QUEZARD : Question Wizard using Machine Learning and Artificial Intelligence

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Abstract:- Presenting highly comprehensive and advanced system which works as an assistant of students throughout their process of learning and teacher while process of teaching. The system mainly consists of two platforms: an Android application and machine learning platform with the help of this Android Application scanning of the Document provided is done which is the only source of information which will be provided to the system. With the help of machine learning and artificial intelligence, all the possible questions related to the content is generated and this is how it is quietly smarter than the existing system. Further it compares with the doubt and question which the user has, with the help of natural language that is voice over typing.

Keywords—AA; document; AIML; question; assistant systems

I. INTRODUCTION

This application helps us to produce as many questions as possible from a given sentence. The overall concept consists of 3 parts of processing. The reason for this project is it is somewhat easy to find the answer for any question application such as Google assistant or Siri but how does it produces questions aur queries to relate it to the answer is where our question arises.

The new ecosystem which provides many opportunities for both student and teacher you know the variety of question which can be produced by a simple sentence. The information provided helps the application to provide us with a list of questions for further understanding.

The proposed system under development works as a question generating assistant for the students do who are in learning process and those who are in teaching process as well. This system has three main parts: 1)An Android application which provides source to this system 2) system based on artificial intelligence which is able to figure out all possible questions and 3) with the help of another Android ecosystem we will be able to translate the question asked by the user and search for the required answer to the question.

II. SYSTEM OVERVIEW

As we have earlier stated before that the system works as a question generating application for those who are in the learning process as well as for those who are in their teaching process. When it comes to those who are in learning process we are being provided by a set of possible questions from a simple sentence and for those who are in teaching process they also come across new possible questions combination which may help them to interact with the information

Several scenarios to be supported are considered:

- If a student is facing problem with any topic he or she will be provided with the possible combinations of questions which can be question from a given context.

- If a teacher has provided all the questions to the student it will help us with the formation of for the possible questions from the given text.

- The most appealing and convenient situation where the system can play a vital role is to know the understanding capabilities of any man-made assistant which is provided with a series of questions made itself by the system.

- Finally the user is also able to find the solution or answer to its required questions with the help of voice over text assistant which compares with the list of the question produced by the system.

III.ANDROID APPLICATION

Through application we are able to provide the source required for the system to work on. This source is provided with the help of a text recognizer which converts a given picture to text or PDF.
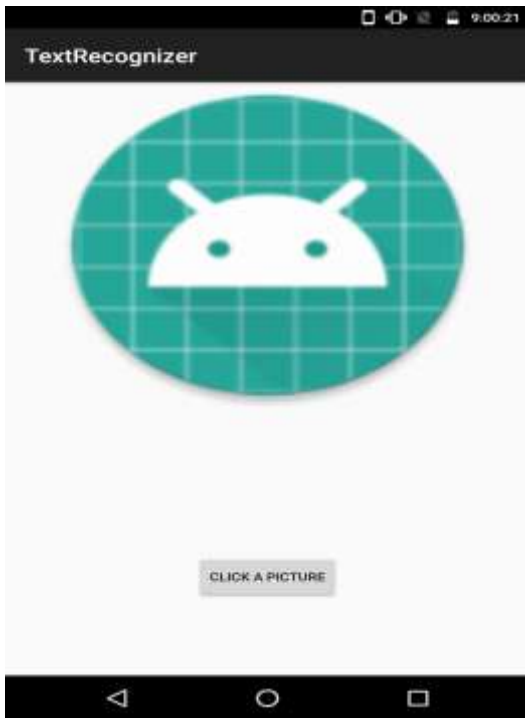
Fig 3.1 Android Application

With the help of days application we can also scan a given document and convert it into a PDF or text which may act as a source for the system to work on. With the help of text conversion the source is provided to the system which will accept all the text in a form of paragraph as per given in the context. Later after the working of machine learning which is being implemented in the system these extracted questions are also provided to as a result in the form of text or voice.

Fig 3.2 Android Application: capturing image

Here we are using Firebase ML kit for the conversion of image to text. In Fig3.2 there are other APIs can used for the image conversion.

Processing library which can read a wide variety of image formats and convert them to text. It works well on all computer operating system as well as Android and iPhone mobile platform. Being open source engine, there are a lot of academic experiments and OCR software developments conducted successfully.
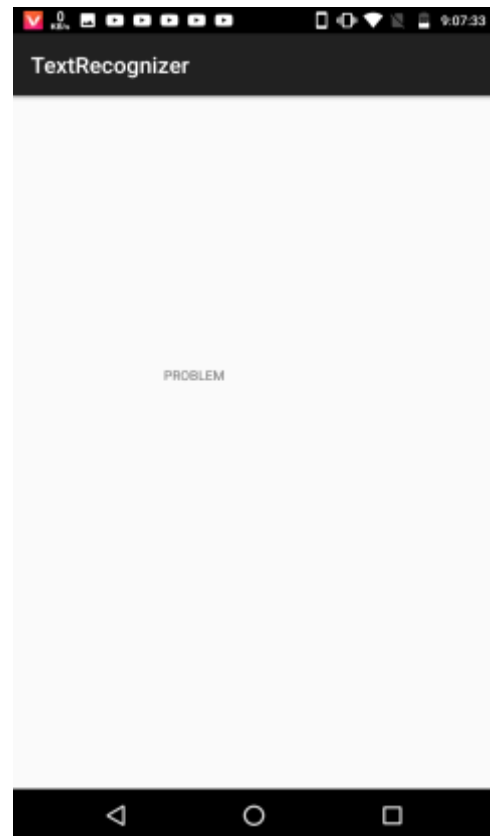

Fig 3.3 Android Application: Text Conversion.

IV. QUESTION EXTRACTION

A passage given by user is processed in Question extraction part. Question tuples are extracted from the question using TPE. Also, question type is determined by question classifier module. The extracted question tuples and question type are used for Answer Matching. For the Answer Matching, the system finds answer candidates.

In outline, just if the syntactic structure of the objective sentence is coordinated to the sentence pattern, its related tuple(s) is extricated [3]. The separated tuple contains semantically critical words in the objective sentence: subject, predicate, and protest. Relational word(PREPOSITIONS) and its question words are likewise removed since soliciting focuses from inquiries, (for example, particular time and area) might be found inside prepositional provisos of the target sentence based on the SEVEN PARTS OF SPEECH.
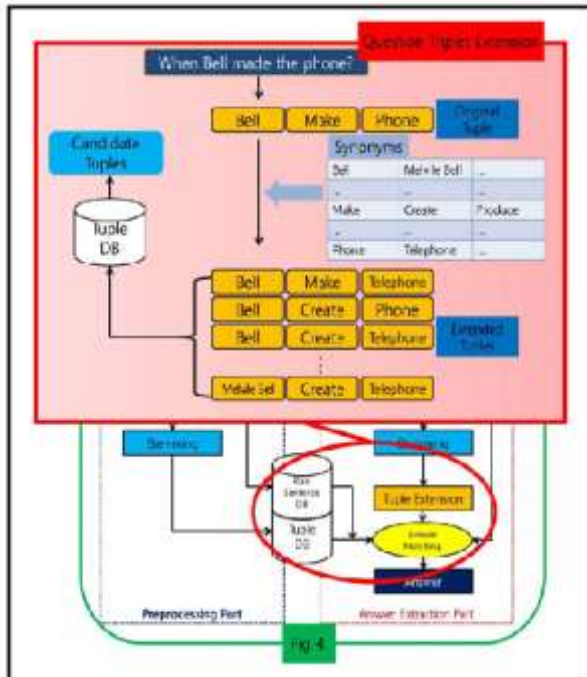
Fig 4.1 Tuple question extraction

In the knowledge base, the dependency tree is a type of complex nonlinear relationship. It can be very costly if we try to find the exact match for the whole dependency tree. Moreover, people tend to ignore the modifier components and so understanding the sentence depends only on some key parts. While the relevant key words can be modified by different components, it will cause many more difficulties if we place emphasis on these modifiers.

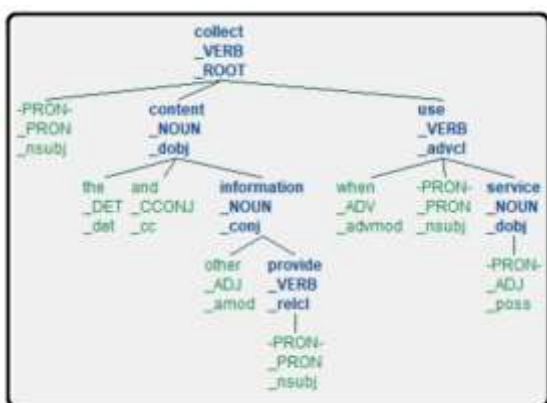That is the manner by which to get the catchphrases which speak to the issue from the regular dialect.

Fig 4.2 Extraction based seven part of speech.

As per the images and English characters, this part breaks down the regular dialect into a progression of substrings, and afterward it proceeds to break down the substrings into a blend of catchphrases. The blend of watchwords and the restricting condition ahead is the state of reply seeking.

V. ANDROID APPLICATION INTERFACE 2

For TEXT to SPEECH, phone worked in highlight would play out the discourse out administration. Android libraries, for example, android. Text and android. Speech will be utilized fundamentally for this reason.

An Android application to catch content what's more, voice it out has been outlined and created[5]. Last deliverable has been tried and results acquired are promising which exhibit that this examination effectively tended to the issues. The chose OCR engine will remove and perceive the content. Notwithstanding, if the outcome isn't discernible dependent on the OCR motor, the smartphone will
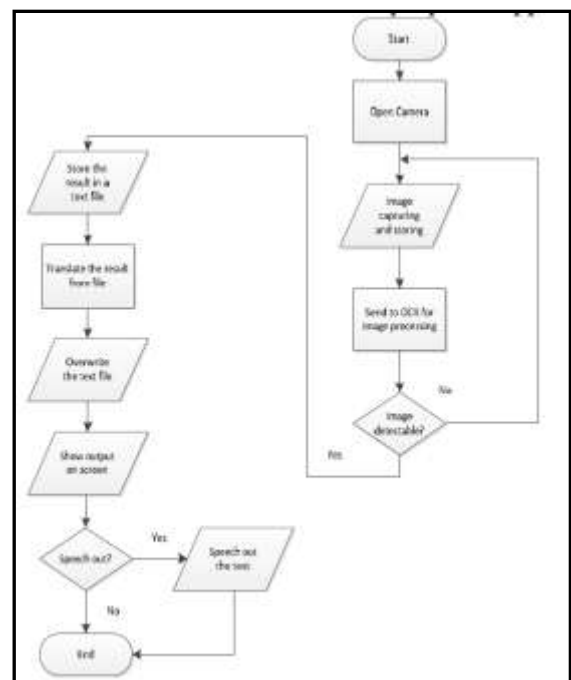

Fig 5.1 Text to Speech

explore client back to catch mode. Once the content extraction Finished, now they will be sent to interpreter. In this stage, the after effect of OCR will be converted into English by interpreter lastly voice out by the smartphone worked in speaker.

VI. CONCLUSION & FUTURE WORKS

Inspite the fact that the existing system itself is a great but it is finite with the new proposed system has infinite possibilities. The existing system is provided with a limited amount number of questions but with the help of machine learning the new proposed system is blessed to find infinite possible questions related to the given content. It also had the compass disabilities of scanning a given document as its source of information only.

With the given content it can generate numerous numbers of questions which is impossible with the existing system. With the help of voice interactive feature of this Android application read out all the query of the user is clarified comparing with the list of questions which has been generated by itself.

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