Android App development project

With the almost complete accessibility of smartphones across the current population, especially the young adult population, the way information is managed has changed drastically in the last few years. This is most apparent in the development of social media sites, but our new ability to communicate has changed more than just the way we socialise. Custom made applications can now easily be deployed to a group of people almost instantly, a process that was all but impossible before smartphones and wireless Internet. These applications can allow a user to not only receive information but also process and send data, allowing for complex interactions to take place. Mobile banking is one such example.

With this platform established it is possible to look at common processes which may be improved by the development of an app. The University of Newcastle has many processes which could greatly benefit from more efficient information sharing (remember trying to enroll?). One area which may evolve rapidly is the ability for a lecturer to engage with the students in the classroom. Currently, a lecturer has no way of knowing who is showing up to the classes or if they are paying attention, as lecturing is very 'one way' communication. The lecturer also needs to rely on students having the notes from before the lecture (meaning they cannot be uploaded at the last minute). Overall this is an area with potential for improvement.

Your project

The University of Newcastle would like to commission an application that will allow students to check-in to a lecture when they arrive. This will act as a 'roll-call' application, where students will be able to mark their attendance at the lecture using a unique identifier. When a student has successfully checked in, the application should be able to distribute associated lecture files to the student's phone.

Using the MIT App Inventor platform, your team is tasked with designing, documenting and building such an application. The design will detail all features of the phone application, and how it will interact with the roll call server, and any file distribution service you wish to incorporate.

With your permission, one of the applications developed will be published in the Play Store and used to check attendance in the week 12 lecture.

Restraints

Your design will be reviewed based on the following features of application development.

PROPERTY	DESCRIPTION	RELATIVE WORTH
PRESENTATION / USER INTERFACE	The application must look good. Think about simple branding features as well as symmetrical layouts.	20%
ROBUST APPLICATION	The application should give meaningful error messages, and make use of conditional statements so that incorrect data cannot be passed to the server. A user should not be able to make incorrect selection when using the application, for example; the user cannot download the files unless they have successfully checked-in. Any dependencies required to make the application work must be accounted for in the design documentation.	40%
ROBUST SERVER INTERACTION	The application should send details to the server in the required format.	20%

	The application should make use of the responses from the server, to provide meaningful statements to the user about their check-in status.	
CANNOT CHEAT THE SYSTEM	The application will cater for students who attend the lecture. The design should include safeguards, so that students cannot check-in if they are not at the lecture.	20%
INNOVATION FEATURE	Extra marks are available for groups who add innovative (unspecified) features into their design.	10%

During this course, your group will be supplied with several tutorials and an Android phone to help you learn how to use the MIT App Inventor platform. Once you have built up your skills using the platform your team will use these skills to design and build your own app.

This problem specification is intentionally open ended. For a highly successful project, proper scoping of the project and justification of your decisions will be required in your documentation.