“EduSphere: Gayatri Vidyalaya”
Second year Mini Project Report

Submitted in partial fulfillment of the requirements of the degree

BACHELOR OF ENGINEERING IN COMPUTER ENGINEERING

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(AY 2023-24)

CERTIFICATE

This is to certify that the Mini Project entitled **"EduSphere: Gayatri Vidyalaya"** is a bonafide work of **Soham Parab (41), Sushanth Shetty (51), Vighnarth Nile (37), Atharva Sambhaji (47), Vivek Menghani (71)** submitted to the University of Mumbai in partial fulfillment of the requirement for the award of the degree of **"Bachelor of Engineering"** in **"Computer Engineering" .**

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Mini Project Approval

This Mini Project entitled "EduSphere: Gayatri Vidyalaya**"** by **Soham Parab (41), Sushanth Shetty (51), Vighnarth Nile (37), Atharva Sambhaji (47), Vivek Menghani (71)** is approved for the degree of **Bachelor of Engineering** in **Computer Engineering.**

Examiners

1……
(Internal Examiner Name & Sign)

2……
(External Examiner name & Sign)

Date:

Place:

Contents

1 Introduction

1.1 Introduction

- Many education organizations try to increase **education quality.** One of the aspects of this improvement is **managing of school resources.**
- Our system is a major tool through this managing process by making **an effective communication between headmaster, teacher, parents and student.**
- **A Website is to be developed to integrate several stakeholders on a single platform.**
- It will cover the **requirements** of all the users at the same time.

1.2 Motivation

The academic achievement for many students has declined due to lack of communication between parents and faculty. Headmasters and Teachers are facing problems at the start of every new academic year, because of distribution process for courses and classes, in addition to this , through and at the end of every year another problem is facing them, which is the complexities of the grades entry process for their students .

Lack of communication after a school day between Headmasters, Teachers, Parents and Students which has a bad reflection on the educational process.

1.3 Problem Statement

- We need to create a computer system for schools that makes managing information and tasks easier. The current way of handling data, like student records and attendance, is hard. We also need to make sure this system is safe and only authorized people can access it.
- Key Challenges:
- Storing Data: Schools have a lot of information, but keeping it organized is tough.
- Keeping Information Safe: We need to protect private information.
- Less Work for Staff: Many things are done manually now, and we want to do them automatically to save time.
- Quick Access to Info
- Working with Other Tools: Our system should work well with other gadgets the school uses.
- Growing with the School: The system should work well even if the school gets bigger.
- Easy to Use

2 Literature Survey

2.1 Survey of existing System

- **Research paper: Ekmel Çetin , Selçuk Özdemir "A Study on an Educational Website's Usability", 2nd World Conference on Educational Technology**

Abstract: This research evaluates the usability of the Morpa Campus educational website, specifically focusing on its interaction structure. The study aims to determine if users can easily navigate the website to complete tasks within the course topics. User satisfaction, efficiency, and ease of use are key factors in evaluating usability. 10 students participated, completing eight tasks each. Data was collected through measuring interaction duration and conducting interviews. The findings show that while the interaction structure is efficient and well-liked, there are some minor usability issues.

- **Research paper: Dr. K. Venkata Subbiah, D. Dinesh, Ch Suresh "Development of a Student Database**

Management System for a University", Int. Journal of Engineering Research and Application - August 2016 Abstract: This scholarly thesis suggests implementing an automated system for managing student performance records in universities. It aims to replace the time-consuming and vulnerable manual maintenance of student information in paper form. By centralizing administration and reducing paperwork, the system would make the process more efficient and streamlined.

2.2 Limitation Existing system or research gap

- **Data Inconsistency:** One of the significant limitations of the existing school database management systems is data inconsistency. Data redundancy and errors often lead to inconsistent information across various records and documents. This can create confusion and hinder informed decision-making.
- **Addressing socio-economic background of stakeholders**
- **Scalability Issues**: Many schools still rely on outdated, standalone database systems that struggle to handle the growing volume of data generated by modern educational institutions.
- **Limited User Accessibility:** Some school database systems may lack user-friendly interfaces, making it challenging for non-technical staff to navigate and utilize the system efficiently. This limitation can hinder the adoption and full utilization of the system.

2.3 Mini Project Contribution

Edusphere is a complete school information management solution. Today's schools need to manage more information than ever before. Without a solid internal infrastructure for teachers, headmasters and departments to share data, critical school and student information can be lost, or worse leading to a host of problems that can effect of a school's image and endurance. To remain competitive, school needs a simple solution that can run individual function, connect their entire operation, use the web as a key communication tool and simplify day to day operational responsibilities, giving staff more time with students. My School automates various scheduling activities of school and optimizes the use of premium resources. Concerned authorities can now easily and seamlessly use the system to create timetables, otherwise a time consuming and tedious task.

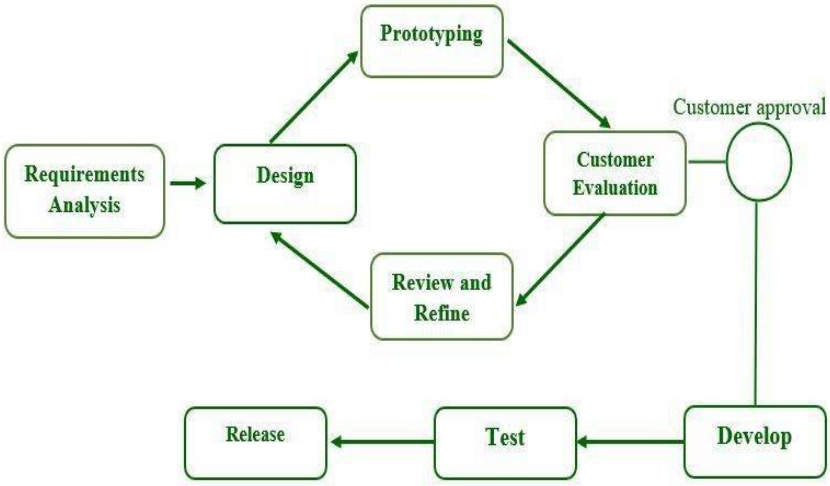
3. Proposed System (eg New Approach of Data Summarization)

3.1 Introduction

Edusphere is a complete school information management solution. Today's schools need to manage more information than ever before. Without a solid internal infrastructure for teachers, headmasters and departments to share data, critical school and student information can be lost, or worse leading to a host of problems that can effect of a school's image and endurance. To remain competitive, school needs a simple solution that can run individual function, connect their entire operation, use the web as a key communication tool and simplify day to day operational responsibilities, giving staff more time with students. Edusphere automates various scheduling activities of school and optimizes the use of premium resources. Concerned authorities can now easily and seamlessly use the system to create timetables, otherwise a time consuming and tedious task.Users of the System:There are four main users

for the proposed system; these are Admin, student, teacher and the parent. Each user can perform several different functions during the use of the system. These functions were determined according to the design of the proposed system and a user-friendly functions to make the system more effective and efficient.

3.2 Algorithm and Process Design



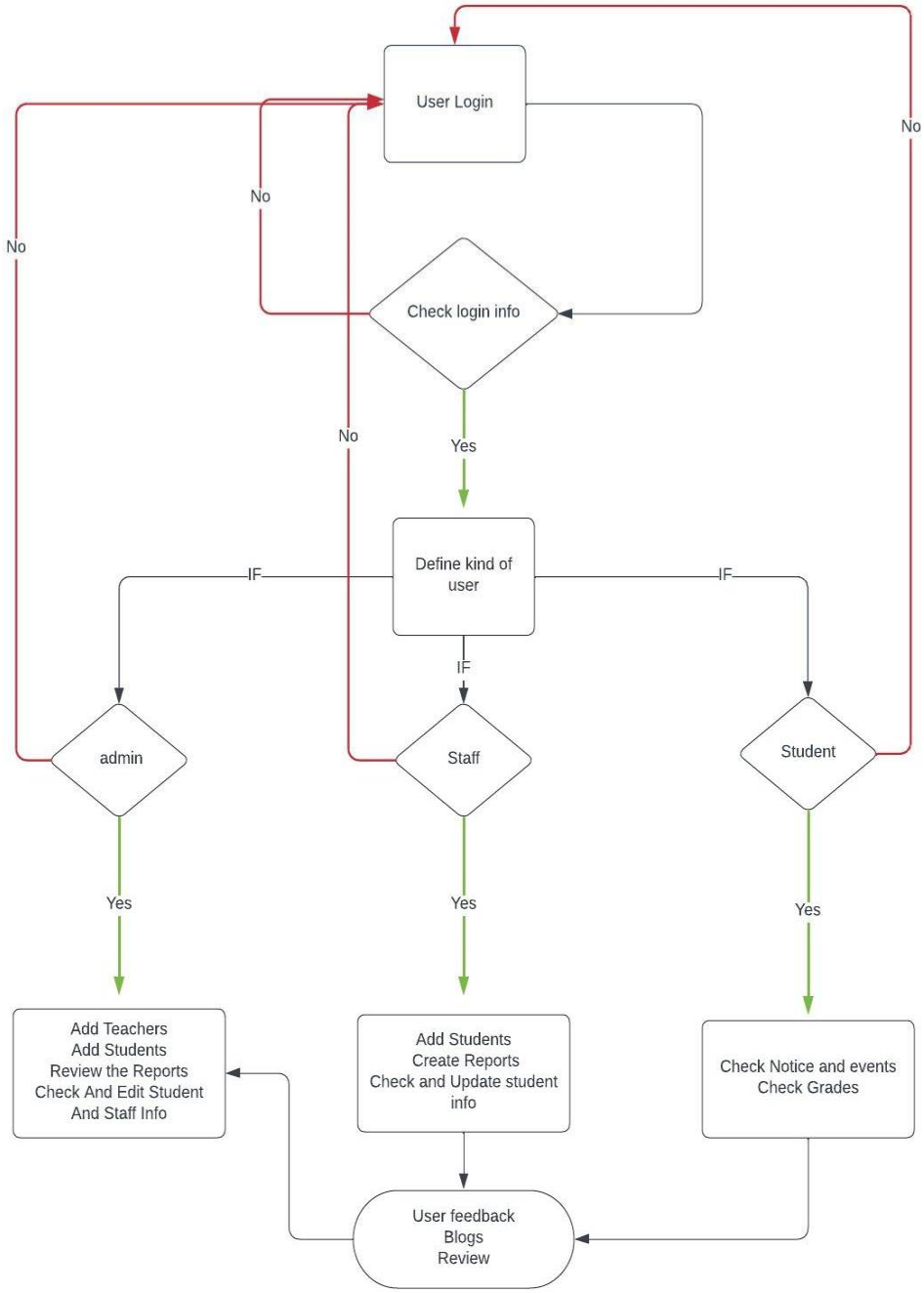
Phase 1: Identify some requirements to begin with: Get lists of some major requirements which define the need for the new system including the main input output information.

Phase 2: Develop initial prototype: Develop a basic initial prototype which only has UI screens.

Phase 3: Review the prototype: End users and trusts examine the prototype and provide feedback for improvements/enhancements.

Phase 4: Revise and enhance the prototype: Scope is changed based on feedback from end users and the prototype is enhanced and refined to accommodate user feedback.

3.3 Architecture/ Framework



3.4 Details of hardware software

A computer with 4GB ram and 256GB Storage and a stable internet connection

Software

- **React.js**: React is a free and open-source front-end JavaScript library for building user interfaces based on components. It is maintained by Meta and a community of individual developers and companies.
- **Tailwind CSS:** Tailwind CSS is an open source CSS framework. The main feature of this library is that, unlike other CSS frameworks like Bootstrap, it does not provide a series of predefined classes for elements such as buttons or tables.
- **Firebase:** Firebase is a Backend-as-a-Service (BaaS) app development platform that provide developers with a set of tools and services to easily build, scale, and

maintain their applications without the need to manage a traditional backend infrastructure.

3.5 Experiment and Results

The results obtained from a school website can vary depending on various factors, including the website's design, functionality, marketing efforts, and the specific goals of the platform. Here are some potential results and benefits that can be obtained from such a platform:

- **Up-to-Date Information:** All content on the website, including news, events, and school policies, is kept current and regularly updated.
- **School News and Updates:** The website should have a dedicated section for news and updates, including newsletters, principal's messages, and important announcements.
- **Transparency:** Clear information about the school's mission, vision, curriculum, faculty, staff, and policies. Transparency builds trust with parents and students.
- **Community Engagement**: The website can serve as a hub for school-related activities, fostering a sense of community and school pride.
- **Security**: Ensure that the website is secure, especially if it involves handling sensitive information such as student data.

3.6 Conclusion and Future work.

The development and implementation of EDUSPHERE (School Database Management System) represents a critical step forward in addressing the complex challenges faced by educational institutions.

Future Scope: Some ideas and features can be considered as a future work for this project. These features can be summarized in the following points:

- **Let the student perform exams online.**
- **Question Bank per subject can be added by the teacher.**
- **Allowance to admin to add new classes.**
- **Parents can have access to grades and attendance of their children.**
- **Fees can be paid through the website using a digital payment platform.**
- **A group email ID can be provided to staff.**

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