

## PROJECT REQUIREMENTS DOCUMENT

### Project Name

VisuSpeak

### Functional Requirements

1. **Sign Language to Text and Audio:** VisuSpeak will convert American Sign Language (ASL) gestures (from visual signing captured in a video clip) into text and audio to facilitate communication with English speakers.
2. **Text and Audio to Sign Language:** Users can input text and audio into our application, which VisuSpeak will use its database to translate into ASL for communication with ASL users.
3. **ASL Accuracy Testing:** To enhance beginner ASL users' proficiency, the application will allow users to test the accuracy of their ASL by comparing it to a database of signs.
4. **Accessibility Level Identification:** Users of the application can specify their accessibility needs, such as visual, vocal and hearing impairment for a tailored communication experience.
5. **Transcription History:** The application will maintain a history of conversations and transcripts, ensuring users can access past interactions.
6. **Accessibility Officer Access:** Accessibility officers will have access to user transcripts, aiding in support and assistance.

### Technical/Performance Requirements

1. **Minimum Performance Requirements:** Users should have access to a Desktop/Laptop with browser support and web camera.
2. **Accessible and Inclusive Design:** The user interface in the application should be accessible and inclusive to accommodate users with visual and hearing impairments.
3. **Secure User Authentication:** The application should keep user credentials and related data secured.
4. **Efficient:** The system should be able to perform translation between ASL and English between 15-30 seconds depending on the size of the input.
5. **Accuracy:** System should be able to accurately recognize video input from the user and the Artificial Intelligence (AI) model should provide correct predicted translations.

### Reviewed By

Brooklyn Coulson

<b>Date</b>	October 20, 2023
<b>Comments</b>	For #4 in functional requirements, perhaps remove blindness since they will not be using our application at all if they can't see; visual impairment can stay though.