



AI-Based interview practice System

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ABSTRACT

AI BASED PLACEMENT MANAGEMENT SYSTEM is a couple of technology that has fast placement management system in faculty not like the normal system wherever students also as TPO could face several issues like meagerly details, less security, issues with manual operating etc. The purpose of the AI-Based interview apply System is to beat the disadvantages of ancient placement system. It permits the top users to register on-line through their CMSys(College Management System) account that could be a web site of school created for group action, term check marks, etc., scan and apply for the corporate of their alternative and acquire frequent updates concerning the placements from faculty TPO. As this is the AI powered system all the placement and recruitment process will become easy. AI bots can make things easier as they will take practice for the recruitment process. There is no chance of missing the placement opportunity updates. The college placement officers will not have to get the separately collect information of every student. It will automatically be updated when the student registers. The project is basically a website which can be easily accessed through mobile on the go.

Keywords: AI system, recruitment

I. INTRODUCTION

Nowadays importance is given to the wireless technology and effective system. Computers and technology became a part of our life for accessing nearly everything we tend to primarily do. Life now's filled with indispensable technological advancement and during this technological era it's terribly tough for any organization to survive while not technology. the globe Wide internet contributes hugely to the creation of an ever-increasing world data information. It might even be used as a system to share data among an enterprise.

Interview practice System helps the training and placement officers to overcome the difficulty in keeping records of hundreds and thousands of students and searching the eligible students for recruitment, based on various eligibility criteria of different companies.

It will provide different module like aptitude test, group discussion, technical round, coding round that will provide the proper training for all the placement and recruitment process. We will use AI power Bots which will take the group discussion, technical and HR round. This bots create the real life scenario for the group

discussion, technical round and HR round. This will be very helpful for the student as well as recruitment team also.

It helps in effective and economical utilization of the hardware and also the software package resources. the scholars can produce their accounts and also the administrator can settle for or reject their request. supported the approval from administrator the scholars are going to be allowed to proceed more. the scholars can then enter their details which can be approved by administrator. Once approved, the scholars can get notified on each updates from TPO. they will conjointly modification their secret and details if necessary in future. this provides fast visual confirmation of security and guarantees that redundancy won't be allowed, in fact, what was meant.

II. LITURATURE SURVEY/BACKGROUND

Each and every process in the existing system is carried out manually. The college training and placement officer had to refer all the records of previous years for even minor details. This used to be tedious and more time consuming than it sounds.

• Requirement Process Flow

It becomes more difficult when the number of students increase each passing placement management system all the task is done by human interventions. Therefore there is maximum chance of errors. The files are not stored in hierarchical form. Thus searching for a particular becomes complex task. [9] Updating certain information is difficult and ambiguous which may lead to data redundancy due to the chances of duplication of information. Not every students are aware of the placement updates by training and placement officer of the college, therefore they may lose an opportunity to grab a seat for job interview. [9]



Fig. 1 Recruitment Process Floe

• Algorithms

1. Gaussian Mixture Model (GMM):-

The GMM-based algorithm can convert speech features continuously using the correlations between source and target features. [2] Voice conversion (VC) can be seen as a powerful technology for customizing Text-

to-Speech (TTS) systems. This paper deals with the integration of a VC method based on Gaussian Mixture Model (GMM) in a TTS system. In this framework, an algorithm that enables complexity reduction of the VC processing is proposed. The main idea is to restrict the conversion function to the most representative components of the GMM for each frame and, if necessary, to store the component indices and their associated weights in the acoustic dictionary. [2] This method is evaluated by comparison to a classical GMM-based transformation function. Tests show that both methods yield comparable results. Furthermore, additional experiments indicate that this new technique leads to a significant decrease of the computational load involved in the conversion process. [2]

2. Deep convolutional neural networks:-

This algorithm is used largely by different applications for face recognition to identify patterns and images in video using 3dimensional neural pattern. [3] Face recognition (FR) is defined as the process through which people are identified using facial images. This technology is applied broadly in biometrics, security information, accessing controlled areas, keeping of the law by different enforcement bodies, smart cards, and surveillance technology. [3] The facial recognition system is built using two steps. The first step is a process through which the facial features are picked up or extracted, and the second step is pattern classification. [3]

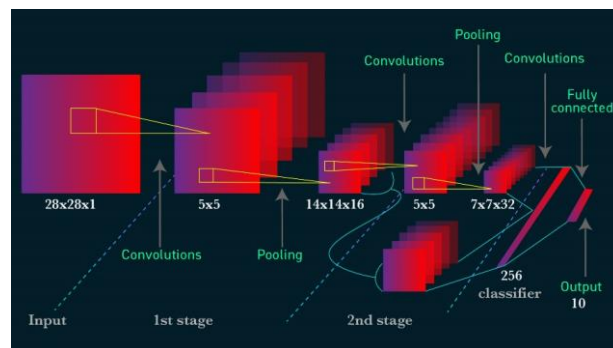


Fig .2 Deep convolutional neural networks

III. PROPOSED WORK/SYSTEM

Nowadays importance is given to the wireless technology and effective system. Computers and technology have become part of our life for accessing almost everything we basically do. The World Wide Web contributes enormously to the creation of an ever-increasing global information database. It could also be used as a system to share information within an enterprise. Placement management system helps the training and placement officers to overcome the difficulty in keeping records of hundreds and thousands of students and searching the eligible students for recruitment, based on various eligibility criteria of different companies.

Companies can directly contact the colleges using the platform. Resumes can be uploaded and can be accessible to different companies to hire employees from different colleges. More different types of tests can be added to increase the quality of student preparation.

In this we are having 4 modules. In first module, we are taking the aptitude test which can used to practice about aptitude test. In second module, we are having compiler on which student can code in any language they prefer. On this they can practice on their coding skills.

In the third module, there are AI bots which can take Group Discussion (GD) and student can practice about group discussion how the group discussion works. We are producing real time scenario of group discussion, where multiple Bot interact with student and talk with them. AI Bots ask several questions no the topic and student have to give answer on that and then Bot will check the answer and give them points according to answer.

In the fourth module, there are Bots for taking HR interview practices which will create scenario of how HR interview works. In this the Bot will ask student the HR interview questions and student have to answer that questions. This will prepare the students for the HR interview.

All the four modules make the whole AI-based interview practice system which will take the practice of the students and prepare them for the company interview.

1. USE CASE DIAGRAM

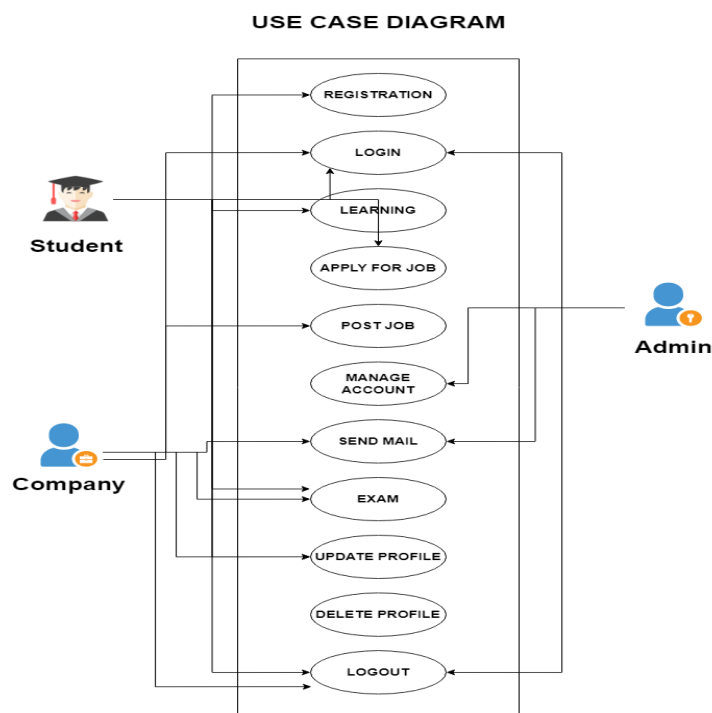


Fig.3 Use Case Diagram

2. OBJECTIVE

a. To provide recruitment to students:

Student recruitment should be recognized as a key component of institutional stability and success and should be a priority. institutional strategic plan responsibility. Equip the Training and Recruitment Office to

employ qualified students and the right number of students is essential to the long-term sustainability of the institution, and IT plays an important role. [9]

b. Planning and organizing various Placement drives in campus:

Students should use justice to get a chance to understand what companies want from candidates and what skills they have are important in their future roles. Career / career fairs are an important opportunity to hone communication skills and gain speaking practice its importance to the prospective employer. [9]

c. Provides Resume building services:

The student can plan his resume accordingly by choosing the words that best suit each task. Creating a resume by students in order applying for their dream jobs. [11]

The system comprises of 3 major modules and their sub modules as follows:

a. Admin:

- 1. Login: Admin needs to login with valid login credentials for accessing the system
- 2. Create test taker: test taker are the student of our university who are eligible for accessing the system.
- 3. Create test: Sample questions for the test to be taken by test takers i.e. students.
- 4. View marks/results: Admin can see the results and marks obtained by the test takers.

b. Test taker:

- 1. Login: Test taker should login using the credentials provided by the admin
- 2. Take test: Test taker should take the Aptitude test.
- 3. View marks/results: Test taker can view their marks obtained in test.
- 4. Create CV/Resume: Test taker should fill a form with all the details necessary for Resume and system will automatically make a customized CV for him/her.

3. SYSTEM ARCHITECTURE

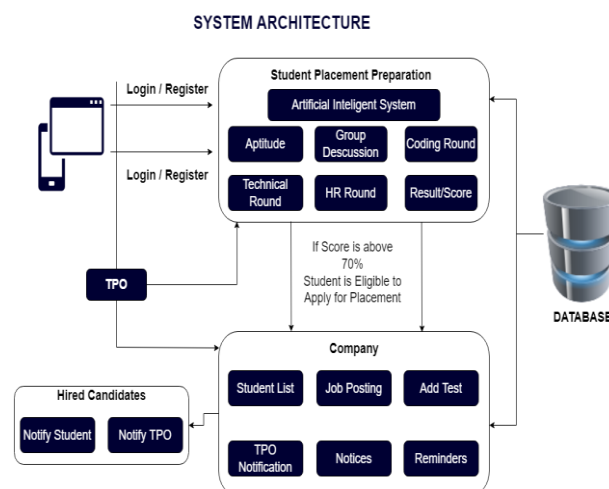


Fig. 4 System Architecture



4. TECHNOLOGIES USED

a. Python:

Python is commonly used for developing websites and software, task automation, data analysis, and data visualization. Since it's relatively easy to learn, Python has been adopted by many non-programmers such as accountants and scientists, for a variety of everyday tasks, like organizing finances.

b. React JS:

React.js is an open-source JavaScript library that is used for building user interfaces specifically for single-page applications. It's used for handling the view layer for web and mobile apps. React also allows us to create reusable UI components.

c. Node JS:

Node.js is primarily used for non-blocking, event-driven servers, due to its single-threaded nature. It's used for traditional web sites and back-end API services, but was designed with real-time, push-based architectures in mind.

d. Express JS:

Express is a minimal and flexible Node.js web application framework that provides a robust set of features to develop web and mobile applications. It facilitates the rapid development of Node based Web applications. Following are some of the core features of Express framework –

- Allows to set up middlewares to respond to HTTP Requests.
- Defines a routing table which is used to perform different actions based on HTTP Method and URL.
- Allows to dynamically render HTML Pages based on passing arguments to templates

e. MongoDB:

MongoDB is an open source NoSQL database management program. NoSQL is used as an alternative to traditional relational databases. NoSQL databases are quite useful for working with large sets of distributed data. MongoDB is a tool that can manage document-oriented information, store or retrieve information

f. HTML:

HTML is a hypertext markup language which is in reality a backbone of any website. Every website can't be structured without the knowledge of html. If we make our web page only with the help of html, than we can't add many of the effective features in a web page, for making a web page more effective we use various platforms such as CSS. So here we are using this language to make our web pages more effective as well as efficient. And to make our web pages dynamic we are using Java script.

g. CSS:

CSS Stands for "Cascading Style Sheet." Cascading style sheets are used to format the layout of Web pages. They can be used to define text styles, table sizes, and other aspects of Web pages that previously could only be defined in a page's HTML. The basic purpose of CSS is to separate the content of a web

document (written in any markup language) from its presentation (that is written using Cascading Style Sheets). There are lots of benefits that one can extract through CSS like improved content accessibility, better flexibility and moreover, CSS gives a level of control over various presentation characteristics of the document. It also helps in reducing the complexity and helps in saving overall presentation time. CSS gives the option of selecting various style schemes and rules according to the requirements and it also allows the same HTML document to be presented in more than one varying style.

h. JavaScript:

JavaScript is considered to be one of the most famous scripting languages of all time. JavaScript, by definition, is a Scripting Language of the World Wide Web. The main usage of JavaScript is to add various Web functionalities, Web form validations, browser detections, creation of cookies and so on. JavaScript is one of the most popular scripting languages and that is why it is supported by almost all web browsers available today like Firefox, We used the browser Opera or Internet Explorer. JavaScript is considered to be one of the most powerful scripting languages in use today. It is often used for the development of client-side web development. JavaScript is used to make web pages more interactive and dynamic. JavaScript is a light weight programming language and it is embedded directly into the HTML code. JavaScript, as the name suggests, was influenced by many languages, especially Java.

IV. RESULTS

1. APTITUDE TRAINING SYSTEM

In this module we taking the training for the aptitude test on the online platform where examiner can create the exam for the aptitude test. We are having the individual login for the admin, students and examiner. Where they can login to their profile and can give the exam or create the exam.

Login Form:

The system starts with login page where the registered user can enter user name and password to be able to access the system. Fig. 5 shows login form which includes registration path also.

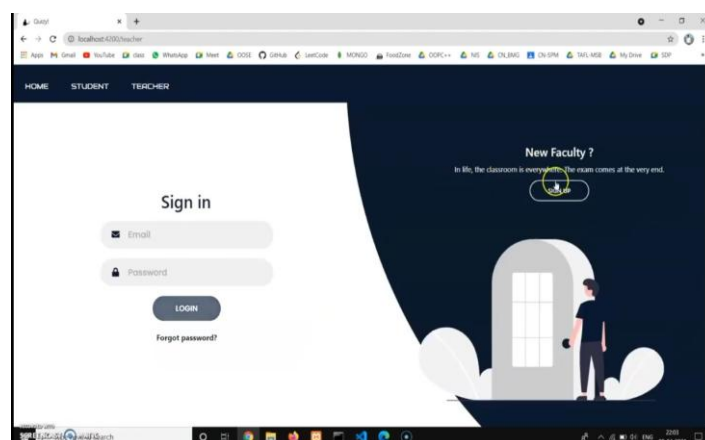


Fig. 3 Login Form

Test Creation:

In this the examiner create test and upload it on the system and then the student can give the exam from his profile. The examiner can add, edit and delete the exam whenever they want. As shown in Fig.6 examiner can add questions with the answer and also can delete it.

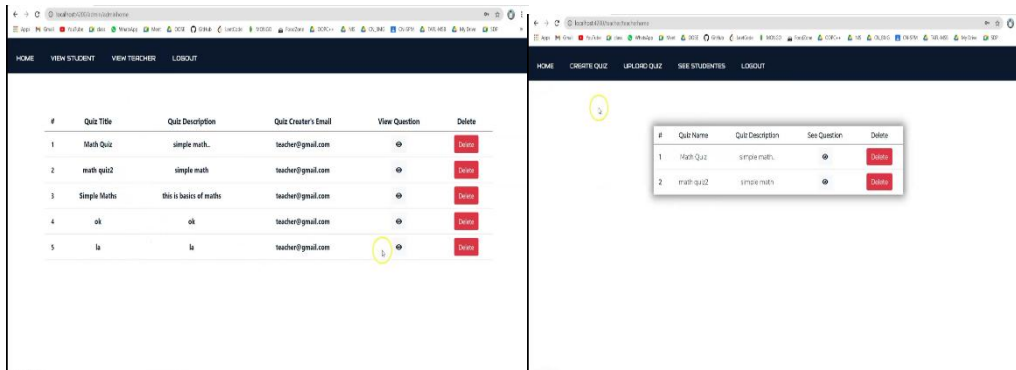


Fig.6 Test Creation and Deletion

2. CODING COMPILER

This module used for the students to test their coding skills. They can test their ability of coding and the examiner can also give the code to the student and student can code on the compiler to generate the answer. As shown in Fig. 7 the student can write and run the program on the compiler.

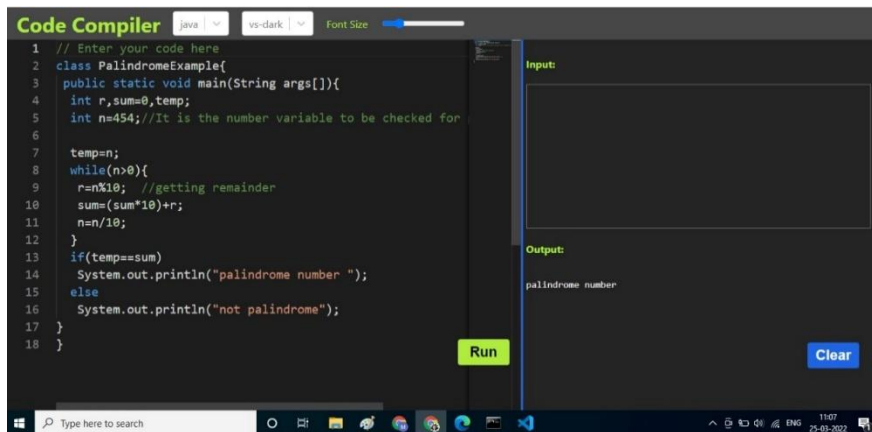


Fig. 7 Code Compiler

3. AI BOT WITH PROCTORED MONITORING

In the fourth module, there are Bots for taking HR interview practices which will create scenario of how HR interview works. In this the Bot will ask student the HR interview questions and student have to answer that questions. This will prepare the students for the HR interview. The questions will be predefined in the database. The question will be the mostly asked HR questions in the HR interview round.



This module is also used for the technical interview round, where Bots will ask the technical questions to the students and prepare them for the technical interview round. This will show them how technical round works.

4. MULTIPLE AI BOTS WITH PROCTORED MONITORING

In this module, there are AI bots which can take Group Discussion (GD) and student can practice about group discussion how the group discussion works. We are producing real time scenario of group discussion, where multiple Bot interact with student and talk with them. AI Bots ask several questions on the topic and student have to give answer on that and then Bot will check the answer and give them points according to answer.

This module can used for the taking the training of the students for Group Discussion (GD) with using the bot. The AI bots will interact with the student, they will give topic to the students about group discussion. The bot will listen to the student and check the grammar of the sentence which student speak and create the report on that.

V. CONCLUSION

Our project provides the facility of maintaining the details of the students in a database. It also provides a requested list of candidates to recruit the students based on given eligibility criteria along with the complete company details.

It also provides the platform where students can learn and practice there skills and also experience recruitment process including Aptitude, GD Round, Technical Round, and also Coding Round with real life experience. Administrator logging in may also search any information put up by the students. This project will aid our college to keep complete information about students. This will also help in fast access procedures in placement related activities.

AI Based Placement Management System project provides the facility of maintaining the details of the students in a database. It also provides a requested list of candidates to recruit the students based on given eligibility criteria along with the complete company details

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