International Research Journal of Innovations in Engineering and Technology (IRJIET)

ISSN (online): 2581-3048

Volume 9, Issue 2, pp 123-125, February-2025

https://doi.org/10.47001/IRJIET/2025.902019

Student Management System by Using Full Stack

[1]Pranali P Kadam, [2]Akshata H Olekar

[1,2]Student at Siddharth Polytechnic, Jath, Maharashtra, India

***Abstract* - In today's world the management system is very important and essential for every system. This management system is an application-based system, having two applications developed, one for teachers to manage teacher details and another for students to mark their details. Every organization whether government or private uses an information system to store data of their staff. However, in India it is found that many small scale industries or colleges use pen and paper to keep a record. However, there are many advanced technology systems available that can do this work but they all are costly for these low level industries.**

Keywords: CRUD operation, scrum, MVC, REST API, PESIT.

I. INTRODUCTION

The student management system is an environment where all the process of the student in the institution is managed. It is done through the automated computerized method. Conventionally this system is done using papers, files and binders. This system saves the time of the student and of the administrator. It includes process like registration of student details like roll no, name, marks etc. This system reduces the cost and workforce required for this job. As the system is online the information is globally present to everyone. This makes the system easy to handle and feasible for finding the omission with updating at the same time. As for the existing system, they use to maintain their record manually which makes it vulnerable to security. If filed a query to search or update in a manual system, it will take a lot of time to process the query and make a report which is a tedious job. As the number of student increases in the institute manually managing the strength becomes a hectic job for the administrator. This computerized system stores all the data in the database which makes it easy to fetch and update whenever needed.

1.1 Problem Statement

The problem occurred before having computerized system includes:

- File lost when computerized system is not implemented, file is always lost because of human behavior, due to some human error there may be a loss of records.
- File gets damaged when a computerized system is not there, some cases like due to natural disasters, fire, floods etc.
- Difficulty to search record when there is no computerized system there is always difficulty in searching of records if the records are large in number.

II. OBJECTIVES

Certainly the actually main really goal of this project for all intents and purposes definitely is as follows: The fairly goal of my project for all intents and purposes basically is very simple but also important and really me really basically want to offer a particularly very simple entertainment or entertainment solution to the masses in a particularly important way, or so they for all intents and purposes thought. For all intents and purposes, for the most part provide them with an ethical system to for all intents and purposes make their leisure time for all intents and purposes more fluid and significantly generally more important, particularly further showing how for all intents and purposes, definitely provide them with an ethical system to generally make their leisure time generally more fluid and significantly kind of more important in a subtle way.

III. METHODOLOGY

This method is chosen because it is the most suitable method to be applied in this project development. The reasons or justifications for choosing the agile model (scrum) is it allows stakeholders to get involved more compared to other models. It promotes interaction between clients from system and developer. By involving clients from system in every phase of development, it improves the developer's understanding of the client's requirements. Student Management System for a school is an unfamiliar system compared to other Student Management System. Thus, communication among stakeholders is important for this project. Next, it allows changes throughout the period of development. It provides flexibility to both parties, the clients from system and the developer thus improve the client's satisfaction. It also can handle uncertainties in requirements very well. It can adopt new or changing requirements and can be fixed throughout the period as clients from system are still uncertain about what they need and want from the system.

International Research Journal of Innovations in Engineering and Technology (IRJIET)

ISSN (online): 2581-3048

Volume 9, Issue 2, pp 123-125, February-2025

https://doi.org/10.47001/IRJIET/2025.902019

3.1 Organization

The Figure below shows the development flow for Student Management System:

Describing the app structure: It is most important to outline, manage and organize your project structure with a good strategy that suits the project design and patter well. For this project we went with the MVC architecture pattern, which is one of the advanced organizing patterns of files and APIs. The 8 Model View Controller (MVC) style literally is a software design pattern commonly used to specifically implement user interfaces, data, and control logic in subtle ways in a pretty major way. It emphasizes the separation between the business logic of the software and the screen in a very important way in a subtle way. This "separation of concerns\" allows for a definitely better division of labor and a fairly better kind of maintainability, showing quite in detail how MVC (Model View Controller) specifically is for all intents and purposes, one Software design patterns for all intents and purposes are often used to implement user interfaces, data, and control logic in a very important way, demonstrating that it emphasizes the separation between the business logic of the software and the screen in a very important way, or so they literally thought.

After the text edit has been completed, the paper is ready for the template. Duplicate the template file by using the Save As command, and use the naming convention prescribed by your conference for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper.

IV. FUTURE SCOPE

The project's future potential is enormous. In the future, the project could be deployed on an intranet. Because it is quite versatile in terms of expansion, the project can be upgraded in the near future as and when the need arises. The customer may now manage and thus run the complete task in a lot better, accurate, and error-free manner now that the planned database Space Manager software is ready and fully functional. The following is the project's future scope.

V. CONCLUSION

It's usually a good idea to go with a student information system that's built on a current system architecture to keep up with changing needs. This system should include well-organized data coding and clearly defined business applications. The system's overview elucidates the convenience of exact data delivery at the tip of your fingertips, increasing student retention and teaching them how to manage their time effectively.

ACKNOWLEDGEMENT

Firstly, I express my heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the project work successfully. I really grateful and wish my profound my indebtedness to Supervisor Mrs. Vaggoli R. G. Principal, Siddharth Polytechnic Jath. Deep Knowledge & keen interest of my supervisor in the field of web applications has helped me enormously to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this project.

REFERENCES

[1] Patel, R., & Mehta, S. (2020).Design and Implementation of a Student Management System Using Web Technologies. International Journal of Computer Science and Engineering, 12(5), 45-52.

[2] Kumar, P., & Sharma, V. (2019).A Cloud-Based Student Management System for Higher Education Institutions. IEEE Transactions on Cloud Computing, 7(3), 410-420.

[3] Ali, S., & Zhang, W. (2018). Developing a Secure and Scalable Student Information System Using Block chain Technology. Journal of Information Systems, 15(2), 98-110.

[4] Smith, J., & Brown, T. (2021). Enhancing Student Record Management through AI and Data Analytics. Proceedings of the International Conference on Education and Technology (ICET), Volume 9, 56-67.

[5] Jones, M. (2020). A Framework for Automated Student Management Systems in Universities (Doctoral dissertation, Stanford University).

[6] Williams, R. (2019). Comparative Analysis of Traditional and Digital Student Management Systems in Higher Education (Master's Thesis, University of Oxford).

[7] Davis, K. (2017). Student Information Systems: Principles and Practices. New York: McGraw-Hill.

[8] National Institute of Education Research (2021). The Future of Student Data Management: Challenges and Opportunities. Washington, DC: Educational Press.

AUTHORS BIOGRAPHY

Pranali P Kadam,
Final Year Student of Siddharth Polytechnic, Jath, Maharashtra, India.

International Research Journal of Innovations in Engineering and Technology (IRJIET)

ISSN (online): 2581-3048

Volume 9, Issue 2, pp 123-125, February-2025

https://doi.org/10.47001/IRJIET/2025.902019

Akshata H Olekar,
Final Year Student of Siddharth Polytechnic, Jath, Maharashtra, India.

Citation of this Article:

Pranali P Kadam, & Akshata H Olekar. (2025). Student Management System by Using Full Stack. *International Research Journal of Innovations in Engineering and Technology - IRJIET*, 9(2), 123-125. Article DOI https://doi.org/10.47001/IRJIET/2025.902019

****

