Geospatial Attendance Tracking: Leveraging Location Based Technology

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Abstract*: The increasing popularity of expert system applications is undeniable. Computer technology evolution has significantly impacted various domains, including environmental security.Onenotable advancement is the elimination of manual attendance procedures, which were not only time-consuming but also prone to providing inaccurate results. The introduction of automated time and attendance monitoring systems has brought numerous benefits to organizations. These systems reduce reliance on pen-and-paper-based manual attendance tracking.*

In alignment with this shift, we have introduced an attendance system based on location, utilizing global positioning (GPS) technology. This system operates through a mobile application on smartphones, leveraging the GPS capability to determine the device's location. The location data serves as a key component in the time and attendance tracking process, eliminating the need for traditional manual methods. To achieve this, we employ the Geospatial technique, determining whether the student's location falls within the designated Geospatial locality.

Our innovative project extends beyond attendance tracking and introduces a Child Tracking System within a dedicated application. This feature empowers parents to monitor their child's cell phone activities comprehensively. Parents can oversee incoming and outgoing calls, text messages, and multimedia messages. Additionally, they can track their children's whereabouts in real-time using GPS functionality and access a historical record of their locations. To enhance parental control, the system allows setting alerts for instances when children venture outside approved geographical ones.

Keywords: manual attendance procedures, automated time and attendance monitoring systems, pen-and-paper-based tracking, attendance system, location-based tracking, global positioning (GPS) technology, mobile application, Geospatial technique, innovative project

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