

A central graphic features a computer monitor with a blue background. On the screen, there is a large gear, a bar chart with three bars (blue, yellow, red), and a fingerprint. Above the monitor is a white clock face with black hands. A large, stylized fingerprint is overlaid on the left side of the monitor. The entire graphic is set against a blue background with a subtle grid pattern.

Smart Attendance System

i Introduction

The primary goals of this Smart Attendance System are:

- ▶ To get the Employee Attendance report in more accurate and precise form using the Beacon Technology.



This case study showcases how Winjit's Unconventional way of implementing BLE based solution resulted in a system that was difficult to tamper with and ensured zero downtime to provide real time information and implement micro location based services.



- ▶ To generate various accurate reports which is integrated with existing Share point portal.
- ▶ To ensure that System Administrator has appropriate level of control and oversight over employee work timings.
- ▶ Alert messages in the event of emergency.



Customer

The customers can be organizational level users where the attendance tracking is important. This solution can be utilized by public and private level users.



Requirement

System should allow integration with the SharePoint portal for generation of various kind of reports for the Attendance System using Beacon Technology. The Beacon uses Low Power and works on proximity to allow capture details of Employee who are near to iPad devices. This system also helps and let know the administrator the latest location of checkout/in of the employee.



Challenges

Conventional approaches in beacon technology involved provisioning of hardware beacons which are paired or detected by a dedicated mobile application with a mobile phone having Bluetooth switched off. This kind of approach leads to inaccurate capture of information that is dependent on the user's infrastructure (mobile phone to be constantly switched on with Bluetooth). The approach primarily keeps the beacons as the initiator and the phone as the receiver.



Benefits

- ▶ Real time information of check in and check out thereby eliminating the need to depend on payroll software provider for month end analysis.
- ▶ Cost effective solution over conventional RFID based solution.
- ▶ Seamless integration with Enterprise and Payroll system.
- ▶ SSRS Reports integrated with SharePoint DB.



Solution

Our team analyzed the requirements and worked out unconventional approach of beacon adoption wherein iPad application was used as an initiator and beacon tags were used as receiver. The iPad application was placed at different access points and the beacon based identifier tags were made part of the identity swipe cards of the employees & will SYNC the data with the backend Database.

The iPad application being a receiver could capture the unique identifier tags of the employees and give real time status of check in and check out and reports of attendance. The iPad application is also allowing the Admin user to setup and register new Employee.



Achievements

Leveraging the capability BLE 4.0 for efficient tracking of personnel inside the building premises. The concept was extended for fixed asset tracking.



Conclusion

Unconventional way of implementing BLE based solution resulted in a system that was difficult to tamper with and ensured zero downtime to provide real time information and implement micro location based services.

Winjit technology is India's leading provider of innovative engineering solutions. Since its inception in 2004, Winjit has built and expanded its expertise in latest trending technologies including Internet of Thing, Artificial Intelligence & Machine Learning, Fintech Solutions, Product engineering and Digital publishing. Winjit provides end-to-end solutions from conceptualization and optimization to providing real-time solutions by developing software systems for any business is these fortes. Over the past decade, Winjit has provided innovative technology and engineering solutions that has resulted in world-class recognition and long standing customers.



<http://www.winit.com>



Contact@winit.com



+91 253 6633999

