Faculty of Engineering and Applied Science

SOFE 3490U
Software Project Management

Lab Report #1

Shreyans Rishi
100585817

Hannah Puccini
100585129

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Class Application

Justification

The group chose the Class Application project because we determined we would benefit the most and be able to do the best job developing it out of all the possibilities. Given that we all are students who regularly interact with other students and professors, each group member has a very well rounded view of what will be most important to include in an application like this.

There are many already existing applications that are similar to the individual components of the project. The project is largely a communication platform. For the chat component, there are many messaging applications (e.g. Facebook, Whatsapp, Linkedin…), which can be referenced when building. There are also a plethora of examples of similar databases and user authentication that are readily available and widely used. These allow us the opportunity to know the strengths and weaknesses of each and build our project with them in mind.

With the exception of servers to store the project data, this is a majoritively software based project. That means we won't encounter the problems and complications that would occur from introducing physical components such as sensors and user hardware. This simplifies the process and allows us to focus on building and optimizing the project instead of having to spend our time problem solving external errors.

The possibilities for expansion of the application are extensive. With the current plan, the project will be geared towards one individual school, however in the future it could help connect students from many different schools. This kind of networking could be a revolutionary combination of already existing applications like Facebook and Linkedin, allowing people to network and search for people with specific skills. Additionally, the application could be developed to include employers. This would mean small one time jobs could be contracted to appropriately skilled students, and employers could easily find and recruit new alumni. While at this stage the messaging services are text based, functionality could be added for audio and video messaging as well.

The application will be designed around three main user types: Students, Alumni, and Management.

Objectives

Each user has unique login information which allows them to access and edit (where applicable) their individual profile of data stored by the application. This must be authenticated when a user logs in and kept securely in the school servers.

User profiles should automatically include and be up to date with the information management has access to. This includes things like registered classes, degree, enrollment status, etc… Student users should automatically be converted to alumni users upon graduation.

Students must be able to exchange messages individually or in groups. This chat platform should be as user friendly as already existing software and similar enough that new users can easily start using it without having to spend much time learning to use the interface.

Management should be able to create classes which can be individually managed by the professor in charge. All registered students should be included in the class and allowed to view the other members. Professors can individually manage their classes, send individual or group messages, and class announcements.

Management must be able to monitor the application for any abuse occurring whether within chats, or on the data itself.

Alumni can update their information such as employment, or personal information. This data is stored by the application and management can access it to be used for useful research and development of the school. This information could also be anonymized and sold as an additional source of income, helping fund research and reduce student and taxpayer cost in the long run.

All users can search for people using a variety of filters (e.g. graduating year, program, faculty, etc…). This allows a wonderful opportunity for networking among students, alumni and professors.

The software designed should be compatible with the server infrastructure already being used by the school. The school will be managing the database, so designing it this way keeps costs down and performance up.

There must be mobile and web applications whose interfaces are at least as user friendly as any other institutional software that students are expected to use.

The application should be completed by April 2019 with the launch set in the fall of 2019.

Measures of Success

User complaints and bug reports sent by our user base will be used to determine the measures of success for the initial release of the application. These complaints and bug reports will be sent to the application development team which will help them increase their knowledge and improve their skills needed to create another version of the application. Constantly adding new features to the applications will help to keep the application a success and stay in business with our existing customers. Keeping up with new technologies used in education will also be important.

Infrastructure

This class application will be developed for both mobile and web platforms. The main mobile platforms will include Apple's iOS platform and Google's Android platform. The web platforms will include most of the browsers used by the users in a desktop computer. The SDKs for the mobile platforms are provided on the company's application development website. For Apple's iOS, Xcode IDE will be used and for Google's Android, Android Studio IDE will be used.