Chapter 1

THE PROBLEM AND ITS SETTING

This chapter includes the background, objectives, scope and delimitation, and the significance of the study.

Background of the Study

Mobile phones or cellphones are portable telephones that can send and receive messages and make calls. As time goes by, it became one of the most important things for people as its features and functions keep on upgrading. People use mobile phones for school, work and other activities. Because of that, people developed a phone that is called a smartphones. Many operating systems have been developed since then and one of these is the Android. Android is a mobile operating system that is developed by Google. Because of the unending demand for smartphones, many companies and developers made use of it. They develop applications that people can download into their mobile phones. Companies now have their own mobile applications where customers can access their account and use it for different transactions. However, not all transactions can be made through their mobile applications that is why customers still need to go to their nearest establishment to make transactions.

The current queuing system in most establishments is that they have a machine that dispense paper which contains a transaction number. They have different counters for different transactions. They give customers a transaction number depending on what transaction they will do and the customer will wait for their number to be called in the corresponding counter.

Because many people make different transactions, people go back and forth into the companies' establishments to make their transactions and it sometimes results into a long queue. People tend to wait for hours inside the establishment to make a transaction. They are afraid to leave the establishment for their number might be called while they are away. Some people have to cancel their other appointments for they won't be able to leave the establishment early because of the long queue. It became such a hassle and an inconvenience to people just to make a transaction.

It is for this reason that, the researcher, being a student in TUP Manila, gains a deepest desire to find a better way of improving the present condition by developing a system called as "Android-based Queuing System Using QR Code", that will help solve the problems in the present queuing system of most companies.

Objectives of the Study

The main objective of the study is to design and develop an android-based queuing system using QR code.

Specifically, it aims to:

1. Design the system with the following features:

   a. Allows companies to post configurable initial setup of transactions.

   b. Generate QR code for customer's queue.

   c. Provides a real-time transaction.

   d. Provides notification for customers.

2. Create the system using the following development tools:

   a. Android Studio

   b. WAMP (MySQL and PHP)

3. Test the system based on portability, functionality and, usability.

4. Evaluate the acceptability of the developed system using the ISO 25010 criteria for quality.

Scope and Delimitations of the Study

This study titled "Android-based Queuing System Using QR Code" aims to design and develop an android-based queuing system using QR code. This study was designed and developed to provide solution in the existing problem on the present queuing system in most companies. The system was created using Android Studio, and WAMP (MySQL, and PHP). This study includes allowing companies to post configurable initial setup of transactions, generating of QR code for customer's queue, providing a real-time transaction, and providing notification for customers. The developed system will be tested based on portability, functionality, and, usability. The system's acceptability was evaluated using the ISO 25010 criteria for quality.

This means that the researchers only focused on the said queuing system and will not go any further in developing other functions of queuing system. The system is only limited to an android-based devices specifically, an android version of 4.1 or higher, with an access to an internet connection in order to use the android application.

Significance of the Study

This study entitled "Android-based Queuing System Using QR Code" will be beneficial to the following:

To the **Companies**, this study will help them improve their queuing system. They will give their customers more satisfaction and lessen inconvenience. They will use less paper for they wouldn't have to use a paper for transaction numbers. The companies wouldn't be left behind in terms of the use of technologies.

To **Customers**, this study will enable them to do other important things while waiting for their turn to make their transaction. They wouldn't have to wait for hours inside the establishment doing nothing. The customers wouldn't have to worry to miss their turn for they will be notified.

To **Students**, this study will help those students that would like to conduct a thesis related to this study. This will help them gain more ideas and knowledge related to this.