Why develop the timetable app?

The period of time we are currently living is referred to as the ‘Golden Digitalisation period’ according to Feigin. And this technological phase we are found in, is proven to be true by the engagement and expansion of the smartphone development. In the year 2018, over 1,2 billion smartphones were in operation all over the world's leading network providers (Feigin, 2015). It is reasonable to say that smartphones have become a person third hand. The development and implementation of mobile applications is at its highest demand due to the increased numbers of smartphones (Feigin, 2015 ). The North West University stated that there are over thirty thousand undergraduates enrolled at its Potchefstroom campus and each student requires a timetable to have an idea of class times and assignment due dates. Our proposal is to take the paper based timetables provided by the school and integrate them with each students smartphone. In our current academic environment the class timetables are shared with all the information regarding every module divided by semesters and Degrees but often students have to repeat a module or have extra modules which results in them having to search and create their own timetable with the web and mobile applications we are going to develop this process will be automated. Other features like push notifications will alert each student when maybe, an assignment needs to get submitted later on in the day.

Technologies and strategy

The development of the applications will be on windows machines using Ionic framework with angular and JavaScript because the aim is to create a cross platform application that also has some native functionality, also known as a hybrid. Ionic has multiple advantages such as, it allows the developers to make mobile applications for both Android and iOS with using one code and provides custom build frameworks (Dymond, *et al*., 2012). Android studio is a second option to create android applications. It is ranked first when it comes to developing android applications and Swift will used to create the iOS application. Research is still being conducted to select the application development tool or platform that the group is going to use.

A database will be used to store modules along with the class times, lecture venues and user information to facilitate logging in. The database the group agreed to use for the mobile app, is Firebase and Oracle database. The use of Firebase will be only considered if group agrees on using android studio and swift to create the timetable app. Some of the features offered by Firebase are that, it stores and sync all information on a cloud database, allows the running of mobile applications backend with no need of managing the servers and securely authenticate users.

Possible Challenges

The challenges we could face:

* We could struggle with teamwork as we are not all used to working together.
* Learning how to work with multiple new technologies simultaneously could also be a big challenge.
* Miscommunication could also be a factor.
* Synchronizing the servers time with the local time for the push notifications that will remind students to go to class.

Features

* Push notifications to remind students of class.
* Notes feature where students can add notes and categorise them according to their modules.
* Automated time table creation.
* Synchronisation with mobile application.

Reference list

Chandi, l., Martinez, D., & Silva C. 2017. Mobile application development process: a practical experience. <https://www.researchgate.net/publication/318019805>. Date of access: 25/07/19.

Dymond, A., Esselaar, S., Kuek, S.C., & Quang, C.Z. 2012. Mobile applications for agriculture and rural development. <https://openknowledge.worldbank.org/bitstream/handle/10986/21892/Mobile0applica0nd0rural0development.pdf?sequence=1&isAllowed=y>. Date of access: 25/07/19.

Feigin, B. 2015. Mobile application development. <https://www.cs.cmu.edu/~bam/uicourse/830spring09/BFeiginMobileApplicationDevelopment.pdf>. Date of access: 25/07/19.