Student Progress Tracker

A Minor Project Synopsis Submitted to

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Bachelor of Technology (Computer Science and Engineering)

Under the Supervision of
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1. Abstract

Most academic institutions face difficulty in managing records of students, attendance, accounts, admissions, etc., and tracking the information of their interest as they still rely on paperwork and manual processes. A web-based school progress tracker will reduce the manual work by deploying centralised software incorporated with various loosely coupled services which interact with each other to address the abovementioned issues and improve communication between management and the student/guardian through notifications and messages. As it is a server-side enterprise application, it is designed to support both desktop browsers and mobile browsers .

2. Introduction of the Project

Providing proper academic grades to each and every student. The control process includes a forward information flow resulting from academics, painting, sports, and other activities, and a feedback information flow for monitoring purposes to meet the overall grade. Progress tracking is one of the most important feedback types where decision making and, consequently, project success, undeniably depend on accurate and efficient progress tracking in the education field.

3. Objective

- To track student performance in academics and participation in co-curricular activities throughout their academic education.
- To manage student information.
- To reduce unnecessary paper work in making students' progress reports.

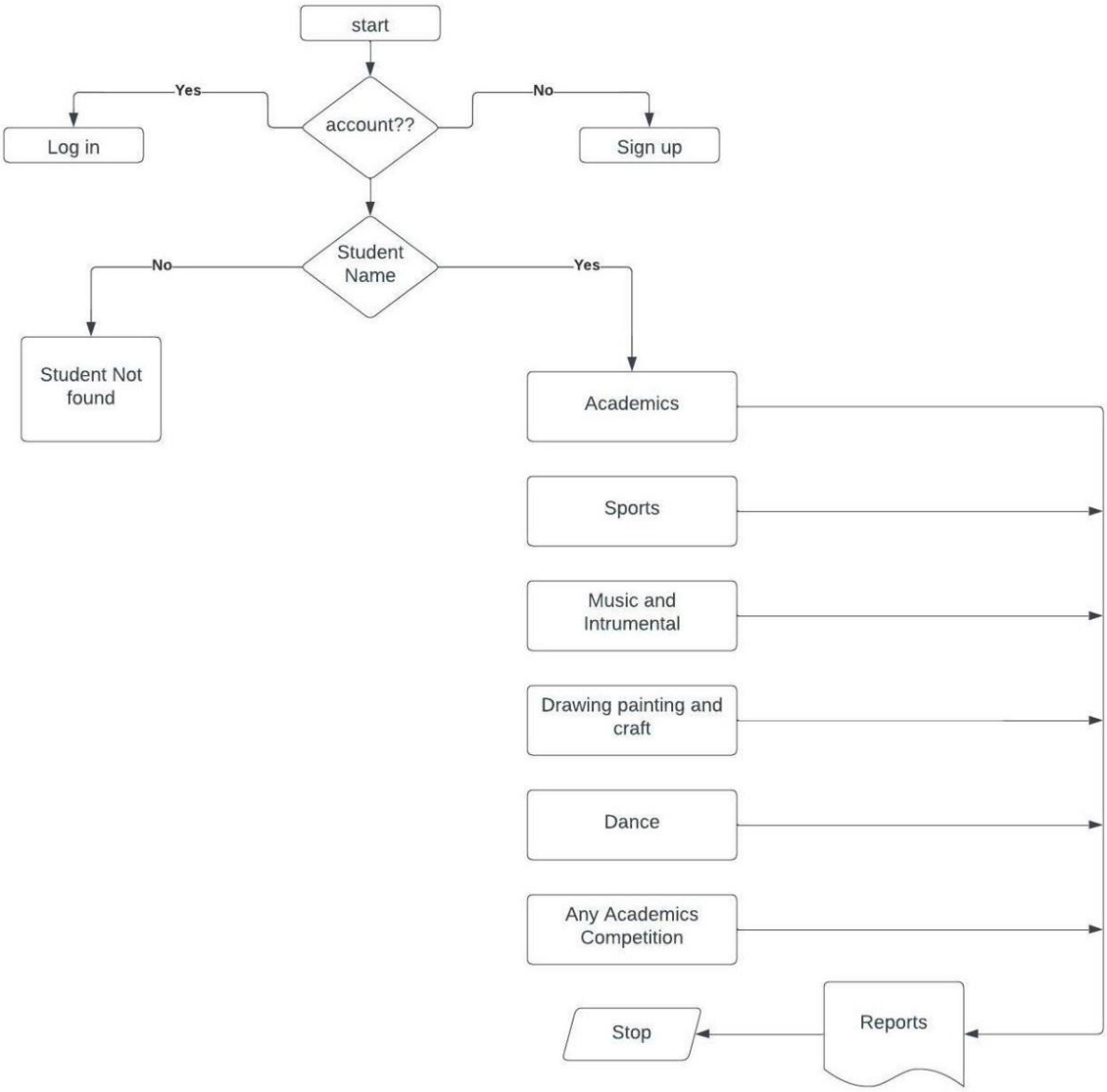
4. Scope

This system is designed to be fully user-friendly and efficient. This system will help teachers as its tasks could range from enrolling new students to keeping track of student performance in academic and co-curricular activities, as well as everything else needed to keep the school’s administrative division running properly. Assessment is a key component of learning because it helps students learn. When students are able to see how they are doing in a class, they are able to determine whether or not they understand the course material, and they can also keep track of their performance in their fields of interest. Assessment can also help motivate students.

5. Study of Existing System

Technology	About Technology	Merits	Demerits	Reference
LMS (Learning Management System)	This type of system is specially designed as closed and end-to-end, in which the teacher receives an easy-to-use dashboard and interface. These can be used freely to create lessons using media, hand out assignments, and evaluate them as well, from the same platform online.	It keeps track of each and every learning activity of the student.	It only keeps track of related tracks, of course. We need to install a different system for tracking attendance and other activities.	https://www.thetechedvocate.org/what-works-for-tracking-student-progress-inonline-learning/
Google Forms	This is a neat, useful platform that lets you design just about any questionnaire you can think of. They need log-ons and also measure the progress throughout an unlimited number of subjects. Google Forms can also be used as a way somewhat to automate the tracking of your students' progress	It keeps track of the students efficiently without any interruption.	Students fill in the form of their own progress. And they must complete the entire form each time.	https://www.thetechedvocate.org/what-works-for-tracking-student-progress-inonline-learning
Kahoot	Kahoot is a simple, gamified assessment tool that is perfect for middle school assessments and tasks. You can create quizzes, puzzles, and games that students can play individually and as a group. It also makes tracking the progress of your students easy, as it requires individual students logins.	It develops interest in the student since they are keeping track using course-related quizzes and puzzles.	Sometimes students may cheat and give the answer to the question, in which case they get extra marks in the progress report.	https://www.thetechedvocate.org/what-works-for-tracking-student-progress-inonline-learning/
Google Sheets	Google Sheets is a spreadsheet program included as part of the free, web-based Google Docs Editors suite offered by Google. The service also includes: Google Docs, Google Slides, Google Drawings, Google Forms, Google Sites and Google Keep. Google Sheets is available as a web application, mobile app for: Android, iOS, Microsoft Windows, BlackBerry OS and as a desktop application on Google's Chrome OS.	It is the easiest way of storing and manage the data. We get everything on spreadsheet	Sometimes teachers need to give access to students to fill in the details in spreadsheets.	https://en.wikipedia.org/wiki/Google_Sheets
ClassDojo	ClassDojo is an educational technology company .It connects primary school teachers, students and families through communication features, such as a feed for photos and videos from the school day , and messaging that can be translated into more than 35 languages. It also enables teachers to note feedback on students' skills and creates a portfolio for students, so that families can be aware of school activities outside of meeting with teachers.	It is a good website since the teacher can give feedback on the performance of the student and can also communicate with their parents.	There is no such system for storing the data . Here the teacher gives feedback on the skills only.	https://en.wikipedia.org/wiki/ClassDojo

6. Project Description



This student progress tracker monitors the student's advancement in their academics as well as a variety of other activities.

This programme will be accessible through a browser or website. Any faculty member or teacher can quickly open and review a student's progress in any subject. Students will receive information here about their progress, attendance, and assignments.

We use pie charts and graphs to illustrate each student's development. A colorbar is present that displays the progress in accordance with the colour of the bar (10–20% progress is presented in yellow, 5–10% in blue, and less than 2% in red).

The teacher must end each point with a numerical value, and the software must save the data as graphs and charts. Moreover, we display weekly progress through rank in addition to showing the progress.

[5]7.Methodology/Planning of the Project work

In the proposed methodology, there are five stages, which are: gathering requirements; design; development and implementation; testing; and maintenance.

1. **Gathering Requirements** The requirements must be collected and verified for feasibility. The project can be continued if the requirements are feasible. In this phase all the requirements necessary to develop and implement the project are collected.

2. **Design** Once the requirements are collected and analyzed, they must be given the proper structure. In this phase, the architecture of the project will be designed based on the requirements collected in the previous phase. In this phase, many architectural diagrams such as ER diagrams, DFDs (data flow diagrams), use case diagrams, etc. are designed.

3. **Development** To develop this web application, we will use HTML, CSS, Javascript, XML, Python, and Django.

4. **Testing** In this project, the programme will be tested by giving various types of input to check whether they are being validated or not and whether they are behaving as expected or not.

5. **Maintenance** It must be maintained to satisfy the various constraints such as availability, reliability, etc.

8. Expected Outcome

The website is used to monitor a student's entire progress so they can become better all around. We are establishing this website because there are times when teachers find it difficult to keep up with the content, which will have an impact on the final grades.

Teachers must therefore create their own IDs on this website and use a unique code or password to see and update the entire report.

Additionally, students must create an ID because they can only view the report. They can also provide the relevant HOD with comments.

Activities or subjects might be assigned by teachers based on the class. And the student needs to complete the exercise before the teacher may assign a grade out of 100. If, however, the teacher forgets to assign a grade, the website will notify both the student and the teacher, ensuring that there is no room for error.
Additionally, the website will notify the student of their activities and attendance.

Benefits:

• Careful handling of student data Numerous apps or websites are not required to store a variety of data.
• Student tracking in real-time
• Online and anytime attendance to verify if a student is in class or not.
• Ongoing assessment of student performance.
• Other activities, such as athletics, dance, art, etc., can also be tracked.

9. Resources

In order to track or monitor student progress, we are building a website.
Therefore, knowledge of CSS, HTML, and Python Django is necessary for the creation of websites. The area of a website that users interact with is called the front-end. The fonts, colours, drop-down menus, and sliders you see when browsing the Internet are all the result of a combination of HTML, CSS, and JavaScript that your computer's browser manages.

With CSS, we can control a variety of elements, including colour, font, size of text, spacing between elements, placement and layout of elements, background images and background colours, different displays for various devices and screen sizes, and much more.

The part of the website you don't see is the backend. Data storage, data organisation, and client-side functionality are all its responsibilities. When the frontend and backend are in communication, data is sent and received for a web page to be displayed.
Django is a high-level Python web framework that enables quick building of secure and maintained websites, so we utilise it as our backend. Django, which was created by seasoned programmers, handles a lot of the complexity associated with web development, allowing you to concentrate on developing our website without having to invent the wheel. It is open source and free, has a strong community, excellent documentation, and a variety of free and paid support options.

10. Conclusion

Tracking of student progress Institutions of higher learning can conveniently keep their student records by using the system. The organization's pupils' performance is maintained thanks to this system. It keeps track of students' progress and is conveniently accessible to teachers and students. Because of the information's dispersion, potential for duplication, and potential for lengthy information gathering processes, achieving this goal will be challenging utilizing the manual system. This project offers solutions to each of these issues.

11. References

[1] Tools for tracking student success in online learning can be found at https://www.thetechedvocate.org.

[2] Google Forms https://www.thetechedvocate.org/tracking-student-progress-in-online-learning/

[3] Kahoot! https://en.wikipedia.org/wiki/Kahoot!

[4] ClassDojo is available at https://en.wikipedia.org/wiki/ClassDojo

[5] PROPOSED METHODOLOGY: https://www.ijert.org/student-management-system

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