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Vishwa-Connect: A College Space Website

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Abstract **- As we know college space website are extremely helpful to students in this online mode of education. Also, now a days mostly if we want to deliver a content to substantial number of people through a proper UI and all things, we use web browsers for this. And then the technology comes called as web development. In these various frameworks and languages are used like HTML, CSS, JavaScript react for frontend and Django, flask, NodeJS, express and many other technologies for backend here we have used a HTML, CSS, JavaScript for frontend and Django for backend. We have developed a website called "Vishwa Connect." Which is for VIT college. This site is more about social media rather than the website. Vishwa Connect is a collaborative learning platform. Where teacher, students and alumni can communicate with each other so that proper learning and student development will take place. Students will get to know what is happening in our college and if students want to collaborate with teachers, they can also do that. In shot all things will be collaborative and all students will be aware of what actual thin our collegemates are learning.**

Keywords **– College Space, Python, Django, Learning Management System, Event Management, Amazon Web Services, Web Development,**

I. INTRODUCTION

We created a web application called "Vishwa Connect." It is a college space website where collaborative learning will take place. For the frontend, we used HTML, CSS, and JavaScript, and for the backend, we used the Django framework. This application is divided into two sections: the learning section and the event section. These are the main four apps that will be included in a single application. There will also be one login app where all authentication data will be stored. First, there is the learning section. The purpose of including this section is to assist students in the online educational system. Every application user will be able to post courses in this section. That is, if anyone has a free or good course, they can upload it here so that all students can benefit from it, which is why it is called a collaborative learning platform. Furthermore, the links will be approved by our college's technical teams so that no one can post a bad link there. The following section is the Event section. This section will be accessible only to a select few. VIT college is having many clubs and they conduct many events for college students, but the thing is the event information cannot reach to every student at the college so that they can get benefited by that and WhatsApp spamming happens. Hence this is the solution for this problem here the club social media coordinator can post the event here with limited information only. Also, some events which are conducted by the college alumni head will also have the special authority of posting the event. Next is the social media section. This is the main and biggest section of this application. In this section every user can make their profile in which they can include everything like what skills they are expert in, their GitHub profile link, their LinkedIn profile link also their project, their technical co-curricular, extracurricular skills and all. The main motto behind implementing this section is to help the college students and keep them on track. For example, if a teacher is conducting research, they can post something like, "I am conducting research; if anyone is interested, please contact me." So that genuinely interested students are aware of the opportunity and can work on it. Fourth section is the question-and-answer section. This section is for contacting alumni. Here we can ask questions to our alumni and communicate with them.

II. LITERATURE REVIEW

The Literature that we have surveyed so far has yielded very one-dimensional applications. Few of these were solely performed book lending. Some of them dealt with Video Lecture sharing. One of the applications was exclusively for Event and Extra-Curricular oriented. An application was made to review and rate the College Courses taught at the College as well as the ones that were online.

Vishwa Connect deals with a wide array of problems here, combining multiple things under the same roof. It does not only show what Events are going on or coming up. It also displays its details, and these are managed by their admins, and no complex work is needed to be done by the Clubs or Hosts. We also dealt with Online Course rating and reviewing. The best part of it was, they were getting these reviews from their peers and fellow College mates, which makes the whole experience more relatable and Authentic, as the students at the same College have a better understanding about the state of the skills required in college, rather than an online stranger giving reviews based on his different background, skills and demands.

III. METHODOLOGY

This section discusses the implementation and deployment of the website in detail. The implemented website is a college space website that combines information about all the college events in an easy-to-read format with quick actions like visiting the link and students to share their learning resources like websites, blogs, videos, and courses. This keeps students updated about college events, and extracurricular activities. the courses help save time on searching and verifying resources to learn new things.

The website consists of a total of four sections as shown in *Fig. 1*, namely: authentication, Events, learnings, and Profile. The authentication system identifies the user as a club, or a student based on email IDs provided by the college. it consists of a sign-up, login, and password change functionality. The Events page shows the user events going on in the college with a photo, title, description, registration details, date, event link, and the organizer which could be further sorted according to the topic of interest. The learnings page shows the user resources shared by other students in the college with a title, description, course type, certification status, link, and the one who shared and categorical sorting according to interests. The Profile shows the basic information about the user which could be updated from there only, with a button to add new events (only for club users) and a button to share a new resource. and at the same time, the user can also see the events and learnings posted by the user.

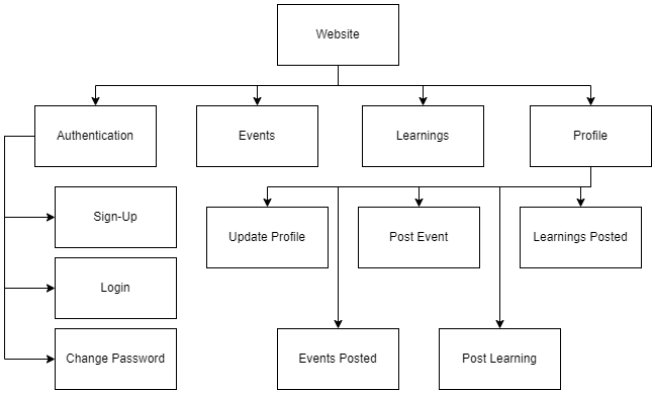

Fig. 1 – Block diagram

The minimum hardware and software requirements for the implementation of the website are:

- x86 64-bit CPU (Intel / AMD architecture)
- 4 GB RAM
- 5 GB free disk space
- Python Version 3.7

As technology evolved the system of interchanging information changed. Nowadays, everyone shares information using the internet. To harness the power of the internet we use tools called web browsers and in browsers, we use web applications. Web applications are the applications stored on the server that can be downloaded on the client side just by reaching a link and running inside a web browser. For building web applications there are various frameworks available. One of which is Django. Django is written in python and is an open-source framework. That is developed by the community for the community. The specialty of Django is that it already has many things built into it. Which makes it easier to use, and less to configure.

In this project, we are using Django login, Django templates, URLs, views, models, admin, etc. The methodology implemented in this project is divided into two parts. and the project is divided into two sections i.e., events & learnings. Both types of users, Clubs, and Students can access the event section, but only Clubs have access to post Events. The Clubs are identified with a different email ID student. They can post the Event details on the card. The application will fetch the username that broadcast the event from the Backend and display it on the card. In this way, the users can feel confident about it, as it is directly coming from the club's account. Students will not have to endure 100s of WhatsApp spam messages, and will not have to scroll through hundreds of email spam messages to get to the one event they are interested in. Many times, the publicity of small clubs in the College is on a small scale due to a shortage of members. This problem is also resolved, as they will not have to expend any workforce, and just post the relevant details on the card.

The next section is about Learning. Now in VIT, the curriculum is Project centric. Students must perform six projects in a semester. Learning Section helps students for

finding good courses. The students who have already taken the course can drop a review for their fellow students. In this way, students can spend more time learning rather than finding. It has a simplistic design; the card has the topic of the course.

The Login Page is made to authenticate user data. While signing up, only vit.edu accounts will be given the OTP. The OTP will be received by users on their mail accounts. This is done using SMTP service. If the same user is trying to sign up for their account, the username will be verified in the database before creating a new user.

The user data from the backend will be fetched in the form of objects. These objects will contain the attributes to be displayed on the front-end cards. These attributes are title, photo, registration link, date, description, etc.

The Technology used is:

HTML, and CSS: These are used for designing the front as a static page.HTML is used to display the content on the webpage, and CSS is used to make it look good.

JavaScript: This language is used to make the webpage dynamic. In this language, we can make the trigger event after clicking on the specific button that we are expecting that we can configure here.

Django: It is used as a backend technology. Django is an open-source framework written in python. All the backend things like saving the data on the server and some admin access ins manipulated by the Django admin.

On the Signup page, the user will have to enter their Gmail address. If the account already exists in the database, then no new user will be created. If the account is new, an OTP will be sent to their mail account. If the email address belongs to any of the thirty-seven clubs of VIT, then they will be given special editor access to the Events Section. Students' mail IDs will only be given view access for the Events Page. For the Learning page, all the accounts will have edit access. If a student tries to access the site anonymously, then only, Viewer access will be given for the Learning and well as Events Sections as shown in *Fig. 2*.

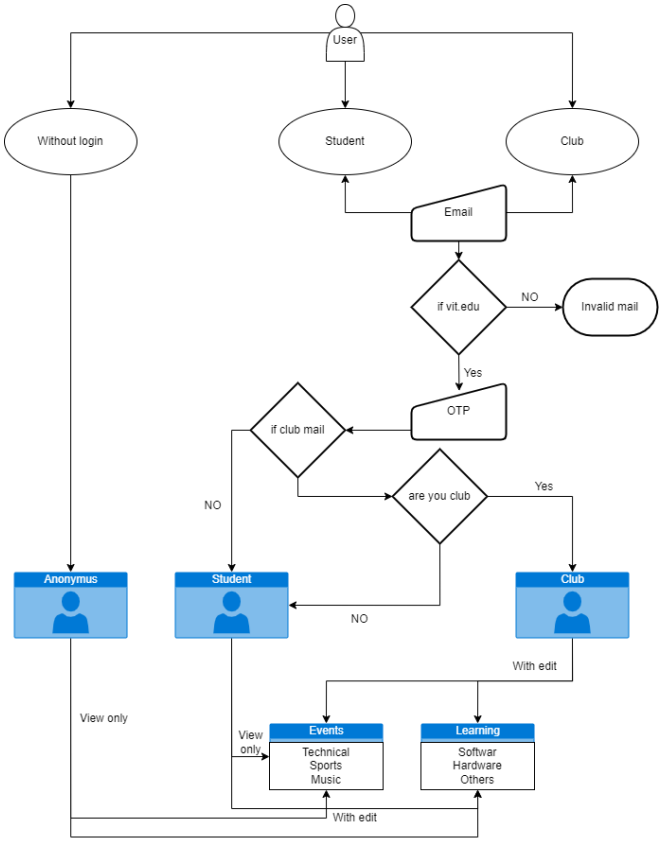

Fig. 2 – Web Page Model and Flow

This completes the implementation of the project and can then be deployed.

For deployment a server 100% up time is required i.e., it should never go off otherwise application will stop running. These servers are mostly provided by cloud providers like Google Cloud Platform, Microsoft Azure, Amazon Web Services etc. Here it is using AWS Elastic Beanstalk which is a product of Amazon Web Services for deployment of the logic.

The data base is deployed on AWS Relational Database Service (RDS) as shown if *Fig. 4*, which is also a database on cloud with 100% up time. And the media files uploaded by the user are stored on the AWS Simple Storage Service(S3) provided by the cloud provider AWS.

Fig. 3 shows how the entire system works. It all starts with a web browser from where the user will hit a domain name of the website. This domain name will be searched in different Domain name servers (DNS) and if exists an Ip address will be returned. This Ip address will point to the server where the website is hosted. Here AWS Elastic Beanstalk is acting as a server. This server will take requests from the user and will give the request to the Django application server. The Django application server internally is using AWS S3 as a File Storage for managing the user uploaded media files and used AWS RDS as Cloud Database for storing the user data. This makes the entire process more distributed and efficient as

each component does their works in their own environment, with their own resources.

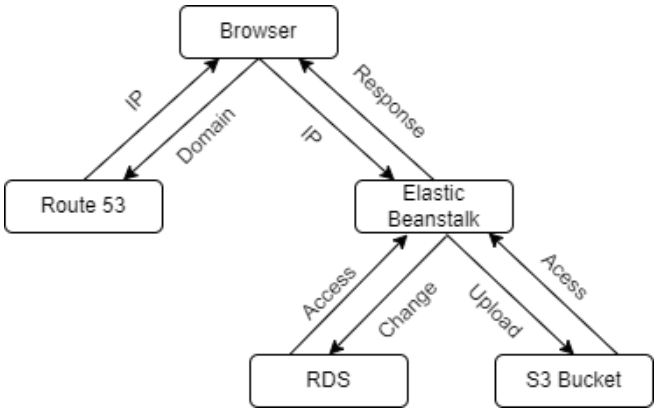

Fig. 3 – Data Flow

Fig. 4 – Database Architecture

The version control of the application is managed by GitHub which is a Version control system. Whenever there is a latest version of the application it is pushed to Elastic Beanstalk which updates the code and the logic implemented. Due to the file storage and database being in a different environment, the changes do not affect them.

IV. RESULTS & DISCUSSION

After studying multiple articles, we have produced the prototype, to propose and elaborate the concept of automated surveillance system with multiple advantages over the previously existing systems.

The Events and Learning sections of our platform Vishwa Connect are completed. The Events section provides information about various activities (co-curricular and extra-curricular) in the form of cards containing basic details related to the event to the students at the Institute. The Learning section contains various courses with details like duration, cost, and material recommended by students themselves which others can use to improve their technical skills. Also, the learning section includes all types of courses like graphic, technical anything you want to learn as a passion all types of courses will be available here in the event section all information about club events will be displayed. So that students will get rid of the WhatsApp spamming and the information of every event will reach to every student.

The current User Interface is inspired by a minimalistic theme, where the application is aiming to give out a clean and simple Interface as shown in *Fig. 5* and *Fig. 6*. The Events Section presents the user with basic details of the Event such as Title, Photo, Description, Date, Event Link etc. All these details are then processed and posted in the Events Section.

The Learning Section allows the user to input the Course Title, Description, if the course is paid, has certification, provides the Course Link, etc.

These are some of the snapshots of the application's simplified interface as shown in *Fig. 7* and *Fig. 8*. The Application is fully functional and successfully able to create users, post events, post learnings, and customize profiles.

V. LIMITATIONS

The web application does not support direct messaging to other users right now, it is a desirable feature to be implemented. It is currently limited to only the students, teachers, and alumni of Vishwakarma Institute of Technology, Pune. A question-and-answer section like a forum can be included in the project. The main idea was to make a social media site like LinkedIn for the college but more centric towards the college community. Calling and virtual meet options can be integrated for better user experience.

VI. CONCLUSION

Vishwa Connect has two complete sections which are Learning and Events. The platform will be able to provide basic information regarding helpful courses and college events to its user and will also be a connecting link between the students of VIT.

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VII. FUTURE SCOPE

The feature of being able to personally message other users can be implemented for better communication. With enough resources the scope of the platform can be scaled up from being limited to only Vishwakarma Institute of Technology, Pune to a platform open for users from all institutes and universities to create a healthy learning community. It is currently limited to only the students, teachers, and alumni of Vishwakarma Institute of Technology, Pune. A social media section featuring posts like team requirements, club recruitments etc. can be included in the project.

VIII. REFERENCES

[1] A. Kumar and S. P. Panda, "A Survey: How Python Pitches in IT-World," 2019 International Conference on Machine Learning, Big Data, Cloud and Parallel Computing (COMITCon), 2019, pp. 248-251, doi: 10.1109/COMITCon.2019.8862251.

[2] N. Dukov, "Preliminary Design of an Interactive Web-based Platform for Regional Health Profiles of Bulgaria," 2020 International Conference on e-Health and Bioengineering (EHB), 2020, pp. 1-4, doi: 10.1109/EHB50910.2020.9280297.

[3] L. Wei and W. Zhang, "A Method for Rough Relational Database Transformed into Relational Database," 2009 IITA International Conference on Services Science, Management and Engineering, 2009, pp. 50-52, doi: 10.1109/SSME.2009.79.

[4] J. Nias, B. Marshall, T. Thompson and T. Blunt, "Evergreen: Using a social network as a learning platform," 2017 IEEE Frontiers in Education Conference (FIE), 2017, pp. 1-7, doi: 10.1109/FIE.2017.8190595.

[5] P. S. Yadav and P. Srivastava, "A statistical analysis of impact of social networking media on higher education," 2013 2nd International Conference on Information Management in the Knowledge Economy, 2013, pp. 9-13.

[6] J. Chou, L. Chen, H. Ding, J. Tu and B. Xu, "A Method of Optimizing Django Based on Greedy Strategy," 2013 10th Web Information System and Application Conference, 2013, pp. 176-179, doi: 10.1109/WISA.2013.41.

[7] https://www.cloudflare.com/en-in/learning/dns/what-is-dns/

[8] https://www.websiteplanet.com/web-hosting/freenom/

[9] https://aws.amazon.com/elasticbeanstalk/

[10] https://www.djangoproject.com/

[11] https://aws.amazon.com/s3/