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Chatbot Enabled Web Portal

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Abstract - *Right information at the right time has enormous value. Information which is not available at the right time does not have any value. Currently, the information regarding students and faculties is not captured in an effective way, because of this timely information is not available or it takes time to collect information. The solution to this problem is to develop the web portal where students and faculties will be able to upload information regarding their achievement, skill upgradation, honors in conferences etc. As this information will be timely updated, it will be available to everybody who needs it. 3-tier client server architecture will be used. Agile development will be the methodology for development. Due to online availability of information with a checkpoint to update the latest information by students and faculties will ensure timely availability of required information. Timely availability of information will help in proper planning and decision making*.

Key Words: **Integrated Development Environment (IDE), SCRUM methodology, Graphical User Interface (GUI), Artificial Intelligence (AI)**

1. INTRODUCTION

There are many institutes having enormous number of students. The skills, capabilities, expertise, technical knowledge of all the students are captured manually. In the manual process there are a lot of difficulties and information about all students is not captured. This situation leads to loss of many opportunities for students. There is a need for a platform to capture 100% of the student information.

V- Talent is a portal and it will be a repository of information about students. It is a portal where all the required information of students can be captured and can be used as and when required. This could save almost 90%-95% of the time in gathering, disseminating information, will ensure 0% of dependency. The required information about the students and the skills can be easily found on this portal. The portal is also equipped with an AI enabled chatbot named as VBot which will help students in addressing their queries. The objective of the proposed system is to capture the updated information regarding achievements of students, participation in different activities, and new skill sets acquired. Whenever the information is required, the system will help retrieve the information on time. To achieve this objective, we rely on parameters whether the students use this portal to upload their talents or not. The proper maintenance of the recorded data in the backend and its appropriate sorting as per the requirements are the two major parameters of the project. Therefore, all the parameters combined will help in the proper functioning of the proposed system.

2. BACKGROUND

By the end of 1990, using a Steve Jobs-designed NeXT computer, the key technologies that are the bedrock of the Web, including Hypertext Mark-up Language (HTML), for creating Web pages; Hypertext Transfer Protocol (HTTP), a set of rules for transferring data across the Web; and Uniform Resource Locators (URLs), or Web addresses for finding a document or page were developed. Designers became more involved in the development of websites, and along came the Graphical User Interface (GUI), which allowed designers to incorporate images and graphical icons into websites. In the late 1990s, a new technology appeared on the scene: Flash. Flash was a software platform that allowed designers to incorporate music, video and animation into websites, making for a more dynamic audio-visual experience. But the popularity of Flash was short-lived. Then social media emerged and demanded even greater flexibility. This led to the birth of Cascading Style Sheets (CSS). The idea behind CSS was to separate the content (HTML) of websites from the presentation (CSS). Fast forward to 2010 when a new web design approach called responsive web design was created by Ethan Marcotte. The main idea underpinning responsive design was that a single website could respond and adapt to different display environments, facilitating use on different devices. This led to another wave of web design trend: flat design. It emphasizes functionality over ornamental design elements. Today, flat design is still going strong. Over time web technologies have evolved to give web developers the ability to create new generations of useful and immersive web experiences. Today's web is a result of the ongoing efforts of an open web community that helps define these web technologies, like HTML5, CSS3 and WebGL and ensure that they're supported in all web browsers.

3. RELATED WORK

Many research papers are published on the various fields that our project requires. We have reviewed following papers to get a better understanding of this field. The review papers and their description are given below.

Vensada Okanovic [1], faculty in University of Sarajevo gave the description of development of dynamic web application

using web frameworks based on web components is provided. They provided basic features of the analyzed web frameworks and represents their main characteristics. To give an idea of which framework to use, the paper compares all analyzed web frameworks and summarizes them and gives an overview of all their most important characteristics.

A Study of Visual Studio Usage in Practice published in 2016 by Sven Amann, Sebastian Proksch, , Sarah Nadi, Mira Mezini [2] instruments the previously unexplored Visual Studio IDE and track the interactions of developers at an industry partner's software-development department.

Sonia Thakur, Amandeep Kaur [3] proposed agile and risk management in agile. It focuses on what is agile software development, what are the various techniques/method implementing agile methodology and limitations of agile.

Martin Adam, Michael Wessel & Alexander Benlian [4] in AI-based chatbots in customer service and their effects on user compliance proposed that to address the challenge employing an experimental design based on an AI-based chatbot which is a particular type of CAs that is designed for turn-by-turn conversations with human users based on textual input. More specifically, they explore what characteristics of the chatbot increase the likelihood that users comply with a chatbot's request for service feedback through a customer service survey.

Jo Jung [5], Lecturer in Edith Cowan University in the article "A nostalgic journey through the evolution of web design" described how World Wide Web was invented 30 years ago and its advancement through all these years.

M. Sweeney [6] in "Interactive graphics for Web based applications" proposed that the requirements of Web applications are becoming more complex but the software designer has few tools to assist development. In the paper he introduces the Generic Graphics Applet (GGA) which is intended to be a flexible general purpose interactive graphics display client.

4. PROPOSED SYSTEM

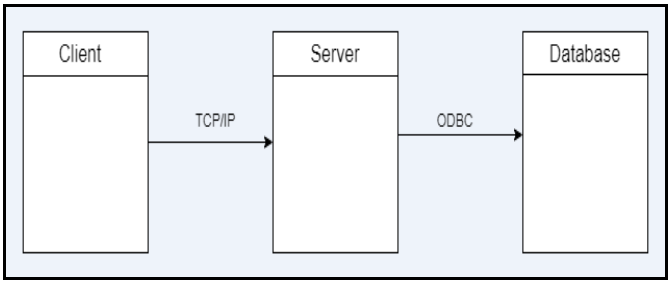

Fig -1: Architecture

This three-tier application is basically, a modular client server architecture consisting of client, server and database.

Client - In the portal the client is going to be the user. E.g., the faculty member or any student who will have the login id.
Server - The Server here is playing an important role which is, being the medium between the Client and the Database. The Client will request to the Server and the Server will process the request accordingly. The server here will connect to the database with the ODBC protocol which is an Open Database Connection in the backend and through which Client will have an access to the data.

Database: The Database is a repository of information which will contain all the data about a student. The information in database is organized so that it can be easily accessed, managed and updated.

5. METHODOLOGY

Agile methodology was used to develop this project. SCRUM is the preferred Agile method for implementation.

a) Not too many changes needed while implanting the project.
b) Requirements and technology are well understood.
c) A demonstration of the functionality is provided at the end of every section of the project so that the regular feedback can be taken before the next stage by the guide.
d) Iterative development is possible which emphasizes how to manage changes better and build products which satisfy customer needs.

User stories can be written by the team, project owner, or any other stakeholder. The team works on the items in the sprint backlog with the help Scrum Master. At the end of a sprint, there is a retrospective to see what went well and what needs to change. Then the cycle begins again with new user stories added, existing user stories selected for development and so on.

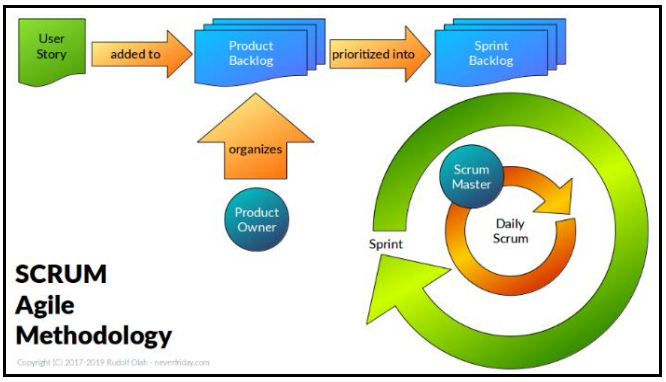

Fig -2: SCRUM Model

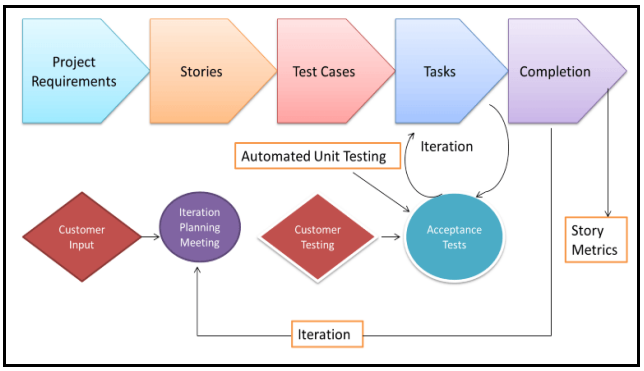

Fig -3: Process

6. RESULTS

The login page for signing in or registering along with the contact details of the college is the first page visible on the website.

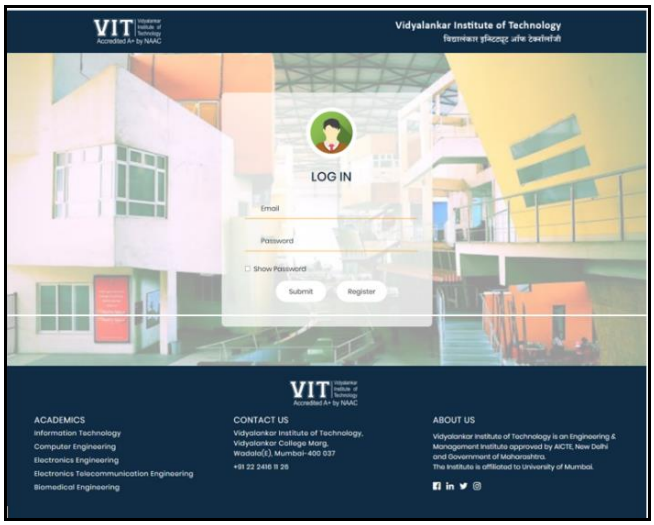

Fig -4: Login page

Here, if the user is new, user can register or else can sign in. If the user clicks on register, registration page will open and the user can register as a faculty or as a student.

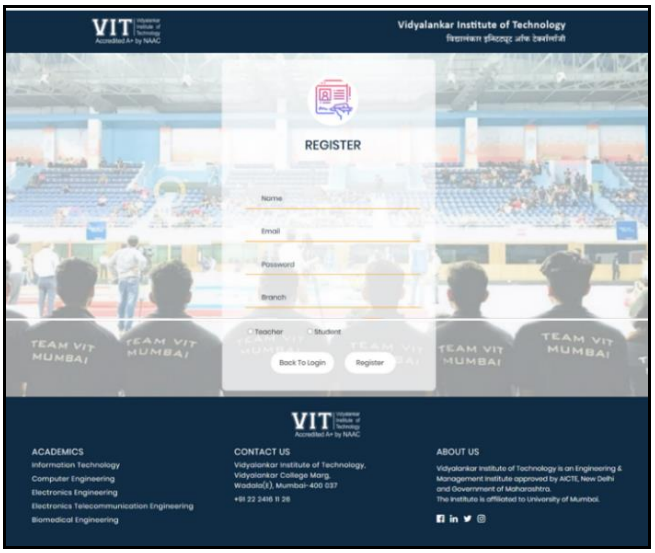

Fig -5: Registration page

If the user clicks on the student radio button, he will be asked to fill in the information about the skills and will be allowed to upload the certificates. The student can also update the skills and certificates from time to time by logging in.

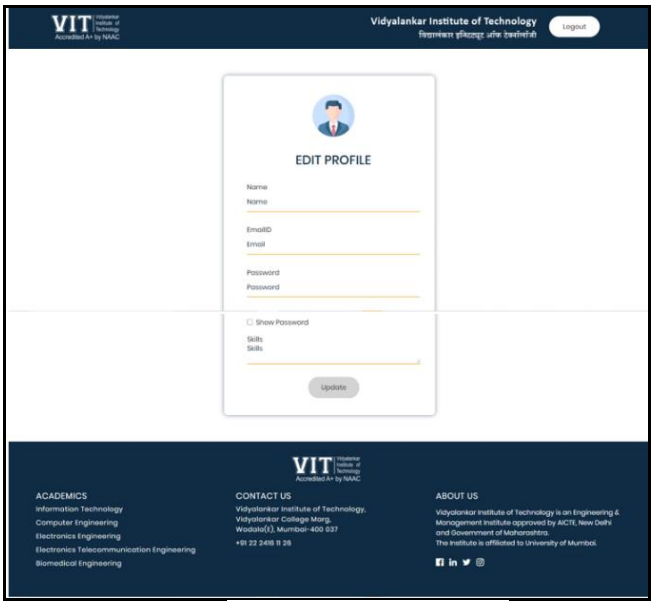

Fig -6: Edit student profile page

The student profile is equipped with a chatbot named as VBot will which help the students in clearing their doubts. Chatbots bring 24/7, instant, conversational capabilities, replacing time-consuming navigation across screens.

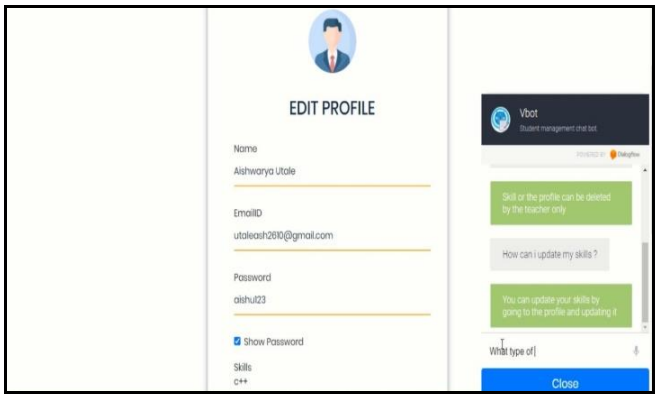

Fig -7: VBot

The other part of the website is, the user can be registered as a teacher. If so, then the faculty page will be opened as soon as the teacher logs in. The teacher will be able to see all the student details and will be able to view the attachments. The teacher can also search the students using the search option according to the skills and click on generate report to download and use the data as and when required.

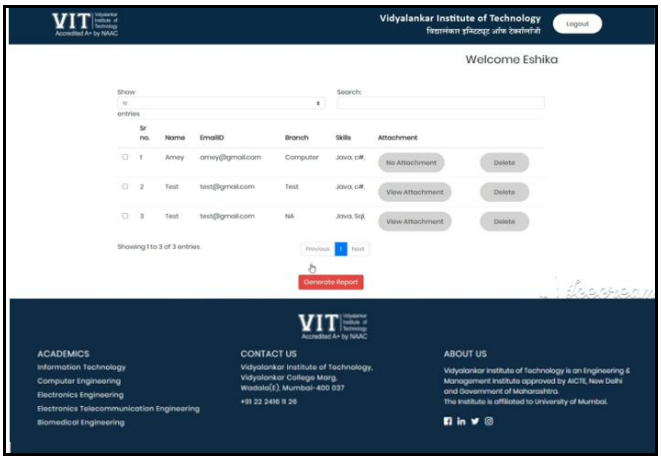

Fig -8: . Faculty page after logging in

The database of the registered users can be seen by typing the command in SSMS. The "0" in the "Role" column will indicate that the user is a teacher and "1" will indicate that the user is a student.

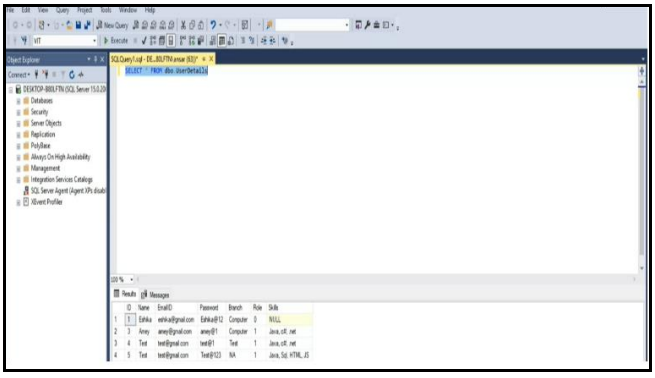

Fig -9: SSMS database

7. CONCLUSIONS

Through this project, we learned about the various ways and various platforms that can be used to develop a website. The techniques used for formatting and styling page were understood. We experimented with different IDEs and then finally chose the one we thought will be good and easy to build the project in. We understood that although the IDEs perform the same function, there are some things and some interfaces that are unique in them.

We implemented the project in Visual Studio IDE and used the Visual Studio Editor for the front end.

We made a chatbot in the student profile using the Artificial Intelligence technology.

The SQL Server Management Studio (SSMS) was used for the backend to configure, store and manage the data for the website and lets you connect to on-premises, remote and cloud-based SQL databases and data warehouses

ACKNOWLEDGEMENT

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REFERENCES

[1] Vensada Okanovic, faculty of Electrical Engineering/Computer Science Department, Sarajevo, Bosnia and Herzegovina, "Web application development with component frameworks", 2014 37th International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO)

[2] Sven Amann; Sebastian Proksch; Sarah Nadi; Mira Mezini, "A Study of Visual Studio Usage in Practice", 2016 IEEE 23rd International Conference on Software Analysis, Evolution, and Reengineering (SANER)

[3] Sonia Thakur, Amandeep Kaur, "Role of Agile Methodology in Software Development" International Journal of Computer Science and Mobile Computing, October 2013

[4] AI-based chatbots in customer service and their effects on user compliance by Martin Adam, Michael Wessel & Alexander Benlian

[5] Web design evolution by Jo Jung – Lecturer, Edith Cowan University.

[6] M. Sweeney, New South Wales University, Australia," Interactive graphics for Web based applications", Proceedings of the First International Conference on Web Information Systems Engineering, 19-21 June 2000, Hong Kong, China.