UNIVERSITI TEKNOLOGI MARA

SELF-MANAGE ATTENDANCE AND ANALYSIS APPLICATION USING GEOFENCING

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ABSTRACT

The purpose of the project is to overcome the problem regarding the existence attendance system that has many ways to be manipulated by students for their own benefits. We developed this application by using System Development Life Cycle (SDLC) is one the method that guided us to achieve the objectives of the project. We chose to develop the application using android studio software because we only focus for the android user and we also noticed that android platform is the well-known with affordable price for student to own it. The geofencing method had been applied to the application because by using user's real-time location, it almost impossible to manipulate this application. To should be able for them to clock in their attendance, they need to be in the geofencing area or boundary. We had chosen a group of students from FSKM to test that application. We asked them to be in the boundary but with different pinpoint to test multi-user functionality. We also asked some of them to be near boundary as, this application can notify user that they were nearby the class. As conclusion, this application is practical to apply in environment such as workplace and university because it can take care of user's integrity.

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INTRODUCTION

This chapter provides the background and rationale for the study. It also gives details of the significance of attendance system, the issues and problems that led to this research.

1.1 Background of Study

The project that has developed is a self-manage attendance and analysis application using geofencing. It is a mobile application type. Mobile application is a software that can run on a smartphone. Some of the mobile application need to have internet connection (wireless internet) to perform correctly but there are also that do not need internet connection to run it. Nowadays, smartphone has become trendy that will replace computer to find information. The technique used is geofencing. Geofencing is a macro-location technology for areas 50 meters or greater in radius (Kumaresan, B. 2016). A geofence is a virtual enclosure that a developer sets up around a geographic area in the real world. There are a few types of geofencing that can be used based on the situation or surrounding of the place that we want to apply geofencing technique. All the types will be explained more details in the next section. An attendance system is a medium that will act as a proof the presence of employees at the workplace. It also can be used to calculate salary of the employees based on work hours per day. In university, attendance system is needed to record presence of students in the class. Some university, management makes a rule that attendance of the class is compulsory for them to seat the final exam. Besides, the application will be developed by using Android Studio. It is a platform for android user for early version. As it will use geofencing technique, it involved context-aware of time and location. The