Research

1. How to implement Audio and GPS

<https://www.youtube.com/watch?v=-eFoX4K59qM>

This link is an example of how to play an audio from your local file.

<https://www.youtube.com/watch?v=XANjoeEeQ1Y&t=21s>

This link is from how to record audio then how to play it.

Our project is saving the audio file in local, so, these two links are really good examples how to implement audio function.

<https://developer.android.com/guide/topics/media/mediarecorder>

This link is official sample code for recorder. In this link it has very detail code about how to use the media function in Android Studio.

I learned all these concepts and try to write some sample code about recording function, and it works, it will help me a lot when I work on this part of our project.

Our check in function need to use GPS feature, so I did some research about how to implement GPS function as our team leader required.

<http://www.runoob.com/w3cnote/android-tutorial-gps.html>

This link has sample code about how to use GPS functions, also I find the solution for our question about how make sure when people check in, they should in the right area. We can use this function (**addProximityAlert)** to build a range, if people who check in but they are not in the range as we required, check in fail.

1. How to create a good UI

Before I start working on my UI design, I did a lot of research about how to build a good UI. I looked many different applications which has similar functions with our project (eg. Tophat, slack). When we group meeting I shared my idea with my others group member, and part of my idea are used in our project, like flag of the meeting (On-Time, Delay).