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## Student Academic Monitoring System Using Angular 14

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### ABSTRACT

In this paper our focus is to develop a system for maintaining and storing educational records utilizing angular 14 and the system will be known as academic monitoring system It is created with cutting-edge technologies such as Angular 14 and Angular material.

Angular 14 is a framework that is flexible and scalable through which users can gain access to data at the institute or specific department level. To gain access to that portal, registration is mandatory. The user can update, modify, or add some data to that portal.

This paper includes some modules, like

Placement: Update placement information, Examination: Update the exam schedule, Enrolment: registration of a new student, Faculty: View all student details, Feedback: addition of student feedback, Cultural events: organization of cultural events like quiz competitions and Dance

Developers can use JSON server to add a service server module where they can add data to the server and fetch the information using services so users can easily access the data in less time than other systems. The Angular framework will enable you to assess and compare the qualifications of each candidate in your department.

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**KEYWORDS:** Website development, Angular14 Framework, Role-based authentication.

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### Introduction

Nowadays, there are many colleges and Universities around the world and some of them consist of students up to thousands or more. To Handle Many students may be a problem, especially for maintain the student information. So, to resolve that problem one of the solution is student Academic Monitoring System Using Angular 14. Which provide interface for updating and maintaining student record. Also the information or any valid data store on server. The Institute module has a staff/student (Technical / Non-technical) login so they can access the system For uploaded data or download and access all aspects of student academic progress, syllabus books ,test series, Assignments, manual etc... Drive schedule information available at placement module so student can view the records of previous drive and number of placements also upcoming drive. Exam module help to give information about exam time table, result and also exam form, all cultural activities organized by institute are given on Event module like nakshatra event, sports event. This system is designed and implemented f or the complete student information system and user interface. It saves time by reducing paperwork for college staff and replacing manual records.

University faculty will be able to access all aspects of a student's academic progress through a secure online interface. It is designed with authentication and displays only the information required for an individual's responsibilities. In this system, students and teachers can request time off online, which is processed and approved by the administrator, previously a lot of time is wasted writing letters and obtaining permission from staff. Even the library system has been changed to online system. Librarians upload books t o the portal, and students can log in to the portal to view books and download them for study. Teachers and administrators have permission to upload new books required by students. In the early days of the system, student data was kept in paper files and had to be filed securely for future reference, which was difficult to do. The placement service e can also upload placement details such as eligibility criteria, a list of companies visiting the university, and a student eligibility list for specific companies.

In this paper, the front end will be HTML used for creating web pages, CSS used for adding style and also bootstrap used for designing a web page, and also Angular for client-side validation. As well as JSON server is used to store information about the portal. This system provides different Roll based authentication the web application uses user authentication so it gives access to required information

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### Literature Survey

1. "Academic Monitoring and Evaluation System" Author: Ayushi Morey. Year 2022

A large project, "Monitoring and Evaluation System academic" will be used to substantially test students and assess their progress. Teachers will be able to add a test for students each term and will be able to keep a student scorecard for each test in that term, storing student scores permanently in the table of subjects for easy access when needed. Heads of the department will have access to all results tables for a given subject in each term. Department heads, teachers, and students will have access to the system for better management. A user can log in to the system and the content will be shown to him according to the permission level. In most universities, there is no proper monitoring and evaluation system where faculties can store evaluations on the same platform. Normally, teachers have to enter students' marks manually and it takes a lot of time and effort, also manual record keeping is a hectic task, so keeping this situation in mind, we decided to create a system where students can see their marks in their respective subjects and then faculty can easily maintain the marks of students and the admin will be able to see the section of students and faculties. Suppose a teacher wants to take a surprise test, so he needs to print a number of copies for the test, so to solve this problem, we also added one surprise test section where the student can try the surprise test.

## 2. "Online Student Resource Management Using HTML5 and Angular -JS" Author Name: Gladwin in the year of 2015 Focused on

Creating and Maintaining Error Free Data Linked to a student's academic career is discrimination. Mainly in colleges and universities. Updating student information is very important in educational institutions. In existing systems, the management of student information, faculty information, library book transactions, time off, and storage of all college-related information is done manually, which requires more paperwork and time. In the proposed system, students would have to register to access the sites. The system provides quick access to the database and is more user-friendly by providing browsers with sufficient information such as student details, academic performance, and attendance details through a secure online interface integrated into the university portal. It has online leave management systems, online library management systems, and other benefits that previous institutions lacked. The system is entirely managed by university administrators. It is designed with the latest technologies like angular-JS and firebase and bootstrap.

3. "Web Application for College using MERN stack" Author Name: Vaishnavi As digitization grows in various sectors of the economy, many are embracing the technology for its fluid functionality. Along with several other sectors, the education sector is also rapidly adopting technology. Computerization and automation the technologies facilitate the work of schools, colleges, and universities. It simplifies the entire daily administrative, academic, and financial operations of educational institutions, also known as Campus Management S solution, which aims to automate the daily operations of educational institutions. This software is designed to meet the different needs of students, faculty, and department staff.

4. "Academic Monitoring System" Author Name: Arsenian in the year 2021. In educational institutions, the measure of success is the academic score or the degree to which a student meets the standards set by a particular institution. As competition for careers intensifies in the working world, the importance of students' academic success has captured the attention of parents, legislators and government education. While education is not the only way for students to succeed in the workplace, much effort is made to identify, assess, track, and encourage students to progress in school. Parents care about their children's academic performance because they believe that good academic performance will provide more career options and job security. Schools, while investing in good study habits for the same reasons, are also often influenced by concerns about the reputation of the school and the likelihood of financial aid from a state agency, which may depend on the overall academic performance of the school. The state and federal Departments of Education are responsible for school improvement and therefore devise methods to measure the success of developing improvement plans.

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## Technologies used

The frontend uses HTML, CSS, Angular 14

**HTML:** HTML5 is considered the latest evolved version of the hypertext markup language which describes the structure of a web page and it looks with CSS styles Very attractive. It aims to enhance language with state-of-the-art multimedia support that can be understood by both computers and humans. which is the underlying technology of the Internet. It also includes other functions such as audio and video playback on the website. It was mainly created for low-power devices such as smartphones and tablets.

**CSS:** CSS stands for "Cascading Style Sheets". Cascading Style Sheets are used to format the layout of web pages. They can be used to define text styles, table sizes, and other aspects of web pages that previously could only be defined in the HTML of the page. The basic purpose of CSS is to separate the content of a web document from its presentation. Many benefits can be derived from CSS, such as better accessibility of content, better flexibility, and CSS providing a level of control over various presentation features of a document.

**Angular 14:** Angular 14: HTML is used to declare static documents, but it fails when we try to use it to declare dynamic views in a web application. AngularJS extends the application's HTML vocabulary, resulting in highly expressive and readable web applications. AngularJS is the basic tool for creating frameworks during application development. It is an open-source JavaScript framework created by Google to manage the execution of singlepage applications. It facilitates development and testing with Model View Controller (MVC). The main philosophy behind AngularJS is that declarative programming should be used to create user interfaces and systems.

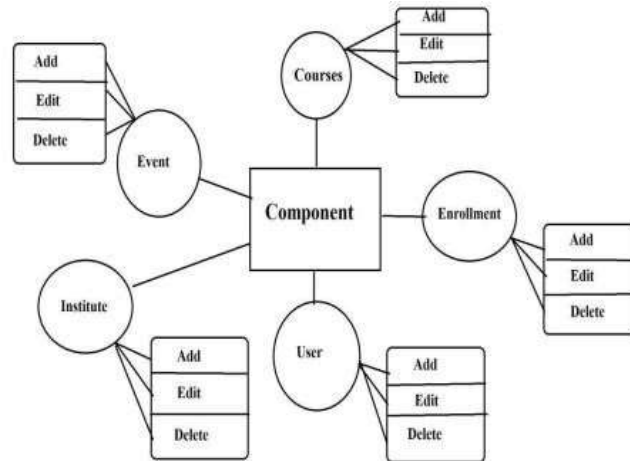
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## Methodology

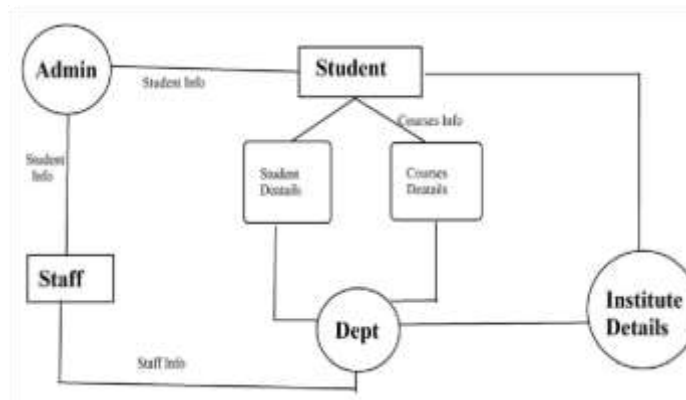
The methodology used to implement the proposed system lifecycle is Feature Driven Development (FDD). This approach was used in the design and development of the performance monitoring and evaluation system. This document is the Software Requirements Specification (SRS) for the Institute Management Project System (CMS). The purpose of this document is to describe the functionality, requirements, and common interface of the CMS. The

goal is to design a faculty website containing the latest information from the faculty. College File Management efficiency should be improved. Can be used by educational institutions or colleges to easily maintain student records. We evaluated the performance of the proposed system based on the angular framework including the accuracy of the module. The proposed system was evaluated using a mixed-methods approach that involved both qualitative and quantitative data collection methods.

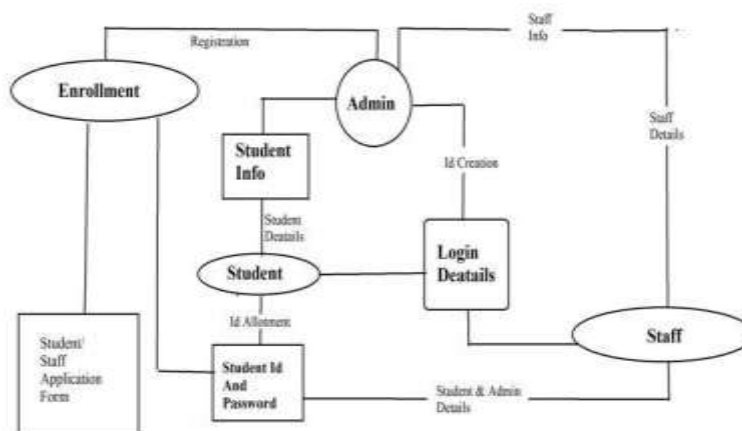
**DFD LEVEL :0**



**DFD LEVEL:1**



**DFD LEVEL: 2**



**1.Scope for development project**

User request is

- Access/search information
- Connects to the system via the first page of the application
- Changes the password after having connected to the system
- Views/modifies its coordinates.
- Students may provide feedback to faculty/staff/any other student.

An administrator login must exist to read and delete any download

### ***Proposed System***

- 1.Role-based authentication based on given roles like a student, parent, teacher, and school management
- 2.Users It provides a complete college management application for storing student records, grades, Attendance and much more.
3. Instant password/role reset for all
4. Live real-time alerts as data is updated
5. Learning features based on the paperless online application
6. Unlimited storage

### **Conclusion**

Unfortunately, the current education system does not have the right tools and IT infrastructure to manage and function properly. The system will promptly provide all required information to students and staff. It is specially developed for universities and colleges. The information stored in the database can be accessed at any time within the organization using this portal. No college and university resources will be wasted. It reduces paper work and saves time by storing all details in this system. Saved 4,444 students time during the book exchange process by downloading books online. It is best to have a web-based management information system to manage many details flawlessly. This system is very important in all universities.

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