ELEN4012 EMOTION RECOGNITION PROJECT PLAN

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Abstract:

Key words:

1. INTRODUCTION

2. PROBLEM BACKGROUND

3. PROBLEM SPECIFICATION

3.1 Overview

3.2 Requirements

3.3 Assumptions

3.4 Constraints

3.5 Success Criteria

4. PROPOSED APPROACH

4.1 Approach Overview

4.2 Approach Details

4.2.1 Speech Input
Speech will be sourced from recordings taken of students. These will be done in a soundproof chamber in order to reduce external interruption. In order ot reduce costs they will be done one of the student's iPhones which record at as M4A files, which will be converted to .WAV files for use. This will be done by using the built-in 'Voice Memo' application, which records at frequencies of 44.1 and 48 kHz [1].

4.2.2 Signal Enhancement

4.2.3 Signal Classification

4.2.4 Output

4.2.5 User Interface

4.3 Training & Testing

5. PROJECT MANAGEMENT

Throughout the duration of the project, the partners will be in contact with each other regarding their progress or any other obstacles which they may face. In addition, at least one weekly face-to-face meeting will be held between the partners and project supervisor.

Project files will be housed on a private GitHub repository.

The subsections following will outline how the project components listed in section 4. will be divided and the estimated time to be taken for each.

5.1 Prerequisites

Ethics Clearance

Installing all needed for project

Set up project repo

Resources required: Git

5.2 Data Collection

Source training data

Meet with students to record data

Resources required: Microphone, Recording application, access to soundproof chamber

5.3 Signal Enhancement

Resources required: Python 3.5

5.4 Signal Classification

Resources required: Python 3.5, TensorFlow

5.5 User Interface

Resources required: Python, TKinter

6. RISKS & THEIR MITIGATIONS

6.1 Data Security

Data Stolen and misused.

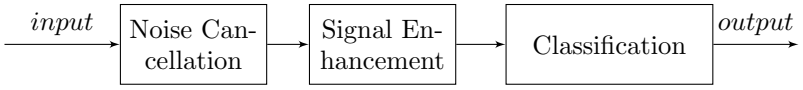

Figure 1: Block diagram of approach overview.

Will be mitigated by storing all collected data in password protected file and destroyed after.

6.2 Ethical Issues

Personal information disclosed, etc.

Ethics clearance will be obtained prior to project. A script will be given to participants therefore no personal info. Each participant will be given information sheet on the project and sign a declaration.

6.3 Inaccurate Results

Data could be distorted and give inaccurate results.

Recorded in soundproof chamber where possible. Tests will be run on data. Estimated percentage accuracy will be obtained.

6.4 Intellectual Property Risks

Google

7. CONCLUSION

References

[1] A. R. Hill. "Analysis of Voice Recordings Made Using "Voice Memos" Application for iOS." *University of Colorado, Denver*, p. 28, 2014.

Appendix

A Gantt Chart