

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	03 October 2023
Team ID	PNT2023TMID592632
Project Name	Project - Alphabet Image Recognition
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Implement a user registration form with fields for username, email password. Registration can be through Gmail or LinkedIN.
FR-2	User Confirmation	Send a confirmation email to the user upon the successful registration. That confirmation can be done via Email,
FR-3	User Authentication	Develop a secure authentication mechanism using email and password for user login. Implement password hashing for enhanced security. Allow users to reset their passwords through a secure process.
FR-4	Profile Management Information	Enable users to edit and update their profile information with an ASL application. Include features for uploading and changing profile. Display user activity history on the profile page.
FR-5	User Interaction	Develop an intuitive user interface for users to input or capture ASL gestures. Allow users to choose between camera input or manual selection. Provide visual and/or auditory feedback for recognized gestures.

FR-6	Sign Language Alphabet Recognition	Implement a real-time sign language alphabet recognition module. Train the system to accurately recognize each ASL alphabet gesture.
FR-7	Accessibility Features	Implement accessibility features for users with varying needs. Include voice output for recognized ASL gestures. Allow users to customize font size and display settings.
FR-8	Continuous Improvement	Establish mechanisms for continuous model improvement. Implement regular model updates based on new ASL gesture data. Collect user feedback for model refinement and user experience enhancement.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Usability, in the context of American Sign Language (ASL) or any sign language, refers to the ease with which individuals, particularly those who are Deaf or hard of hearing, can effectively use and understand sign language communication tools, platforms, and services. It is essential to ensure that these tools are user-friendly, accessible, and effective for communication
NFR-2	Security	When it comes to ensuring security for American Sign Language (ASL) communication, there are several considerations to keep in mind, particularly when using digital platforms or technology to facilitate ASL communication. Security measures are essential to protect user privacy and the integrity of the communication

NFR-3	Reliability	Reliability in the context of American Sign Language (ASL) communication refers to the ability of ASL communication platforms and services to consistently provide a dependable and uninterrupted means of communication for Deaf and hard of hearing individuals. Ensuring the reliability of ASL communication is crucial for maintaining effective and trusted communication channels.
NFR-4	Performance	The performance of American Sign Language (ASL) communication systems and platforms is crucial for ensuring effective and efficient communication between Deaf and hard of hearing individuals. Performance in this context refers to how well these systems operate, including aspects like speed, responsiveness, and overall usability.

NFR-5	Availability	Availability in the context of American Sign Language (ASL) communication refers to the accessibility and reliability of ASL communication systems and services, ensuring that Deaf and hard of hearing individuals have continuous and uninterrupted access to ASL interpretation and communication
NFR-6	Scalability	Scalability in the context of American Sign Language (ASL) communication systems and platforms is vital to ensure that the service can handle an increasing number of users, conversations, and data without compromising performance or availability. Scalability is crucial for accommodating growth and spikes in demand.