**Transcribe**

**A Major Project SRS Submitted to**



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Software Requirements Specification

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# 1. INTRODUCTION

Transcribe is an android based application which is capable of scanning the image either from the gallery or from the camera. It converts the text from the image into the required language. It can also covert the text we type into different language and produce the output into a voice form. It is also used to give input in a voice form and produce output through speaker i.e. speech to text translation.

## 1.1 PURPOSE

Aim of our project is to make this application user friendly and efficient. This application can be used by anyone who has an android device and fulfills the basic requirement.

## 1.2 SCOPE The scopes of this project are:

• Provide an efficient system for image to text conversion along with text to speech and speech to text conversion.

• Provide effective solutions and make them available at a single platform.

• Provide simpler version of the converter.

* 1. **REFRENCES**

References for the information gathered are hereby followed:

• <https://developer.android.com/reference>

## 1.4 OVERVIEW

People travelling to different places find it difficult to communicate with local people as they do not know the language. They are unable to interpret the words written on any board or banner. So there is a need to develop text information extraction systems that can identify and recognize text that is contained in the images. The project was selected keeping in mind the need to develop an application which will extract the text from images in cases where the user cannot manually enter the characters. After the method of text extraction, the characters are translated in the user understandable language. Thus the user will have faster access to the unknown language and will be able to interpret it.

# 2. GENERAL DESCRIPTION

TRANSCRIBE is an application which will be used to convert text from one language to another. This application is made to solve a real world problem. The problem recognized was that people do not know all the languages that they may hear or read. To solve this problem we searched for existing solutions. We found solutions but they could be better. Hence we tried to come up with a better solution.

## 2.1 PRODUCT FUNCTION

2.2.1 There is a one way communication between user and application, user can perform text to speech translation by manually typing the text, or by image processing. Also user will be able to translate speech to text by providing voice input.

2.2.2 This products works on the processing of spoken and general language of peoples.

## 2.2 USER CHARCTERSTICS

* Both speech to text and text to speech translation.
* Freedom to give voice input.
* Image processing for text user can’t interpret or manually type.

## 2.3 GENERAL CONSTRAINS

* To system need to be connected to the internet for use of this application.
* The application uses camera for image processing.
* There are only few languages provided for translation.
* Previous search history cannot be seen.

**3. SPECIFIC REQURIMENTS**

The Specific requirements of his project is

From user point of view is

1. Internet Connection

2. Basic general knowledge of internet.

3. Camera embedded device

From Developer end:

1. Knowledge of Android studio, and java
2. A PC to work on for developing the application.

## 3.1 FUNCTIONAL REQURIMENTS

The major functional requirement of this project are:

* **Speech to text Functional Requirements**

The speech recognition engine takes audio as input and turns into text form a gives the text as input. The speech recognition process has a front end and a back end. The front end processes the audio, isolates it into segments of sound and converts it into numeric values. This value is used to categorize the vocal sound in signal. The Android Speech yandex translation API used for voice recognition, which is translation of spoken language into desired language.

* **Text to Speech Functional Requirements**

Text to speech, abbreviated as TTS, is a form of speech synthesis that converts text into spoken voice output. TTS should not be confused with voice response systems. Voice response systems synthesize speech by concatenating sentences from a database.

* **Image to Text functional Requirements**

1. Taking/ choosing the desired text image.

2. Recognition of the text.

3. Copying the text for different uses.

## 3.2 NON-FUNCTIONAL REQURIMENTS

### 3.2.1 PERFOMANCE

The application is light weight and information available is trustworthy.

### 3.2.2 RELIABILITY

The application is reliable as if device crashes, the search can begin again.

### 3.2.3 AVAILABILITY

The user should have internet connection technology and a camera for image processing in the device.

### 3.2.4 SECURITY

No need of security as there is no database or history.

### 3.2.5 MAINTAINABILITY

The main maintenance is of the device used for the application.

### 3.2.6 PORTABILITY

The application is highly portable as it can be accessed from anywhere with an android device having camera.

# 4. SDLC MODEL

**4.1 MODEL USED**

Incremental Model is a process of software development where requirements are broken down into multiple standalone modules of software development cycle. Incremental development is done in steps from analysis design, implementation, testing/verification, maintenance.

Each iteration passes through the requirements, design, coding and testing phases. And each subsequent release of the system adds function to the previous release until all designed functionality has been implemented.

The system is put into production when the first increment is delivered. The first increment is often a core product where the basic requirements are addressed, and supplementary features are added in the next increments. Once the core product is analyzed by the client, there is plan development for the next increment.

Reason for using:

• The software will be generated quickly during the software life cycle

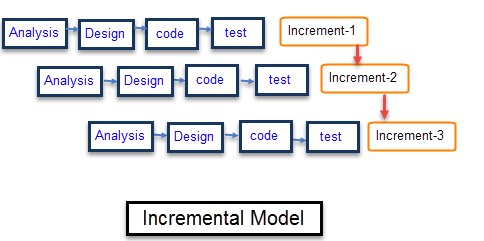
• It is flexible and less expensive to change requirements and scope

• Thought the development stages changes can be done

• This model is less costly compared to others

• A customer can respond to each building

• Errors are easy to identify



**4.2 TIMELINE CHART**

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