

COMP 5413 WB Web Health Informatics

Project Proposal

Title: SmartApp for using mobile phones smartly and health consciously.

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Summary:

Based on Android platform the SmartApp, using sensors to record and distinguish individual behaviors, will have the capability to gather data about the specific popular apps like Facebook, Twitter, YouTube etc. the users continuously use for long time period at a time. The apps will record the time, movement of users like sitting, standing continuously over 1-2 hour(s). The apps will trigger notifications to users that will have cautionary messages about harmful bad effects of using mobile phones/Tablets continuously and will suggest to leave device to take a break for relax.

Description:

At first users should allow this application to obtain the sensor and the mobile phone root permission. Then the app can record the sensor and the mobile can use data in the background at real-time. This app can run in background even in zero internet connectivity.

SmartApp is based on the **Android Studio** platform to develop and will have SAMSUNG mobile phone as testing platform. Mainly three modules are there:

- (1) Using statement module: Access to extract usage time of various most popular apps, as well as analyze user's usage habits. Use camera to gather image and then calculates the distance from user's eyes to the screen.
- (2) Movement module: Responsible for collecting user's behavior data when the screen is closed such as standing, sitting, running, walking and other behavior time. Use **K-Means cluster** algorithm or some data Analysis algorithm to mine data in order to classify different behaviors.
- (3) Sleeping module: Gather the sound and vibration data to analysis your sleeping time and quality. Using machine learning such as **SVM** to classify sleeping habitt it finish the training and predicting steps.

The notification will be triggered for using apps unusually long time period at a time behaviors, such as watching videos for a long time or too close to the screen. We will use **Android Looper, Handler**, and **HandlerThread** to control the date flow.