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StudentSphere - Indicating a Centralized Space for Student Records

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Abstract: The KeyKundali WebApp revolutionizes student information systems, offering a dynamic framework to assess a student's four-year academic journey. This innovative system transcends conventional data management, introducing a feature set that abstracts complexities, providing an intuitive visual representation of a student's trajectory. From entry to exit, the app records academic milestones, intelligently compiling data for insightful reports on GPA, attendance, and extracurriculars. The Application has five types of users: Student, GFM, GFM Coordinator, HOD, and Principal. The Key Kundali empowers institutions with nuanced insights for informed decision-making and student support.

Keywords: Student Information System, Academic Performance, Database Management, Student Journey, User Interface, Academic Analysis

I. INTRODUCTION

The KeyKundali WebApp redefines student information systems, offering a dynamic framework for a comprehensive assessment of a student's four-year academic journey. It ensures robustness, flexibility, and security. This groundbreaking application introduces a feature set that abstracts complexities, providing an intuitive representation of a student's trajectory. From initial milestones to insightful reports on GPA, attendance, and extracurriculars, KeyKundali facilitates informed decision-making and targeted interventions for academic support. It goes beyond data management, empowering institutions with nuanced insights and fostering reflective tools for students. Key Kundali is not just an app; it's a catalyst for positive change in education, merging technology with holistic student development.

II. SYSTEM ARCHITETURE

The system architecture begins with the student has access to both the android application as well as web portal. The other faculties and principal (Admin) can access only the web portal. All the users need to login into the android application or web portal. The application and web portal have access to the shared database through the internet. Database is on Cloud.

- 1) **Student:** The students can access both the android application and web portal. To do this the students have to login first. Student can access various features on the application like to view their personal as well as academical records. The records will be from the first year of student to the final year. The student can only fill their personal information. The application is to make the interaction between the student and staff.
- 2) **GFM (Guardian faculty Member):** The teachers can login into the web portal and can access the various features. Teachers are the one who will edit student information, attendance of the student, marks obtained semester wise. And students extracurricular activities like technical and Non technical.
- 3) **HOD:** The HOD can login into the web portal and can access student information. HOD has all access to the system to view student information, etc.
- 4) **GFM Co-Ordinator:** The GFM can login into the web portal and can access the features. GFM can add events such as marks, Attendance, Extracurricular activities of students etc. The form will be filled by the students. All student from FE to BE have access to this portal.
- 5) **Principal:** The principal is Master admin of the System. The principal will be going to have all the authority to add or remove student and GFM as well. Principal have class wise view of college.
- 6) **Web Portal:** All the users have access to the web portal including the students.
- 7) **Database:** The database is stored on the cloud. We have used MySQL database, All the data of android application and the web are stored in the shared database.

III. LITERATURE SURVEY

Author: Dr. K. VenkataSubbiah et al. Date: August 2016

Dr. K. VenkataSubbiah's research explores the broader concept of Management Information Systems (MIS) in educational institutions. The paper discusses the significance of automation through database management systems, aligning with the objectives of the proposed system.[1]

Authors: R.Kumar, A Chandana Priya, U.Ramya sree, S.Eswar Sai.

Date: January 2023 International Journal of Advanced Research in Science Communication and Technology

DOI: 10.48175/IJARSC-8020

This project focuses on improving student information management in educational institutes by integrating mobility and automation. Traditional methods of communication, such as notices and manuals, are being replaced with a mobile application developed using Android technology. College staff utilize Android devices to upload results and important information securely to an application. Data undergoes thorough validation on a server managed by the college administrator, stored in a MySQL database, reducing paperwork and access time to student records. Leveraging smartphone-based applications streamlines the process, making it more accessible, efficient, and secure. Keywords: Student Database Management System, Android SDK, User Android Application.[2]

Authors: Pragum Agarwal, Anubhav Joshi, Bharat Bhushan Naib

Date: ISSN: 2249-8958 (Online), Volume-10 Issue-4, April 2021

The Student Information System (SIS) serves as a vital tool for educational institutions in efficiently storing and maintaining student records. It encompasses a wide range of functionalities, including academic reports, institutional details, curriculum management, and resource allocation. By transitioning from traditional paper-based systems or costly hardware solutions to a software-based approach, institutions can significantly reduce expenses and contribute to environmental sustainability by minimizing paper usage. The SIS facilitates easy sorting and searching of student records, addressing the time-consuming and manual nature of file-based systems. Developed with a user-centric approach, the software ensures ease of understanding and usability for all users. Extensively tested to ensure smooth functionality, the SIS provides a seamless solution for managing student information effectively.[3]

Authors : Mr. Sangamesh K, Mr. Akash Samanekar, Mr. Ningappa T Pujar

DOI : 05-01-2019/ 2278-0181

Abstract Most of the Academic institutions face difficulty in managing records of students, attendance, accounts, admissions, etc., and track the information of their interest as they still rely on paperwork and manual processes. A web-based school management system will reduce the manual work by deploying centralized software incorporated with various loosely coupled services which interact with each other to address above mentioned issues and improves the communication between management and the student/guardian through notifications via email, SMS and push messages. As it is a server-side enterprise application it is designed to support desktop browsers, mobile browsers and native mobile applications. The use of micro-service architecture and ReST (Representational State Transfer) architecture makes it easy for designing and developing loosely coupled web services.[7]

IV. METHODOLOGY

The development methodology for KeyKundali involves a systematic and iterative approach, ensuring the creation of a robust and user-friendly student information system. Here's an overview of the methodology used in KeyKundali

A. Requirements Gathering

Conducted a thorough analysis to understand the needs and expectations of educational institutions, faculty, administrators, and students. Identified challenges in existing student information systems and opportunities for improvement.

B. System Planning

Defined the scope, objectives, and key features of KeyKundali. Established the overall architecture and structure of the system.

C. Technology Stack Selection

Chose the for the its scalability, flexibility, and effectiveness in web application development.

D. Database Design

Designed a robust database structure to efficiently store and manage student information academic records, and performance data.

E. User-Centric Design

Adopted a user-centric design approach to create an intuitive and visually appealing interface. Ensured that the design facilitates easy navigation and accessibility for both administrators and students.

F. Data Abstraction and Integration

Implemented abstraction layers to simplify the complexities of data aggregation and analysis. Integrated academic records, grades, attendance, and extracurricular activities into a user friendly dashboard.

G. Performance Metrics Definition

Established key performance indicators (KPIs) for evaluating student performance, including GPA, attendance trends, and participation in extracurricular activities.

H. Security Measures

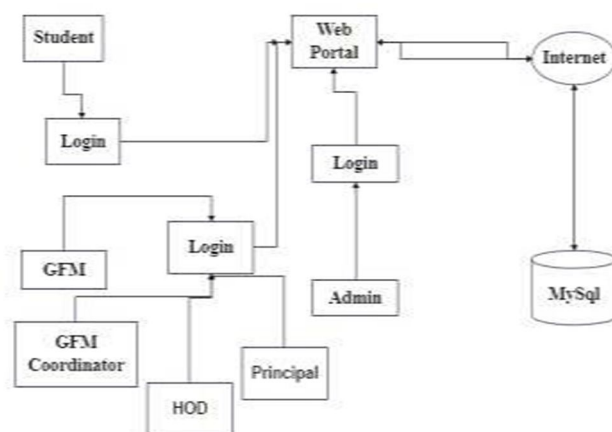
Prioritized data security by implementing encryption measures and access controls. Ensured the confidentiality of student information and performance data.

I. Testing and Quality Assurance

Conducted rigorous testing at various stages, including unit testing, integration testing, and user acceptance testing. Addressed any bugs or issues through systematic debugging and quality assurance processes.

J. Deployment and Integration

Implemented a strategic deployment plan to integrate KeyKundali seamlessly into educational institutions. Ensured compatibility with existing systems and processes.



a. System Architecture

V. RESULT

The results of KeyKundali's report cards offer valuable insights into overall student performance across key metrics. Educators can assess students' academic achievements, attendance trends, and extracurricular involvement in a holistic manner, facilitating targeted interventions and academic support. Similarly, students gain a comprehensive overview of their academic progress and areas for improvement, empowering them to take proactive steps towards academic success.

VI. CONCLUSION

The KeyKundali WebApp stands as a transformative force in the realm of student information systems, reshaping the landscape of academic management. Its seamless integration of academic records, grades, attendance, and extracurricular activities provides a holistic view of a student's educational journey. The innovative abstraction of complex data processes ensures efficiency and security, empowering educators and administrators to glean valuable insights effortlessly.

The KeyKundali WebApp is not merely a technological tool; it symbolizes a commitment to simplifying and enhancing the academic experience. Its timeless elegance and user-friendly interface redefine the standards for navigating and understanding student performance over the course of their educational tenure. By providing a comprehensive and accessible platform, the KeyKundali WebApp becomes a catalyst for informed decision-making, targeted academic support, and meaningful student reflection.

As education continues to evolve, the Key Kundali WebApp stands at the forefront, offering a harmonious blend of simplicity and sophistication, ultimately contributing to the success and growth of both students and educational institutions. In essence, the Key Kundali WebApp is not just a tool; it is a key to unlocking the full potential of academic excellence.

VII. ACKNOWLEDGEMENT

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