

Smart Employee Tracking System

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Abstract

A tracking system for employees was developed using the Android operating system. Using this system, the Employee's entire behavior will be monitored. Because managers will be able to see when employees are expected to be in the office or other work areas, scheduling information and requests for time off are frequently included in personnel tracking. Managers will find this system extremely useful in monitoring their staff members via mobile phones. The programming language PYTHON was used to implement it. and IBM CLOUD was used to store the outcome. GPS is a tool that can be used to locate an organization's exact location. Smartphones can be used to locate each employee using the GPS. This project aims to secure company data, track employees and monitor employee activity via Android mobile devices, and boost company growth.

1. Introduction

The application's central idea is to let the employer track the employee's location. Employees and administrators can log in through the web portal. Through the website, the administrator has access to all Employee details and location information. The website allows the employee to access their credentials. Employees are identified by their Employee ID, which serves as a username and gives them access to their credentials in the view. Through the website, the employee can update personal information. The Administrator's Username and Password are required for the Administrative Login. An Administrator can perform the following roles: View an employee's information Add or remove another Administrator Insert, update, or delete any employee's information Search for any employee If necessary, the Administrator may also change the password or delete their account.



Fig 1: IBM Watson

IOT (Internet of Things) is an advanced automation and analytics system which exploits networking, sensing, big data, and artificial intelligence technology to deliver complete systems for a product or service. These systems allow greater transparency, control, and performance when applied to any industry or system. IOT systems have applications across industries through their unique flexibility and ability to be suitable in any environment. They enhance data collection, automation, operations, and much more through smart devices and powerful enabling technology. This tutorial aims to provide you with a thorough introduction to IOT. It introduces the key concepts of IOT, necessary in using and deploying IOT systems.

IOT systems allow users to achieve deeper automation, analysis, and integration within a system. They improve the reach of these areas and their accuracy.

2. Literature Review

As an add-on service to the IBM Watson IOT Platform, the Analytics service allows line of business users to easily enrich, augment, and interact with the data coming from the platform by adding additional analytical measures and configurable business rules. This gives them a better view of their operations and business. The analytics service helps with the creation, management, and enforcement of analytical functions that are relevant to businesses. The user interface of the analytical service automates the process of obtaining input data from multiple sources for the calculation of the analytical function; defining the data used as input for calculations; storing the calculated results and acting on the calculated values. Through a Python-based API SDK library, developers can also extend and develop custom Analytic functions with the Analytics service. The maximum message size that can be used by the service is 4KB. From the data that is stored in the data lake, calculations can be performed in batch mode. The interval between calculations can be as little as five minutes. The maximum storage time for calculated values is one hour.

IBM Watson IOT Platform – Analytics Service Non-Production Clients can also purchase a non-production instance of the Analytics add-on service for the platform to investigate, discover, develop, and test their analytic functions in order to gain valuable insights before putting those functions into action in a production setting. Ten million events per month will be supported by each non-production instance. This amounts to the capacity to run twenty analytical functions across fifty devices for a month.

Data Processing and Protection Data Sheets, IBM's Data Processing Addendum at <http://ibm.com/dpa> (DPA), and the Data Processing and Protection Data Sheet(s) (referred to as data sheet(s) or DPA Exhibit(s)) in the links below provide additional data protection information for the Cloud Services and its options regarding the types of content that may be processed, the processing activities involved, the data protection features, and specifics on retention and return of Content. These data protection data sheets Personal data contained in Content are subject to the DPA if and to the extent that the European General Data Protection Regulation (EU/2016/679) (GDPR) applies..

3. Proposed System

A geo fence is a technology that creates an invisible barrier in the real world by utilizing

location data. Global Positioning System, or GPS, is frequently utilized by the technology. The geo "fence" uses a single device to select a series of nearby location points to construct an artificial boundary. A geofenced area represents a virtual boundary in the real world. A geo fence can be made according to the needs of the user by taking into account various radiuses, or it can be a set of predetermined boundaries. The use of geo fencing is geo fencing. A feature known as geo fencing makes use of the global positioning system to delineate boundaries within a given area. It expands significantly. Geo- is the name of the technology that powers proactive location-based services.



Fig.2 Output Of The Project

The operational process of geo fencing can be inherently divided into four categories: barrier, crossing, messaging, and permission. A barrier consists of a digital interface that is tied to a geographical location, with a present radius. There is no specific guidance on the size of the geo fence, but a small one would not allow the user enough time to orient themselves, while a perimeter too large would become irrelevant.



Fig. 3: Tracking System

4. Conclusion

This system makes it possible for the manager to keep track of an outdoor employee in the company and to evaluate the employee's progress. The manager can also monitor the employee and customer's conversation through chat. As a result, all of the activity that the manager is keeping track of will contribute to the organization's growth.

In the future, the same system could be tried on different mobile phones, like windows and apple phones, and personal and business data could be separated. Any marketing or business organization can use Android mobile applications for an employee tracking system that uses location and visualization to track employees who go out on the job so that they can be easily tracked using GPS.

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