



SCRUM DATE: NOV 21, 2023 - JAN 15, 2024

CULTIVATOR SCRUM TEAM



VisuSpeak

Team Members:

- Archisha Bhattacharya
- Brooklyn Coulson
- Jasmeet Singh

PROJECT OVERVIEW

Our Why

- Our primary motivation is to create a solution that will address accessibility needs and increase inclusivity for individuals with vocal and hearing impairments. We want to bridge the communication gap that currently exists between ASL users and English Speakers.
- It will help individuals with accessibility needs to gain access to essential services in public settings such as Institutions and Offices. This solution will strive to educationally benefit all who use it, improve social interaction within both communities and promote equality among all groups involved.



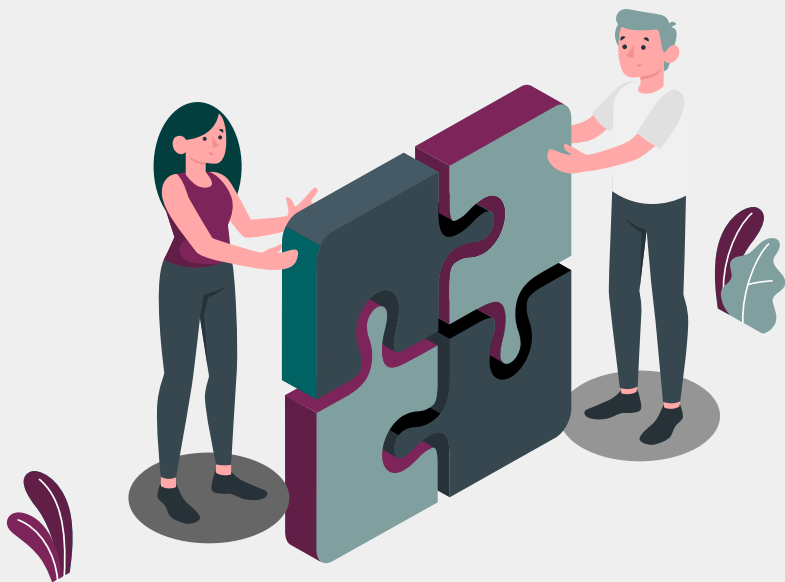
PROJECT OVERVIEW

Our How and What

- ASL to English bi-directional chat application with the following tech stack:
 - LEMP server
 - MySQL for backend
 - React Native for frontend
 - CNN model with MediaPipe
 - Built a custom dataset for ASL words



PROGRESS SO FAR



PROJECT HOUSEKEEPING

- Gained access to additional resources for model training
- Met with sponsor to provide project updates
- Met with U of R Accessibility Centre for access to user base

PROJECT DEVELOPMENT


- Created custom dataset for detection ASL words
- Trained a new CNN model using MediaPipe.
- Implemented user authentication on front-end

TEAM CONTRIBUTION: ARCHI

- **Local Testing:** Tested and debugged front-end to back-end connectivity in localhost
- **Server Setup:** Configured production server using LEMP stack and installed required dependencies
- **Deployment:** Deployed React App and MySQL database from testing to production and verified functional performance post-deployment
- **Authentication:** Developed user authentication system for secure sign-in and login capabilities



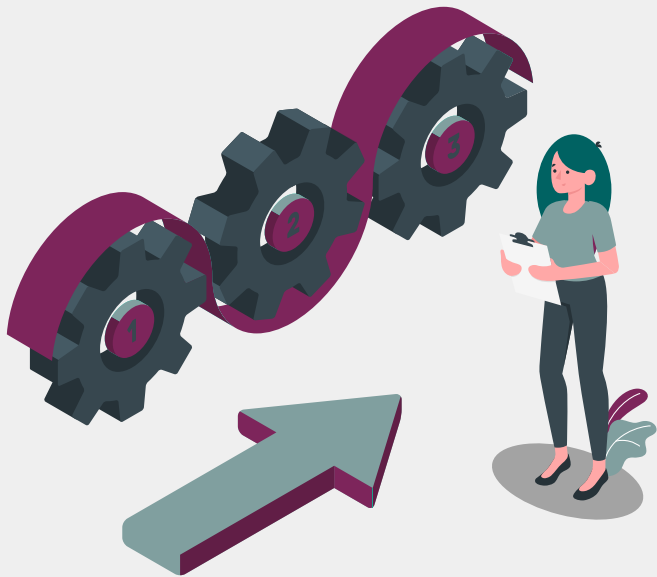
TEAM CONTRIBUTION: BROOKLYN

- **Updated GitHub:** Updated the Kanban Board and Gantt Chart
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TEAM CONTRIBUTION: JASMEET

- **Custom Dataset:** Created a custom dataset for ASL
- **Model Training:** Trained model with the new dataset for recognising ASL words

PROJECT STATUS: YELLOWISH-GREEN



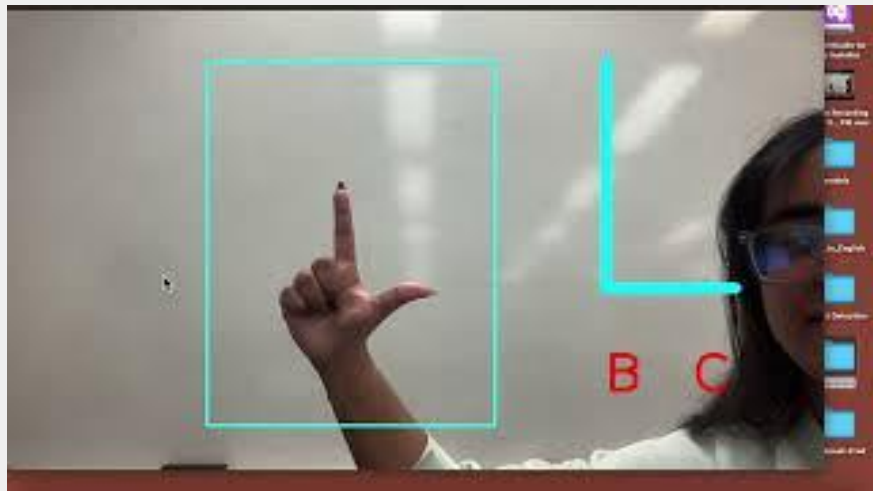
WHY WE ARE IN THE YELLOW STATUS

- Our team has not made significant progress on MVP 2.

PLANNED ACTIONS TO GET BACK TO GREEN STATUS

- We want to expand on our current dataset to include hands of diverse skin colour to make it more inclusive and make our trained model more robust and accurate.

DEMO



ASL ALPHABETS



ASL WORDS

PROJECT ISSUES



- None

ACTIVITIES: PLANNED AHEAD

- Team will continue to work towards completion of MVP 2
- Expand on the dataset
- Deploy the trained model to front-end
- Get in touch with the user base to get specific use cases and gain access to user testers



TEAM REFLECTIONS

Team Progress:

- We feel we are in the Yellowish-Green zone, as we are on track but need to make significant progress completing MVP 2 in the next week.

Team Progress so far:

- Created a custom dataset
- Trained our model to recognize ASL words accurately

Barriers:

- None

Required help:

- None

Questions/Concerns

- None





THANK YOU!

ANY QUESTIONS?