

# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“Jnana Sangama”, Belagavi, Karnataka-590018



## EMPLOYEE TRACKER

(CEC/CS/2023/P03)

### A SYSTEM REQUIREMENTS SPECIFICATION REPORT

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**In the partial fulfillment of the requirement for the degree of  
BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE & ENGINEERING**

*Under the guidance of*

**Mr.Alok Ranjan**

**Professor**



**Department of Computer Science & Engineering**

**CANARA ENGINEERING COLLEGE**

**BENJANAPADAVU, BANTWAL - 574219, D.K., KARNATAKA**

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**CERTIFICATE**

This is to certify that **Mr. HARSH THADESHWAR(4CB20CS035)**, **Mr. ABHAY KAMATH(4CB20CS003)**, **Ms. ANUSHA G SHANBHAG(4CB20CS015)**, **Mr.KARTHIK PRABHU(4CB20CS042)** have successfully completed the PROJECT WORK PHASE- II (System Requirements Specification) of the project titled **EMPLOYEE TRACKER** under the guidance of **Prof. ALOK RANJAN**. The project SRS report has been approved as it satisfies the academic requirements in respect of Project work.

**Prof. Alok Ranjan**  
Project Guide  
Dept. of CSE

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## CHAPTER 1

# INTRODUCTION

### 1.1 Purpose

An employee tracker project is a system or a software designed to monitor and manage the activities, performance, and whereabouts of employees within an organization. This type of project is typically implemented to enhance workforce management, productivity, and security. Employee tracker systems can employ various technologies, such as GPS or software based solutions, to keep track of employee movements, attendance, and work-related tasks. These projects can be valuable for businesses seeking to improve employee accountability, optimize operations and ensure safety and security in the workplace.

### 1.2 Scope of the project

- The scope of the employee tracker project within mobile application development encompasses its application across diverse industries for workforce management, including sectors such as delivery services, transportation, construction, and security, among others.
- This project addresses privacy concerns by ensuring tracking complies with legal and ethical standards while acknowledging limitations such as dependency on GPS technology, battery consumption, and data security.
- Nevertheless, its advantages are notable, offering enhanced productivity through real-time tracking, improved accountability by monitoring adherence to schedules, and bolstered safety through prompt emergency response.
- Additionally, streamlined operations via automation of administrative tasks like attendance tracking and route optimization underscore its utility in optimizing workflows and minimizing manual effort, errors, and downtime.

## 1.1 Definitions, Acronyms & Abbreviations

- GPS (Global Positioning System) is a satellite-based navigation system that provides location and time information anywhere on Earth.

## 1.2 Overview of the Document

The SRS will include two sections:

- Overall Description: This section will describe major parts of the system and their connection
- Specific Requirements: This section will describe the function of the system and the constraint faced by the system.

## CHAPTER 2

# OVERALL DESCRIPTION

### 2.1 Product Perspective

In response to the demands of modern workforce management, our team introduces the Employee Tracker Project. This innovative software solution stands as a beacon in the realm of human resource management, addressing the complexities posed by today's dynamic business landscape. It serves as a pivotal tool, offering a centralized platform to streamline employee data management, track performance, ensure compliance, and integrate various work setups. The Employee Tracker Project isn't just a software innovation, it's a testament to the commitment to empower businesses of all scales to optimize their human resources, drive operational excellence, and foster an environment primed for growth and success.

### 2.2 Product Functions

- Permit users to sign up safely, provide the required data, and confirm their identity with a authentication procedure.
- Create forms so that employee, employer may provide their target, task objectives, and preferences and employers can establish the requirements for the task.
- Use dynamic form logic to ensure completeness and relevancy by tailoring the information sought based on customer, employee inputs.
- Employers can view targets achieved, matched prospects in ranked order, enabling efficient, better management.

## 2.3 User Classes & Characteristics

### 1. Employers:

#### Characteristics:

Responsibilities: Employers seek a streamlined platform for task posting, scheduling visits, tracking updates, and assigning tasks to nearby employees efficiently, fostering seamless communication and productivity.

### 2. Employees:

#### Characteristics:

Responsibilities: Efficiently gather task specifics, target details, and track colleague locations to enhance navigation and coordination, facilitating prompt real-time updates for employers, optimizing operational effectiveness.

## 2.4 Design & Implementation Constraints

- Constant monitoring of employees' locations may raise privacy concerns and lead to employee discomfort or resistance.
- GPS signals may be unavailable or weak in remote or rural areas, limiting the effectiveness of tracking systems in those locations.
- GPS tracking can significantly drain device batteries, especially if tracking is frequent or continuous, impacting device usability and productivity.
- Maintaining and troubleshooting GPS tracking systems can be complex and time-consuming, requiring dedicated resources and expertise.

## CHAPTER 3

# EXTERNAL INTERFACE REQUIREMENTS

### 3.1 User Interfaces

- **Home Page:** The home page of the web application could provide a brief overview of the platform and its purpose.
- **Employer Signup/Login Page:** Employer can register using email and password and can use the same for login.
- **Employee Signup/Login Page:** Employee can register using email and password and can use the same for login.
- **Employer Dashboard:** Employer dashboard contains the information about upcoming target locations.
- **Manager Dashboard:** An accessible portal to track the whereabouts of the employees.  
This module maintains both the users and contains the statistical information like how many targets have been reached and how many employees have registered.

### 3.2 Hardware Requirements

- Processor: Snapdragon 865 and above
- RAM: 8GB
- Hard Disk: 256GB

### 3.3 Software Requirements

- Operating System: Android 11.0
- Language: Flutter (Dart)
- Database: Firebase (Baas)
- IDE: VS code



### 3.4 Communication Requirements

#### 1. User Interface (UI):

- Enables interaction between the platform and users (employers, employees, administrators).
- Intuitive forms, result displays, and interactive elements for a user-friendly experience.
- Responsiveness, accessibility, and a consistent design across devices.

#### 2. Backend Database:

- Firebase is used which stores and retrieves data, including user profiles, target requirements and location.
- It is a mobile and web application development platform that offers a comprehensive set of tools and services, including real-time database, authentication, hosting, and analytics, simplifying the development process.
- With Firebase, developers can quickly build high-quality apps without managing infrastructure, thanks to its scalable backend services and integration with popular frontend frameworks, enabling rapid prototyping and deployment.
- Structured database schema, NoSQL for efficient queries.

## CHAPTER 4

# FUNCTIONAL REQUIREMENTS

Here are some key functional requirements of Employee tracker:

### 1. User Registration and Authentication:

- Employers and employees should be able to register accounts on the platform.
- User authentication mechanisms should be in place to ensure secure access to accounts.

### 2. Profile Creation:

- Employers should be able to create target requirement entries with details like location, task, deadlines etc.
- Employees should be able to create profiles with their pictures, experience, location, etc.

### 3. Requirement Input:

- Employers should be able to input task, target requirements through a tailored form.
- Employees should be able to input their task status, completion updates.

### 4. Working Methodology:

- The employee's GPS location coordinates are tracked and updated into the database at regular intervals in real time.
- All the employees' data is fetched from the database and marked on the map which is updated in real time.

### 5. Employees Rank List Results Display:

- Presents the count of targets achieved by the employees in an organized manner.

## CHAPTER 5

# OTHER REQUIREMENTS

### 5.1 Performance Requirements

- 1. Response Time:** Page load times and search result retrieval should be minimized to create a seamless user experience. Users demand rapid and responsive interactions. Aim for a few seconds' response time.
- 2. Searching and Tracking Efficiency:** The data from the database and location coordinates from the device must be easily accessible and accurate.

### 5.2 Design Constraints & Attributes

- 1.Data Privacy and Security:** Putting strong security measures in place to safeguard private employee and employer information. Observing data protection laws and respect user privacy.
- 2.Cross-Device Compatibility:** Test and optimize the platform for compatibility across various Android, Linux, Windows, iOS devices to reach a wider audience.
- 3.Mobile Responsiveness:** To accommodate consumers on the go, make sure your platform is mobile-friendly and easy to use.

### 5.3 Security Requirements

- 1.Data Encryption:** Ensure that all data transmitted and stored, including location information, is encrypted to prevent unauthorized access or interception.
- 2.Access Control:** Implement strict access controls to limit who can view or modify tracking data, ensuring that only authorized personnel have access.
- 3.Data Minimization:** Collect and retain only necessary data for tracking purposes, minimizing the risk of exposure in the event of a security breach.



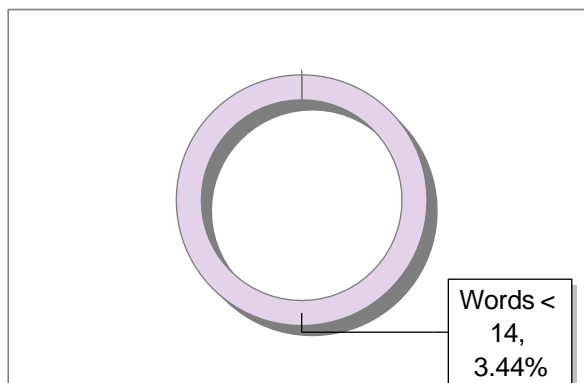
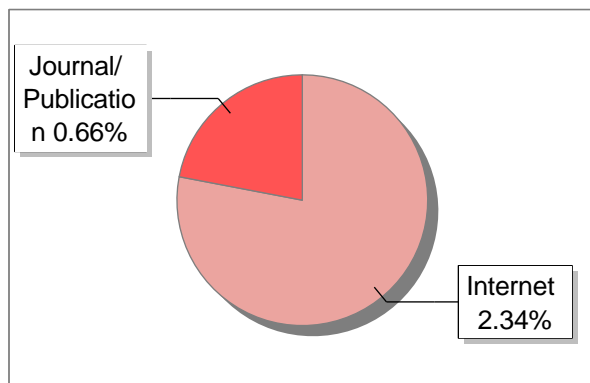
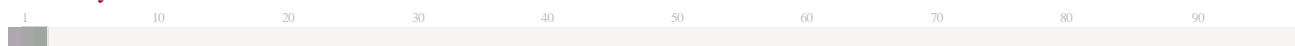
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