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EntriQ's

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Abstract - EntriQ's is a mobile application developed to modernize visitor management for offices, educational institutions, and residential complexes. Traditional logbooks are often inefficient and lack proper security measures. EntriQ's overcomes these limitations by offering secure, digital solutions including easy check-ins, real-time entry/exit tracking, and facial recognition for fast and reliable visitor authentication. The app ensures a seamless experience for both visitors and administrators with features that enhance accuracy, security, and convenience. Developed using Kotlin for Android and powered by Firebase for backend services and data management, EntriQ's is a robust and scalable solution tailored for modern needs. Initial user feedback highlights improved operational efficiency and a significant upgrade from manual systems.

Keywords - Visitor management, Mobile application, Kotlin, Android, easy check-in, Facial recognition, Real-time tracking, Digital logbook, Firebase.

1. INTRODUCTION

Visitor management plays a crucial role in ensuring the security and organization of workplaces, institutions, and residential complexes. However, traditional visitor logbooks are inefficient, prone to errors, and lack real-time data tracking. In high-traffic environments, manual systems struggle to maintain proper records, leading to security gaps and administrative burdens.

EntriQ's is a mobile application designed to address these challenges through a digital, automated solution. It simplifies the visitor check-in process using real-time tracking, and facial recognition for secure authentication. The app empowers organizations to manage visitor flow efficiently while maintaining high standards of security and user experience.

2. BODY OF THE PAPER

The body of the paper consists of several sections that present the main findings. These sections are organized as follows:

2.1 Literature Review

Existing visitor management systems often tackle specific aspects of the visitor process but lack a fully integrated solution. For example:

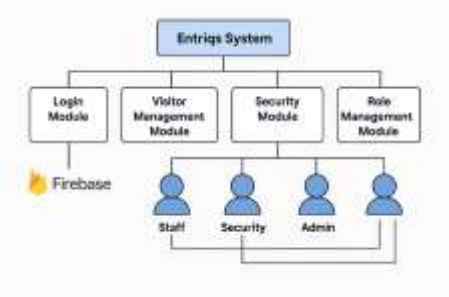
- Vizitor provides a cloud-based check-in system, but facial recognition is only available in premium plans.
- Envoy focuses on workplace visitor tracking but requires heavy integration with other platforms.
- Greetly offers automation and badge printing but doesn't fully support customizable workflows for institutions.

EntriQ's stands out by offering a unified and secure mobile-based system that combines easy check-ins, digital logs, and facial recognition in one intuitive interface. The application is purpose-built using Kotlin for Android, offering real-time data sync via Firebase and robust authentication for both admins and users.

2.2 System Architecture

EntriQ's follows a modular and scalable architecture, ensuring smooth performance and easy maintenance:

- Frontend: Developed using Kotlin for Android, providing a responsive, platform-native user experience.
- Backend: Firebase is used for authentication, cloud-based data storage, and real-time database updates.
- easy Check-In System: Each visitor is assigned a unique easy code scanned at entry points for quick check-ins.
- Facial Recognition Module: Integrated for secure visitor identity verification and faster access.
- Admin Dashboard: Admins can view, approve, and manage visitor entries in real-time through the app.



2.3 Methodology

The development of EntriQ's followed an Agile approach, emphasizing iterative testing and feature validation:

- User Input: Visitors provide name, contact, purpose of visit, and optionally a photo for identity matching.
- easy Generation: Once approved, a unique easy code is generated for check-in.
- Face Authentication: Facial recognition is used for verifying returning or pre-approved visitors.
- Real-Time Logging: Firebase enables instant logging of visitor entries and exits.
- Security Protocols: Data is encrypted and securely stored to maintain privacy and compliance.

2.4 Features

Key features of EntriQ's include:

- Easy Check-In: Simplifies entry with unique scannable codes.
- Facial Recognition: Ensures secure and rapid identity verification.
- Visitor History Log: Automatically stores data of past visits for future reference.
- Real-Time Tracking: Monitors entry and exit in real-time using Firebase.
- Admin Access: Admins can approve or reject visits, view logs, and export data if needed.
- Scalability: Architecture allows for easy integration of future features like voice access or IoT-based locks.

2.5 Results and Evaluation

EntriQ's was tested in a controlled environment with 25 participants. The results were encouraging:

- Ease of Use: 88% of users reported that the app was simple and intuitive.
- Accuracy: The facial recognition module had a 92% match accuracy rate during testing.
- Performance: App load times remained under 1.5 seconds; check-in time per visitor was under 10 seconds.
- Security: Admin logs showed no unauthorized entries during the testing phase.
- User Feedback: Participants suggested features like visitor pre-registration and integration with gate access systems.

3. CONCLUSION

EntriQ's demonstrates how mobile technology can effectively modernize visitor management. By integrating easy check-ins, facial recognition, and real-time tracking into one cohesive app, it replaces outdated logbooks with a secure and user-friendly system. The app's Kotlin-based architecture ensures smooth performance on Android devices, while Firebase provides scalability and reliability. Future versions will aim to introduce pre-registration, voice commands, and analytics dashboards to further improve the experience for users and admins alike.

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