Date: September 23, 2017
Start time: 10:00am
Location: CSIL
Meeting called by: Jia Hui (Mandy) Xiao
Facilitator: Jia Hui (Mandy) Xiao
Timekeeper: Jia Hui (Mandy) Xiao

Attendance

Attendees	Status	Reason (if absent)
Sheung Yau (Gary) Chung	Present	
John Ko	Present	
Ryan Kiew	Present	
Zavier Aguila	Present	
Jia Hui (Mandy) Xiao	Present	

Today's agenda

1) Discuss ideas for making an app related to either Autism, Alzheimer's or Parkinson's. Each member in the group will present their ideas.
Estimated time: 10:30am
2) Talk about usefulness, creativity, technology used for each of the ideas.
Estimated time: 11:00am
3) Vote on the best 3-5 ideas.
Estimated time: 11:15am
4) Write summaries for those ideas (see below screenshot for instructions).
Estimated time: 12:00am
5) Discuss "Project Manager" role. Should we rotate? Do we want to assign one-two people for the whole term? Etc.
Estimated time: 12:05am
6) Email professor the summaries for final decision.
Estimated time: 12:15am
7) Decide on future meeting dates and time.
Estimated time: 12:20am
8) Discuss how we will spit tasks for writing the Project Plan (Due: Sept 27th Wednesday)

Estimated time: 12:30am
9) Learn about XCode.
Estimated time: 1:00pm (can stay later if we want)

Agenda Item #1

Discussion
J: Alzheimer's. Make a game so that people can upload pictures of their family members and recognize.
Z: Parkinson. Press longer on the keyboard keys. Early detection app. Early onset, mid-stage, late stage. Takes into account the time it takes for patients to type. Add on diction and more features.
M: Helping parents to prepare their kids for change. (moving, going to the dentist, going to a new school, taking the airplane etc.)

- Putting social stories to life.
- Often need a few weeks to months in advance notice
- Have sounds the simulate these activities
- Prepare for the dentist: teach kids to lie down still and use gyroscope to evaluate if he/she moved.
- Use point system to encourage the kids and that also tells the parents their progress
- Have a calendar to remind parents when changes are coming up and they should prepare their children for those changes

R: Alzheimer's. Irregular heartbeat. Track their heartbeat to detect possible heart stroke & Alzheimer's severity.
G: Alzheimer's. People don't understand the illness. Create a VR app to help others understand what living with Alzheimer's (or other diseases) is like.

Conclusions

Action items

Description	Person Responsible	Deadline

Agenda Item #2

Discussion
About J's idea: Simple and maybe already exist. Can be more inventive.
About Z's idea: Unique idea. Eye tracking, diction. Can work for other disabilities. Not sure if it's feasible for iphone. Maybe too to do in 3 months.
Difference between second keyboard and autocorrect?
We don't know if it works for the patients.
Maybe some companies are already doing this.
Targeting more of swift changes.
About M's idea: maybe can combine with Gary's idea. Might be too much work. time for the parents. Useful?
Point system idea - to keep track of the real life situation

- Give children stars if they did well
- Might be discrepancies

About R's idea: atrial fibrillation. Works for early onset. This doesn't work all the time.
Should add new features to it. Maybe age if related to heart problem?
Better as an add-on to an early onset tracker.
Only works 33%
About G's idea: lots of work. Only simulate what they did in the video. Resource for others to understand the illness.
AR rather than VR? Google cardboard.
Undermining the issue of the Alzheimer's. Cannot simulate stiff hands.

More ideas from last time:
Facial recognition - pointing camera at a person, can recognize the person.
Reminder system
Fall detection - depending on your height. Know physics
Aggression detection - maybe too difficult to detect someone's angry.

Conclusions

Action items

Description	Person Responsible	Deadline

Agenda Item #3

Discussion
Question for prof: can we use external sensors / devices to the phone?

Remembering app: 0
Keyboard idea: 4
New environment: 1
Irregular: 0
Gary's app: 3
Facial recognition: 1
Reminder system: 0
Fall detection: 0
Aggression detection: 0

Conclusions

Action items

Description	Person Responsible	Deadline

Agenda Item #4

Discussion

Multistage Parkinson Keyboard Suite:
This main goal for this app is to introduce 3 specialized keyboards to early-diagnose possible parkinson patients and aid those who are afflicted already by this condition.

The first keyboard is aimed at early detection. There is research into the keyboard interaction of a PD patient. It was seen that PD patients have a bigger swing in the variations of the length of a single keyboard key press, so a user might press ‘a’ longer than ‘b’. So this keyboard would actively monitor that, and track any progression over time. Once a danger threshold is reached, it will warn the user of their possible PD affliction.

The second keyboard will be aimed to those in the mid-stages of PD where the ability to still control their motor functions is present, but hindered by occasional jerks in movement or occasional loss of control. It still takes the form of a natural keyboard, but work will have be put into recognizing wrong keystrokes. This could be the user suddenly tapping multiple buttons, or it could be the user swiping through their keyboard, the app would remove these wrong characters. Another idea would be the use the Iphone’s pressure sensor to detect how deep the user has pressed a key, and only register keys that have met a specific pressure threshold.This keyboard aims to be more than a simple spell checker by targeting the kinds of interaction PD patient will have with keyboard and correcting mistakes based on this knowledge.

The final keyboard will be a novel keyboard or even a novel input method. The most common one is a diction keyboard which is already available on most our phones. Using google keyboard, there is no word correction, so if a word is miss spoken then it would be hard for the PD patient to correct their mistake. So a diction keyboard targetteing PD patients would be ideal. Another interesting approach is eye tracking. Tracking where on the screen the user is looking and take this an input/ key press. Additionally, we could link Google’s swipe to type algorithm to tracking the eye movement for a smoother user experience.

In the end, these keyboard will aim to capture PD patients at multiple stages of the disease and aid them each step of the way.

New environment:

“Adventure Prep”

This application aims to help parents / caretakers to prepare their kids with autism for new environment weeks or even months ahead of time. For example, going to the dentist, moving to a new house, starting school etc., to minimize stress on the children during the actual events. The app will come with default pictures and sounds relating to specific activities for instance, drilling noises for going to the dentist. Users can also upload videos, pictures and sounds for a more customized experience (pictures of the new house they are moving). There are point systems for each event so caretakers can get a sense of how their children are dealing with these simulated new environments and if they are ready to go on their new adventures. Take the dentist example again, the app can have a little quiz where it will play sounds of drills and equipments for 5 minutes and the phone is placed on the child, he/she will get more points the longer they stay still.

Facial Recognition:
“Memento - never forget the face of your loved ones!”
This application works by using facial recognition software in conjunction with the iPhone camera to help people suffering from dementia, which is a symptom of Alzheimer’s Disease. This will require the patient to take photos of friends, family and acquaintances, which would aid in the future when they may forget these people. The user will take a picture of the unknown person, and the app will run that picture through its archive and find the match. If the facial recognition doesn’t meet a certain threshold, then the application will send a warning to the user that he/she may not know the target person.The app will also consider the location of the picture taken to determine the probability of knowing the target person.

“Virtual Dementia Tour - 12 minutes Alzheimer's Tour.”
Just what is a loved one with dementia going through? This mobile application aims to help caretakers understanding what it’s like to suffer from Dementia. It will recreate the fear and frustration patient with dementia feel by utilizing VR technology, gloves, and glasses to take away your primary senses. We wish create a unique gamified experience so that more more people will have empathy toward those patients.

Conclusions

Action items

Description	Person Responsible	Deadline

Agenda Item #5

Discussion
All of us are developer and QA
- Log progress

Mandy will be project manager for the whole term

Conclusions

Action items

Description	Person Responsible	Deadline

Agenda Item #6

Discussion
Emailed and cc'd everyone else.

Conclusions

Action items

Description	Person Responsible	Deadline

Agenda Item #7

Discussion
M: sfu suggests 4 hours per credit. So we should spend at least 16 hours per week for this class.
Meeting Thursdays morning for formal meeting
Work meeting on Saturdays

Conclusions

Action items

Description	Person Responsible	Deadline

Agenda Item #8

Discussion
Cannot split the tasks yet.
Mandy will be doing the garttchart.

Conclusions

Action items

Description	Person Responsible	Deadline

Agenda Item #9

Discussion

Conclusions

Action items

Description	Person Responsible	Deadline

Next Meeting

Date	Time	Location	Notes
Sept. 25	4:30pm	Tim Hortons	

End time: 12:58PM