Maharashtra State Board of Technical Education Mumbai

(2024-2025)

"STUDENT MANAGEMENT SYSTEM"

PROJECT REPORT

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF DIPLOMA IN ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Submitted by

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GUIDE

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2024-2025

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Even (Academic 2024-2025)

(Electronics and Telecommunication Engineering) Students have submitted their Project report on

"STUDENT MANAGEMENT SYSTEM"

Satisfactorily During academic session 2024-2025 as a part of project work Prescribed by Government Polytechnic, Sakoli for partial fulfilment for the diploma in (Electronic and Telecommunication Engineering). The project work is the record of student's own work and is completed.

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CANDIDATE'S DECLARATION

We hereby certify that the work which is being presented in the project report entitled "STUDENT MANAGEMENT SYSTEM" by me/us in partial fulfilment of requirements of requirements for the award of diploma in (electronic and telecommunication engineering) submitted in the department of (Electronic and Telecommunication Engineering) is record of our own work carried out during ODD/EVEN (2024-2025) guided by (Mr. L. K. KOTHWAR).

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ACKNOWLEDEMENT

We would like to place on record my deep sense of gratitude to our-guide, **Mr. L. K. KOTHWAR**, Dept Of. Electronic and Telecommunication for his generous guidance, help and useful suggestions.

We express my sincere gratitude to **Prof. A. A. ALI**, Head, Dept. of Electronic Telecommunication, for his stimulating guidance, continuous encouragement and supervision throughout the course of present work.

We are extremely thankful to **Prof. S. P. LAMBHADE**, Principal, for providing us infrastructural facilities to work in, without which this work would not have been possible.

It is just impossible to mention everybody name but we are sincerely thankful for classmates and family members who contribute their direct and indirect cooperation and support for successful completion of project work.

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EXAMINAR'S CERTIFICATE

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"**STUDENT MANAGEMENT SYSTEM**"

As prescribed by the Maharashtra state board of technical education Mumbai (MSBTE) as partial fulfilment for the award of "Diploma in Electronic & Telecommunication Engg. "During the academic year 2024-2025.

Guided By

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ACKNOWLEDGEMENT

Acknowledgement is a very small bouquet for the appreciation, recognition actuated by gratitude towards those valuable help, guidance and criticism that led my project to the utter success. This is the time where I have the opportunity to present my appreciation to them.

First to my guide, **Prof. L. K. Kothwar** , I would like to express my sincere gratefulness and appreciation for his quality guidance, caring, patience and help in planning and executing of the work. He provided an excellent atmosphere for work and supported me technically and mentally.

I also express my sincere thanks to **Prof. L. K. Kothwar** and **Prof. A. A. Ali** for their help towards the completion of the project.

ABSTRACT

A Student Management System (SMS) is a software application designed to efficiently handle student-related data and administrative tasks within educational institutions. This system streamlines processes such as student registration, attendance tracking, marks management, and communication between students, teachers. The primary objective of an SMS is to reduce manual work, improve data accuracy, and enhance overall institutional efficiency. By automating tasks like student enrolment, performance monitoring, and report generation, the system ensures seamless information flow while minimizing errors. Additionally, it provides secure data storage and easy access to student records, enabling better decision-making for educators and administrators. This project leverages modern technologies such as databases, cloud computing, and web or mobile interfaces to deliver a user-friendly experience. The system benefits educational institutions by improving transparency, reducing paperwork, and facilitating real-time updates on student progress. Overall, a Student Management System plays a crucial role in enhancing educational administration, making it more efficient, accurate, and accessible.

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 organisation 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. This project is useful for easy user interface. The system uses the powerful database management system, data retrieval and data manipulation. This project provides more ease for managing the data than manually maintaining the data. Hence it saves the lot of time for us also. So, we can say that the project is useful for saving valuable time and reducing huge paperwork.

1. Key Points

1. Purpose of the System:

- To simplify and automate student data management for educational institutions.
- Provide a centralized platform to manage student records efficiently.

2. Features:

- Student registration and profile management.
- Course enrollment and academic tracking.
- Attendance and grades monitoring.
- Admin, teacher, and student roles with access control.

3. Benefits:

- Reduces manual paperwork and errors.
- Improves communication between students, teachers, and administration.
- Enables easy data retrieval and reporting.

4. Target Users:

- School or college administration
- Teachers
- Students

5. Scalability:

- Can be adapted for use in schools, colleges, or coaching institutes.
- Supports integration with other systems.

6. Technical Details:

- Built using [programming languages, databases, web frameworks].

7. Security Measures:

- Data encryption, secure login, and access controls.

8. User Experience:

- Intuitive interface for easy adoption.

9. Reporting and Analytics:

- Generate reports on student performance, attendance, and demographics.

10. Goals:

- Improve student outcomes, reduce administrative burden, and enhance overall efficiency.

11. Integration:

- Integration with existing systems (e.g., learning management systems, student information systems).

12. Customization:

- Customizable to meet specific institutional needs.

13. Accessibility:

- Accessible on multiple devices (desktops, laptops, mobile).

14. Support:

- Ongoing support and maintenance.

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LIST OF FIGURES

Chapter No 1. INTRODUCTION

A Student Management System (SMS) is an integrated software solution that is designed to streamline and manage the vast array of administrative tasks involved in student-related processes within educational institutions. The system provides an efficient and centralized platform for storing, processing, and accessing various student-related information. It offers functionalities to handle a range of activities from enrollment, attendance tracking, grade management, scheduling, to communication between students, teachers, and administrators. With the rapid advancement of technology and the increasing need for institutions to adopt digital platforms, the Student Management System has become a crucial tool in modern educational environments. It aims to simplify and automate administrative tasks, reduce paperwork, and improve the overall management efficiency of schools, colleges, and universities.

The core objective of an SMS is to provide a holistic, user-friendly interface that facilitates easy access to information for students, teachers, parents, and administrative staff. Through an SMS, stakeholders can manage a variety of tasks such as class registration, grade evaluation, attendance tracking, and report generation without needing to rely on traditional manual methods.

Significance of the Project: -

1. Improved Efficiency in Administrative Tasks

One of the most significant benefits of a Student Management System is its ability to automate and simplify administrative tasks. This includes managing student records, attendance, grades, timetables, and other important data. Traditionally, these tasks would require a significant amount of manual labour, which is time-consuming and prone to errors. By using an SMS, educational institutions can greatly reduce the time and effort spent on these processes, allowing staff to focus on more important activities, such as student support and teaching.

2. Centralized and Secure Student Data

A Student Management System consolidates all student-related data into a centralized digital platform, ensuring that the information is stored securely and can be accessed easily when needed. This centralized data management system reduces the risk of data loss and human errors associated with paper records or decentralized databases. Moreover, with proper encryption and security measures in place, student data remains protected, ensuring compliance with data privacy regulations such as GDPR or FERPA.

3. Enhanced Communication and Collaboration

SMS improves communication among students, teachers, administrators, and parents. Through the system, announcements, updates, grades, and attendance information can be shared seamlessly. This leads to better engagement and collaboration between stakeholders, ensuring that all parties are informed and can act on critical information promptly. For instance, parents can easily monitor their child's academic performance and attendance, which fosters a more active role in their child's education.

4. Real-Time Access to Information

Students and faculty members can access important information in real-time. This includes grades, assignments, schedules, and attendance reports, which not only improves transparency but also helps identify areas that need immediate attention. For example, students can view their progress in real-time, while teachers can track attendance or mark grades on the system, ensuring prompt updates without delays.

5. Better Decision Making Through Data Analytics

With a Student Management System, educational institutions can gather valuable insights from the data collected. Analytics and reports generated by the system can provide administrators and educators with a deeper understanding of student performance, trends, and issues that need to be addressed. For example, data may reveal that certain groups of students are struggling with specific subjects or that attendance rates drop during certain periods. This information can then inform decisions about curriculum adjustments, student interventions, or improvements in teaching methodologies.

6. Cost-Effectiveness

By automating many administrative processes, an SMS reduces the need for paper-based records, filing systems, and manual data entry. This significantly lowers costs for educational institutions, as they no longer need to maintain extensive physical records or hire additional staff to manage them. Furthermore, by reducing the time spent on routine administrative tasks, teachers and staff can redirect their efforts toward more value-adding activities, such as student interaction and academic development.

7. Enhanced Student Support and Academic Performance

With real-time access to performance data, teachers can identify students who are struggling academically or have high absenteeism. This allows them to offer timely support, such as tutoring or mentorship, to improve student outcomes. Moreover, students can take ownership of their learning by tracking their own progress and identifying areas where they need to improve, leading to a more proactive and self-driven learning experience.

8. Streamlined Scheduling and Timetable Management

The Student Management System also simplifies the scheduling of classes, exams, and other events. It can automatically generate, and update class timetables based on the availability of classrooms and instructors. This reduces the likelihood of scheduling conflicts and ensures that resources such as rooms and faculty time are efficiently allocated. Students and faculty members can also access updated schedules, reducing confusion and miscommunication.

9. Support for Scalability and Growth

As educational institutions expand in terms of student enrollment or the number of courses offered, the Student Management System is scalable to meet these needs. Whether the institution is adding new courses, programs, or campuses, an SMS can handle the increased data and complexity without compromising efficiency. This scalability makes it an ideal solution for both small schools and large universities that are aiming for long-term growth.

10. Regulatory Compliance and Reporting

Student Management Systems are often designed to comply with various educational regulations and standards, ensuring that institutions can meet reporting requirements. Whether it's generating academic transcripts, submitting attendance reports, or ensuring that fee payments are tracked and documented, SMS can streamline the reporting process and reduce the burden of compliance. Institutions can easily generate reports for accreditation, governmental bodies, or other regulatory agencies.

11. Customization for Institutional Needs

Every educational institution has its unique requirements and operational challenges. A welldesigned Student Management System is highly customizable, allowing institutions to tailor the system to their specific needs. Whether it's adjusting the grading system, configuring attendance policies, or adding custom workflows, an SMS can be adapted to fit the specific demands of the institution, making it a highly versatile tool.

Chapter No 2. PLANNING OF THE PROJECT

1. Project Scope and Objectives
   - Purpose: Define the primary goals of the Student Management System. This might include managing student data (personal information, grades, attendance), facilitating course registration, allowing communication between students and teachers, and automating administrative tasks.
   - Target Users: Identify who will use the system—students, teachers, administrators, and possibly parents.
   - Key Features:
     - Student profile management (personal data, grades, attendance)
     - Course registration and scheduling
     - Grade tracking and progress reports
     - Attendance monitoring
     - Communication between users
     - Automated notifications and reminders
     - Data security and privacy compliance
2. Functional Requirements
   - User Accounts & Authentication:
     - Student Login: Students should be able to register, log in, and view their data (grades, attendance, courses).
     - Teacher/Admin Login: Teachers/admins will have different access levels to manage student data and view reports.
   - Course Management:
     - Students should be able to enroll in courses, drop courses, and view schedules.
     - Teachers/admins should be able to create, modify, and remove courses.
   - Attendance System:
     - Teachers should be able to mark student attendance easily (either manually or automatically).
   - Grade Tracking & Reports:
     - Teachers can enter grades for assignments, quizzes, exams, and calculate final grades.
     - Students should be able to view their grades, progress, and feedback.

- Communication System:
    - A messaging system for communication between students, teachers, and admins.
- Notifications:
    - Automated emails or SMS to notify students of important updates (e.g., assignment due dates, grade updates).
- Reports:
    - Ability to generate automated or custom reports for student performance, attendance, and grades.

3. Non-Functional Requirements
    - User Experience (UX): The interface should be easy to navigate and mobile-friendly. Ensure that students and teachers can access the system from any device.
    - Performance: The website should load quickly and handle a large number of users concurrently without lag.
    - Security: Use secure login protocols (SSL encryption) and ensure compliance with privacy standards (e.g., GDPR) to protect student data.
    - Scalability: Ensure the system can handle more students, courses, and users as the school grows.
4. Design & Layout
    - Wireframes: Sketch the basic layout of key pages—login page, dashboard, course registration page, student profile, and teacher/admin pages. You can use tools like Figma or Adobe XD to create these wireframes.
    - Color Scheme & Branding: Choose a color scheme that aligns with your school's branding. Keep it simple, professional, and accessible.
    - Responsiveness: Design for mobile and desktop views. Wix provides mobile optimization, so make sure all features work seamlessly across devices.
    - Navigation: Ensure that the user interface is intuitive, with clear navigation for students, teachers, and admins to access all needed functionalities.
5. Wix Features & Tools to Use
    - Wix Forms: Use for collecting student data, course registrations, and feedback.
    - Wix Members Area: For creating user accounts (students, teachers, admins) with restricted access to certain pages based on roles.
    - Wix Database (Velo): To store and manage student data, grades, and attendance. You can link form data to the database.

- Wix Automations: To send automated emails or alerts to users (e.g., reminders about assignments, grades, and attendance).
- Wix Corvid/Velo: For custom features, such as advanced logic for grading, creating dynamic pages for student profiles, or handling complex workflows.

6. Development Timeline
   - Phase 1: Planning & Design (1-2 Weeks):
     - Finalize project scope, key features, and wireframes.
     - Choose templates on Wix and create the initial design.
   - Phase 2: Wix Setup & Configuration (2-3 Weeks):
     - Set up the Wix website.
     - Create user accounts and member areas.
     - Set up databases for student profiles, grades, and attendance.
     - Implement basic pages (home, login, dashboard, etc.).
   - Phase 3: Feature Development (3-4 Weeks):
     - Develop the core features: course registration, grade tracking, attendance management, messaging system.
     - Implement automated notifications and email alerts.
     - Set up reports and data export options.
   - Phase 4: Testing & Quality Assurance (1-2 Weeks):
     - Test each feature thoroughly, ensuring everything works smoothly.
     - Perform user testing with students, teachers, and admins to gather feedback.
   - Phase 5: Deployment & Launch (1 Week):
     - Deploy the website for live use.
     - Monitor user feedback and address any bugs or issues.
7. Testing & Quality Assurance
   - Unit Testing: Ensure individual features work as expected (e.g., student login, grade input).
   - Integration Testing: Ensure that different features (course registration, grades, attendance) work together seamlessly.
   - User Testing: Have actual students and teachers test the platform to ensure it’s userfriendly and meets their needs.
   - Security Testing: Ensure that the system is secure, with proper encryption and data protection.

- Performance Testing: Test the speed and responsiveness of the site with multiple users to ensure it can handle high traffic.

8. Deployment and Maintenance
   - Deployment: Once everything is tested, deploy the website for use by your target audience (students, teachers, admins).
   - Training: Provide training to users (students, teachers, and admins) on how to use the system.
   - Ongoing Maintenance: Regularly update the system, fix bugs, add new features, and ensure security updates are applied.
9. Feedback and Iteration
   - User Feedback: After deployment, gather feedback from students and teachers regarding the system's functionality, user interface, and any additional features they would like.
   - Improvements: Based on feedback, make improvements to the system to better meet user needs.
10. Budget and Resource Allocation
    - Budget Planning: Estimate costs for domain registration, Wix subscriptions, custom development (if needed), and any third-party integrations.
    - Resource Allocation: If you're working in a team, assign tasks to different team members (design, development, testing, etc.).

Chapter No 3. SOFTWARE USED

A Wix website developer specializes in creating and customizing websites using Wix, a popular drag-and-drop website builder. Wix developers typically have expertise in various aspects of website design and functionality, often combining creativity with technical skills to build fully functional websites. Here's an overview of what a Wix website developer does:

Skills and Expertise:

1. Wix Platform Proficiency:
    - Deep knowledge of Wix's features and tools like the Wix Editor, Wix Corvid (for advanced coding), and Wix ADI (Artificial Design Intelligence). ○ Expertise in building responsive websites optimized for various screen sizes (desktop, tablet, mobile).
2. Web Design and User Experience (UX):
    - Ability to design visually appealing websites that align with the brand's identity.
    - Focus on enhancing user experience through intuitive navigation, clear calls to action, and mobile optimization.
3. Customization and Advanced Features:
    - Use of Corvid by Wix (a development platform that allows developers to add custom code and integrate external services). ○ Integrating APIs, databases, and custom JavaScript for dynamic content and enhanced functionality.
4. SEO (Search Engine Optimization):
    - Understanding of SEO principles to optimize Wix websites for better search engine rankings.
    - Implementation of on-page SEO strategies like meta tags, alt text for images, and proper use of headers.
5. E-commerce Integration:
    - Expertise in setting up and managing e-commerce features on Wix, including product listings, payment gateways, and shipping options.
6. Troubleshooting and Maintenance:
    - Troubleshooting issues related to website performance, bugs, or broken links.
    - Providing ongoing maintenance and updates to ensure that the website runs smoothly.

Typical Services Offered:

1. Website Design & Development: Creating custom websites tailored to clients' needs and brand style.
2. Redesign & Revamping: Reworking existing Wix websites to give them a fresh look or improve their functionality.
3. Custom Code Implementation: Using Corvid to add advanced functionalities like user login systems, custom forms, and interactive elements.
4. SEO Services: Optimizing the website for better visibility and ranking in search engines.
5. E-commerce Setup: Creating online stores, adding products, setting up payment systems, and managing the store's functionality.
6. Content Management: Organizing and updating website content like blogs, galleries, and portfolios.

Advantages of Hiring a Wix Developer:

- Speed: Wix allows for faster development compared to traditional coding methods.
- Ease of Use: Developers can leverage the drag-and-drop builder and additional custom code for a more tailored website.
- Cost-Effective: Wix often offers affordable plans compared to building a website from scratch.

Finding a Wix Developer:

- You can find Wix developers on various freelancing platforms such as Upwork, Fiverr, or Wix's own Marketplace.
- Alternatively, reaching out to agencies specializing in Wix development or local web development companies may provide you with more personalized service.

❖ Development Mode in Wix – A Comprehensive Overview

Wix is a popular website builder that enables users to create stunning websites with no coding knowledge through its intuitive drag-and-drop interface. However, for developers or tech-savvy users who want to go beyond the visual editor, Wix offers a powerful feature called *Dev Mode, previously known as **Corvid** and now referred to as **Velo by Wix,**

○ What is Wix Dev Mode (Velo by Wix)?

Development Mode, or Velo, is a full-stack development platform integrated into Wix that allows you to enhance your website with custom functionalities using JavaScript, APIs, and external services. It bridges the gap between no-code and full-code, offering flexibility for both beginners and experienced developers.

When Dev Mode is enabled in the Wix Editor, it unlocks a wide array of tools and features that provide access to the code behind the website's elements, backend logic, databases, and more.

○ How to Enable Development Mode in Wix

1. Open your Wix site in the **Editor**.
2. At the top of the editor, click on Dev Mode.
3. Click **Turn on Dev Mode**.
4. Once enabled, a **new Code** Panel appears at the bottom of the screen, and a **Site Structure Sidebar** appears on the left.

○ Key Features of Wix Dev Mode

1. Code Panel

- Allows you to write and edit JavaScript code for each page.
- Supports both client-side and server-side scripting.
- Each page has its own page.js file, and you can also add global site code using site.js.

2. Backend Code

- Lets you create backend files (e.g., http-functions.js, email.js) where you can write serverside logic.
- Useful for operations like handling HTTP requests, working with APIs securely, and manipulating data.

3. Wix Data & Databases

- Allows the creation of structured collections (like databases) for storing and retrieving dynamic content.
- You can use code to query, filter, and manipulate this data with wix-data.

4. APIs and npm Modules
- Use Wix's built-in APIs for user authentication (wix-users), payments (wix-pay), CRM (wix-crm), and more.
- Import and use npm packages for additional functionality.

5. Events and Triggers
- Listen for and respond to events like form submissions, button clicks, or database updates.
- Create *hooks* for pre/post database operations.

6. Custom Interactions
- Use code to create animations, transitions, or advanced UX behaviors.
- Combine with Wix's visual tools for hybrid interaction control.

7. HTTP Functions and Web Modules
- Create RESTful endpoints using http-functions.js so your site can respond to external requests (API-like behavior).
- Use web modules to write functions that can be reused in multiple parts of your site.

8. Security and Permissions
- Control access to backend functions and data.
- Define which roles (visitor, member, admin) can perform specific actions.

o Advantages of Using Dev Mode
- Customization: Build custom features beyond what Wix components offer.
- Powerful Integrations: Connect your site with third-party services and APIs.
- Enhanced UX: Create dynamic, interactive, and personalized experiences.
- Developer Freedom: Write real code with full access to your site's logic and data.
- Hybrid Model: Combine no-code and full-code methods for flexible development.

o Use Cases for Dev Mode
- Building custom member dashboards.
- Creating advanced forms with validation and conditional logic.

- Developing eCommerce enhancements like custom checkout flows. - Fetching and displaying external data (weather, news, stock prices).
- Implementing automation for CRM (e.g., sending welcome emails).

o Tips for Working with Dev Mode

1. Use Console Logs: Debug using console.log () in the preview mode.
2. Preview Frequently: Test changes often to ensure the site behaves as expected.
3. Modularize Your Code: Use backend modules and functions to keep code organized.
4. Keep Security in Mind: Never expose sensitive operations or keys on the frontend.
5.Refer to Velo Docs: Wix provides extensive [Velo documentation] (https://www.wix.com/velo/reference) for all APIs and features.

o Limitations of Wix Dev Mode

- Not as flexible as fully self-hosted platforms like Node.js or PHP servers.
- Dependency on Wix's infrastructure can limit certain advanced backend operations. - Some npm modules or Node APIs might not be fully supported.
- Performance optimization is less manual, as Wix manages most of the backend.

Chapter No.4: - WORKING PRINCIPLE

1. User Authentication and Access Control
   - Student Login: Students can create accounts or log in using credentials (like email and password). Their profiles may include information like name, roll number, courses, grades, attendance, etc.
   - Teacher/Admin Login: Teachers or administrators can have separate login access to manage students, courses, grades, etc.
   - Role-based Access: Different roles (students, teachers, admins) will have varying access rights within the system.

2. Dashboard
   - Student Dashboard: The student dashboard shows the student's personal data, including courses enrolled, grades, attendance records, upcoming exams, and assignments.
   - Teacher/Admin Dashboard: Teachers and admins can have a dashboard where they can manage student profiles, grade assignments, monitor student progress, update class schedules, etc.

3. Student Enrollment Management
   - Course Registration: Students can browse and register for available courses, view schedules, and deadlines.
   - Course Information: Information about courses, like course code, description, instructor, etc., can be displayed on the Wix website.
   - Enrollment Tracking: Admins or teachers can track which students are enrolled in which courses and handle additions or drops.

4. Grades and Evaluation
   - Grades Management: Teachers can enter grades for assignments, quizzes, exams, etc. The system can automatically calculate and update overall grades.
   - Progress Reports: Students can view their grades, progress, and feedback for specific courses or assignments.

5. Attendance Tracking
    - Automated Attendance Recording: Depending on how you set it up, the system could automatically mark attendance based on student login or manually by the teacher.
    - Attendance Reports: Teachers can view reports on student attendance, and students can check their attendance history.

6. Assignments and Exams
    - Assignment Submission: Students can submit assignments through the system, and teachers can grade them directly within the platform.
    - Exam Schedules: The system can show upcoming exams, deadlines for assignments, and other important dates.
    - Notifications: Students and teachers receive notifications regarding assignment deadlines, exam schedules, and grades.

7. Communication Features
    - Messaging System: There may be a messaging system where students and teachers can communicate directly within the platform (such as sending assignment feedback, questions, etc.).
    - Announcements: Admins or teachers can post important announcements or updates for students, such as schedule changes, exam dates, or class activities.

8. Report Generation
    - Automated Reports: The system can generate automated reports for grades, attendance, and progress, which can be downloaded or emailed to students and parents.
    - Custom Reports: Admins can generate custom reports for specific needs, like class performance or detailed student progress.

9. Mobile Compatibility
    - Mobile-Responsive Design: Since Wix allows you to build mobile-friendly websites, your student management system will likely be accessible and functional on mobile devices, so students and teachers can manage their information on-the-go.

10. Data Security and Privacy

- Secure Login: The login page uses SSL encryption to ensure data protection.
- Data Privacy: Sensitive student information (grades, attendance, personal details) is kept secure within the Wix platform, adhering to privacy laws like GDPR, if applicable.

❖ ADVANTAGES AND DISADVANTAGES

Advantages of a Student Management System (SMS)

1. User-Friendly Interface:
    - Wix's Drag-and-Drop Builder: Wix is designed to be intuitive, making it easy for non-developers to create and manage a website. With the drag-and-drop interface, you can easily design the layout and add features like forms, databases, and more.
    - Quick Setup: Wix offers ready-made templates and an easy setup process, which means you can create your SMS in a relatively short time compared to custom development.

2. Customization and Flexibility:
    - Custom Features with Velo (Wix Code): With Wix's Velo (formerly Corvid), you can add custom JavaScript code to create advanced functionalities, such as personalized grading systems, automated workflows, and advanced database management.
    - Adaptability: You can customize the design to suit your institution's branding (colors, logos, and layout), ensuring a personalized experience for students, teachers, and admins.

3. Integrated Database Management:
    - Wix Databases: Wix's integrated database allows you to store and manage student data (personal details, grades, attendance), course information, and other necessary records in a structured way. This makes it easy to pull data dynamically and update records when needed.
    - No Backend Infrastructure: Wix handles the hosting and database, reducing the need to manage servers, databases, and backend infrastructure.
4. Mobile Compatibility:

- Responsive Design: Wix automatically optimizes your website for mobile devices. Since many students and teachers use smartphones, this ensures that the system will be accessible across all devices, enhancing user experience.

5. Automation:
    - Wix Automations: Wix provides built-in automation tools to send emails or notifications to students, teachers, and admins based on triggers (e.g., grade updates, upcoming assignments, attendance warnings).
    - Easy Communication: Teachers and students can easily send and receive messages through the website, reducing communication barriers.

6. Scalability:
    - Expand as Needed: As your institution grows, you can easily expand the system. Wix offers scalability, allowing you to add more features, increase storage, and accommodate more users as the student population grows.
    - Add More Courses and Students: You can add courses, update student records, and modify existing data without needing to redesign the system.

7. Cost-Effective:
    - Lower Development Costs: Wix eliminates the need for custom development from scratch, making it a more affordable option for small to medium-sized institutions.
    - Subscription Model: Wix offers various pricing plans, allowing you to choose a plan that fits your budget.

8. Security:
    - SSL Encryption: Wix automatically includes SSL encryption, ensuring that the data exchanged between the system and users is secure.
    - Regular Backups: Wix provides automatic backups, so your data is regularly saved and protected against accidental loss.

❖ Disadvantages of a Student Management System

Limited Customization for Complex Features:

- ○ Complex Features May Be Limited: While Wix allows for customization, it may not offer as much flexibility as building a system from the ground up using other programming languages or platforms. For highly specialized or complex features (like deep integration with other systems or advanced data processing), Wix might fall short.
- ○ Wix Code Limitations: While Velo is powerful, it has limitations compared to full backend programming frameworks, which might restrict some complex logic and integrations.

2. Performance Issues with High Traffic:
   - ○ Scalability Limitations: If your institution grows rapidly and the number of students, teachers, and data increases significantly, Wix might face performance challenges with very high traffic or extensive data processing. Wix is optimized for smaller to medium-sized applications but might not be able to handle very large-scale projects as efficiently as dedicated server-based solutions.
   - ○ Slow Loading: Wix websites can sometimes have slower loading speeds, especially when complex features are used. This could negatively affect user experience, especially for students accessing grades or assignments during peak times.

3. Dependence on Wix's Platform:
   - ○ Limited Control Over Hosting: Wix handles hosting, and you're tied to their platform. If Wix faces any downtime, your SMS will be affected. Unlike traditional hosting services, you don't have full control over the server.
   - ○ Vendor Lock-In: If you ever want to migrate your SMS to a different platform, it could be challenging and time-consuming. Wix's proprietary system may limit how easily you can transfer your data or design to other platforms.

4. Limited Offline Access:
   - ○ Internet Dependency: Your SMS will be entirely dependent on the internet. In

areas with unreliable internet access, students or teachers might struggle to use the system effectively.

- No Offline Mode: Wix does not offer a built-in offline mode for its websites, meaning users must have a stable internet connection to access the system at all times.

5. Basic Reporting and Analytics:
    - Limited Reporting Tools: Wix's built-in reporting tools might not be as advanced as those in dedicated Student Management Systems or custom-built applications. Generating customized, detailed reports might require additional work with external tools or manual processes.
    - Less Insight into Data: For institutions that need detailed data analysis or integration with advanced analytics tools, Wix may not offer the level of insight required.

6. Learning Curve for New Users:
    - Familiarization with Velo: While Wix is designed to be easy for beginners, using Velo (Wix Code) to add custom functionality can have a learning curve, especially if you are not familiar with coding or web development.
    - Admin Training: Teachers and admins might need additional training to effectively use the system, especially if they are not familiar with Wix or the custom features you've built.

7. Limited Third-Party Integrations:
    - Integration Constraints: Wix is somewhat limited in terms of integrating with third-party services or APIs compared to custom-built solutions. For instance, integrating with other educational tools, learning management systems (LMS), or other services might be challenging and require workarounds.

8. Lack of Advanced Features:
    - Advanced Features May Be Difficult to Implement: Wix might not support more advanced SMS features like student counseling, detailed analytics, and

AI-driven recommendations, which would require more advanced programming or an enterprise-level platform.

❖ FUTURE SCOPE

1. Advanced Analytics and Reporting
   - Student Performance Analytics: As the system grows, integrating advanced reporting and analytics features will allow teachers and administrators to track student progress over time. This could include performance metrics, predictive analytics (to identify struggling students), and data visualization tools to generate insights.
   - Course Effectiveness Reports: Administrators and teachers could generate reports to evaluate course effectiveness, identifying which courses need adjustments or improvements based on student performance and feedback.

2. Artificial Intelligence (AI) and Machine Learning (ML) Integration
   - Personalized Learning: By integrating AI/ML algorithms, the SMS could offer personalized learning paths for students based on their grades, attendance, and performance in assignments. AI-driven recommendations could suggest courses, resources, or tutoring based on individual needs.
   - Predictive Analytics for Student Success: Using AI to predict potential student dropouts or failures based on patterns in attendance, grades, and engagement. Teachers could then intervene proactively.
   - Automated Grading: For assignments and quizzes, you could integrate AI to automatically grade student submissions (especially for objective questions) and provide instant feedback.

3. Integration with External Systems
   - Learning Management Systems (LMS): Integrate with popular LMS platforms like Google Classroom, Moodle, or Canvas. This would enable seamless import and export of assignments, grades, and course materials between your SMS and the LMS.
   - Payment Systems: Implement an integrated payment gateway for tuition fees, exam fees, or other related payments, allowing students and parents to make payments directly through the system.

- Google Workspace Integration: Integration with Google Calendar, Google Drive, and Gmail could enhance communication and organization. For example, teachers can send calendar invites for important dates like exam schedules, deadlines, or parentteacher meetings.

4. Mobile App Development
   - Dedicated Mobile App: While Wix automatically optimizes the website for mobile devices, you could build a dedicated mobile app to improve user experience. The app could provide students and teachers with push notifications, offline access, and quick access to features.
   - Push Notifications: The app could notify students about assignment deadlines, grade updates, class cancellations, and upcoming events in real time.

5. Gamification of Learning
   - Badges and Achievements: Introducing gamification can make the system more engaging. Students could earn badges or achievements based on their performance, attendance, or participation in extracurricular activities.
   - Leaderboards and Challenges: A leaderboard showing the top-performing students in various courses or activities could motivate students to improve their grades and performance. You could also introduce academic challenges or competitions.

6. Enhanced Communication Features
   - Live Chat and Forums: You could integrate live chat features or discussion forums where students can directly ask questions to teachers, collaborate on assignments, or communicate with peers. This could further enhance collaboration and interaction among students and faculty.
   - Video Conferencing Integration: Integrating video conferencing tools (like Zoom or Google Meet) directly into the system would allow for easy access to virtual classes, student-teacher meetings, and parent-teacher conferences.

7. Customizable Dashboard for Teachers and Admins
   - Role-Based Dashboards: A more customized dashboard that suits the specific needs of different users (teachers, administrators, students) could be implemented. For

example, teachers could have a dashboard that highlights grading deadlines, student performance, and attendance records, while administrators can monitor overall student data and generate reports.

- Data Visualization: Future enhancements could allow administrators and teachers to view key data trends through data visualizations such as graphs, heatmaps, and pie charts for performance tracking and decision-making.

8. Advanced Security Features
    - Multi-Factor Authentication (MFA): As security concerns grow, multi-factor authentication could be implemented to protect sensitive student data and prevent unauthorized access.
    - Role-Based Access Control (RBAC): Implement stricter role-based access permissions, ensuring that users (students, teachers, administrators) only have access to the data and features relevant to their role.
    - Data Encryption and Privacy Regulations: Compliance with international standards such as GDPR, FERPA, or HIPAA (for U.S.-based institutions) could be added to ensure better data protection and privacy.

9. Integration with Cloud Storage and Resources
    - Cloud Storage Integration: You could integrate the system with cloud storage providers like Google Drive, Dropbox, or OneDrive to allow students and teachers to store and share documents, assignments, and notes easily.
    - Access to Educational Resources: Linking to free or paid educational resources (ebooks, tutorials, webinars, etc.) can further support students' learning experience within the system.

10. Multi-Language Support
    - Language Options: If your institution has a diverse group of students, future versions of the system could support multiple languages, allowing students to interact with the SMS in their preferred language.
    - Localization: Not just language, but other local preferences like time zones, date formats, and currency options could be incorporated to serve international students.

11. Cloud-Based Backup and Disaster Recovery

- Automated Backups: Automated and more frequent backups of critical data, including grades, attendance, and personal student details, will ensure data integrity and security.
- Disaster Recovery Plans: Establishing a robust disaster recovery plan for your data could help ensure the system's availability and continuity in case of any unforeseen circumstances, such as platform outages or cyber-attacks.

12. Integration with IoT (Internet of Things)
    - Smart Attendance Systems: Integrating the SMS with biometric systems, facial recognition, or RFID-based systems to automatically track attendance could be a futuristic development. This would minimize human error and improve data accuracy.
    - Smart Classrooms: IoT could help enhance classroom management, such as automatically adjusting lighting, air conditioning, and other classroom elements based on student presence.

13. Advanced Workflow Automation
    - Automated Assignment Feedback: Develop a feature where assignments are automatically graded (for objective-type exams or assignments) and provide instant feedback to students.
    - Event-Triggered Actions: Automatically trigger actions like sending reminder emails for assignments, exam schedules, or upcoming parent-teacher meetings based on a preset calendar.

14. Expansion to Other Educational Institutions
    - B2B Expansion: If your SMS proves successful within a specific institution, there is potential to scale the system to other educational institutions, either as a SaaS offering or as a customizable solution that can be marketed to different schools or universities.
    - Franchise Model: You could offer the system as a white-labeled solution for other educational institutions, helping them manage their students, grades, and administration more effectively.

❖ PROJECT MODEL

1. System Architecture Model

This model defines the different layers or components of the system: a)

Client Layer (Frontend)

- User Interface (UI): Built using Wix's drag-and-drop tools and customizable templates.
- Student Dashboard: Displays student-specific data such as grades, attendance, course information, and assignments.
- Teacher/Admin Dashboard: Displays administrative features like managing student profiles, grading, and course management.
- Login and Registration Pages: User authentication for students, teachers, and admins.
- Course Registration Pages: Allows students to register for classes, view available courses, and manage enrollments.

b) Server Layer (Backend)

- Wix Databases (Velo): Stores the data for students, teachers, courses, grades, attendance, etc.
- Student Database: Holds student profiles (name, email, contact details, grades, etc.).
- Course Database: Stores information on courses, instructors, schedules, and enrollment details.
- Grade and Attendance Database: Tracks individual student grades, assignments, attendance, and performance over time.
- Teacher/Admin Database: Holds teacher/admin details and their permissions for managing student records, grades, and courses.

c) Integration Layer

- Wix Automations: To send emails, reminders, or notifications to users based on specific actions (e.g., assignment due, grade update).
- Third-Party Integrations (Optional): This might include connecting to external systems for email services, SMS notifications, or other necessary tools like Google Classroom or payment gateways.

d) Database Model

- Users Table: Contains data for students, teachers, and admins (ID, name, role, email, password, etc.).
- Courses Table: Contains details about each course (course ID, name, description, teacher, schedule).
- Enrollments Table: Links students to the courses they are registered in (student ID, course ID).
- Grades Table: Tracks the grades of students for each course (student ID, course ID, grades, date).
- Attendance Table: Tracks student attendance (student ID, course ID, date, status).

2. Functional Model

a) User Roles & Permissions ● Students:

○ View and edit their profile (name, contact details, grades).

- Teachers:
  - ○ Manage course creation, modification, and scheduling.
  - ○ Manage student enrollments in courses.
  - ○ Record grades for assignments, and exams.
  - ○ Monitor and manage student attendance.
  - ○ Send notifications and feedback to students.
  - ○ View reports and analytics on student performance.
- Admins:
  - ○ Full access to all data (students, teachers, courses).
  - ○ Manage user accounts (add, delete, update students, teachers).
  - ○ Generate reports and insights (grades, attendance, course performance).
  - ○ Set up and manage system configurations.

b) Core Functionalities

- Login and Authentication:

○ Secure login system for students, teachers, and admins with password encryption and role-based access.

- Course Management:

— Teachers can create, modify, and delete courses.

○ Students can view available courses, register, and view course details (schedule, instructor, etc.).

- Grade Management:
  - Teachers can input grades for various assignments, quizzes, and exams.
  - Grades are automatically updated in the student's profile. ○ Students can view their grades and feedback.
- Attendance Management:

o Teachers can record attendance for each class session

o Attendance records are updated in the database and available for viewing by students and teachers.

- Report Generation:
  - Admins and teachers can generate reports based on grades, attendance, or course performance.
- Notifications:
  - Automated notifications are sent via email or SMS about assignment deadlines, grade updates, attendance warnings, etc

Workflow Model

This outlines how different users interact with the system, and how data flows through the system.

1. Student Workflow:
   - The student logs into their account.
   - They can view their dashboard, which includes grades, assignments, and courses.
   - The student can register or drop courses via the course management page.
   - Notifications are sent to the student about upcoming assignments, exams, and grades.

2. Teacher/Admin Workflow:
   - The teacher/admin logs into their account.
   - They can create, modify, and manage courses.
   - They can enroll students into courses or drop them.
   - Attendance is recorded manually or automatically for each class.

- Admins generate reports and monitor system usage, ensuring data integrity and security.

3. Course Enrolment Workflow:
   - Students browse available courses from a list of active courses.
   - Students select courses and register through a simple form.
   - After enrolment, courses appear in the student's dashboard.
     Teachers can view and manage enrolments for their courses.
   - The course data is linked to the student's records for grades and attendance.

4. Data Flow Model

Data flow describes how data moves through the system during the execution of different tasks.

1. Student Registration:
   - Data: Student name, email, contact details.
   - Flow: When the student submits a registration form, the data is saved in the student database, and an account is created.

2. Course Registration:
   - Data: Student ID, Course ID.
   - Flow: When the student registers for a course, the data is stored in the "Enrolments Table," linking the student to the course.

3. Grade Entry:
   - Data: Student ID, Course ID, Grades.
   - Flow: Teachers enter grades, which are stored in the "Grades Table" in the database, linked to each student.

4. Attendance Tracking:
   - Data: Student ID, Course ID, Date, Attendance Status.
   - Flow: Teachers record attendance, which is stored in the "Attendance Table" for reference by both students and teacher.

○

5. Technology Stack

- Frontend (Client-Side):
    - Wix Editor: Drag-and-drop UI customization.
    - Velo (Wix Code): For custom functionality (database interactions, dynamic pages, custom logic).
    - Wix Forms: For collecting student data and course registration details.

- Backend (Server-Side):
    - Wix Databases: For storing student, course, grade, and attendance data.
    - Wix Automations: For sending emails/SMS notifications.

- External Tools (Optional):
    - Email and SMS services for notifications.
    - Google Analytics for tracking user activity.
    - Google Sheets or other integrations for advanced reporting (if needed).

6. Testing and Quality Assurance Model

- Unit Testing: Test individual features like login, registration, grade entry, and notifications.
- Integration Testing: Ensure that all components (courses, grades, attendance) work together smoothly.
- User Testing: Validate usability with a small group of actual users (students, teachers).
- Security Testing: Check for data vulnerabilities and ensure encryption is implemented properly for sensitive data.

○

❖ STEPS FOR LOGIN & FILLING DATA

 Steps For Login

Step 1: Click on login bar

Step 2: Enter your Email ID or Sign in using your Google Account

Step 3: Fill the captcha

Step 4: Then click on login button

Step 5: You are now eligible for explore our website

Step 6: Click on profile icon then edit profile and fill your details

Step 7: Click On Update Button

 Steps for filling Details

Step 1: Click on Student section tab

Step 2: Click on Biodata tab

Step 3: Fill your correct information and submit it using click on submit button

Step 4: Then click on Qualification then fill your correct information and submit it

Step 5: Then click on Academic then fill your correct information and submit it

Step 6: In Academic Section choose your semester and fill the

Chapter No.5: - RESULT

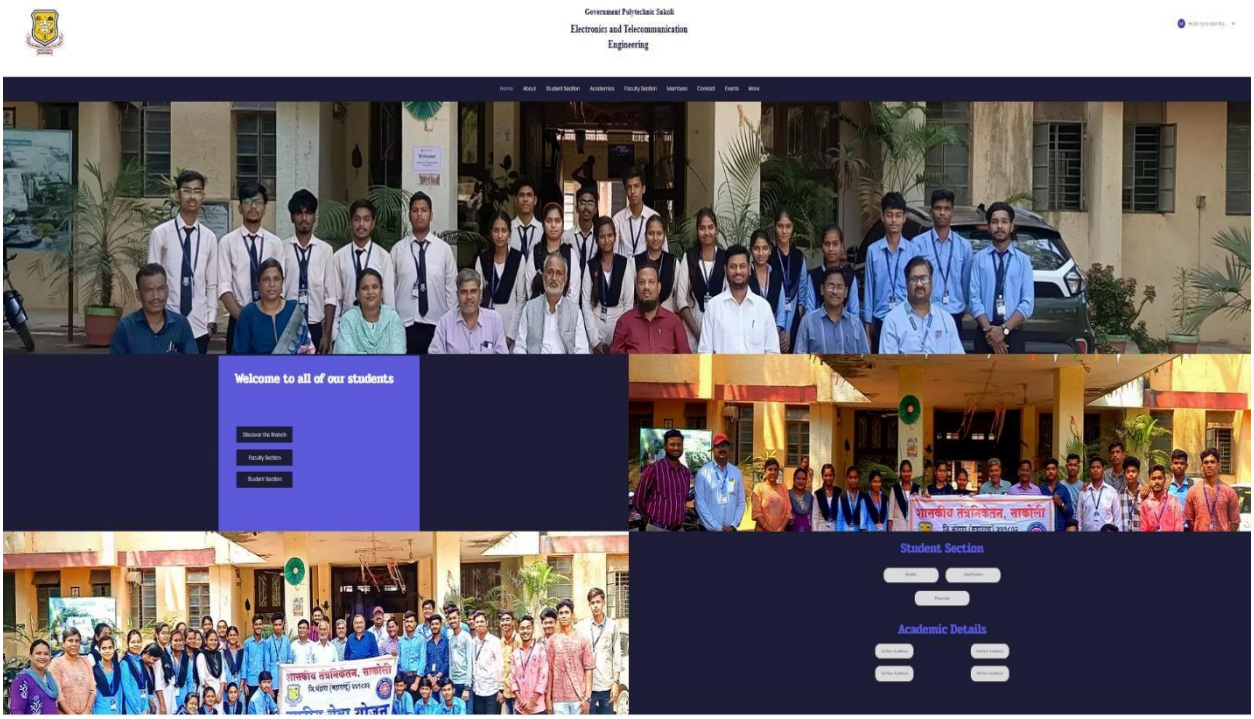
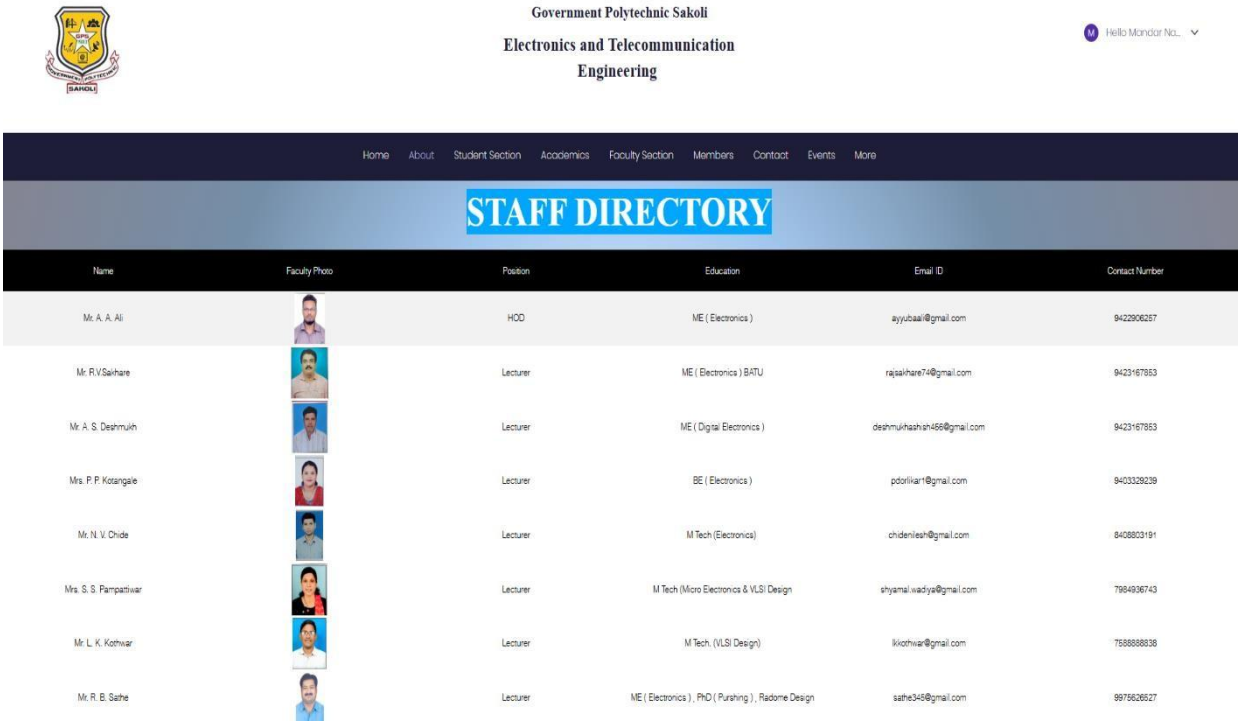


Fig.1 Home Page



Name	Faculty Photo	Position	Education	Email ID	Contact Number
Mr. A. A. Ali		HOD	ME (Electronics)	ayyubaali@gmail.com	9422906257
Mr. R.V.Salkhare		Lecturer	ME (Electronics) BATU	rajsalkhare74@gmail.com	9423167853
Mr. A. S. Deshmukh		Lecturer	ME (Digital Electronics)	deshmukhashish466@gmail.com	9423167853
Mrs. P. P. Kotangale		Lecturer	BE (Electronics)	pdorlikar1@gmail.com	9403329239
Mr. N. V. Chide		Lecturer	M.Tech (Electronics)	chidenilesh@gmail.com	8408803191
Mrs. S. S. Pampattiwar		Lecturer	M.Tech (Micro Electronics & VLSI Design	shyamal.wadya@gmail.com	7984936743
Mr. L. K. Kothwar		Lecturer	M.Tech. (VLSI Design)	lkkothwar@gmail.com	7588888838
Mr. R. B. Sathe		Lecturer	ME (Electronics) , PhD (Pursuing) , Radome Design	sathe345@gmail.com	9975626527

Fig.2 Staff Directory

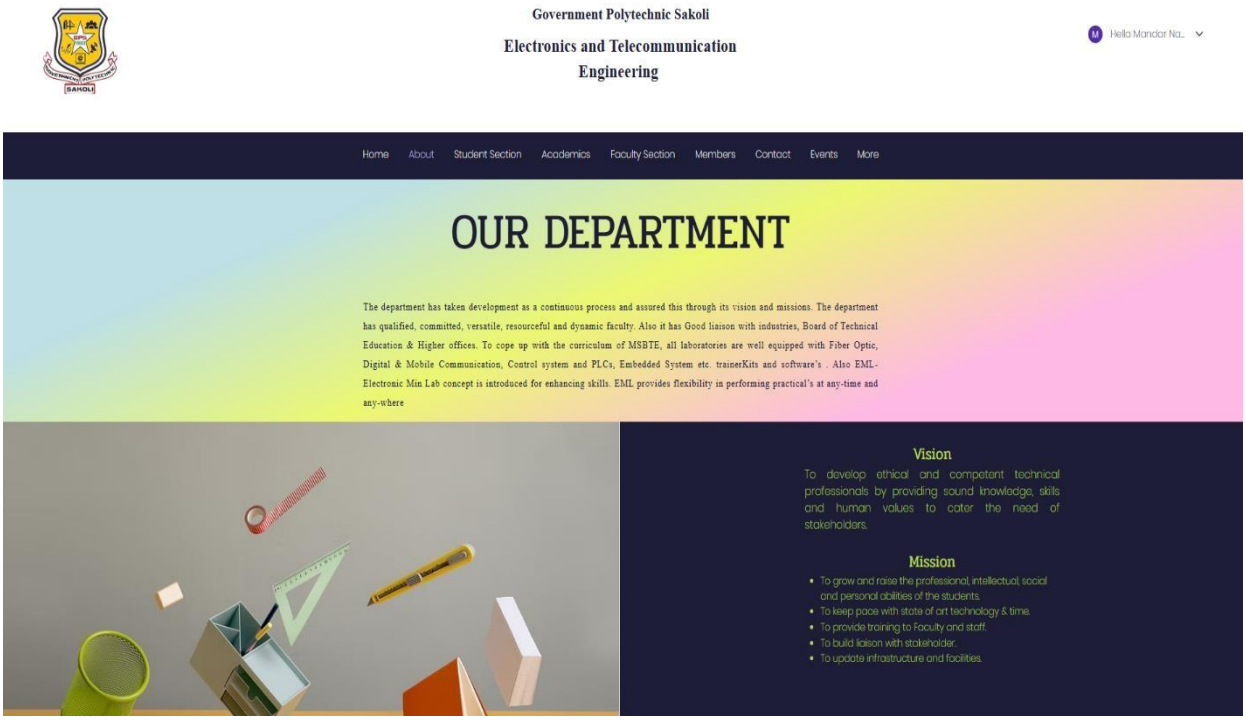


Fig.3 Our Department

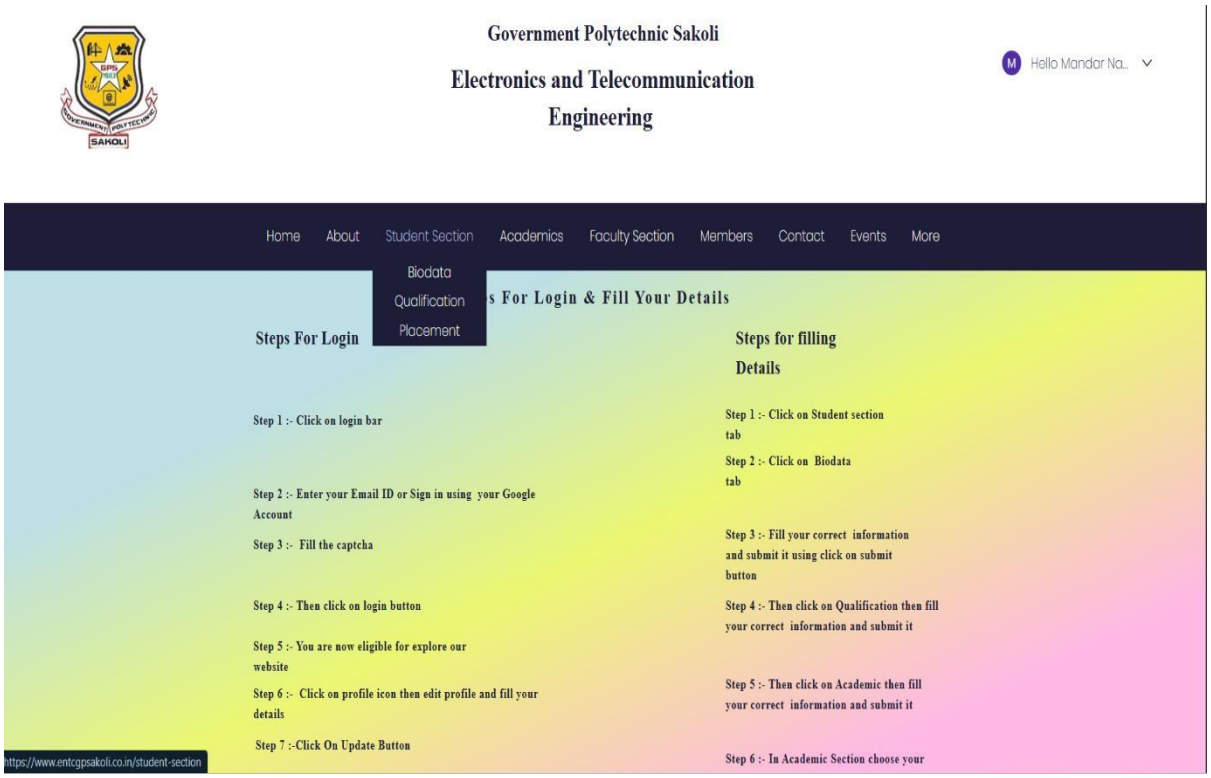


Fig.4 Student Section & Steps for Login & Fill Your Details

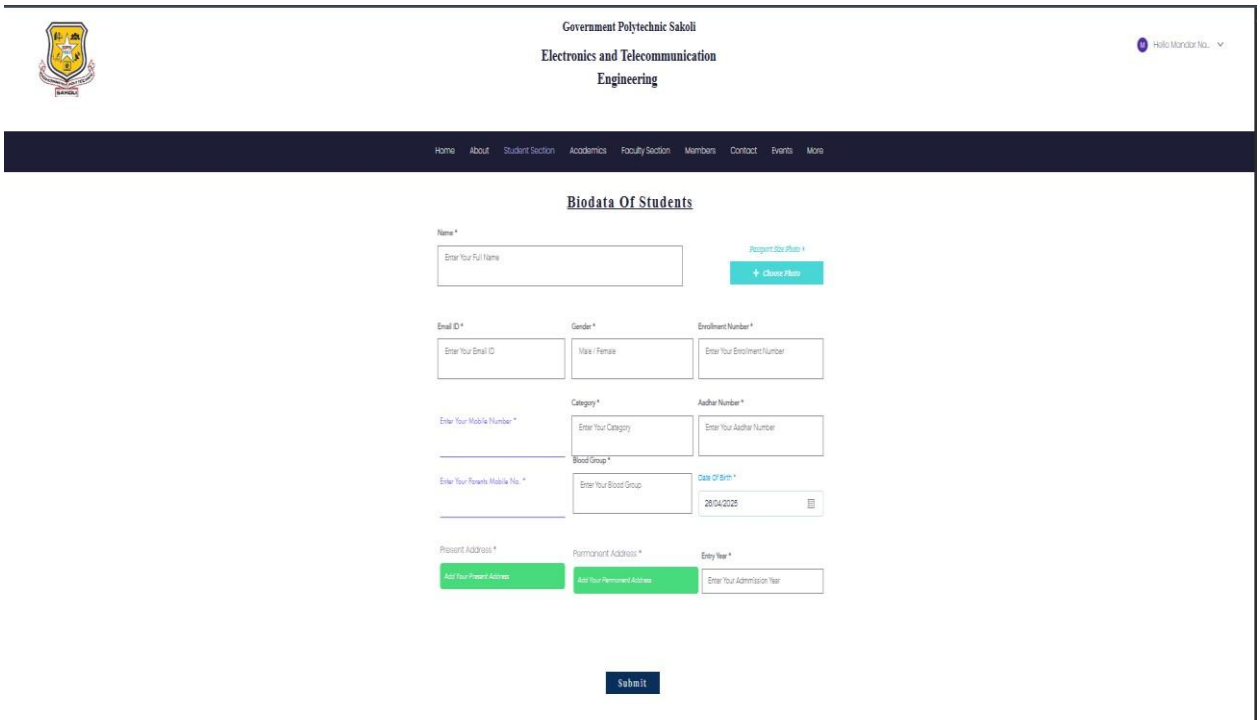


Fig.5 Biodata Form

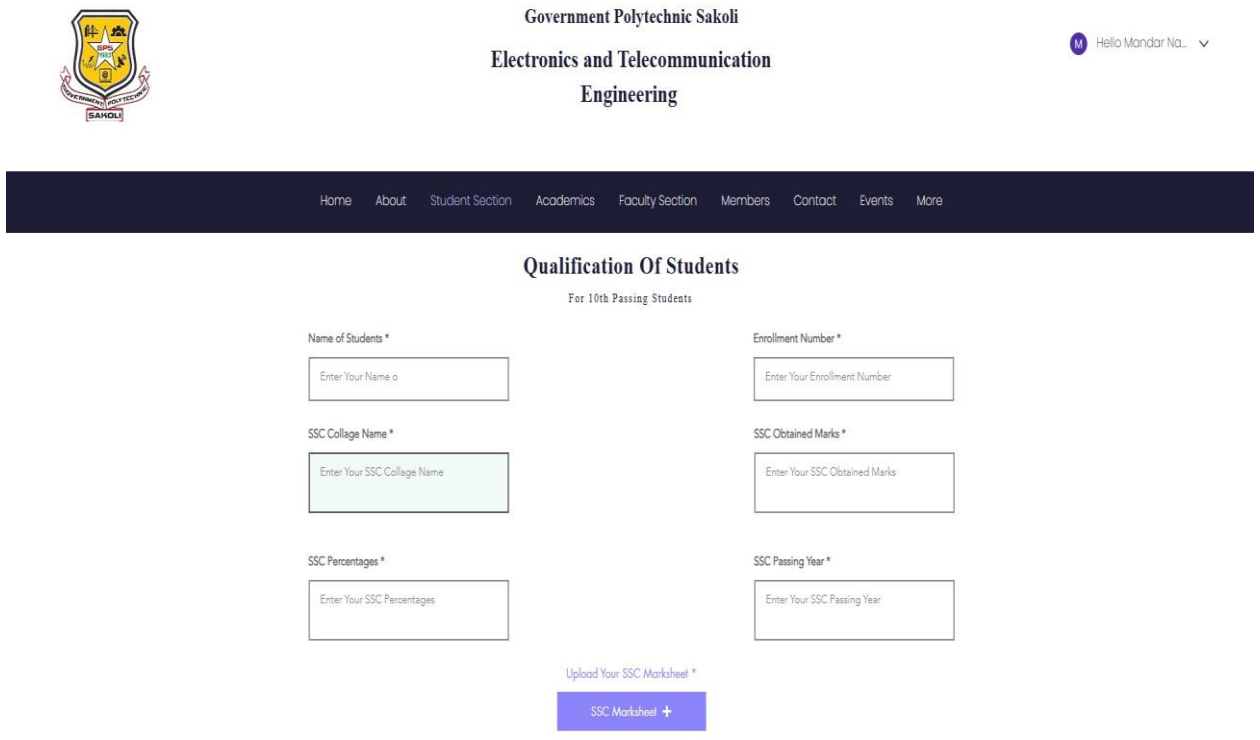


Fig.6 Qualification Form

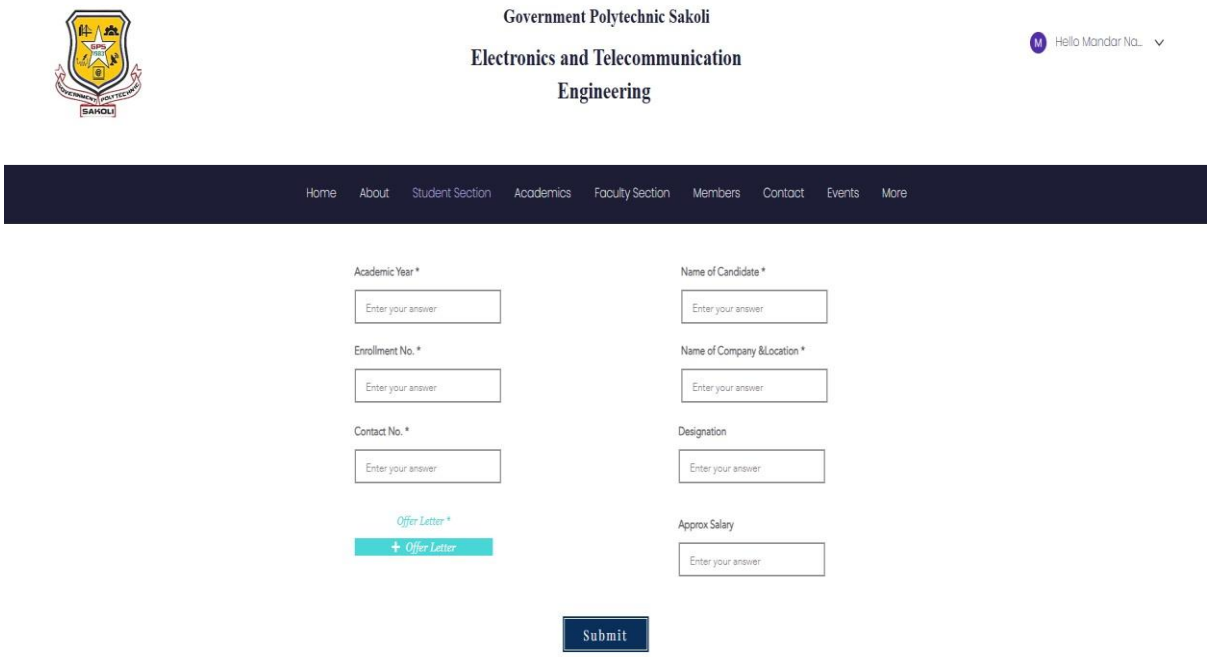


Fig.7 Placement Form

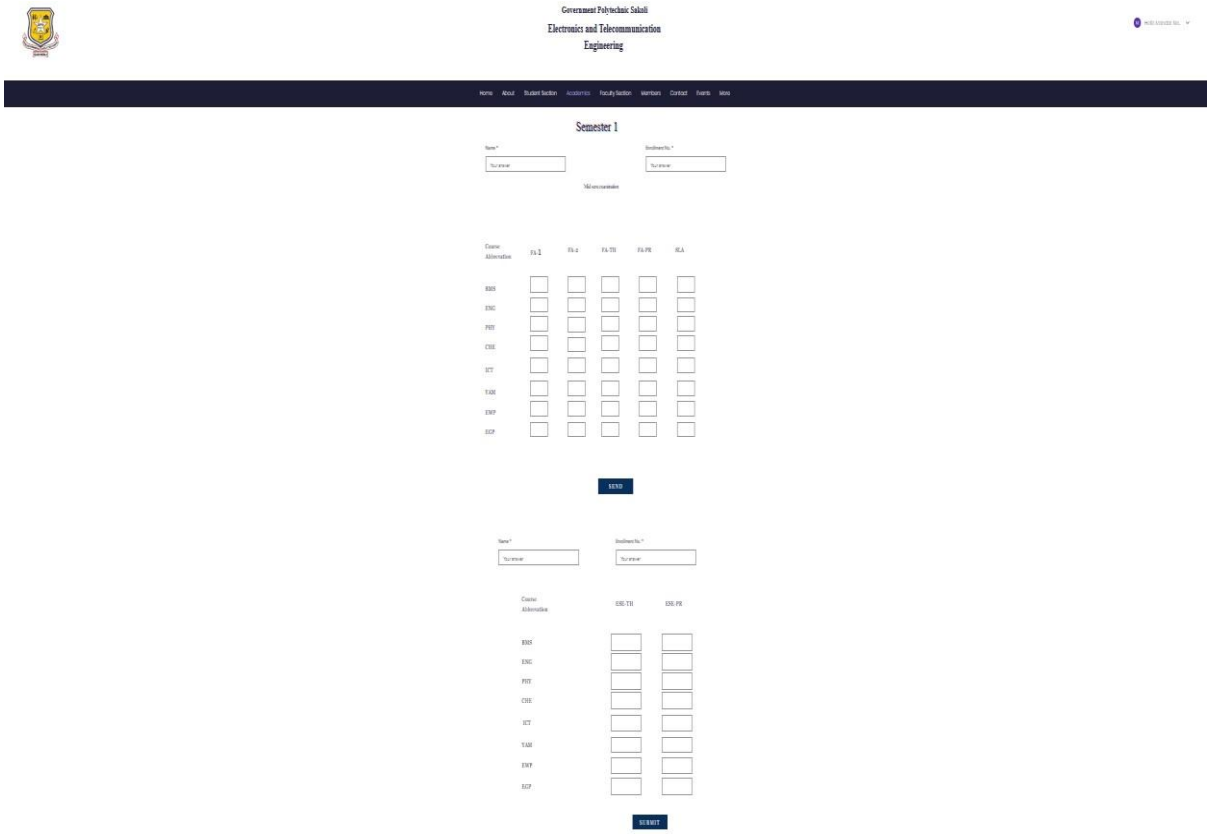


Fig.8 Academic Data Form

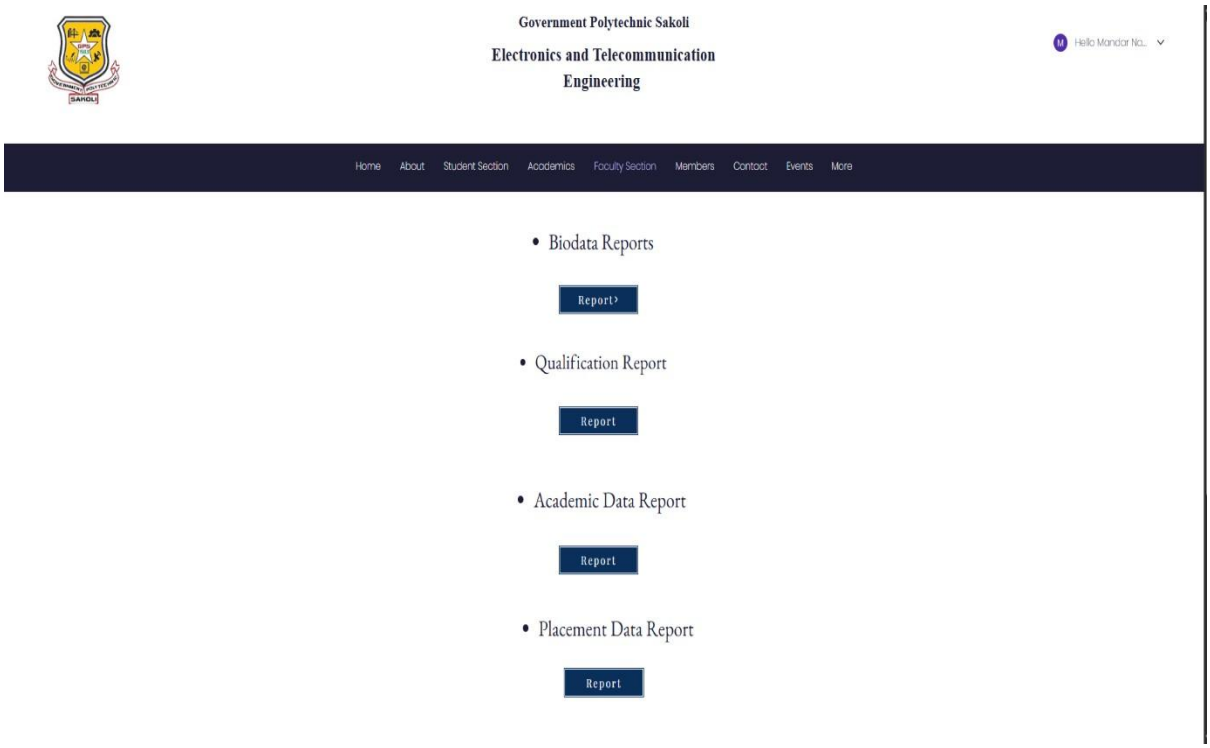


Fig.9 Faculty Section (Report)

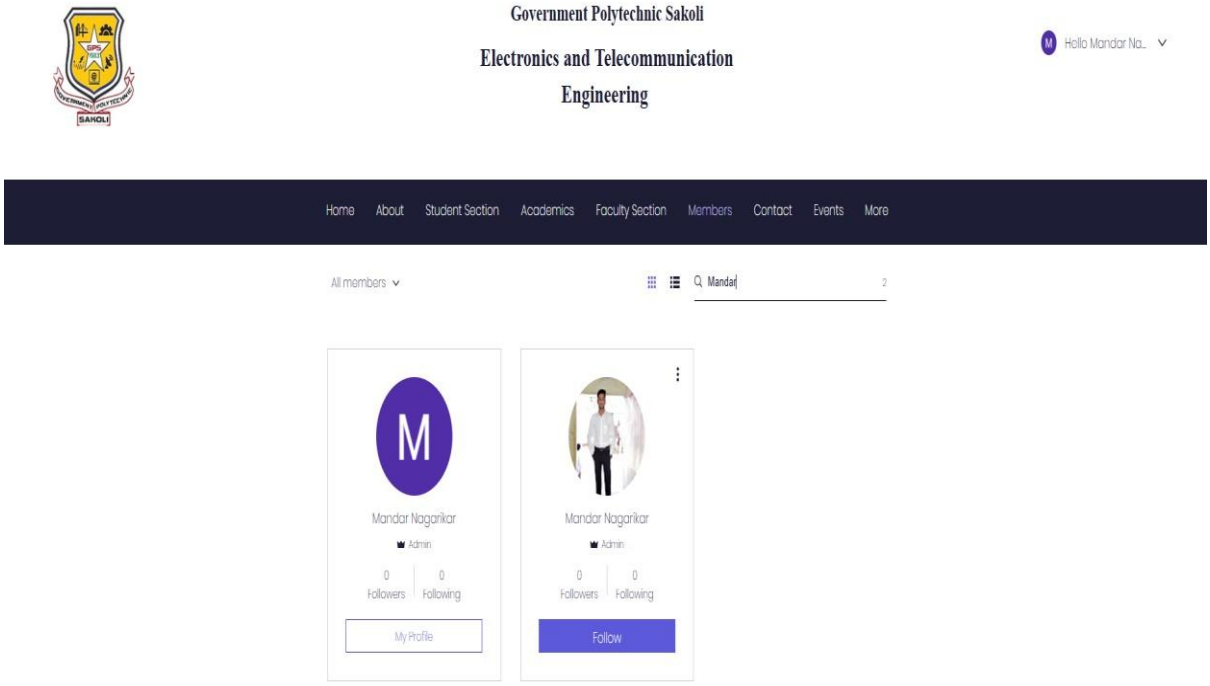


Fig.10 Members Section

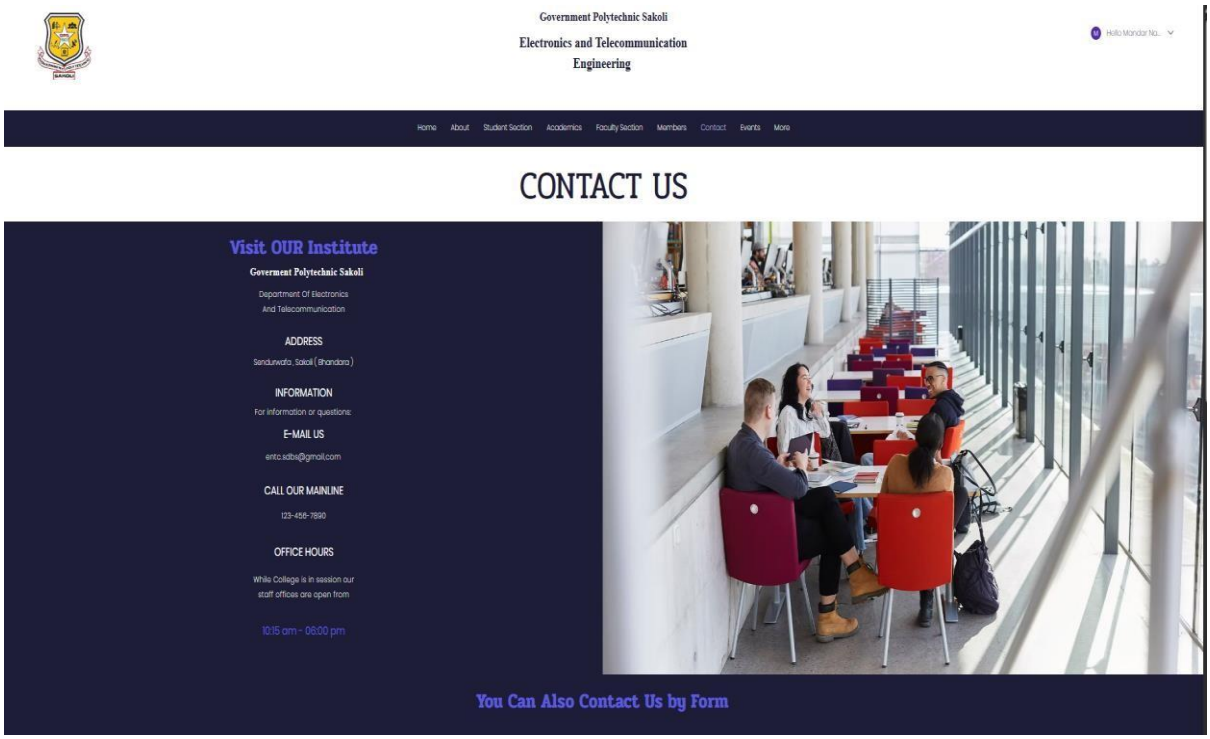


Fig.11 Contact Us

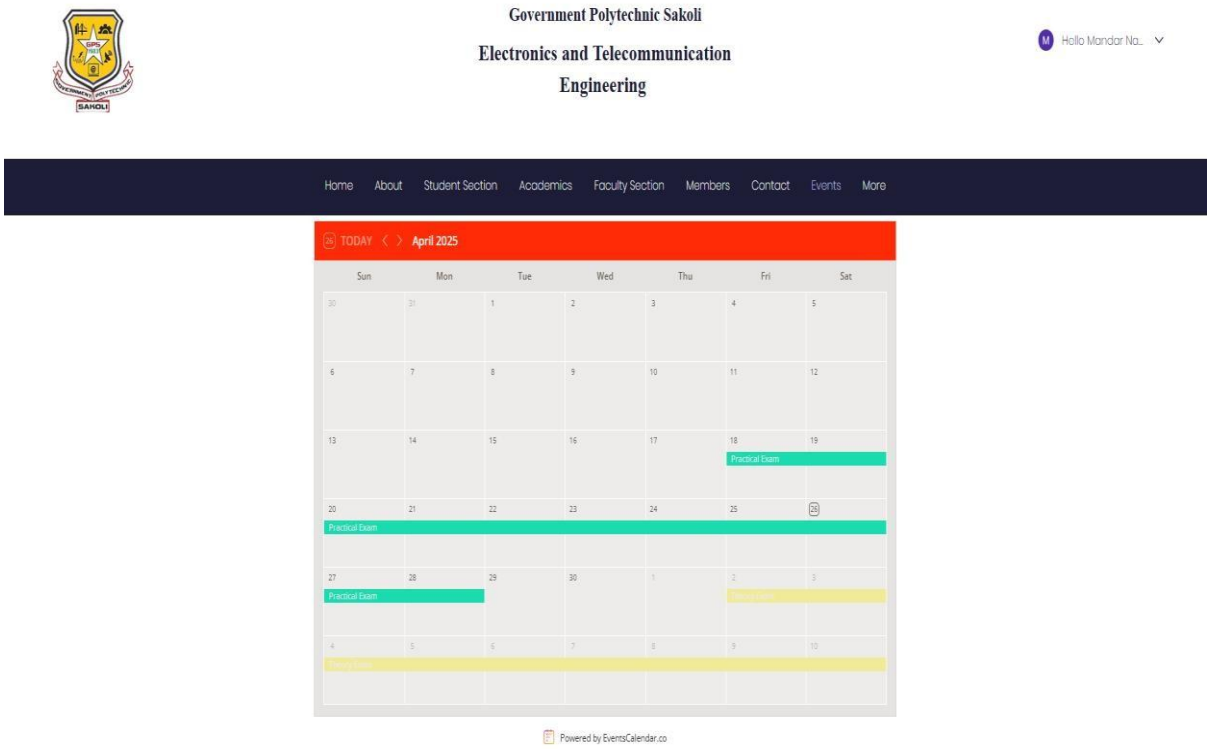


Fig.12 Events

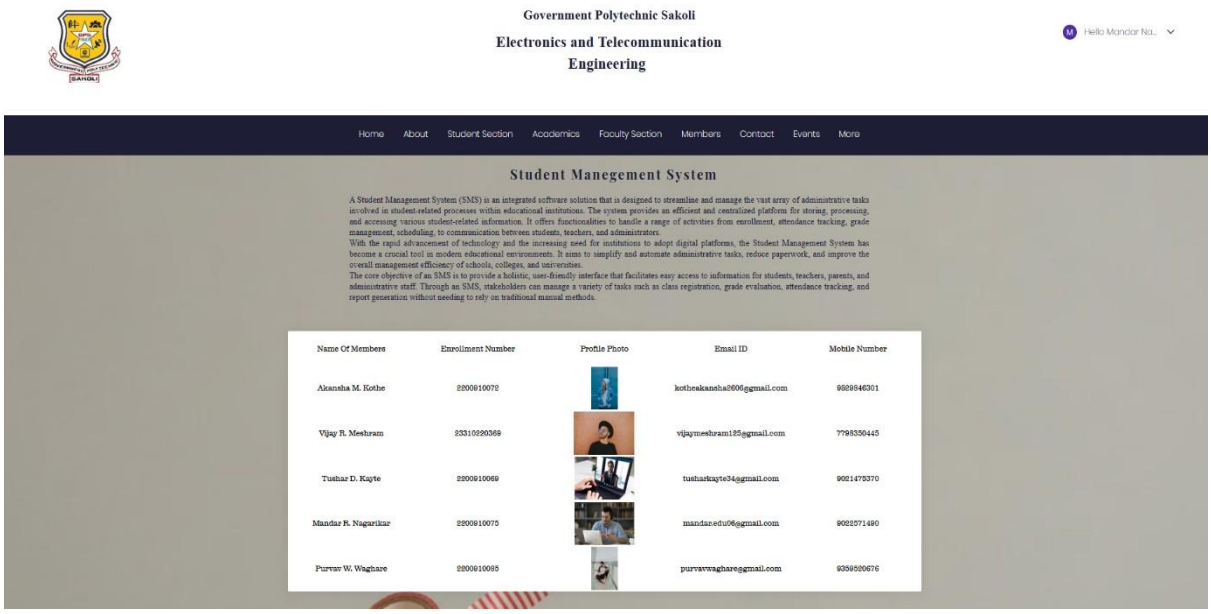


Fig.13 About Megaproject

Chapter No 6. CONCLUSION

The development of a Student Management System (SMS) using Wix Website Developer offers a practical and scalable solution for managing student-related data in educational institutions. By leveraging Wix's user-friendly interface and its powerful Velo (Wix Code) functionality, we can create a system that effectively handles tasks like student registration, course management, grade tracking, attendance, and communication between students, teachers, and administrators. The advantages of using Wix for this project include a simple development process, costeffectiveness, flexibility in design, and the ability to integrate custom functionalities through Velo. Furthermore, Wix's responsive design ensures that the system can be accessed seamlessly across devices, providing a smooth user experience for students, teachers, and administrators alike.

However, there are limitations to consider, including potential performance issues with high traffic, limited customization for complex features, and the reliance on Wix's platform, which might not be suitable for large-scale institutions. As the system evolves, enhancements such as advanced analytics, AI integration, mobile applications, and third-party integrations will improve the system's functionality and user experience.

In the future, there is a great potential to scale and improve the system further, addressing the growing needs of modern educational environments. The SMS could be expanded to support multiple institutions, integrate with other platforms, and incorporate features like gamification, predictive analytics, and smart attendance systems, thereby fostering a more interactive, datadriven learning ecosystem.

Chapter No 7. SUMMARY

The Student Management System (SMS) is a web-based application designed to streamline student data management, improve communication, and enhance administrative efficiency in educational institutions. This comprehensive system caters to the needs of students, teachers, administrators, and parents, providing a centralized platform for managing student information, tracking attendance, and monitoring academic performance.

The primary objectives of the SMS project are to centralize student data, reducing paperwork and improving data accuracy, enhance collaboration among stakeholders through effective communication tools, and automate administrative tasks to reduce workload and improve productivity. By achieving these objectives, the SMS aims to improve student outcomes, reduce administrative burden, and enhance the overall educational experience.

The SMS includes a range of key features that enable educational institutions to manage student data effectively. These features include online student registration and enrollment, attendance tracking, grade management, and parent-teacher communication tools. The system also boasts a user-friendly interface, ensuring easy navigation and adoption for all stakeholders. Robust security measures, including data encryption, secure login, and access controls, ensure the integrity and confidentiality of student data. Additionally, the system generates reports on student performance, attendance, and demographics, providing valuable insights for informed decision-making.

From a technical perspective, the SMS will be built using a combination of programming languages, database management systems, and web frameworks. The specific technologies used will depend on the requirements of the project, but the system will be designed to be scalable, flexible, and adaptable to the needs of educational institutions.

The SMS provides numerous benefits to educational institutions, including improved data accuracy, enhanced collaboration among stakeholders, streamlined administrative tasks, and better decision-making through data-driven insights. By centralizing student data and automating administrative tasks, the SMS reduces the workload of administrators and teachers, allowing them to focus on more important tasks. The system also enhances communication

among stakeholders, ensuring that students, teachers, and parents are informed and engaged throughout the educational process.

The target audience for the SMS includes students, teachers, administrators, and parents. Students will have access to their personal information, grades, and attendance records, while teachers will be able to manage student grades, attendance, and communication with parents. Administrators will oversee student data, generate reports, and manage system settings, while parents will have access to student information, grades, and communication with teachers.

The implementation plan for the SMS project includes several phases. The first phase involves requirements gathering, where the system requirements are identified and documented. The second phase involves design and development, where the system is designed and built. The third phase involves testing and quality assurance, where the system is tested and ensured to meet the required standards. The fourth phase involves deployment, where the system is deployed to the production environment. The final phase involves maintenance and support, where ongoing support and maintenance are provided to ensure the system continues to meet the needs of educational institutions.

In conclusion, the Student Management System project aims to develop a comprehensive solution for educational institutions to streamline student data management, improve communication, and enhance administrative efficiency. With its user-friendly interface, robust features, and scalability, the SMS provides numerous benefits to stakeholders, ultimately improving student outcomes and reducing administrative burden. By implementing the SMS, educational institutions can improve efficiency, productivity, and student outcomes, ultimately enhancing the overall educational experience.

In the future, the SMS can be enhanced further by integrating it with existing systems, such as learning management systems and student information systems. A mobile-friendly interface can also be developed to provide stakeholders with access to the system on-the-go. Advanced data analytics can also be incorporated to provide deeper insights into student performance and demographics. By continually evolving and improving the SMS, educational institutions can ensure that they remain at the forefront of student data management and administration.

The SMS has the potential to transform the way educational institutions manage student data and communicate with stakeholders. By providing a centralized platform for managing student information, tracking attendance, and monitoring academic performance, the SMS can help educational institutions to improve student outcomes, reduce administrative burden, and enhance the overall educational experience. As the educational landscape continues to evolve, the SMS will play an increasingly important role in helping educational institutions to meet the needs of students, teachers, administrators, and parents.

Overall, the Student Management System project is an exciting and innovative initiative that has the potential to make a significant impact on educational institutions. By providing a comprehensive solution for student data management, communication, and administrative efficiency, the SMS can help educational institutions to improve student outcomes, reduce administrative burden, and enhance the overall educational experience. As the project continues to evolve and improve, it is likely to have a lasting impact on the way educational institutions manage student data and communicate with stakeholders.

The development of the SMS requires careful planning, design, and implementation. The system must be designed to meet the specific needs of educational institutions, taking into account the requirements of students, teachers, administrators, and parents. The system must also be scalable, flexible, and adaptable to the changing needs of educational institutions. By working closely with stakeholders and continually evolving and improving the system, the SMS can ensure that it remains a valuable tool for educational institutions.

❖ REFERENCES

1. Wix Official Website: https://www.wix.com

○ Wix provides detailed documentation and tutorials on using its platform to develop web applications, including how to work with Velo (Wix Code) for custom development.

2. Velo by Wix (formerly Corvid): https://www.wix.com/velo

○ The official Velo documentation that guides users through creating custom functionality on Wix websites, including database management, dynamic pages, and integrating APIs.

3. Student Management System Overview:

○ Bhuvaneshwari, K. & Suraj, P. (2021). Design and Implementation of Student Management System. International Journal of Computer Science and Information Technologies, 12(2), 75-78.

○ This paper discusses the core features and benefits of SMS, as well as the challenges in designing and implementing such systems in educational institutions.

4. Wix Developers Blog: https://www.wix.com/blog/category/developers

○ A collection of articles and tutorials that can provide insights into advanced Wix development techniques, tips for integrating APIs, and the latest features for Wix-based projects.

5. Hassan, M., & Abdullah, M. (2019). A Review on Student Management Systems: Challenges and Opportunities. International Journal of Advanced Computer Science and Applications, 10(12), 132-137.

○ This article provides an overview of common challenges and opportunities in building effective Student Management Systems, especially in cloud-based environments.

6. Education Technology Trends:

○ Smith, J. & Adams, R. (2020). Emerging Trends in Educational Technology: Transforming the Classroom with Data and AI. EdTech Journal, 7(3), 20-25.

○ Discusses the role of AI, analytics, and machine learning in enhancing educationa

management systems and how these technologies can be integrated into platforms like SMS.

7. Mobile App Development for Education:

○ Johnson, A., & Lee, S. (2021). Designing Effective Mobile Apps for Educational Institutions. Journal of Mobile Technology in Education, 8(2), 55-62.

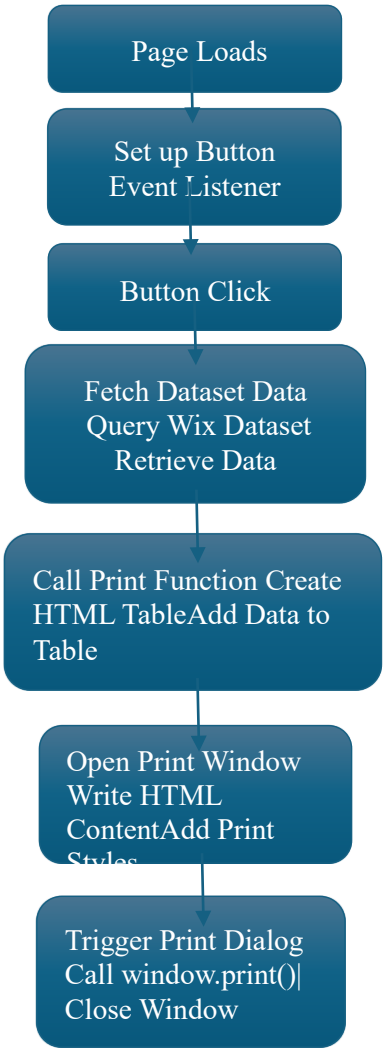
○ Reviews trends in educational mobile apps, with insights into how mobile solutions are reshaping learning management systems and student engagement.

❖ APPENDIX

Algorithm	Program Code
1.Initialize the Page: • When the page is ready, set up an event listener for a button click (printButton). 2.Button Click: • The user clicks the button with the ID printButton. • On click, the fetchDatasetData function is triggered. 3.Fetch Data: • In the fetchDatasetData function: ○ The function queries the Wix dataset (yourDataset) using wixData.query("yourDataset "). ○ The find() method retrieves all the data from the dataset asynchronously. 4.Display Data: • Once data is retrieved, the displayPrintableData function is called with the data (result.items). • In displayPrintableData: ○ The function generates an HTML string that contains a table with the dataset. ○ The table includes headers and data rows for each item. ○ A new browser window is opened and the HTML content is written to the window. ○ Additional CSS styles are applied to the print content to improve readability. 5.Print: • A script is added to the new window to automatically trigger the print	import wixData from 'wix-data'; $w.onReady(function () { // When the button is clicked, fetch dataset data and trigger the print function $w("#printButton").onClick(() => { fetchDatasetData(); }); }); async function fetchDatasetData() { // Replace 'yourDataset' with the actual name of your dataset const result = await wixData.query("yourDataset") .find(); // Call function to display the data in a printable format displayPrintableData(result.items); } function displayPrintableData(data) { // Create HTML content for the data let htmlContent = ` <h1>Dataset Report</h1> <table border="1" cellpadding="5" cellspacing="0"> <thead> <tr> <th>Name</th> <th>Email</th> <!-- Add more headers as needed --> </tr> </thead> <tbody>`; // Loop through the data and generate table rows data.forEach(item => { htmlContent += ` <tr> <td>${item.name}</td> <td>${item.email}</td> <!-- Add more fields here as needed --> </tr>`; }); htmlContent += </tbody></table>;

dialog	// Create a new window and write the HTML content to it const printWindow = window.open('', '_blank'); printWindow.document.write(htmlContent); // Style the print content (optional, you can customize it) printWindow.document.write(` <style> body { font-family: Arial, sans-serif; padding: 20px; } table { width: 100%; bordercollapse: collapse; margin-top: 20px; } th, td { padding: 10px; text-align: left; border: 1px solid #ddd; } </style>`); // Automatically trigger the print dialog printWindow.document.write('<script>window.print(); window.close();</script>'); }

❖ FLOWCHART


Page Loads
Set up Button Event Listener
Button Click
Fetch Dataset Data Query Wix Dataset Retrieve Data
Call Print Function Create HTML TableAdd Data to Table
Open Print Window Write HTML ContentAdd Print
Trigger Print Dialog Call window.print()| Close Window