**Find My Tutor**

**Project Report**

**UCS503 Software Engineering**

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**BE Third Year, COE**

**Group No. 3COE27**

**Submitted To :- Nitigya Sambyal**

**Computer Science And Engineering Department**



**TIET, PATIALA**

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**Software Bid / Project Teams**

**UCS503 - Software Engineering**

Group:COE27

Dated: 29/08/2023

**Team Name: TRIO – CODER**

**Team ID (will be assigned by Instructor):**

Please enter the names of your Preferred Team Members. :

AKSHITA MUNJAL 102103752

RAJAT KALIA 102103756

PRABHMEET KAUR KALRA 102103785

* You are required to form **a three to four person** teams
* Choose your team members wisely. You will not be allowed to change teams.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Roll No | Project Experience | Programming  Language used | Signature |
| AKSHITA | 102103752 | 1)IMAGE WATERMARKING | PYTHON | Akshita |
| MUNJAL |  | (AI project which uses | HTML |  |
|  |  | DCT-based watermarking to | JS |  |
|  |  | embed images.) | CSS |  |
|  |  | 2) WEATHER APP(A Weather | C++ |  |
|  |  | app made using Python by | REACTJS |  |
|  |  | fetching data from weather API.) |  |  |
| RAJAT KALIA | 102103756 | 1. AIRPORT DATABASE MANAGEMENT SYSTEM 2. REAL ESTATE PRICE PREDICTION( using Machine Learning and Deep Learning) | C++ PYTHON SQL HTML CSS | Rajat |
| PRABHMEET KAUR KALRA | 102103785 | 1. E-COMMERCE WEBSITE ( A website that allows people to buy and sell physical goods, services, and digital products   over the internet. )   1. CAR SHOWROOM MANAGEMENT SYSTEM (using SQL) | C++ PYTHON HTML REACTJS NODEJS MONGODB SQL | Prabhmeet |

**Programming Language / Environment Experience:-**

List the languages you are most comfortable developing in, as a team, in your order of preference. Many of the projects involve Java or C/C++ programming.

1.C++

2.PYTHON

3.HTML

4.CSS

5.JS

6.REACTJS

7.SQL

**Choices of Projects:**

Please select **4 projects** your team would like to work on, by order of preference: *[Write at least one paragraph for each choice (motivation, reason for choice, feasibility analysis, etc.)]*

|  |  |
| --- | --- |
| **First Choice** | **FIND MY TUTOR** – This project aims at demonopolizing the education sector and reducing the dependency on word of mouth for searching tuition for school kids by making available a list of all nearby tutors with their experience and relevant details mentioned. |
| **Second Choice** | **THAPAR’s YOUTUBE** – A single platform that contains all the video lectures of courses, society videos, campus tours, sessions of orientations, celebrations of  days like Independence Day etc. |
| **Third Choice** | **PRICE COMPARISON WEBSITE FOR ONLINE SHOPPING** –  Building a system that scans shopping sites for current rates as with multiple shopping sites price comparison can save a lot of money for consumers and comparison on so many websites before buy is cumbersome and not possible |
| **Fourth Choice** | **EMOTION DETECTION FROM TEXT** –A system that can detect emotions expressed in text, such as joy, anger, sadness, sarcasm etc. This application could be used in social media analysis or customer feedback processing. |

1. **Introduction –**
   1. **Purpose:**

The purpose of Find My Tutor is to provide the needful with a software that helps them find able and willing teachers in their respective areas.

* 1. **Product Scope:**

Main users are broadly divided into 2 categories:

1. Teachers
2. Students

There will be a teacher profile describing the subjects taught by the teacher, student reviews of the teacher, availability of the teacher and the achievements of the teacher. Teachers will be able to log into their respective accounts and update heir profile and change the availability of their batches when required.

Students will be able to log in to their accounts and change their subject preferences and select the teacher based on their reviews and availability. There is a wide spectrum of possibilities applicable to this project which can be implemented depending on the availability of time and resources in the future to expand its scope and integrate more subtle features to add functionality and ease-of-use to make it a one stop destination for students and teachers such as:-

1. Auto recommending the best teachers to the students using Machine Learning.
2. Allowing teachers to upload their teaching content on the website as a part of online learning.

Education sector is very unorganized and the demand is ever-increasing and there is a demand of web-apps so, this project has a bright future.

* 1. **References:**

1. <https://en.wikipedia.org/wiki/Software_engineering>
2. <http://www.slideshare.net/udaschand940/software-requirementspecification-srs2>
3. [https://www.geeksforgeeks.org/software-requirement-specification-srs-format/](http://www.geeksforgeeks.org/software-requirement-specification-srs-format/)
4. **Overall Description –**
   1. **Product Perspective:**

Find My Tutor is a solution for the current educationalsituation, aimed at leveling the playing field in the independent education sector, which has currently been monopolized by edu-tech giants. These firms charge exorbitant fees, which gives a majority of students a disadvantage, due to lack of wealth.

We aim at giving these students a chance at getting a proper education, to achieve their dreams.

There are two sides to each coin, there are many able teachers who are not associated with any of these firms, the only way by which they can promote themselves is by word of mouth, which is not desirable.

Such teachers, through our app, can get a chance to promote and marketthemselves, using the inbuilt features like student ratings.

* 1. **Product Function:**
     + Personal account creation and login for students and teachers.
     + Student’s account will allow them to select the subjects that interest them.
     + Teacher’s accounts will allow them to receive requests from students, after accepting which, they would share their contact details and fee details with the students.
     + Map based search :-

1. To help students search for available teachers in their area, who teach the subjects that interest the students. The students can then send requests to the teachers following which they could communicate.
2. To help teachers search for needy students in their area.
   * + Ratings :-
3. Students will rate their teachers based on their experiences.
4. Feedback section from students to the teachers (Anonymous feature).
   * + Help page :- To provide a guide to the website, for the needful.
     + Contact Us and Feedback system :-

All users will be able to contact the Find-My-Tutor team, for reporting issues that they might face while using the app.

The feedback system will enable them to give suggestions and reviews, which are of utmost importance.

* 1. **User Classes and Characteristics:**

1. Students :-
   * They would be the most frequent users, they would use the search function to find available teachers in their areas.
   * After finding the suitable teachers, they would be able to send requests to the said teacher, to which the teacher would reply based on their availability and preferences.
   * They would be able to rate their teachers.
   * ChatBox system to interact with other students and teachers.
   * Contact us and Feedback systems
2. Teachers :-
   * Teachers would be able to check their inboxes for student requests
   * ChatBox would be enabled to interact with other teachers and students
   * Rating system for any suggested improvements
   * Contact us and Feedback systems
   1. **Design and Implementation Constraints:**
3. Many of our potential users might not be familiar with high-end technologies, so this website must be as simple to use and navigate through as possible. The help page and contact us feature would allow us to interact with the users that face issues.
4. For the search function, we would require the assistance of a map based software like Google Maps
5. Since the users would store data like their contact details in the app, there needs to be a security system sophisticated enough to keep their data secure.
   1. **Assumptions and Dependencies:**

The following are the list of assumptions and the dependencies that are imposed upon the implementation of My Tutor software:

* The users of the software have all the available hardware required to support the software.
* Since the application is a web based application there is a need for the internet browser. It will be assumed that the users will possess decent internet connectivity.
* The interface of the product must be user friendly so that it is simple for all type of users to understand and use the software. The users of the software will be from varied backgrounds, so the software will be easy to understand.
* General knowledge of primary computer, mobile use is required to use the product.
* The database servers should be updated regularly

1. **Specific Requirements –**
   1. **External Interface Requirements:**
      1. **User Interfaces:**

There will be 2 types of UIs, one for the students and for the teachers.

* + - The application would open on the same page for all users. It will ask the users if they want to Login or sign up.
    - On the sign up page, they would be asked to create accounts, teachers would be asked to share their qualifications, which will be verified by the Find My Tutor team.
    - On the login page, they would be asked their user type (Teacher or Student) along with login credentials.
    - The student’s page would have :-

1. Their dashboard, which shows their subjects and teachers.
2. Their account page would have their details, such as their address, age , grade, etc.
3. Subjects of interest
4. Search option, to look for teachers.
5. They can read teacher’s details and send requests to them
6. For the teachers from whom they’re learning, there would be an option to rate them and give feedback.
   * + The teacher’s page would have :-
7. Their dashboard, which would have their subjects and pending student requests.
8. Their account page that would show their qualifications and overall ratings.
   * 1. **Hardware Interfaces:**

Since the application must run over the internet, all the hardware shall require to connect internet will be hardware interface for the system. As for e.g. Modem, WAN – LAN, Ethernet Cross-Cable.

The computer should also contain:

* Windows.
* A browser which supports CGI, HTML & Javascript.
  + 1. **Software Interfaces:**

Following are the software used for the startup management online application.

* + - Operating System: We have chosen WIndows operating system for its best support and user-friendliness.
    - Database: To save various records (the records of various teachers and students and the details related to them) we have chosen Mysql database.
    - React: To implement the project, we have chosen react framework for its more interactive framework.
    1. **Communication Interfaces:**

This project supports all types of web browsers. We are using simple electronic forms for the enrollment of teachers and students. Communication standards that will be used are SMTP,HTTP,FTP etc.

* + - 1. Description and Priority:

The login form is used by all teachers and students. This module has the highest priority when compared to all the other modules. This model allows the teachers and students to enter their respective username and password in order to make use of the software.

* + - 1. Functional Requirements:

Only authorized users are allowed to login. The authorized users are the registered teachers and students. If user name or password is given the system should inform the user. If unauthorized users try to access then it should not allow the user to work on the system and make changes.

* + 1. **View Teacher Profile:**
       1. Description and Priority:

All teachers, students and admins will be able to view the information added or upgraded by the teacher. This feature has higher priority because this is one of the most essential feature of the product to provide information about the teacher’s availability, experience, subjects and rating.

* + - 1. Functional Requirements:
      * This page will contain the details of the teachers.
      * It will contain details such as experience, subject, rating, reviews and availability of the teacher.
    1. **Search on Homepage:**
       1. Description and Priority:

This module is used by the students to categorize and select the teachers of interest. Patients can enter their requests in the search menu provided to find teachers of their interest based on subject, availability. This module has medium priority when compared to all the other modules as it may not be able to satisfy each teacher’s needs.

* + - 1. Functional Requirements:

If the query entered by the student match one or more teacher’s names or specialization, their names will be displayed to the users. If users enter invalid inputs or their interests does not match with any teacher then an empty list will appear.

* + 1. **Register Screen:**
       1. Description and Priority:

This module is used by teachers to register themselves into Find My Tutor. The aim for this screen is to make an individual register on our Web Portal. The teacher has to feed authentic info in to the system and make himself register into the portal. This module has high priority from teacher’s point of view as without this they wont be able to share info about themselves

* + - 1. Stimulus / Response Sequences:

This module has several input boxes or text fields where the teacher has to enter their details that too the details should be legit. The teacher should fill the info one by one in a sequence. The teacher will fill his details such as subjects taught, experience, qualifications etc. If all input conditions are satisfied while registering then a message of successful registration will be shown else error will be thrown

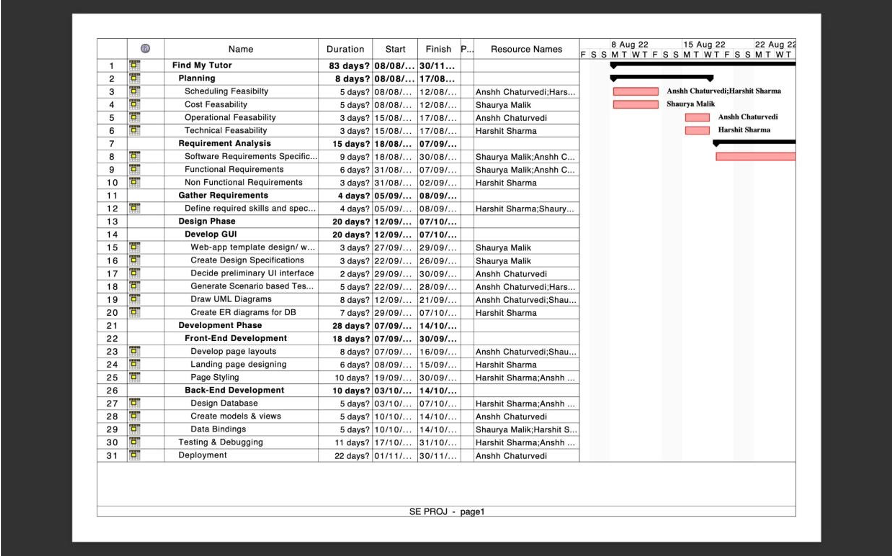
* + - 1. Functional Requirements:

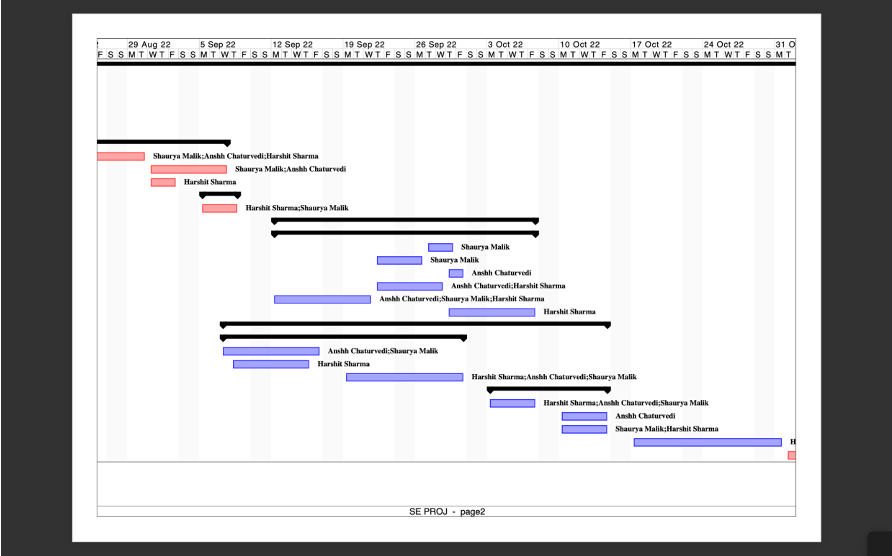
Inputs should be concise, complete and unambiguous. If any field is left blank, the error will be highlighted while registering and it has to be filled. If no error/no field left blank then the teacher will be registered into the portal. The explicit requirements are that image, name and qualifications of the teacher are among some of the necessary details to be uploaded/filled by the teacher to register into the portal.

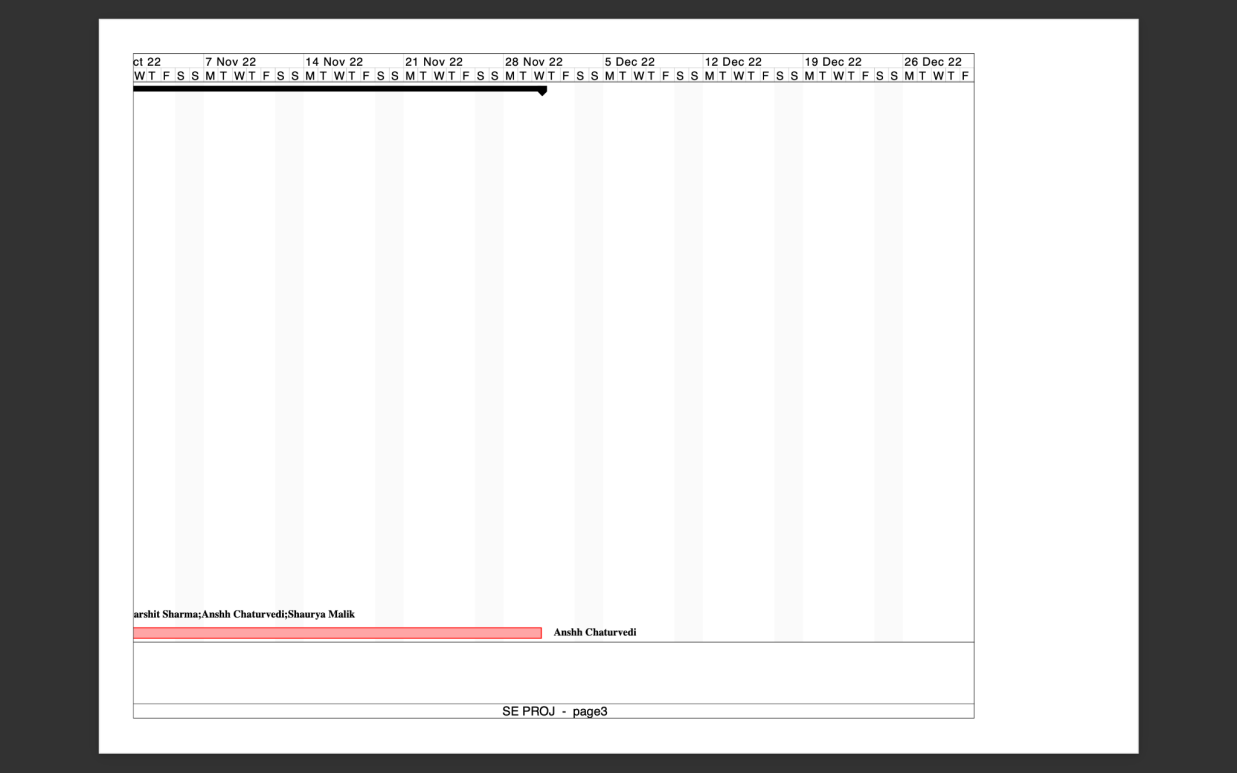
1. **Other Non-Functional Requirements –**
   1. **Performance Requirements:**
      * The system should be available all the time and performance should not be degraded with the increase in number of users.
      * If any maintenance needs to be done or unable to process the requests, then proper message should be shown.
      * Webpages should load in less than 5 seconds.
   2. **Safety Requirements:**
      * The details must be maintained and users must be authenticated.
      * The teacher shall be able to change his password of the account with the help of email address provided.
      * The application shall have 2 step verification if the teachers want additional security of their credentials.
   3. **Security Requirements:**
      * The login system of the application shall use robust firewalls which can protect against malicious security threats.
      * The login system shall also not use default credentials and shall allow doctors to change the data as and when needed.
   4. **Software Quality Attributes:**
      * The application’s interface will be very simple and easy to use so that people from all walks of life would be able to use it with ease and enjoy its services.
      * The application shall be linked to the teacher's email address so that he may be contacted as and when required.
      * The teacher shall be able to access his account from any device by providing valid credentials.
2. **Other Requirements –**

There are no other requirements for this project.

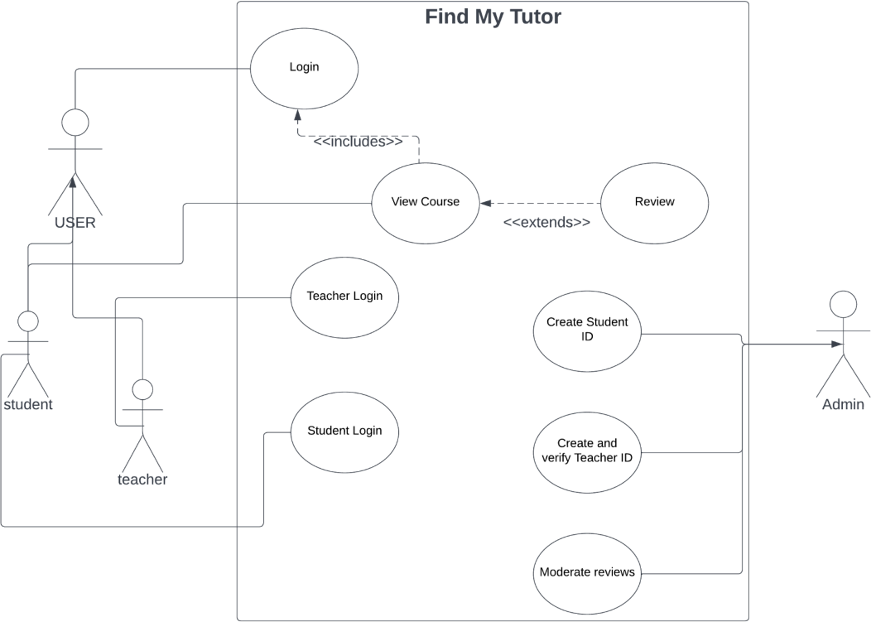
1. **Feasibility Report –**
   * 1. Technical Feasibility: The project is a website created with HTML, CSS, ReactJS, SQL, and Python. The website development software is already in existence. The front end of the website is made to look user-friendly by utilizing HTML and CSS.
     2. Economic Feasibility: The project's development has no associated costs. The project is free to use because it is meant to assist people. With the use of adverts, the project can make money from the website. It is a self-sustaining endeavor because India has an abundance of educational institutions.
     3. Schedule Feasibility: Given that the team regularly works on it, the project can be completed on schedule. On the team, there are people working on the website's front end, back end, and database management, respectively.
     4. Operational Feasibility: The site is being created to assist every student in answering their questions, and it can also be expanded to include other universities, schools, coaching facilities, etc. The portal will be easy to use and can be used by anyone who knows how to use the internet and has basic computer knowledge.
     5. Cultural Behavior: The website is easy to use because everything is clearly categorised. It is simple for students to choose the subject and provide feedback. The feedback is easily accessible to the teacher. The doubts are graphically displayed to make it simple for teachers to prioritize the topics on which pupils are most confused.
     6. Legal Feasibility: With a copyright, the project can be sold to various institutions, schools, coaching facilities, etc. while still retaining ownership of the website with its creators. Due to the usage of solely licensed software in creating the website, it won't encounter any legal problems. The website won't request any permissions and will only store user data.
   1. **Gantt Chart:**







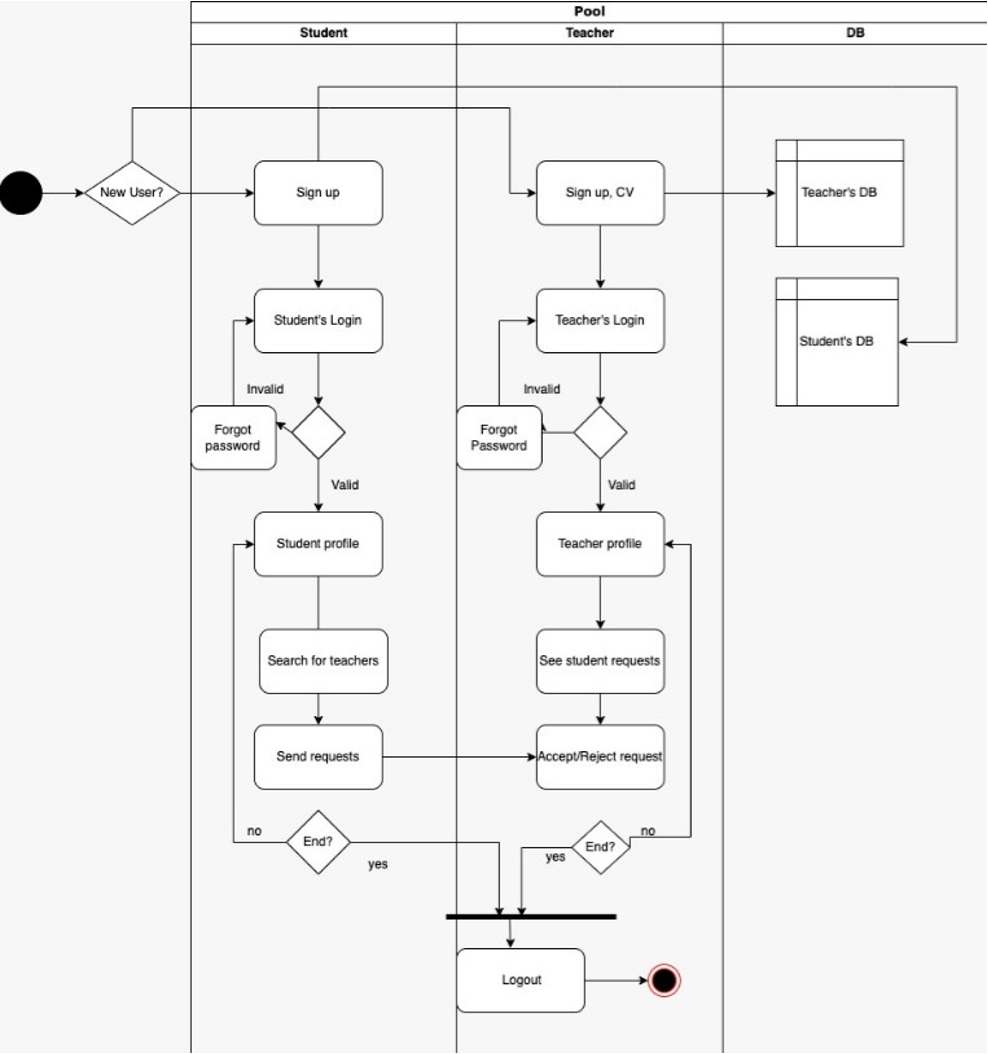
* 1. **Use Case Diagram:**



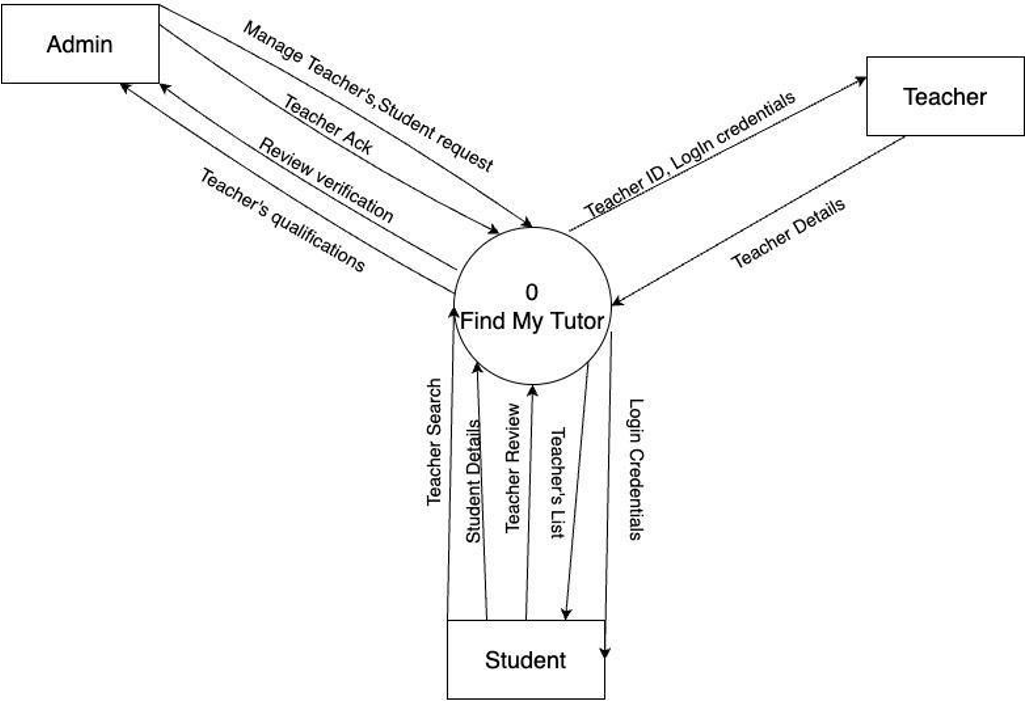
* 1. **Use Case Template:**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Name** | **Society Management System** |  | | | | | | | | | |
| **Module**  **Name** | Login Module |
| **Created By** | Rajat |
| **Creation Date** | 5/09/2023 |
| **Reviewed By** | Akshita, Prabhmeet |
| **Reviewed Date** | 12/09/2023 |
| **Test Scenario Id** | Test Scenario Description | Test Cas e Id | Test Case Description | Test Steps | Test Data | Pre-Condition | Post- Condition | Expected Result | Status | Execute d Date |
| **TS-01** | Verify the Login Functionality | TC- 01 | Enter valid username and password | 1.Enter valid username 2.Enter valid password 3.Press enter key. | Username: admin Password: admin | 1.User must have internet connection 2.user must have a valid URL and corresponding  test Data | User able to view the profile page | Successful Login | Pass | 12/09/2  023 |
| **TC-02** | Verify the Login Functionality | TC- 02 | Enter valid username and invalid Password | 1.Enter valid username 2.Enter invalid Password 3.Press enter key | Username  : Admin Password  : \*\*\*\*\* | 1.User must have internet connection 2.user must have  a valid URL and corresponding test Data | Error message: "Invalid Username or Password " | Error message pops up saying "Invalid Username and Password! " | Fail | 12/09/2  023 |
| **TS-03** | Verify the Login functionality | TC- 03 | Enter invalid username and  valid Password | 1.Enter invalid username 2.Enter valid Password 3.Press enter key | Username  : \*\*\*\*\* Password  : Admin | 1.User must have internet connection 2.user must have  a valid URL and corresponding  test Data | Error message: "Invalid Username or Password " | Error message pops up saying "Invalid Username and Password!  " | Fail | 12/09/2  023 |
| **TS-04** | Verify the Login functionality | TC-  FL- 04 | Enter invalid username and invalid Password | 1.Enter invalid username 2.Enter invalid Password 3.Click on Login Button | Username  : \*\*\*\*\* Password  : \*\*\*\*\* | 1.User must have internet connection 2.user must have  a valid URL and corresponding test Data | Error message: "Invalid Username or Password " | Error message pop  up saying "Invalid Username and Password! " | Fail | 12/09/2  023 |

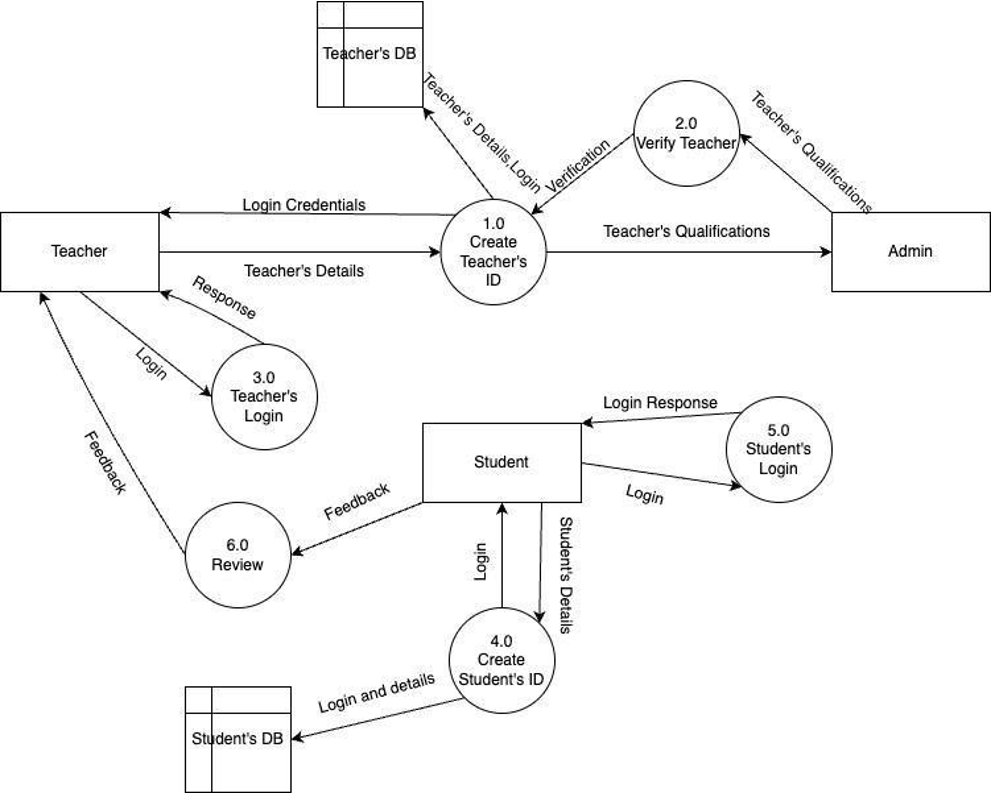
* 1. **Swimlane Diagram:**



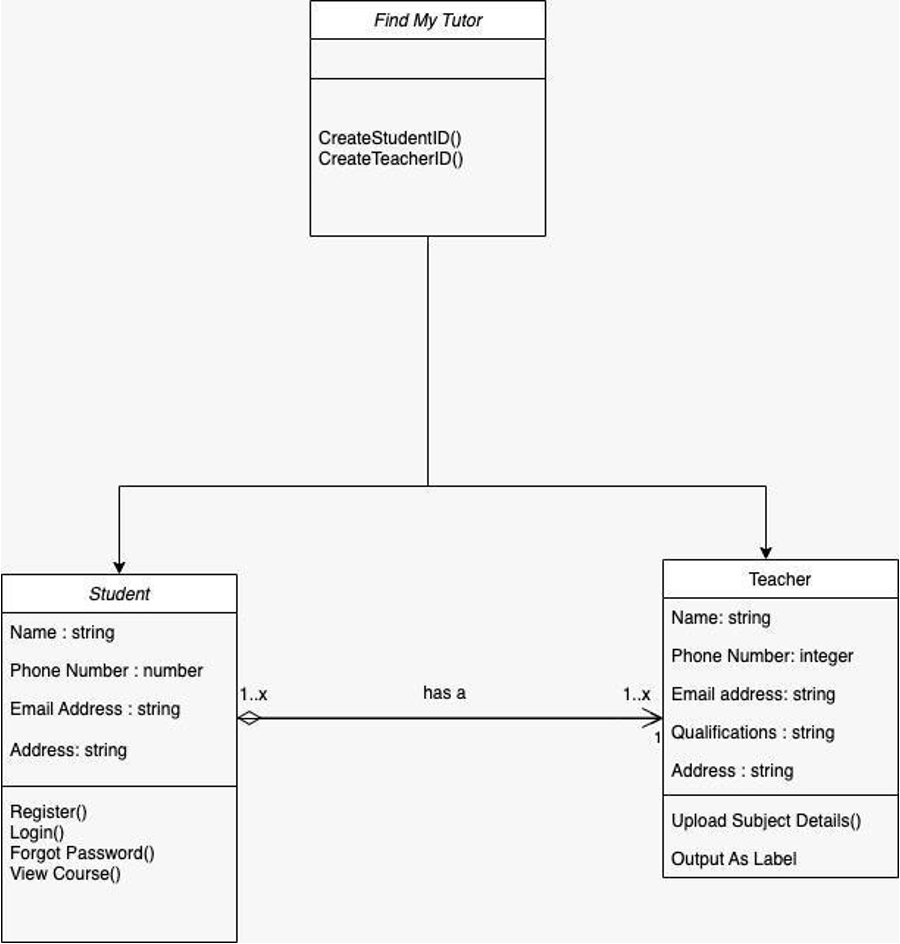
* 1. **DFDs:**
     1. **Level – 0:**



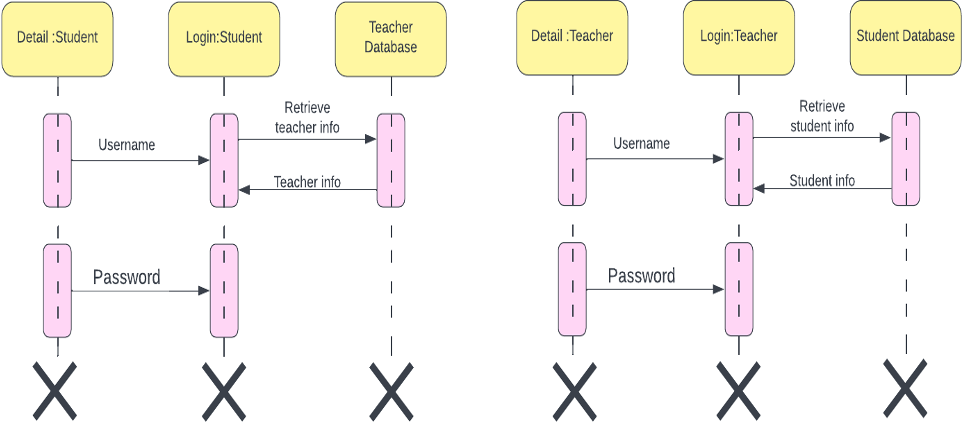
* + 1. **Level – 1:**



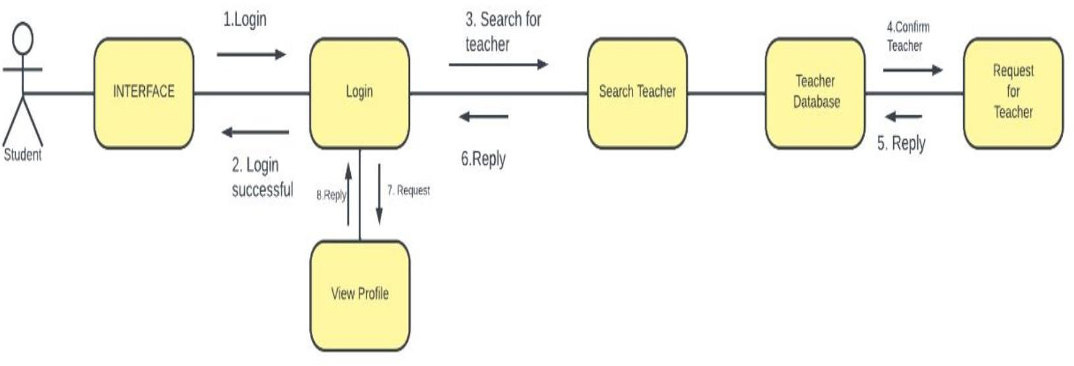
* 1. **Class Diagram:**



* 1. **Sequence Diagram:**



* 1. **Collaboration Diagram:**



* 1. **State – Chart Diagram:**

