Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID47262
Project Name	Project – Real-Time Communication System Powered by AI for Specially Abled.
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S. No:	Parameter	Description
1.	Problem Statement (Problem to be solved)	The sixth sense is a multi-platform app for aiding the people in need that is people who are handicapped in the form of lack of speech (dumb), lack of hearing (deaf), lack of sight (blind), lack of judicial power to differentiate between objects (visual agnosia) and people suffering from autism (characterized by great difficulty in communicating and forming relationships with other people and in using language and abstract concepts). Our current implementation of the product is on two platforms, namely, mobile and a web app.
2.	Idea / Solution description	The current implementation deals with object recognition and text to speech and a speech to text converter. The speech to text converter and text to speech converter utilized the Web Speech API (Application Program Interface) for the website and text to speech and speech to text library for the mobile platform. The object recognition wouldn't fetch enough use out of a website. Hence, it has been implemented on the mobile app utilizing the Firebase ML toolkit and different pre-trained models, which are both available offline as well as online.

3.	Novelty / Uniqueness	The world does not want just machine to do what they are told but even expect devices to work like us. Machine learning, a subsection of AI, is the hottest technology right now being implemented daily basis and is to be supposed to reach its peak in the next decade. Now, as the world has become a better place by providing everything at ease through technology to humans, we need to utilize the technology for differently-abled people.
4.	Social Impact / Customer Satisfaction	Thus, customer satisfaction has benefits as it helps minimize extra costs, enables industry know their repeat customer better, which could help in improving future service. Higher accuracy could be achieved in the future scope of the implementation through the use of custom models for object detection and text recognition as it could take into account the cases of objects for differently-abled people and work on those only yielding faster and accurate results.
5.	Business Model (Revenue Model)	The major contribution of the work is: • Integration of multiple modules to provide a single application to aid people of different disabilities. • All the modules are researched solely rather than have a single source for all. This is the aim of work being performed in this work. • An innovative approach for text to speech is implemented to provide a faster and convenient approach for mute to communicate through SAM (Speech Assisted for Mute).
6.	Scalability of the Solution	The text to speech and Speech to Text Engine was based on the Google Speech Engine. IT has a similar implementation, as discussed in the website counterpart. All these sections have been then integrated into a single application to provide a single solution for all.