



Real Time Event Tracking And Control

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Abstract: Mobile devices, especially tablets and smartphones, have achieved enormous popularity over the last ten years due to their ease of use and multifunctionality, thus gaining meritoriously a prominent space in our daily lives. On the opposite side, despite improvements in usability and intuitiveness, to use desktop devices users must learn how to interact with the operating system, how to achieve tasks, and fulfil system's specifications. This paper aims to present a methodology that responds to identified needs of users allowing them to execute any given tasks from mobile applications. Based on real-time database, task automation and mobile interactive systems the approach aims to reduce the challenges that users face while trying to perform a task, as well as improving the efficiency of task performance. The approach combines the features and capabilities of both SQLite and Firebase tools to simplify the process used by such users to perform tasks. The use of mobile devices enhances the usability of the new interactive system. This describes the methodology and the research is illustrated by means of a daily task application example.

Keywords— Event detection; cluster analysis; burst detection; Twitter; microblog analysis; social networks; data stream mining

1.Introduction

In today's fast-paced world, effective event management is a critical aspect of creating memorable experiences, fostering connections, and achieving organizational goals. Whether it's a corporate conference, a social gathering, a wedding celebration, or a sports event, the process of planning, coordinating, and executing events demands meticulous attention to detail and streamlined workflows. With the advent of digital technology, the landscape of event management is evolving, offering innovative solutions to enhance efficiency, engagement, and overall success. The proposed project aims to develop a comprehensive event management application using a robust tech stack consisting of Flutter, SQLite, Riverpod 2.0, and Firebase. This application seeks to address the challenges faced by event organizers and attendees alike, by providing a seamless and user-friendly platform that empowers event planners to orchestrate events effortlessly while enabling attendees to engage and participate with ease.

The event management app will serve as an all-inclusive solution that simplifies the understanding complexities of event planning, registration, communication, and coordination. Leveraging the power of Flutter, a versatile framework for building natively compiled applications, the app will offer a consistent user experience across multiple platforms, ensuring accessibility to a broader audience. The integration of SQLite, a self-contained and serverless database, will enable efficient data storage and retrieval, facilitating the management of event-related information such as schedules, attendees, and more. Riverpod 2.0, a state management library for Flutter, will ensure the app's responsiveness and scalability, providing a reliable foundation for real-time updates and dynamic user interfaces. Firebase, a comprehensive development platform, will play a pivotal role in the app's functionality. Utilizing Firebase Authentication, user registration and login processes will be secure and seamless. Firebase Cloud Firestore will serve as the backend database, enabling real-time synchronization of data across devices and facilitating instant updates for users.

2.Literature Review

This paper Android App for Task Management by A. Jaiswal, V. Jhawar, Y. Jadhav and M. Mahato[1] describes with the increasing impact of mobile phones on our daily lives, we rely on the smallest things on our mobiles using various applications. Applications have become a daily routine in our lives. Attractive interfaces often ignite the spark to inculcate such good habits. In this hustle-bustle life, it is necessary to keep track of your day-to-day deadlines, commitments, and progress. This is where the task management app plays an important role. This paper contains the main motive for creating this app and its technologies and features to make it better and userfriendly. It also includes the thought process behind every feature which was thoughtfully curated and designed for the user. To make the app intriguing a splash screen is added to make the user feel pleasant as soon as the app is opened. In addition, various features like segregated folders, light and dark modes, one-time login and signup, an attractive interface, and notifications, make this app very engaging to the user. Organizations have problems with timely updates of information regarding events or announcements. That often causes a delay in delivering information.

The Next paper An Android Application for Searching and Organizing Sports Events Sometimes by P. Rana, V. Semwal and D. Kalra [4] conveys that if information could be delivered as notifications. Beep is an Android application that helps the organization overcome this problem by providing a centralized system when the information and updates can be broken down in the form of notifications. After that users can view all notifications on the dashboard of the app.

The paper The Event Management Application Student management by R. Khatipov, A. Negimatshanov, I. Zamaleev, A. Zakirov, M. Mazzara and V. Rivera [5] states that the basic to the accomplishment of any scholastic establishment. Numerous sorts of exploration uncover that helpless management is influencing the nature of instruction and furthermore brings about the inappropriate following of workers. Instructive establishments can't meet the desires for guardians in light of the disarranged manual management framework. With a machine-driven management framework, foundations can responsively follow student's time in the study hall. Overseeing things has expectedly been moved toward utilizing time tickers, timesheets, and time following programming, yet management goes past this to give a workplace that augments and propels students.

3.Design And Development Of the Application

3.1 Architecture And Framework

Developing a system for real-time event tracking and control to enhance efficiency and responsiveness in monitoring and managing dynamic events. The solution should provide instant insights, proactive alerts, and effective control mechanisms, ensuring seamless adaptability to evolving situations. This application seeks to address the challenges faced by event organizers and attendees alike, by providing a seamless and user-friendly platform that empowers event planners to orchestrate events effortlessly while enabling attendees to engage and participate with ease. The proposed project aims to develop a comprehensive event management application using a robust tech stack consisting of Flutter, SQLite, Riverpod 2.0, and Firebase.

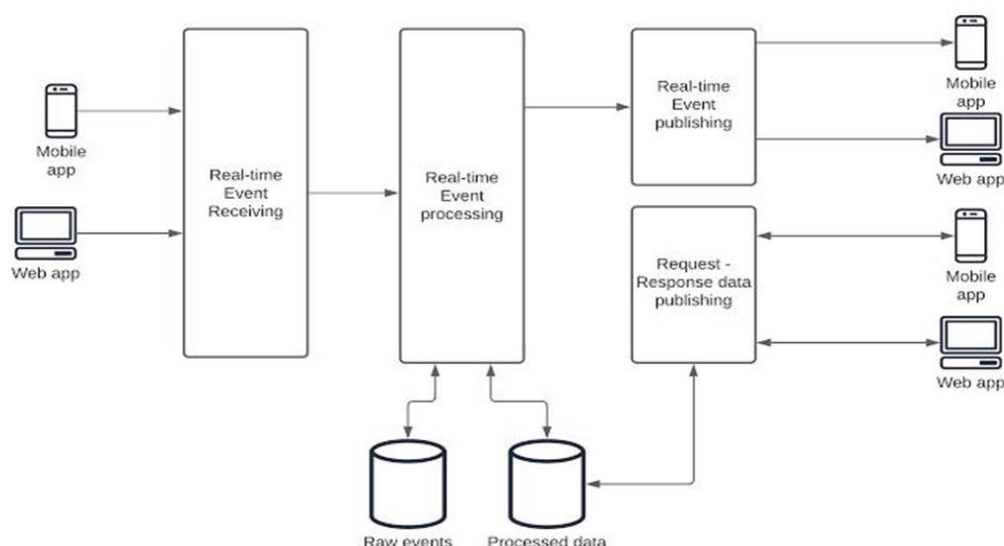


Fig 1. System Architecture

In the initial phase of establishing a real-time event tracking and control framework, the focus lies on identifying and integrating sources of events. This involves incorporating various data generators such as IoT devices, sensors, logs, and APIs, ensuring a seamless flow of information into the tracking system. Once the event sources are identified and integrated, the framework requires a robust data ingestion layer. This layer is responsible for collecting and processing real-time data from the diverse set of sources. Technologies like Apache Kafka, Apache Flink, or AWS Kinesis are often employed to facilitate scalable and reliable event streaming. Real-time processing forms a crucial element of the framework, involving the use of stream processing frameworks such as Apache Flink, Apache Storm, or Apache Spark Streaming. These frameworks enable the analysis and processing of events as they occur, providing timely insights and responses.

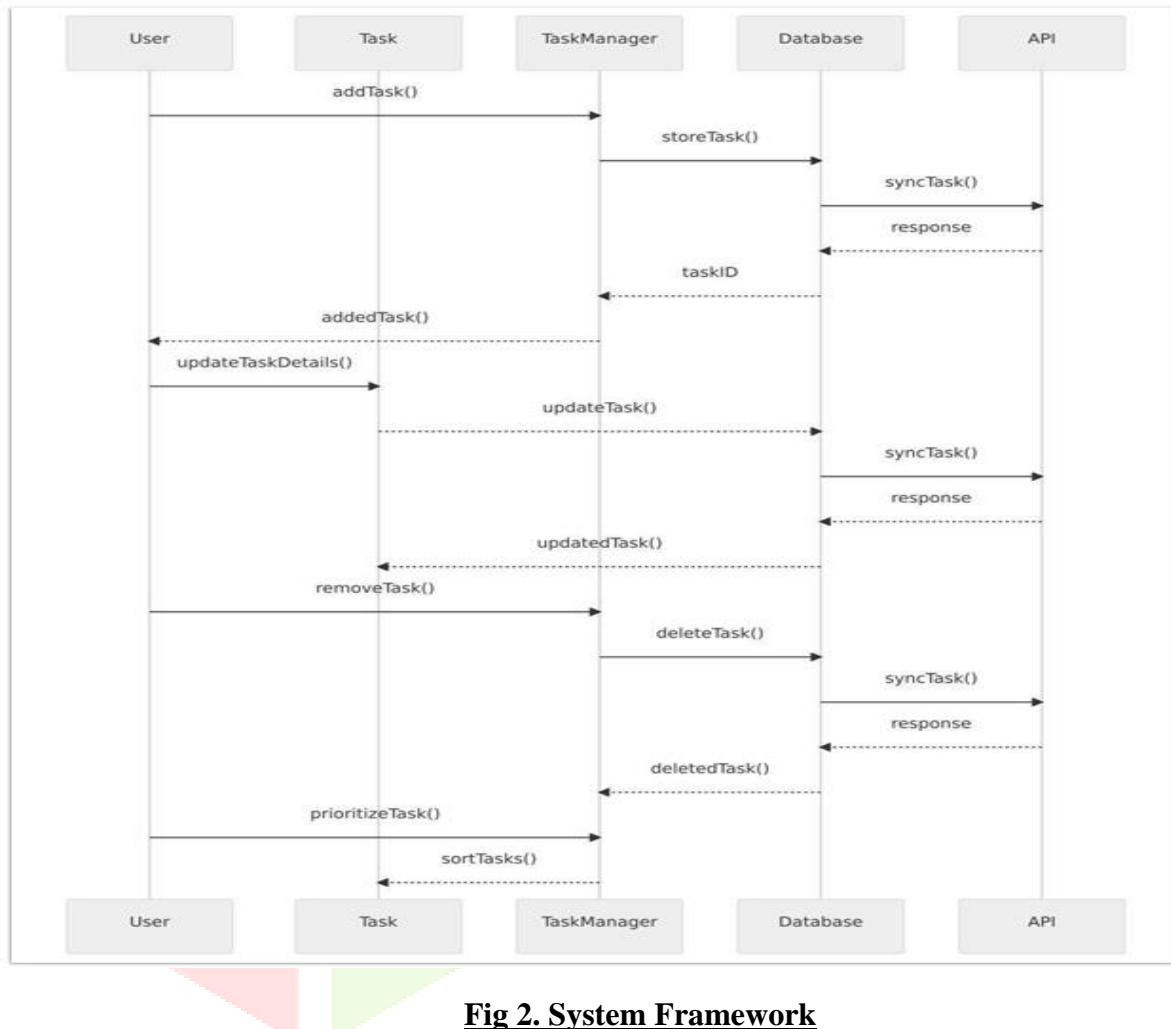
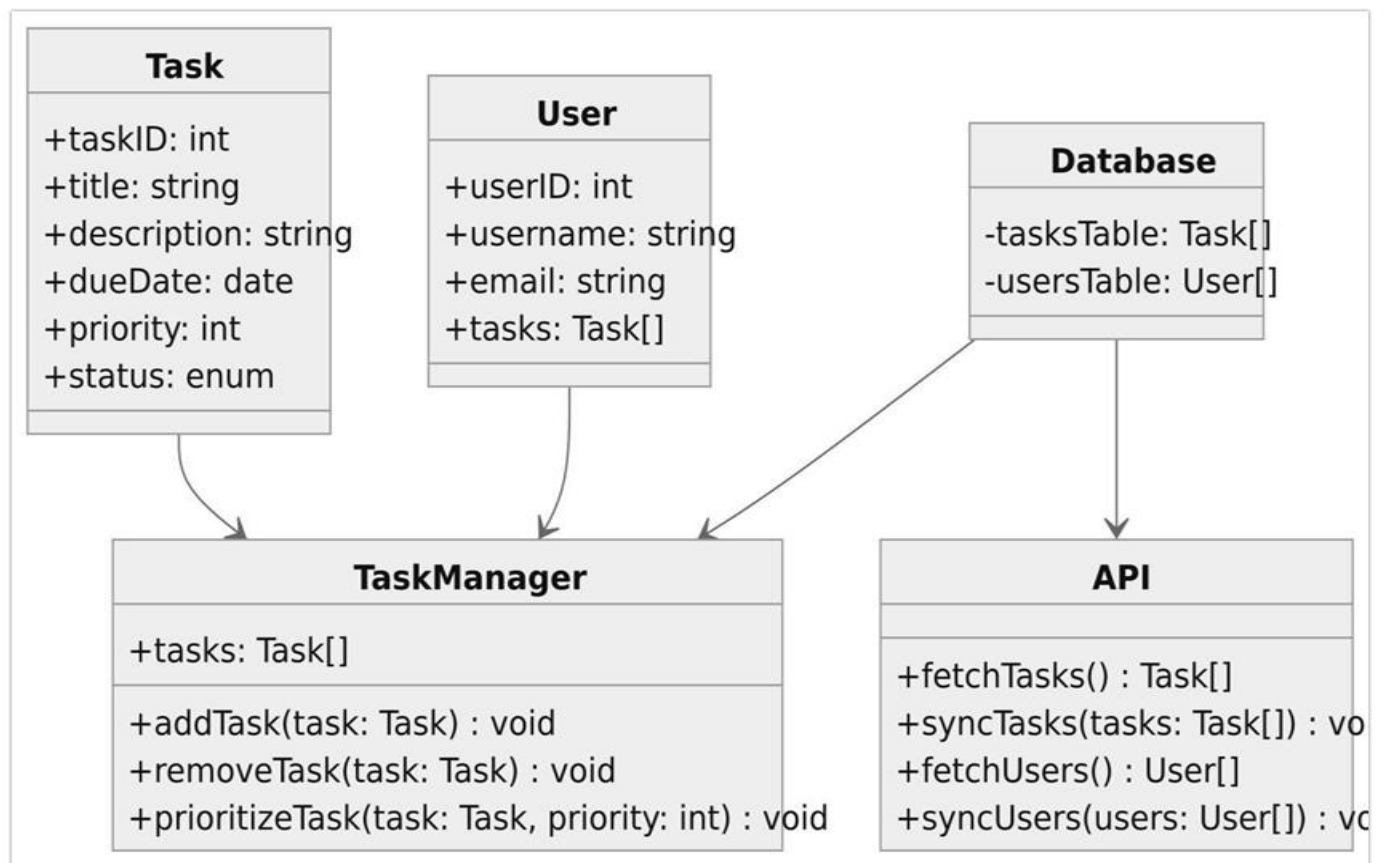


Fig 2. System Framework

3.2 Modelling And UML Diagrams

Real Time Event Tracking And Control utilizes a sophisticated task prioritization algorithm based on a weighted scoring system. This system assigns importance levels to different task attributes, such as due date, importance, and user-defined preferences. The algorithm then calculates a composite score for each task, determining its priority. This ensures that users can focus on the most critical tasks at any given time. Additionally, Real Time Event Tracking And Control allows for dynamic adjustments to task priorities, accommodating changes in user preferences or task attributes as they occur.

UML, which stands for Unified Modeling Language, is a way to visually represent the architecture, design, and implementation of complex software systems. When you're writing code, there are thousands of lines in an application, and it's difficult to keep track of the relationships and hierarchies within a software system. UML diagrams divide that software system into components and subcomponents.



4. Conclusion

The implementation of our real-time event tracking and control application has revolutionized the way we manage and execute tasks. This innovative tool has seamlessly empowered us with real-time insights, enabling swift decision-making and proactive responses. By providing a comprehensive and dynamic overview of ongoing events, it has significantly enhanced our efficiency, minimized errors, and ensured optimal utilization of resources. With its user-friendly interface and powerful functionalities, our team has successfully met targets and surpassed expectations. This application stands as a testament to our commitment to leveraging technology for streamlined operations, and its impact resonates in our unparalleled ability to manage tasks with precision and agility. In essence, real-time event detection on social media streams represents a powerful tool for staying informed, responding promptly to evolving situations, and gaining a deeper understanding of the dynamic digital landscape.

5. References

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