

Implementation of Text and Pictures to Speech Conversion Victimisation OCR

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Abstract- Text and Images-To-Speech (TITS) conversion may be a computer-based system which will be recognized to browse any text aloud, otherwise it had been directly introduced within the information processing system. by associate degree user or scanned data associate degreeed its submitted to an Optical Character Recognition (OCR) system. whereas in text and image to speech, there ar several system strategies that convert traditional language text and pictures in to speech. the most aims of this paper ar to acknowledge text and pictures and to review on Character Recognition with speech synthesis technology and to develop a value effective user friendly image to speech conversion system victimisation MATLAB. during this work, the OCR system is enforced for the popularity of capital English character A to Z and variety zero to nine. And images.Each character is recognized at persistently. during this work a text and image-to-speech conversion system which will get the text through image and directly input within the laptop then speech through that text victimisation MATLAB.

Keywords-Text English and Kannada ,images,OCR,speech Synthesis., WIN32 OR .NET Assembly code.Snipping Tool

1. INTRODUCTION

Speech synthesis is that the artificial technique for production of human speech. A laptop system will used for this purpose is termed a speech synthesizer, and might be enforced in software system or hardware [2]. A text-to-speech (TITS) system that converts traditional language text into speech; alternative systems render symbolic linguistic(study of language) representations like phonetic transcriptions into speech. Here many various OCR system will be used for the system.types of OCR system is Capture OCR, Desktop OCR, contains each massive and tiny knowledge will be used for system during this paper used Desktop OCR for little variety od knowledge values.

Text and pictures -to-speech (TITS) convention transforms study of system data hold on as Matlab file or text into speech. it's wide utilized in audio recognizing and reading letters for blind individuals currently a days [6]. within the previous few years but, the employment of text and pictures -to-speech conversion technology has full-grown so much on the far side the disabled individuals community to become a serious adjunct to the apace growing use of digital voice storage for voice mail and voice response laptop systems. additionally developments in Speech technology for varied languages have already taken place in knowledge.

The Speech Application Programming Interface or SAPI is associate degree Application programming interface(API) developed by Microsoft to permit the employment of speech recognition and speech synthesis inside Windows applications within the ADPS.

2. . PLANNED ALGORITHMIC RULE SYSTEM

In this work, there ar 3 main varieties :

- Optical Character Recognition System for Paper Text and pictures.
- Text and Image Conversion
- Speech Technology

In this half, there ar 3 parts as represented within the follow:

- Template file Creation in Matlab.
- Creating the Neural Network for victimisation Classification.
- Character Recognition system

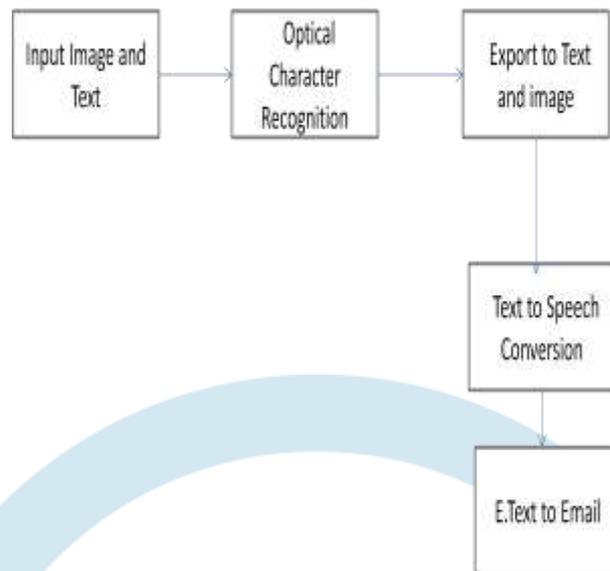


Fig 1: Basic Block Diagram For Character and image Text.

2.1. Optical character recognition system for Paper text and Images

In this part, there are three portions as described in the follow:

- Template file Creation in Matlab.
- Creating the Neural Network for Using Classification.
- Character Recognition system

2.1.1. Template file creation in Matlab.

Letters A to Z and variety zero to nine pictures are collected in Matlab file. every image is modified into 24x45 character illustration in single vector type by victimisation step one to five as represented within the character recognition system. These knowledge are saved as file for Matlab coaching in neural network or Directly saved In Matlab File.

2.1.2. Making the neural network victimisation Classification.

A feedforward neural network is employed to line up for pattern recognition system with thirty seven hidden neurons. when making the neural network, the weights and biases of the network are initialized to be prepared for coaching set. The goal is appointed between zero.06 and to zero.08. The created Neural Network is trained by victimisation file and target file. The neural network has got to be trained by adjusting weight and bias of network till the performance reaches to goal. after making its to Resolution Level, X-axis, Y-axis, Horizontal And Vertical Level of the photographs and Text.

2.1.3. Character recognition System:

Figure two shows the flow sheet of Optical Character Recognition system

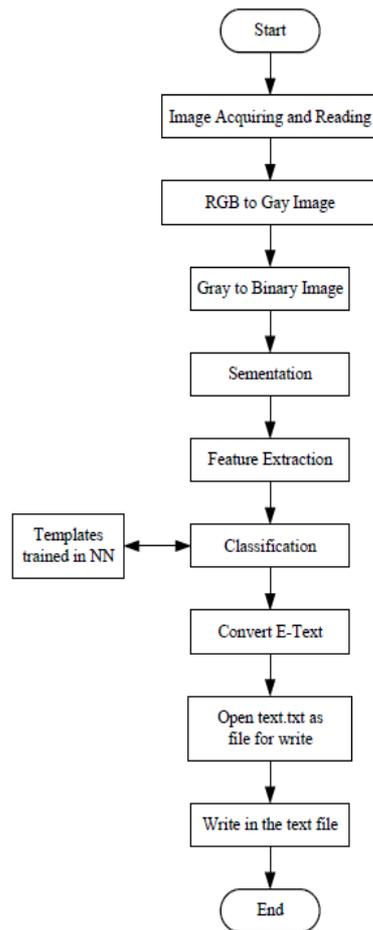


Fig 2: Flow chart of optical Character Recognition

The following steps are enforced for recognizing the character and pictures.

- Firstly acquire the character totally different English text and image when text and image was browse.
- Second step is preprocessing step. during this step first the image and text is regenerate into grey scale. because grey image contains zero to 255 bytes. Then this grey image is regenerate into black and white image (binary image). first the edge price is counted in grey image then consistent with that threshold it's regenerate into black and white image.
- Find the Charactersticks of the character image. Crop the image to the sting
- Find the Horizal and vertical pictures.
- Characters is extracted and resized during this step. Letters are resized consistent with templates size.

2.2. Text to speech conversion

The character image and text is regenerate into text and so text into speech. The algorithmic rule is followed.

- Firstly check the condition that if Win thirty two SAPI application is accessible within the laptop or not. If it's not offered then error can obtaining and Win thirty two SAPI library ought to be loaded within the laptop.
- Gets the voice object from Win thirty two SAPI and .Net Assembly.
- Compares the input string with Win thirty two SAPI string and .Net Assembly.
- Finally get the speech for given image and text.

Text and image to speech conversion for the E-text input that directly typewritten in laptop is additionally dead by the on top of steps.

The resized binary image is modified into forty five x2 seven character illustration in single vector.

- Load templates file that it will be matched the letters with the templates.
- Open the text.txt victimisation tablet file for write.
- Write within the computer file and insert the letters. Feature extraction and classification are the center of Optical character Recognition System. The character image is mapped to the next level by extracting special characteristics and patterns of the image within the feature extraction section.

The classifier is then trained with the extracted options for classification task. The classification

stage identifies every input character text and image by considering the detected options. As Classifiers, guide Matching and Neural Networks are used.

English characters A to Z and variety zero to nine. every character is recognized at totally different times. The finding character is saved as text with tablet file. There are 3 parts in program; within the initial portion it provides the text output and letters cropping and OCR consistent with input image, then it convert that text into the speech. within the second portion, the E-text is directly input in laptop, then it's regenerate into speech.

Firstly the input image and text of your time new romance, font size twelve, daring kind characters is taken and so it's regenerate into text. As shown in Figure two, character "A and B" is cropped from the image and options are extracted. afterward it's regenerate to text, saved in tablet file and speech at the same time. Similarly, the check results for character file is additionally illustrated in Figure three. The recognized character will be displayed within the command window and might be save in tablet snipping tool file as shown in Figure four

3. Simulation Results

In this work, the Optical Character Recognition system is enforced for the popularity of capital

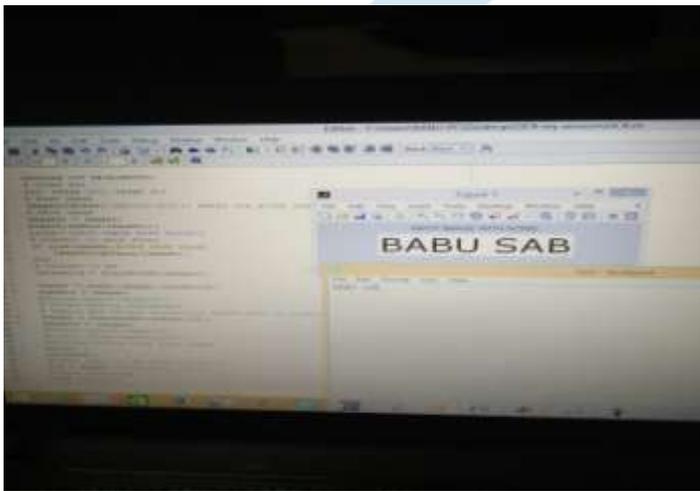


Fig 3:Input character Text: Read the Test Image.

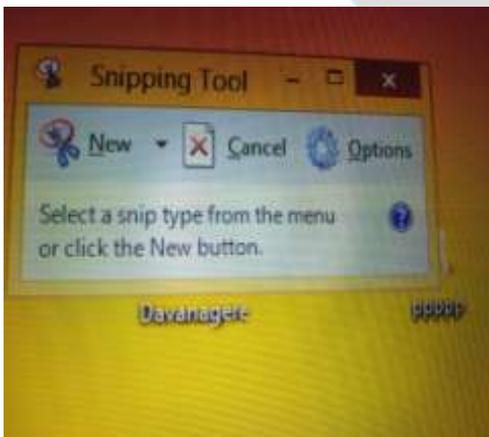


Fig 4:snipping tool

Used to Crop and Editing the Text.

You are forever loved
 though this life fades away
 and all mortal bodies decay
 You will forever be my beloved
 my immortal betrothed
 my enduring flame
 my guiding light
 my compass rose
 1234567890

Fig 5:input Character Image and Number

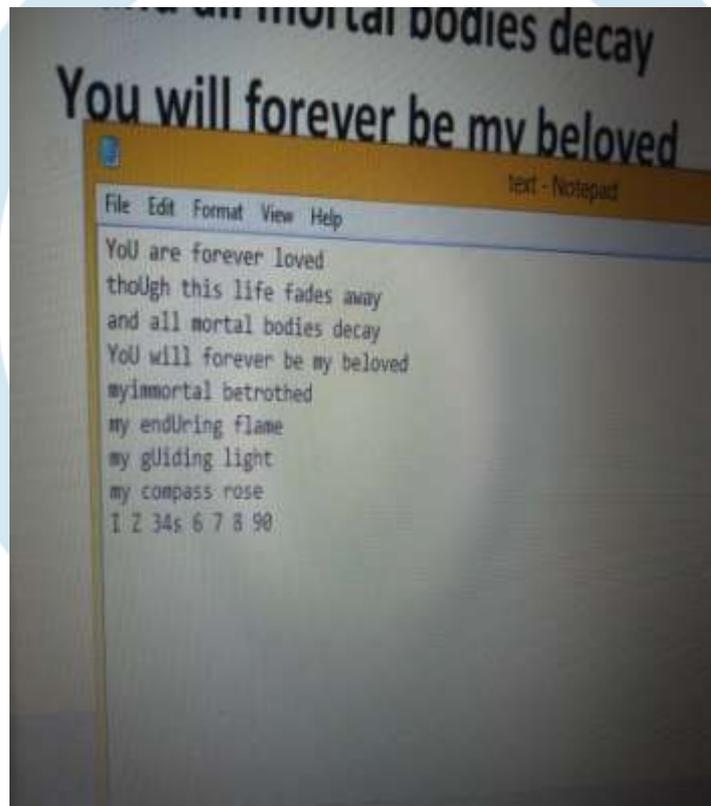


Fig 6:Read and Speak Character text and Number

4. CONCLUSION

In this work, image into text and then that text into speech is converted by MATLAB. Electronic -text into speech is also converted successfully. By this approach text and images from a word document, Web page or e-Book can be read and can generate synthesized speech through a computer's speakers .NET Assembly. For image to text and text to Image conversion, firstly image is converted into gray image. Gray image is converted into binary image by thresholding and then it is converted into text by MATLAB. Microsoft Win 32 SAPI library has been used build speech application, to denabled which voice and output retrieve the audio information available for computer .in this work, one character can be converted into text at once . as a further extension, OCR system can be developed for converting words or sentences image into text.

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