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# EVENTIFY – ONE PLACE FOR ALL YOUR EVENTS

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**ABSTRACT**
This paper presents Eventify, a web-based platform designed to streamline and enhance the management of internal college activities such as quizzes, seminars and assignments. Traditional event management within colleges often suffers from inefficiencies, communication gaps and limited scalability. Eventify addresses these challenges by providing a centralized platform with features tailored to the specific needs of college event management. It leverages modern technologies to facilitate efficient communication, automate routine tasks and enhance user engagement, ultimately contributing to a more productive and engaging academic ecosystem.

**Keywords**:
web-based, Eventify, website, Supabase.

## I. Introduction

Traditional event management within colleges often encounters significant challenges. Manual scheduling processes can lead to scheduling conflicts, mismanagement of time slots and confusion among students and faculty. Communication gaps arise due to the reliance on outdated methods like paper-based notifications and limited email communication, often resulting in missed deadlines and overlooked updates. Furthermore, the lack of centralized platforms and personalized experiences for different user roles within the college community hinders effective event management.
Eventify aims to revolutionize college event management by addressing these challenges and providing a comprehensive solution for planning, organizing and executing events. It seeks to streamline event scheduling, enhance communication channels, automate routine tasks and provide a more personalized experience for all stakeholders within the college community.

## II. Objectives

Eventify aims to simplify and enhance the management of internal college activities. The primary goal is to establish a single platform for managing all academic events, including quizzes, seminars and assignments, providing a consolidated calendar view for students and faculty. The platform aims to enhance communication by implementing real-time notifications and reminders, fostering direct communication between event organizers and participants and ensuring transparency by providing detailed event information.
Furthermore, Eventify seeks to automate routine tasks such as assignment submissions, scheduling of quizzes and seminars. The platform emphasizes accessibility by designing an intuitive and responsive interface accessible across various devices and providing support for multilingual capabilities. To enhance user engagement, Eventify will introduce gamification elements, create personalized dashboards for students and faculty and actively encourage user feedback and suggestions to continuously improve platform usability.

## III. Metholodgy

The development of Eventify followed a structured and systematic approach. The process began with comprehensive research on college-specific needs for event management, including in-depth analysis of current practices and identification of pain points experienced by students, faculty and administrative staff. This research informed the subsequent stages of development.
The selection of appropriate technologies was crucial. The frontend was developed using React.js to create a dynamic and responsive user interface. Supabase was chosen as the Backend-as-a-Service, providing a managed PostgreSQL database and integrated authentication services. This streamlined backend development and facilitated real-time data updates. Libraries such as Socket.IO were integrated for real-time notifications and communication, while Full Calendar was used to create interactive and visually appealing event calendars.
A modular architecture was designed to ensure flexibility and ease of maintenance. Role-based access control (RBAC) was implemented to differentiate permissions for students, faculty and administrators. A centralized database schema was created to store event details, user information and attendance data. The development phase focused on core features such as event creation and management, assignment submissions and attendance tracking. The user interface was designed to be visually appealing, mobile-friendly and intuitive for all users.

## IV. Results

This section will delve into the tangible outcomes achieved through the development and implementation of Eventify. It will encompass both functional achievements and measurable performance metrics, while also examining user adoption and the platform's security posture.

### A. Functional Outcomes

Eventify streamlines event organization by centralizing event creation, dissemination and management within a single platform. Event organizers benefit from an intuitive interface and robust features, enabling efficient management of all event aspects, from initial planning to post-event analysis.
Furthermore, Eventify fosters improved communication and engagement by providing a dedicated platform for event-related interactions. Real-time updates, personalized notifications and interactive features enhance communication between organizers, participants and the wider college community, ensuring everyone stays informed and engaged.
Beyond facilitating event management, Eventify provides valuable data analytics capabilities. These insights into event attendance, user behavior and platform usage empower stakeholders to make informed decisions regarding future events, resource allocation and overall event strategy.

### B. Performance Metrics

Eventify's impact is measurable through key performance indicators. Event creation efficiency is quantifiable by tracking the time taken to create and publish events before and after Eventify's implementation. This metric demonstrates the platform's ability to reduce the time and effort required for event organization.
User engagement is assessed through metrics such as event attendance rates, user activity on the platform (e.g., event views, comments) and user satisfaction surveys. These metrics gauge Eventify's effectiveness in fostering active participation and interaction within the college community.
Platform usage is monitored by tracking the number of active users, events created and notifications sent. This data provides insights into Eventify's reach and impact, helping to assess its overall effectiveness in serving the college's event management needs.

### C. Usability and Adoption

User satisfaction is a key measure of Eventify's success. Through user surveys and feedback collection, we assess satisfaction with the platform's interface, functionality and overall user experience. This feedback informs ongoing improvements and ensures Eventify meets user needs.
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The adoption rate, measured by the number of registered and active users, reflects Eventify's acceptance within the college community. Analyzing factors influencing adoption, such as user training, marketing efforts and platform accessibility, helps optimize strategies for broader platform usage

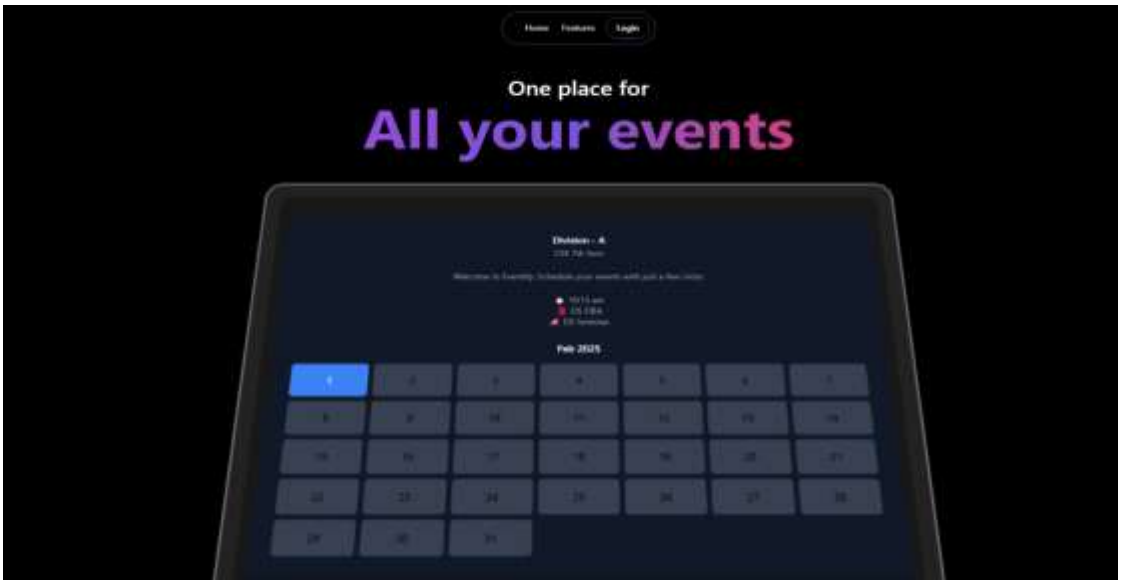

Fig 1. Landing Page of the website

Fig 2. Student Event Calendar

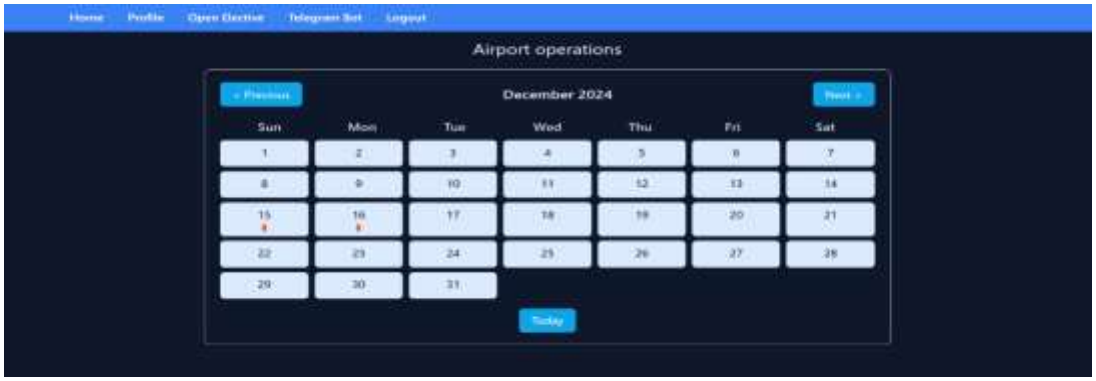

Fig 3. Student Open Elective Calendar

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Fig 4. View Events Pop-up


Fig 5. Add Events to the Calendar


Fig 6. Unauthorized Page

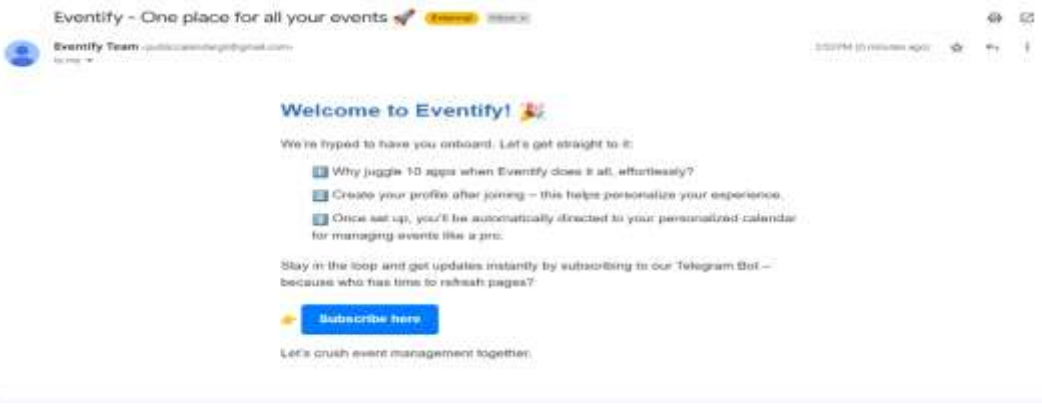


Fig 7. Welcome Mail sent after registration

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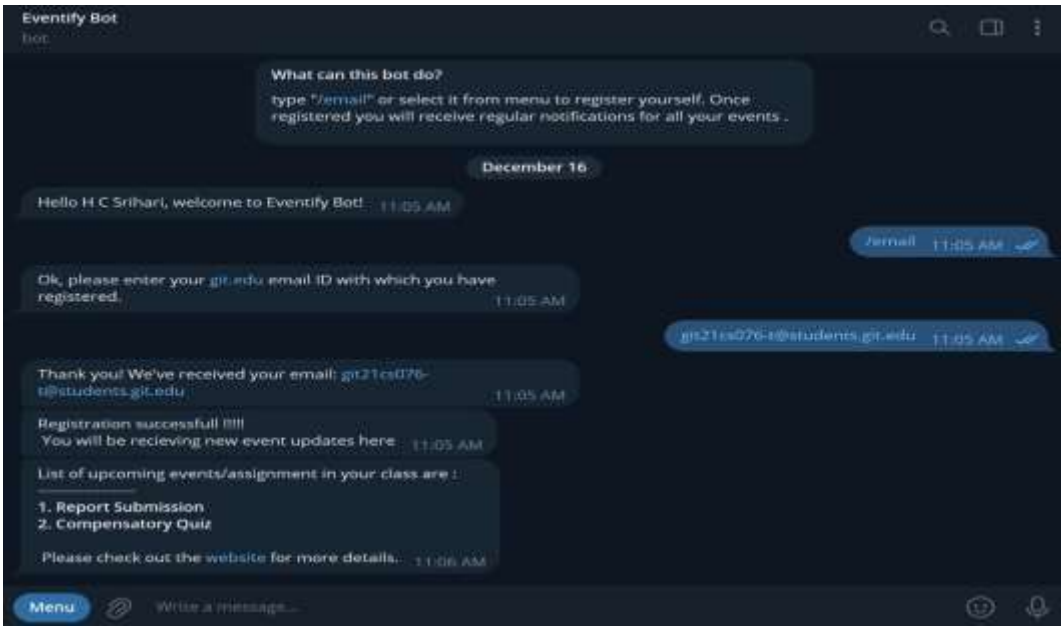

Fig 8. Telegram Bot sending Event alerts

## V. Testing and Evaluation

To ensure the smooth operation and reliability of the Eventify platform, several testing methodologies were employed during development. These methodologies focused on verifying the functionality, performance, and usability of various system components. Unit testing was a key approach, where each module was tested independently to ensure proper behavior. For instance, the event creation module, user authentication using Supabase, and Telegram bot integration were validated separately. Tools like Postman were used extensively to test API responses from Supabase.

Integration testing was conducted to evaluate the seamless communication between modules such as Supabase for the backend, PostgreSQL for data storage, and the Vercel hosting environment. Particular attention was given to event synchronization across dashboards, accurate triggering of notifications, and the proper functioning of access control mechanisms.

Role-based access control (RBAC) was evaluated to ensure proper permissions for different user roles. Admins were validated for full control over event creation and system configurations, while faculty members were restricted to modifying events specific to their departments. Students were granted view-only access to relevant calendars and resources, ensuring a clear demarcation of permissions.

Functional testing was aimed at verifying the correct operation of all features in Eventify according to the specified requirements. Event scheduling and management were thoroughly tested to confirm that quizzes, assignments, and seminars could be seamlessly added, updated, or deleted from the centralized calendar. Real-time updates were verified to ensure changes in events were immediately reflected across user dashboards.

Performance testing assessed the platform's responsiveness, speed, and stability under different conditions. Bulk event data was inserted into Supabase to simulate real-world usage, testing the backend's ability to handle large datasets. While initial localhost testing revealed delays in querying and updating event data, these issues were resolved after deploying the platform on Vercel.

Deployment on Vercel significantly enhanced performance, leading to faster loading times and smoother navigation between dashboards. Role-based views and calendar transitions were seamless, and notifications triggered through the Telegram bot and email integration experienced minimal latency. Stress testing involved bulk event creation and concurrent access by multiple simulated users, demonstrating the platform's ability to maintain consistent performance without crashes or slowdowns.

## VI. Challenges and Lessons Learned

The development of Eventify encountered several challenges. Integrating Supabase for real-time data management required careful implementation and optimization of database queries. The integration of the Telegram Bot API and email services presented challenges related to API rate limits and ensuring timely delivery of notifications.

## VII. Comparison With Existing Solutions

Eventify offers several key advantages over existing event management solutions. Unlike generic event management platforms, Eventify is specifically designed to address the unique needs of internal college events, such as managing assignments, quizzes and seminars. It prioritizes real-time communication and incorporates features such as Telegram bot notifications and built-in messaging, surpassing the communication capabilities of many existing tools.

Eventify also emphasizes user experience with an intuitive interface, personalized dashboards and features tailored to the specific needs of students, faculty and administrators. Furthermore, Eventify is built on a robust and scalable infrastructure, ensuring its ability to adapt to the growing needs of institutions.

## VIII. Conclusion And Future Work

Eventify has demonstrated its potential as a valuable tool for streamlining college event management. By addressing the challenges of traditional methods and providing a user-friendly and efficient platform, Eventify can significantly improve the academic experience for students and faculty.

Future enhancements may include the integration of common and department-wise calendars, advanced search and filtering capabilities, improved notifications with SMS integration, a user analytics dashboard, a dedicated mobile application and the extension of role-based access control to allow for more dynamic and granular permissions.

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