CSE 465 Mobile Computing

# Project 3 Proposal

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## 1. Goal of my project 3

The goal of this project is predicting the current user sitting posture using the mobile phone. The application should recognize the brightness of lighting value in the room between the user face and the screen. As well as, the mobile phone can check its tilted angle 3 type as lie on the desk, incline grip about 60 ~ 70-degree, perpendicular grip. Last, the application should check how long turn on the display in other words, screen time checking.

## 2. Related work (what is the most similar work that already exist in the literature?)

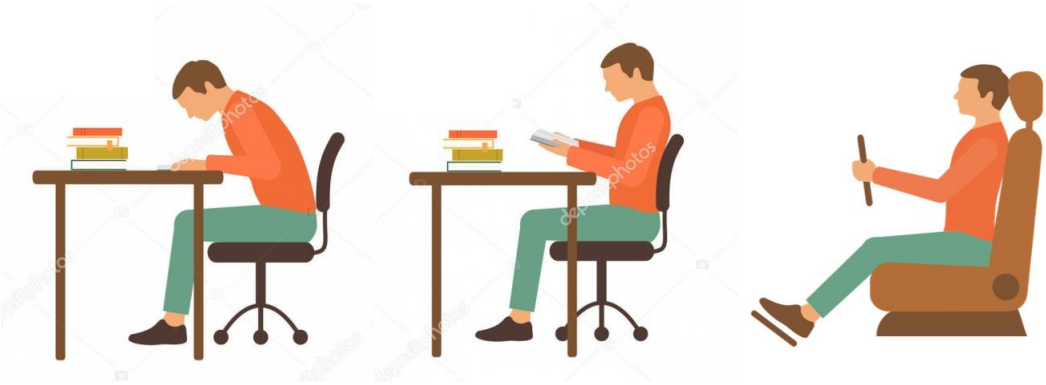
- The unlocking of phone screen.
- The screen time function.

## 3. Contributions of this work (what is different from existing similar work?)

The most different thing is that this application predicts specific situation at this case is the user's sitting posture by sensing each task. It's an application that can give feedback to the users beyond just recognition and measurement.

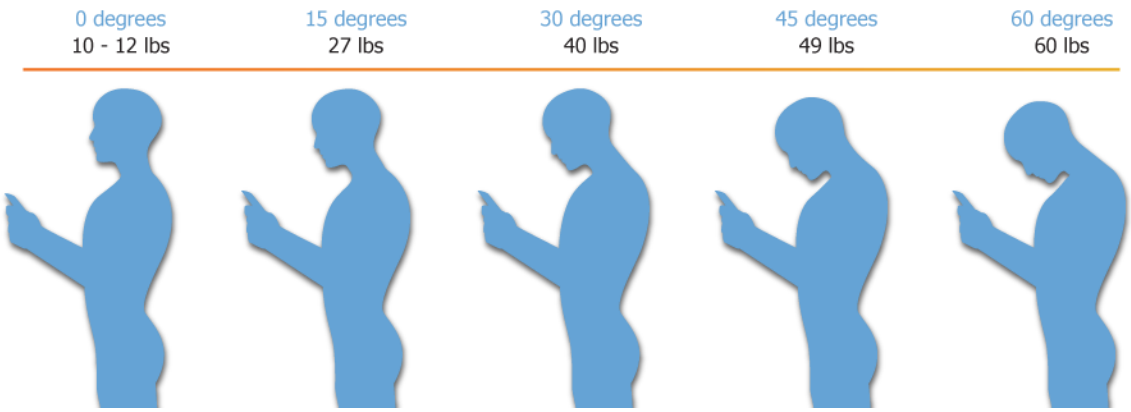
4. System design / Implementation plan (what will be implemented?)

- 3 posture types



< type a > < type b > < type c >

- Degrees range




< reference of neck angles >

- The main prediction task is 3 posture types a to c.
- Type a) Phone is lain on the desk.
- Type b) Phone is gripped 60 ~ 70-degree.
- Type c) Phone is gripped perpendicular.
- The best neck angles are 0 ~ 20-degree.
- The best distance between face and phone is 30cm.
- The best period between out of display and rest is 20min.

5. Evaluation method (how will it be demonstrated?)

The user will use application about 20min. But demo app will check just 1 minute with 10 seconds cycle time. For real situation, the screen time period is 20min. The application will predict the posture type of them each period. The criteria are these as below.

The application can

- recognize the room brightness of lighting.
- calculate the maximum, average lighting value each 10 seconds.
- check the screen time each 1 minute.