

# Project Proposal: Health Buzz A health reminder

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# Target users and the problem they are facing

- Nowadays, people have a hard time studying, coding and doing work on their seat. While doing these burdensome things, they sometimes forget to do a stretching or taking a walk. It would be bad for their health, and also for their work efficiency.
- **Target user group** : People who are sitting long time with bad pose while doing a work for a long time.



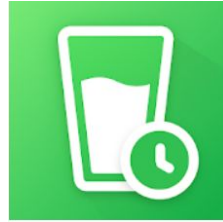
# Existing solutions and their limitations



Stand up



Move

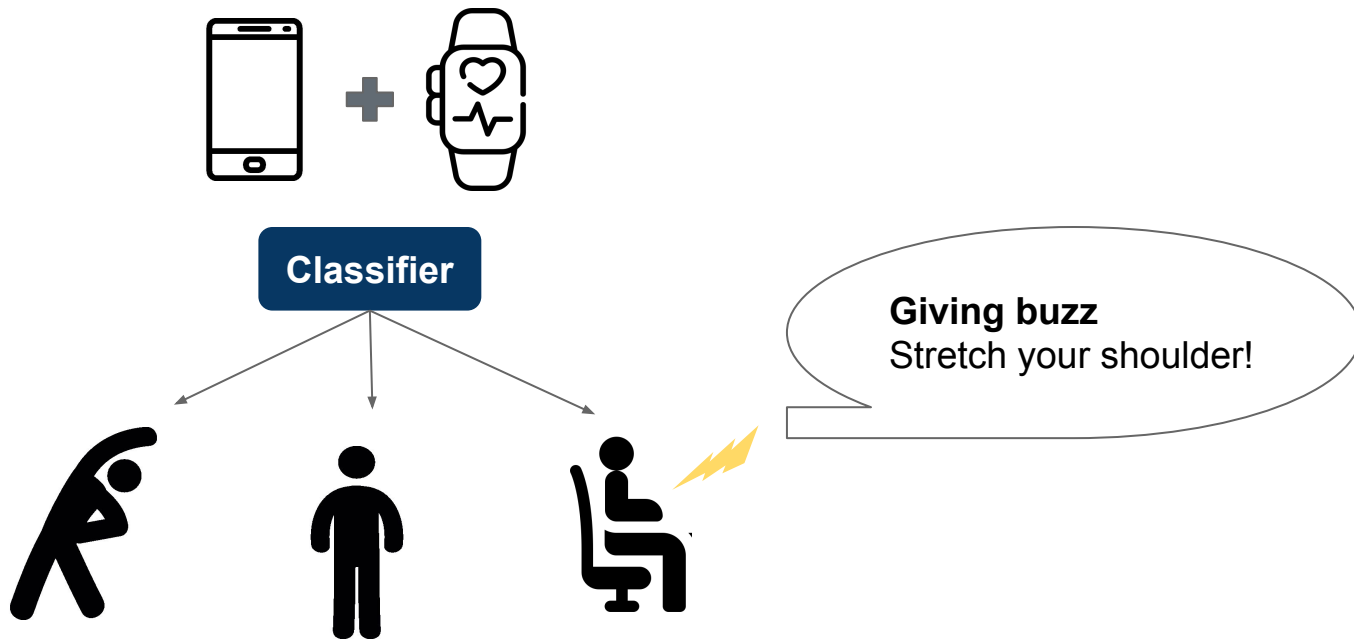


Water drink  
reminder

## Limitation

They give alerts based on interval and time which user previously set. These methods can't consider user's real-time actions

# The key solution approach to tackle the problem

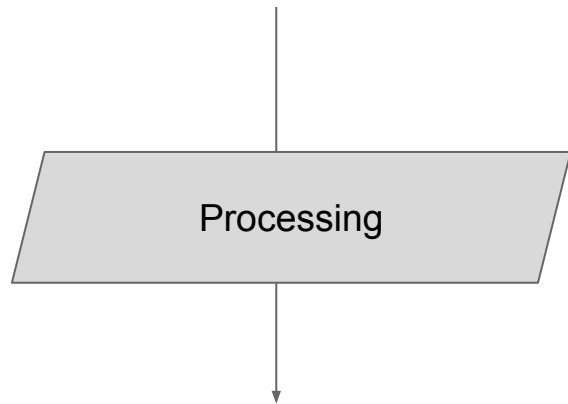


# Usage scenarios

- Users install the app.
- The app detects their poses and give alert to user when they sit for a long time without stretching.
- The app recommends good stretching strategy for the user, based on the poses detected.
- The app also checks whether the person drank enough water and alerts the user to drink some water if needed. (Potential, by studying hand movements to grab the cup)

# The proposed system overview and specific functions

- Sense the user's pose in the background.
- Remember when the user last drank water.



- Alert user to do stretching
- Recommend some appropriate stretching strategy for the user.
- Alert the user to drink some water.

# Expected (technical) challenges and solution ideas

- **Sense body motions and state**(ex: not moving, unhealthy pose or drinking water)
- *Sol*: Based on smartwatch's sensing data(GPS, distance to body, pulse or acceleration (or visual data if possible)), we can use algorithm or ML to catch them.
- **Recommend customized stretches**
- *Sol*: Using personal state and pose data history(drinking everyday or not moving wrist much), we can recommend customized stretches.
- **Recognize good and bad pose**
- *Sol*: We can get each pose data for sensing from users in initialization.
- **Save battery**
- *Sol*: Consistently detect pose while the user is moving, and sleep while the user stands still. Then periodically check if the user is still have not moved.

# Evaluation strategy

- Compare our motion sensing results with real pose data to get accuracy.
- Check if our app recommends proper stretching at intended timing.
- Test the app functions and do proper QA





# Overall project plan (by Nov. 1st)

0. Build a skeleton	Everyone
1. Get friendly with smartwatch and phone sensors	Everyone
2. Collect data from sensors	Hyeonseo & Jasmine
3. Study models to detect pose	Everyone (Donghae will lead)
4. Train model and deployment	Donghae & UGyeong
5. Add function and improve UI	UGyeong & Hyeonseo & Jasmine

# Final deliverable

- Alarm app that notifies you to correct your bad gesture/pose, gives appropriate stretching exercises to do between your work hours and tracks the amount of water you drink and sends buzz to remind you..
- Smart watch/phone will buzz to remind you it's time to do some stretching, with recommendations.
- Buzz for drink water and other health related reminders. (long term plan: Smoking detection, Medicine reminder, sleep reminder, meal reminder, etc)
- Ability to customize.

# Success criteria

- Novel idea
- Effective
- Improves productivity
- Secure
- Trendness
- Simple and organized, yet functional and personalized
- Potential to grow bigger

**Thank you!**