Design and Implementation of Image to Speech Conversion System

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Abstract- *Our research goals are to extend offline OCR technologies to embedded platforms. It implies two strong limitation or restriction. First, pictures will be taken without control on camera settings and a priori on text (font or size) and background. The second issue is to link several techniques together with an optimal compromise between computational constraints and recognition capability. Preliminary experiments led us to consider two operating modes in order to improve global results. The first situation is pictures of natural scenes while the other one is pictures of documents. Our algorithm aims at handling many situations despite hardware constraints, typical of java environment. The paper will present the overall description of the system and its future improvements.*

Keywords- Detection , Thresholding , Image Segmentation, Character Recognition.

I. INTRODUCTION

The field of image processing is widely used in many areas of research. Common people can easily sense what all is going around them and can view all that is present in this universe. Blind people or visually impaired people find it difficult to interact with the world and they cannot exactly sense the things so they need some or the other human intervention. There are around 15 million blind people in India. In order to make provision for such people there is need of converting images into text and speech However, there is a need to develop an interface for such visually disabled people to communicate with the world. The proposed system makes a better provision for converting captured images as well as stored images to be converted into text and speech. In this conversion process there are various techniques used such as image pre-processing, image segmentation, edge detection and text to speech synthesis. Step by step execution of these techniques helps to achieve the final output. Input to the system is an image and final output is speech output. This system is use for get image and extract text on image and convert into speech. To design an improved document security and document image to speech. To help users store document in secure manner and listen document necessary condition. Our research goals are to extend offline OCR technologies to embedded platforms.

Problem Definition :

The overcome paper work and provide more security . It also use for converting document image to speech and save indatabase.Manage the reusability of all document and give the uniqueness of all document image.

1.1 Existing Systems

Existing System all work done in paper work maintain all record information on paper. They less secure because they didn't have any password or any secure option. Existing System is very time consumer system and perform long time scheduling .Existing system is not a user-friendly and not mange all record database properly .

1.2 Need for New System

1.To design an improved document security.
2.To develop document image to speech.
3.To test its security and usability with the existing system.
4.To help users store document in secure manner.
5.To users listen document necessary condition.

1.3 Applications

1. Government office
2. In the Bank
3. Corporate office

II. LITERATURE SURVEY

Benjamin Z. Yao, Xiong Yang, Liang Lin, Mun Wai Lee and Song-Chun Zhu proposed an image parsing to text description that generates text for images and video content. Image parsing and text description are the two major tasks of his framework. It computes a graph of most probable interpretations of an input image. This parse graph includes a tree structured decomposition contents of scene, pictures or parts that cover all pixels of image. Over past decade many researchers form computer vision and Content Based Image Retrieval (CBIR) domain have been actively investigating possible ways of retrieving images and videos based on features

such as color, shape and objects. Paper introduced by Yi-Ren Yeh, Chun-Hao Huang, and Yu-Chiang Frank Wang presents a novel domain adaptation approach for solving cross domain pattern recognition problem where data and features to be processed and recognized are collected for different domains S. Shahnawaz Ahmed, Shah Muhammed Abid Hussain and Md. Sayeed Salam introduced a model of image to text conversion for electricity meter reading of units in kilo-watts by capturing its image and sending that image in the form of Multimedia Message Service (MMS) to the server. The server will process the received image using sequential steps:

1) read the image and convert it into a three dimensional array of pixels,
2) convert the image from color to black and white,
3) removal of shades caused due to nonuniform light,
4) turning black pixels into white ones and vice versa,
5) threshold the image to eliminate pixels which are neither black nor white,
6) removal of small components,
7) conversion to text. In Fan-Chieh Cheng, Shih-Chia Huang, and Shanq-Jang Ruan gave the technique of eliminating background model form video sequence to detect foreground and objects from any applications such as traffic security, human machine interaction, object recognition and so on. Accordingly, motion detection approaches can be broadly classified in three categories: temporal flow.

III. PROPOSED METHODOLOGY
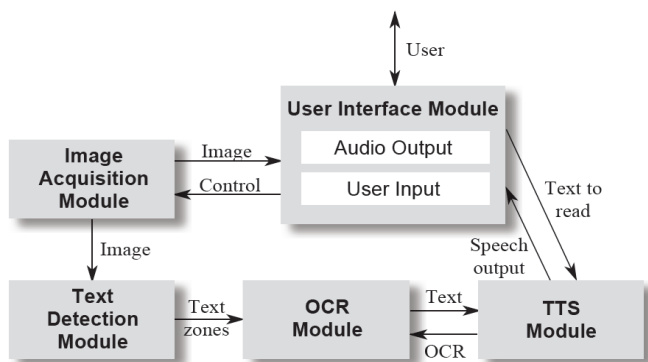
1.0 Block Diagram of proposed System-

Fig1. Block Diagram of proposed System

1.1 System Model:-

• In this module a User have to register first, then only he/she has to access the data base.
• In this module, any of the above mentioned person have to login, they should login by giving their id and password.

1.2 Image To Text Convert Model:-
• Select Image on folder and showing path of that image .
• Image display on panel .
• Passing to text conversion and Speech convrsion.

1.3 Text To Speech Model :-
• Select Text and save in database .
• Get all text to speech and they speech can do.

1.4 Final Model:-
• Logout.

1.5. Feasibility Study

Feasibility study is a test of a proposed system according to work ability, impact on the organization's ability to meet user needs and effective use of resources. Feasibility study is performed by considering the factors such as development cost, operating cost, response time, development time, accuracy and reliability. Not all requested projects are feasible. We compare the proposed system with the existing system .In feasibility study we develop more than one way to solve the existing system problems. From this we can select the feasible one and then we prepare detailed description our Feasibility study includes studying the available general purpose.

o   We found that other technologies except Java has a disadvantage that they cannot run on various available platforms. Java is the only such technology available that we can call "Write once, execute anywhere "technology i.e. "Java is platform independent".

o   Java is a simple and elegant language with a well-designed, intuitive set of APIs, programmers write better code with fewer bugs than for other platforms, again reducing development time. Java has pre build classes and APIs to support networking.The objective of feasibility study is to determine whether the proposed system can be developed with available resources. It is the high level capsule version of the entire requirement analysis process. There are three steps to be followed for determining feasibility study of proposed systems.

• Technical feasibility
• Economical feasibility

1.6 Technical Feasibility:

The system is developed using java:

Platform Independent:

Java Language is Platform Independent means program of java is Easily transferable

Object-Oriented:

We Know that is purely OOP Language that is all the Code of the java Language is Written into the classes and Objects So For This feature java is Most Popular Language because it also Supports Code Reusability, Maintainability etc.

Robust :

The Code of java is Robust and Means of first checks the reliability of the code before Execution When We trying to Convert the Higher data type into the Lower Then it Checks the Demotion of the Code the It Will Warns a User to Not to do this So it is called as Robust.

Distributed:

Java is a distributed language which means that the program can be design to run on computer networks.

Secure:

Java was designed with security in mind. As Java is intended to be used in networked/distributor environments so it implements several security mechanisms to protect you against malicious code that might try to invade your file system.

1.7 Economic Feasibility

The system that we are developing is a very cost effective because of the following mentioned points:

The system is developed with Java Technology which is Free of Cost.

If the end user has this system he/she does not need of the utilities, which otherwise charged the end user with lots of bucks.

The system can be called as economically feasible as it has been written in java and java being platform independent

we don't have to take efforts/invest resource or money in redeveloping it for various other platforms.

IV.EXPERIMENTAL RESULTS WITH FIGURES
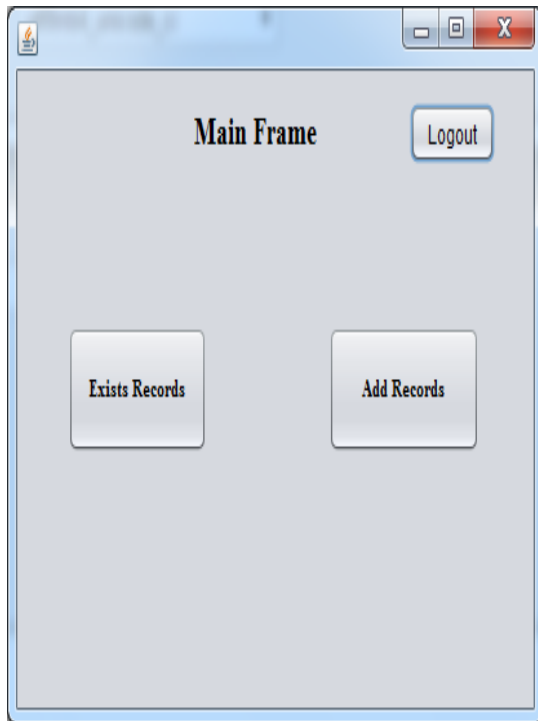

Fig. a) Login Form

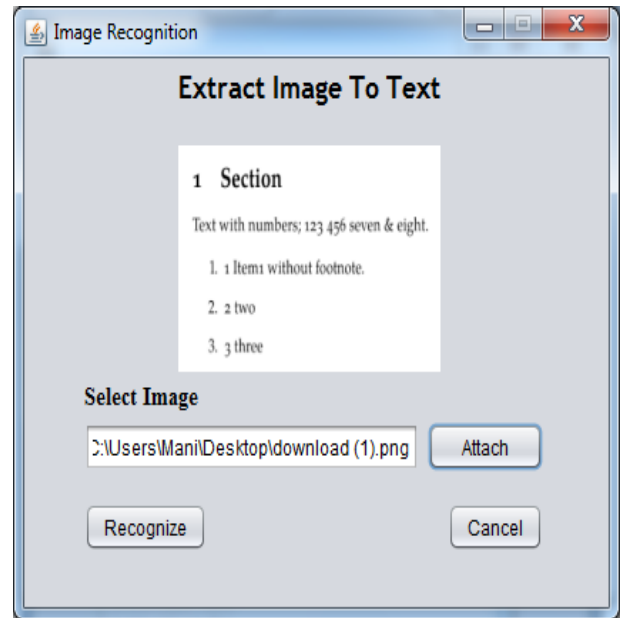
Fig. b) Registration Form

Fig. c) Adding Record

Fig. e) Extract Image to Text

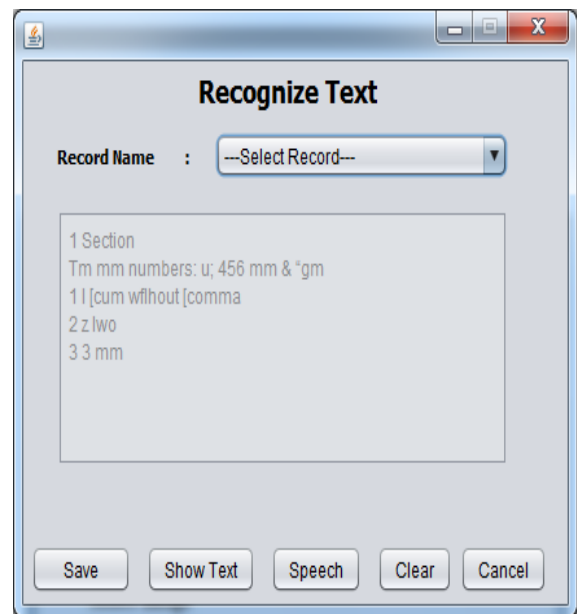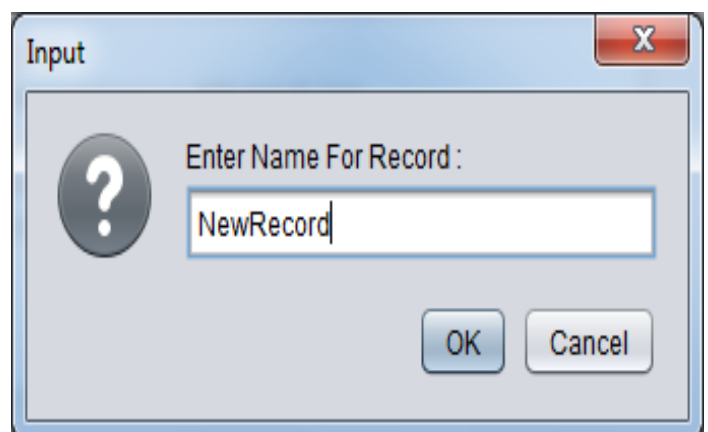Fig. f) Recognize Text

Fig. d) Existing Record

Fig. g) Saved Record

V. CONCLUSION

We have developed a system able to automatically identify and recognize text zones in images taken from a camera. Improved document security and Convert document image to speech. Its security and usability with the existing system .Listening document text.

REFERENCES

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