**Android Employee Tracker**

**Introduction**

**Project Objectives and Project Scope**

* The Android Employee Tracker is an application where it involves the use of the web as well as Android where the user as well as the admin uses the android application which also works with the web application. This application, just like the name state suggested, is meant for Employers employing employee on the field.
* The application will be in the Employee’s android device(phone). The user will have turn on his GPS location before logging in to the system and his location will be sent to the admin where the admin will be able to view the location and employee id.

**Software Process Model**

A flowchart of the software process taking place.

Diagram

Description automatically generated

**Requirements Plan**

To carry out this project which consist of a developing phase and a production phase that is a prototype which requires certain hardware devices and software that are compatible and meet a specific spec threshold.

Hardware Devices spec requirements

Desktop or laptop (admin usage)

1. 4GB RAM (Optimal threshold)
2. 10GB Hard drive(for data Storage)
3. I5 processor

Phone or Tablet that is Android supported (Employee usage)

1. 2GB RAM (Optimal Threshold)
2. 1.1 GHz quad-core processor
3. 2G and above compatibility

Stakeholders

* Admins
* Employees

**System Functionality**

**Add and locate the user/employee:**

Stakeholders:

* Admin:
* Add new employees that were newly recruited
* Able to see and locate the current as well a previous location of the employee/user to check and ensure the employee’s field time.
* Also, to know the Employee’s activity and assigned work field based off the location.

Conditions before and after admin authentication:

* Pre-authentication:
* Admin must identify themselves through login credentials authentication and a follow up of special questions to confirm the admin’s identity
* Post-authentication:
* Admin can view the current location of the employee as well view the history of previous locations of the employee. Admin can also check the field time (worktime hours) of the employee.

Once the admin is logged in:

* Add and select the user/employee:
* Admin can add new employees into the employee list
* Admin can also select any employee/user from the list and view current location of selected employee.
* Admin can view the location of a logged in employee only
* Admin can also view location history of any employee through the date and time

Special functions:

* System will auto refresh current locations periodically once every 4 minutes of a logged in employee
* If employee lost connection after logging in, system will refresh and check employee’s status periodically every 10 minutes
* If employee does not reconnect after 45 minutes, the system will update the status of the employee as logged out and stops further location-tracking.

Technology involved:

* Location and GPS services are required
* Google map link

Frequency of the system’s function:

* When the admin wants to check an employee that is working on the field.

**Edit Salary and check Work hours:**

Stakeholders:

* Admin:
* To check the employee’s workhours and salary during a specific date and month.
* Wants to check the employee’s salary and workhours during a specific month
* To edit employee’s monthly salary

Pre and post conditions of the admin to view employee’s salary and workhours:

* Pre-condition:
* Admin must be authenticated and logged in
* Post-condition:
* The salary and work time of the employee is displayed based off date and month for the admin to see.
* Admin is authorized to edit the information

When the admin is checking the data of the employee:

* Admin selects an employee from the list of employees in the system
* Admin selects the month desired
* Employee’s monthly salary is displayed as well as the work time spent during the month selected by the admin.
* Admin can also make any necessary edits to the employee’s information on the database

No special functions or any special technologies required.

Frequency of the checking process:

* When the admin logs in and wants to check the salary and worktime of the selected employee.

**GPS location tracker:**

Stakeholders:

* Employee:
* To send data and identity of the employee’s current location in the field.

Pre and post conditions of the employee to enable GPS tracking of the employee’s locations:

* Pre-condition:
* Employee must be logged into the system with the device GPS set to ON
* Post-condition:
* Location of the employee is updated and stored in the database for the admin to view

When the employee is on the field:

* Employee has already logged into the system and turned his GPS on
* System captures the current location of the logged in employee and records it in the database
* Every 4 minutes, the system will recapture the GPS location and update the current location of the employee as long as the employee is logged in

When the employee logs out:

* The system will stop tracking the location of the employee and records the duration of the employee’s logged in hours.

Technology involved:

* GPS, Internet connectivity or hotspots, Satellite

Frequency of the tracking process:

* Every 4 minutes after the employee logs in until the employee logs out.

**Prototype Design**

A prototype that reflects the concept for the Android Employee Tracker and the design of what the employees as well as admins will see on their devices

On the pc/Desktop, what the admin views on the screen:

**Admin’s login screen**

Graphical user interface, application

Description automatically generated

**Admins second login page where it asks a series of security questions**

Graphical user interface, application

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**Admin’s screen when checking the whereabouts of logged in employees:**

Graphical user interface, application

Description automatically generated

**Admin’s screen when checking the history of the employee’s whereabouts, worktime and hourly salary:**

Graphical user interface, text, application

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Moving on to the Employee, what the employee sees on their Android devices screen:

**Employee’s login screen**

Graphical user interface, application, Teams

Description automatically generated

**Employee’s screen after logging in.**

Map

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**UML diagrams**

Use Case diagram:

Diagram

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Diagram

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Sequence diagram:

A picture containing diagram

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A picture containing diagram

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<https://www.cs.uic.edu/~jbell/CourseNotes/OO_SoftwareEngineering/SE_Project_Report_Template.pdf>

<https://www.slideshare.net/ZohaibArshid1/presentation-on-android-employee-tracker-requirement-gathering-93563389>

<https://scholarworks.lib.csusb.edu/cgi/viewcontent.cgi?article=2055&context=etd>

<https://ijesc.org/upload/adfd6dd9249bf189b8ca10c53d1d4045.Employee%20Tracking%20System%20using%20Android.pdf>

