

HEP Event Management and Promotion Application

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Abstract

Universiti Tun Hussein Onn Malaysia (UTHM) faces challenges in sharing event information because details are scattered across platforms, making it hard for students to stay informed and reducing campus participation. This project aims to create a mobile app that centralizes event information and improves student engagement. The app is developed using a prototyping approach, which involves collecting user needs, designing, creating a prototype, gathering feedback, and refining the system. The app features include user registration, an event calendar, real-time updates, notifications, and tools for event organizers to manage events and track their performance. Early results show the app helps students easily find and join events, improving participation and creating a more connected campus. Future improvements could include adding personalized features and better analytics to make the app even more useful, supporting UTHM's goal of using digital tools to enhance campus life.

1. Introduction

Digital technology has become essential to daily life, transforming how people learn, work, and communicate [1]. Universities increasingly use digital tools to improve processes, enhance experiences, and create stronger connections among students and staff [2]. At UTHM, event information is often shared on separate platforms like WhatsApp, Telegram, and Instagram. This scattered approach makes it difficult for students to stay updated on campus events, leading to lower participation and a weaker sense of community [3]. Despite the availability of many digital tools, UTHM does not have a centralized platform to manage and promote events effectively. The lack of a unified system has caused challenges in reaching students, limiting their involvement in campus activities, and reducing the vibrancy of university life [4].

To address this problem, this project aims to develop the HEP Event Management and Promotion Mobile Application. This app will serve as a one-stop platform for event information, making it easier for students to discover and participate in events while providing event organizers with tools to manage and promote activities effectively. The project has three main objectives: to design the app using an object-oriented approach, to develop a mobile application that enhances student engagement, and to test the application using user acceptance testing.

This project's scope is carefully defined to ensure it meets the needs of students and HEP staff. The project will include key features such as user registration and login, profile management, event management, discovery, analytics and reports, social interaction, and notifications for tracking event performance. Students can log in and register using their matric numbers and access an interactive calendar that shows all events. The Discovery module will allow students to post real-time stories for each event, displayed on a shared event feed to enhance engagement and visibility. Additionally, the app includes an Analytics and Reports module to provide administrators with valuable insights into event attendance, user engagement, and demographic data. This feature helps organizers assess event performance and plan improvements. The Social Interaction module will enable

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discussions, event reviews, and ratings, fostering a stronger sense of community among users. Lastly, the Notifications module ensures timely updates, with administrators sending reminders about upcoming events directly to students. These modules collectively make the app comprehensive, user-friendly, and impactful for both students and event organizers.

The outcome of this project is a mobile application that consolidates all event information into one place, making it easy for students to stay informed and participate in activities. This will increase student engagement and create a more vibrant and connected campus environment. Event organizers will benefit from improved communication, better planning tools, and insights through analytics, which can help them plan more successful events in the future. By supporting UTHM's vision of using digital tools to enhance campus life, this app will play an important role in improving both student and staff experiences.

This paper is structured to provide a clear and detailed explanation of the project. Section 1 introduces the project, outlining its background, the problems it addresses, the objectives, scope, and expected outcomes. Section 2 reviews related systems to highlight gaps and opportunities for improvement. Section 3 explains the methodology used to design, develop, and test the app. Section 4 describes the system's design, including Use Case diagrams and database design details. Section 5 covers the implementation process, testing results, and recommendations for future work, ensuring a complete understanding of how the app aims to improve campus life at UTHM.

2. Related Work

This section examines the literature review on event management and promotion applications for the project which consists of the current event management system, defines the technology used, existing event management and promotion systems and a comparative analysis between existing systems and the proposed system.

2.1 Current Event Application Process

The event application process at Universiti Tun Hussein Onn Malaysia (UTHM) involves several manual steps, each requiring significant time and effort from students and administrators. This process is both time-consuming and prone to inefficiencies, making it challenging for event organizers to plan and execute events effectively.

Initially, students are required to prepare a formal letter or paperwork following UTHM's official format. This document must include the proposed events such as objectives, schedules, and required resources. Once completed, the paperwork is submitted physically to the coordinator at Pejabat Hal Ehwal Pelajar UTHM (HEP). If any part of the paperwork is incomplete or incorrect, it is returned to the student for revision and resubmission. This cycle of corrections and approvals can occur multiple times, adding unnecessary delays to the process.

After the paperwork is deemed accurate, it moves to the next stage: budget estimation review. At this point, the involvement of the university's Pejabat Bendahari (Finance Office) becomes crucial. The Pejabat Bendahari reviews the proposed budget to ensure the event aligns with the university's financial policies and available resources. This step requires additional documentation and verification, further extending the timeline for approval.

Once the budget is approved, the paperwork is escalated to a higher level of administrative review. It is brought to a meeting attended by senior university officials, including the Deputy Vice-Chancellor of Student Affairs (HEP). During this meeting, the paperwork is evaluated to ensure it aligns with the university's mission, policies, and overall event standards. The Deputy Vice-Chancellor provides the final validation, approving the event to proceed. These inefficiencies not only frustrate the students but also strain HEP's administrative resources, highlighting the need for an automated and centralized event application system.

2.2 Current Event Promotion and Participant

The usual flow of event promotion at UTHM begins once an event is approved by the administration. Organizers typically start by designing promotional materials, such as banners, posters, and digital graphics, which are used to inform students about the event. These materials are then distributed both physically and digitally. Physical banners and posters are displayed in strategic locations around campus, such as residential colleges, cafeterias, and faculty buildings, to capture the attention of students passing through these areas.

For digital promotion, organizers use social media platforms like WhatsApp, Telegram, Instagram, and Facebook to share event details [5]. This often involves creating group chats, posting event announcements, and sharing posters in various student and faculty groups. Some organizers may also collaborate with faculty offices or student representatives to spread information more effectively within specific faculties or departments.

In addition to online and physical promotional efforts, organizers may set up information booths at high-traffic locations, such as residential colleges or the main campus square, to answer questions and provide further details about the event. These booths are also often used as registration points for participants. For events requiring pre-registration, organizers typically create a Google Form and share the link through multiple channels to ensure accessibility for all students.

As the event date approaches, organizers may re-share promotional materials or provide reminders through social media and other platforms. These reminders are crucial to maintaining student interest and ensuring they remember to attend the event. In some cases, faculty or club representatives might also send out targeted invitations to specific groups of students who may have a particular interest in the event.

Overall, the promotion process relies on a combination of physical materials, social media outreach, and direct interactions with students to maximize visibility and encourage participation. While this method effectively combines traditional and modern approaches, it requires significant coordination and effort from the organizers to ensure that event details are communicated clearly and widely across the university.

2.3 Mobile Application

Mobile application technology is widely used in today's digital world, offering a convenient way for users to interact with services on their smartphones or tablets. These applications are designed to run on mobile devices, providing users with quick access to features such as event management, social interaction, notifications, and more. Mobile apps are built using various technologies such as native programming languages (e.g., Java or Swift) or cross-platform frameworks (e.g., Flutter, React Native), allowing developers to create apps that work across multiple operating systems like Android and iOS [6]. By integrating APIs, cloud storage, and real-time data syncing, mobile applications can offer a seamless and dynamic user experience.

For developing the HEP Event Management and Promotion Application, mobile technology is crucial in ensuring the app is accessible and effective for university students and administrators. By using mobile app technologies, HEP can provide a responsive, easy-to-use platform where users can access event information, receive notifications, and engage with the app in real-time. Mobile apps offer the flexibility needed for HEP to deliver essential features like event creation, discovery, and social interaction, all optimized for smartphones and tablets [7]. This ensures students have a convenient way to stay connected to campus events and manage their participation.

2.4 Study of Existing Related Systems

Examining current apps like Eventbrite, Meetup, and AllEvents provides helpful information to prevent oversights and improve the development process of the project.

2.4.1 Study of Existing Related Systems

Table 1 provides a clear comparison between HEP Event Management and Promotion Application. The modules and features of these applications provide a clear guide for the development of this project. Eventbrite [8], Meetup [9], and AllEvents [10] are popular event management platforms that offer similar features, such as user registration and login via email or social media accounts, profile management, event creation and promotion, and event discovery based on interests and location. They provide basic analytics, social interaction through comments and sharing, and notifications for event updates. While Eventbrite and AllEvents focus on ticket sales and event performance analytics, Meetup emphasizes group engagement and RSVP functionalities. In comparison, the HEP Event Management and Promotion Application introduces a more specialized approach, designed for university students and administrators, with features like account creation via matric numbers, interactive event feeds, real-time discovery and detailed statistical reports on user demographics and engagement. HEP also integrates a unique notification system for event reminders to keep students informed about upcoming events.

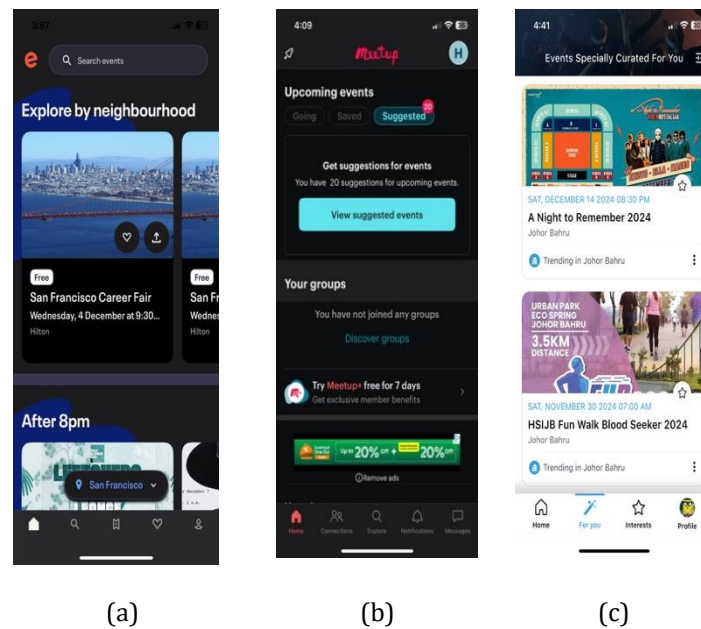


Fig. 1 (a) Eventbrite; (b) Meetup; (c) AllEvents

Table 1 Comparison between existing systems and the developed project

Features/Module	Eventbrite	Meetup	Allevants	HEP Event Management and Promotion Application
User Registration and Login	✓	✓	✓	✓
Profile Management	✓	✓	✓	✓
Event Management	✓	✓	✓	✓
discovery	X	X	X	✓
Analytic and Report	X	X	X	✓
Social Interaction	X	✓	X	✓
Notification	✓	X	✓	✓

3. Methodology

The methodology chosen for this project is the prototyping model, which emphasizes iterative development and frequent user feedback. The prototyping model is ideal for projects with evolving or unclear requirements, allowing functional prototypes to be built, tested, and refined based on user input [11]. This model was selected due to its object-oriented approach, which ensures that the final application meets the needs of students and staff effectively. There are six phases which are requirement analysis, design, prototyping, user evaluation, review and refine, development and finally testing. Each phase is described in Table 2 below.

Table 2 Application Development Workflow

Phase	Task	Output
Requirement Analysis	Preparing a project proposal	Project Proposal
	Determine the project schedule and task	Gantt chart
	Interview with HEP staff	Problem statement
	Gather Requirement	Objective and scope

Design	Analyse the system	Use case, activity, sequence diagram
	Design the system	Class diagram, data dictionary
Prototyping	Build a basic working prototype	The functional prototype and the system meet user requirements
	Test prototype	
User Evaluation	Conduct usability testing	Gather feedback
Review and refine	Modify and refine the prototype	improvised prototype
	Iterate until the prototype meets user requirements	Final prototype
Development	Develop a full-scale application	Functional system
Testing	Perform user acceptance testing	Bug fixed and resolved the issue

3.1 Requirement Phase

The requirement analysis started with an interview with Encik Akhmal Nur Azim bin Ahmad Nasri, a HEP staff to understand their main problems and needs regarding event management and promotion. These talks helped identify key issues like scattered event information and low participation. This finding was used to decide the main features needed in the application. After that, the requirements were listed and analyzed to focus on the most important features.

3.2 Design Phase

The design phase focused on creating a visual plan for how the application would look and work. This included making wireframes such as the login page, profile management, and event management. Then, Unified Modeling Language (UML) diagrams are created. This phase sets the foundation for building the application by showing the structure and functionality before the actual development starts.

3.3 Prototyping Phase

In the prototype phase, a basic version of the application was developed to show its core features and functionality. This initial prototype included simple features such as user login, profile management, and event management. By using this early version, any issues or areas that needed improvement were identified. It allows changes and adjustments to be made before moving on to the next phase of development, ensuring that the final product will better meet user expectations.

3.4 User Evaluation Phase

In the user evaluation phase, the prototype was tested by students and HEP staff to gather feedback on its functionality and design. Their feedback helped identify any problems, such as confusing navigation or missing features. This phase was crucial for understanding what worked well and what needed to be improved before moving to the final development stage. If users are satisfied with the prototype, then it will undergo the development phase. Otherwise, it will go to the review and refine phase.

3.5 User Evaluation Phase

In the review and refine phase, feedback from the user evaluation was carefully analyzed to identify areas that needed improvement. Issues such as design inconsistencies, unclear navigation, or missing features were addressed based on user suggestions. The prototype was then updated to include these changes, and additional testing was done to ensure the improvements worked as expected. This process was repeated until the application met the users' expectations and functioned smoothly.

3.6 Development Phase

In the development phase, the finalized design and refined prototype were used to build the complete application. The application's functionality was coded using Android Studio, and Firebase was set up to manage user data and event details. By the end of this phase, the application was fully developed and ready for comprehensive testing.

3.7 Testing Phase

The developed application was thoroughly tested in the testing phase to ensure it worked correctly and met user expectations. Students and HEP staff tested the application in real scenarios, such as registering for events and viewing the events. Any bugs or issues found during testing were fixed to improve the app's performance and reliability. This phase ensured the application was stable and ready for deployment.

4. Analysis and Design

This Section defines the analysis and design for the HEP Event Management and Promotion Application which consists of system requirement analysis, system analysis, system design, database design and interface design.

4.1 System Requirement Analysis

System requirement analysis defines the project's needs and requirements that need to be met. It includes functional and non-functional requirements for a thorough analysis. The functional and non-functional requirements are stated in Table 3.

Table 3 *Functional and Non-Functional Requirements*

	Phase	Task
Functional Requirement	User Registration and Login	• Allow students to register accounts using a matric number. • Provide secure login functionality for students • Validate student credentials during login. • Enable password recovery or reset.
	Profile Management	• Allow students to edit and update personal profiles. • Enable students to save events for future reference.
	Event Management	• Provide access to the discovery archive for past events. • Allow admins to create new events with details (date, time, location). • Enable admins to edit or delete existing events. • Allow students to view events using an interactive calendar.
	Discovery	• Display upcoming events on the event feed. • Enable students to post real-time "stories" or updates about events. • Display discovery on the event feed in chronological order.
	Analytics and Reports	• Generate statistical reports on event attendance. • Allow admins to download or view these reports.
	Social Interaction	• Allow users to create discussion threads for events. • Enable users to comment on events and reply to comments. • Provide a feature to rate/review events.
	Notification	• Allow admins to set reminders for events. • Notify students about upcoming events via app notifications. • Provide customizable notification timing (e.g., days before the event).
	Performance	• The app should respond to user actions within 2 seconds. • Support up to 500 users at the same time without slowing down.
	Scalability	• The app should handle more users during busy times
Non-Functional Requirement	Security	• Allow adding new features in the future. • Use secure login methods with password protection. • Limit access based on user roles (admin or student).
	Portability	• The app should work on both Android and iOS. • It should also adjust to different screen sizes.

Usability	• The app should be easy to use and navigate.
Availability	• The app should work 99.9% of the time, especially during events.
Compliance	• Send reliable notifications to users about events.
	• Follow university rules and data protection laws.

4.2 System Analysis

This section analyzes the system through an object-oriented approach using Unified Modelling Language (UML) diagrams including Use Case Diagram, Activity Diagram, Sequence Diagram and class diagram. The use case diagram has two actors, students and admin, and seven use cases representing all the modules inside the system. Figure 2 shows a Use Case Diagram for the HEP Event Management and Promotion Application.

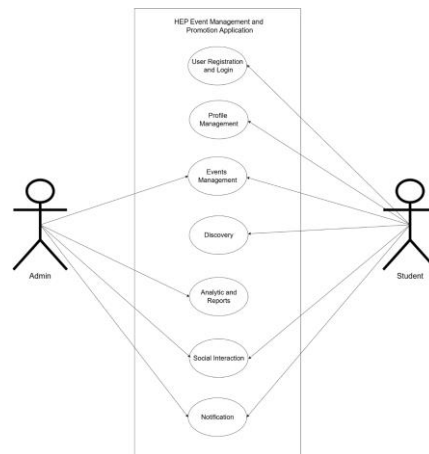


Fig. 2 Use Case Diagram

4.3 Database Design

Database design is defined using a class diagram representing the classes, attributes, functions and relationships. Not only that, this section also provides a data dictionary for every class. Figure 3 shows the class diagram of the HEP Event Management and Promotion Application.

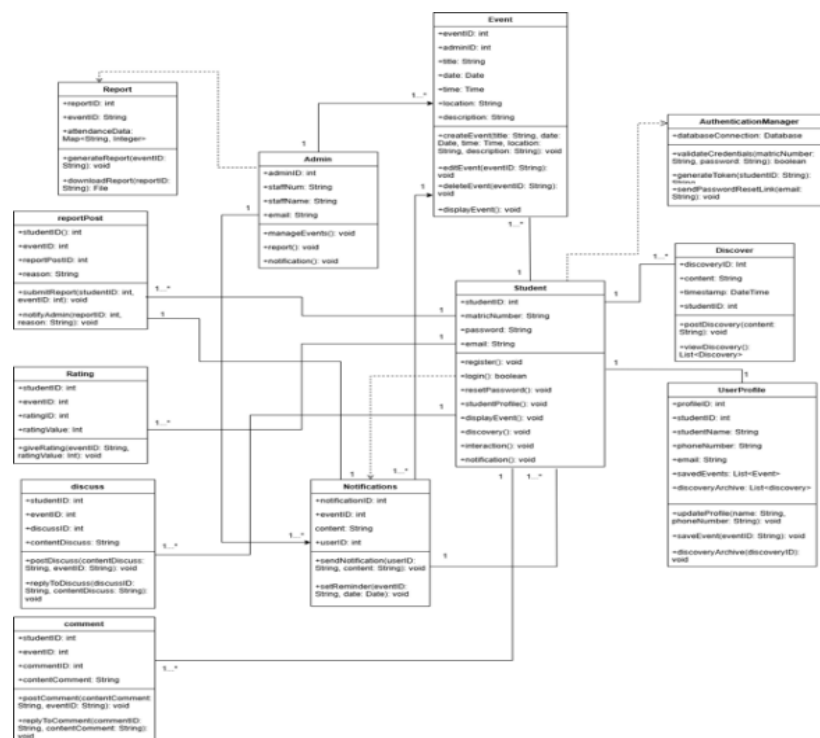


Fig. 3 Class Diagram

4.4 Interface Design

This section will define the project's design interface. The interface design is to facilitate interaction between the application and users. Interface design is in Appendix A: Interface Design.

5. Result and Discussion

This Section defines the result and discussion for the HEP Event Management and Promotion Application which consists of implementation and testing.

5.1 Implementation

This Section defines the development of the HEP Event Management and Promotion Application using Visual Studio Code which mainly consists of Flutter as the main development framework. Firebase was integrated to handle authentication, cloud storage and firestore database operations.

5.1.1 User Registration and Login Module

The user registration and Login module was implemented using Firebase Authentication to ensure secure and reliable access control. Figure 4 shows the interface and code segment of User Registration and Login.

```
login_page.dart > LoginRegister > buildLoginForm
PageState extends StatelessWidget
buildLoginForm() {
  // BoxDecoration
  child: ElevatedButton(
    onPressed: () async {
      String email = emailController.text.trim();
      String password = passwordController.text.trim();

      try {
        // Authenticate user with Firebase
        await FirebaseAuth.instance.signInWithEmailAndPassword(
          email: email,
          password: password,
        );

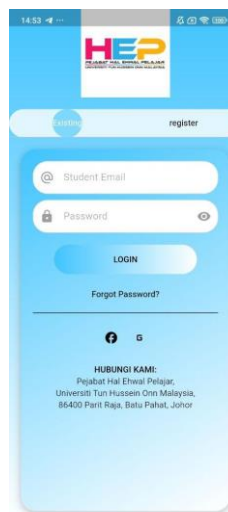
        // Check if the logged in user is an admin
        if (email == 'admin@123.com' && password == '123456') {
          // Navigate to AdminPage
          Navigator.push(
            context,
            MaterialPageRoute(
              builder: (context) => const AdminPage(), // MaterialPageRoute
            ),
          );
        } else {
          // Navigate to MainPage for regular users
          Navigator.push(
            context,
            MaterialPageRoute(
              builder: (context) => const MainPage(), // MaterialPageRoute
            ),
          );
        }
      } catch (e) {
        // Display error message if login fails
        ScaffoldMessenger.of(context).showSnackBar(
          SnackBar(content: Text('Login failed: ${e.toString()}')),
        );
      }
    },
  ),
),
),
```

(a)

```
// Add user data to Firestore
await FirebaseFirestore.instance
.collection('student')
.doc(userId)
.set({
  'uid': userId,
  'name': name,
  'matric': matricNumber,
  'email': studentEmail,
  'telephone': phone,
  'createdAt': FieldValue.serverTimestamp(),
});

// Show success dialog
showDialog(
  context: context,
  builder: (BuildContext context) {
    return AlertDialog(
      title: const Text('Registration Successful'),
      content: const Text(
        'You have been registered successfully.', // Text
      ),
      actions: [
        TextButton(
          onPressed: () {
            Navigator.of(context).pop(); // Close the dialog
            Navigator.of(context)
              .pushReplacementNamed('/login_page');
          },
          child: const Text('OK'),
        ), // TextButton
      ], // AlertDialog
    );
  },
),
```

(b)



(c)

Fig. 4 (a) code segment login; (b) code segment user registration; (c) module interface

5.1.2 Profile Management Module

The Profile Management module allows users to edit their profile, view saved events, discovery archive, paperwork progress and logout. Figure 5 shows the interface and code segment for the Profile Management Module.

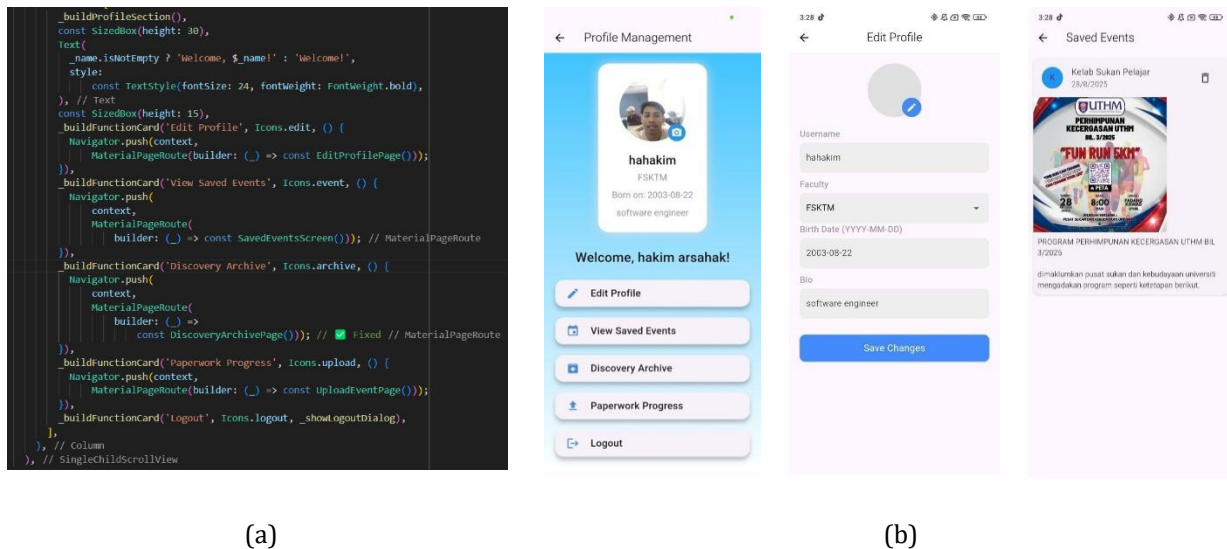


Fig. 5 (a) Code Segment Profile Management; (b) Module Interface

5.1.3 Event Management Module

The Event Management Module allows students to submit event proposals and the admin can review each submission, approved events or rejected events. An approved event will display on the main page and be visible to all users. Figure 6 shows the module interface and code segment for the Event Management Module.

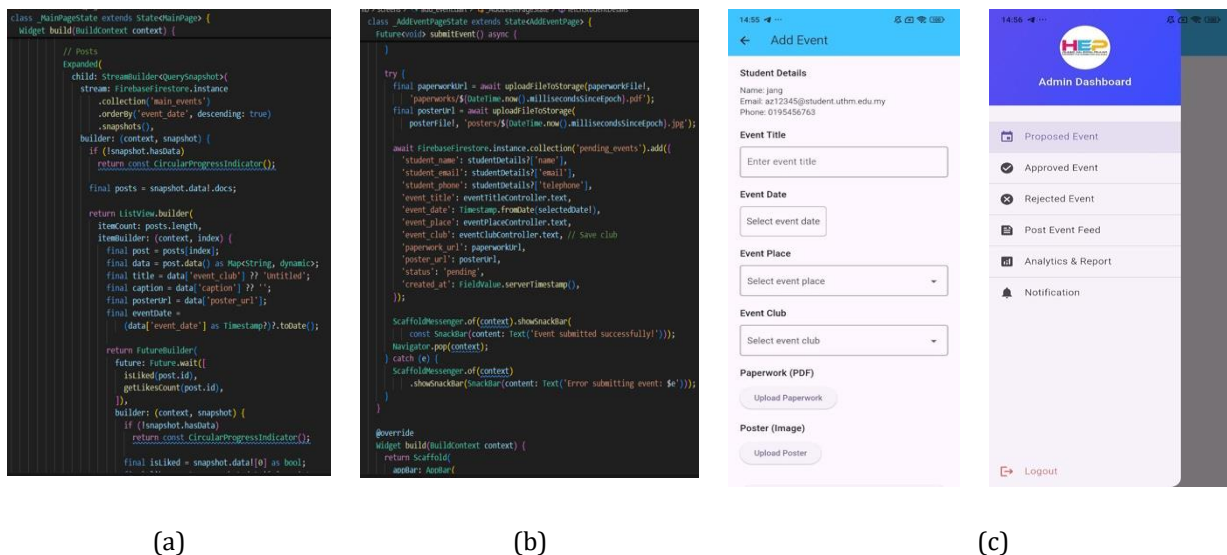


Fig. 6 (a) Code Segment Main Page; (b) Code Segment for Add Event; (c) Module Interface

5.1.4 Discovery Module

The Discovery Module allows students to capture and share photos related to campus events. Students can upload images directly from their device which are then stored in Firebase Storage and are uploaded to the main page and discovery archive. Figure 7 shows the module interface and code segment for the Discovery Module.

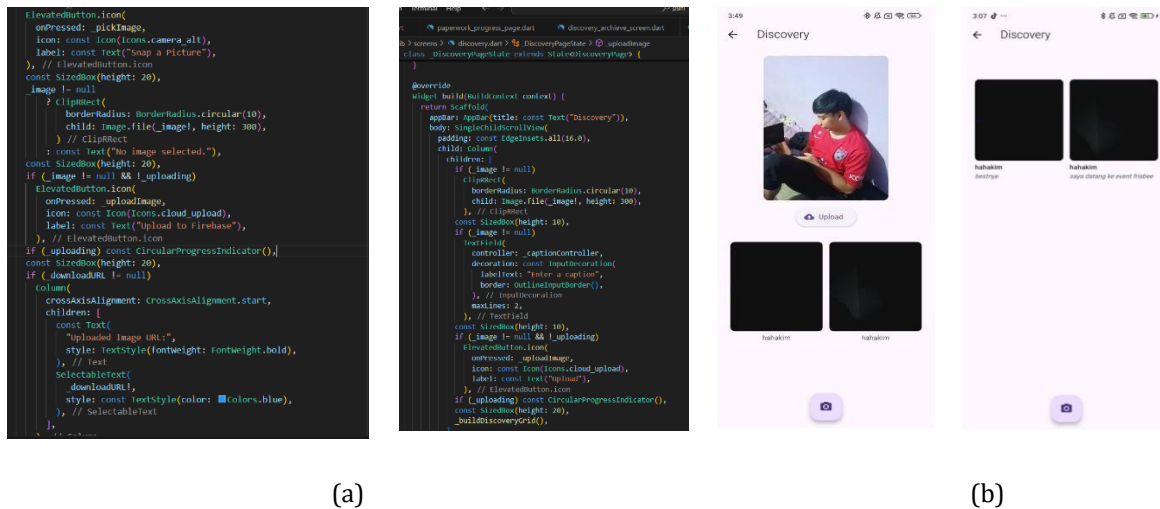


Fig. 7 (a) Code Segment Discovery; (b) Module Interface

5.1.5 Analytic and Report Module

The Analytic and report Module provides admin with comprehensive of student's activities and system performance. This module aggregates data from various Firestore Database and displayed it in a structured format on the admin dashboard. Figure 8 show module interface and code segment for Analytic and Report Module.

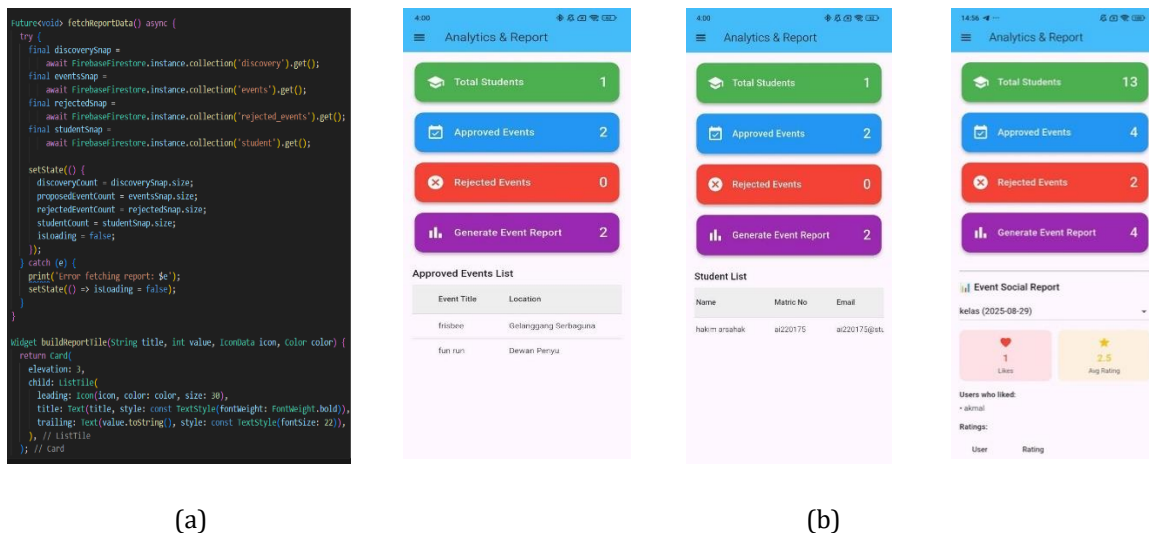


Fig. 8 (a) Code Segment Analytic and Report; (b) Module Interface

5.1.6 Social Interaction Module

The Social Interaction Module allowing user to interact with approved event through likes, comments and rating. Each interaction is stored in a Firestore collection which organizes data by EventID. Figure 9 show module interface and code segment for Social Interaction Module.

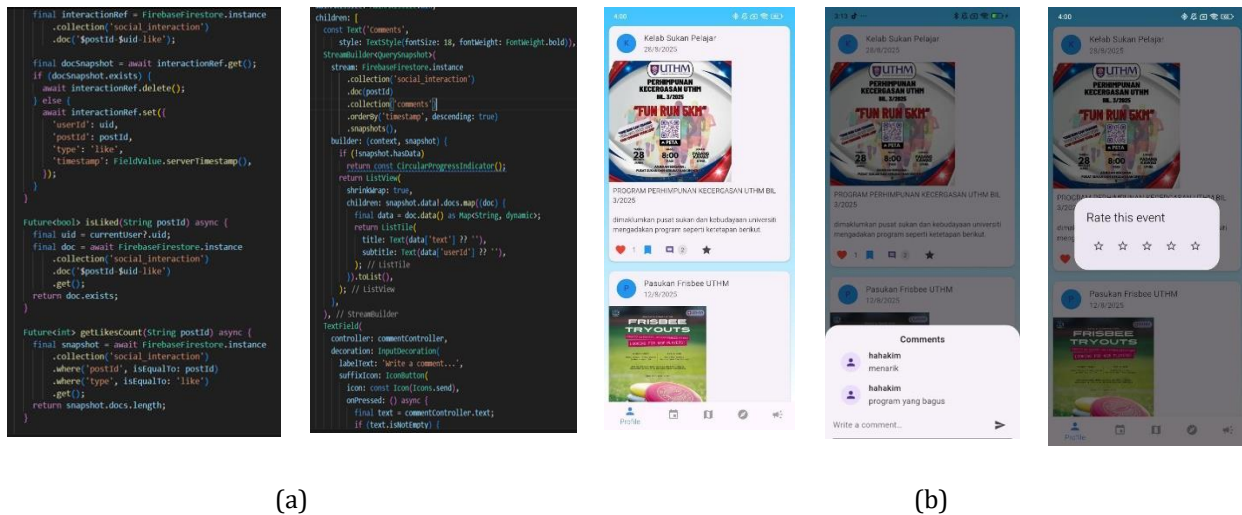


Fig. 9 (a) Code Segment Social Interaction; (b) Module Interface

5.1.7 Notification Module

The Notification Module primarily used to notify students about important updates such as event approval status, rejection feedback and upcoming events. The system used email services integrated through Firebase to send email notification to the students. Figure 10 show module interface and code segment for Notification Module.

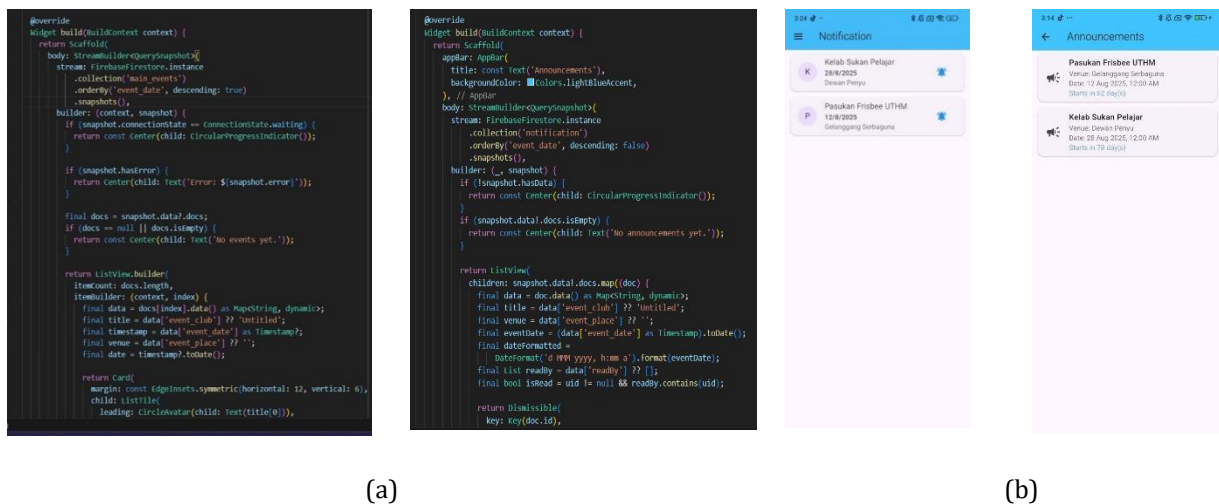


Fig. 10 (a) Code Segment Notification; (b) Module Interface

5.2 Testing

User Acceptance Testing is the final phase of testing where the actual users (stakeholders and target users) evaluate the system to ensure it meets their needs, user requirements, and expectations. It helps identify usability issues or missing functionalities before the system is officially deployed. Table 3 shows the UAT Test Form for the HEP Officer to test admin functionalities. This form was completed by Encik Akhmal Nur Azim, serving as the HEP Officer.

Table 3 UAT Test Form for HEP Officer

No.	Features/Module	Expected Result	Successful	Fail	Comment
1.	Admin login with valid credentials	Admin dashboard loads successfully	√		It works fine, no problem logging in

2.	View the Pending Events list	All submitted events appear with the correct metadata	√	Events show up as they should.
3.	Open event details & preview poster + paperwork	Documents display correctly and are downloadable	√	Posters and files open and download easily.
4.	Approve the event and upload the signed document	Status changes to Approved, signed doc stored	√	Status updates and file uploads work well.
5.	Reject event with reason	Status changes to Rejected and reason saved	√	Rejection and reason save properly.
6.	Confirm approved event appears on the Main Page feed	Event card visible with the correct info & image	√	It shows up on the feed like it should.
7.	Access Analytics Dashboard	Metrics load (event counts, discovery photos, users)	√	It opens with no issues.
8.	Review social interaction metrics for an event	Likes, comments, and ratings display accurate totals	√	Social interaction loads fine and is easy to check.
9.	Logout from admin account	App returns to login screen; session terminated	√	Logout works without any problem.

The UAT results indicate that all core features of the application functioned as intended. The admin can log in successfully, view pending events with accurate metadata, and access event details including downloadable posters and supporting documents. Approval and rejection processes worked smoothly, with appropriate status updates and reasons recorded correctly. Additionally, email notifications were sent promptly following approval or rejection actions. Other key functions, such as confirming approved events on the main page feed, accessing the analytics dashboard, reviewing event interaction metrics, and logging out from the admin account, were also tested successfully without any issues. These results demonstrate that the system is stable, functional, and ready for operational use from an administrative perspective. The UAT Form will be shown in Appendix B: UAT Form.

Next, Tables 4, 5, and 6 present the results of the System User Interface Evaluation, System Function Evaluation, and System Experience Evaluation respectively. These evaluations were conducted using a Google Form and involved 20 UTHM students as user testers. Participants rated each statement using a 5-point Likert scale:

1 – Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, and 5 – Strongly Agree.

Table 4 System User Interface Evaluation

No	Statements	1	2	3	4	5
1.	The layout and design of the app are visually appealing.	0	0	10	0	10
2.	The fonts, colors, and icons are easy to read and understand.	0	0	10	7	3
3.	The navigation is intuitive and consistent throughout the app.	0	0	17	0	3
4.	It is easy to find information and features within the app.	0	1	10	0	10
5.	The app interface is responsive and adjusts well to my screen.	3	3	1	8	11
6.	Overall, I am satisfied with the design of the app.	0	0	8	0	12

Based on Table 4, the application user interface received mostly positive feedback. Users found the layout visually appealing and appreciated the clean design, colors, and fonts. However, there is still some room for improvement in navigation and readability, as a few respondents felt the icons and navigation flow could be more intuitive.

Overall, the design is attractive but could benefit from minor enhancements to improve clarity and ease of use. The result will be shown in Appendix C: System User Interface, Function and Experience Evaluation.

Table 5 *System Function Evaluation*

No	Statements	1	2	3	4	5
1.	I was able to register and log in without any problems.	0	0	0	10	10
2.	I was able to upload event proposals and posters smoothly.	0	0	0	10	10
3.	Approved events are clearly displayed in the feed.	0	0	0	10	10
4.	I received notifications about event approvals or updates.	0	0	7	0	13
5.	The app features function as expected with minimal bugs.	0	0	7	2	13
6.	I believe the app performs well and is reliable.	0	0	0	1	19

Based on Table 5, in terms of functionality, the app performs very well. Users reported that key features such as login, event proposal submission, and notifications worked smoothly with minimal bugs. The app also responded well across different screen sizes, which indicates good responsiveness. These high scores suggest the system is stable, reliable, and functions as expected. The result will be shown in Appendix C: System User Interface, Function and Experience Evaluation.

Table 6 *System Experience Evaluation*

No	Statements	1	2	3	4	5
1.	I find the app useful for promoting and managing events.	0	0	7	10	3
2.	I feel more connected to campus activities using this app.	0	0	17	0	3
3.	I am likely to recommend this app to other students.	0	0	17	0	3
4.	I had a positive experience using the app overall.	0	0	0	10	10
5.	I would use this app regularly if officially launched.	0	0	20	0	0
6.	This app has the potential to improve campus engagement.	0	0	10	10	0

Based on Table 6, the overall user experience was generally positive, with users feeling satisfied and confident in using the app. Most found it useful for promoting and managing events, and appreciated receiving timely updates. However, the scores were slightly lower when it came to long-term engagement—some users were unsure if they would use the app regularly or recommend it to others. This suggests that while the app works well, increasing user engagement and adding more value could help improve overall experience. The result will be shown in Appendix C: System User Interface, Function and Experience Evaluation.

6. Conclusion

The development of the HEP Event Management & Promotion App successfully achieved its objectives by applying object-oriented approach, developing a mobile application that enhances student engagement, and validating its functionality through user acceptance testing. However, current limitations include manual event verification, lack of real-time communication, and a UI that could be more accessible across different type of devices. Future improvements may involve AI-assisted approvals, in-app messaging, multilingual support and video upload support. Overall, the app provides a solid foundation for digital campus event management with strong potential for future enhancements.

Acknowledgement

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

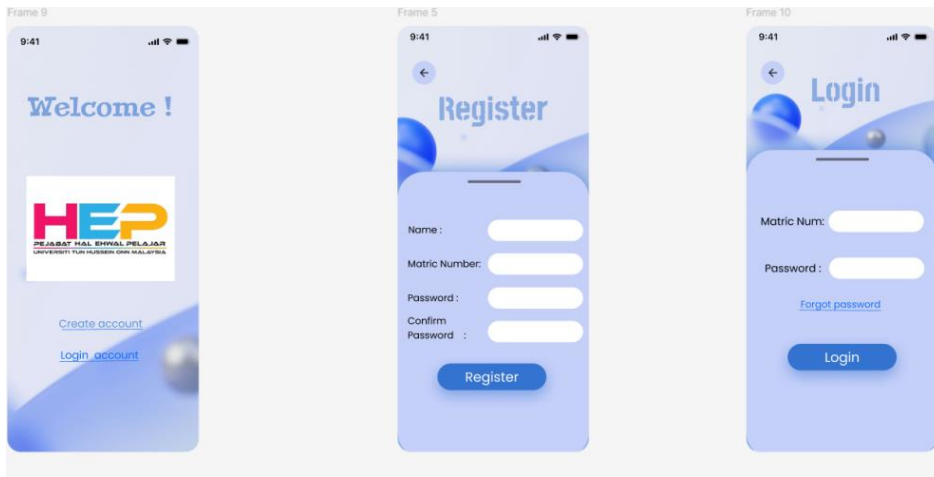
The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

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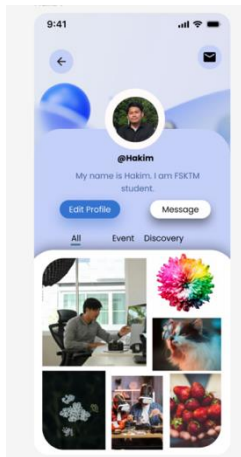
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Appendix A: Interface Design

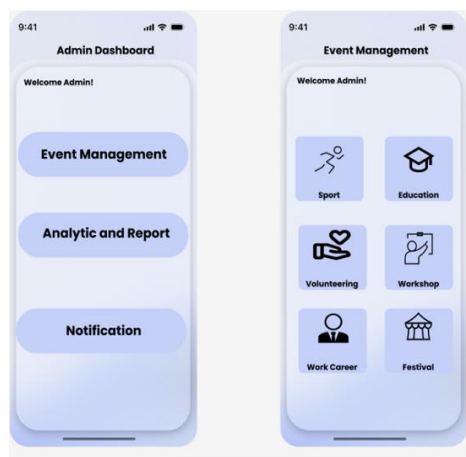
User Registration and Login



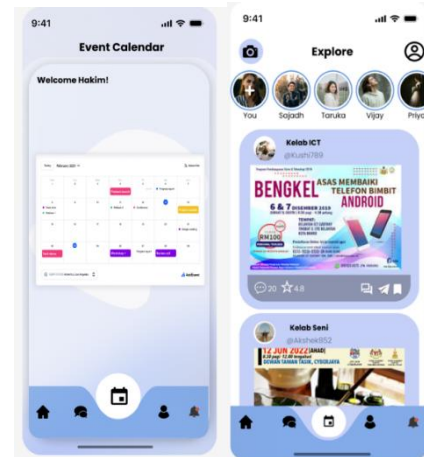
Profile management



Event Management (admin)



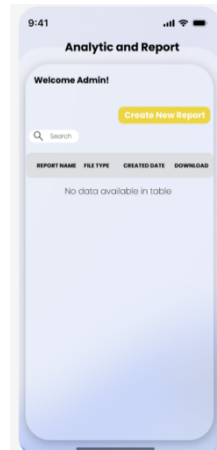
Event Management (student)



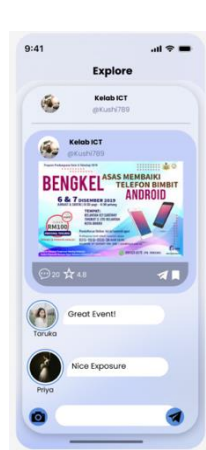
Discovery



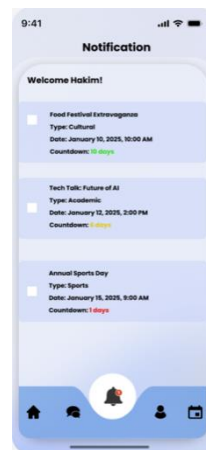
analysis and report



Social Interaction



notification



Appendix B: UAT Form

User Acceptance Test (UAT) Form for HEP Officer

Officer Name: AKHMAL NUR ADIM BIN AHMAD NABEL

Position: PERMBAWU BELIA DAN SUKSES

Department: BUKAT SUKSES DAN KEBUDAYAAN UNIVERSITI

Date: 10/6/2025

This form is used to verify and evaluate the functionality of the HEP Event Management and Promotion Application. Please mark the status of each test item and provide any relevant comments.

No.	Features/Module	Expected Result	Successful	Fail	Comment
1	Admin login with valid credentials	Admin dashboard loads successfully	✓		
2	View Pending Events list	All submitted events appear with correct metadata	✓		
3	Open event details & preview poster + paperwork	Documents display correctly and are downloadable	✓		
4	Approve event and upload signed document	Status changes to Approved, signed doc stored	✓		
5	Reject event with reason	Status changes to Rejected and reason saved	✓		
6	Confirm approved event appears on Main Page feed	Event card visible with correct info & image	✓		
7	Access Analytics Dashboard	Metrics load (event counts, discovery photos, users)	✓		
8	Review social interaction metrics for an event	Likes, comments, ratings display accurate totals	✓		
9	Logout from admin account	App returns to login screen; session terminated	✓		

Other Comments:

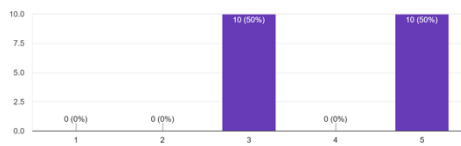
Signature: _____

Date: 10/6/2025

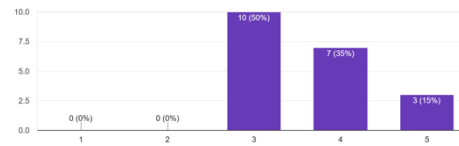
Appendix C: System User Interface, Function and Experience Evaluation

System user Interface Evaluation

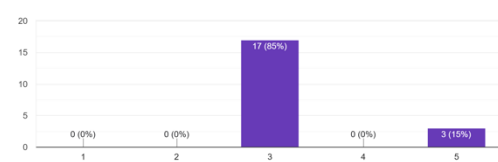
The layout and design of the app are visually appealing.
20 responses



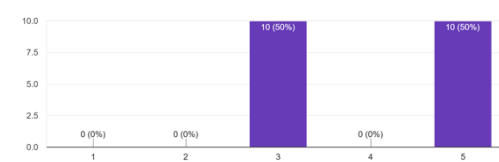
The fonts, colors, and icons are easy to read and understand.
20 responses



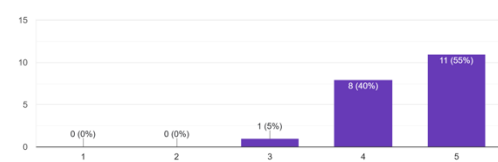
The navigation is intuitive and consistent throughout the app.
20 responses



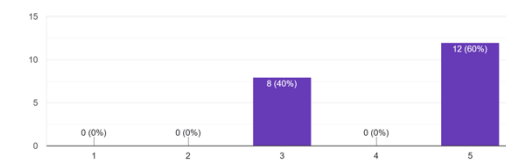
It is easy to find information and features within the app.
20 responses



The app interface is responsive and adjusts well to my screen.
20 responses

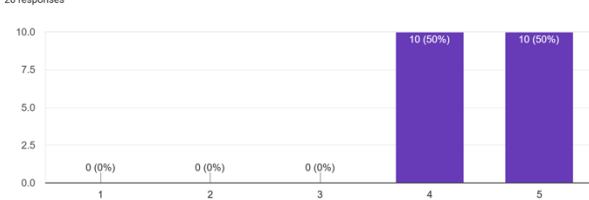


Overall, I am satisfied with the design of the app.
20 responses

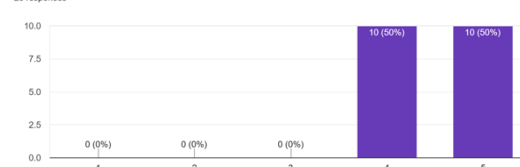


System user Design Evaluation

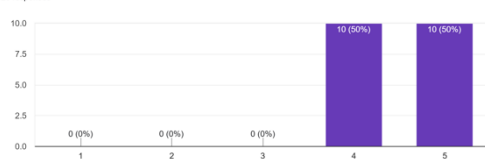
I was able to register and log in without any problems.
20 responses



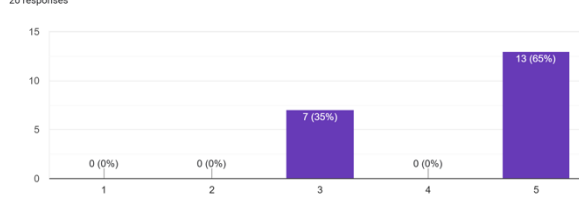
I was able to upload event proposals and posters smoothly.
20 responses



Approved events are clearly displayed in the feed.
20 responses

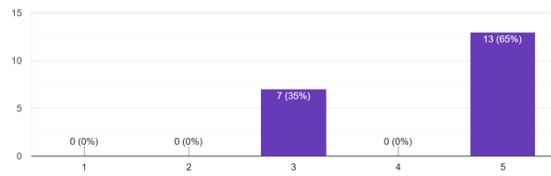


I received notifications about event approvals or updates.
20 responses



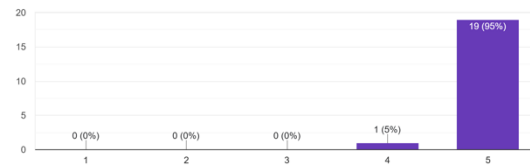
The app features function as expected with minimal bugs.

20 responses



I believe the app performs well and is reliable.

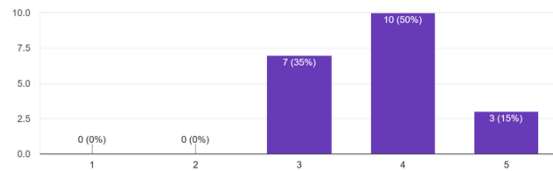
20 responses



System Experience Evaluation

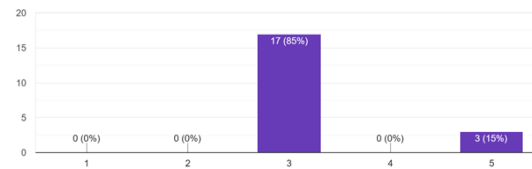
I find the app useful for promoting and managing events.

20 responses



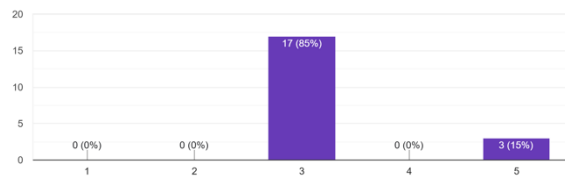
I feel more connected to campus activities using this app

20 responses



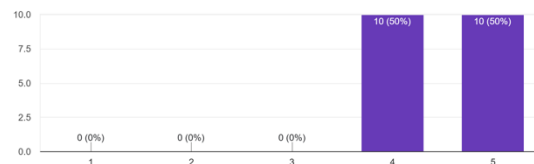
I am likely to recommend this app to other students.

20 responses



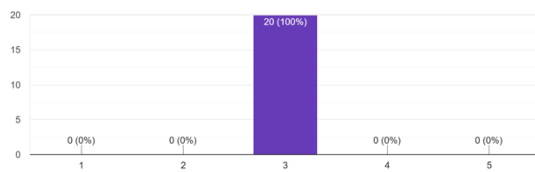
I had a positive experience using the app overall

20 responses



I would use this app regularly if officially launched

20 responses



This app has the potential to improve campus engagement.

20 responses

