

4 April 2017

Time:

12.30 pm

Duration:

+/- 45 minutes

Present:

- Assoc. Prof. James Gain
- Assoc. Prof. Deshendran Moodley
- Anna Borysova
- Shaheel Kooverjee
- Erin Versfeld

Excused:

None

Summary:

- The project must be carefully contextualised as it is situated in a highly political sphere
- Possible avenues in the following domains were discussed:
 - Devices
 - Machine learning
 - Benchmark datasets
 - Context
 - Evaluation
 - Literature review
- J will be away from 14 April

Next meeting:

13 April 2017, 12pm

Points of Action for next meeting:

- A, S and E will do a preliminary review of the literature
- They will decide on the context in which they wish to base the project
- They will agree on possible avenues of investigation
- Their decisions and findings will be discussed in the next meeting

Discussion:

- J highlighted the possible devices which could be used to conduct the study, namely:
 - The Kinect
 - The Leap
 - The Myo.
- J also highlighted the avenues which should be investigated and background reading which should be done for the purposes of this study. These were:
 - The devices

- Capabilities
 - APIs
 - Previous uses
- Computer vision
- Machine learning algorithms
 - SVM
 - ANNs
 - Bayesian learning
- **D** emphasised the things to take note of when reviewing articles concerning these topics, namely:
 - Lighting
 - Camera angles
 - Position of camera
 - Machine learning techniques used
- **D** highlighted that these common features could be compared in a table to weigh the pros and cons of various approaches when conducting the literature review
- It was brought up that a benchmark dataset would be required
 - **E** pointed out that whilst there were some for other sign languages, SASL specific ones would have to be found
 - It may be necessary to generate this dataset ourselves prior to more formal testing
- **J** highlighted several means of evaluating the performance of the selected algorithms' performances, namely:
 - Accuracy
 - Precision
 - Recall
 - Latency
- **D** highlighted the need to identify the context in which the project would be framed, namely:
 - Research or system development
 - SASL interface or learning tool for hearing
- **D** pointed out that this context would influence the evaluation strategy used, and suggested other evaluations, such as:
 - Roc curve
 - Cost trade-off
 - Performance vs cost
- **J** emphasised the political context within which this project sits, namely the past extortion of the Deaf community by researchers.
- **D** pointed out that this makes it even more important for us to try and find a SASL dataset which can be used for the project
- **E** suggested getting input from Deaf UCT students, Edwin and his colleagues to help navigate these issues
- For the immediate future, it was decided to focus on the literature review
- In this regard, **J** and **D** both suggested investigating the value in focussing our review and project on one or more of the following angles:
 - Data types (EMG, etc.)
 - Devices (Myo, Leap, Kinect, etc.)
 - The value of AI in this problem domain
 - Tool construction
- **J** indicated that he will be away from 14 - 30 April.
- The next meeting will be held on 13 April at 12pm