Progress Report 2 - Human interaction with voice-assistant agents

Current Progress

Since the last progress report, I have been continuing with my work on the creation of an application that will assist in the capturing of in-home conversations and confrontations that could be causing mental health issues for young children. This standalone application has reached its competition so can detect conversations being had when there is some shouting involved, it will record the talking before and after and send this file to a location on the disk with a timestamp. Since completing this part, I have spent some time reviewing different frameworks to export my application into something more situated in day to day life. There are many reasons why this is an essential step for the progression of this project, one of which is that it is not realistic to assume a home will have a laptop on and situated in the ideal location to record an argument. I am looking to have the application run on a mobile device as these are nearly always situated near the user so would be ideal to use to pick up conversations being had by the subjects.

The best framework I have found that can be used for creating my application for mobile platforms is 'CARP Mobile Sensing Flutter Plugin' which is a digital phenotyping platform designed specifically to collect research-quality sensor data from smartphones. I am currently in the process of exploring this framework and in the early stages of programming my application into this framework. I am having some issues as I my hard drive failed on me last week resulting in me loosing some progress with the new framework and being unable to work on my project for 8 days.

For the written aspect of the project I have completed my research into Social Signal Processing and have started making comparisons between SSP and DPICs as this is an area that is yet to be explored from the research that I have done. This can be useful for other future projects that are aiming to create applications that will be detect when certain detrimental behaviours in parent-child interactions. Although I will not be exploring all these comparisons within this project, I will be giving my opinion as to what can already be done with current technology and what behaviours may need advancements to be confident when identifying the behaviour in the DPICs manual

Future Developments

Between now and the end of the project I will continue working on moving the application into the CARP framework which will then require testing. When I have finished the application, I will add the relevant aspects of the development into the written section of the project. I will continue drawing the comparisons between DPICs and SSP. Then to finish the project I am planning to include a section which contains some thoughts on effective intervention methods that could be implemented with the help of the audio captured from the application.

Timetable

Inividual Project - Plan

Select a period to highlight at right. A legend describing the charting follow Period Highlig 1 Plan Duration Actual Start % Complete Actual (beyond plan % Complete (beyond pla

ACTIVITY	PLAN START	PLAN DURATION	ACTUAL START	ACTUAL DURATION	PERCENT COMPLETE
Research Areas of Parenting	1	3	1	6	100%
Literature Review	1	8	2	7	100%
Choose Activation Points	3	1	3	2	100%
Create Listening abitily	8	2	8	2	100%
Storing of Data	10	3	10	3	100%
Activate on Decibel Level Reached	12	4	14	3	100%
Continue Listening as More Sound Heard	14	1	15	1	100%
Add Sounds Heard Before Shouting	15	2	16	3	100%
Moving Talking Window as More Heard	17	2	19	2	75%
Processing of Input Data	19	2	21	1	100%
Research Exporting to External Devices	21	1	21	1	100%
Create Ability on Found Framework	22	3	22	3	50%
Test	25	2	0	0	50%
Feedback to Users	25	2	0	0	0%
Research Methods of Intervention	26	1	0	0	0%