AUTOMATED SPEECH SYNTHESIS FOR INSTANT NOTIFICATIONS TO VISUALLY CHALLENGED PEOPLE

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ABSTRACT: Mobile devices could provide the visually challenged great help. This project deals with a new android-based reader system designed for the visually challenged people to get optical Character Recognition information. However, it is difficult for the visually challenged people to locate and select items visualized using touchscreen. So this paper presents non-visual interaction which combines audible interface with multi-gesture operation for the visually challenged people.

INTRODUCTION:

Modern phones have touch screen hence making it difficult for visually challenged persons using Smart phone A screen reader is an essential piece of software for a visually challenged person. Advanced systems capable of producing a high degree of recognition accuracy for most fonts are now common, and with support for a variety of digital image file format inputs.[6] A screen per user sends whatever text is shown on the PC screen into a structure that an outwardly tested client can measure (typically material, perceptible or a mix of both).Mobile devices could provide the visually challenged great help. This project deals with a new android-based reader system designed for the visually challenged to get optical Character Recognition information. However, it is difficult for the visually challenged to locate and select items visualized using touchscreen. So this paper presents non-visual interaction which combines audible interface with multi-gesture operation [1] .the modern-day mobile phones can have solution for these problems. Early optical character recognition may be traced to technologies involving telegraphy and creating reading devices for the blind [5]

PROPOSED SYSTEM: The VIP PDF-Reader (VIP stands for visually impaired people) allows accessible PDF documents to be viewed as flowing text. It has a scope of settings for showing PDF reports and ensures that individuals with limited vision or learning handicaps and more seasoned individuals with sight issues can peruse the content without any problem. Open PDF records Open PDF reports contain labels. [2]These labels are what make the archive available, by giving underlying data which empowers assistive advances, for example, the celebrity PDF-Per user for individuals with visual impedances or screen per users for dazzle individuals: – to distinguish explicit content components, for instance headings, records, pictures and tables – to peruse out the substance in the right succession Many composing situation, including Word, InDesign and OpenOffice, can make PDF reports with labels.[7]Optical character acknowledgment (OCR) is the electronic ID and advanced encoding of composed or printed text through an optical scanner and particular programming. Utilizing OCR programming permits a PC to peruse static pictures of text and convert them into editable, accessible information.

SYSTEM ARCHITECTURE:

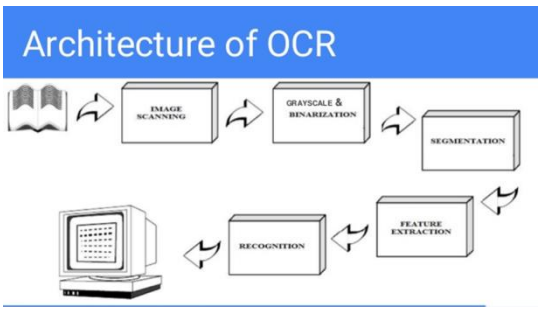

Figure1.0

Description

LSTMs are extraordinary at learning successions yet hinder a ton when the quantity of states is excessively huge. These are empirical results that suggest it is better to ask an LSTM to learn a long sequence than a short sequence of many classes. Tesseract created from OCRopus model in Python which was a fork of a LSMT in

C++, called CLSTM. CLSTM is an execution of the LSTM intermittent neural organization model in C++, utilizing the Eigen library for mathematical calculations.

SEQUENCE DIAGRAM

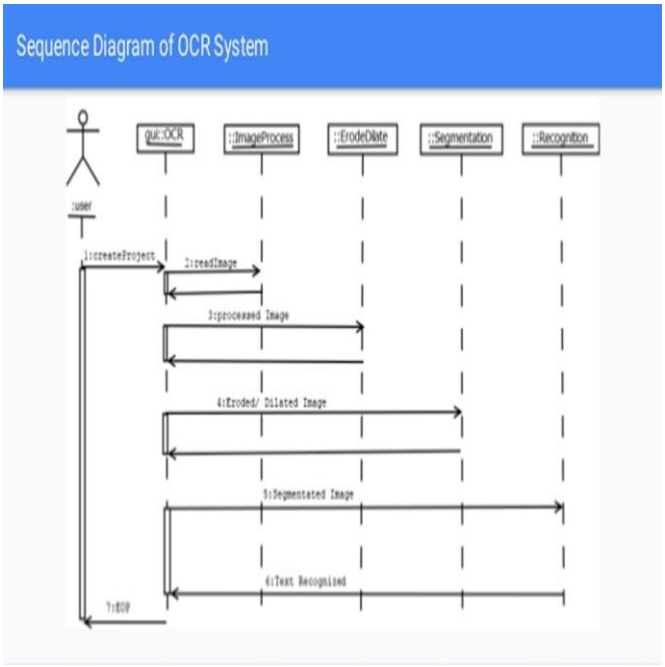

Figure2.0

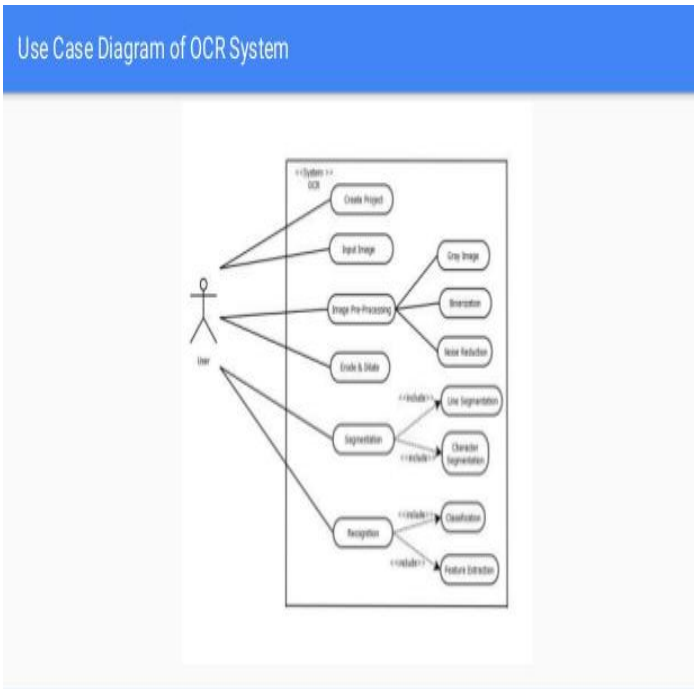

Figure3.0

Description

A figure 2.0Utilization case Outline is utilized to introduce a graphical outline of the usefulness given by a framework as far as entertainers, their objectives and any conditions between those utilization cases.

Use case diagram consists of two parts:

Use case: A utilization case portrays a succession of activities that gave something of quantifiable worth to an entertainer and is drawn as a flat oval.

Actor: An entertainer is an individual, association or outer framework that assumes a part in at least one connection with the framework.

PROJECTDESCRIPTION

MODULES:

Module 1: Document Reader

Module 2: Optical Character Recognition

Module 3: Screen Reader

MODULES EXPLANATION

Document Reader:

Import the PyPDF2 and pyttx3 modules

Open the PDF file

Use **PdfFileReader()** to read the PDF. We just have to give the path of the PDF as the argument

Use the **getPage()** method to select the page to be read

Extract the text from the page using **extractText()**

Extract the text from the page using **extractText()**

Use the **say()** and **runwait() methods** to speak out the text

Optical Character Recognition:

we need to stack the picture utilizing openCV, which is introduced under the name cv2

The picture needs at that point to be changed over to a parallel picture on the off chance that it isn't as of now a picture comprising just of high contrast pixels (For the case it is a twofold picture, you can avoid the two lines of code that store in the dark variable).The parallel picture is reached by grayscaling it first and executing then a math activity, which is, for this situation, the bitwise-not activity. Grayscaling takes the three RGB estimations of a picture and changes it with the accompanying recipe

Y = 0,299.R + 0,587.G + 0,114.B

Screen Peruser :

recognize components that could be perused out loud;

select the proper component;

determine how to peruse that component to the client

APPLICATIONS:

Available PDF records Open PDF archives contain labels. These labels are what make the archive available, by giving primary data which empowers assistive innovations, for example, the celebrity PDF-Per user for individuals with visual impedances or screen per users for dazzle individuals: – to recognize explicit content components, for instance headings, records, pictures and tables to peruse out the substance in the right arrangement Many writing situation, including Word, InDesign and OpenOffice, can make PDF reports with labels.[4]

Optical character acknowledgment (OCR) is the electronic recognizable proof and advanced encoding of composed or printed text through an optical scanner and specific programming. Utilizing OCR programming permits a PC to peruse static pictures of text and convert them into editable, accessible data.[3]The framework can at last moved up to a level where a non-outwardly moved individuals to use with smooth interface in expanding their profitability and network

CONCLUSION:

A display screen reader is an critical piece of software program for a visually challenged person. A display screen reader transmits anything textual content is displayed at the pc display screen right into a shape that a visually challenged consumer can process (typically tactile, audible or a mixture of both).

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