

ACKNOWLEDGMENT

We have great pleasure in presenting this project entitled “**Copy If You Can!**”. We thankfully acknowledge the help that we have obtained from teachers of **COMPUTER SCIENCE DEPARTMENT** for their support and cooperation right from the stage the project was conceived. The journey of this project from conception to completion was possible due to Prof. **Mrs. Shalaka Gujar** for giving us valuable information about the implementation of the project. A special thanks to **Prof. Mrs. Madhuri Deshpande Madam (Head of B.Sc.(comp.sci.) Department)** for this help and providing us with a good laboratory facility. Last but not least, we would like to express our sincere gratitude to those who have helped us directly or indirectly in our project.

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INTRODUCTION:

The main goal of this project is to create a paperless environment and automated system by developing a computerized assignment submission system for college with a special feature of plagiarism detection. Plagiarism is an act of unethical behavior, which involves the reuse of someone else's work, for example, a lot of students copy other student's submissions or fail to cite references and violate the honor code. The objective of this project is to detect such cases of plagiarism among students and build a system which will have an interface for teachers to create new assignments and view submitted assignments, and for students to submit assignments.

Existing System:

In Existing System Teachers gives assignments to students manually i.e. (Handwritten Handbook) then, these assignments are completed by the students. Most of these assignments are in the form of c++/java/c programming language.

after completing these assignments and showing it to respective teachers from the machine on which they are working. The teacher will evaluate those assignments and give the remark on some maintained paper.

In this process, students were copying assignments of other students and also, get remark on those plagiarized assignments by their respective teachers. And because of that students don't get knowledge and skills that could be important later on. Practical knowledge is also important as theoretical knowledge. Student who copy don't usually do it one time, it becomes a habit and because of that they are not able to get actual practical knowledge

Drawbacks of Existing System:

- Becomes Hard to Maintain paper records of student's remarks.
- It becomes nearly impossible for a teacher to recall other student's code to check if the code is plagiarized

Proposed System

In the proposed system teachers will create new assignments each assignment belongs to some class (Fy, Sy, ty, MSc-1, MSc-2). These assignments will be visible on the student's homepage, from there students can complete their assignments by using local machines and once the assignment is done students can submit it. when students click on the submit button, assignments will be automatically stored in a database in the form of text. These stored assignments are now undergoing a plagiarism detection algorithm and assign a score for plagiarism. All the submissions of students are visible to respective teachers. Then this code is reviewed by the teacher and remarks are given by them.

Scope of the proposed system:

- A teacher can create new assignments, view submitted assignments, view plagiarized assignments, evaluate the submitted assignments.
- A student can view available assignments, view remarks for evaluated assignments, view due assignments, Submit a particular assignment.
- The system will
 - Store the Submitted assignment in the server.
 - If the assignment is in c/c++ source code it will scan other relative submitted assignments to detect plagiarism.

Technical feasibility:

The server will require any Linux environment to run while the client will have to have any web browser to use the system.

Minimum requirements for the server are:

- 2 GB of ram
- Linux operating system
- PostgreSQL
- JAVA
- 1 Gb Hard Disk

Operational feasibility:

The System Is operationally feasible because it will be a GUI based system and will be simple and easy to use. In the existing system, all work is done manually which is a time-consuming and tedious job and also difficult to maintain paper records. Hence the proposed system provides a systematic method and improves the performance of the system in managing the submissions of student's assignments.

Economic feasibility:

The tools that are being used in this project are open source hence there will be no economic cost to implement this system and it does not require any expensive technology or resource hence the system is economically feasible.

ER Diagram

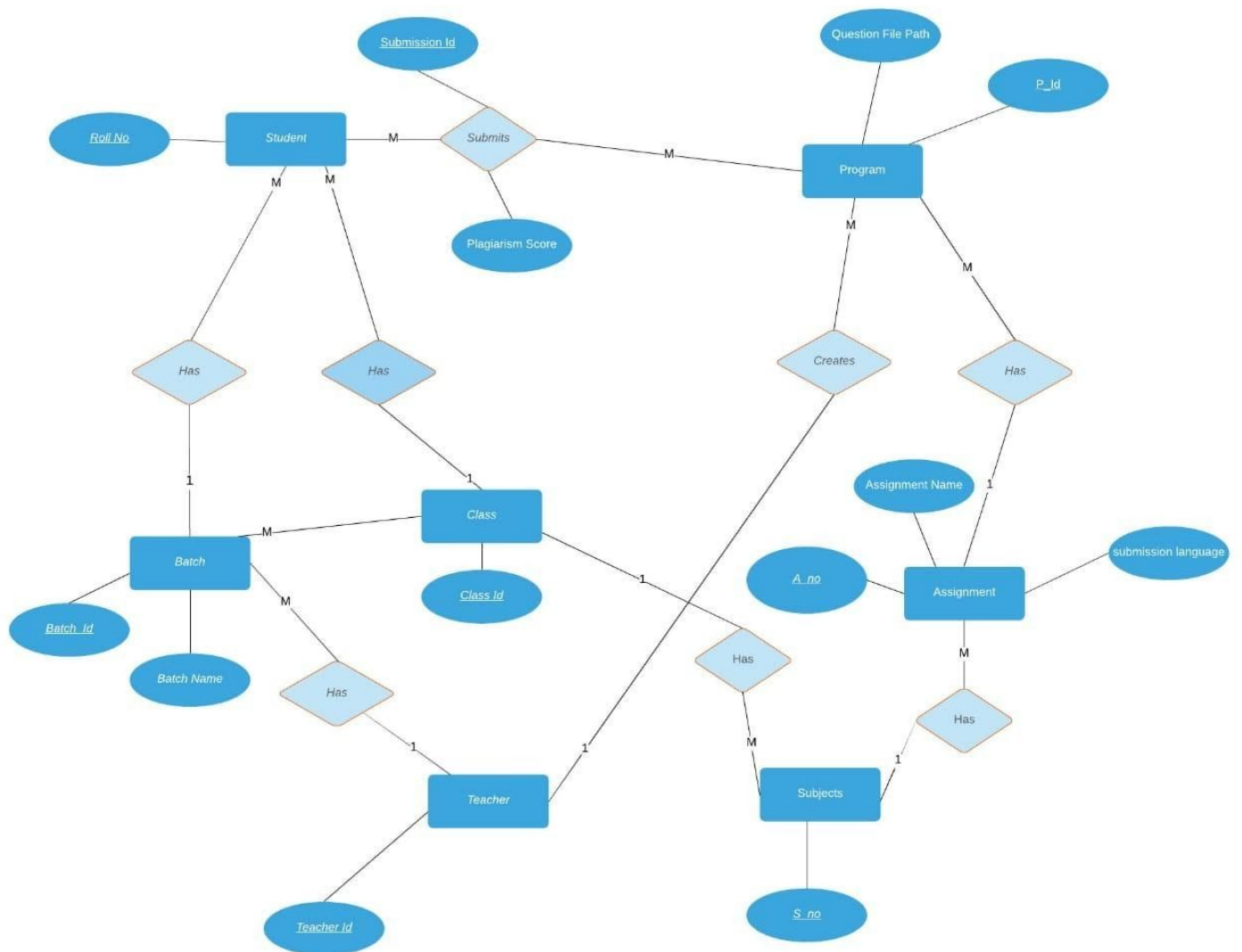


TABLE SPECIFICATION

Student-Program as many-many
Batch-Class as many-many
Batch-Teacher as many-one
Teacher-Program as one-many
Class-Subject as one-many
Student-Batch as many-one
Student-Class as many-one
Subject-Assignment as one-many
Program-Assignment as many-one

Table Name: class

Sno.	Column Name	Data Type	Description
1	c_id	Integer	Primary key
2	class_name	Character varying(40)	Not null

Table Name: subject

Sno	Column Name	Data Type	Description
1	sub_id	Integer	Primary key
2	c_id	Integer	Foreign key
3	sub_name	Character varying(40)	

Table Name: Assignment I;

Sno	Column Name	Data Type	Description
1	a_no	Integer	Primary key
2	a_name	Integer	
3	sub_id	Character varying(40)	Foreign key

Table Name: user_data;

Sno	Column Name	Data Type	Description
1	email	Character varying(50)	Not null
2	salt	Character varying(100)	

3	passhash	Character varying(64)	Not null
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Table Name: TeacherI;

Sno	Colum Name	Data Type	Description
1	T_id	Integer	Primary key
2	First_name	Character varying(100)	Not null
3	Last_name	Character varying(64)	Not null
4	email	Character varying(50)	

Table Name: batchI;

Sno	Colum Name	Data Type	Description
1	b_id	Integer	Primary key
2	batch_name	Character varying(40)	
3	c_id	Integer	Foreign key
4	t_id	Integer	Foreign key

Table Name: studentI;

Sno	Colum Name	Data Type	Description
1	roll_no	Integer	Primary key
2	c_id	Integer	Foreign key
3	b_id	Integer	Foreign key
4	first_name	Character varying(30)	Not null
5	last_name	Character varying(30)	Not null
6	email	Character varying(50)	
7	year	Integer	

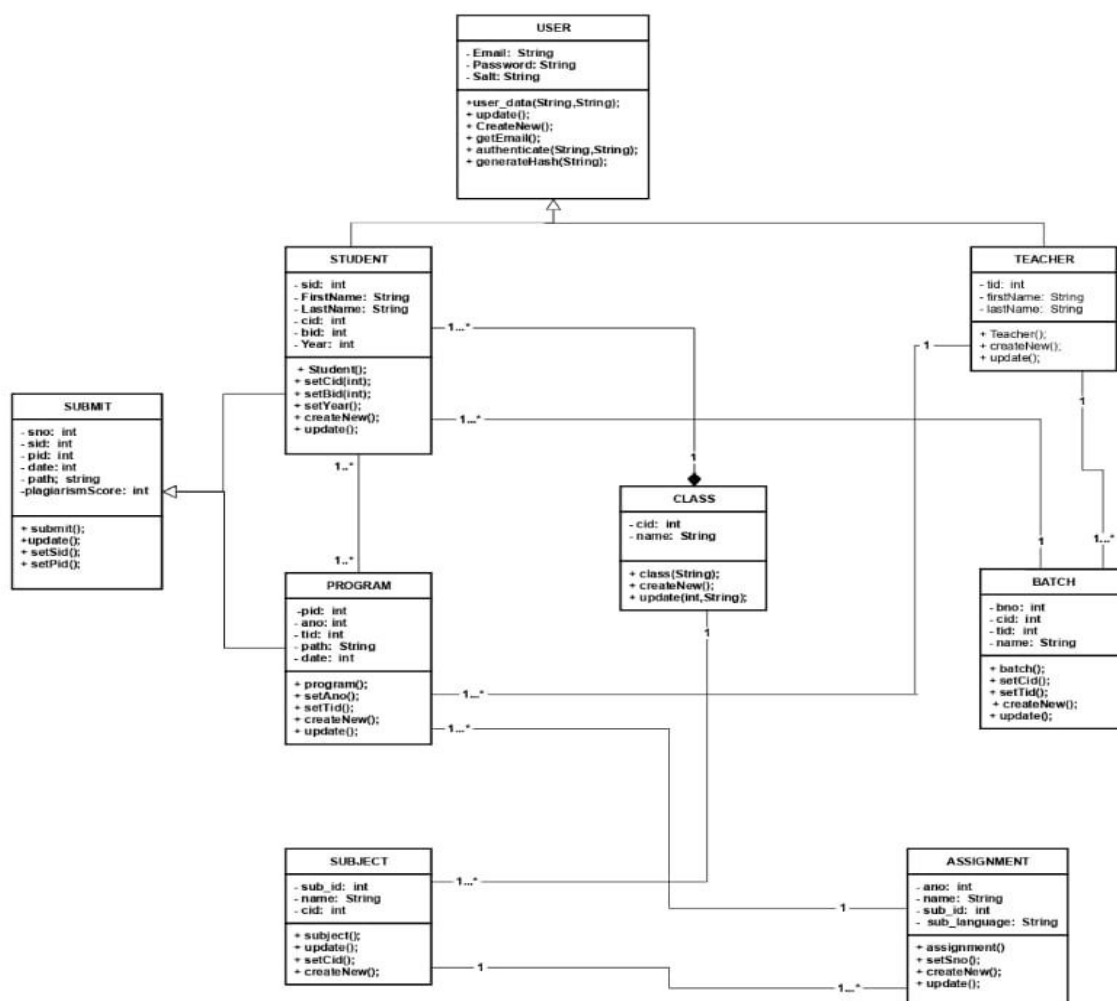
Table Name: program;

Sno	Colum Name	Data Type	Description
1	p_id	Integer	Primary key
2	a_no	Integer	Foreign key
3	t_id	Integer	Foreign key
4	question	Text	
5	Expected output	Text	
6	last date of submission	Date	
7	date of creation	Date	

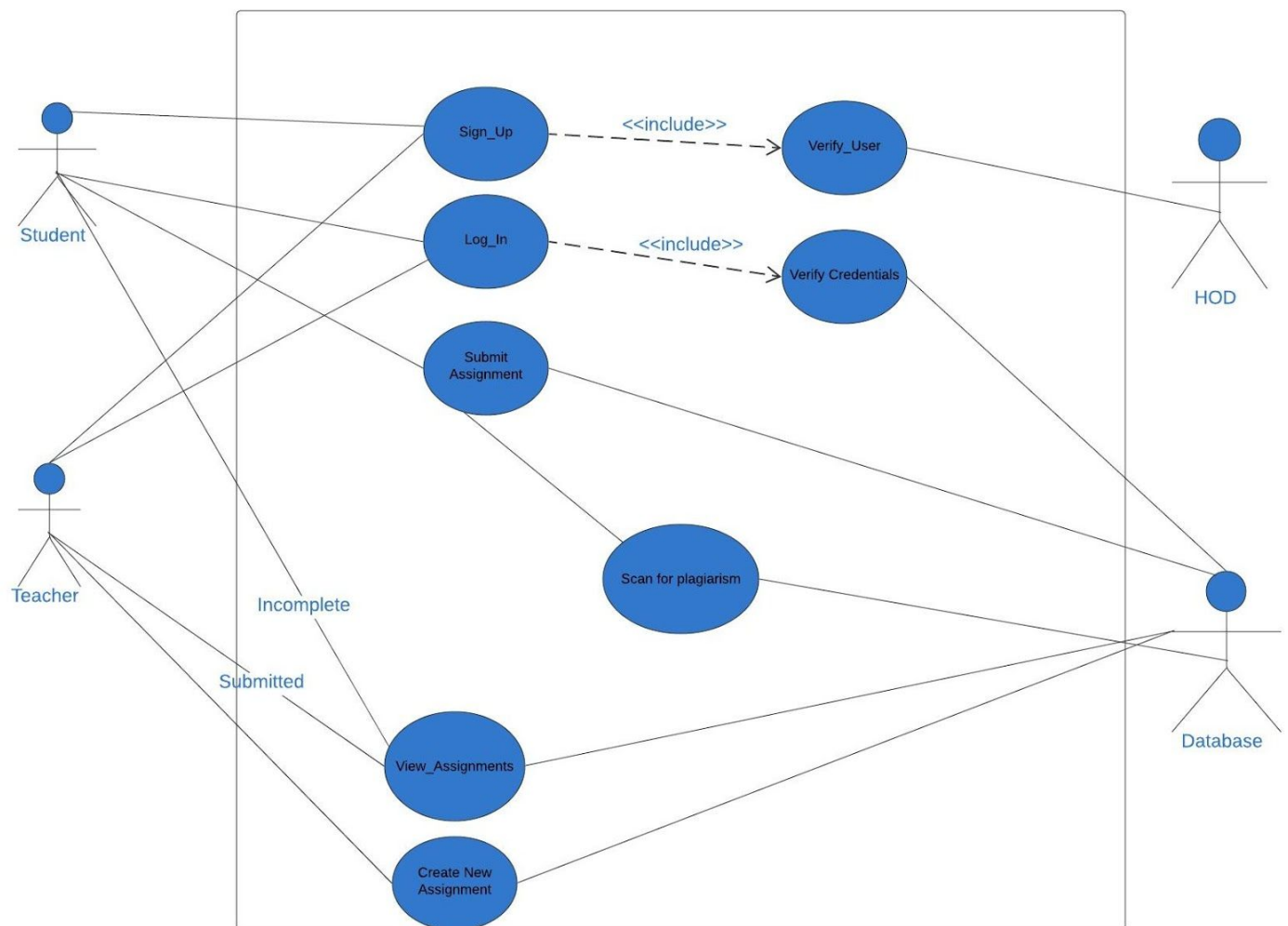
Table Name: submission;

Sno	Colum Name	Data Type	Description
1	sub_id	Integer	Primary key
2	roll_no	Integer	
3	p_id	Integer	Foreign key
4	sub_date	Date	
5	program	Text	
6	Processed program	Text	
7	plagiarism score	Float	
8	comment	Text	
9	marks	Integer	

Class Diagram



Use Case Diagram



Use case Description:

This use case describes :

The working of the system. It describes how the students can log in and submit assignments and how the teachers can register and reviews submitted Assignments.

Actors:

Teacher, Student, HOD, Database.

Preconditions:

The student should have registered

Postconditions:

Updated all tables.

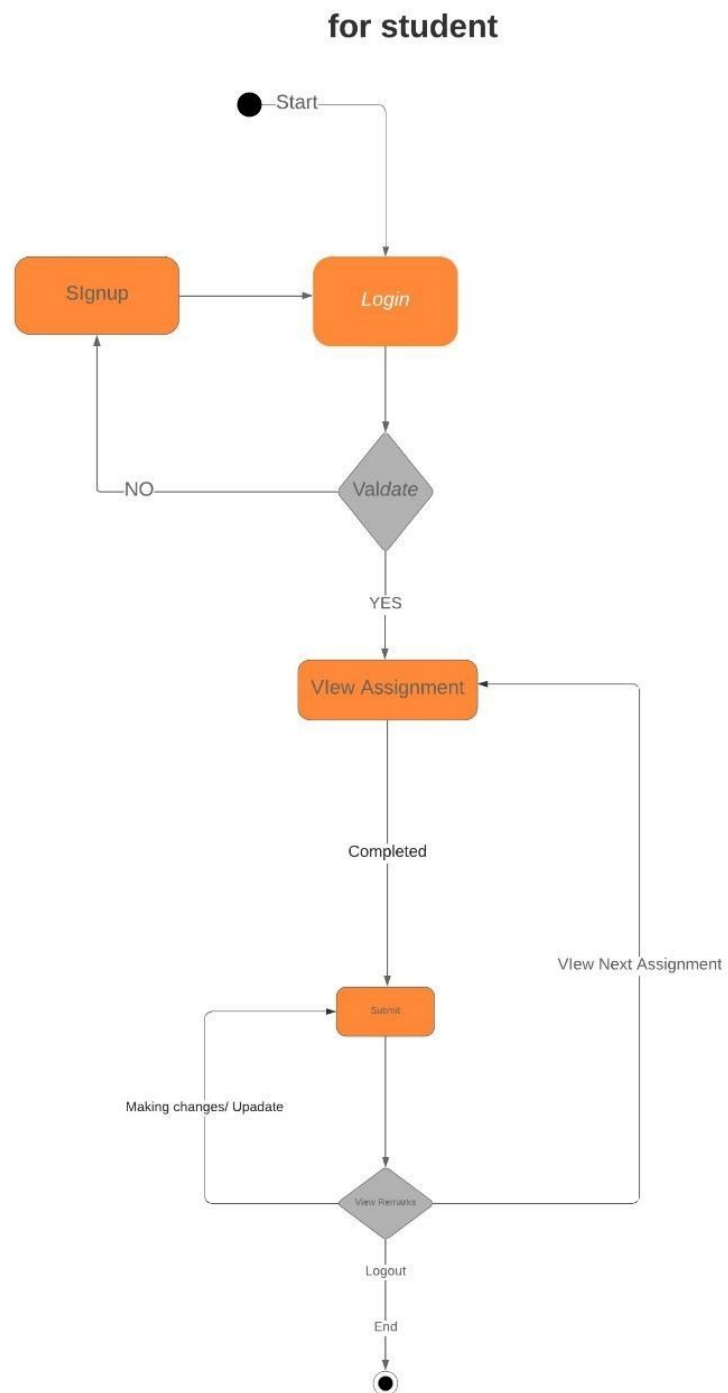
The basic flow of the system:

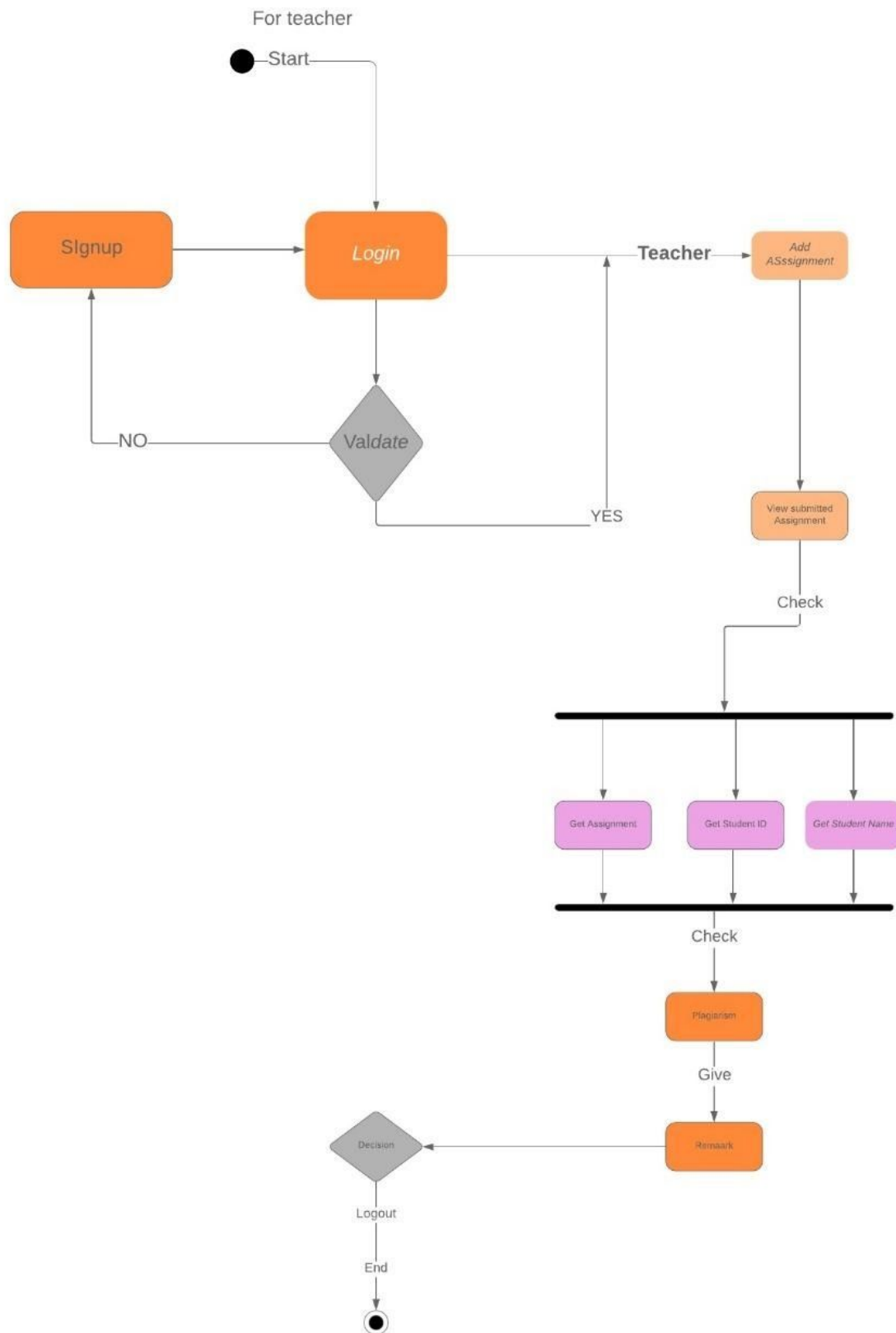
- A teacher creates an account
- HOD assigns Teachers to their respective batches.
- The teacher will create assignments
- Created Assignment will be visible to the student
- Student completes its assignment and submits
- The submitted assignment will be visible to the respective batch in charge.
- submitted assignment undergoes plagiarism detection algorithm
- Teacher reviews assignments and gives remark

Alternative Flow:

If the user provides wrong information and user registration is not complete there will be error

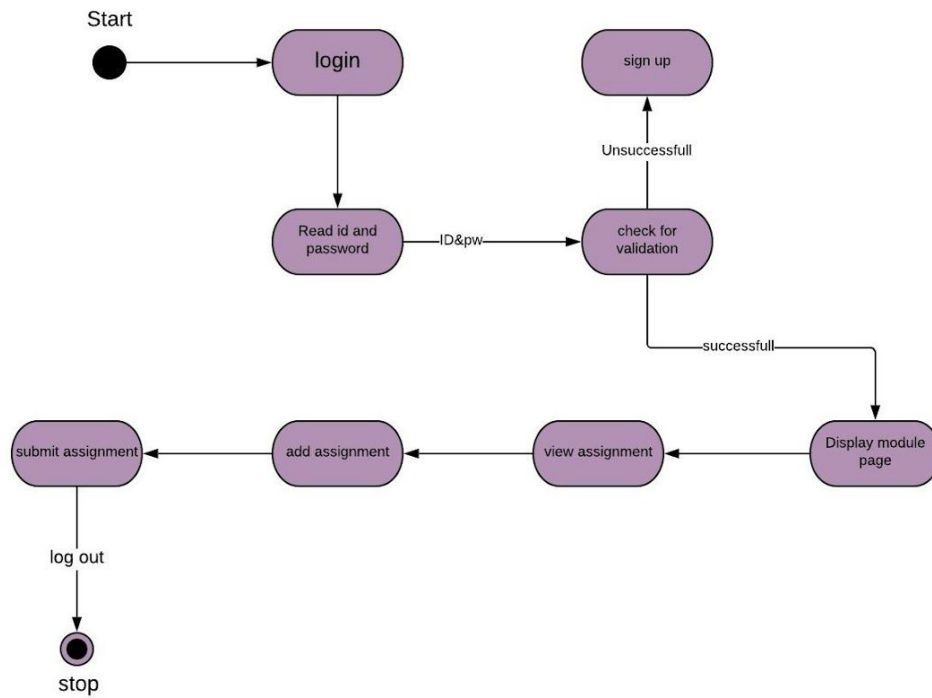
Activity Diagram:





State Diagram:-

State Diagram



Limitations and Future Enhancements of the system: -

Limitations: -

- The current system is developed for a single department of college i.e. department of computer science.
- The System will detect plagiarism only for coding assignments.
- For this project, we have limited the programming language of assignment submissions
- i.e. java PHP C and CPP

Future Enhancements: -

- When Assignment Is submitted, the assignment will be evaluated by the program and marks will be assigned on the basis of test cases provided by a teacher.
- Current system is developed for a single department of college the further modification of the project is to create or expand the system in such a way that it can be used at various institute levels.
- For this system, we have limited the programming language but in the future development of the project any programming language can be supported by the system.

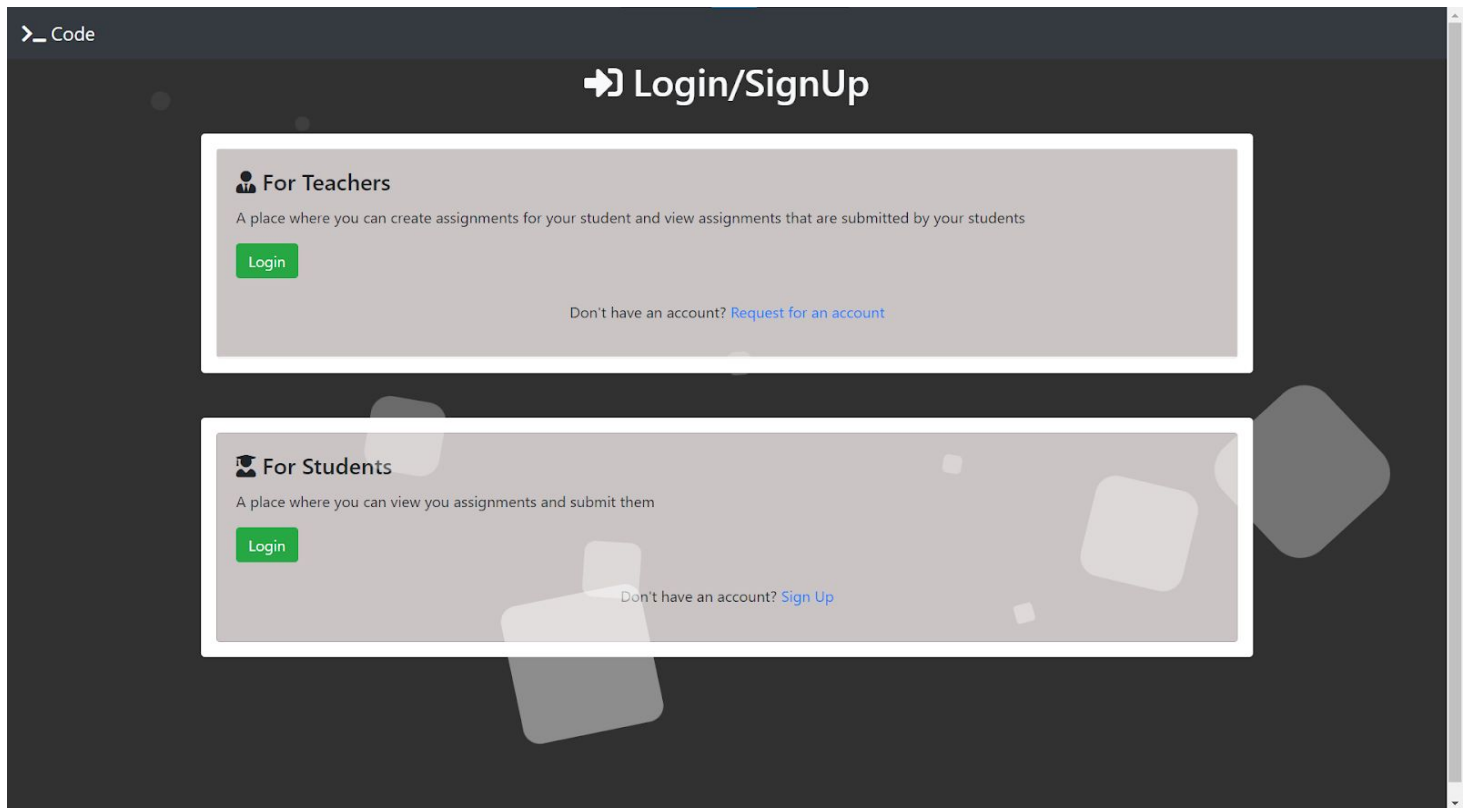
TEST CASES:

Test Case Id	Test Cases	Precondition	Input Test Data	Steps to be Executed	Expected Results	Pass/Fail
1]	Create New Account	System has been programmed for any user to create a new account providing credentials which can be used later.	First, last name, email and password	Enter respected details for creating account and click register	Account must create successfully	Pass
2]	Test whether the entered email is already existing or not while creating account.	System has been programmed for any user to check whether the entered email is already existing or not	Email	. Enter email again.	Prompt message must be displayed that email already exist.	Pass
3]	Test if user is able to login successfully.	User must be registered already	Correct email and Password.	Enter email and password and click login.	User must successfully login	Pass
4]	Update Profile	System has been programmed for any registered user to update his	User can update first and last name, email	User clicks on profile tab then enter details to be updated and	Account must have updated successfully	Pass

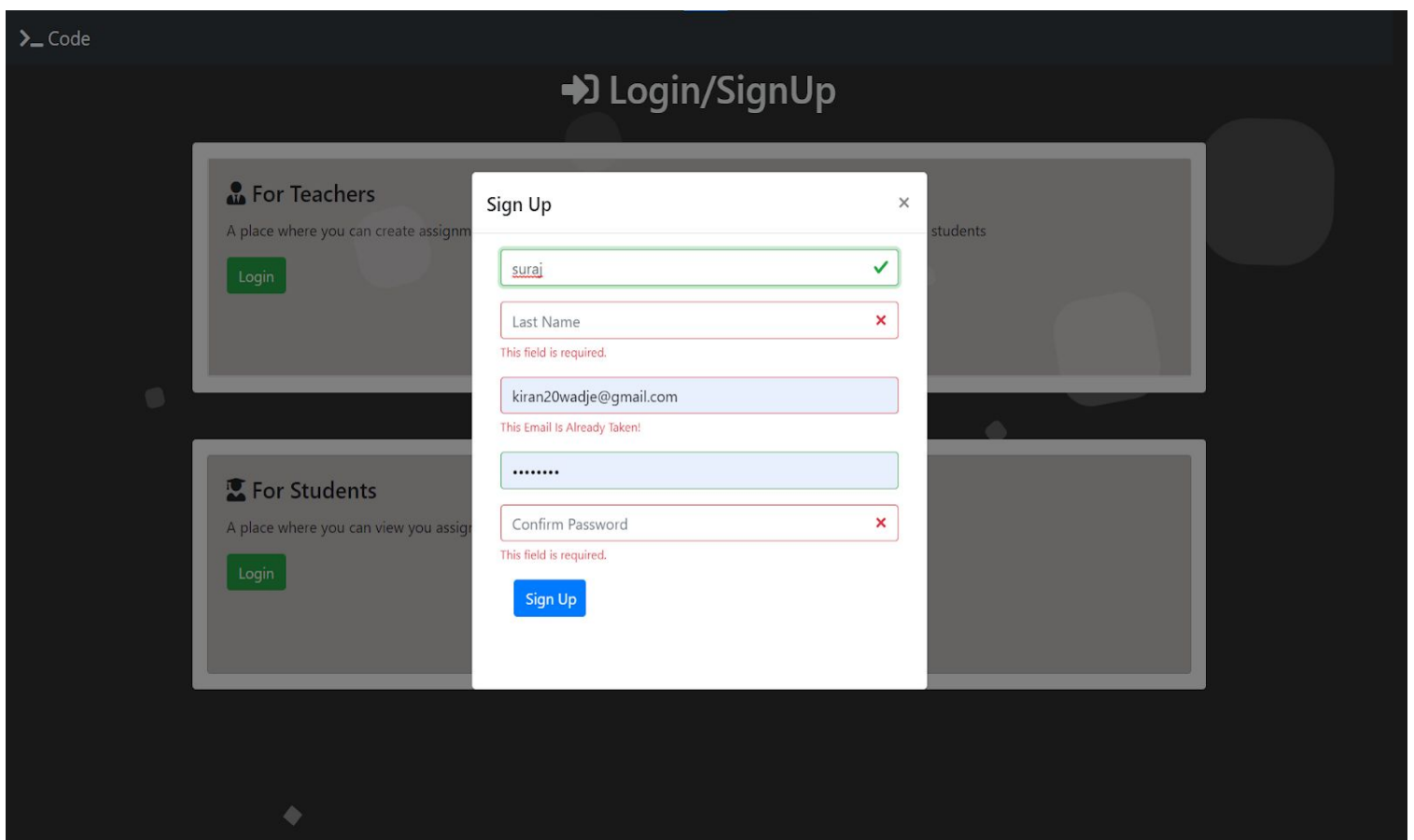
		profile after logging in.		presses update button.		
5]	Upload Assignment by Primary Actor: Teacher	Teacher must be assign to a batch of a class.	Enter assignment questions.	Choose batch then choose subject then add assignment questions and click submit.	Assignment must be uploaded successfully .	Pass
6]	Submit Assignment by Primary Actor: Student	Teacher must be uploaded assignment.	Enter assignment solution.	Choose subject, choose assignment of that subject complete those assignment then click submit	Assignment must be submitted successfully .	Pass
7]	Test plagiarism for submitted assignments.	System has been programmed for to check whether the submission is plagiarized or not and students must be submitted assignments.	Solution of Student assignment submission.	After submissions plagiarism check by system automatically.	Plagiarism must be checked with other student's submission and display plagiarism score.	Pass
8]	Test plagiarism report	Plagiarism report must be generated by system.	Plagiarism report with score.	It is generated by system automatically.	Teacher can get plagiarism report of students consisting of students roll no whose submitted assignment is similar to that students.	Pass
9]	Test if the user logout successfully	User must have logged in already.	User must login first	Click logout	User must logout successfully .	Pass

Input Screens

1. Landing Page



2. Signup



3. Teacher : Home Page


[Home](#)

Welcome Kiran

[Edit Profile](#)

[Logout](#)

Press **F11** to exit full screen




Create An Assignment

Choose Class

First Year Computer Science ▶

Second Year Computer Science ▶

Third Year Computer Science ▶



View Submitted Assignments

Choose Your Batch

First Year Computer Science : B1

Second Year Computer Science : B4


Third Year Computer Science : B4

4. Teacher : Create New Assignment

[Home](#)

Welcome Kiran

[Logout](#)




Create New Assignment For
Object Oriented Programming Using cpp

Assignment Name

Create New


Assignment 1

Contains 0 Questions




New Assignment

Contains 1 Questions




Assignment 10

Contains 1 Questions



Assignment 9

Contains 1 Questions



5. Teacher : Create New Question

New Assignment

Write Your Question here !

Question 1

Font Formatting Font size B I U A

This Is Sample Question
Also A demonstration Of how A Teacher Can Create **Formatted Text With This Editor**
Teacher Can Change Font
Or Color Of Text
And Many More!!!

Characters : 158 Words : 29

Last Submission Date : 01/17/2020

Create New Assignment

6. Student : Edit Profile

Edit Your Profile

Suraj

Wadje

Your Roll no

test1@gmail.com

Select Your class

Second Year Computer Science ✓

Select Your Batch

B4

Update Info

7. Student : Home Page

[Home](#)

Welcome Suraj

[Edit Profile](#)

[Logout](#)

Choose A Subject

Mathematics
Contains 3 Assignments
>

Data Structure
Contains 0 Assignment
>

Object Oriented
Programming
Using cpp
Contains 4 Assignments
>

8. Student : Choose Assignment

[Home](#)

Welcome Suraj

[Edit Profile](#)

[Logout](#)

You Know What to do

New Assignment
Contains 2 Questions
>

Assignment 10
Contains 1 Question
>

Assignment 9
Contains 1 Question
>

Assignment 1
Contains 0 Question
>

9. Student : Submit Assignment

> Home Welcome Rutuja Edit Profile Logout

Question 1

This Is Sample Question

Also A demonstration Of how A Teacher Can Create **Formatted Text With This Editor**

Teacher Can Change Font

Or Color Of Text

And Many More!!!

Submit Your Solution Below

```
#include<iostream>

using namespace std;
/*
This Code Should Be Similar To User : Two Test

Variable Names Have Been Changed.
Also This Comment Is To Make Our Plagiarism Detection Algorithm Make Fool
Let's See If It Works Or Not
*/

class Class1
{
    int A,B;
```

Submit Assignment

10. Teacher : ViewSubmissions

> Home Welcome Kiran Logout

Mathematics Data Structure Object Oriented Programming Using cpp

Choose Assignment

New Assignment Assignment 10 Assignment 9 Assignment 1

Choose Question

New Assignment Question 1

Show 10 entries Search:

Roll No	Name Of Student	Plagiarism Score	Date Of Submission	Maching With	View/Compare Code	Marks
10	one test	0.0 %	2020-01-16		View	Not Checked
11	two test	4.9723754 %	2020-01-16		View	Not Checked
12	third test	59.219585 %	2020-01-16	10	View Compare	Not Checked
11454	Rutuja Lakade	75.41955 %	2020-01-16	11	View Compare	Not Checked

Showing 1 to 4 of 4 entries Previous 1 Next

11. Teacher : View Code

[Home](#)[Welcome Kiran](#)[Logout](#)

Rutuja Lakade

```
#include<iostream>

using namespace std;
/*
This Code Should Be Similar To User : Two Test

Variable Names Have Been Changed.
Also This Comment Is To Make Our Plagiarism Detection Algorithm Make Fool
Let's See If It Works Or Not
*/

class Class1
{
    int A,B;
    int GreatestCommonDevisor(int a,int b)
    {
        int min;
        min = a>b?b:a;
        if(min == 0)
            return 1;
        for(int i = min;i>0;i--)
            if(a%i== 0 && b%i== 0)
                return i;
    }
}

/*
Variable Names Have Been Changed.
Also This Comment Is To Make Our Plagiarism Detection Algorithm Make Fool
Let's See If It Works Or Not
*/

public:
    Class1(int a=0,int b=1)
    {
        int temp = GreatestCommonDevisor(a,b);
        if(temp != -1)
        {
            A = a/temp;
            B = b/temp;
        }
    }
}
```

★★★★★

Write comment below

Submit

Limitations and Future Enhancements of the system: -

Limitations: -

- The current system is developed for a single department of college i.e. department of computer science.
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- For this project we have limited the programming language of assignment submissions
- i.e. java php c and cpp

Future Enhancements: -

- Current system is developed for a single department of college. The further modification of the project is to create or expand the system in such a way that it can be used at various institute levels.
- Once Student's get remark from the teacher he's/she's now able to see other students submission for the same assignment.

References: -

Plagiarism Detection:

Source Code:

<https://github.com/arunjeyapal/GreedyStringTiling>

String Similarity via Greedy String Tiling and Running Karp-Rabin Matching

http://www.pam1.bcs.uwa.edu.au/~michaelw/ftp/doc/RKR_GST.ps

Improved Detection of Similarities in Computer Program and Other Texts

<http://www.pam1.bcs.uwa.edu.au/~michaelw/ftp/doc/yap3.ps>

Libraries Used:

JqueryValidation

<https://jqueryvalidation.org/>

Bootstrap

<https://getbootstrap.com/>

Syntax Highlighting

<https://highlightjs.org/>