# Project Requirements and Design

## TEAM B: The Speaking Portal Project

**Team Members:**

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# 1. Software Requirements

### 1.1. Functional Requirements

- Software will accept input text either by submission through a text box, or by reading a text file of supported type uploaded by the user.

- Software will accept one or multiple input images of supported file types uploaded by the user.

- Software will allow user to select a language from the list of available langauges.

- Software will allow user to select a voice from the list of available voices for the selected language.

- Software will request for speech file to be created through an API request.

- Software will create animated 2D or 3D video based on the user input and speech file.

- Software will provide an embed link for the generated animated video and an option for the user to copy this link.

- Software will provide user with an option to download the animated video.

- Software will reject user input and display appropriate error messages if unsupported file types are detected.

### 1.2. Non-Functional Requirements

- **Performance** – Portable software and fast generation of animated video.

- **Code Quality** – Code must be professionally formatted, linted and maintained.

**1.3. User Requirements**

- User should be able to enter the text that they want to convert either through typing, highlighting, or by uploading a text file.
- User should be able to browse their local files and upload image(s).
- User should be able to view a drop-down menu containing all available languages for the audio and select their desired language.
- User should be able to view a drop down menu containing all available voices for the select langauge audio, play a test/sample for each voice and make a selection based on their preferences.
- User should be able to request the video to be generated by clicking on a confirmation button.
- User should be able to view the generated video.
- User should be able to copy the embed link for the generated video
- User should be able to download the generated video.

# 2. Software Design

## 2.1. User Persona

Name: Aman Pal
Age: 36

Aman is an instructor at an elementary school in Delhi, India. He has been teaching the English Language to students in the 2nd and 3rd grade for the past 7 years. He is fairly comfortable with computers and technology, and is always searching for new and innovative ways to explain the concepts he teaches in class to his students that they find enjoyable. He believes that the newer generation of students will gain knowledge faster and perform better with the use of technology, while also boosting their engagement level with the teacher and participation in class activites.

Aman lives with his wife and son in the suburbs. In his free time, he likes to play badminton at his local sports center and is also currently learning how to play the guitar. He decided to become a teacher because he enjoys working with children and he has great patience when explaining things to someone else.

## 2.2. Usage Scenario

| User Goal: | Download animated video generated by using the input text and image, and selected language and voice. |
|---|---|
| Flow of Events: | 1. The user opens the software<br>2. The user uploads a file containing the text they want to be spoken in the video.<br>3. The user uploads an image file of desired person/character.<br>4. The user selects a language and available voice.<br>5. The user confirms their selections with a button.<br>6. The user downloads generated animated video. |
| Pre-conditions: | • The user must be running the software.<br>• The user must have an active and working internet connection.<br>• The user must have desired text and image files stored locally on their computer |

**2.3. Use-Case Diagram**