

# SmartAttend Application

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**Abstract:** *In this project, we're taking on the task of creating an Android college attendance system, which will utilize facial recognition, location tracking via Google Maps API (GMAP), and, optionally, bio verification for attendance in classrooms. The system guarantees that only the students, themselves physically present at the respective classrooms, will be able to mark their attendance, thereby providing security and ensuring the integrity of attendance records. The application has been developed primarily in Java and XML on the front end and uses Firebase Authentication and Real-time Database on the backend. The three user types supported by the system are students, teachers, and parents. Along with facial recognition and verification based on location, it could also consist of biometrics such as fingerprint scanning to increase security. Parents will get real-time updates about where their children are, students can check attendance records, and teachers share news about attendance. Therefore, it will automate attendance with additional real-time communications to parents*

**Keywords:** Android, Facial Recognition, Firebase, Location Services, Real-time Database, Attendance, Anti-Spoofing, Notification