**Design Decisions**

This section will discuss design decisions in the project, including software, hardware, and development tool.

1. Operating System - Android

The application will be built on Android, the most popular mobile operating system all over the world. There are various of development tools and existed application based on Android, which can be take advantaged to simplify the work. Additionally, different from IOS development, which is limited in Mac OS X, Android application can be built in any environment. That makes the work convenient.

1. Application Development - Native Development

There is no development framework will be used to build the application. The biggest reason is multiple open-source libraries provided by equipment manufacturers can be used, so that not need to build device connection from scratch. Additionally, there is mature tool chain in native development, which is efficient for group work.

1. Heart Rate Sensor - Polar H10

Polar H10 is a chest strap whose heart rate sensor can precisely monitor heart rate in real time. It will be integrated into the system to gather heart rate status of the user. Polar provided Polar SDK, which is a fully functional development library. It can be used to build connection between mobile and the chest strap using Bluetooth and collect data from its built-in memory.