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CO AUTOMATION

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Abstract: The traditional system of education backslides to measure the potentiality of the students. It only assess the student's learning by allowing them to reproduce the exact text presented in the text book as answer for the questions. This paper proposes Outcome Based Education (OBE) system and is able to measure what the students are capable of doing. This paper recommends various course delivery methods to promote OBE in Engineering Program, presents assessment methods, attainment of Course Outcome (CO). This paper presents CO automation by giving the summary of modules for scanning and that image is shared through email. The scanned image is processed and text is converted to text form through OCR and then the keywords are extracted from the converted text.Then course outcomes are generated based on Bloom's Taxonomy automatically instead of generating manually by lecturers.

Keywords: Course Outcome(CO), Natural Language Processing(NPL), Bloom's Taxonamy.

I. INTRODUCTION

The term CO plays a vital role in Outcome Based Education System. It is significant to outline the Course Outcomes relevantly in an outcome based curriculum. This is because, the outcomes clearly state what learners should achieve at the end of learning a particular course as well as what are to be evaluated. A Good Outcome Statements are specific, measurable and lets you know when you have reached your goals. Outcome statements describes specific changes is your knowledge, attitudes, skills and behaviors you expect to occur as a result of your actions.

Programming Outcomes(PO) describes what students are expected to know and would be able to do by the time of graduation. Programming Specific Outcome are statements that outlines what graduate of a specific engineering program should be able to do.

Course Outcomes(CO's) are student centered. It focuses on the knowledge and skills that student can demonstrate. Generally outcomes are short and they are usually represented in one sentence in length that clearly states the behavior that students should be able to demonstrate.

Bloom's Taxonomyis used to classify educational learning objectives into levels of complexity and specificity. It incorporates 6 level namely remembering, understand, apply, analyze, evaluate, create.

CO-Automation is nothing but computerization of outcomes for any particular course. The grindstone of identifying a small set of words, key phrases, keywords, or key segments from a document that can describe the meaning of the document is called Automatic keyword extraction (AKE). Since keyword is the smallest unit which can express the meaning of the document, many text mining applications can take advantage of it, e.g. automatic indexing, automatic clustering, topic detection, information visualization, etc. Therefore, keyword extraction can be considered as the core technology of all automatic processing for documents.

PROBLEM STATEMENT

The traditional system of education backslides to measure the potentiality of the students. Reproducing the exact textbook content in answer sheets will not help students in any other skill enhancement except for gaining good scores. Therefore transition from Output Based Education to Outcome Based Education is the real need and demand of twenty first century learning system. Lecturers spend more time in doing the work manually. Searching for CO's of each chapter is a tedious task.

II. EXISTING SYSTEM

Question papers are set manually, looking at the frequency of occurrence of question in examination.

But today's need is outcome based learning and outcomes need to be measurable. Students are expected to acquire higher levels of Bloom's Taxonomy. So, whenever a lecturer sets a question paper they need to check the respective Course outcomes(CO's) and they will have to check whether the CO's are balanced or not. This method is very time consuming and tedious. Many automated tools for question paper generations are available, but none of tools are compatible with the Outcome Based Education methodologies and Bloom's Taxonomy.

III. PROPOSED SYSTEM

OCR Section: The processed data from the Image Processing section will be sent for the analysis of the Characters in the processed Image. This requires Tess-react API as library for completion of the process.

OCR to Text Conversion: The OCR data will be obtained from OCR section; the user will be provided with an option for conversion to text using Lepnotica API library.

Google API: The Google API is used for conversion of the obtained result from OCR Text region to optimize the text and to generate the editable text, further that will be stored in database for CO generation based on blooms taxaonmi.

Keyword Extraction: here we have flowed some steps for extraction of key word

Step1:we have to save the scanned and processed imaged and extracted text into a .file extraction

Step 2:another copy of extracted text are processed and remove the unwanted word (eg:the, which are etc) or

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extracted text or skimmed and toned and they are saved to another. File extention.
Step3:both the files are compared and the unrepeated words are selected has keyword.
We carried out the comparison of CRF-based method

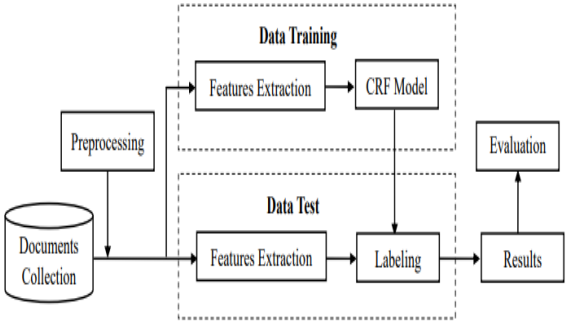

Fig Workflow of the Keyword Extraction

Blooms Taxonomy Implementation for the Extracted Keywords:
Here we save the bloom's taxonomi key words into a file extraction (read option only) .
Bloom's keywords are predefined :
Co1 :"define","recognize","recall","select","describe"
Co2: classify", "demonstrate","explain","summarize"
Co3: apply","build", "produce","choose","construct"
C04: 'analyze','assume','categorize','classify','compare'
Co5: 'criticize','decide','deduct','defend','determine'
Co6: 'adapt','build','change','choose','combine'..etc
This are the some keywords of bloom's

Then the last step of project the key words extracted from the text and bloom's key words are combined in predefined templets.and then co are optaibed

IV. EXPERIMENTAL RESULTS

The snapshots of the results are shown below. The system is capable of co automation with accuracy. . The Fig(a) shows theOCR Application. Fig(b) shows the OCR Detects text from Document. Fig(c) Sharing Document through Gmail.

Fig(a)

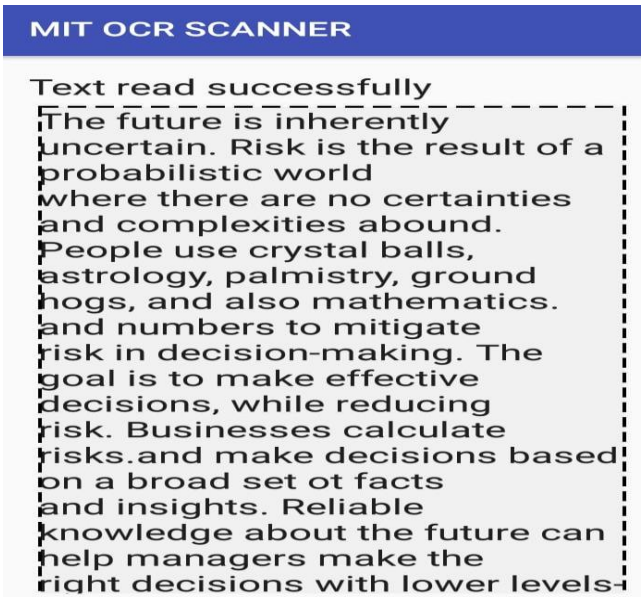

Fig:b

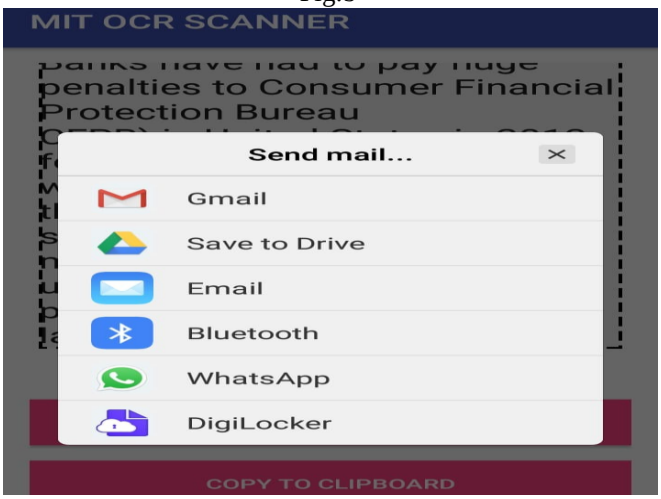

Fig:

Fig(d)

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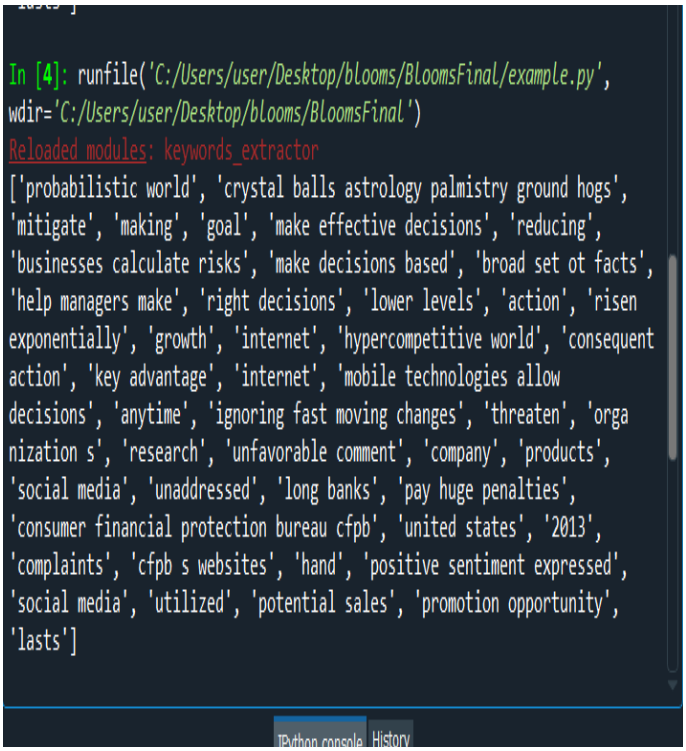

Fig e

The Fig(D) Scanned text are fed in file.txt.The Fig(E) Extracted-keywords from Document.Fig(F) :Final output(co,s generated)

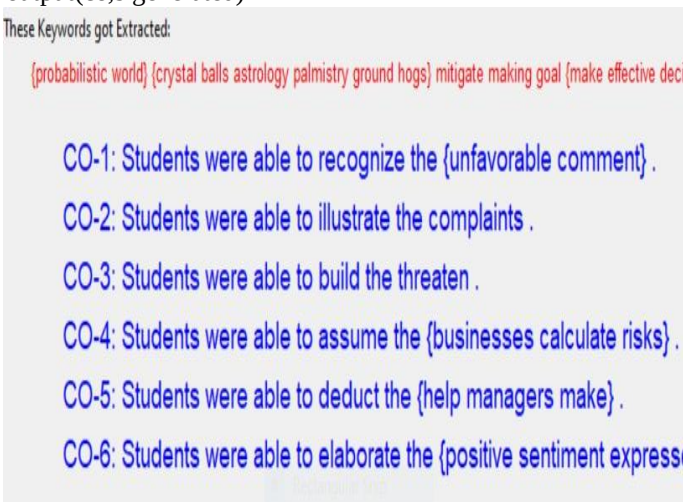

FIG:F

V. CONCLUSION

Keywords extraction can be considered as the string labelling. In this paper, we have proposed and implement the CRF-based keyword extraction approach. Experimental results show that the CRF model outperforms the other machine learning methods such as support vector machine, multiple linear regression model etc. in the task of keywords extraction from academic documents. CRF model is a promising method in labelling the sequence, and it can take full advantage of all the features of document. As future work, we plan to make further improvement on the precision and recall of CRF-based keyword extraction model. For example, we will use the semantic relations between the keywords. We also plan to apply the keyword extraction approach on Web pages, E-mail and others non-academic documents.

VI. FUTURE SCOPE

Here are some of the features of this application that we have planned to implement in future:

Direct connectivity of the Android Application to the Question Generation portal for the generation of questions using Bloom's Taxonomy.Deployment of the application on Cloud Hosting for easy access.

Addition of more attractive GUI for the Python tkinter, this application provides a basic interface for the demonstration.

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