WRIGHT BROTHERS INSTITUTE

TRANSFORMATIVE COLLABORATION & INNOVATION

SOCOM Technology Challenge

Audio Processing

Audio Processing Challenge

Firefighter talking on Radio

Combat Controller calling in Aircraft

Multiple levels of processing needed:

1. Can you identify the person talking from all other talkers?
2. Can you split audio based on speaker characteristics (separate files for each talker)?
3. Can you process noisy audio in a way that makes it easier to distinguish common words?
4. Can you transcribe it effectively, and provide accuracy (of translation) or other metadata?
5. Could you build an editor that consumes the accuracy metadata (flags the high inaccuracy items) then allows a user to correct the transcription and links it to the original file for replay?

Audio Processing

Clean up audio signals for transmission

Could you build an editor that consumes the accuracy metadata that allows a user to correct the transcription and compares
(if we wanted to make it DIS-centric) Can you build a 'scenario editor' that takes the output from 4 (or a directory of files) and builds a DIS scenario?

Success Criteria

Task 1 (20 pts) accuracy of speakers identified

Task 2 (10 pts): Accurately split files into each talker

Task 3 (30 pts): Sound easier to understand or translate

Task 4(30 pts): Accuracy of transcription on hidden file.

Task 5(15 pts): Editor to link the separated files (audio and transcriptions) while displaying the metadata

Prize

First Place: $600
Second Place: $300
Consolation Prize: Raspberry Pi 3