

PROBLEM REQUIREMENTS DOCUMENT	
<b>Project Name</b>	VisuSpeak
<b>Background</b>	Team VisuSpeak is developing an app to translate ASL to English using Machine Learning. Many people who are non-verbal or individuals with hearing loss use ASL as their language of communication. But there's often a significant gap in communication between ASL users and English speakers unfamiliar with ASL. People with special needs may feel left out while seeking help in places like schools, stores, jobs, healthcare, and social interactions as it can be hard to get answers fast. In these situations, getting customer service can be frustrating if no interpreter or writing tools are available.
<b>Problem</b>	Team VisuSpeak's proposed solution will help ASL users communicate with English speakers seamlessly, thereby bridging the language barrier. The app will translate ASL to English in real-time, making communication easier for everyone.
Requirements and MVPs	
Minimum Viable Products (MVP)	Requirements
<b>MVP 1</b>	Train an AI model on a created dataset to be able to recognize certain gestures as ASL words/phrases.
	The user must be able to gesture into the camera and have certain signs recognized by the trained AI model.
	The system must be able to take the ASL prediction made by the AI model, convert the input into English, and display it as a message to be verified by the ASL user.
	Users will have the option of creating or replying to messages using English text as input.
	Have the option for a user to create an account and allow them to login in using this account.
<b>MVP 2</b>	Allow conversations to be saved automatically in the system so that users who are logged in can easily retrieve them at a later time.
	Logged in users should be able to easily filter through the previously saved conversations by different means including filter toggles and search bars.
	Logged in users should be able to open a conversation and view its history of messages.

	<p>Logged in users should be able to quickly archive a chat conversation so that it will be easy to find and reference at a later time.</p>
<b>MVP 3</b>	<p>Users will be able to also create and reply to messages with spoken audio as input.</p>
	<p>Users will now be able to open their webcam on the computer, and sign their gestures into the camera; the system will then display the predicted ASL words/phrases as a message that can be sent.</p>
<b>MVP 4</b>	<p>The system will only have Admin users create an account, whereas ASL speaking users can simply walk up to the customer service desk and chat with an Admin without having to create an account.</p>
	<p>The ASL users will be able to create messages using hand gestures, English text, or spoken English audio that can be sent to the Admin they are chatting with.</p>
	<p>When choosing hand gestures as an input method, ASL users should be able to quickly open or close their camera, and easily adjust the signing prediction speed.</p>
	<p>Admin users will be able to create messages using English text or spoken English audio that can then be sent to the ASL user or Admin user they are chatting with.</p>
	<p>Admin users should be able to see a list of Admins and ASL users they have previously chatted with, and easily filter these chats from their dashboard.</p>
<b>MVP 5</b>	<p>Allow users of all kinds to view the application in either French or English.</p>
	<p>Both ASL and Admin users are able to speak French as an audio input option or type a message in French.</p>
	<p>Admin users can easily copy conversations so they can paste them into ticket management software.</p>