TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

HIMALAYA COLLEGE OF ENGINEERING

A THIRD YEAR MINOR PROJECT PROPOSAL

ON

ASSIGNMENT TRACKER AND PERFORMANCE EVALUATOR

SUBMITTED TO

DEPARTMENT OF ELECTRONICS AND COMPUTER ENGINEERING

Chyasal, Lalitpur

SUBMITTED BY

Aagya Sharma [HCE074BCT001]

Romash Acharya [HCE074BCT029]

Sonika Sharma [HCE074BCT041]

Subigya Ojha [HCE074BCT042]

September, 2020

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ABSTRACT

The main aim of this project is to digitalize assignment management process which keeps tracks of the assignments assigned and uploaded by different professors on various subjects. The project includes the reminder facility so that even the most disorganized students know what needs to be done and when is the due date. It is the assignment management system that helps teachers to evaluate the performance of each student. Teachers can group students together and distribute assignments, or send them out individually. This project sorts the task according to the due dates and changes the intensity of the color for the assignments as the due date is approaching, this enhances the user experience.

Overall system is developed in Laravel framework using MySql as database.

Keywords: ***Laravel, performance, assignment, color-coding, real-time notification***

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CHAPTER 1. INTRODUCTION

1.1 Background

An assignment is simply a task assigned to a particular person, groups or any organizations in order to achieve certain goals. It should be submitted in a particular time as per the instruction given by assigner. Assigners are usually who are above your position i.e. if you are programmer than either project head, project manager, boss any one or all of them can be your assigner.

An assignment list can be used in wide field but for our project we will be giving demo regarding schools and colleges. Here we will show how teachers can provide assignments, keep records of all student performances, and can give feedback about their works too. Students can chat with their friends as well as with teachers if any tasks are to be done in groups. Students will receive notifications regarding due date. Both teachers and students will get something new to watch.

1.2 Problem Statement

As per present context in Nepal online classes and online assignments are challenging as we are not that rich enough in case of technology. We may not be able to use this in rural areas where we cannot get good network for communications but we can use this technique in urban areas which are well equipped. We should initiate something in order to make it use in a huge manner. So, we are just initiating for upcoming generations.

We saw some systems built by well recognize companies but we found those system didn't contain due date notifications, color coding for tasks approaching due dates, and graphical progress of students. So, we are trying to add all the necessary requirements and make the system more effective.

1.3 Objectives

1.3.1 General

- To create a web-based assignment management system that helps to keep track of assignments assigned and uploaded by professor.
- To represent the students' performance in graphical way according to the points assigned by the teachers.

1.3.2 Specific

- To enhance the user experience by sorting and color coding the assignment list according to approaching due dates.
- To provide real time notification of pending assignments and other activities in the system.

1.4 Scope and Application

The application is sure to be very useful and user friendly as it provides a solution for those who usually forget about their upcoming tasks. As in context of Nepal online classes and online works are growing rapidly. So, it will be useful in upcoming days. This is applicable in schools, colleges, offices and other organizations.

The major applications of this project are:

- Students can receive notifications regarding assignments and projects.
- Professor can evaluate students' performance in graphical representation.
- Students can chat with professor if any problem occurs during the tasks.
- Groups can be formed and discussion can be done as well.

CHAPTER 2. LITERATURE REVIEW

The main purpose of the project is to make an assignment tracker and performance evaluator system that is user friendly and helps to keep track of homework, assignments, and projects. At the beginning of the project some research based on secondary resources was done. From those sources, the existing system was identified and new system with more functionality is developed.

Organizing the assignments and works could be an important aspect in a student's life. The other existing systems have simple display of assignments or the list of task to be done but this project gives a better user experience with color coding feature; which increases the intensity of the color coated with the approaching deadline. The existing systems under this subject have tedious setup procedure and rarely have performance evaluator for the students.

Several applications have been built to provide a platform for students and teachers to keep track of assignments, tests, submission deadlines, and exams.

Trello, a web-based Kanban-style list-making application is a subsidiary of Atlassian, originally created by Fog Creek Software in 2011 (Atlassian). The name Trello is derived from the word "trellis" which had been a code name for the project at its early stages. Trello was released at a TechCrunch event by Fog Creek founder, Joel Spolsky. Users can create their task boards with different columns and move the tasks between them. Typically columns include task statuses such as To Do, In Progress, Done. The tool can be used for personal and business purposes including real estate management, software project management, school bulletin boards, lesson planning, accounting, web design, gaming, and law office case management.

The Student Planner; a project similar to this one is a simple homework management app with intuitive material designed UI (Jain). It includes a table for scheduling user's classes and exams. The due works are arranged as separate cards and can be swiped away once done with. This application was designed by an android developer, programmer, and artificial intelligence aficionado, Akshath Jain.

Armin Ghofrani developed an Android application, Chalkboard, which strikes a perfect balance between simplicity and features . Although, the setup process takes little longer time where we have to feed details about classes, teachers, and schedule the system displays the assignments subject wise. This system provides ability to add teachers for subjects and view tomorrow's classes as well as assignments/tests. Chalkboard mutes your phone automatically during lessons to prevent notification and calls from disturbing your class and helps to manage user's timetable (Trần, 2018).

My Study Life, firstly developed as the web application was later synced as android application was developed by a company My Study Life, ltd. It is a cross platform planner for students, teachers, and lecturers designed to make the study life easier to manage. It allows users to store their classes, homework, and exams in the cloud making it available on any device wherever the user is. Unlike other application, this project integrates all the areas of our academic life- see homework due and overdue for classes, classes which conflict the exams and even add revision task for a specific exam (Clarke, 2016).

iStudiez Pro app claims it to be the life-saver in their user's academics. It is the best student's planner, used in everyday academic life by hundreds of thousands of high school, college and university students across the globe. It includes grading and subject wise organization of tasks. iStudiez Pro takes it further with the integration of Google Calendar that allows user to directly get all their holidays, exam schedule, routine from Google Calendar itself. This application has cumulative price which makes it less affordable. The major feature of this project includes tracking of grades for current and pass semesters. Special section is dedicated to keep track of the homework and assignments by date or by course and sort them into pending and completed (iStudiez Team, 2018).

CHAPTER 3. REQUIREMENT ANALYSIS

Requirement analysis of the "Assignment tracking and Performance Evaluator System" helped us to understand the system deeply. They are included below:

3.1 Functional Analysis:

This includes all the functional requirements of the system that helps to capture the intended behavior of the system.

3.1.1 Login / Registration:

New users can register and the registered users can log-in into the system. In the process of registration the user should request the admin to get the teacher tag. A user gets the teacher tag only if the admin verifies the account.

Input for student- Name, Email address, Year of admission, Roll number, Faculty

Input for teacher- Name, Email address, Faculty, Subject

3.1.2 Start Conversation:

This functionality helps the student to contact with teacher and also with the classmates to discuss about the assignments and also about the confusion in any subject matter.

3.1.3 Assignment Management:

This functionality is to provide the interface for the teachers to give assignments, to receive assignments, and also to rate the work submitted by the students. It is also for the students to upload their assignment and hand it to their respective teacher.

3.1.4 Track activities:

This tracks all the activities of the students and teachers to provide them notification if any new activity arises.

3.1.5 User Management:

This manages all the information of the users, activities, and store it into the database so that no duplication of user can take place.

3.1.6 Notification Management:

This functionality should keep track of all the notifications, due dates of assignments, and chats to notify the user dynamically.

3.2 Non Functional Requirement

There are several nonfunctional requirements included in our system. Some of them are mentioned below: -

3.2.1 Performance:

System should maintain the user's data up-to-date. The system allows users to easily start a conversation with one another with chat box so the messages should be dynamically displayed.

3.2.2 Security:

The system should protect the user data with encryption.

3.2.3 Reliability:

The system should be designed in such a way that it can be reliable and should not crash if the file loads are high.

3.3 FEASIBILITY STUDY

3.3.1 Technical Feasibility:

The system is capable of handling all the user data with secure database. All the technology that is required by the system is easily available and modifiable according to need of the system with minimal risk. So, this system is technically feasible.

3.3.2 Operational Feasibility:

The system provides reliable services to the end users and is expandable. The response time and throughput of the system is adequate. The system offers effective controls to protect against fraud and to guarantee accuracy and security of data and information.

3.3.3 Economic Feasibility:

As economic feasibility deals with the economic aspects of the project development such as its cost of overall project along with the systems analysts' time, cost of system study, cost of employees', etc. The overall expenses, time as well as money, is not so expensive. So this project is economically feasible.

CHAPTER 4. SYSTEM DESIGN

The overall system is explained on the basis of diagram mentioned below.

4.1 SDLC

This project is based on incremental model. Incremental model is a process of software development where requirements are broken down into multiple standalone modules of software development cycle. Incremental model is done in steps from analysis design, implementation, testing/verification, maintenance.

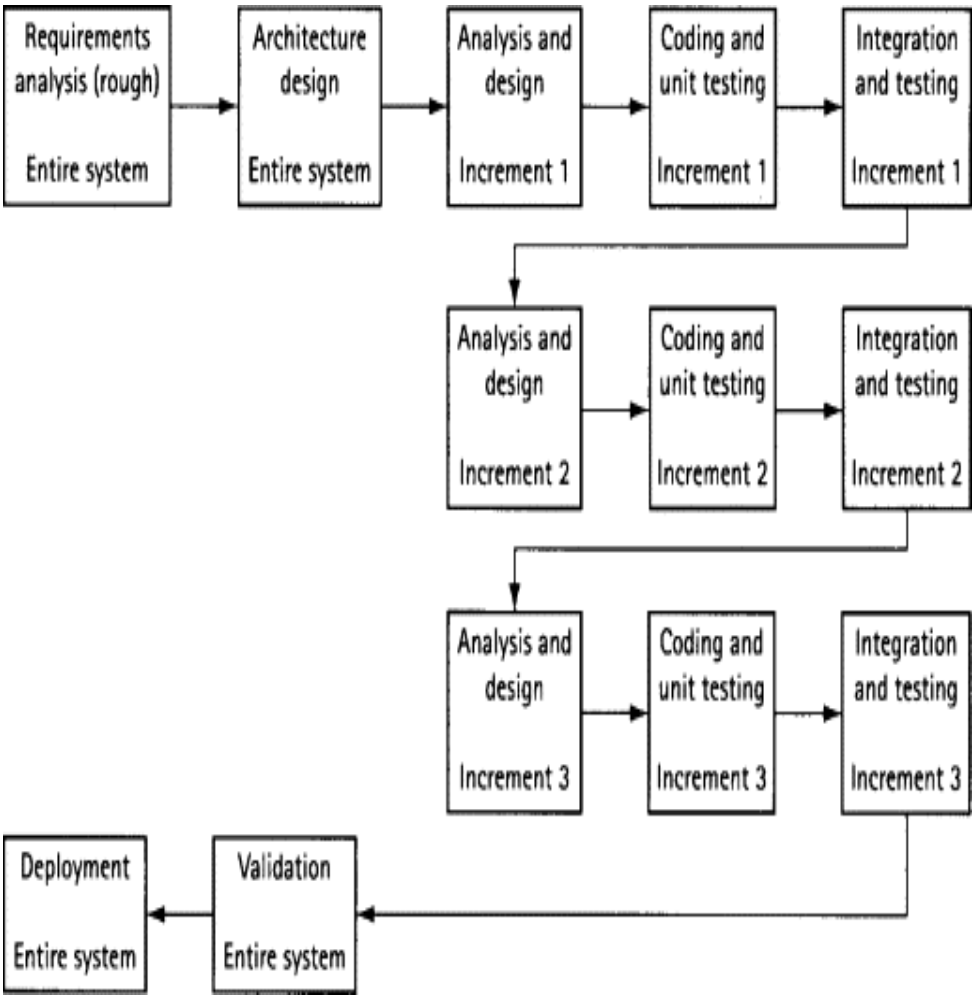

Figure 4. 1 Incremental Model

4.2 Use Case Diagram

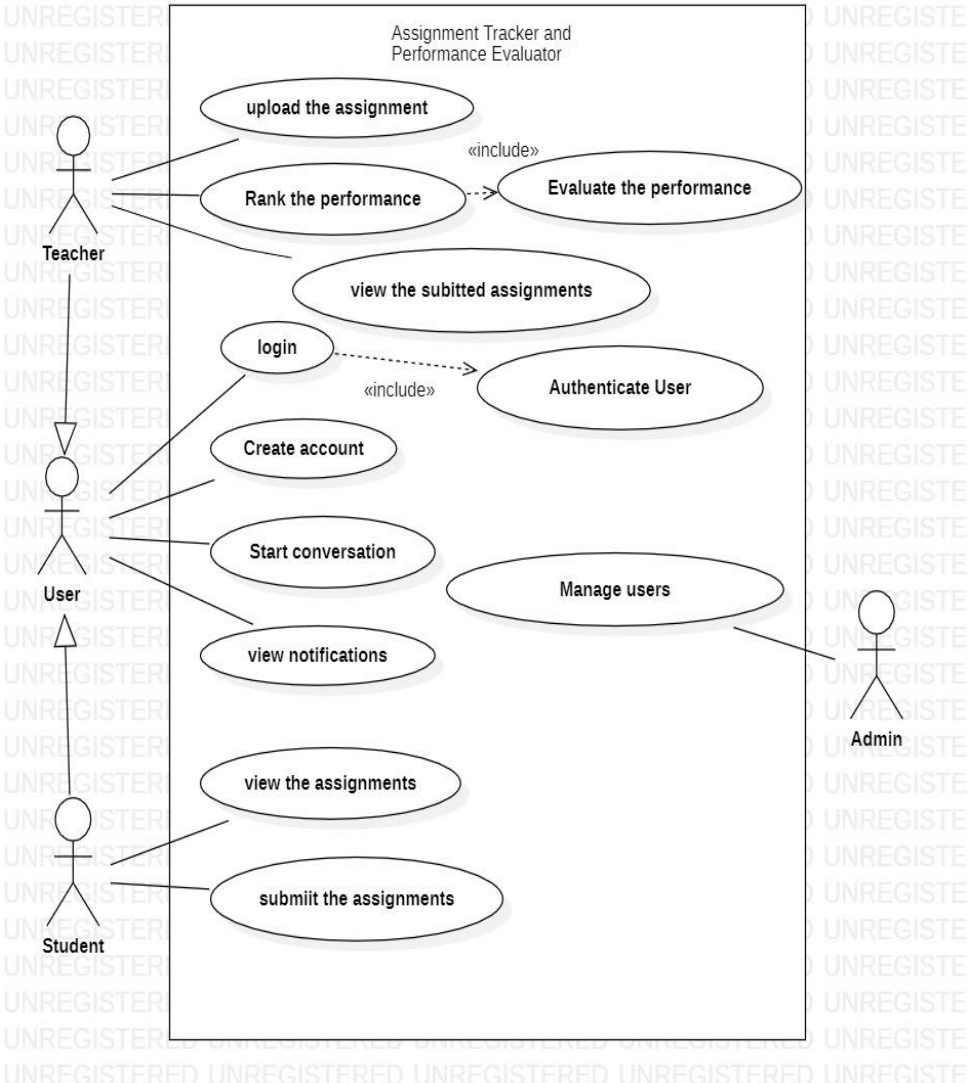

Figure 4. 2 Use Case Diagram

4.3 Entity-Relationship Diagram

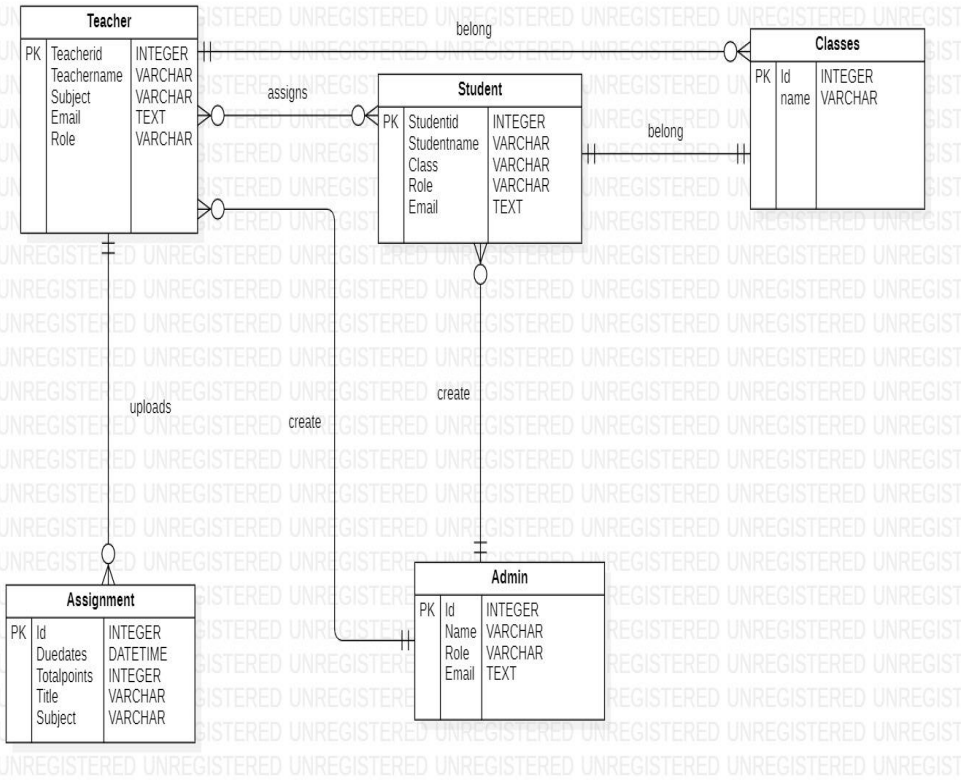

Figure 4. 3 Entity-Relationship Diagram

4.4 System Flow Diagram

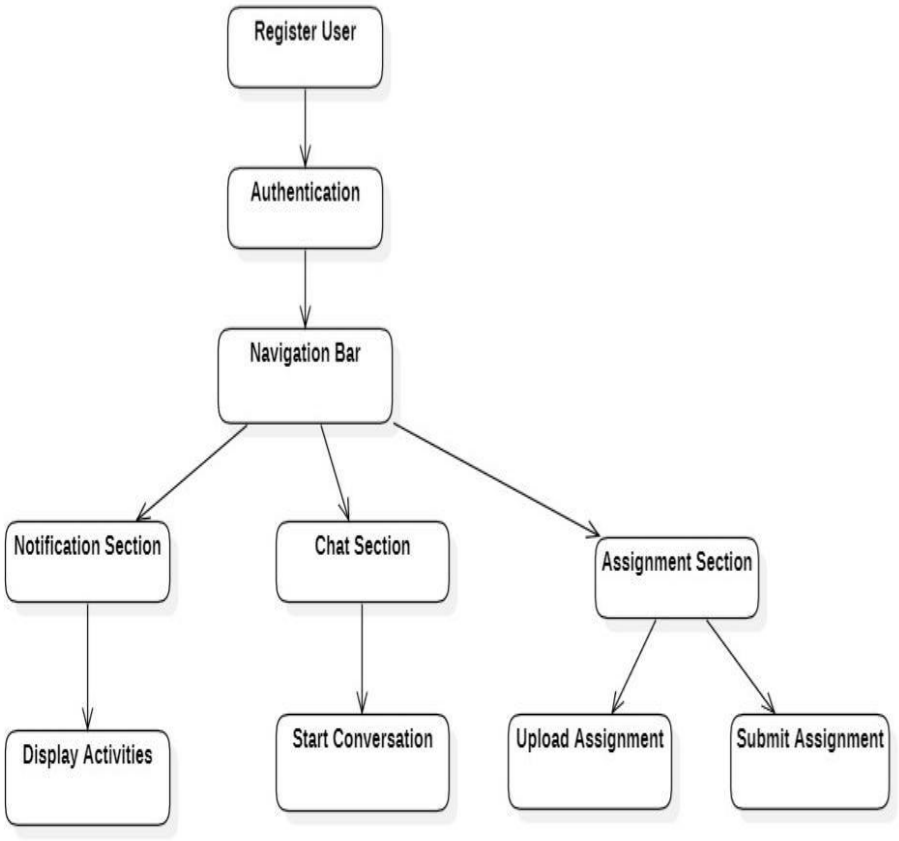

Figure 4. 4 System Flow Diagram

CHAPTER 5. METHODOLOGY

5.1 Block Diagram

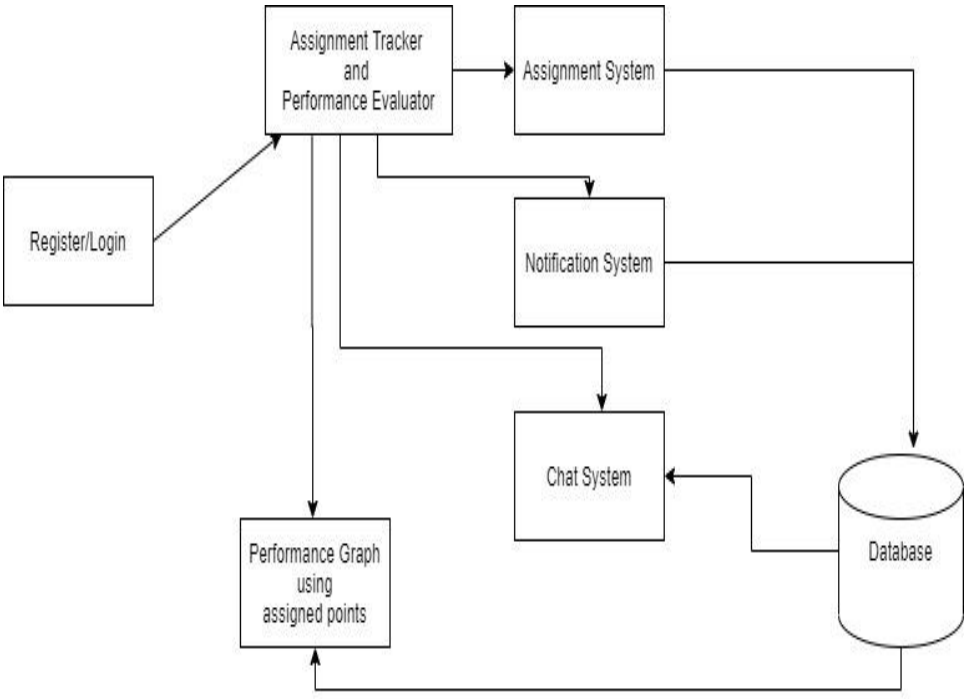

Figure 5. 1 Block Diagram

The proposed application makes use of following programming tools for development and implementation:

- MySql
- Laravel Framework
- JavaScript
- WebSocket

5.2 MySql

MySQL is a freely available open source Relational Database Management System (RDBMS) that uses Structured Query Language (SQL). SQL is the most popular language for adding, accessing and

managing content in a database. It is most noted for its quick processing, proven reliability, ease and flexibility of use. MySQL is an essential part of almost every open source PHP application. MySQL is developed, distributed, and supported by Oracle Corporation. The data in a MySQL database are stored in tables. A table is a collection of related data, and it consists of columns and rows.

5.3 Laravel Framework

Laravel is an open-source PHP framework, which is robust and easy to understand. It follows a model-view-controller design pattern. Laravel reuses the existing components of different frameworks which help in creating a web application. The web application thus designed is more structured and pragmatic. Laravel attempts to take the pain out of development by easing common tasks used in the majority of web projects, such as authentication, routing, sessions, and caching. Laravel aims to make the development process a pleasing one for the developer without sacrificing application functionality.

5.4 JavaScript

JavaScript is a lightweight, interpreted programming language. It is designed for creating network-centric applications. It is complimentary to and integrated with Java. JavaScript is very easy to implement because it is integrated with HTML. It is open and cross-platform. JavaScript usage has now extended to mobile app development, desktop app development, and game development.

5.5 WebSocket

A WebSocket is a persistent connection between a client and server. The WebSocket protocol enables interaction between a web browser (or other client application) and a web server with lower overhead than half-duplex alternatives such as HTTP polling, facilitating real-time data transfer from and to the server. At its core, the WebSocket protocol facilitates message passing between a client and server. It is defined as a two-way communication between the servers and the clients, which mean both the parties, communicate and exchange data at the same time.

CHAPTER 6. EPILOGUE

6.1 Gantt Chart

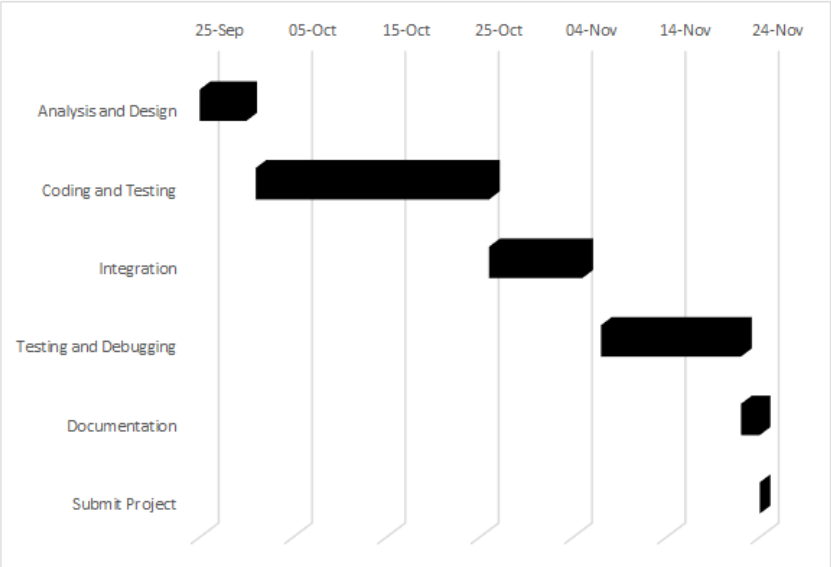

Figure 6. 1 Gantt Chart

6.2 Expected Output

The major goal of this system is to provide a way for organizing and tracking the daily assignments of the user so that it is easier and well managed. The system gives real time notification to the user about different activities such as addition of assignments by their respective teachers, new message, due dates, which makes the user's tedious work in remembering activities easier. The performance evaluation function gives estimation about the students and their working ability.

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