ONLINE EMPLOYEE ATTENDANCE

A Project Report

Submitted In the partial fulfillment of the requirements for the award of Degree of

MASTER OF COMPUTER APPLICATION (2022-2023)

Submitted by

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(Affilated To Andhra University)

VISAKHAPATNAM-5300013

(2022-2023)

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CERTIFICATE

This is to clarify that Gorusu Meghana Sai Lakshmi Gowri bearing Register No.321228820041 of MCA 2rd year during the academic year 2022-2023 has submitted the Project work titled ONLINE EMPLOYEE ATTENDANCE under the guidance of S. Ravi Prasad Asst. Professor as partial fulfillment of the requirements for the award of degree of Master of Computer Application in the Department of Computer Science-PG, Dr. Lankapalli Bullayya College, Visakhapatnam. This work is not submitted to any University for the award of any Degree. The Project details are furnished below.

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At every out set I express my gratitude to almighty lord for showering his grace and blessing upon me to complete this project. Although our name appears on the cover of this book, many people had contributed in some form or the other form to this project Development. We could not done this project without the assistants or support of each of the following we thank you all

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DECLARATION

I hereby declare that this project report entitled **"ONLINE EMPLOYEE ATTENDANCE"** is the result of original work done by me and to the best of my knowledge. A similar work has not been submitted previously to my other university or published before. This project submitted on the partial fulfillment of the requirement for the award of degree of Master of Computer Application.

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ABSTRACT

Employee Attendance Management System aims to help keep track of employees' working attendance. It's the system used to track how much time the workers spend working and how much time they spend off. It also lessens the use of paper, spreadsheets, or punching time cards, but with attendance software online. This system prohibits employees from stealing time. There is a real-time attendance management system that connects all of the different types of attendance devices that people use, such as smart cards, biometrics, and facial recognition devices.

The employee attendance management system's goal is to assist administrators in keeping track of employees. This software is automated can save time and money for administrators. A solution like this also saves staff workload and boosts efficiency. An employee attendance monitoring system allows HR to observe who is clocked in and when they are timed out. You may rest assured that you are only paying your staff for the time they spend on the job. The employee attendance system provides a precise view of the company's labor costs. It is a requirement of the HR department.

1.INTRODUCTION:

1.1 Introduction To The Project:

Online employee attendance refers to the process of tracking and recording the attendance of employees using digital tools and platforms. With the advancement of technology and the widespread use of the internet, many organizations have shifted from traditional paper-based attendance systems to online methods.

The purpose of online employee attendance is to accurately monitor and manage employee attendance data, streamline administrative tasks, and improve overall efficiency. It eliminates the need for manual record-keeping, reduces errors, and provides real-time access to attendance information.

There are various ways to implement online employee attendance systems. Here are a few common methods:

1. Time and Attendance Software: Many organizations utilize dedicated time and attendance software that allows employees to log in and log out using their computers or mobile devices. This software often includes features such as biometric authentication, GPS tracking, and integration with payroll systems.

2. Web-Based Attendance Systems: Web-based attendance systems enable employees to access an online portal to mark their attendance. This can be done through unique login credentials or utilizing technologies like QR codes or proximity cards.

3. Mobile Applications: Mobile apps have gained popularity as a convenient method for tracking employee attendance. These apps can be installed on employees' smartphones, allowing them to clock in and out using their devices' GPS or by scanning QR codes.

1.1.1 : Scope Of This System:

The scope of online employee attendance is broad and encompasses various aspects of tracking and managing attendance data. Here are some key areas within the scope of online employee attendance:

1. Attendance Tracking: Online attendance systems enable employees to record their attendance electronically. This can be done through various methods such as biometric scanners, proximity cards, mobile apps, or web portals. The system accurately records the time of arrival, departure, breaks, and any other relevant attendance-related information.

2. Real-Time Monitoring: Online attendance systems provide employers with real-time access to attendance data. They can monitor attendance patterns, view the attendance status of individual employees or teams, and identify any attendance issues promptly. This enables proactive management and timely interventions, such as addressing excessive tardiness or absenteeism.

3. Leave Management: Many online attendance systems include features for managing employee leaves. Employees can request time off through the system, which then goes through an approval workflow. This streamlines the leave management process, ensuring that supervisors can review and approve requests efficiently, and employees can view their leave balances and track their leave history.

4. Reporting and Analytics: Online attendance systems generate comprehensive reports and analytics based on attendance data. Employers can access attendance reports for individuals or teams, analyze attendance trends, identify patterns of absenteeism, and make data-driven decisions to improve workforce management and productivity. These reports can also be used for payroll processing and compliance purposes.

5. Integration with Other Systems: Online attendance systems often integrate with other HR and payroll systems, facilitating seamless data flow between different processes. Integration allows for automated updates of attendance data in payroll systems, simplifying payroll processing and reducing the chances of errors.

6. Compliance and Audit Trail: Online attendance systems can help organizations maintain compliance with labor laws and regulations regarding attendance tracking. The systems provide an audit trail of attendance records, ensuring transparency and accuracy in case of audits or legal requirements.

7. Remote and Mobile Workforce: With the rise of remote and mobile work arrangements, online attendance systems cater to the unique needs of such employees. They allow remote workers to log their attendance from any location, enabling organizations to accurately track the attendance of employees working outside the office premises.

Overall, the scope of online employee attendance covers the entire process of recording, monitoring, managing, and analyzing attendance data using web-based platforms or applications. It brings efficiency, accuracy, and flexibility to attendance tracking while enabling organizations to make data-driven decisions and ensure compliance with relevant regulations.

1.1.2 : Advantages:

Online employee attendance offers several advantages over traditional methods of attendance tracking. Here are some key benefits:

1. Accuracy and Elimination of Errors: Online attendance systems reduce the chances of errors in recording attendance data. Manual or paper-based methods can be prone to mistakes, such as incorrect entries or data loss. With online systems, attendance data is captured digitally and automatically, minimizing human errors and ensuring accurate records.

2. Time and Cost Efficiency: Online attendance systems save time and reduce administrative efforts. Manual attendance tracking involves manual data entry, verification, and processing, which can be time-consuming. Online systems automate these tasks, freeing up HR personnel to focus on more strategic activities. Additionally, it eliminates the need for physical time clocks, attendance sheets, and related paperwork, saving costs on supplies and maintenance.

3. Real-Time Tracking and Monitoring: Online attendance systems provide real-time access to attendance data. Employers can instantly view the attendance status of employees, monitor late arrivals or absences, and identify attendance patterns. This allows for timely interventions, such as addressing attendance issues, implementing corrective measures, or recognizing exemplary attendance.

4. Flexibility for Remote Work: Online attendance systems cater to the needs of remote and mobile work arrangements. Employees can log their attendance from anywhere using mobile apps or web portals, ensuring accurate tracking regardless of their location. This flexibility is

particularly beneficial for organizations with distributed teams, remote workers, or employees on business trips.

5. Streamlined Leave Management: Many online attendance systems integrate leave management functionalities. Employees can request time off through the system, and supervisors can review and approve requests electronically. This streamlines the leave management process, reduces paperwork, and ensures accurate leave balances and history tracking.

6. Reporting and Analytics: Online attendance systems generate comprehensive reports and analytics based on attendance data. Employers can access attendance reports, analyze trends, identify attendance issues, and make informed decisions. These insights can help optimize workforce management, identify training needs, improve productivity, and track compliance with attendance policies.

7. Integration with Payroll Systems: Online attendance systems often integrate with payroll systems, automating the transfer of attendance data for accurate payroll processing. This integration eliminates manual data entry, reduces payroll errors, and ensures employees are accurately compensated based on their attendance records.

8. Enhanced Security: Online attendance systems can offer improved security measures compared to traditional methods. Biometric scanners, secure logins, and encrypted data transmission help protect sensitive attendance information from unauthorized access or tampering.

Overall, the advantages of online employee attendance include increased accuracy, time and cost savings, real-time monitoring, flexibility for remote work, streamlined leave management, robust reporting and analytics, integration with payroll systems, and enhanced security measures. These benefits contribute to efficient attendance tracking, improved productivity, and effective workforce management.

Disadvantages:

While online employee attendance systems offer numerous benefits, there are also some potential disadvantages to consider:

1. Technical Issues and Dependency on Technology: Online attendance systems rely on technology infrastructure, including stable internet connections, hardware devices, and software applications. Technical glitches, server outages, or connectivity issues can disrupt the system's functionality, resulting in inaccurate attendance records or temporary downtime. Organizations must have backup plans in place to handle such situations and ensure alternative methods of attendance tracking.

2. Privacy and Data Security Concerns: Online attendance systems collect and store sensitive employee data, including personal information and attendance records. Organizations must prioritize data security and implement robust security measures to protect this information from unauthorized access, data breaches, or misuse. Adequate safeguards, such as encryption, secure servers, and strict access controls, should be in place to mitigate potential risks.

3. Employee Resistance and Privacy Concerns: Some employees may express concerns about privacy invasion or surveillance when adopting online attendance systems. They may feel uncomfortable with the idea of constant monitoring of their attendance data or the use of biometric information. Organizations should address these concerns transparently, clearly communicate the purpose and benefits of the system, and ensure compliance with applicable privacy laws and regulations.

4. Training and Adoption Challenges: Implementing a new online attendance system requires training employees on how to use the system effectively. Some employees may face difficulties in adapting to new technologies or may require additional support during the transition. Organizations need to invest time and resources in comprehensive training programs and provide ongoing assistance to ensure a smooth adoption process.

5. Reliance on Employee Compliance: Online attendance systems rely on employees accurately recording their attendance. There is a possibility of employees manipulating or

falsifying attendance data, such as logging inaccurate arrival or departure times. While certain measures, like biometric scanners, can minimize such risks, there is still a degree of reliance on employee honesty and compliance.

6. Initial Investment and Maintenance Costs: Implementing an online attendance system requires an initial investment in terms of software licenses, hardware devices, and infrastructure setup. Additionally, there may be ongoing maintenance costs, such as software updates, technical support, and server maintenance. Organizations should evaluate the costs and benefits of implementing an online attendance system and ensure it aligns with their budget and requirements.

7. Exclusion of Non-Digital Workforce: Online attendance systems may not be suitable for organizations with a significant portion of non-digital workforce or employees who lack access to digital devices or stable internet connections. In such cases, alternative methods of attendance tracking should be considered to ensure equitable and accurate attendance management for all employees.

It is essential for organizations to carefully evaluate these potential disadvantages and mitigate any associated risks when implementing an online employee attendance system. Proper planning, training, security measures, and employee communication can help address these challenges and ensure successful adoption and utilization of the system.

1.1 : Problem statement:

Online Employee Attendance

The problem statement for online employee attendance can be defined as follows:

Inefficient and error-prone manual methods of tracking employee attendance have become a challenge for organizations. The reliance on physical time clocks, paper-based attendance sheets, and manual data entry processes results in inaccuracies, time-consuming administrative tasks, and difficulties in monitoring and managing attendance records. Moreover, with the increasing prevalence of remote work arrangements and distributed teams, traditional attendance tracking methods are often unable to effectively capture the attendance data of employees working outside the office premises.

1.2 : Existing System:

- The user cannot view the product in person.
- There is no human interaction.
- There can be fraud and security problems.

1.3 Proposed System:

it gives complete data about the time the employee are present in the organisation and the time they take off.

The website is flexible to be used

This process can be conducted by recording employee hours using online attendance software of your company.

This can save your time and effort by calculating your employees working hours with an accurate attendance system.

Attendance system keeps track of daily attendance,working hours,breaks,login, and logout.

It provides staff's time theft

An attendance devices such as smart cards , biometrics, and facial recognition devices in real time

The system collects attendance records in the system and manages ,stores and processes the data.

Hence the system saves time, efforts and cost.

Modules:

The modules of an online employee attendance system typically include:

1. User Registration and Authentication: This module allows employees and supervisors to register their accounts and authenticate themselves using unique login credentials. It ensures secure access to the system and establishes user roles and permissions.

2. Attendance Logging: This module enables employees to log their attendance through various methods such as biometric scanners, proximity cards, mobile apps, or web portals. It captures arrival and departure times, breaks, and other attendance-related data.

3. Real-Time Monitoring and Dashboard: This module provides a real-time monitoring dashboard for supervisors and managers to view the attendance status of employees. It allows them to track late arrivals, absences, and overall attendance patterns. The dashboard may include graphical representations, notifications, and alerts for quick identification of attendance issues.

4. Reporting and Analytics: This module generates comprehensive reports and analytics based on attendance data. It includes features such as attendance summaries, employee-specific reports, trends analysis, and leave balances. The module enables data-driven decision-making and helps identify attendance patterns or issues that require attention.

5. Leave Management: This module integrates leave management functionalities with attendance tracking. It allows employees to request time off, specifies leave types (e.g., vacation, sick leave), and provides a workflow for supervisors to review and approve leave requests. It also maintains accurate leave balances and handles leave policy calculations.

6. Notifications and Reminders: This module sends automated notifications and reminders to employees and supervisors regarding attendance-related matters. It may include reminders for logging attendance, upcoming leave requests, or important announcements related to attendance policies.

7. Integration with Payroll Systems: This module integrates with the organization's payroll system, allowing for seamless transfer of attendance data for accurate payroll processing. It automates attendance-related calculations, such as working hours, overtime, and leaves, to ensure accurate and efficient payroll calculations.

8. Data Security and Privacy: This module focuses on ensuring data security and privacy compliance. It includes measures such as encryption of sensitive data, secure servers, access controls, and regular data backups. It also provides options for employees to view and manage their personal information securely.

9. Customization and Configuration: This module allows organizations to customize and configure the online attendance system to align with their specific requirements. It includes features such as defining attendance policies, configuring work schedules, setting up organizational hierarchies, and tailoring reporting formats.

10. Mobile Accessibility: This module enables employees and supervisors to access the online attendance system through mobile apps, ensuring convenience and flexibility for remote workers or employees on the go.

These modules collectively form an integrated online employee attendance system, providing organizations with an efficient, accurate, and user-friendly platform to track, monitor, and manage employee attendance data.

2.Requirement Analysis

2.1 Feasibility Study:

Online Employee Attendance

A feasibility study for implementing an online employee attendance system is crucial to assess the viability and potential benefits of such a solution. Here are key factors to consider during the feasibility study:

1. Technical Feasibility:

- Infrastructure: Evaluate the organization's existing technological infrastructure and determine if it can support the online attendance system. Consider factors such as hardware requirements, network capabilities, and compatibility with existing software systems.
- Integration: Assess the feasibility of integrating the online attendance system with other systems, such as HRIS (Human Resources Information System) and payroll software. Determine if the necessary interfaces and APIs are available for seamless data exchange.
- Scalability: Consider the ability of the proposed system to accommodate the organization's current and future needs, including the number of employees, multiple locations, and potential growth.

2. Operational Feasibility:

- User Acceptance: Assess the willingness of employees, supervisors, and HR personnel to adopt and adapt to the new online attendance system. Conduct surveys or interviews to gauge their perception and potential challenges during the transition.

- Training and Support: Evaluate the organization's ability to provide comprehensive training and ongoing technical support to ensure a smooth adoption and efficient use of the system. Consider any additional costs and resources required for training programs and user assistance.

3. Financial Feasibility:

- Cost-Benefit Analysis: Determine the estimated costs associated with implementing the online attendance system, including software licenses, hardware devices, infrastructure setup, customization, maintenance, and support. Compare these costs with the potential benefits, such as time savings, reduced administrative efforts, improved accuracy, and enhanced productivity. Conduct a cost-benefit analysis to assess the financial viability of the solution.

- Return on Investment (ROI): Calculate the anticipated ROI based on the projected benefits and costs. Consider the payback period and the long-term financial impact of implementing the system. Assess whether the expected benefits outweigh the investment in a reasonable timeframe.

4. Legal and Compliance Feasibility:

- Data Protection and Privacy: Evaluate the legal and regulatory requirements related to data protection and privacy, ensuring that the online attendance system complies with applicable laws, such as GDPR (General Data Protection Regulation) or CCPA (California Consumer Privacy Act).

- Employee Consent: Determine the feasibility of obtaining employee consent for capturing and storing their attendance data electronically. Ensure that the organization has appropriate policies and procedures in place to address consent, data retention, and employee rights.

5. Security Feasibility:

- Data Security: Assess the proposed system's security measures, such as encryption, access controls, firewalls, and secure data transmission. Evaluate the feasibility of implementing robust security measures to protect employee data from unauthorized access, breaches, or cyber threats.

- Disaster Recovery: Consider the feasibility of implementing a robust backup and disaster recovery plan to ensure the availability and integrity of attendance data in case of system failures or emergencies.

A comprehensive feasibility study will provide insights into the technical, operational, financial, legal, and security aspects of implementing an online employee attendance system. It will help organizations make informed decisions, identify potential challenges, and develop a roadmap for successful implementation and adoption of the solution.

2.1.1 Technical Feasibility: The technical feasibility of implementing an online employee attendance system involves assessing the organization's existing technological infrastructure and determining if it can support the system's requirements. Here are key aspects to consider during the technical feasibility analysis:

1. Hardware Requirements: Evaluate the hardware components needed to deploy the online attendance system. This may include servers, network equipment, biometric devices (if applicable), and other hardware necessary for data capture and storage. Ensure that the organization has the required hardware or determine the feasibility of procuring it.

2. Software Systems and Integration: Assess the compatibility of the proposed online attendance system with the organization's existing software systems, such as HRIS (Human Resources

Information System) and payroll software. Determine if the necessary interfaces, APIs, or integration options are available to exchange data seamlessly between systems.

3. Network Infrastructure: Evaluate the organization's network infrastructure to determine if it can handle the increased data traffic generated by the online attendance system. Consider factors such as bandwidth, network capacity, and stability to ensure smooth system operation and data transfer.

4. Security Measures: Assess the technical security measures required to protect the attendance system and employee data. This includes implementing authentication mechanisms, encryption protocols, access controls, and firewalls to safeguard against unauthorized access, data breaches, or cyber threats.

5. Scalability and Performance: Consider the scalability of the proposed system to accommodate the organization's current and future needs. Evaluate if it can handle a growing number of employees, multiple locations, and increased data volume without compromising performance or system responsiveness.

2.1.2 Economic Feasibility: The economic feasibility of implementing an online employee attendance system involves assessing the financial costs and benefits associated with the system. Here are key factors to consider during the economic feasibility analysis:

1. Cost of Implementation: Evaluate the initial investment required to implement the online attendance system. This includes costs associated with software licenses, hardware devices (e.g., biometric scanners, proximity cards), infrastructure setup, customization, and any necessary training or consulting services.

2. Operational Costs: Consider the ongoing operational expenses related to the online attendance system. This may include costs for system maintenance, technical support, software updates, data

backup, and hosting or cloud services. Estimate these recurring costs over the system's expected lifespan.

3. Cost Savings: Identify potential cost savings that can be achieved by implementing the online attendance system. Factors to consider include reduced administrative workload, decreased paper and printing costs, elimination of manual data entry errors, and streamlined payroll processing. Quantify these savings based on the organization's current processes and estimated improvements.

4. Time Savings: Assess the time savings that can be achieved through the implementation of an online attendance system. Consider the reduction in time spent on manual attendance tracking, data entry, verification, and reconciliations. Estimate the value of saved time in terms of employee productivity and reallocate it to more strategic tasks.

5. Accuracy and Productivity Gains: Determine the potential improvements in accuracy and productivity resulting from the online attendance system. Consider the reduction in errors related to attendance data, improved visibility into attendance patterns, and streamlined processes for leave management and reporting. Quantify these gains in terms of increased operational efficiency and improved decision-making.

2.1.2.1 Cost Benefit Analysis:

A cost-benefit analysis of implementing an online employee attendance system helps organizations evaluate the financial viability and potential benefits of the solution. Here are key elements to consider when conducting a cost-benefit analysis:

1. Cost Analysis:

a. Initial Implementation Costs: Identify the costs associated with implementing the online employee attendance system. This includes software licenses, hardware devices (if applicable), infrastructure setup, customization, training, and consulting services.

b. Operational Costs: Consider recurring operational expenses such as system maintenance, technical support, software updates, data backup, hosting or cloud services, and any ongoing licensing fees.

c. Employee Training and Transition Costs: Evaluate the cost of training employees and supervisors to use the new system effectively. Include costs associated with change management and the time spent transitioning from manual attendance tracking to the online system.

2. Benefit Analysis:

a. Time Savings: Quantify the time savings achieved by implementing the online attendance system. Consider the reduction in time spent on manual attendance tracking, data entry, verification, and reconciliation. Estimate the value of saved time in terms of increased productivity and the ability to allocate resources to more strategic tasks.

b. Cost Savings: Identify cost savings resulting from the online attendance system. This includes reduced administrative workload, decreased paper and printing costs, elimination of manual data entry errors, and streamlined payroll processing. Quantify these savings based on the organization's current processes and estimated improvements.

c. Accuracy and Productivity Gains: Assess the improvements in attendance data accuracy and productivity resulting from the system. Consider the reduction in errors, improved visibility into attendance patterns, streamlined leave management, and enhanced reporting and decision-making capabilities. Quantify the value of these gains in terms of increased operational efficiency and improved outcomes.

d. Compliance and Risk Mitigation: Consider the benefits of compliance with attendance regulations, labor laws, and payroll accuracy. Assess the potential reduction in legal penalties, fines, and employee dissatisfaction resulting from accurate attendance tracking and compliance with relevant regulations.

e. Employee Satisfaction and Retention: Evaluate the impact of the online attendance system on employee satisfaction and retention. Consider the benefits of providing employees with a user-

friendly, convenient, and efficient attendance tracking solution, which can contribute to improved employee morale and reduced turnover rates.

3. ROI and Payback Period:

a. Calculate the return on investment (ROI) by subtracting the total costs from the total benefits and dividing the result by the total costs. Express the ROI as a percentage.

b. Determine the payback period by dividing the initial implementation costs by the annual cost savings or benefits generated by the system. This indicates the time it takes to recover the initial investment through the realized benefits.

4. Sensitivity Analysis:

a. Assess the sensitivity of the cost-benefit analysis by considering various scenarios and assumptions. This helps evaluate the robustness of the analysis and identify potential risks or uncertainties in the projected benefits and costs.

5. Qualitative Factors:

a. Consider any qualitative factors that are difficult to quantify but may contribute to the overall value of the online employee attendance system. This can include improved employee morale, increased data accuracy, better decision-making, and enhanced organizational efficiency.

By conducting a comprehensive cost-benefit analysis, organizations can evaluate the financial implications of implementing an online employee attendance system. This analysis helps in making informed decisions, justifying the investment, and determining the overall value and feasibility of the solution**.**

2.1.3 Operational Feasibility: The operational feasibility of implementing an online employee attendance system involves assessing the organization's readiness and capability to adopt and integrate the system into its daily operations. Here are key factors to consider during the operational feasibility analysis:

1. User Acceptance: Evaluate the willingness of employees, supervisors, and HR personnel to adopt and adapt to the online employee attendance system. Conduct surveys, interviews, or focus groups to

understand their attitudes, concerns, and expectations regarding the new system. Identify potential resistance to change and develop strategies to address them.

2. Training and Support: Assess the organization's capacity to provide comprehensive training and ongoing technical support for employees, supervisors, and administrators using the online attendance system. Determine if the necessary resources, such as trainers, training materials, or user guides, are available. Consider the feasibility of providing user-friendly documentation and online support channels.

3. Change Management: Evaluate the organization's readiness to manage the transition from manual attendance tracking to the online system. Consider the feasibility of implementing change management strategies, including communication plans, employee engagement initiatives, and stakeholder involvement. Identify key individuals or teams responsible for leading the change and ensuring smooth adoption.

4. System Integration: Assess the feasibility of integrating the online attendance system with existing systems, such as HRIS (Human Resources Information System) and payroll software. Determine if the necessary interfaces or APIs are available to exchange data seamlessly. Evaluate the compatibility of the system with existing processes and workflows, ensuring minimal disruption during integration.

5. Process Alignment: Evaluate the alignment of the online attendance system with existing attendance management processes. Identify any gaps or discrepancies and determine the feasibility of customizing the system to align with the organization's specific requirements. Consider the adaptability of the system to accommodate unique attendance policies, leave types, approval workflows, and reporting formats.

2.2 Software Requirement Specifications

Introduction:

Software Requirements Specification (SRS) for Online Employee Attendance System

1. Introduction:

a. Purpose: The purpose of this document is to define the software requirements for an online employee attendance system.

b. Scope: The online employee attendance system will provide a user-friendly and efficient solution for employees, supervisors, and HR personnel to track and manage attendance records.

c. System Overview: The system will include features such as employee login, attendance marking, leave management, reporting, and integration with existing HR and payroll systems.

2. Functional Requirements:

a. User Management:

i. Employee Registration: The system shall allow employees to register and create their accounts using unique identifiers, such as employee ID or email.

ii. User Roles and Permissions: The system shall support different user roles, such as employees, supervisors, and HR administrators, with appropriate access permissions.

b. Attendance Tracking:

i. Attendance Marking: The system shall provide a mechanism for employees to mark their attendance, either through manual entry or using biometric devices.

ii. Attendance Validation: The system shall validate and record attendance entries based on predefined rules, such as working hours, shifts, and authorized leave.

c. Leave Management:

i. Leave Application: The system shall allow employees to request leaves, specifying the type of leave, duration, and reason.

ii. Leave Approval Workflow: The system shall support a workflow for leave approval, including notifications to supervisors, leave status tracking, and automatic updates to attendance records upon leave approval.

d. Reporting and Analytics:

i. Attendance Reports: The system shall generate various attendance reports, including daily, weekly, monthly, and custom date range reports, for individual employees, teams, or departments.

ii. Absence and Overtime Reports: The system shall provide reports on employee absences, late arrivals, early departures, and overtime hours worked.

iii. Integration with HR and Payroll Systems: The system shall support integration with existing HR and payroll systems to exchange attendance data seamlessly.

e. Notifications and Alerts:

i. Absence and Late Arrival Notifications: The system shall send notifications to supervisors or HR administrators regarding employee absences or late arrivals.

ii. Leave Approval Notifications: The system shall notify employees and supervisors about leave application status, approval, or rejection.

3. Non-Functional Requirements:

a. Usability: The system shall have a user-friendly interface, intuitive navigation, and support multiple languages if required.

b. Security: The system shall implement appropriate security measures to protect employee data, including encryption, access controls, and secure authentication mechanisms.

c. Performance: The system shall be able to handle concurrent users and manage large volumes of attendance data efficiently, ensuring quick response times.

d. Scalability: The system architecture shall be scalable to accommodate future growth in the number of employees and increasing data volumes.

e. Reliability: The system shall be reliable, ensuring minimal downtime, data integrity, and backup and recovery mechanisms in case of system failures.

f. Compatibility: The system shall be compatible with popular web browsers and support mobile devices for convenient access.

4. Constraints:

a. Budget: The system development and implementation should align with the allocated budget.

b. Timeframe: The system should be developed and deployed within the specified timeframe.

c. Integration: The system should integrate smoothly with existing HR and payroll systems, adhering to their requirements and APIs.

5. Assumptions:

a. Availability of necessary hardware and infrastructure to support the system.

b. Adequate training and user support resources will be provided to employees and administrators.

This Software Requirements Specification (SRS) provides a comprehensive overview of the functional and non-functional requirements for the online employee attendance system. It

serves as a foundation for the development, testing, and implementation of the system, ensuring alignment with the organization's needs and objectives.

Admin Module:-

Admin Login :

- **Input :** Administrator should have a valid username, password.
- **Computation :** These data are verified with database.
- **Output :** Administrator into Admin page. Login successfully.
- **Storage :** Username and password are stored in database.

2.2.2 Non-Functional Requirements:

The non-functional requirements consist of

1. Analysis, Design & Data requirements (Use-case diagrams, textual analysis, sequence diagrams, data dictionary etc.)
2. Constraints
3. Guidelines.

4. Validation Criteria

2.2.2.1 Quality Metrics:

When assessing the quality of an online employee attendance system, several metrics can be used to evaluate its performance and effectiveness. Here are some key quality metrics for online employee attendance:

1. Accuracy: Measure the accuracy of attendance data recorded by the system. Compare the system's attendance records with manual or alternate sources of attendance tracking to assess any discrepancies or errors.

2. Reliability: Evaluate the system's reliability by monitoring its uptime and availability. Measure the frequency and duration of system outages or interruptions that may impact attendance tracking and data accessibility.

3. User Satisfaction: Gather feedback from employees, supervisors, and HR personnel to assess their satisfaction with the online attendance system. Conduct surveys or interviews to gauge user experience, ease of use, and overall satisfaction with the system's functionality.

4. Data Security: Evaluate the system's security measures to ensure employee attendance data is protected. Assess the implementation of encryption, access controls, and secure authentication mechanisms to safeguard sensitive information.

5. Performance: Measure the system's performance in terms of response time, data processing speed, and concurrent user capacity. Evaluate whether the system can handle the expected user load and perform efficiently during peak usage periods.

2.2.2.2 Reliability:

The reliability of an online employee attendance system refers to its ability to consistently perform its intended functions without disruptions or errors. Here are some key factors that contribute to the reliability of such a system:

1. Uptime: The system should have a high level of uptime, meaning it should be available and accessible to users for a significant portion of the time. This includes minimizing scheduled maintenance windows and ensuring that unplanned downtime is kept to a minimum.

2. Performance: The system should perform efficiently and respond promptly to user actions. It should be capable of handling concurrent user activity without significant slowdowns or delays.

3. Data Integrity: The system should accurately capture and store attendance data without any loss or corruption. It should have proper error handling mechanisms in place to prevent data inconsistencies or data loss during the recording or processing of attendance information.

4. Redundancy and Failover: Implementing redundancy and failover mechanisms can enhance the reliability of the system. This may include having backup servers, data replication, or load balancing to ensure continuous operation in case of hardware or network failures.

5. Error Handling and Recovery: The system should be designed to handle errors gracefully and recover from them without significant impact on users or data integrity. This includes robust error handling, appropriate error messages, and effective error recovery processes.

.

2.2.2.4 Response Time:

The response time of an online employee attendance system refers to the time taken by the system to respond to user actions or requests. It is an important performance metric that directly impacts user experience. Here are some considerations related to response time in an online employee attendance system:

1. User Interface Responsiveness: The system should provide a responsive user interface that reacts promptly to user interactions. This includes actions such as logging in, marking attendance, requesting leaves, and generating reports. The system should provide real-time feedback to users to confirm the successful completion of their actions.

2. Attendance Marking: When an employee marks their attendance, the system should respond quickly, ideally in real-time, to acknowledge the action. This ensures that employees can proceed with their work without any delays caused by waiting for attendance confirmation.

3. Leave Application and Approval: The system should promptly respond to leave applications by sending notifications to the respective supervisors or approvers. Similarly, when a leave request is approved or rejected, the system should provide immediate feedback to the employee. This helps in maintaining a smooth workflow and ensures timely communication regarding leave status.

4. Report Generation: Generating attendance reports is a common activity in an online employee attendance system. The system should generate reports within a reasonable time frame, depending on the complexity and size of the requested report. Users should not experience excessive waiting times when generating reports to access attendance data for analysis or decision-making purposes.

5. System Performance Optimization: To achieve optimal response times, the system should be designed, developed, and optimized for performance. This includes efficient database queries, well-structured code, optimized algorithms, and appropriate caching mechanisms. Regular performance tuning and monitoring can help identify bottlenecks and optimize system components to achieve faster response times.

2.2.2.5 Throughpu

The throughput of an online employee attendance system refers to the number of transactions or actions the system can handle within a given time period. It is a measure of the system's processing capacity and determines its ability to handle concurrent user activity effectively. Here are some considerations related to the throughput of an online employee attendance system:

1. Concurrent User Capacity: The system should be designed to handle a specific number of concurrent users efficiently. This includes employees marking attendance, supervisors approving leaves, administrators generating reports, and other system activities happening simultaneously. The system should be able to accommodate the expected user load without significant performance degradation.

2. Transaction Processing: The system should be capable of processing attendance-related transactions promptly. This includes actions such as marking attendance, applying for leaves,

approving/rejecting leaves, and generating reports. Efficient transaction processing ensures that user actions are completed quickly, maintaining a smooth workflow for all users.

3. Database Performance: The performance of the underlying database plays a crucial role in determining system throughput. Proper database design, indexing, and query optimization techniques can help improve data retrieval and storage efficiency, allowing for faster transaction processing.

4. System Architecture and Scalability: The system's architecture should be designed to scale horizontally or vertically as the user base and data volume increase. This allows for increased throughput as more resources, such as servers, processors, and network capacity, are added to handle the growing load.

5. Caching and Optimization: Implementing caching mechanisms can improve system throughput by reducing the need for repeated data retrieval and processing. Caching frequently accessed data or reports can significantly enhance response times and overall system performance.

2.2.2.6 Availability:

The availability of an online employee attendance system refers to its ability to be accessible and operational for users when needed. It is an important factor in ensuring uninterrupted attendance tracking and management. Here are some considerations related to the availability of an online employee attendance system:

1. Uptime: The system should strive for a high level of uptime, which refers to the percentage of time the system is operational and accessible to users. This includes minimizing planned downtime for maintenance or upgrades and implementing strategies to minimize unplanned downtime due to system failures or technical issues.

2. Fault Tolerance and Redundancy: Implementing fault-tolerant measures and redundancy can help improve system availability. This may include redundant servers, load balancing mechanisms, backup power supplies, and multiple network connections. These measures ensure that if one component fails, there are backup mechanisms in place to maintain system availability.

3. Disaster Recovery: Having a robust disaster recovery plan in place is essential to ensure system availability in the event of a major system failure, natural disaster, or other unforeseen events. This includes regular data backups, off-site data storage, and procedures for quickly restoring system functionality in a different location or environment.

4. Monitoring and Alerting: Implementing monitoring tools and systems can help track the system's availability in real-time. This includes monitoring server health, network connectivity, database performance, and other critical system components. Automated alerts can notify system administrators or IT personnel of any potential issues that may impact system availability, enabling them to take prompt action.

5. System Maintenance and Updates: Scheduled maintenance activities should be planned in a way that minimizes disruption to system availability. This may involve performing maintenance during off-peak hours or implementing rolling updates that allow parts of the system to remain operational while updates are applied.

2.2.2.7 Maintainability:

Maintainability refers to the ease with which an online employee attendance system can be updated, modified, repaired, or enhanced over time. It ensures that the system can adapt to changing business requirements, fix issues, and incorporate new features efficiently. Here are some key aspects of maintainability for an online employee attendance system:

1. Modular and Well-Structured Design: The system should be designed with a modular and well-structured architecture that separates different components and functionalities. This allows for easier identification and modification of specific modules without impacting the entire system. Clear documentation and code commenting can aid in understanding the system's structure and facilitate future maintenance.

2. Code Maintainability: Writing clean, readable, and modular code promotes maintainability. Adopting coding standards, following best practices, and utilizing design patterns can make the codebase more understandable and easier to maintain. Regular code reviews can help identify potential issues and ensure adherence to coding standards.

3. Version Control: Utilizing version control systems, such as Git, enables effective management of code changes and facilitates collaboration among developers. Version control allows for tracking changes, reverting to previous versions if necessary, and merging updates from multiple contributors.

4. Documentation: Comprehensive documentation, including system architecture, database schema, API documentation, and user manuals, simplifies system understanding and maintenance. Documenting code logic, functions, and APIs can help future developers quickly grasp the system's functionality and make necessary modifications or enhancements.

5. Error Logging and Debugging: Implementing robust error logging and debugging mechanisms assists in identifying and resolving issues. Logging error messages, exceptions, and relevant information aids in troubleshooting and diagnosing problems during maintenance activities. Proper error handling ensures that system failures are captured and reported effectively.

2.2.3 Environment and Technology Requirements:

2.2.3.1 Hardware Requirements:

Processor : 11th Gen Intel(R) Core(TM) i3

Memory : 8.00 GB RAM

Keyboard :102

Hard disk : 500GB

2.2.3.2 Software Requirements:

Operating System : Windows 10

Data Base : My Sql

Language : PHP, Java Script Server : Apache

3 Design

3.1 System Design

3.1.1 Design:

Design of software involves conceiving, planning out and specifying the externally observable characteristics of the software product. We have data design, architectural design and user interface design in the design process. These are explained in the following section. The goal of design process is to provide a blue print for implementation, testing and maintenance activities.

The primary activity during data design is to select logical representations of data objects identified during requirement analysis and software analysis. A data dictionary explicitly represents the relationships among data objects and constraints on the elements of the data structure. A data dictionary should be established and used to define both data and program design.

Design process is in between the analysis and implementation process. The following design diagrams (Data Flow Diagrams and E-R Diagrams) make it easy to understand and implement

The design process for software system has two levels.

1. System Design or Top Level Design.
2. Detailed Design or Logical Design.

1.System Design or Top Level Design:

In the system design the focus is on deciding which modules are needed for the system, the specification of these modules and how these modules should be interconnected.

2.Detailed Design or Logical Design:

In detailed design the interconnection of the modules or how the specifications of the modules can be satisfied is decided. Some properties for a software system design are

- Verifiability.
- Completeness.
- Consistency.
- Trace ability.
- Simplicity/Understandability.

The Requirements provided by the users are converted into Users Requirement Specification as described above. The URS documents are then revised, validated, authorized and approved by the users. The development commences after the approval phase i.e. after the signing off of the URS documents. Thus, the URS is concerned to be the most important document from user and developer prospective. The Developer will try to adhere to the requirements specified in the URS documents in order to develop the required application. We have used Waterfall model as a development model.

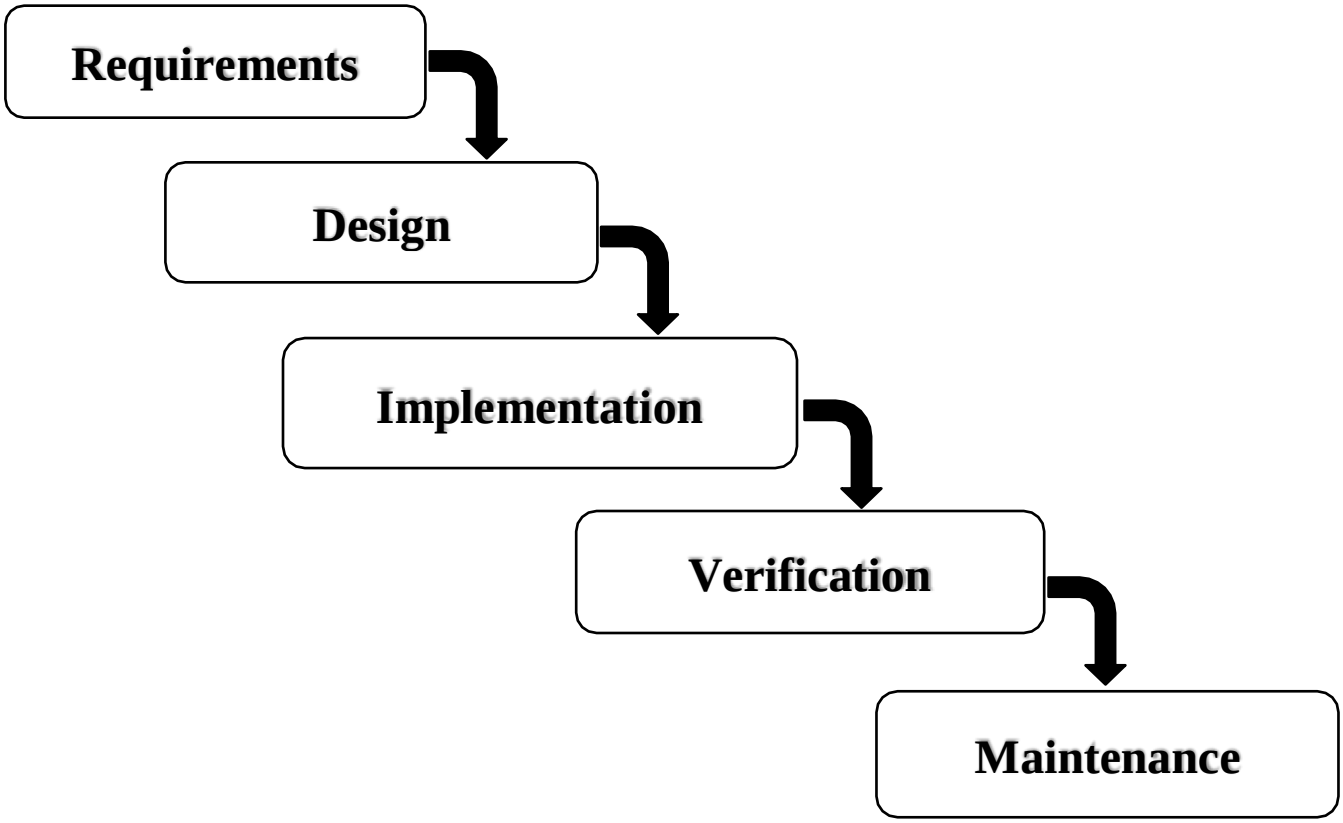


Fig : Water Fall Model

3.1.1 Introduction to UML :

The unified modeling language is a language for specification, constructing, visualizing and documenting the software and its components. The UML is a graphical language with set of rules and syntaxes. The goal of UML is to keep the modeling simple.

UML diagram " provides a visual representation of an aspect of a system". UML diagrams illustrate the quantifiable aspects of a system that can be described visually, such as relationships, behavior, structure, and functionality.

3.1.2 UML Diagrams:

The Unified modeling Language allows the software engineer to express an analysis model using the modeling notation. UML includes set of graphic notation techniques to create

visual object-oriented software intensive systems. UML is used to specify, visualize, modify, construct and document the artifacts of an object of an object-oriented software intensive system under development. A UML system is represented using five different views that describe the system from distinctly different perspective. Each view is defined by a set of diagrams, which is as follows:

User Model View:

This view represents the system from the user's perspective. The analysis representation describes a usage scenario from the end-user's perspective.

Structural Model View:

In this model the data and functionality are arrived from inside the system. This model view models the static structures.

Behavioural Model View:

It represents the dynamic behaviour aspects of the system, depicting the interactions of collection between various structural elements described in the user model and structural model view.

Implementation Model View:

In these the structural and behavioural aspects of the system are represented as they are to be build.

3.1.2.1 Scenarios:

Here are some scenarios that demonstrate the use and benefits of an online employee attendance system:

1. Remote Work: With the increasing trend of remote work or distributed teams, an online employee attendance system allows employees to log their attendance from anywhere, eliminating

the need for physical presence in a centralized office. Employees can mark their attendance using a web or mobile interface, providing accurate records of their work hours.

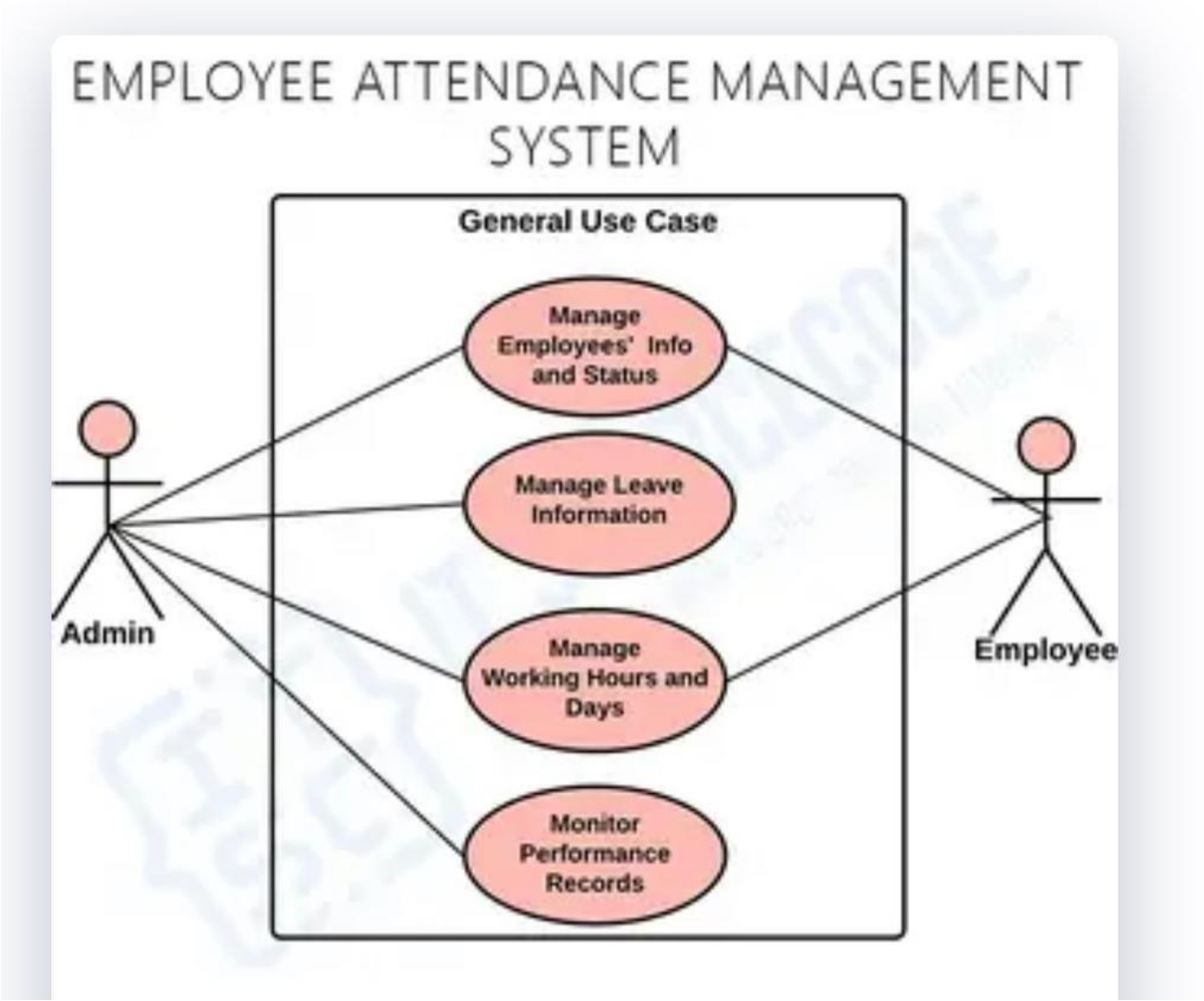
2. Flexible Work Hours: Some organizations offer flexible work hours to their employees. An online employee attendance system enables employees to log their work hours based on their preferred schedule, while supervisors can track and monitor attendance to ensure productivity and accountability.

3. Leave Management: An online attendance system often includes features for managing employee leaves. Employees can request leaves through the system, which can then be reviewed and approved/rejected by supervisors. This streamlines the leave management process, eliminates paperwork, and ensures accurate leave tracking.

4. Real-time Attendance Tracking: An online attendance system allows for real-time attendance tracking. As employees mark their attendance, supervisors or administrators can instantly view and analyze attendance data. This enables timely decision-making, such as identifying latecomers or addressing attendance issues promptly.

5. Reporting and Analytics: Online attendance systems often provide reporting and analytics capabilities. Supervisors and administrators can generate attendance reports to gain insights into employee attendance patterns, trends, and overall workforce performance. These reports can be used for payroll processing, performance evaluations, and identifying attendance-related trends or concerns.

3.1.2.2 Use Case Diagrams:



Use Case Descriptions:

Use Case: Mark Attendance Online

Description: This use case describes the process of an employee marking their attendance using an online employee attendance system.

Actors:

- Employee: The person who needs to mark their attendance.

- System: The online employee attendance system.

Preconditions:

- The employee has access to a device with an internet connection.

- The employee has valid credentials to log in to the online employee attendance system.

- The employee is within the designated attendance marking timeframe.

Main Flow:

1. The employee opens the web or mobile interface of the online employee attendance system.

2. The system presents the login screen.

3. The employee enters their username and password.

4. The system verifies the employee's credentials and authenticates them.

5. Upon successful authentication, the system presents the attendance marking page.

6. The employee selects the current date or verifies that it is pre-selected.

7. The system displays the current time and provides options for marking attendance (e.g., "In" or "Out").

8. The employee selects the appropriate attendance status (e.g., "In" if starting work).

9. The employee submits the attendance marking request.

10. The system records the attendance data, including the employee's ID, timestamp, and attendance status.

11. The system displays a confirmation message to the employee, acknowledging the successful attendance marking.

Alternative Flows:

A. Invalid Credentials:

- If the employee enters invalid login credentials in step 3, the system displays an error message and prompts the employee to re-enter their credentials.

- The employee repeats steps 3 to 5 until valid credentials are entered, or they choose to recover/reset their password.

B. Late Attendance Marking:

- If the employee attempts to mark attendance outside the designated attendance marking timeframe (e.g., after a specified grace period), the system displays a warning message indicating that late attendance is being recorded.

- The employee acknowledges the warning and proceeds with attendance marking.

C. System Unavailability:

- If the online employee attendance system is temporarily unavailable or experiencing technical difficulties, the system displays an error message indicating the issue.

- The employee is advised to try again later or follow any alternative attendance marking procedures communicated by the organization.

Postconditions:

- The employee's attendance record is updated with the timestamp and attendance status.

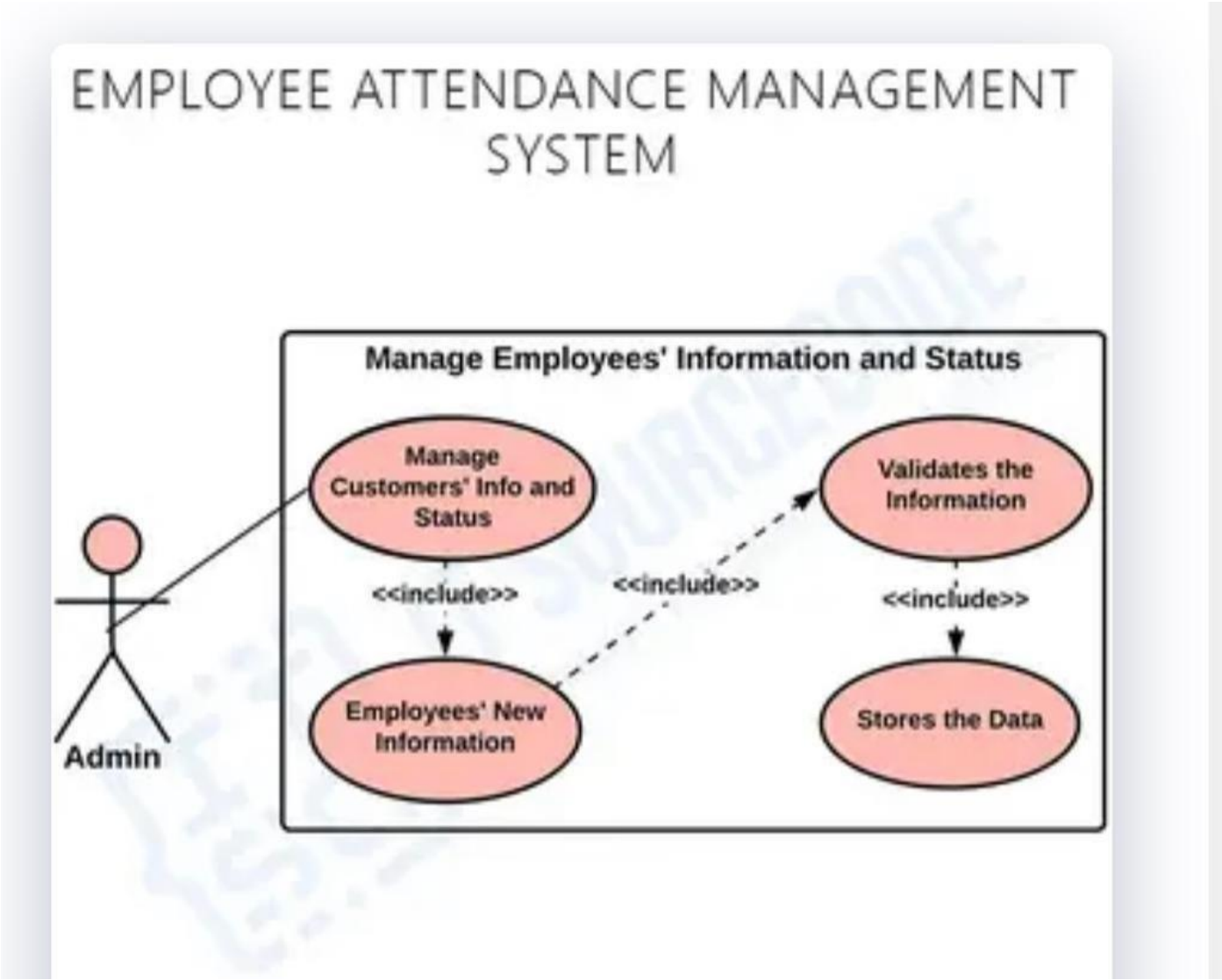
- The system stores the attendance data securely for future reference and reporting.

Extensions:

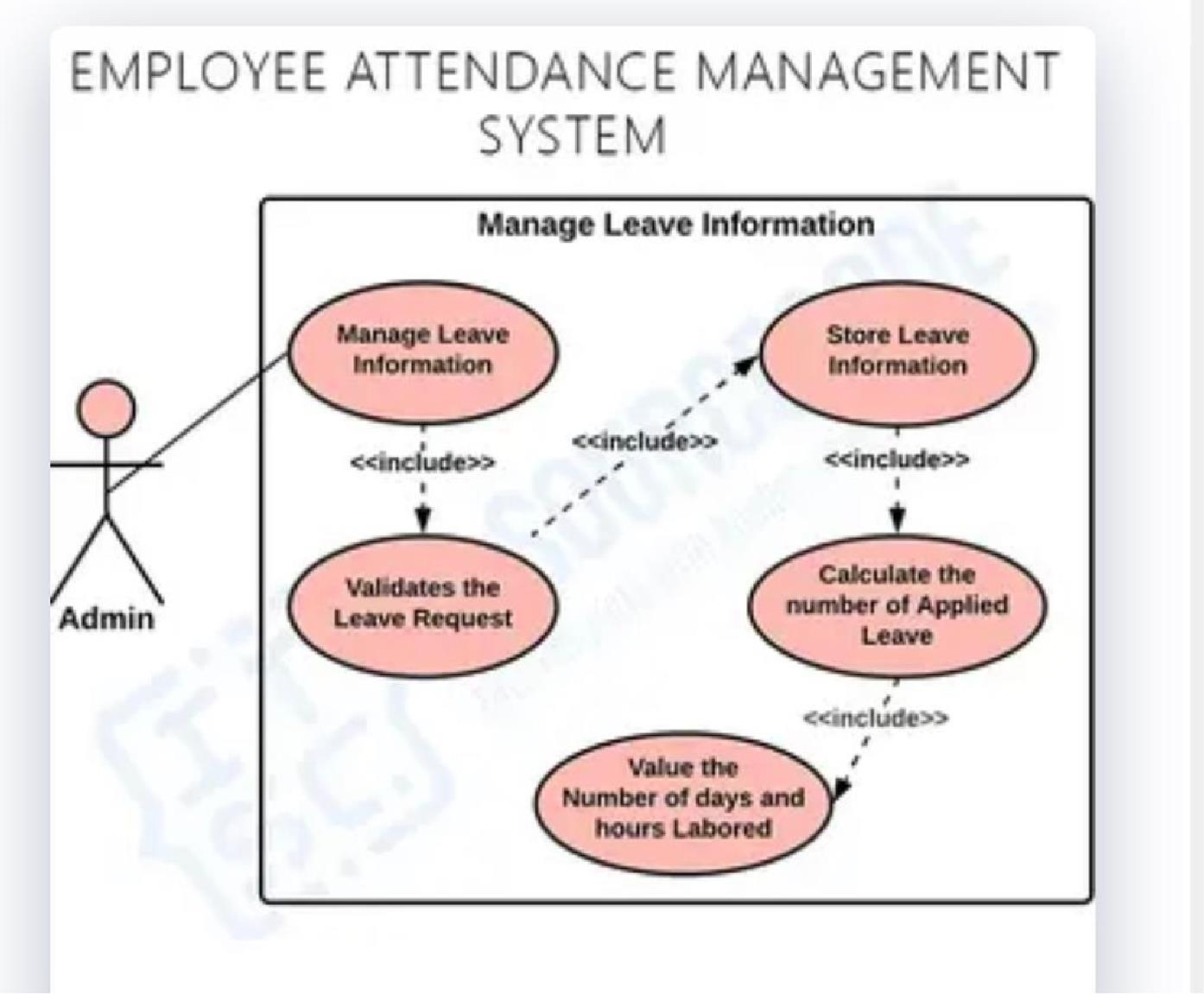
- This use case can be extended to incorporate additional features such as leave requests, shift selection, or location-based attendance marking, depending on the specific functionalities of the online employee attendance system.

Note: This use case focuses on the basic attendance marking process. Additional use cases can be defined to cover other system functionalities, such as leave management, attendance reporting, supervisor approvals, or system administration tasks.

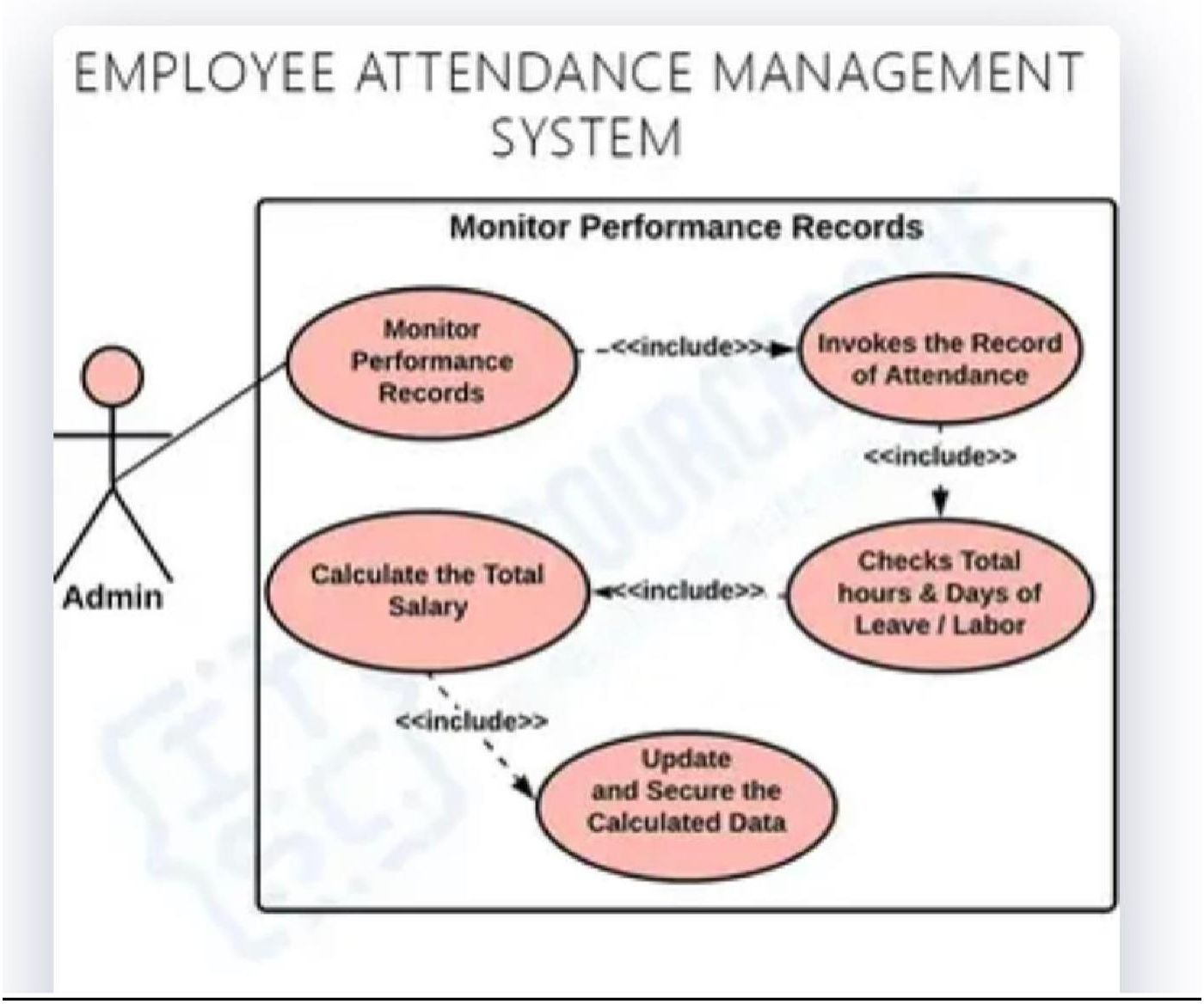
3.1.2.3 Class Diagrams:



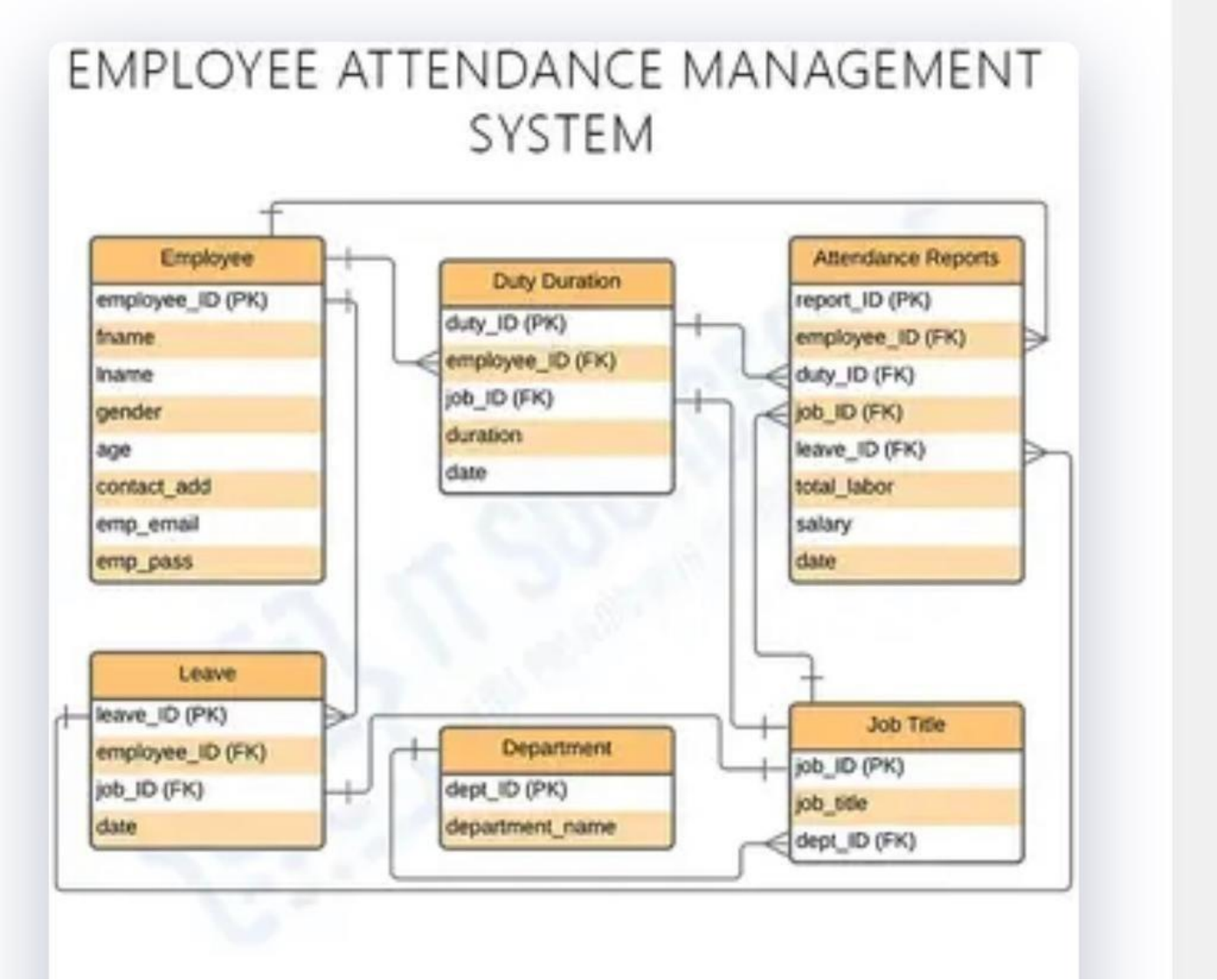
3.1.2.4 Object Diagrams:

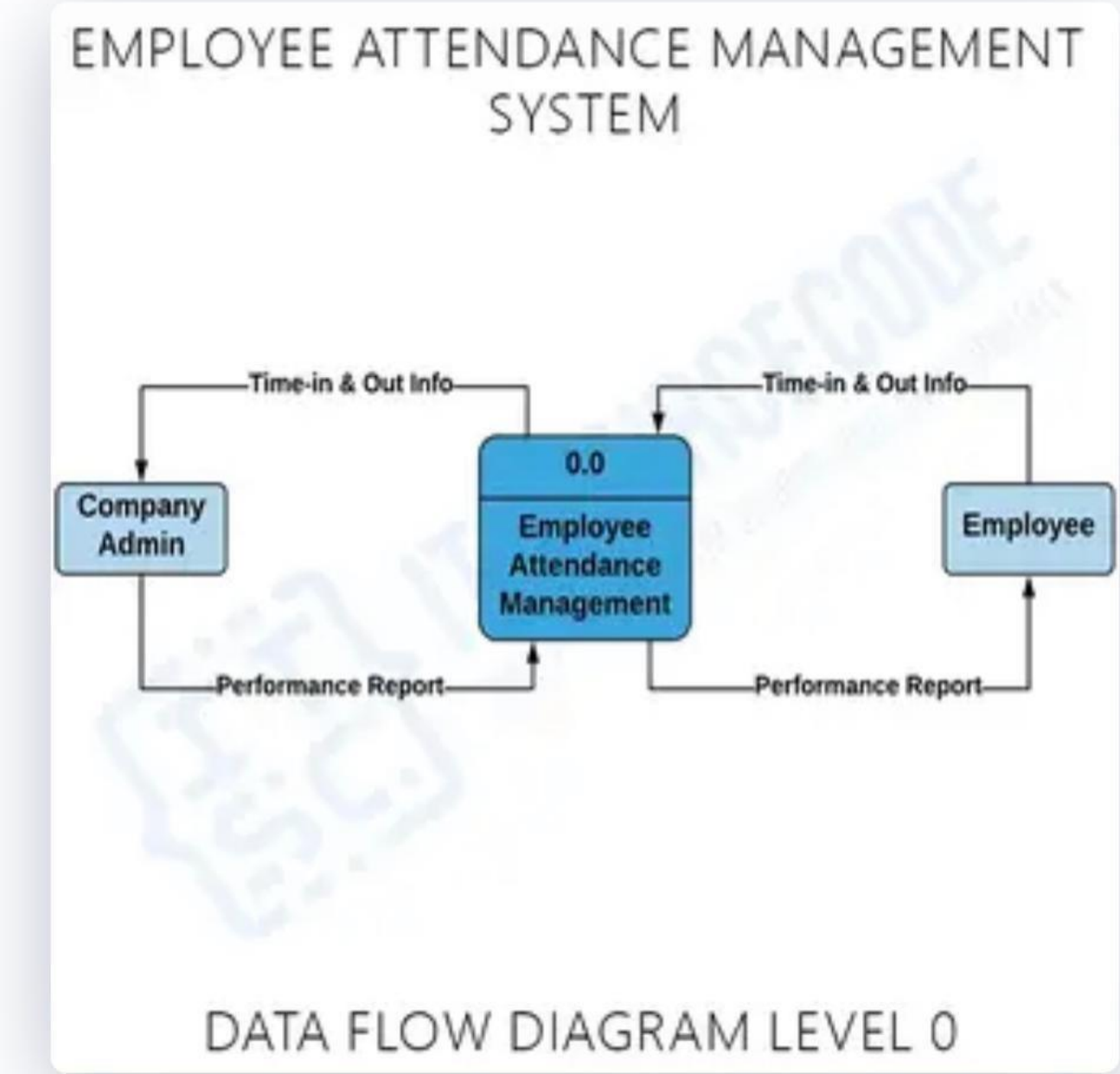


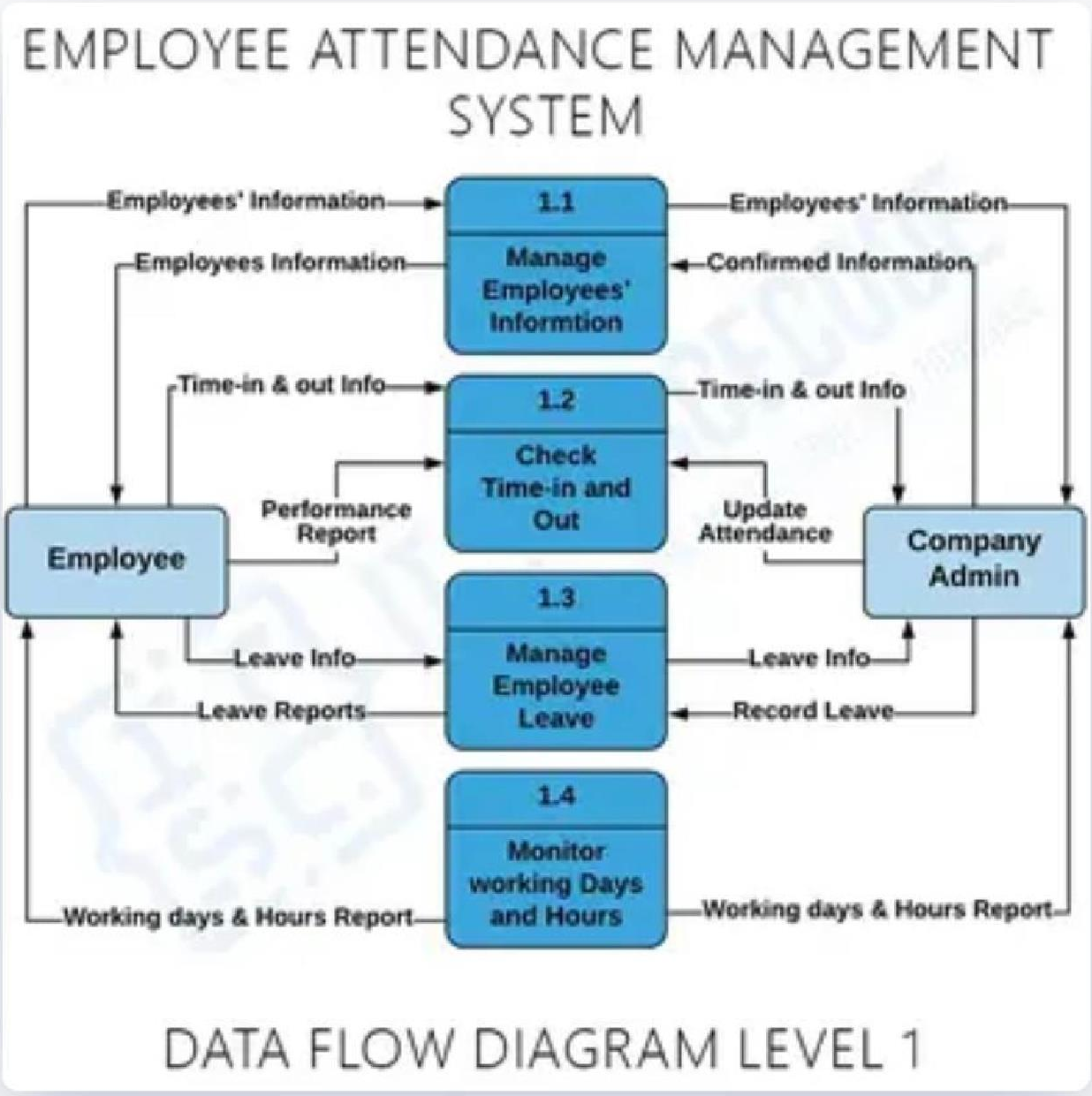
3.1.2.5 Sequence Diagram:



3.1.2.6 Activity Diagrams:

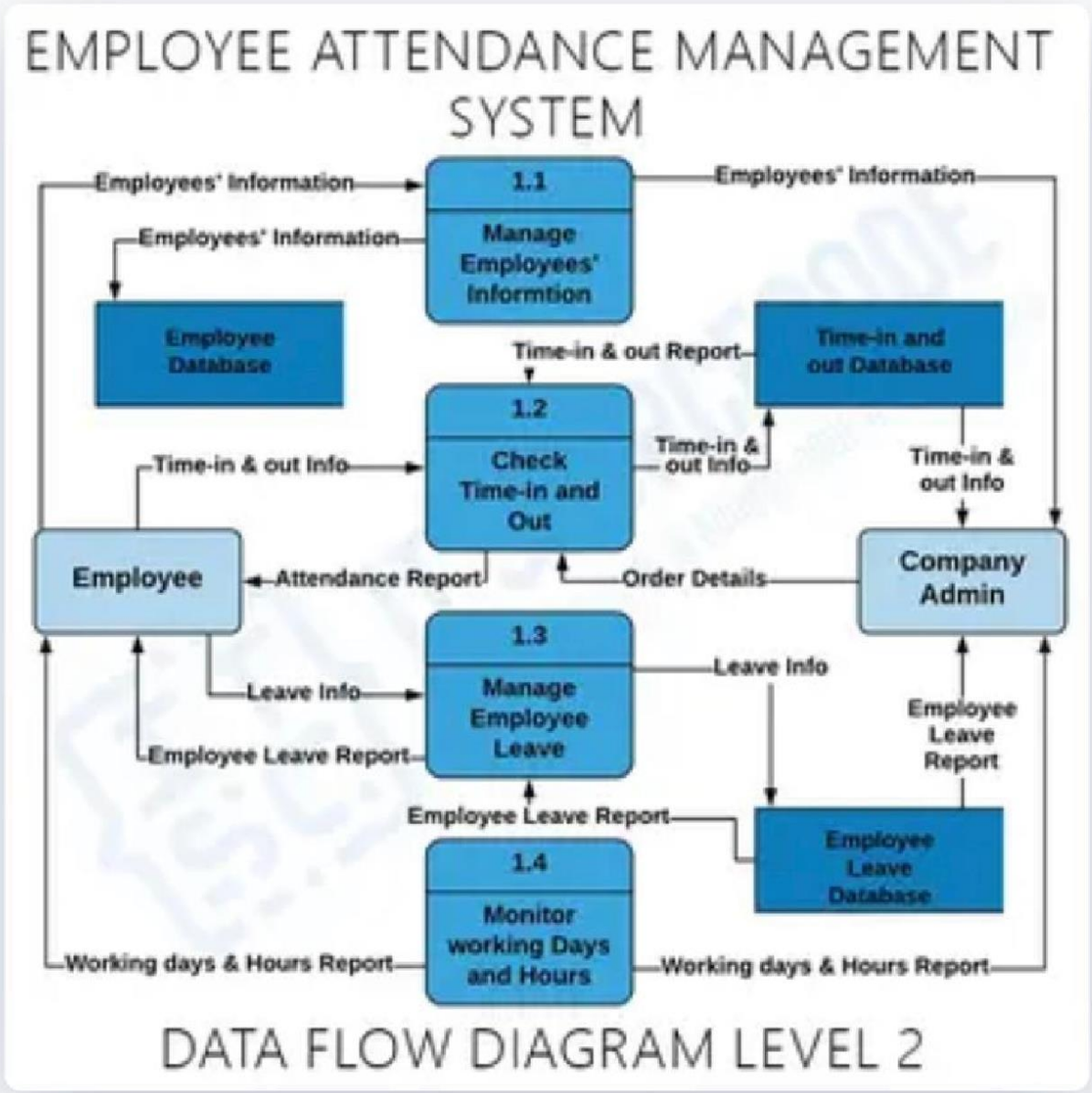

EMPLOYEE ATTENDANCE MANAGEMENT SYSTEM
Employee
employee_ID (PK)
fname
lname
gender
age
contact_add
emp_email
emp_pass
Duty Duration
duty_ID (PK)
employee_ID (FK)
job_ID (FK)
duration
date
Attendance Reports
report_ID (PK)
employee_ID (FK)
duty_ID (FK)
job_ID (FK)
leave_ID (FK)
total_labor
salary
date
Leave
leave_ID (PK)
employee_ID (FK)
job_ID (FK)
date
Department
dept_ID (PK)
department_name
Job Title
job_ID (PK)
job_title
dept_ID (FK)


EMPLOYEE ATTENDANCE MANAGEMENT SYSTEM
Time-in & Out Info
Time-in & Out Info
0.0
Employee Attendance Management
Company Admin
Employee
Performance Report
Performance Report
DATA FLOW DIAGRAM LEVEL 0



Level 1 DFD for Employee Attendance Management System

3.1.2.7 State Diagrams:



DFD Level 2 for Employee Attendance Management System

3.2 Interface Design:

1. User friendly layout: Design an intuitive and user-friendly layout that allows employees to easily navigate and interact with the system. Use a clear and organized design with appropriate spacing, front size, and colours to enhance readability and usability.

2.Login screen: begin with a login screen where employees can enter their credebtials, such as username and password, to access the system. Keep the login process simple and secure

3.Dashboard: after logging in , provide employees with a visually appealing dashboard that displays relevant information, such as attendance summary, upcoming events, or notifications. Use clear visual cues, icons, or charts to present data in an easily understandable format.

3.3 Database Design:

3.3.1 Introduction to Backend:

MYSQL

According to the MySQL Corporation website, in the Products category where MySQL is listed "Whether users are creating a database for personal use, departmental use or for an entire organization, oracle offers an easy-to-use database for managing and sharing data. Oracle brings not only the traditional broad range of easy data management tools but also adds increased integration with the Web for easier sharing of data across a variety of platforms and user levels and additional ease-of-use enhancements to assist with personal productivity.

MySQL is a relational Database, which forms part of the Office Suite of products from MySQL Corporation. Though it can be used only for small applications, this RDBMS was chosen for the implementation because it has a very user friendly Graphical User Interface. The tables can be created in the design view or through a Wizard. It is easy to create integrity constraints & foreign keys through the GUI

If the Database is to be changed, then all that is required is to change the Thin Driver jar file. For example, in Tomcat 5.0 server, a new connection can be created by changing the name in Bean class. So it is very easy to connect to a Database.

Access provides all the features of an RDBMS. So it can be used for development of any application, which requires the relational Database features. It is also easy to

import into or export data from Oracle. It supports SQL & can be connected from Java through thin driver.

1.3.2 Normalization regarding the project table:

emp_id	username	password	email	first_name	Last_name
1	Meghana g	maggi@098	meghana777@gmail.com	Mani	Bellam
2	Reshma begum				

Category Table:

Employee id	employee_name

Employee id	Employee name	Login time	Login out

Order_detail_id	Order_id	Product_id	quantity	price

Review Table:

Reviw_id	User_id	Product_id	rating	review_text	Review_date

Admin Log table:

log_id	admin_id	log_date	activity_description

4 Coding:

4.1 Sample code:

Home page:

```
<!DOCTYPE html>
<?php
require_once 'validator.php';
require_once 'account.php';
?>
<html lang = "eng">
<head>
    <title>Online Employee Attendance</title>
    <meta charset = "utf-8" />
    <meta name = "viewport" content = "width=device-width, initial-scale=1" />
    <link rel = "stylesheet" href = "css/bootstrap.css" />
</head>
<body>
    <nav class = "navbar navbar-inverse navbar-fixed-top" style="background-color: green; color: white;" >
        <div class = "container-fluid">
            <div class = "navbar-header">
                <img src = "images/mainlogo.jpg" width = "50px" height = "50px"/>
                <p class = "navbar-text pull-right" style="color: white;">Online Employee Attendance</p>
            </div>
            <ul class = "nav navbar-nav navbar-right">
                <li class = "dropdown">
                    <a href = "#" class = "dropdown-toggle" data-toggle = "dropdown"><i class = "glyphicon glyphicon-user"></i> <?php echo htmlentities($admin_name)?> <b class = "caret"></b></a>
                    <ul class = "dropdown-menu">
                        <li><a href = "logout.php"><i class = "glyphicon glyphicon-off"></i>Logout</a></li>
                    </ul>
```

```
                    </li>
                </ul>
            </div>
    </nav>
    <div class = "container-fluid" style = "margin-top:70px;">
            <ul class = "nav nav-pills">
                    <li class = "active"><a href = "home.php"><span class = "glyphicon glyphicon-
home"></span>Home</a></li>
                    <li class = "dropdown">
                            <a class = "dropdown-toggle" data-toggle = "dropdown" href = "#"><span
class = "glyphicon glyphicon-cog"></span>Accounts <span class = "caret"></span></a>
                            <ul class = "dropdown-menu">
                                    <li><a href = "admin.php"><span class = "glyphicon glyphicon-
user"></span> Admin</a></li>
                                    <li><a href = "student.php"><span class = "glyphicon glyphicon-
user"></span> Employee</a></li>
                            </ul>
                    </li>
                    <li><a href = "record.php"><span class = "glyphicon glyphicon-
book"></span>Record</a></li>
            </ul>
            <br />
            <div class = "alert alert-info">Home</div>
            <div class = "well col-lg-12">
                    <img src = "images/itsourcecode.png"  width = "1300px" height = "300px" />
            <br />
            <br />
            <br />
            </div>
    </div>
    <div class = "navbar navbar-fixed-bottom" style="background-color: blue; color: white;">
            <div class = "container-fluid">
                    <center><label>&copy;Online Employee Attendance</label></center>
```

```
            </div>
    </div>
</body>
<script src = "js/jquery.js"></script>
<script src = "js/bootstrap.js"></script>

</html>
```

Login :

```
<?php
require_once 'connect.php';
$username = $_POST['username'];
$password = $_POST['password'];
$q_login = $conn->query("SELECT * FROM `admin` WHERE `username` = '$username' && `password` = '$password'") or die(msqli_error());
$f_login = $q_login->fetch_array();
$v_login = $q_login->num_rows;
if($v_login > 0){
    echo 'success';
    session_start();
    $_SESSION['admin_id'] = $f_login['admin_id'];
}
```

Log out:

```
<?php
session_start();
session_unset('admin_id');
header('location:index.php');
```

Index page :

```
<!DOCTYPE html>
```

```
<?php


?>
<html lang = "eng">
<head>
    <title>Online Employee Attendance</title>
    <meta charset = "utf-8" />
    <meta name = "viewport" content = "width=device-width, initial-scale=1" />
    <link rel = "stylesheet" type = "text/css" href = "css/bootstrap.css" />
    <link rel = "stylesheet" type = "text/css" href = "css/style.css" />
</head>
<body>
    <nav class = "navbar navbar-inverse navbar-fixed-top" style="background-color: green; color: white;" >
            <div class = "container-fluid">
                    <div class = "navbar-header" >
                            <img src = "images/mainlogo.jpg" width = "50px" height = "50px"/>
                            <p class = "navbar-text pull-right" style="color: white;">Online Employee Attendance</p>
                    </div>
            </div>
    </nav>
    <div class = "container" style = "margin-top:120px;">
            <div class = "row row-centered" style="">
```

```
                    <div class = "col-lg-2 col-centered"></div>
                    <div class = "col-lg-2 col-centered"></div>
                    <div class = "col-lg-4 col-centered">
                        <div class = "panel panel-primary">
                            <div class = "panel-heading" style="background-color: green;">
                                <h4>Administration Login</h4>
                            </div>
                            <div class = "panel-body">
                                <form enctype = "multipart/form-data">
                                    <div id = "username_warning" class = "form-group">
                                        <label class = "control-
label">Username:</label>
                                        <input type = "text" id = "username" class =
"form-control" />
                                    </div>
                                    <div id = "password_warning" class = "form-group">
                                        <label class = "control-
label">Password:</label>
                                        <input type = "password" maxlength = "12" id =
"password" class = "form-control" />
                                    </div>
                                    <div id = "result"></div>
                                    <br />
                                    <button type = "button" class = "btn btn-success btn-
block" id = "login_admin"><span class = "glyphicon glyphicon-save"></span> Login</button>
                                </form>
```

```
                                    </div>
                                </div>
                            </div>
                        </div>
                    </div>
                    <div class = "navbar navbar-fixed-bottom" style="background-color: blue; color: white;">
                        <div class = "container-fluid">
                            <center><label>&copy;Online Employee Attendance</label></center>


                        </div>
                    </div>
                </body>
                <script src = "js/jquery.js"></script>
                <script src = "js/bootstrap.js"></script>
                <script src = "js/login.js"></script>
                </html>
```

Admin:

```
<!DOCTYPE html>
<?php
require_once 'validator.php';
require_once 'account.php';
?>
<html lang = "eng">
<head>
```

```
    <title>Online Employee Attendance</title>
    <meta charset = "utf-8" />
    <meta name = "viewport" content = "width=device-width, initial-scale=1" />
    <link rel = "stylesheet" href = "css/bootstrap.css" />
    <link rel = "stylesheet" href = "css/jquery.dataTables.css" />
</head>
<body>
    <nav class = "navbar navbar-inverse navbar-fixed-top" style="background-color: green; color: white;" >
        <div class = "container-fluid">
            <div class = "navbar-header">
                <img src = "images/mainlogo.jpg" width = "50px" height = "50px"/>
                <p class = "navbar-text pull-right" style="color: white;">Online Employee Attendance</p>
            </div>
            <ul class = "nav navbar-nav navbar-right">
                <li class = "dropdown">
                    <a href = "#" class = "dropdown-toggle" data-toggle = "dropdown"><i class = "glyphicon glyphicon-user"></i> <?php echo htmlentities($admin_name)?> <b class = "caret"></b></a>
                    <ul class = "dropdown-menu">
                        <li><a href = "logout.php"><i class = "glyphicon glyphicon-off"></i>Logout</a></li>
                    </ul>
                </li>
            </ul>
```

5. TESTING

5.1 Introduction to Testing :

Software testing is a critical element of the software quality assurance and represents the ultimate review of specification, design and coding. Testing is the exposure of the system to trial input to see whether it produces correct output.

Testing Phases: Software testing phases include the following:

1. Test activities are determined and test data selected.
2. The test is conducted and test results are compared with the expected results.

   There are various types of testing:

   Unit Testing: Unit testing is essentially for the verification of the code produced during the coding phase and the goal is test the Internal logic of the module/program. Int the Generic code project, the unit testing is done during coding phase of data entry forms whether the functions are working properly or not. In this phase all the drivers are tested they are rightly connected or not.

   Integration Testing: All the tested modules are combined into subsystems, which are then tested. The goal is to see if the modules are properly integrated, and the emphasis being on the testing interfaces between the modules. The generic code integration testing is done mainly on table creation module and insertion module..

   System Testing: It is mainly used if the software meets its requirements. The reference document for this process is the requirement document.

   Acceptance Testing: It is performed with realistic data of the client to demonstrate that the software is working satisfactorily.

Testing Methods: Testing is a process of executing a program to find out errors. If testing is conducted successfully, it will uncover all the errors in the software. Any testing can be done basing on two ways:

- **White Box Testing:** It is a test case design method that uses the control structures of the procedural design to derive the test cases. Using this testing a software engineer can derive the following test cases: Exercise all the logical decisions on either true or false sides.

Execute all loops at their boundaries and within their operational boundaries. Exercise the internal data structures to assure their validity.

- **Black Box Testing:** It is a test case design method used on the functional requirements of the software. It will help a software engineer to derive sets of Input conditions that will exercise all the functional requirements of the program.

Black box Testing attempts to find errors in the following categories:

- Incorrect or missing functions.
- Interface errors
- Errors in data structures
- Performance errors
- Initialization and termination errors

By Black box testing we derive a set of test cases that satisfy the following criteria:

- Test cases that reduce by a count that is greater than one, the number of additional test cases that must be designed to achieve reasonable testing.
- Test cases that tell us something about the presence or absence of classes of errorsrather than errors associated only with a specific test at hand.

5.2 Test Cases :

Test Case	Input	Test case Description	Expected Output	Actual Output	Status
1	Invalid admin user id and password	User Login	User enters Invalid Username or password	Display message invalid username or password	Pass
2	Vail admin user id and password	User Login	User Enters Valid Details	User Login Successfully	Pass

TEST CASE LOGIN:

Test case no	Step to be excuted	Expected Results	Actual Results	Status
1	Enter URL	It should be display home page	Home page Displayed	Pass
2	Enter Correct Username	It should be Accepted	It is accepting	Pass
3	Enter Incorrect Username	It should not be accepted	It is not accepting	Pass
4	Wrong username and password check	Should give Error Message About incorrect username and password	Error Message is diplayed	Pass
5	Blank fields of user name & password	Should ask for username and password	Asking for username and password	Pass
6	Pressing back button on browser	Ask for login again	Not asking	Fail
7	New browser window to same account login	Should ask for both username & password	Asking username And password	Pass
8	Logout	Should move to home page	It is not moving	Fail
9	Password entered username field is empty	Should give an error message to enter username	Error Message is displayed	Pass
10	Username entered password field is empty	Should give an error message to enter password	Error Message is displayed	Pass
11	Miss spelled characters	Should give wrong username message	Giving error message for both username & password	Fail
12	After logout session should terminate	Should not show login session	Not showing	Pass

13	Correct username & password	Show welcome page	Welcome page is displayed	Pass

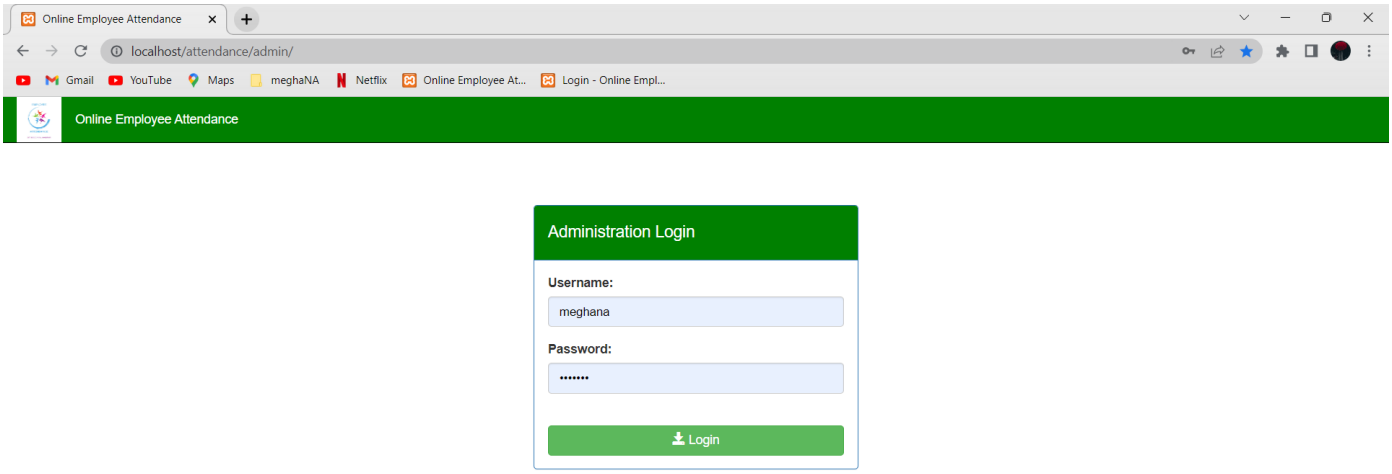
TEST CASE CART:

Test case no	Step to be executed	Expected Result	Actual Result	Status
1	Add the item	It should display home page	Home page Displayed	Pass
2	Cart updated	It should be Accepted	It is accepting	Pass
3	Cart checkout	It should display checkout page	Checkout page displayed	Pass
4	Verify the product details	It should be accepted	It is accepting	Pass

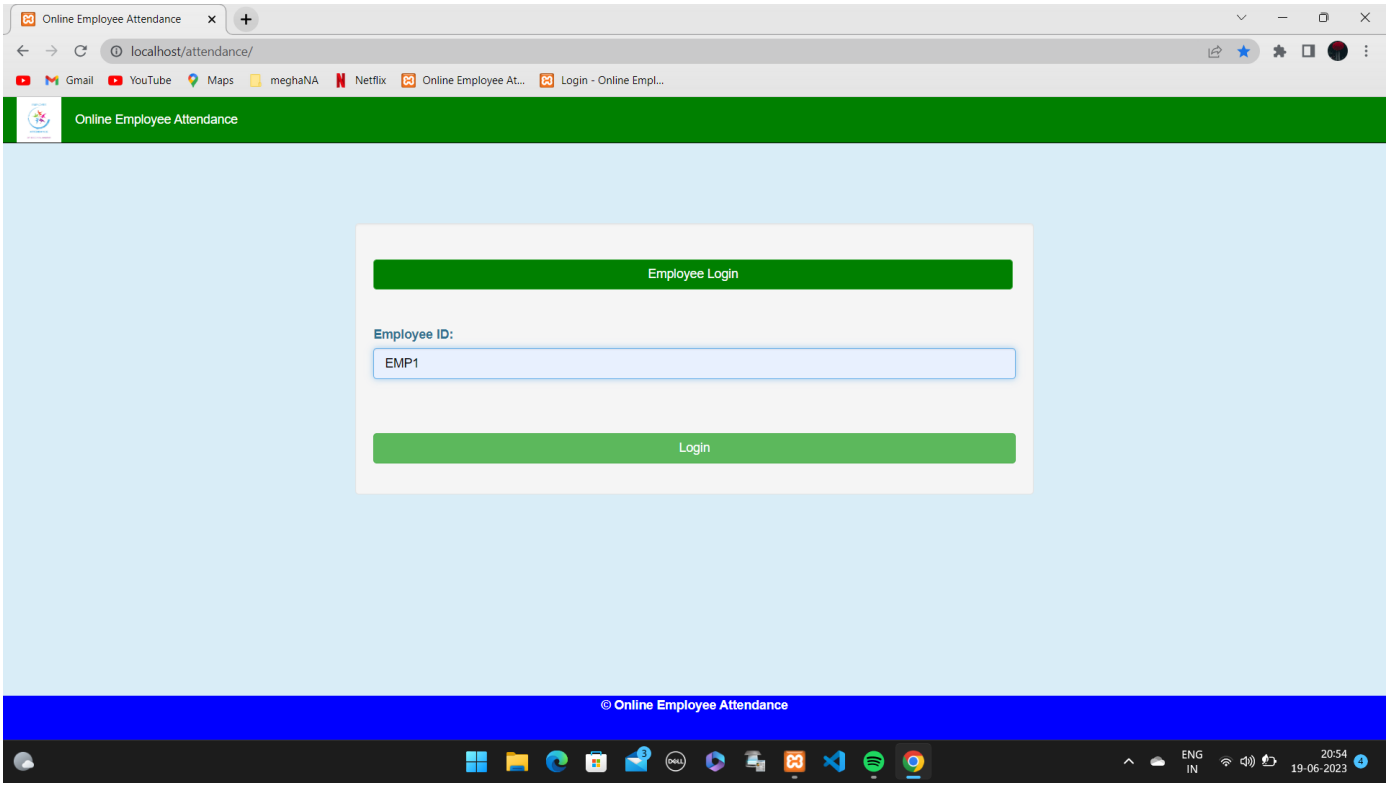
6. Screen Shots:

6.1 Input Screens:

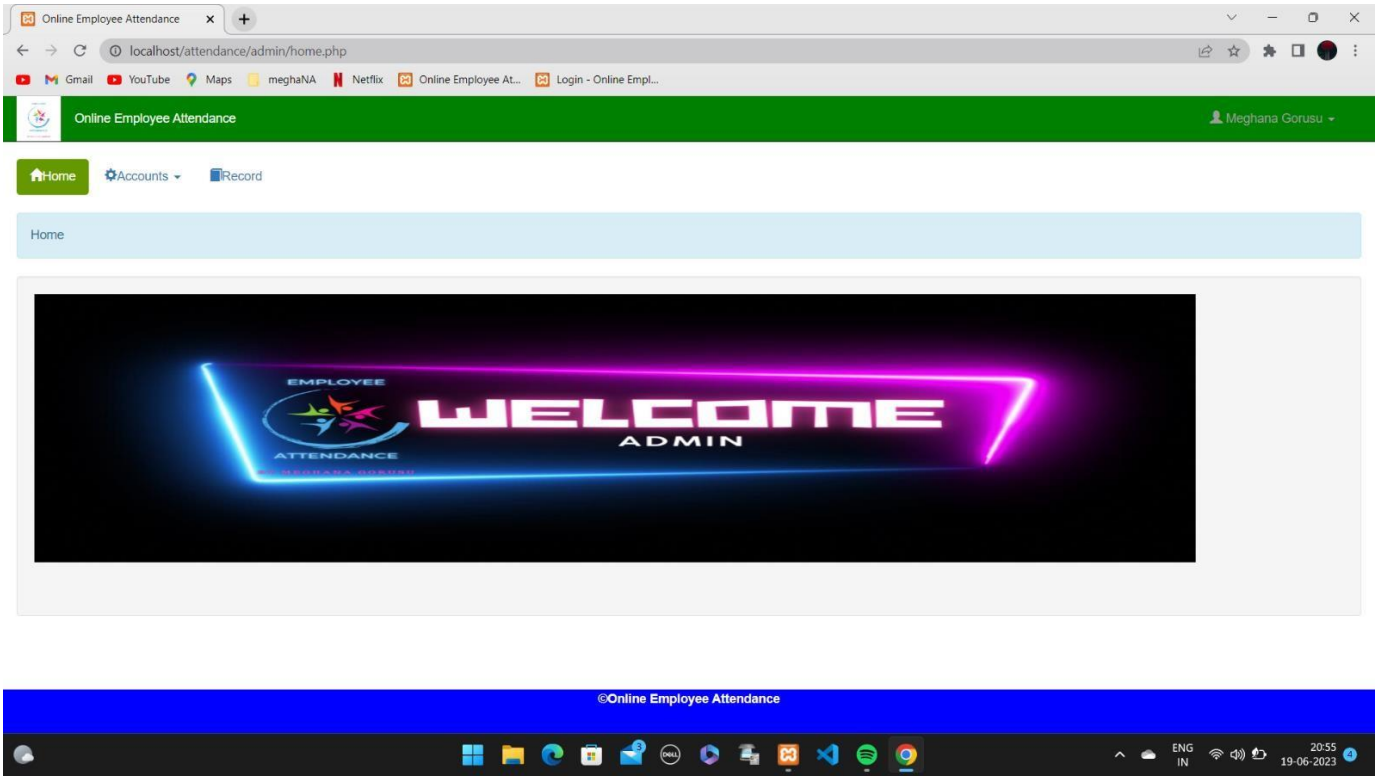
Login page:



User login page:



6.2 admin Screens Home page:



7. Conclusion:

The employment of time attendance software in an organization can add value by helping businesses spot potential problems ahead of time. Using attendance software not only informs the employees in writing about what is expected, but also helps them self-evaluate their commitment to the organization. The cost of investment in the attendance systems is recovered In the long run and businesses eventually end up saving on time, money and efforts.

Online attendance systems provide excellent advantages for monitoring employee attendance and can enhance the efficiency and productivity of a business. Proper planning and execution are critical to ensure the system's successful implementation

Online attendance systems can offer numerous features and benefits to monitor employee attendance.

Remote teams can use online attendance to stay connected and on-track.

The employment of time attendance software in an organization can add value by helping businesses spot potential problems ahead of time. Using attendance software not only informs the employees in writing about what is expected, but also helps them self-evaluate their commitment to the organization.

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