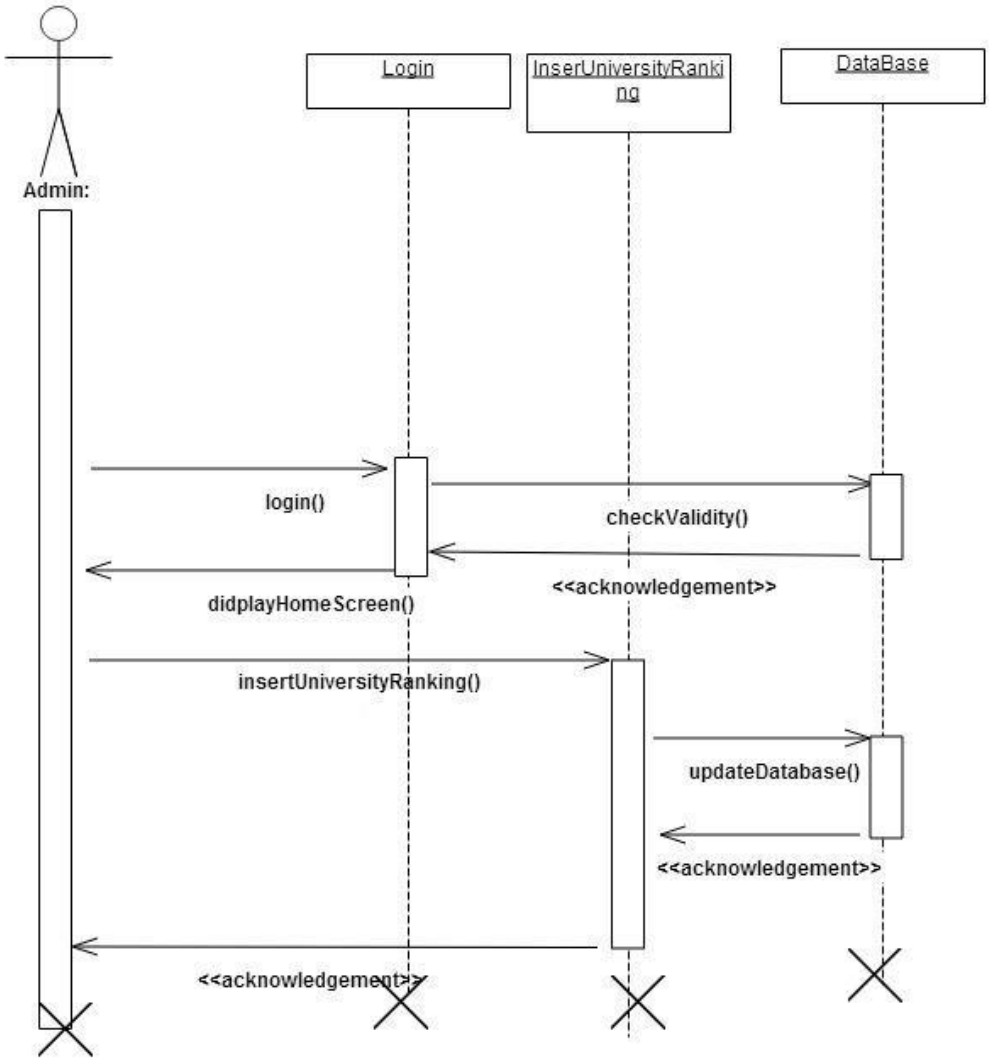
GetNews:-


User:
GetNews
DataBase
getNews()
getData()
sendData()
showNews()

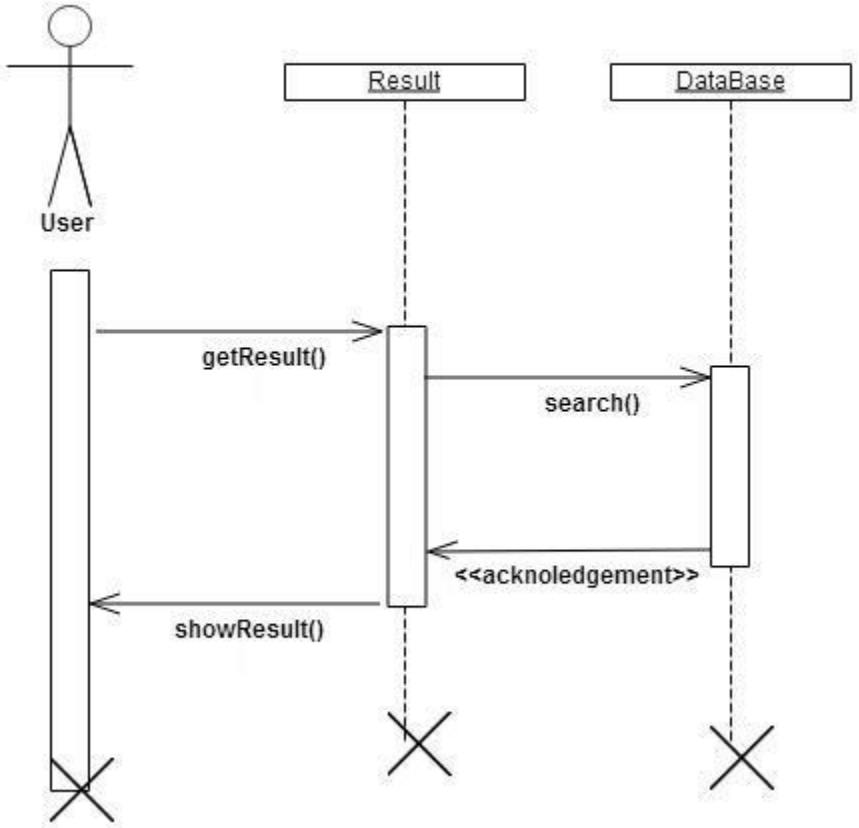
InsertNewUniversityData:-



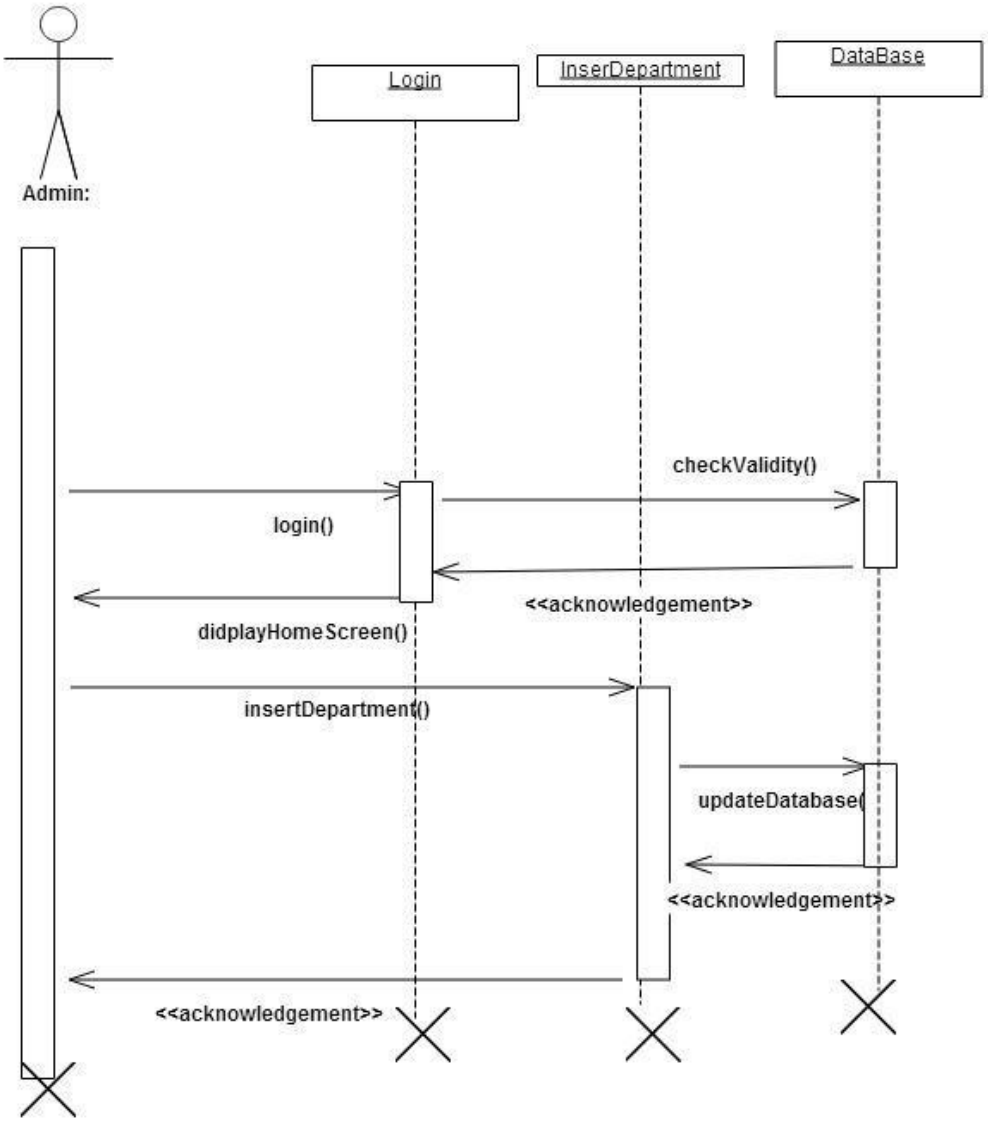
InsertUniversityRanking:-



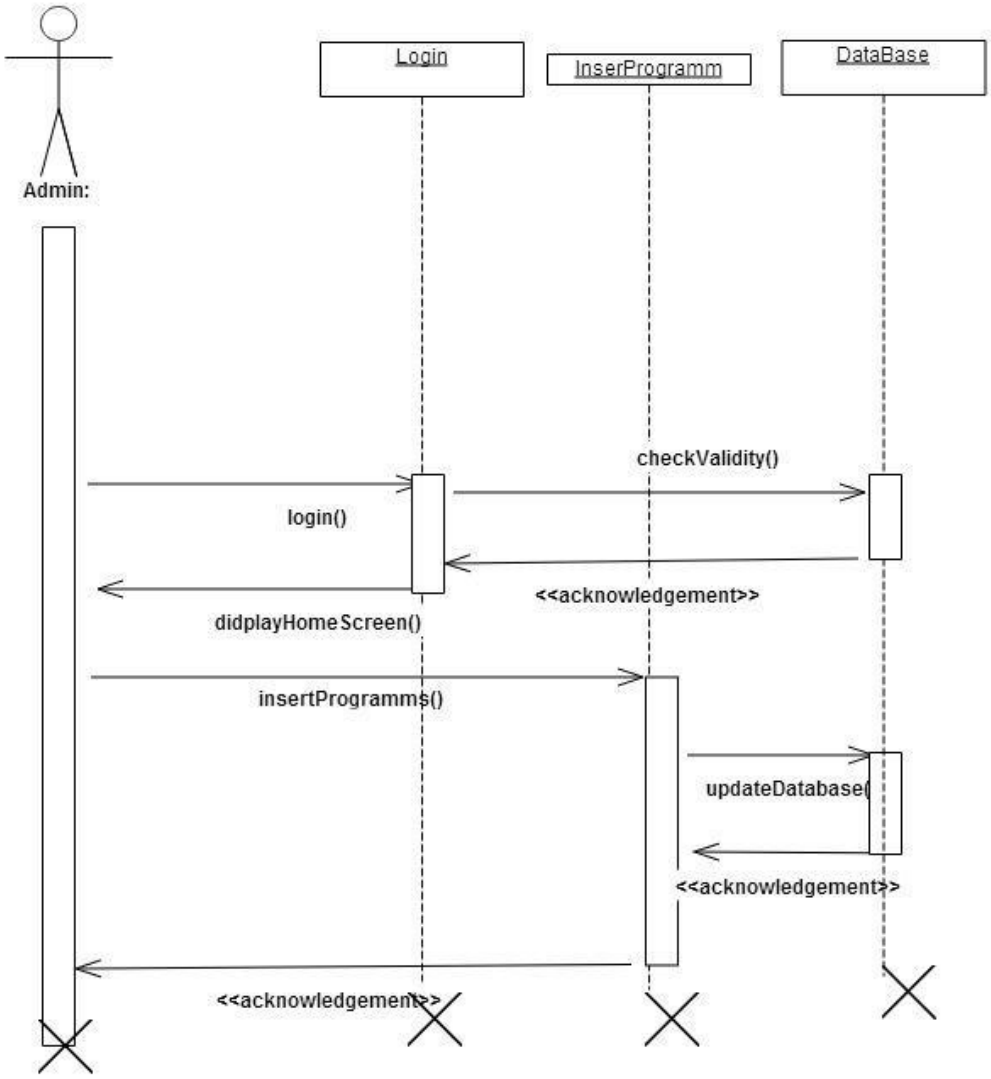
GetResults:-


User
Result
DataBase
getResult()
search()
<<acknoledgement>>
showResult()

InsertDepartment:-

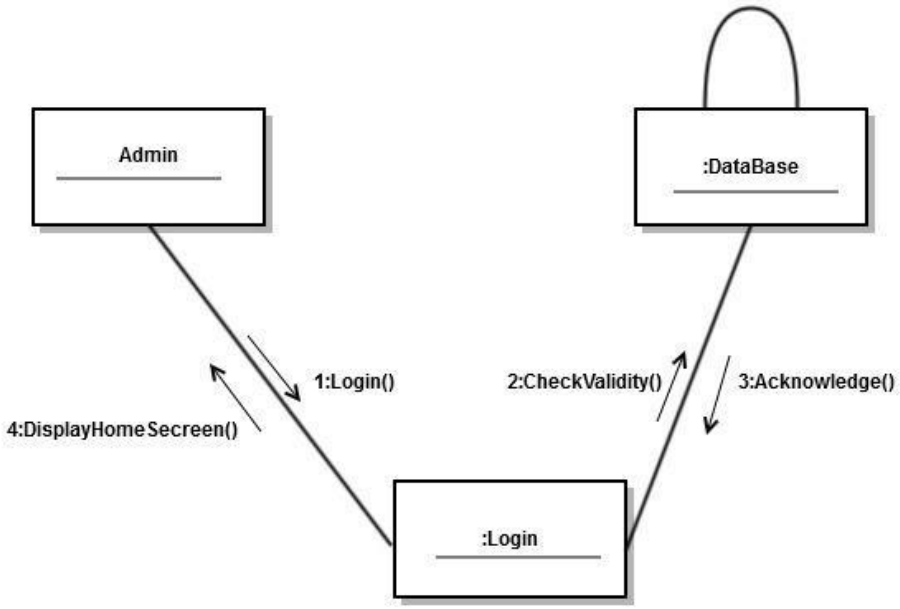


InsertProgramms:-

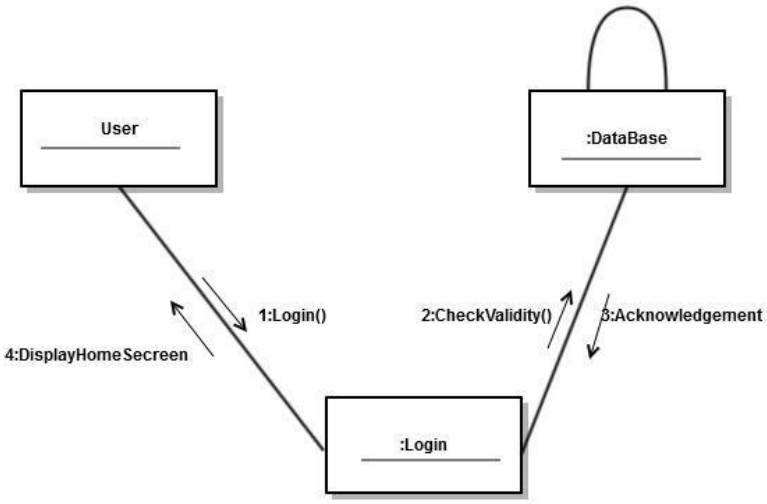


## *4.5 Collaboration Diagram*

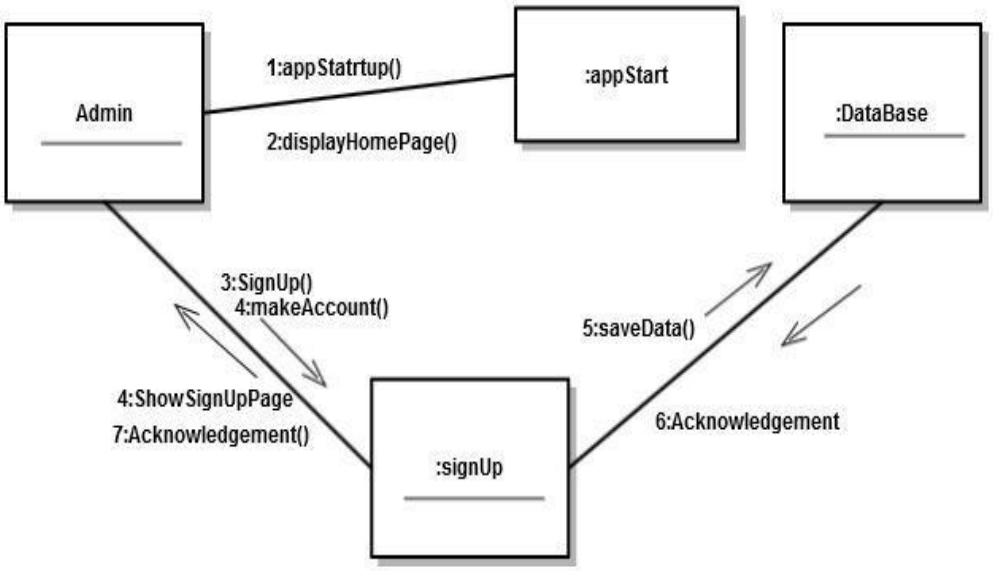
### AdminLogin



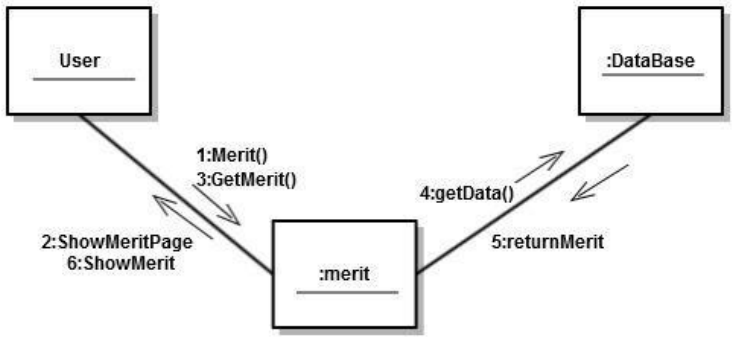

### UserLogin



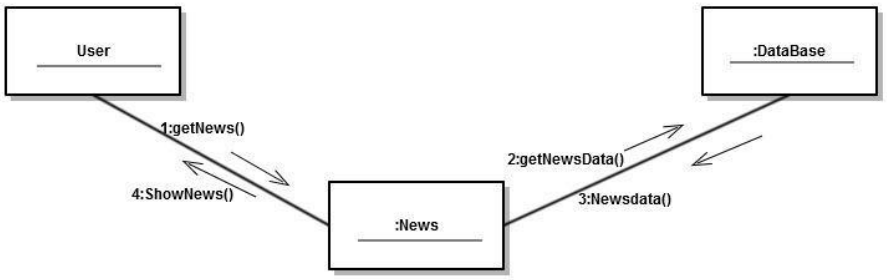
## SignUp



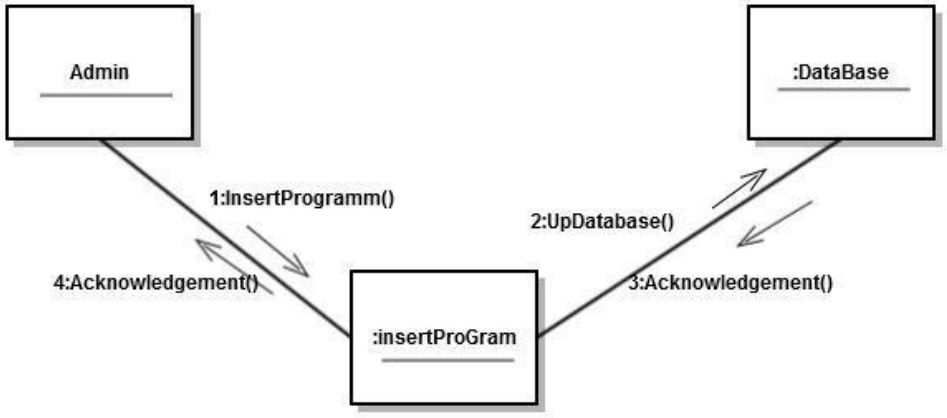

## getMerit



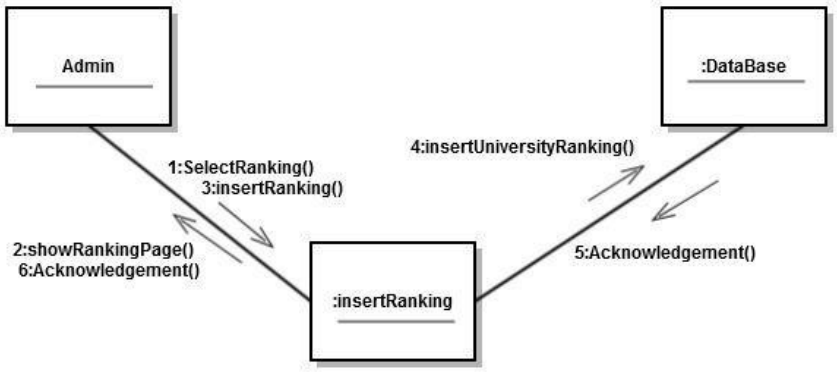
**getNews**



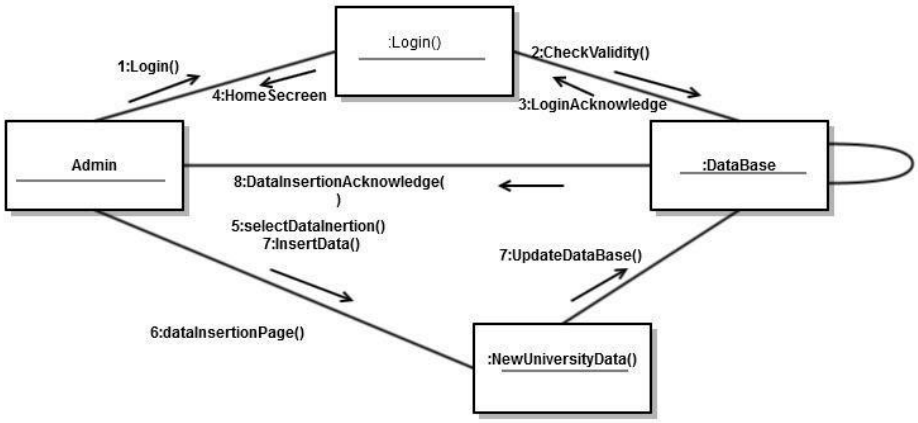

***insertProgram***



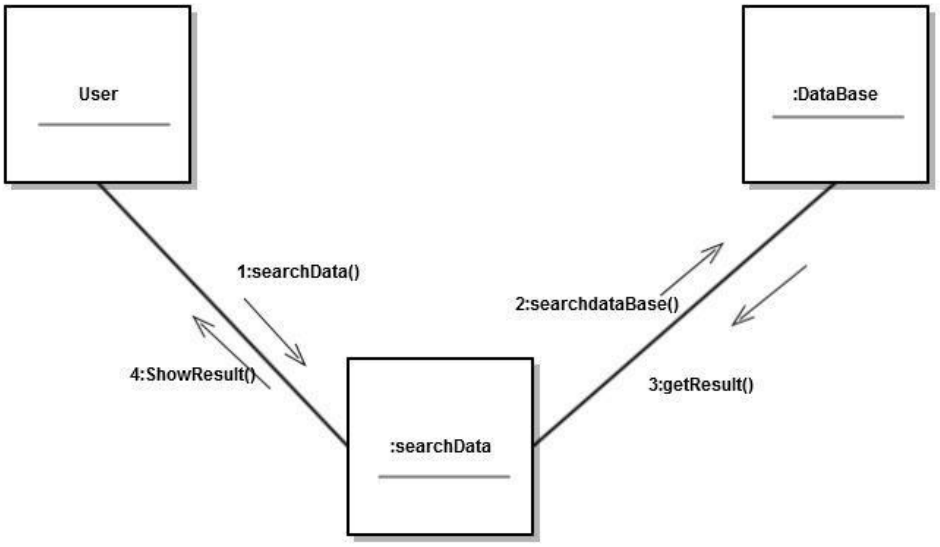

**insertUniversityRanking**



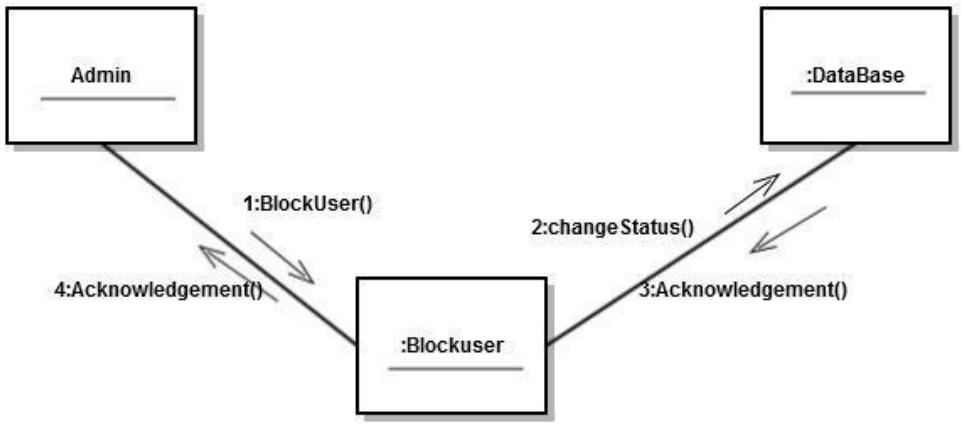

## insertNewUniversityData



## Search




## *BlockUser*



## *4.6 Operation Contracts*

**Operation name:**

Startup ()

**Responsibilities of function:**

This function will start the webserver.

**Cross References:**

Startup

**Exceptions:**

Server too busy could not be started.

**Preconditions:**

The Code of website must be present at webserver.

**Post conditions:**

Server is started.

**Operation name:**

Login (string username, string password)

**Responsibilities of function:**

This function will display take username and password and logged in the user.

**Cross References:**

Login

**Exceptions:**

Database stop responding.

**Preconditions:**

- Website should be opened.
- Login screen is displayed to the user.

**Post conditions:**

- User will logged in
-

**Operation name:**

Insert Data (string university, string departments, string program, string merit, string ranking)

**Responsibilities of function:**

This function will insert the data of new university into the database.

**Cross References:**

Login

## Exceptions:

Database stops responding.

## Preconditions:

- Website should be opened.
- Admin should be logged in.

## Post conditions:

- Data Inserted Successfully.

## Operation name:

Signup (string name, string password, long cell No, string email ID, string country)

## Responsibilities of function:

Take info from user and register him on website with the help of database.

## Cross References:

Register

## Preconditions:

- Website should be opened. **Post conditions:**
- User is registered onto our website.
-

## Operation name:

Showuniversitydetail (string uniname)

## Responsibilities of function:

This function will show all the details of university.

## Cross References:

Nil.

## Exceptions:

Database stops responding.

## Preconditions:

- Website should be opened.

## Post conditions:

- Details Shown to user.

## Operation name:

Post comment (string text, string type)

## Responsibilities of function:

This function will post comment on our website and insert the comment posted into database according to the category selected by user.

### Cross References:

Comment

### Exceptions:

Database is not responding.

### Preconditions:

- Website should be opened.
- User should be logged in.

### Post conditions:

- Comment will be posted.

## Operation name:

Query (string query)

### Responsibilities of function:

This function will take query from user and return the result regarding this query.

### Cross References:

Insert query

### Exceptions:

none

### Preconditions:

- Website should be opened.

### Post conditions:

- Results regarding query will be returned.

## Operation name:

News ()

### Responsibilities of function:

This function will display the news and update the news on our website.

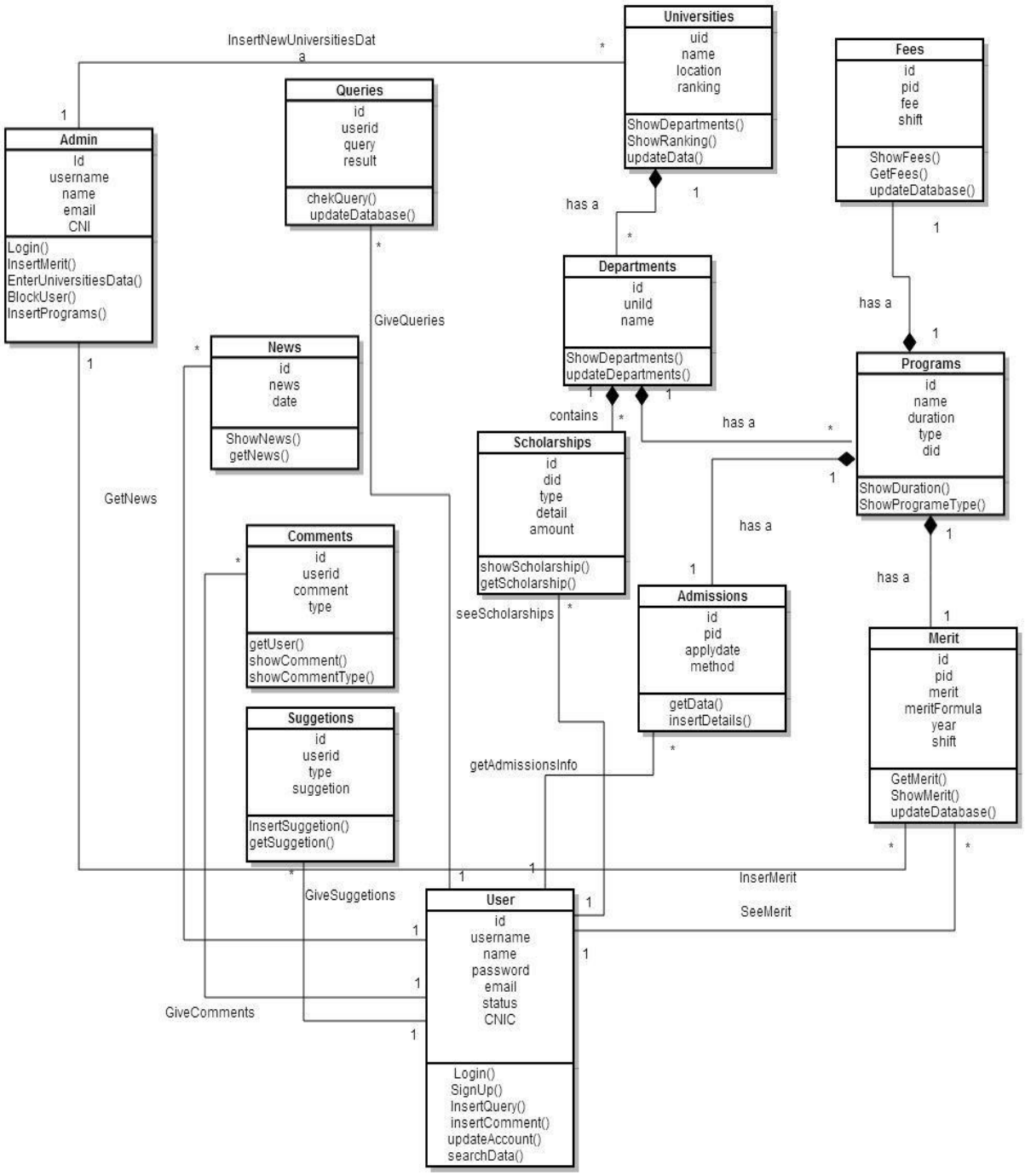
### Preconditions:

- Website should be opened.

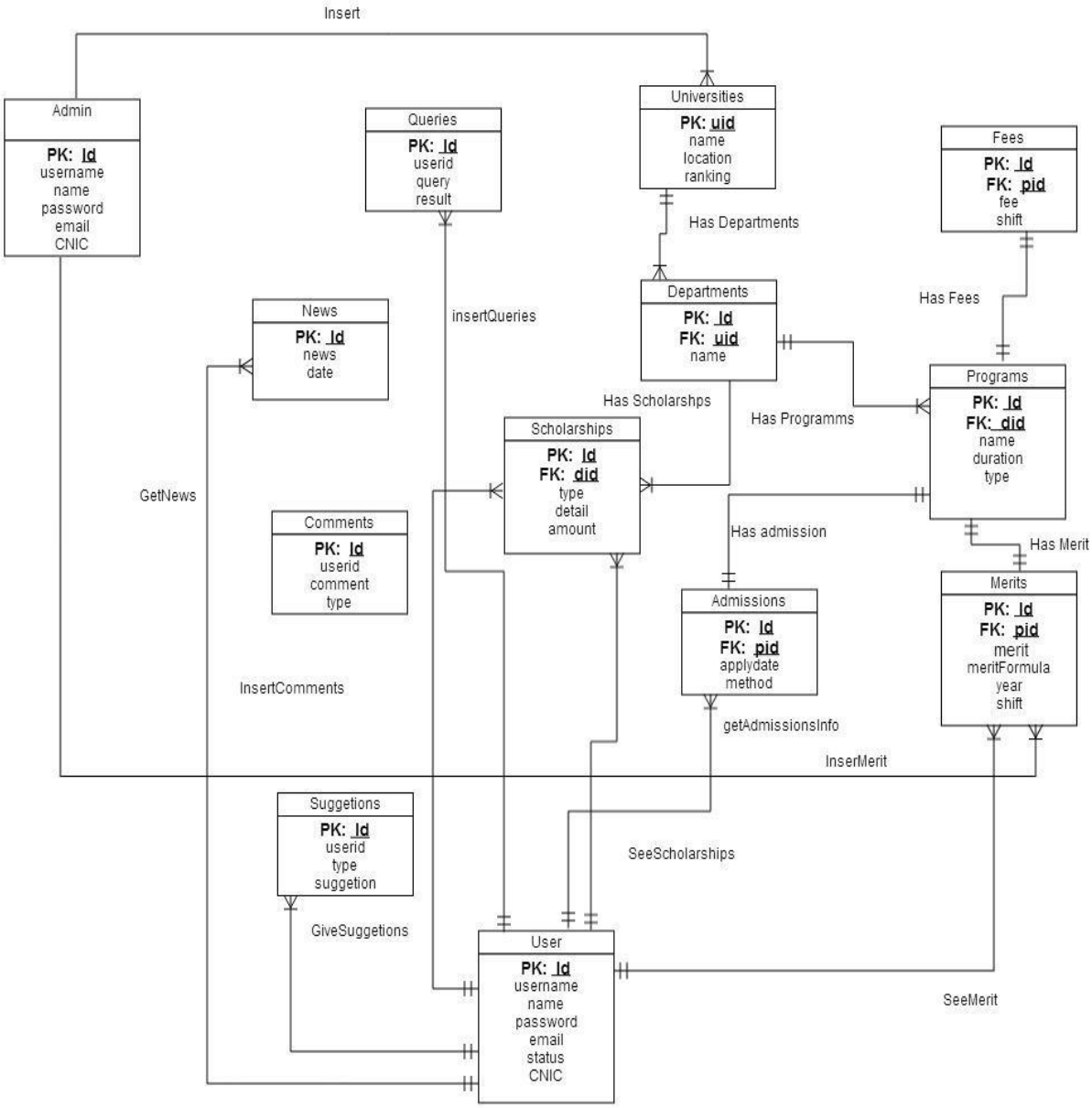
### post conditions:

- News will be shown to user.

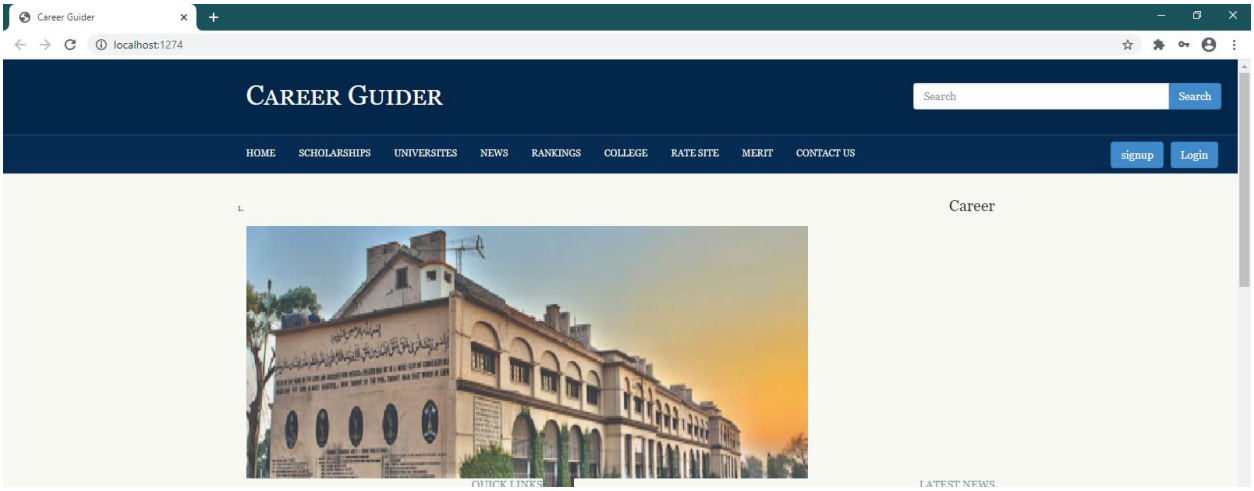
## 4.7 Design Class Diagram

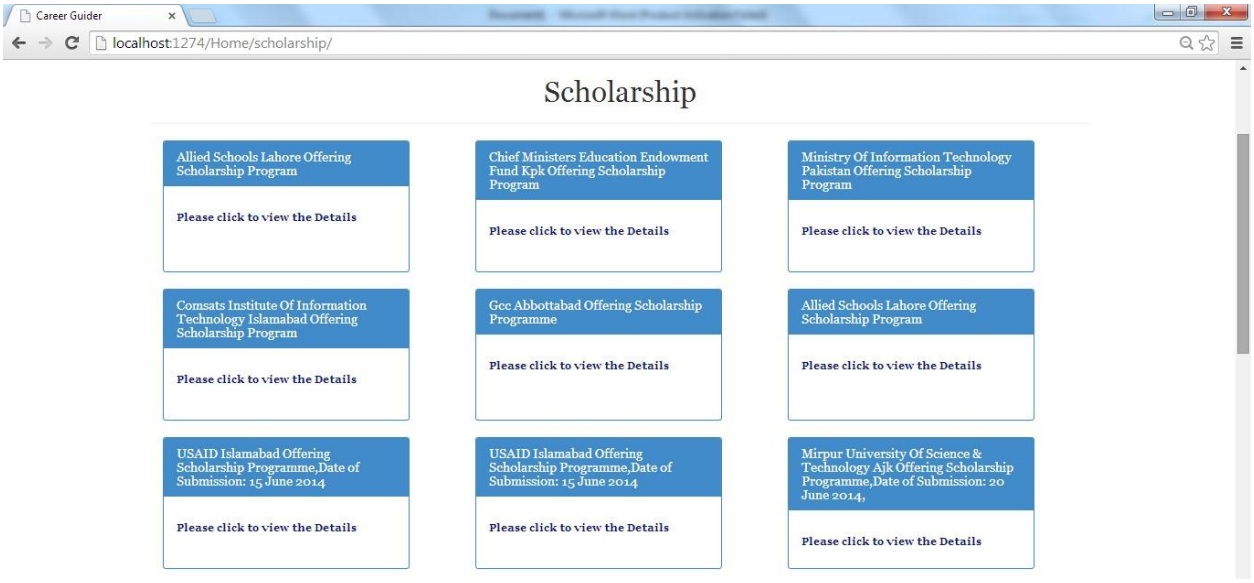


## *4.8 Data Model*

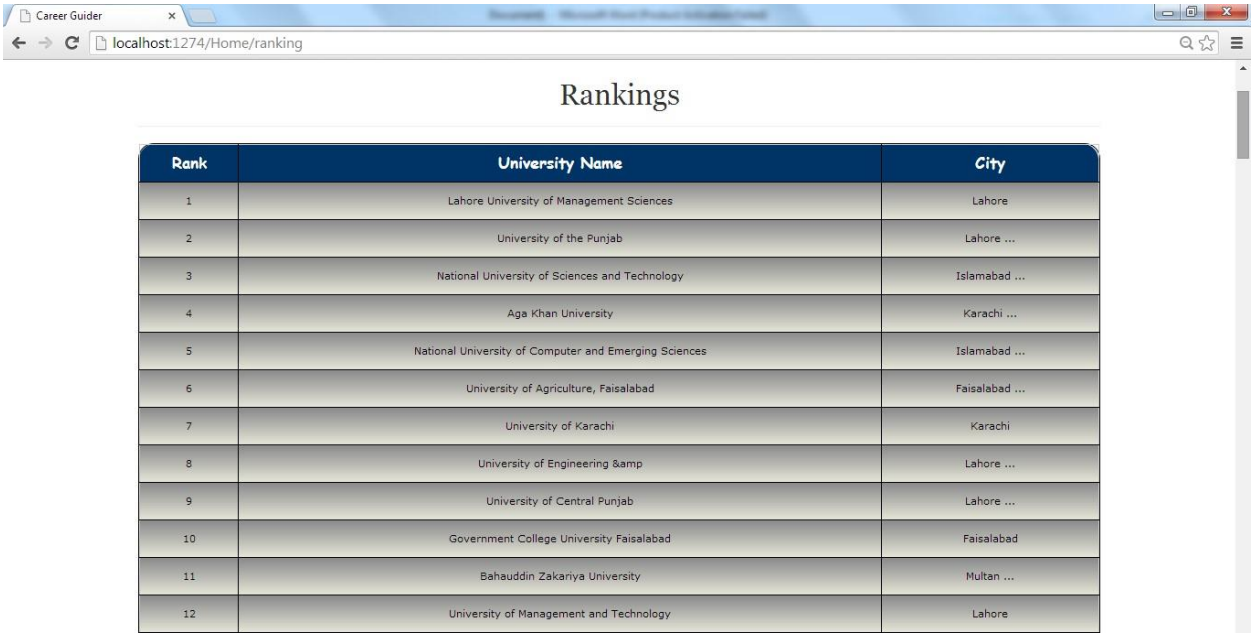


# 5 *Screen Shorts*

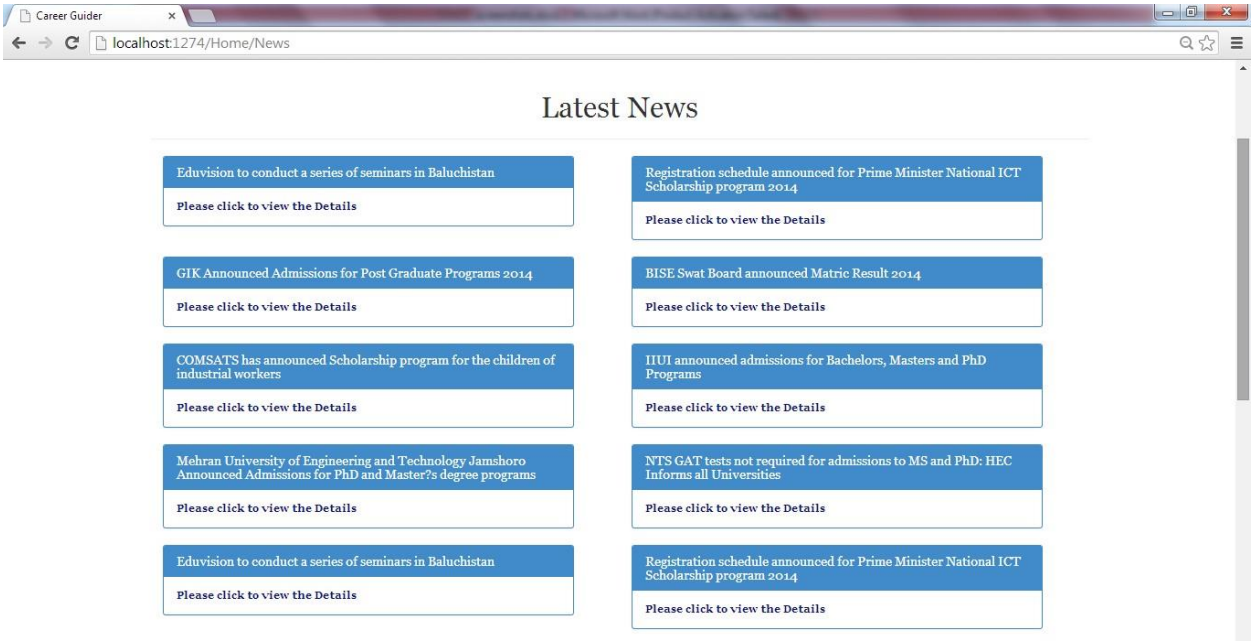


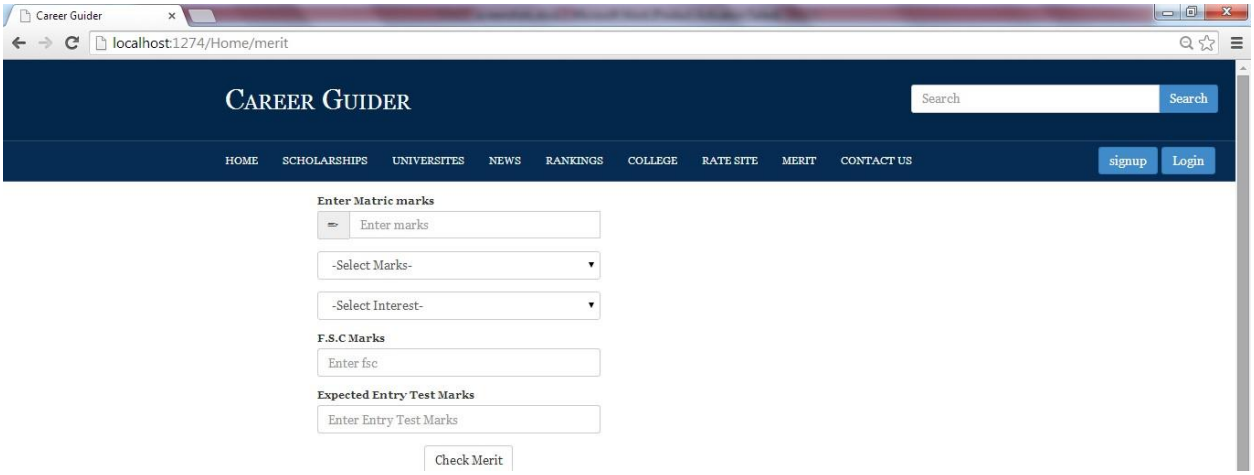



# National University of Science and Technology




| Rank | University Name | City |
|---|---|---|
| 1 | Lahore University of Management Sciences | Lahore |
| 2 | University of the Punjab | Lahore ... |
| 3 | National University of Sciences and Technology | Islamabad ... |
| 4 | Aga Khan University | Karachi ... |
| 5 | National University of Computer and Emerging Sciences | Islamabad ... |
| 6 | University of Agriculture, Faisalabad | Faisalabad ... |
| 7 | University of Karachi | Karachi |
| 8 | University of Engineering &amp | Lahore ... |
| 9 | University of Central Punjab | Lahore ... |
| 10 | Government College University Faisalabad | Faisalabad |
| 11 | Bahauddin Zakariya University | Multan ... |
| 12 | University of Management and Technology | Lahore |




Career Guider
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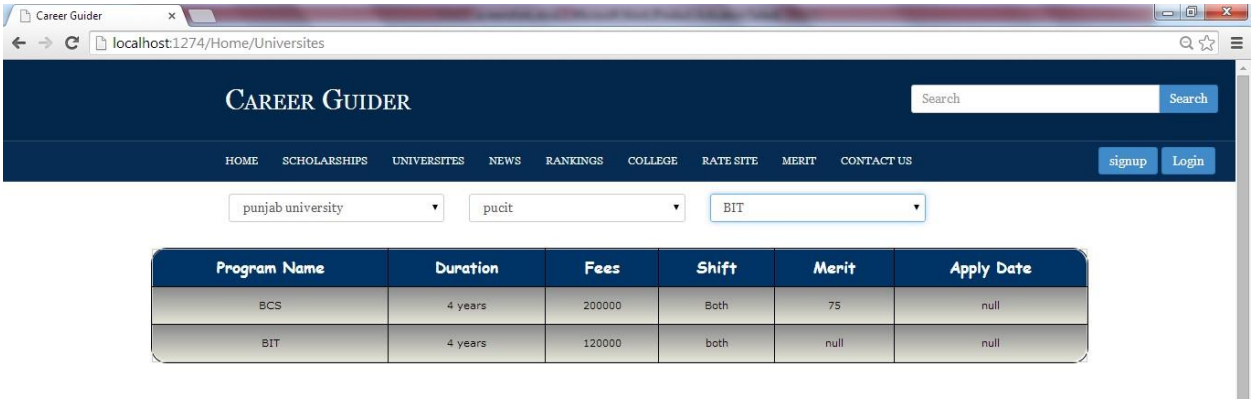
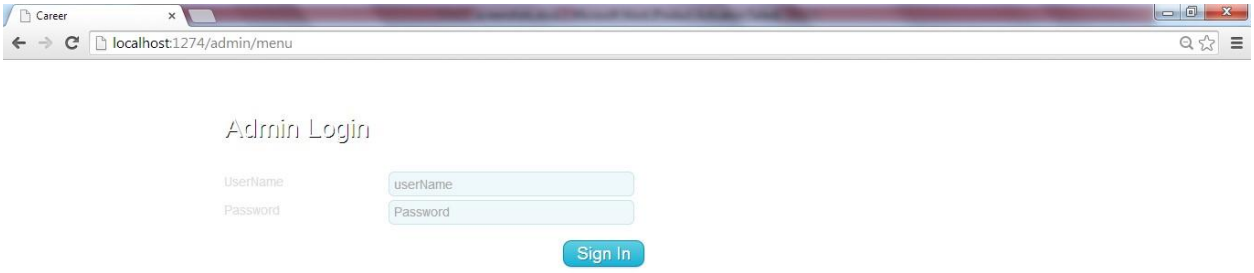
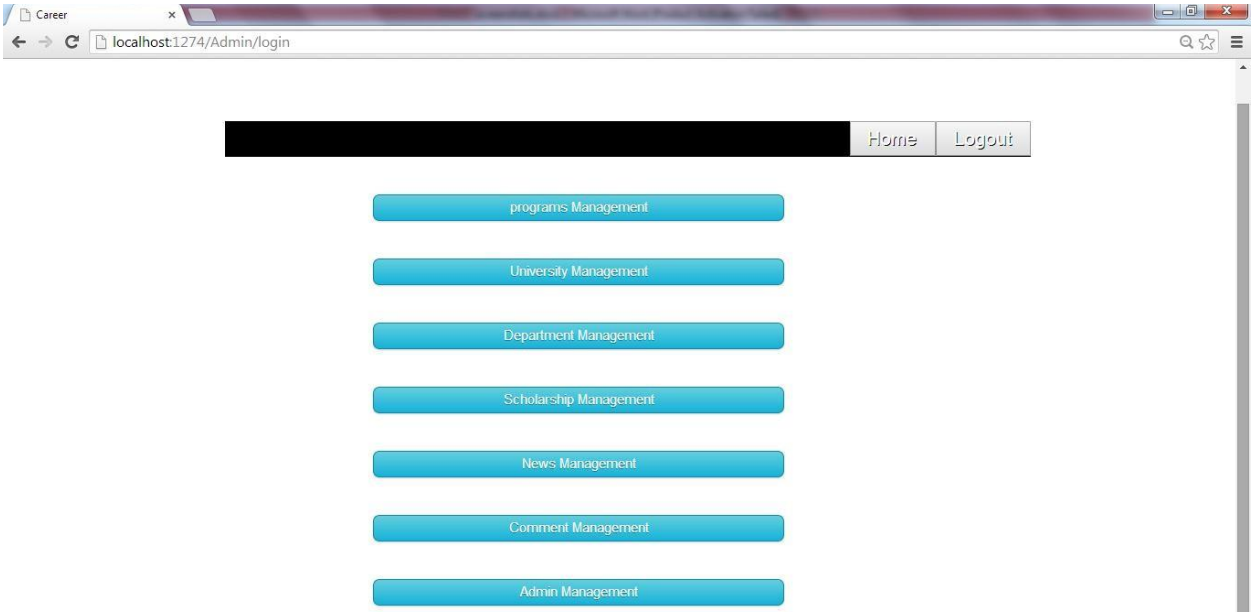
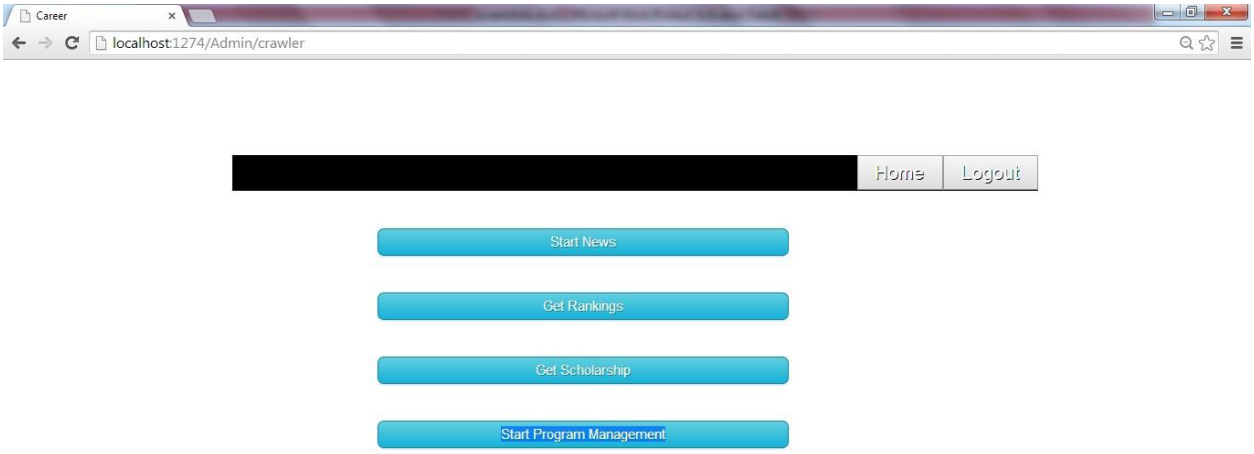
CAREER GUIDER
Search
Search
HOME
SCHOLARSHIPS
UNIVERSITES
NEWS
RANKINGS
COLLEGE
RATE SITE
MERIT
CONTACT US
signup
Login
Enter Matric marks
Enter marks
-Select Marks-
-Select Interest-
F.S.C Marks
Enter fsc
Expected Entry Test Marks
Enter Entry Test Marks
Check Merit

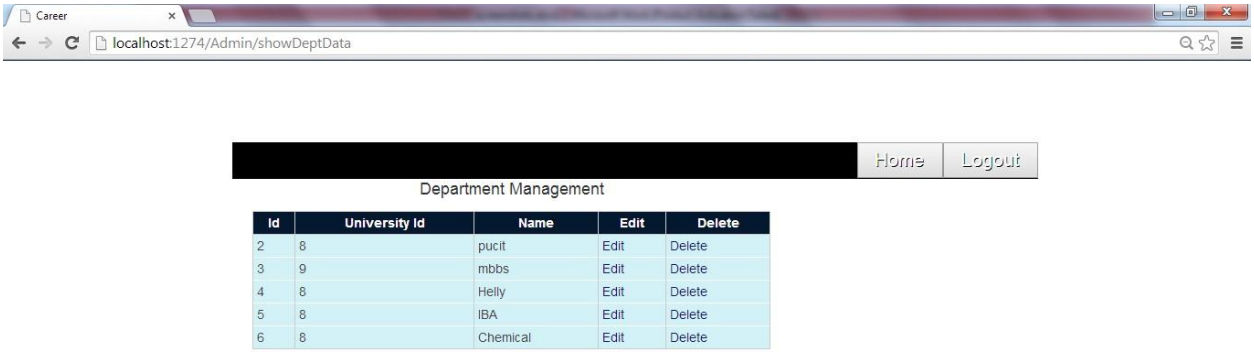

Career Guider
localhost:1274/Home/Universites
CAREER GUIDER
Search
Search
HOME
SCHOLARSHIPS
UNIVERSITES
NEWS
RANKINGS
COLLEGE
RATE SITE
MERIT
CONTACT US
signup
Login
punjab university
pucit
BIT
Program Name
Duration
Fees
Shift
Merit
Apply Date
BCS
4 years
200000
Both
75
null
BIT
4 years
120000
both
null
null


Career
localhost:1274/admin/menu
Admin Login
UserName
userName
Password
Password
Sign In


Career
localhost:1274/Admin/login
Home
Logout
programs Management
University Management
Department Management
Scholarship Management
News Management
Comment Management
Admin Management


Career
localhost:1274/Admin/crawler
Home
Logout
Start News
Get Rankings
Get Scholarship
Start Program Management

V


Career
localhost:1274/Admin/showDeptData
Home
Logout
Department Management
Id
University Id
Name
Edit
Delete
2 8 pucit Edit Delete
3 9 mbbs Edit Delete
4 8 Helly Edit Delete
5 8 IBA Edit Delete
6 8 Chemical Edit Delete