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Campus Connect: Simplifying College Event Management through Firebase

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ABSTRACT: The “Simple Touch” Mobile Application is a universal gadget made for applying change in the management and conducting of the events for college student clubs. Main objective is on how best to minimize the use of paper and automate the task of managing and publicizing the events and also to receive alerts on the events as they are being organized. As for the applicability of the concerns it raises, the application at issue is designed for event management principles to help generate and organize various occasions. About the “Simple Touch” Mobile Application Future development of event management guaranteed by the presence of in depth, built-in, but at the same time adaptive need for different clubs and communities.

KEYWORDS: Firebase, Android, Java, Application, Notification, College, Events, Management, Mobile.

I.INTRODUCTION

Among them, there is a mobile application called “Simple Touch” That is aimed at the management of events of college student clubs. The idea behind the creation of the specific application is the fact that difficult student organizers need to be provided an easier time to organize as well as advertise events with the aid of the mobile touch. Thus, the “Simple Touch” application was almost created in the Android Studio, and for this reason, it is designed for Android devices only. Of course, it is crucial to know the specifics, which power the application behind the scenes with the help of Firebase. The user interface that is applied in the application is unique and resourceful. At the same time, if the user opens the application for the first time, it offers to create a profile with the contact details, favoured items, and location. As stated, it becomes more intimate and easier for the user to get events of his preferred choice finding it easy with the software to be provided by the application. Despite the fact that the significance of events is growing unprecedentedly in college communities, there are some challenges that concern student organizers. The promotion of intra-College functions is tiring since it’s a challenge to generate interest in such events. More importantly, they entail massive risks and are characterized by mechanical, error-prone and time-consuming data management processes. Some of such processes include participants’ registration and documentations using fundamental technologies such as excel spreadsheets. Moreover, such actions as, for instance, certificate presentation become challenging in cases when records of events are stored in separate platform, leading to possibilities of delays and inconsistency. Educational and extracurricular activities. The notification that students receive on the college events makes it possible for them not to miss out on the opportunity to promote themselves, and school events will be very energetic. Currently, Android is the leading operation system of application platform all across the world. In fact, all the large firms are creating applications for the Google Play Store mostly concerning the resources and persons. In general, an android application would serve the purpose in case of Most College students. Apart from being able to deliver a larger quantity of the receivers of the message, it can backfire and highlight the actual number of receivers that may be helpful for getting an approximate of the number of attendances in events. However, the application currently available lacks competitive functional abilities, sophisticates the user interface, and hits the design. More freedom can always be attained from the College and this can only be done through a good application. To solve these problems, “Simple Touch” develops the following efficient event management plan. Arguably, this solution’s main capabilities are centred in participant registration, advertisement of the event, as well as data management. Student clubs may focus on providing special experience to the members of the clubs by utilizing the application for managing and providing the detailed information of the event arranged within the organization. It also has fluid integration with social media platforms, so getting in touch with more people to attend the event is less of a chore as well; The data management of attendees is also automatic, ensuring the organization is doing a good job in handling everyone who attends the event.



II.LITERATURE REVIEW

The platform understands the concepts and techniques of event administration, as well as the scheduled performance as well as assessment of the events. Existing Applications: • AIO Events App: Application has some similar features like Event post, Event registrations promotion, communication, and data handling. Limitations: • Publishing the Certificate according to Leader board which does not exist in the AIO Events App. • Receive notifications for events that are not listed within the AIO Events App.

Relevance to current Research

Title: An Intelligent Event Organization.

- Authors: Dr R Juliana, Naveen Kumar VG, Richard G, Shivadarshini P.
- Publication: International Journal of Scientific Research & Engineering Trends July 2020.
- Synopsis: Designed for issue resolution in conventional event management methods within higher education institutions, Evacuate is an innovative mobile application. The application aims at increasing the effectiveness of activities while reducing the amount of documentation and the degree of human resources involved in it.. The app acts as an efficient platform for registration and interaction between individuals attending or hosting events thereby making it easier to handle processes involved in such gatherings. The system has been evaluated in numerous tests on its capability to perform consistently irrespective of what type of device it runs on.

Relevance to current Research

Title: Exploring Apps to Help Manage Events.

- Writers: Akash Verma, Gunjan Srivastava, Himanshu Verma, Mayank Johri.
- Source: International Journal of Innovative Science and Research Technology, April 2017.
- Abstract: This paper presents a plan for providing event management services in a personalized and targeted manner. The study takes into consideration an Android application which allows users to customize their events and exercise controls on every level of event management. The proposed system comprises of messaging, booking and payment, review and rating as well as booking modules. It is equipped with a responsive and interactive user interface that enables fast and simple operations.

Relevance to current Research

Title: Hikester event management application.

- Authors: Ravi Kant Appaso Hatgine, Dhekale Mayuri Shaahaji, Bhosale Rohini Uttam, Shirshet Ketki Uttam, Kale Gouri Shrikant.
- Publication: International Journal for Research in Engineering and Innovative Technology (IJARIIE) 2021.
- Summary: The software's aim is improving efficiency by easing event planning, location searching, and publicizing. On other hand, issues with the back-end SQL database's scalability are voiced. Empowering college event organizers therefore who encourage student engagement as they disseminate information about events is what this initiative is all about; particularly making it more focused on educational programs, health-related career fairs and social outreach activities as well.

Relevance to current Research

Title: The Android App for College Events.[4]

- Authors: Rupesh Deshmukh, Vikas Rajbhar, Mehul Sankhe, and Randeep Kaur Kahlon.
- Publication: International Research Journal of Engineering and Technology (IRJET) on 09-Sep 2020.
- Summary: There currently exists no system which provides a centralized platform to alert instructors as well as students about such events in real time. The application designed with help of Flutter contains features such as bookmark feature, emergency alert system and electronic noticeboard. By being an all-in-one place for every possible event notification including website updates and physical notice boards, this app hopes to have great impact on students' lives guaranteeing timely information sharing, increased awareness and thus higher attendance rates at various functions.

Relevance to current Research

Title: Application on Android for Event Management an.

- Authors: Sairam Saipriya, Suresh Shruti, Hegde Sanchana, Shaikh Bushra. Publication: March 2016 International Journal of Novel Research in Science, Engineering and Technology.
- Summary: The importance of independent event planners and the difficulties they face are elaborated on this paper. A smartphone application that operates on Android has been developed to help people plan successful events. The



software works as all-in-one tool with diverse planning categories enabling the customers to efficiently organize an event within the fast-growing industry.

III.METHODOLOGY OF PROPOSED SURVEY

SYSTEM ARCHITECTURE DIAGRAM

Presentation Layer: The presentation layer also called the user interface is the last layer of the application. It is what the user directly has to do with or interact with once he or she ‘faces’ it. It could include components such as menu, text, input, button, and picture among others. The “Update Profile,” “Post Events,” “Register for events,” and “User Certificates” features belong to the “User Interface” illustrated in the picture.

Business Layer: The business layer is positioned said to be in the middle between the service and presentation layers. It is responsible for managing the flow of data that is used to solve the application’s problems, calculations, and verifying user data. It is in the domain of the “Business Layer” as it is depicted in the picture.

Service Layer: This layer works for the business layer and interact with the data layer. It could include such activities as interaction with other systems, data retrieval, and performing versatile calculations. It includes the components such as “User,” “Fire Base” and is dubbed as the “Service Layer” in the picture.

Database: This layer utilizes the database to store or pull information that has been request. Other structures that could possibly be conceived are relational databases, NoSQL databases, and others. It may have the label ‘Fire Base’ although, in the picture, it is referred to as ‘Data Layer’.

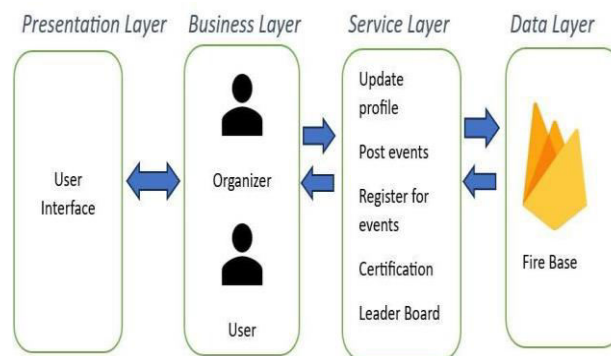


Figure 1: System Architecture Diagram

Login and Dashboard: The schedule of all the events held in the college can be viewed by students, members of campus clubs through the Home tab available in this application. any user has full info on any event that is posted on our app. Only coordinators have the right to post events to the application and only they can also modify previously posted events. The default rights assigned to all the users except for the coordinators allow them to only view information about the event.

Adding New Events: This is because the application permits an authorized organizer or even the student to post new events. Event creation entails filling of a title, description, the category of the event as well as the name, contact of the hosting committee, and an image or the poster of the event.

Notification: An important message can also be sent by the organizer, using the notification system, soon after the event has been posted. They only need to include the head and the body component of the notification and then hit on the send button. Students who have installed the application will there after receive the notification.

Main Interface: The main interface of the use case is a down navigation bar which provides the access to the most important functions of the application. Events created by the organizer can be seen in the timeline part of the application’s homepage. Each particular event is represented by a poster and when one clicks on it, they get more details and can also share it on their social media page.

Security and Privacy: To protect the user data in the proposed system Firebase authentication and permission are utilized. Requests from the users can be satisfied in part or in full depending on the security policies set by firebase. Actually, it provides a method of setting up the range of access for each user.



SYSTEM ADVANTAGES AND DISADVANTAGES

Advantages

- The students will be alerted after the organizer outputs data regarding the events.
- Timely project completion achieving the projected goal and simple and efficient process of data management by users.
- A fast and convenient, logically automated technique of flowing the information records.
- Accessibility is increased.

Disadvantages

- As you will remember, the main platform of the application development will be Android-based devices, and the application will not compatible with the other operating systems.

TECHNICAL REGIMENTS

A. Android Studio: The real integrated development environment (IDE) for creating Android applications is Android Studio, which is built on top of IntelliJ IDEA. Android Studio also offers other features that add to the productivity of creating Android applications as well as having the code editing and development tools are advanced in IntelliJ.

B. Android SDK: These are development software and libraries collected together in one single package required when developing Android applications. Most developers use this feature to develop leading-edge functionalities like push alerts.

C. Java: The reason why it is commonly recognized everywhere by programmers is due to its wide compatibility and flexibility towards Java language. In 2019, 88% of smartphones had a mobile operating system running Java which was an operating system called Android. There are many software developments that have been done using java, mobile apps etcetera. Given that, there are so many opportunities that Java can provide developers with.

D. Firebase: Firebase which serves as a mobile app development platform has numerous tools and services for facilitating application building for users' disposal. Firebase takes care of the backend functionalities hence allowing users more time to focus on UI and other components of the apps.

IV. RESULTS & DISCUSSION

This section provides information about the implementation of the project and its results as well as test case analysis. It is also explained in this part what fieldwork was conducted for conducting the study.

Login & Registration Page: While organizers and users can use their Google accounts to log in, for registration purposes, students can create a new account by filling all the mandatory fields such as email, registration number, username, password, college name and many more. In a bid to enhance user friendliness and facilitate data management, this part of Android application is integrated with a real-time data base and Firebase authentication. Users can choose to log in through email address under 'Login Activity'. They are automatically moved to the "main activity" after successfully logging in where they can make use of the app features. Additionally, for better user experience, if user has already authenticated during start-up, the application is designed to skip straight to the main activity. Conversely, users can create accounts within the application via 'Register Activity'. It then uses Firebase authentication to securely create user accounts once it does validation checks so that no mistakes are made for the information being entered. Also concurrently, on firebase real-time database store's user information hence providing effective data management.

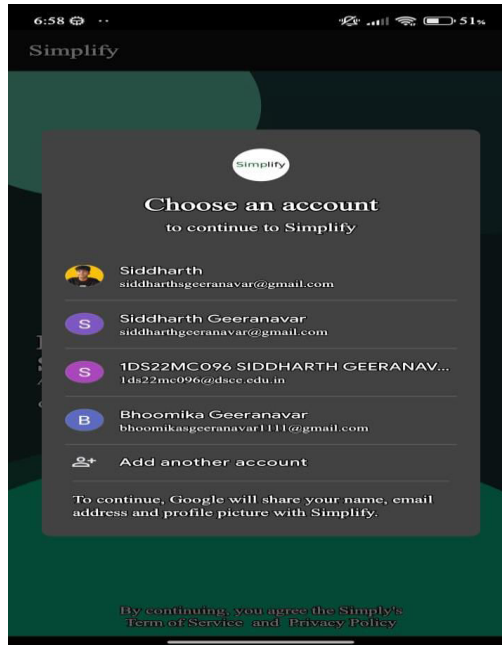


Figure 2: Login page, Registration page

Posting Event: An event could be posted by the organizer and this posting page consists of the name, description, sponsor(s) or held by, poster maker, registration link and so on.

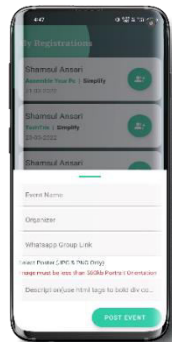


Figure 3: Posting event

View Event and Description: All the college-related activities set by the organizers are on the first page. On this event details page, interested parties can register and rate the event in addition to viewing special event information.



Figure 4: View Event Description

Event Share Activity: Users can easily publicize the events by posting event posters on some different social media platforms using Simple Touch event sharing activity. The visibility of events becomes increased as people easily inform them through a few taps on their phones thereby attracting a large audience to attend. The user-friendly interface allows them to select from numerous social networks where they intend to post thus choosing the event poster to share. To facilitate connecting with Facebook, Twitter, Instagram and other major networks, Simple Touch allows for easy connection, hence saving on more effort but providing an even more expanded audience. Therefore, various event organizers have wide range of participants to interact than before due to use of social media shares in their events.

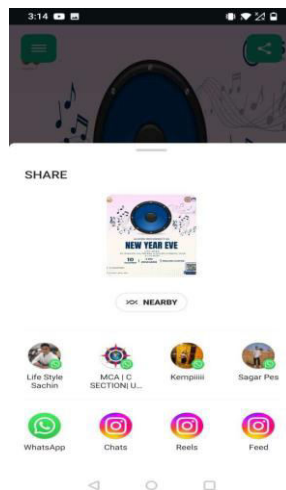


Figure 5: Event share Activity

V.CONCLUSION

The Student Event Management System helps colleges and universities a lot now when everything happens online. This approach cuts down on paperwork, which saves a lot of time. When someone adds a new event, everyone gets a message right away so all students can join in. The college runs the app so your information stays safe and won't get stolen. Because it's on your phone, you can find out about events anywhere anytime. This makes things super easy.



Students benefit from this easy access. They can learn about upcoming events without any hassle, which gets more of them involved and taking part.

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