**CS551 Advanced Software Engineering**

**Project Pre Proposal**

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**Project Goals and Objectives**

**Motivation:**

Education is an important foundation in a child’s life. It develops courage, self-confidence and provides the most valuable wealth – Knowledge. With changes in technology and the effects these changes have in our day to day life like e-shopping, email, etc. we can see that the internet has become an inevitable part of a person’s life. E learning has become a wide aspect of all the schools.

Parents, teachers, kids everyone uses the internet. Almost everybody has a smart phone these days and there are various app’s that a person can use for various different purposes, like apps to check the weather, apps for social networking. These applications make it easier for a person to stay connected and up to date, evenkids these days are play with their parent’s phones and tablets. Our motivation is to why not use it for a good reason.

Life these days is very fast paced and competitive. In this competitive environment with a large number of students it is hard for the teachers to keep track on each individual student’s performance, strong and weak areas of interest. Teachers do not have extra time to spend on students who have trouble with their subjects, because they need to grade all the papers and prepare reports. Students who need the correct guidance sometimes don’t get it on time and don’t get the required motivation and hence feel frustrated and give up. Parents do not have the opportunity to keep track of their child’s daily progress and enough materials on their hands to help their kids. With all these reasons and the technologies to our advantage we were motivated to develop an educational mobile application that would be useful to the students, the teachers and the parents.

**Objective:**

We intend to develop an application which would greatly benefit the students and the teachers. An application for educational purposes can help a teacher in many ways. This application would give the teachers an easy and simple way to organize their work and plan their activities. It can help in conveying a message across their class. Help in creating tests and evaluating them. The application software can grade the performance of the students, which would make life much easier for the teachers.

It would help students to identify their problem areas and their strong areas and hence can help them in devising a study plan along with their teacher’s interactions. The students can get help at anytime from their teachers, which helps them build confidence and self motivation. The application acts like a personal tutor for the student. The student can use the tutorials and materials online to help them prepare for a course and keep in track of the class updates even though he/she might have missed a class. The student can access excess tutorials and descriptions that would be available to them all the time.

The parents can keep track of their child’s progress and can have a means of talking to their teachers other than just having to wait for the parent teacher conferences. The parents can help their children in their problem areas, giving them the required guidance and support when required.

**Significance:**

The ability of the software to make life simpler and easier for students, teachers and parents has a lot of significance in their lives. The software can greatly reduce the paper work required by the teachers. The evaluation of a test/quiz can be done by the software and hence reduces the amount of time the teachers have to spend on grading them. Thereby giving the teacher more time to concentrate on their students and help them. The mobility offered by the smart phones and tablets is very much useful for them to keep track of their students from anywhere and at any time. Teachers would not be limited by various factors such as time and place constraints to interact with their students.

For students, the app can help them stay connected, even when they are not at school. For a student who had to miss a class, he would still be able to catch up with the activity in school that day. The application can be helpful to home schooling student as well to evaluate their relative performance. Tutorials and online materials can help them better understand their problem areas. The students are aware that they can get the required help and this greatly boosts their confidence and motivation. The students can benefit from the technology advancements as well from the conventional approach. The parents can support their children in their endeavors. This could improve their environment and strength their bonds at home, thereby making school a better place to be at.

**System Features:**

* Login Screen: Student/Parents and teachers need to authenticate and they will see the functionality depending on their role.
* Teacher’s role:
  + Upload tutorials, practice exam and the practice exam answers.
  + Conduct online exam. Post the exam paper; collect every student’s answers.
  + Submit answer sheet for online exam and the application evaluates the students’ exams using the answer sheet.
  + Make announcements.
  + Communicate with students and help them with tutorials.
* Student/Parent role:
  + Access all the tutorials for better understanding.
  + Take sample test for practice.
  + Get the scores for the sample test for verification and look at the right answers.
  + Contact the teacher to solve any difficulty.
  + Take online exam.

**Related Work:**

**Moodle:** Moodle is a course management system which is an online learning website. Moodle is free and open source and is greatly used by many online for managing their courses. Moodle can be used for assignments, messaging, grading, tutorials and quizzes.

**BlackBoard:** BlackBoard is one of the famous education software that is particularly a learning management system. Black Board has various features and modules that are used to analyze and evaluate student performance, online communities and course management to students.

**Alice**: Alice is educational software that is used to teach students computer programming in 3D. Alice is a 3 dimensional tool that helps students to understand the fundaments of computer programming, computational thinking and problem solving by creating an animation which could be used for telling a story or playing a game.

**Backup Project:**

As a backup for this project we would like to propose a student course management system which is an application that enables the students to choose the course based on their performance from the previous grades. Since this tool keeps the grade records of all the students, it facilitates in analyzing the performance of the school as well.

This tool stores the present as well as the previous grades of the students. This application aids in doing the performance evaluation of the students and where the student stands in pursuing the objectives of the course. Depending on the evaluation, the student is allowed to choose the further course of interest. In case if the student does not meet the promotion policy as per the grade, the student has to repeat the course or satisfy the prerequisite criteria for the course. This tool provides the opportunity for the students to know about their strong and weak areas, which in turn helps in deciding their career goals.

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