Student Development System

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Abstract: *In this current generation of education system, there is always a communication gap between the Teacher and Student. It is often seen that sometimes due to this gap Student performance gets decreased. One of the reasons is that the overall performances of the student does not get verified/captured by the teacher and this cause the decrease in academic performance. To solve this issue there has to be a mentor in Student life to help them achieve their required goals, by means of implementing this project the student can interact with their Mentor throughout their life. This system tries to make a system where Teacher and Student can interact with each other. So, they can improve students in overall performance. To create a friendly environment between teacher and student and to focus on Student extra curriculum activities. It tries to introduce a system where, if a student get low marks the teacher of the respective subject gets notified and teacher can interact with the student and helps them to overcome the difficulties faced by the student. It is a system where teacher can view the activities of the student including academic details, curriculum activities, etc.*
Key Words: *Digitalization Web technologies, academic performance*

I.INTRODUCTION

In the current education system, there is a lack of student and teacher interaction. Also due to pandemic the students and teachers are facing the communication gap that has was never seen before in the human history. Also, there is a lack of knowledge transfer between the best students and average students. The students who have knowledge don't have a platform to share the information with the students and to share their problems with their teachers. This leads to a broking of a link between the students leading to the problem of good students getting better and the weak students getting weaker. The students who have knowledge don't share with others because they don't see any rewards for doing so. Also, in current system full details of student is not available to the department. For every new work student have to upload same documents every time. So, we will create a student profile that will contain all the document of the students right from SSC to placement offer letter.

II.RELATED WORK

The idea of student development was proposed in the paper "Design and Research of Data Analysis System for Student Education Improvement" by Ravinder Pal Singh in "Department of computer science, Patiala Panjab, India" Volume 4 issue 4, April 2019". This system constitutes an intelligent system which collects data from different departments of different colleges, store data into the large data warehouse of the university and perform thorough analysis of student's past data such as survey-based data of the university. Analysis of data could be achieved with OLAP operations. It basically displays students marks on the progression of semester marks. It does not provide the solution of the decline in the student's academic performances. It only tracks the student's performance in their exams.

III.PROPOSED SYSTEM

The system requires new software technologies like nodejs and mongo db for the implementation of the projects. The final web application can be run on any device and laptop with basic configurations.
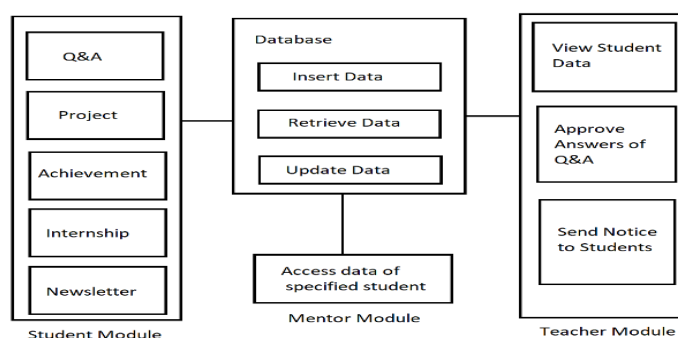

Fig 1. System Architecture

The project's System Architecture is based on 3 modules of the application students, teacher, and mentor. Different modules perform different functions on the given data set. The system contains 3 sections. The student, teacher and Mentor. The function of student will be to create the student profile that will contain all the information of students like Projects, achievements, internship, etc. The question-and-answer function will be implemented and students will be able to post questions to the website and all the students can see the question. The students who know the answer will answer the question and all the students can vote for the best answer to the question. And the teacher can select the best answer and the teacher will only have the option to mark or approve an answer. The points earned by answering these questions will be valuable and hence each and every one will try to answer the question and all the concepts will be cleared for both, the student who is asking the question as well as the student answering the question. Hence this will increase the overall student performance of the system. The function is achieved by using ajax to send the upvote message to the database and retrieve the new count of the total upvote/downvote from the database. AJAX is an acronym for Asynchronous JavaScript and XML. It is a group of inter-related technologies like JavaScript, dom, xml, html/xhtml, css, XMLHttpRequest etc. AJAX allows us to send and receive data asynchronously without reloading the web page. So it is fast. AJAX allows us to send only important information to the server not the entire page. So only valuable data from the client side is routed to the server side. It makes your application interactive and faster.

IV.RESULT AND DISCUSSION

The final project contains the following home page. The home page will give the dashboard of the whole project. The home page consists of all the description of all the modules of the project. The user can now select the page it wants to visit. User can access this page and can find out the whole working or components of the website without having to login. Below is the screenshot of the webpage.
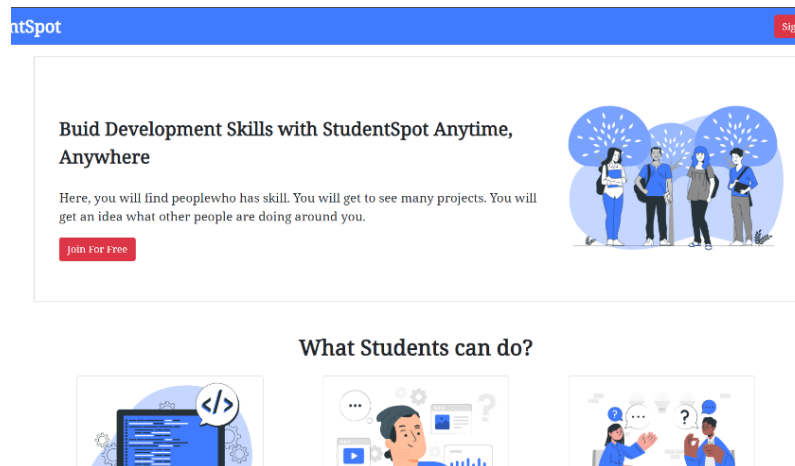

Fig 2. Dashboard or landing page of the website

The QNA section contains the page where students can ask question. And teacher can approve an answer. To answer the question the student must be registered to the website. All students can view the questions as well as teacher. The teacher then reads the answers. And selects the best suitable answer and will mark the answer as approved. By clicking on the tick button. This will display the text on the left as the answer is verified by the teacher. Along with the teacher's name. This section is displayed in the figure below.
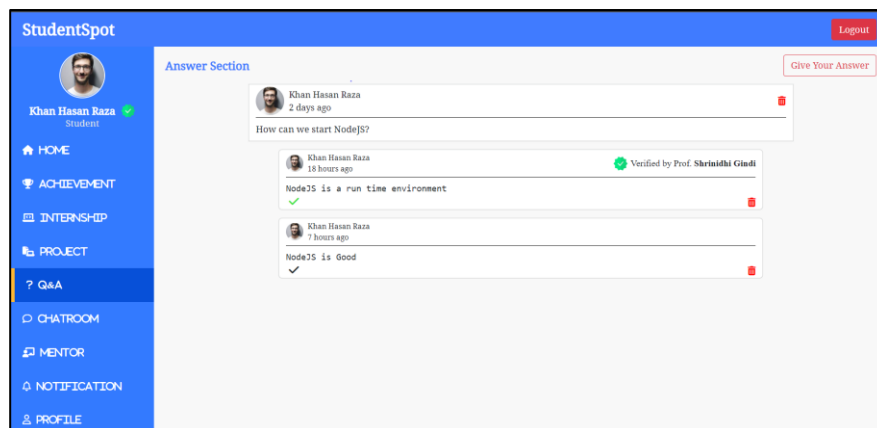

Figure 3. Ask question in the QNA Section

The achievement section consists of all the achievements achieved by the students. In this section students can add their achievements. For example, if a student has won a hackathon or anything not related to technical then also, he can put it in this section. The teacher can view all this information of the student by just searching the student's name. The webpage of achievement section is shown in the figure below.
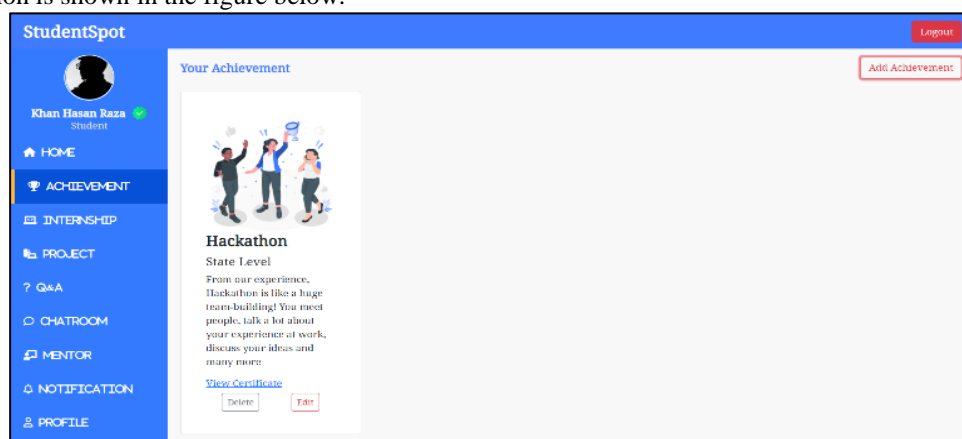

Figure 4. Post achievements section

The project section consists of two types of functions. The first function is to upload the project in the student's profile. Before uploading the student must have to fill a form regarding the name, description of the project. The second function is that other students can see this project. They can find inspiration and motivation from the project and can even download the project uploaded by previous year students.
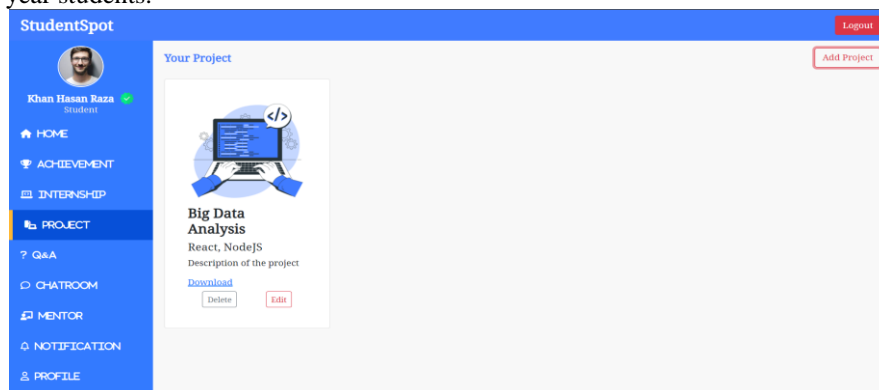

Figure 5. Upload Project Section

Based on the above results we were able to achieve our goal for creating a platform for teacher, students and mentor to interact with each other. The students were able to ask questions and teachers were able to approve the answer. Hence, this system will improve the overall performance of the students. Also, it helps in keeping the track on students. Students can also view previous year projects for inspiration. Students can interact with each other and solve each other's doubts. They can increase their knowledge. Students can interact with the teacher remotely. Teacher can track a student's performance. The office can get all the details of the student at one place. The teacher can send notice to the students. Students can view previous year projects done by the students. The whole system requires internet connection at all times. a slight failure of internet will prevent the user from interacting with any of the functions of the system. Also, the system can be too online for some students and can reduce the interaction between students offline

V.CONCLUSION

In this paper latest web technologies is used to create a web application for educational institutes enabling the students and teachers to interact with each other on a whole new platform in order to increase the overall development of the students. And to provide a competitive environment for the student to increase their hunger of knowledge.

VI.FUTURE WORK

In the future the points system can be implemented. This will provide a platform to the students so that students will receive the points if the teacher has approved the answer the student will gain contribution point to the profile. In the teacher's home page, the students with the most contributions will be displayed making it easier to the teacher to take further actions. Like rewarding or appointing a certain work to the student.

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