ONLINE EXAMINATION SYSTEM WITH ADVANCED MONITORING AND DIAGNOSIS USING PREDICTIVE LEARNING ALGORITHM AND NLP TOOLKIT

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ABSTRACT

An intelligent open source online examination system, that can integrate other pre existing examination systems for monitoring and tracking activities at the background

this online examination system can contain Multiple Choice Questions, image question, 2 mark question with the random pick from a set of question for setting distinct question paper. The use of AI and python for Auto correction of answers, extracting keywords, translating speech and phrase matcher The system uses advanced live monitoring system with face detection, noice detection, gadget on screen and Reports to the students through a voice alert and reports navigation, malpractice, other activities to the proctor.Reports are classified into two for marks and proctoring.

Keywords : Artificial Intelligence, AI Proctoring.

1.INTRODUCTION

An intelligent open source online examination system, that can integrate other pre existing examination systems for monitoring and tracking activities at the backend, the system is built to be compatible with any web browser and mobile. The intelligent system is built with predictive learning algorithm for live monitoring from remote and Gathering report on monitoring at the server end. The proposed system has additional features that can be added according to the requirements of the client. The AI algorithms such as NLP Toolkit, Spacy and python are planned to be used for processing the answers in our own system. The external online exam system can be integrated and monitored with the reports. There is a voice assistant for students to provide alert. This system is planned to have Speech to text and text to speech for improving the communication and moderate grammar correction techniques (out of Scope.

2. METHODOLOGY

Event Capturing:

Online Examination system can also stream video of the candidate. Remote Proctor can log in to the system to check the live streaming of the candidate. This technology is very helpful when students are giving exams from remote locations. The proctor can easily keep a tab on students through their web cameras. This also helps to save a lot of logistical costs. Proctoring can be done even by taking screenshots of the screens of the student's current access. Proctor can also listen to the voice of the user attempting the exam.

Natural Language Processing:

Keyword extraction uses machine learning artificial intelligence (AI) with natural language processing (NLP) to break down human language so that it can be understood and analyzed by machines. It's used to find keywords from all manner of text: regular documents and business reports, social media comments, online forums and reviews, news reports, and more. The voice is also transcribed to text form and NLP is done on top of it.

3.TECHNIQUES

It employs web based platform on the user end and AI, ML algorithms on top of it.

Face Detection using Tenser-flow:

For face detection, this project implements a SSD (Single Shot Multi box Detector) based on MobileNetV1. The neural net will compute the locations of each face in an image and will return the bounding boxes together with it's probability for each face. This face detector is aiming towards obtaining high accuracy in detecting face bounding boxes instead of low inference time. The size of the quantized model (ssd_mobilenetv1_model).

Text and Phrase analysis

Keyword Extraction API provides professional keyword extractor service which is based on advanced Natural Language Processing and Machine Learning technologies. It can be used to extract top n important keywords from the phrase of the answer.
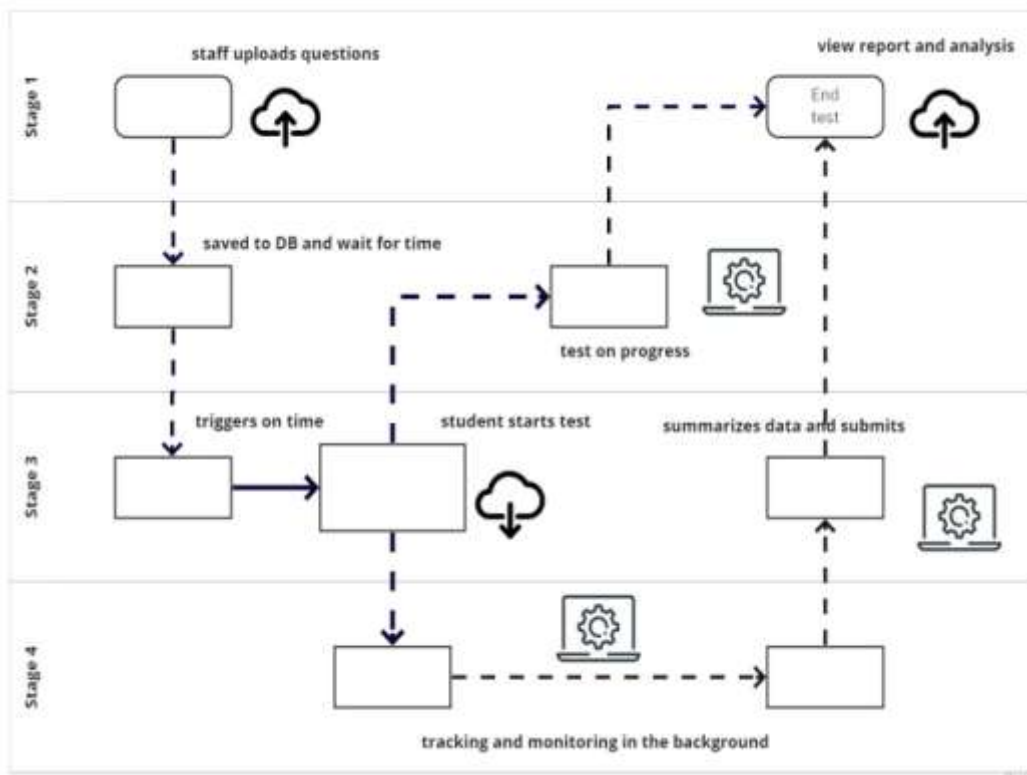
Voice Assistant

A voice assistant is a digital assistant that uses voice recognition, speech synthesis, and natural language processing (NLP) to provide a service through a particular application.

4. ARCHITECTURAL DESIGN
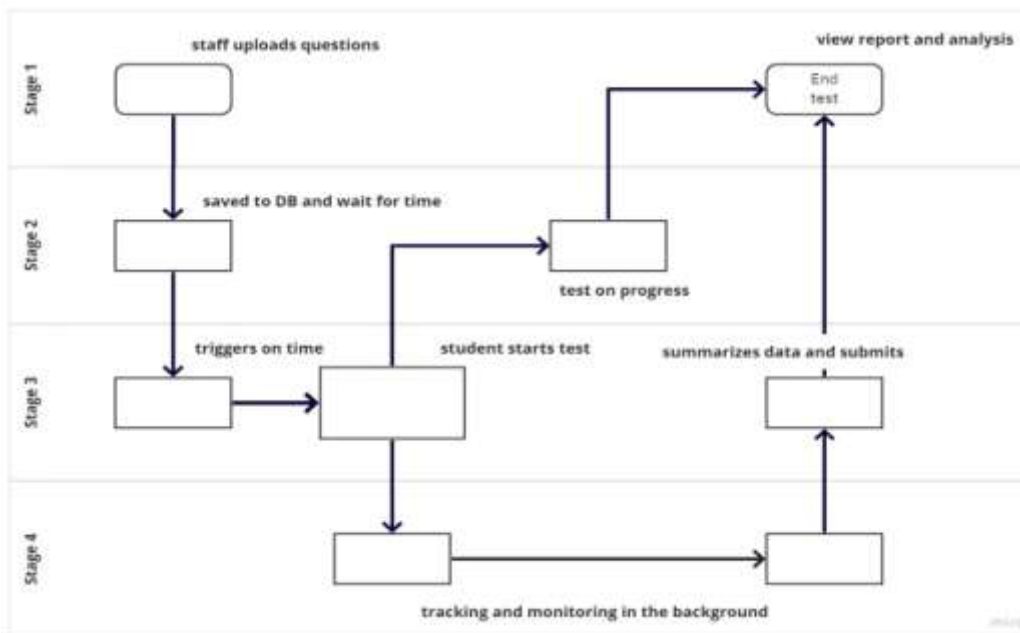
5.DATA FLOW DIAGRAM

6.CONCLUSION

The proposed system can be used in colleges instead of manual report generation we use ML methodologies and AI algorithms to predict the accurate result with the given data from the conducted test. Our proposed system is going to have Speech to text and text to speech for improving the communication and moderate grammar correction techniques (out of Scope).

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