**REQUIREMENTS DOCUMENT**

**PROBLEM STATEMENT**

To develop a Text-to-speech Android application which will convert the input text into voice. Further, Also incorporate Speech-To-Text in the same application. Also add an option to save the text that is converted from speech.

**BACKGROUND INFORMATION**

Text-to-speech (TTS) is the ability to play back written text as spoken words. As the Human-Computer Interfaces (HCI) come of age, the need for a more ergonomic and natural interface than the current one (keyboard, mouse, etc.) is being constantly felt. Talking of natural interfaces, what comes to mind, is sound (speech) and sight (vision). These form the basis of many intelligent systems research like robotics.

For people with **reading and writing difficulties**, having text reinforced by hearing it read aloud can be very useful. Specialised programs have existed to do this for a long time, and in many cases are extremely helpful and highly appropriate and should be seriously considered, perhaps in consultation with professional advice where necessary.

Our application is different from others in the market in the sense that it will give an option to save the converted text into a word document. This can enable the users to share the document with their friends who can make use of this converted document as per their requirement.

**STAKEHOLDERS**

* Speech can serve as an excellent interface for sightless people, or people with motor neuron disorders. For some people who have some physical disability like blind people can use this program to listen to any text.
* Text to Speech is most helpful when it highlights the words as they are spoken. Dyslexic people say this focuses their attention and helps their understanding of the content. Some studies have shown that a combination of text-to-speech and highlighting improve reading skills.
* Text to Speech is also finding new applications outside the disability market. For example, speech synthesis, combined with speech recognition, allows for interaction with mobile devices via natural language processing interfaces.
* Our application can be used by people while driving. They can hear the message received with the help of TTS.

**REQUIREMENTS**

1. Functional Requirements:

* Our application will convert text into speech. The text will be entered in a text box and when the button is pressed, the written text will be spoken loudly by the system.
* Our application will also convert speech into written text. This text can be saved in the form of a word document and can be shared with other people if required.

b) Non-Functional Requirements:

* **Availability:** This application will be available 24\*7 to the users so that the users can convert speech to text or text to speech whenever they need to.
* **Reliable:** The application should be reliable enough. It should give correct translation of speech to text.
* **Responsive:** The application should be fast and reduce the delay time in conversion.

**USE CASE DIAGRAM**

