

INTERVIEW PREPARATION APPLICATION

Associate Professor Mrs.V. Hemalatha ¹, V .Govindharaj ², S. Jafer Sathik ³,
G. Padmesh ⁴,MS.Vishnu ⁵

¹ Associate Professor, Computer Science And Engineering,
²³⁴⁵ student, Computer Science And Engineering,
¹²³⁴⁵, N.S.N. College Of Engineering And Technology,Tamil Nadu ,India

ABSTRACT

This project entitled as "interview preparation application". The main motive of this project is to implement a low cost, reliable and scalable web application that can be used from anywhere at anytime to prepare for interviews using this web application. It provides the users with efficient way to prepare for the interview. It helps the user to enrich knowledge and to gain more confidence for the interview. This web application project allows the users to enrich the knowledge through various technical and non-technical aspects. It reduces time for searching all the contents separately on the internet and provide an easier way to prepare for the interview. This application includes the major three functions such as knowledge contents, test on the learned contents and a trial hr interview. By acquiring these knowledge, an applicant can make sure the more chance of getting hired. In our system, the knowledge contents may contain the five major fields and field may contain the levels of learning like beginner, intermediate and advanced. Also after completion of each level, there will be a test to understand our knowledge on the contents. It is user friendly application without any language barriers. This approach aims to implement a low cost, reliable and scalable web application that can be used from anywhere at any time to prepare for the interview.

Keyword :- Gui Applications, Web Frameworks, Bootstrap 4, Mysql, Wampserver,etc..

1. INTRODUCTION

An interview is a meeting of people in a face-to-face situation. In common parlance, the word interview refers to a one-on-one conversation. This is done with one person acting in the role of interviewer and another in the role of the interviewee. The interviewer is the person taking the interview, he/she asks the questions and seek an answer to the questions. The interviewee is the respondent and answers all the questions.

The objective of this approach is to provide a comprehensive platform for software engineering students to prepare for job interviews. The web app aims to address the challenges that students face in organizing their preparation, finding relevant resources, tracking their progress, and accessing feedback and support.

1.1 Web Technology

Web technology is the establishment and use of mechanism that make it possible for different computers to communicate. It share resources or the building blocks of an effective computer networking system. Web Development consists of particular tasks associated with developing websites for hosting via intranet or the Internet. Web Development is also known as Web Programming which involves in creation of dynamic Web Pages.



FIG : 1 WEB TECHNOLOGY

1.2 Web Application

The term “Web Application” itself makes the things clear – it is just like any other software or mobile application which catered over the internet and used in the browser. But unlike websites, they provide more functionalities and features. Numerous web applications have been used such as Gmail, Google Drive, Face book, LinkedIn, Trello, Slack, etc.



FIG : 2 WEB APPLICATION

2. LITERATURE SURVEY

YEAR : 2023

Covid-19 pandemic accelerates the growing use of augmented and virtual reality in various industries, especially in education sector. It is worthy to study whether VR training would apply to technology-accepted learners. In this work, the researchers developed an immersive VR interview room system that allows pre-employment learners to try on a simulated environment. Pre-captured interviewer questions are played for the learners get a taste into a real-liked interview. The investigation is the relationship between learners’ perceived usefulness and interview self-efficacy in VR training in human resources management.

3. SYSTEM IMPLEMENTATION

3.1 EXISTING SYSTEM

There can be several problems that a software engineer may encounter during the interview preparation process. Some of the most common problems are Insufficient knowledge of the job requirements. It is crucial to understand the job requirements and the skills required for the position. It should have a clear understanding of the job requirements, if not it won’t be easy to prepare effectively.

3.2 PROPOSED SYSTEM

Software engineering students often struggle to prepare for job interviews due to a lack of organization, difficulty in finding relevant resources, and inadequate tracking of progress. Without proper guidance and support, they may not perform well during interviews, miss out on job opportunities, and feel discouraged. To address this problem, there is a need for a web application that can provide software engineering students with a comprehensive platform to prepare for job interviews.

3.3 SYSTEM ARCHITECTURE

Each layer of the system architecture will communicate with the layer above and below it using APIs. The Presentation Layer will communicate with the Application Layer using RESTful APIs, which will fetch data from the Data Layer and return it to the Presentation Layer in JSON format. The Application Layer will also communicate with the Data Layer using SQL queries to fetch or update data in the database. The Infrastructure Layer will provide the necessary cloud services to host the web app and manage user authentication and data storage. The system architecture will be designed to be scalable, secure, and reliable, ensuring that it can handle a large number of users and maintain data privacy and confidentiality. The Python Flask framework and MySQL database will be used to ensure that the web app can be easily maintained and scaled in the future.

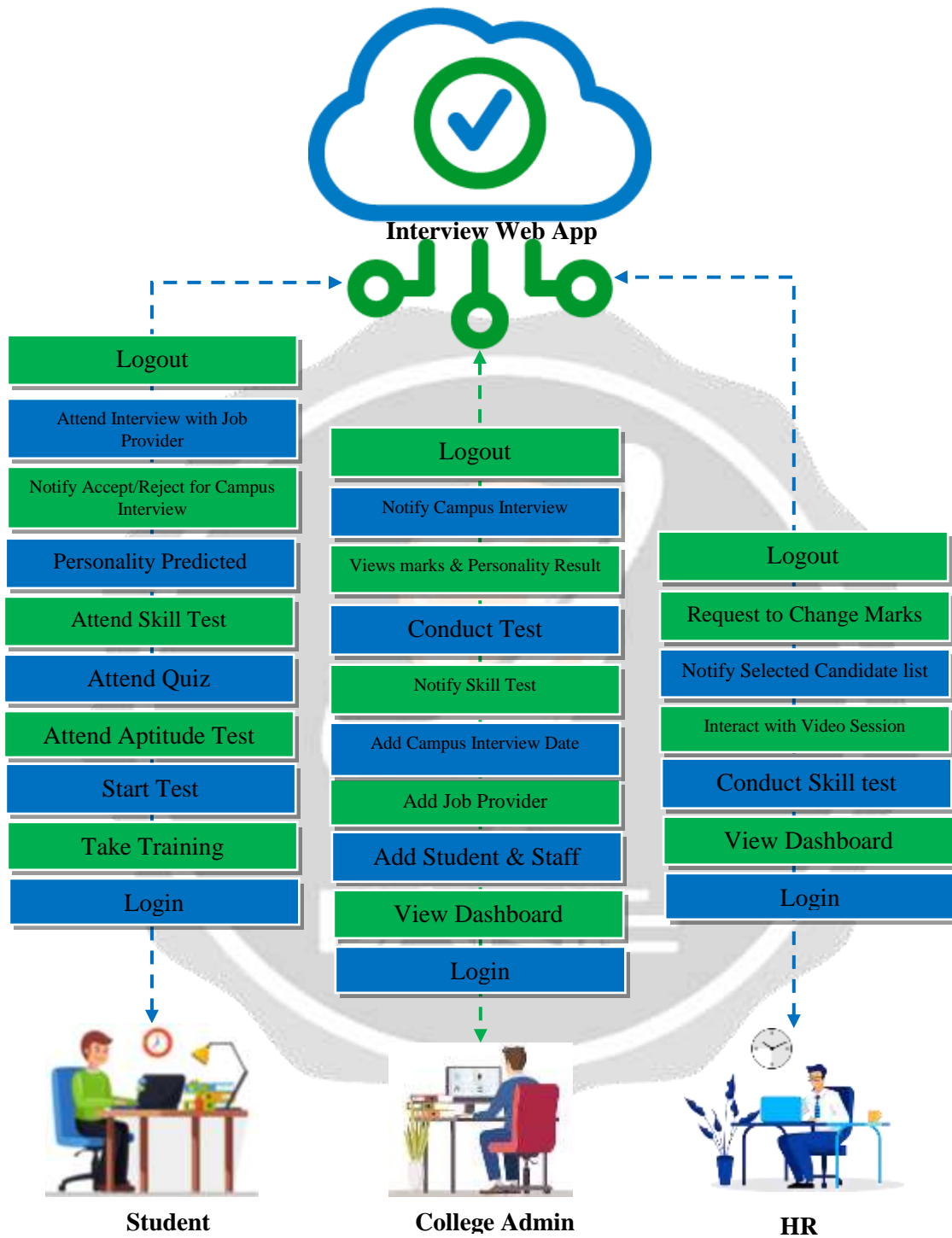


FIG : 3 SYSTEM ARCHITECTURE

3.4 SYSTEM DESCRIPTION

The Interview Preparation Web App for Software Engineering Students is designed to provide students with a comprehensive platform to prepare for technical interviews. The web app will include features like a personalized interview plan, practice questions, mock interviews, progress tracking, and feedback from industry experts. The system will have a multi-layered architecture that includes a presentation layer, an application layer, a data layer, and an infrastructure layer.

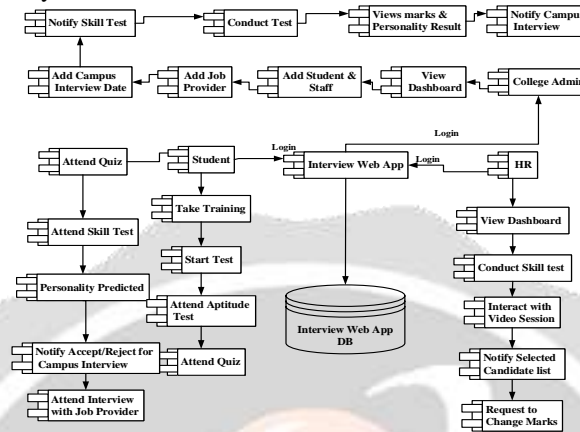


FIG : 4 FLOW DIAGRAM

3.5 SYSTEM MODULE

The Interview Preparation Web App for Software Engineering Students can be divided into several modules, each with its own specific functionality

1. FRONT-END DEVELOPMENT MODULE

This module is responsible for developing the user interface of the application using HTML, CSS, and JavaScript. It involves creating a responsive and user-friendly layout that allows users to access the features and functionalities of the application easily.

2. BACK-END DEVELOPMENT MODULE

This module is responsible for the server-side development of the application using Python and Flask framework. It involves developing the application logic and integrating various modules and features to provide a seamless user experience.

3. DATABASE DEVELOPMENT MODULE

This module is responsible for the design and development of the application database using MySQL. It involves creating database schema, tables, and relationships, and implementing the necessary queries and constraints to ensure data consistency and integrity.

4. LIVE VIDEO INTERACTION MODULE DEVELOPMENT

This module is responsible for developing the live video interaction feature of the application using WebRTC, a free, open-source project that provides web browsers and mobile applications with real-time communication via simple application programming interfaces. It involves integrating various video streaming and conferencing APIs to allow users to interact with mentors and industry professionals in real-time.

5. CHAT MODULE DEVELOPMENT

This module is responsible for developing the chat feature of the application using WebSocket protocol. It involves creating a real-time communication channel between users and mentors, enabling users to ask questions, receive feedback, and share documents and files with their mentors.

6. MOCK INTERVIEW MODULE DEVELOPMENT

This module is responsible for developing the mock interview feature of the application, which involves designing and developing an algorithm that evaluates user responses to interview questions based on specific criteria, such as clarity, relevance, and conciseness. It also involves integrating various APIs that allow users to schedule mock interviews and receive feedback on their performance.

7. TESTING AND QUALITY ASSURANCE MODULE

This module is responsible for testing the application to ensure that it meets the requirements and specifications of the stakeholders. It involves developing and executing various test cases to identify and resolve bugs and issues, and ensuring that the application is responsive, user-friendly, and secure.

8. DEPLOYMENT MODULE

This module is responsible for deploying the application to a production environment, which involves configuring the server, installing and configuring the necessary software and libraries, and ensuring that the application is accessible to users. It also involves setting up the necessary security measures to protect the application from unauthorized access and data breaches.

4. SCREENSHOTS

INTERVIEW PREPARATION APP

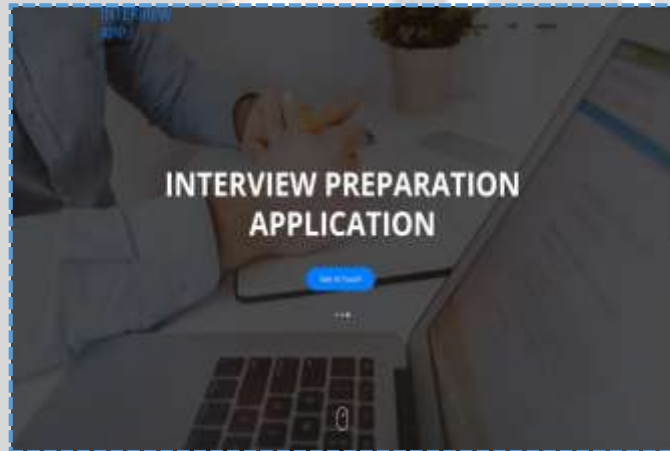


FIG: 5 HOME PAGE

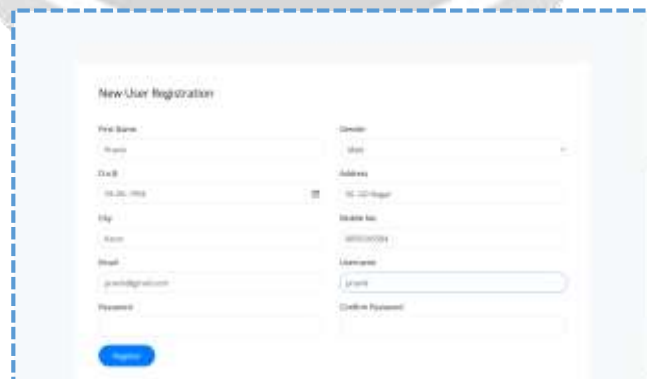


FIG : 6 USER REGISTRATION

5. TEST REPORT

5.1 WEB APP INTRODUCTION

This report presents the results of the testing conducted on the interview preparation web app for software engineering students. The testing aimed to ensure that the application meets its functional and non-functional requirements and that it is user-friendly, reliable, and secure.

5.2 TEST ENVIRONMENT

The tests were performed on the following environment:

- Operating system: windows 10
- Browser: google chrome version 95.0.4638.69
- Test tool: selenium webdriver
- Programming language: python 3.9
- Database: mysql

5.3 TEST CASES AND RESULTS

The test cases were designed to cover all the functionalities of the application. The following are the test cases and their results:

6. CONCLUSION

The Interview Preparation Web App for Software Engineering Students is an essential tool that helps students prepare for job interviews by providing them with various resources and tools. The system provides mock interviews, live video interactions with industry experts, aptitude, program test, and quiz, and other relevant materials that can help students improve their technical and soft skills. The system is designed with end-user authorization and authentication, registration and login, notification, and dashboard modules.

7. REFERENCES

- 1) M. A. Usman and M. M. Hasan, "An intelligent e-learning system for computer science and engineering education," *Journal of Computing in Higher Education*, vol. 32, no. 3, pp. 466-482, Oct. 2020. <https://doi.org/10.1007/s12528-020-09237-6>
- 2) Y. T. Chan and Y. L. Wang, "Design and development of an intelligent learning management system for computer science education," *Journal of Educational Computing Research*, vol. 57, no. 3, pp. 693-716, Mar. 2019. <https://doi.org/10.1177/0735633118788428>
- 3) R. Li, Y. Li, and X. Zhang, "Design and implementation of a personalized intelligent learning system based on data mining," *International Journal of Emerging Technologies in Learning*, vol. 14, no. 8, pp. 51-67, Aug. 2019. <https://doi.org/10.3991/ijet.v14i08.9732>
- 4) R. M. Siddiqui and M. Raza, "An intelligent web-based learning management system for computer science education using rule-based reasoning," *International Journal of Advanced Computer Science and Applications*, vol. 10, no. 5, pp. 409-414, May 2019. <https://doi.org/10.14569/IJACSA.2019.0100545>.

- 5) P. Kumar, P. Kumar, and A. Singh, "Design and development of an intelligent web-based learning management system for computer science education," *International Journal of Emerging Technologies in Learning*, vol. 14, no. 5, pp. 115-133, May 2019. <https://doi.org/10.3991/ijet.v14i05.9403>
- 6) M. M. Rahman, M. M. Hassan, and R. K. Khan, "Design and implementation of a web-based learning management system for computer science education," *International Journal of Computer Science and Network Security*, vol. 18, no. 10, pp. 11-18, Oct. 2018. <https://doi.org/10.18293/ijcsns.v18i10.8091>
- 7) R. K. Sharma, M. Bhatti, and M. Singh, "Design and development of a web-based system for student performance analysis," *International Journal of Emerging Technologies in Learning*, vol. 13, no. 12, pp. 171-188, Dec. 2018. <https://doi.org/10.3991/ijet.v13i12.9053>
- 8) S. M. Al-Qahtani and M. I. Almajed, "Development of an intelligent e-learning system for computer science education," *International Journal of Emerging Technologies in Learning*, vol. 12, no. 9, pp. 199-214, Sep. 2017. <https://doi.org/10.3991/ijet.v12i09.7239>
- 9) H. Lu, C. Chen, and Y. Chen, "An intelligent e-learning system for computer science education based on personalized recommendation," *Journal of Educational Technology & Society*, vol. 20, no. 3, pp. 15-28, Jul. 2017. <https://www.jstor.org/stable/26376068>
- 10) Khawla Mousa Al-Ghaili, Raed A. Alqadi, and Mohammed A. Awadallah, "E-learning systems for computer science education: A systematic literature review", *Computers in Human Behavior*, vol. 71, pp. 714-722, 2017. DOI: <https://doi.org/10.1016/j.chb.2017.03.009>

BOOK REFERENCES

1. Miguel Grinberg. (2020). *Flask Web Development, 2nd Edition: Developing Web Applications with Python*. O'Reilly Media. www.oreilly.com/library/view/flask-web-development/9781491991725/
2. Joel Grus. (2015). *Data Science from Scratch: First Principles with Python*. O'Reilly Media. <https://www.oreilly.com/library/view/data-science-from/9781491901410/>

WEB LINK REFERENCES

- 1) Udacity-an online learning platform for software Engineering students:<https://www.udacity.com/>
- 2) Coursera-an online learning platform for software Engineering students:<https://www.coursera.org/>