**Literature Review**

**Introduction**

To develop the intended android application, the knowledge and research into Android SDK, programming language, database, methodology, design, and available tool is required. This section references various literature topics that is used to develop the application. Since it is a productivity application, prior to starting the project, several research about productivity and time management were carried out to understand the problem better.

**Android development Tools**

There are many tools and approach to developing a mobile application, it mostly depends of requirement and personal preferences. Different approach such as native, cross-Platform, Hybrid, etc can be used, each with different pros and cons (Velvetech 2019). Native development approach is considered the best approach as it is highly reliable, secure, and responsive.

Upon researching different tools(Top 20 Tools for Android Development, 2018), the top pick was Android Studio or IntelliJ IDEA. Having several years of experience in IntelliJ IDEA, it seemed to be the better tools at first, but further researching about android studio it was found that it is currently the best tool for android Application development as it is official integrated environment for android with ease of editing, debugging and testing codes (DEMCHENKO, 2020).

**Programming language**

There are plenty of options for developing native android apps: java, kotlin, c, c# and Javacript (Sims, 2019). As Android studio was the tool chosen, the language optionality was narrowed to Java or Kotlin. Having previous experience in Java, it seemed using java might be the easier approach but researching further, it was discovered that Kotlin is currently the official language for android app development and it is not very different from java(Gill, 2020). Kotlin is instead an improved version of java for android development and it uses all the libraries of Java. So, in conclusion Kotlin is chosen as the programming language and I felt it will also broaden my job opportunities having skills in an extra programming language. Several online resources or books will be used to learn and the language and implement to build the app.

**Database**

When it comes to choosing a database, there are many choices available depending on the requirements (IT Info-Tech, 2019). In my initial iteration the data will be stored in the devise which means SQLite will be the option to go to as it is local database for android. On later iterations Firebase will be used as I take my application online, since firebase provide cloud service (data stored and processed in the cloud).

**Software development methodology**

To develop a successful project, correct development methodology is crucial. Two of the methodologies that I am familiar is waterfall and agile. Waterfall is a linear management approach; it requires to planning and designing the project prior to building (coding) the product. Waterfall methodology can be lengthy, and it does not handle changes well, where in the Agile methodology the project can be divided intro iterations and planning, designing, developing, and testing can be performed to each iteration (Bowes, 2014). Agile approach allows project to be created swiftly. Considering both approaches, Agile methodology was more appropriate for my project since the application needs to be completed I short time and lots of changes are expected during each iteration as I am building the application while I am learning.

**Similar Product**

Mobile application market is very broad, currently there are around 2.87 million apps in Google play as stated in Statista website which indicated there exist an application for almost any idea. Upon further research it was found that there are many other applications similar to mine but many of them are very poorly made, overloaded with too many confusing functionalities or very impractical, which is why I am planning to make my application to fill these gaps with useful functionalities that are really needed and that can help user with productivity.

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