

# PROJECT SPECIFICATION 6

<b>Student:</b>	
<b>Date:</b>	<b>10/10/2016</b>
<b>Supervisor:</b>	
<b>Degree Course:</b>	<b>BEng Software Engineering</b>
<b>Title of Project:</b>	<b>An Android mobile application to record and monitor attendance with a look into modern technologies.</b>

## Elaboration

The purpose of this project is to design a mobile application that can be used to record the attendance of an individual in a variety of situations to help move on from paper registrations or timesheets in the workplace. It will implement a system whereby the user can clock in and out by a specified time be it through manual input or scanning a QR code with a location name and time stamp. This information will be stored for an administrator to view.

There are a handful of scenarios this application could be applied to, ranging from Universities monitoring student attendance in lectures, to employment agencies using it to keep track of temporary contracted employees. This will eliminate any time that may otherwise be wasted on such things as taking registers or filling out timesheets.

This project will allow me to expand my knowledge of the Java programming language as well as do research into more advanced features in mobile application development such as QR code scanning, push notifications and NFC capabilities.

As this application will be on the Android operating system I will be mostly using Android Studios as the chosen development environment.

With time permitting, I would like to explore the use of NFC to implement an almost instant 'clocking in' system. I would also like to look into making the application compatible with Android Wear devices such as smartwatches.

## Project Aims

The aims of this project are to:

- Design and develop an android application with the core functionality of the intended final product.
- The app will follow design patterns that fit that of the latest version of the Android operating system. (Material design).
- Integrate the use of the mobile's camera for QR code scanning.
- Explore the Google Calendar API to send push notification reminders to the user.
- Research the use of NFC and how it could be used for this application.
- Research the feasibility of adding Android Wear support to allow for clocking in from devices such as smartwatches.

## Project deliverable(s)

The deliverable will be a mobile application that will allow the user to clock in and out of a location or a session, e.g. a job, by set times and store the data to monitor attendance of the individual. It will be developed for the Android mobile operating system.