VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama",Belagavi-590018

SYNOPSIS REVIEW REPORT

On

EMPLOYEE TRACKER

(CEC/CS/2023/P03)

SUBMITTED BY

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Under the Guidance of
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2023-2024

CANARA
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

CERTIFICATE

This is to certify that **Mr Harsh Thadeshwar with 4CB20CS035, Mr Abhay Kamath with 4CB20CS003, Ms Anusha G Shanbhag with 4CB20CS015 , Mr Karthik Prabhu with 4CB20CS042** have successfully completed the PROJECT WORK PHASE – I (Synopsis review) of the project entitled ***"EMPLOYEE TRACKER"*** under the guidance of **Prof. Alok Ranjan.** The project report has been approved as it satisfies the academic requirements in respect of Project work.

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Signature of the Guide
(**Prof. Alok Ranjan)**

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Abstract

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, RFID, 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.

Chapter 1

Introduction

1.1 Overview

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.

1.2 Status of development:

Our team has developed a streamlined solution that allows administrators to easily track the locations of employees. This system also simplifies the process by enabling admins to monitor the whereabouts of employees efficiently. With our technology in place, administrators can seamlessly oversee and manage employee locations, enhancing the overall tracking process.

1.3 Objective/Aim:

To develop an adaptable and user-friendly Employee Tracker Project that revolutionizes contemporary human resource management by offering a centralized platform for efficient tracking and management of employee data, attendance, performance, and productivity across diverse work environments.

1.4 Technical details:

The technical framework for our project intertwines innovative software and hardware elements to redefine employee tracking. our system boasts cross-platform compatibility, accommodating iOS, Windows, Linux, and Android operating systems. Utilizing Firebase as our database and Dart as the primary programming language, our development revolves around Flutter, ensuring streamlined application development and deployment.

On the hardware front, our requirements are equally versatile, demanding a minimum 1GB of RAM and compatibility with various mobile processors. This technical combination underpins our methodology's emphasis on pushing the envelope of existing systems. By integrating cutting-edge technologies and meticulous tracking mechanisms, we aim to revolutionize productivity monitoring and workforce management, bridging the evident gaps in current research within the realm of employee tracking.

1.5 Market potential & Competitive advantage:

Market potential:

Today's diverse workplaces crave real-time data, especially in industries with remote teams. A smart workforce management system fulfilling this need could transform how businesses operate. For those prioritizing efficiency, an employee tracker system that optimizes tasks and minimizes errors in attendance and time management could be a game-changer, promising greater productivity and streamlined operations.

Competitive Advantage:

An employee tracker system provides real-time data for attendance, task allocation, and productivity analysis, revolutionizing workforce management. By incorporating location tracking and data recording, it enables data-driven decision-making, optimizing work assignments and enhancing overall efficiency.

Chapter 2

Literature Survey

1. Research on Face Recognition Technology Based on Deep Learning

Face recognition research focuses on deep learning—CNNs, RNNs—improving datasets, models, challenges, applications. It highlights deep learning's transformative impact.[1]

2. Women Employee Security System using GPS And GSM Based Vehicle Tracking

The Women Employee Security System utilizes GPS and GSM tech for real-time vehicle tracking, ensuring female employees' safety during commutes. By combining GPS positioning and GSM communication, it offers location-based security for peace of mind.[2]

3. Location-based Monitoring

Location monitoring for data collection in controlled experiments provides real-time insights and efficiency but demands meticulous attention to privacy, ethics, and legal compliance.[3]

4. An Android based Employee Tracking System

By utilizing Java and an Object-Oriented Analysis and Design (OOAD) approach, this employee management system streamlines attendance tracking, enhances productivity, and reduces paperwork. It's a valuable tool for efficient employee management.[4]

5. A Research on Mobile Applications for Location Tracking through Web Server and Short Messages Services (SMS)

Live location updates via SMS simplify real-time sharing; Android app, web server offer tracking, emergency alerts, and timely notifications.[5]

6. Face Recognition System

The Face Recognition System combines detection, feature extraction, and recognition using algorithms like KLT, Viola-Jones, PCA. It contributes insights, results, and future directions for face recognition.[6]

7.A low-cost, mobile real-time kinematic geolocation service for engineering and research applications

The setup is methodical, focusing on precision and efficiency in a compact design for the base station, which ensures an optimal location, well-crafted ground plane, secure antenna installation, and reliable power/internet supply.[7]

8.A review of eye-tracking research in tourism

A Review of Eye-Tracking Research in Tourism, extensively covers eye-tracking's use in tourism and hospitality, encompassing methodology, applications, and future research, aiding industry professionals and researchers.[8]

9. Design and development of GPS-GSM based tracking system with google map-based monitoring

"Design and Development of GPS-GSM Tracking System" paper innovates with collaborative filtering, recommendation systems, GSM-GPS integration for versatile tracking, valuable for researchers and professionals.[9]

10.Development of Employee Attendance Management Information System During the Covid-19 Pandemic Based on Website using QR Code

The methodology adopts agile (Scrum) for online attendance systems, emphasizing data, tech, testing, while addressing privacy, security, cost via QR codes. It prioritizes continuous improvement, legal compliance, highlighting the need for balance.[10]

In conclusion, the Employee Tracker System stands as a cutting-edge solution leveraging data analytics, ethical location tracking, and modern tech. Its real-time insights into attendance, performance, and privacy-respecting adaptability to varied work setups meet the critical need for streamlined HR processes. By centralizing data and enabling informed decision-making, it serves as a pivotal asset fostering efficiency, compliance, and strategic planning across industries.

Chapter 3

Methodology/Planning of work,Outcome

1. Define Objectives and Scope:
   - Outline goals: location tracking, login/logout records, and productivity analytics.
   - Specify the project's boundaries and functionalities.

2. Research and Requirements:
   - Understand employee preferences and legal constraints.
   - Gather tech and compliance requirements.

3. Team Formation and Roles:
   - Assemble specialized teams: GPS, development, analytics.
   - Define clear roles and responsibilities.

4. Project Plan Development:
   - Divide into phases: design, GPS integration, analytics.
   - Break down tasks for each phase.

5. Technology Selection:
   - Choose GPS tech, database systems(Firebase),Flutter,analytics tools.

6. Development and Testing:
   - Implement phases: GPS, login/logout, data-analytics.
   - Develop models to analyze productivity data.
   - Design user-friendly reports/dashboards.
   - Conduct rigorous testing for accuracy and security.

7. Deployment and Maintenance:
   - Roll out gradually with user training.

- Establish ongoing maintenance protocols.

This streamlined approach outlines the essential steps to create an employee tracking system focused on location monitoring, login/logout tracking, and productivity analytics.

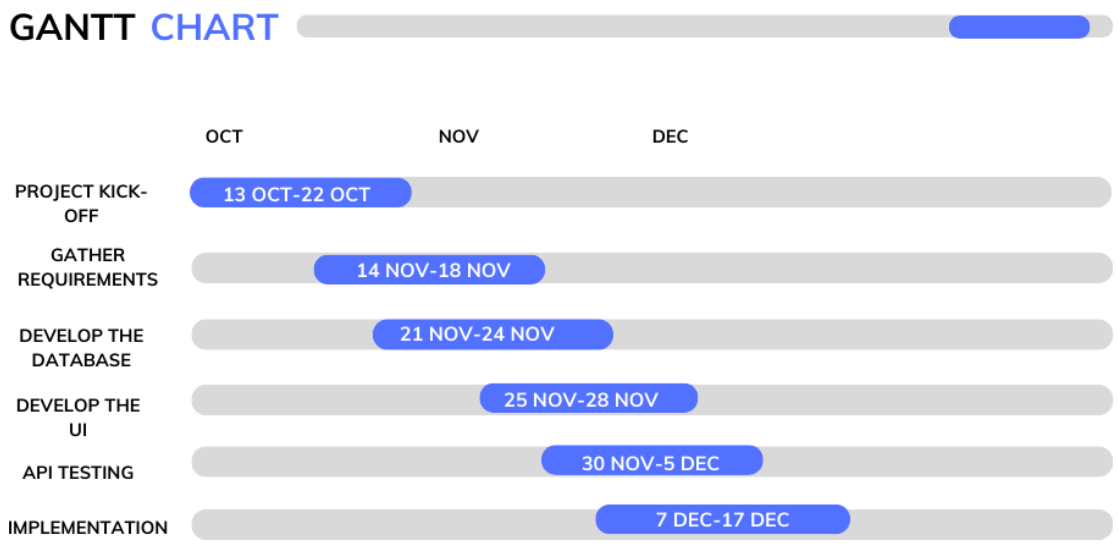

Figure 3.1: Gantt Chart

Chapter 4

Details of Software and Hardware Requirements

4.1 Software Requirements:

Operating System: Compatible with all devices (iOS,windows,linux,Android)

Database used: Firebase

Language used: Dart

Tool/IDE with version:Flutter

4.2 Hardware Requirements:

RAM: 1GB+

Processor: Any Mobile processor

Chapter 5

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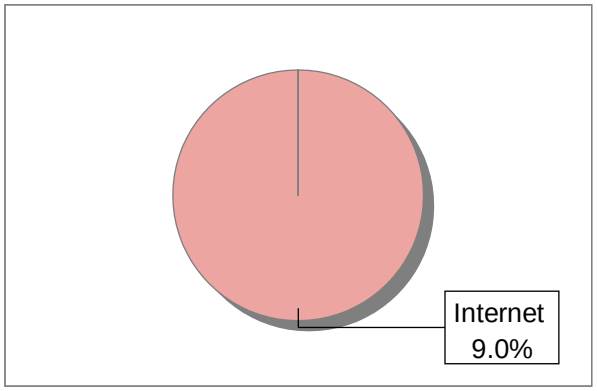

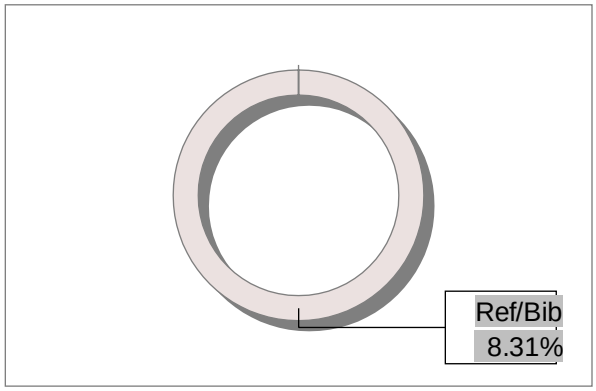

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