
Software Requirements Specification

For

Availability Checking System

Version 2.0

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Introduction

Product scope

The product scope includes creating a system to track the attendance of government officials at the Divisional Secretariat in Sri Lanka. This system will use fingerprint scanners to record when officials arrive and leave the office. A web app will be made to let authorized people check attendance records in real-time. If an officer does not report to work on the scheduled day, if the upcoming leave is applied, departures for field trips, etc. can be monitored through the website. . Reports on attendance patterns will also be generated. The purpose of this grant is to save human time and reduce congestion in the relevant government institutions.

Product value

- Peoples (users,customers) can save their times and not benign uncomfortable.
- Automating attendance tracking eliminates manual processes and mainly saving time and manage the daily work for both officials and administrators.
- Government can increase their efficiency of public administration.

- With accurate real-time data on officials' presence, the system helps in managing workflow efficiently, reducing congestion and long queues at the Divisional Secretariat.
- By ensuring that officials are present during working hours, the system contributes to smoother service delivery and improved public satisfaction.
- The web application provides convenient access to attendance records remotely, allowing authorized users to monitor attendance from anywhere with internet access.

Intended audience

- The system is designed to meet the needs of these various stakeholders, providing them with relevant features and functionality to effectively manage attendance within the Divisional Secretariat and improve operational efficiency.
- Those working in the Divisional Secretariat will use the system to commute to and from their duties.
- Individuals responsible for overseeing system operation and maintenance, including system administrators and IT staff.
- Citizens, elderly people seeking services from the Divisional Secretariat to get daily services. Other persons or entities that may interact with or benefit from the system that the service is intended to provide.
- This system will help high-level government officials who can use attendance data for resource allocation, planning and decision-making purposes.

Intended use

- Officers will use the system to enter and exit their duty using fingerprint scanners providing accurate information about their presence in the Divisional Secretariat premises.
- Authorized persons, such as administrators and supervisors will use the web application to monitor real-time attendance records. This facilitates immediate monitoring and intervention if irregularities are detected.
- The system will generate reports on attendance patterns, including instances of lateness or absence. These reports will provide stakeholders with valuable insights for decision making and resource allocation. Also it can be use for auditing purpose.

System requirements

User Authentication and Authorization

- The system should authenticate different user appropriate access levels.
Ex: Admin panel, Customers (Users)
- The credentials of users must be securely stored and controlled.

Availability Checking Feature

- Customers should be able to check the availability of divisional secretariat office officers.
- The website should display officer's regular schedule.
- It should be displaying officer's availability, absence or temporary go out.
Ex: Sick leaves, short leaves, Meetings, Field visit
- Availability information should be updated website in real-time based on officer's attendance through the fingerprint attendance system in the office.

Fingerprint Attendance Integration

- The system should integrate with the fingerprint attendance system used by officers in recent time.
- Officer attendance data should be quickly captured from fingerprint system and updated in the website.

User Interface

- The website should have a visually appealing and user-friendly interface accessible from various devices (desktop, mobile).
- The system should have an intuitive and user-friendly interface for customers to navigate.
- Administrators should have access to administrative functions for managing user accounts, system settings and data.

Easy-to-use interface

- The website should feature an intuitive and user-friendly design, prioritizing ease of use for all visitors.

Officer Information Display

- Customers should have access to officers' official information such as name, job title, office contact number and email.
- The system should provide a searchable interface for customers to find specific officer information.

Functional Requirements

If/Then Behaviors

- If an officer is marked as absent in the attendance record through the fingerprint system, then their availability status should be updated accordingly on the website.
- If a customer searches for an officer's information, then the system should display relevant details based on the search query.

Data Handling Logic

- The system should handle officer information securely, ensuring confidentiality and integrity.
- Customer queries and interactions should be logged for auditing purposes.
- Fingerprint access

System Workflows

- A workflow should be established for customers to check officer availability and access officer information.

Performance Requirements

- The system should be able to handle a large number of concurrent users accessing officer availability and information.
- Response times for queries and updates should be within acceptable limits to provide a seamless user experience.

Details of Operations Conducted for Every Screen

- Each screen should clearly indicate the operations that can be performed such as checking availability, searching for officers or updating information.
- Error handling and feedback mechanisms should be provided to guide users through the system.

External interface requirements

For the project of implementing an Availability Checking system for divisional secretariat office officer's that the external interface requirements can be defined as follows,

User Interfaces

Web Interface: The primary interface for customers to access the system and check officer availability. It should be user-friendly, intuitive, and accessible across various devices and screen sizes.

Search Functionality: Users should be able to search for officers by name, job title, or other relevant criteria.

Officer Profile Display: Each officer's profile should include their photo, name, job title, office contact number, email, and availability status for the day.

Navigation: Clear and easy navigation to browse through different sections of the website.

Hardware Interfaces

Fingerprint Attendance System Integration: The system should be able to interface with the fingerprint attendance marking system used by officers to update their availability status.

Device Compatibility: Ensure compatibility with various devices that customers might use to access the website, including desktops, laptops, tablets, and smartphones.

Communication Protocols: Define the communication protocols required to interact with hardware components effectively.

Software Interfaces

Database Connection: Interface with the database to retrieve officer information, availability status, and update records as necessary.

Integration with External Systems: Ensure compatibility and seamless integration with any existing software systems used within the devotional secretariat office for data exchange and updates.

Communication Interfaces

Embedded Forms: Provide embedded forms for customers to submit inquiries or requests directly through the website.

Embedded Systems (if applicable)

Screen Layouts: Define the layout of screens/pages within the web interface, including the arrangement of elements such as officer profiles, search functionalities.

Button Functions: Specify the functions of buttons and interactive elements within the interface, ensuring consistency and usability.

Dependency Description: Clearly describe any dependencies on external systems or components, outlining how the system relies on them for functionality.

Non-functional requirements (NRFs)

Performance

Response time: The system responds quickly to user requests

Output: Must be able to handle relevant users efficiently and accurately.

Resource utilization: Hardware resources should be used correctly to minimize inefficiencies on the system.

Security

Authentication: Users need to verify that information is correct before they can access it.

Authorization: Access to various data should be restricted based on users.

Data encryption: To prevent unauthorized access to sensitive data, the data should be encrypted.

Scalability

The system should be. Scaling resources horizontally as well as vertically enables systems to be easily manipulated. The scale should perform.

Reliability

The system should be accessible as well as operational with little downtime.

Fault tolerance: It should be face of failures as well as success and able to recover correctly.

Data Integrity: All data must be correct and consistent throughout the system.

Accessibility

It should be easily accessible to all users and the system should conform to relevant standards.

Maintainability

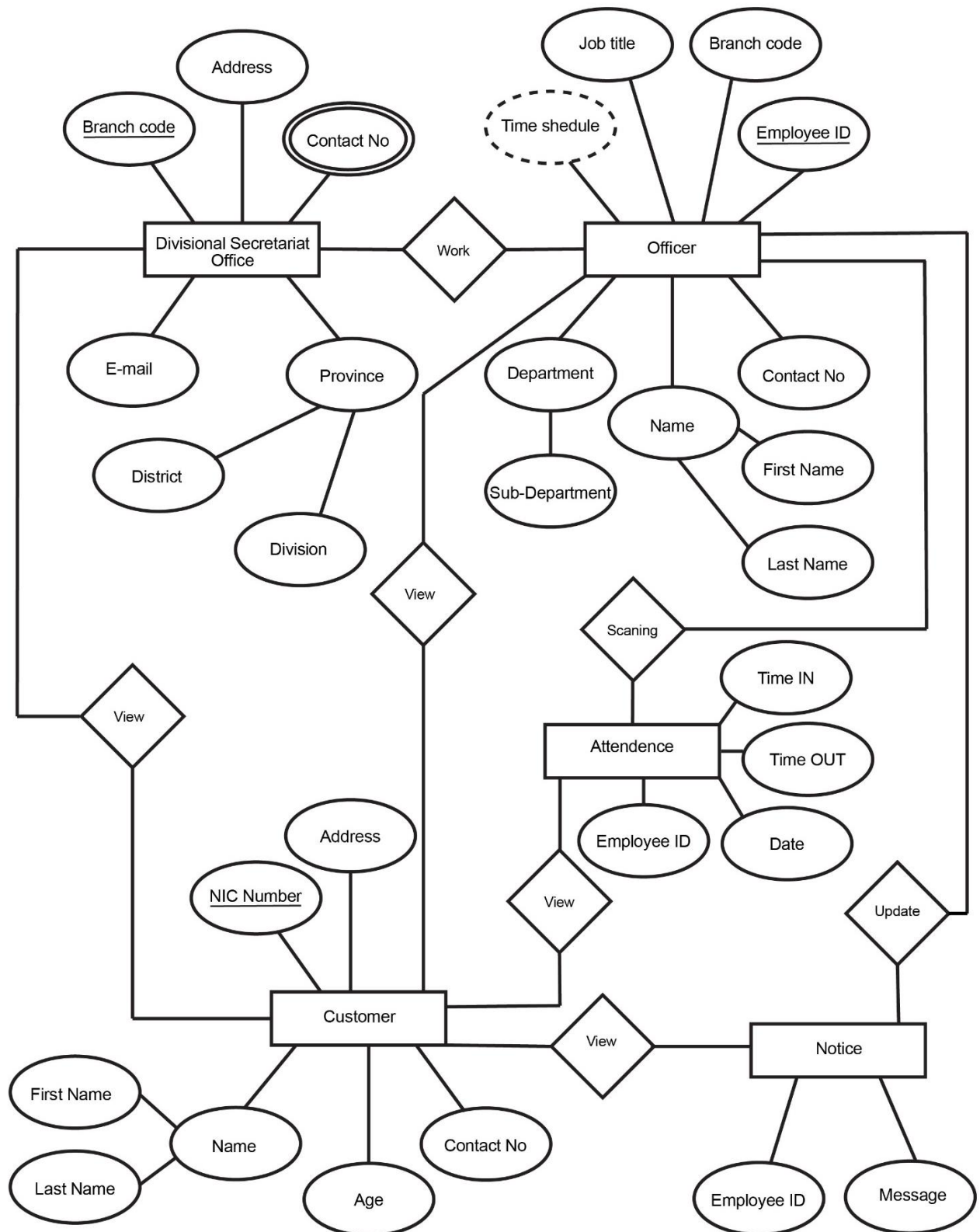
The system needs to be maintained and updated with significant downtime.

Code maintainability: Code should be well organized to facilitate development and debugging.

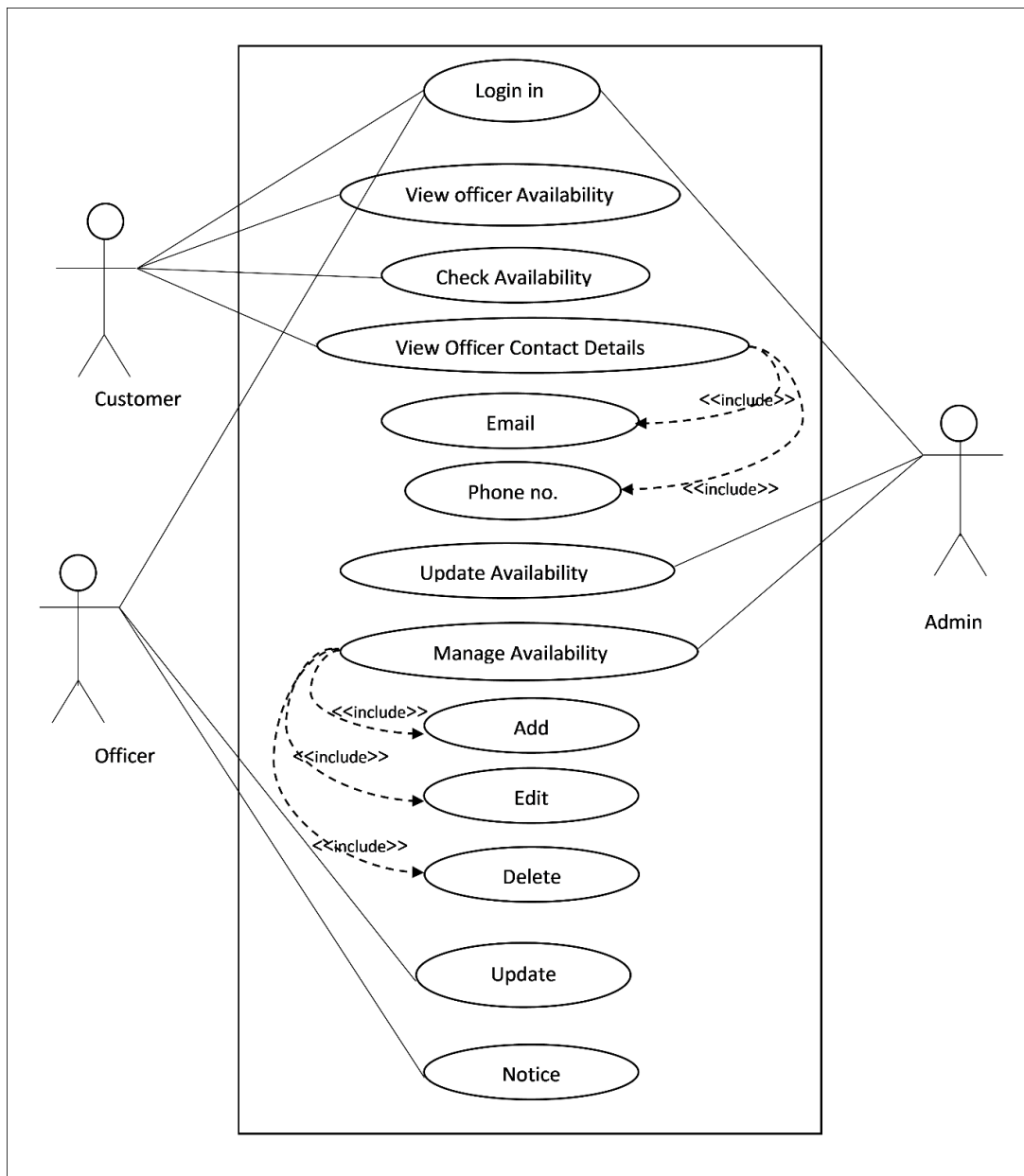
Compliance: The system must comply with relevant regulations such as data protection laws

System Analysis and Requirements Specification

Entity Relationship (ER) Diagram

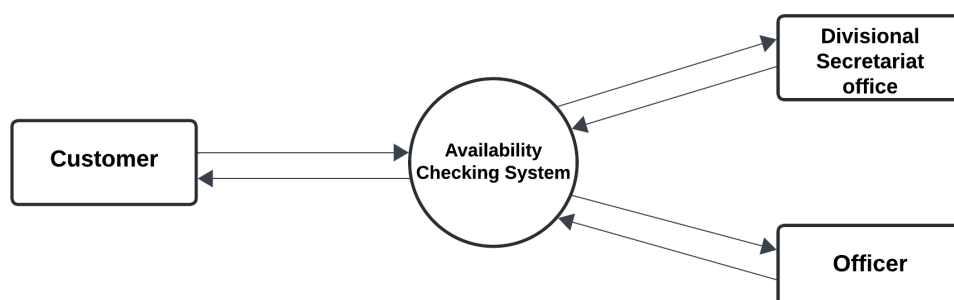


Use cases

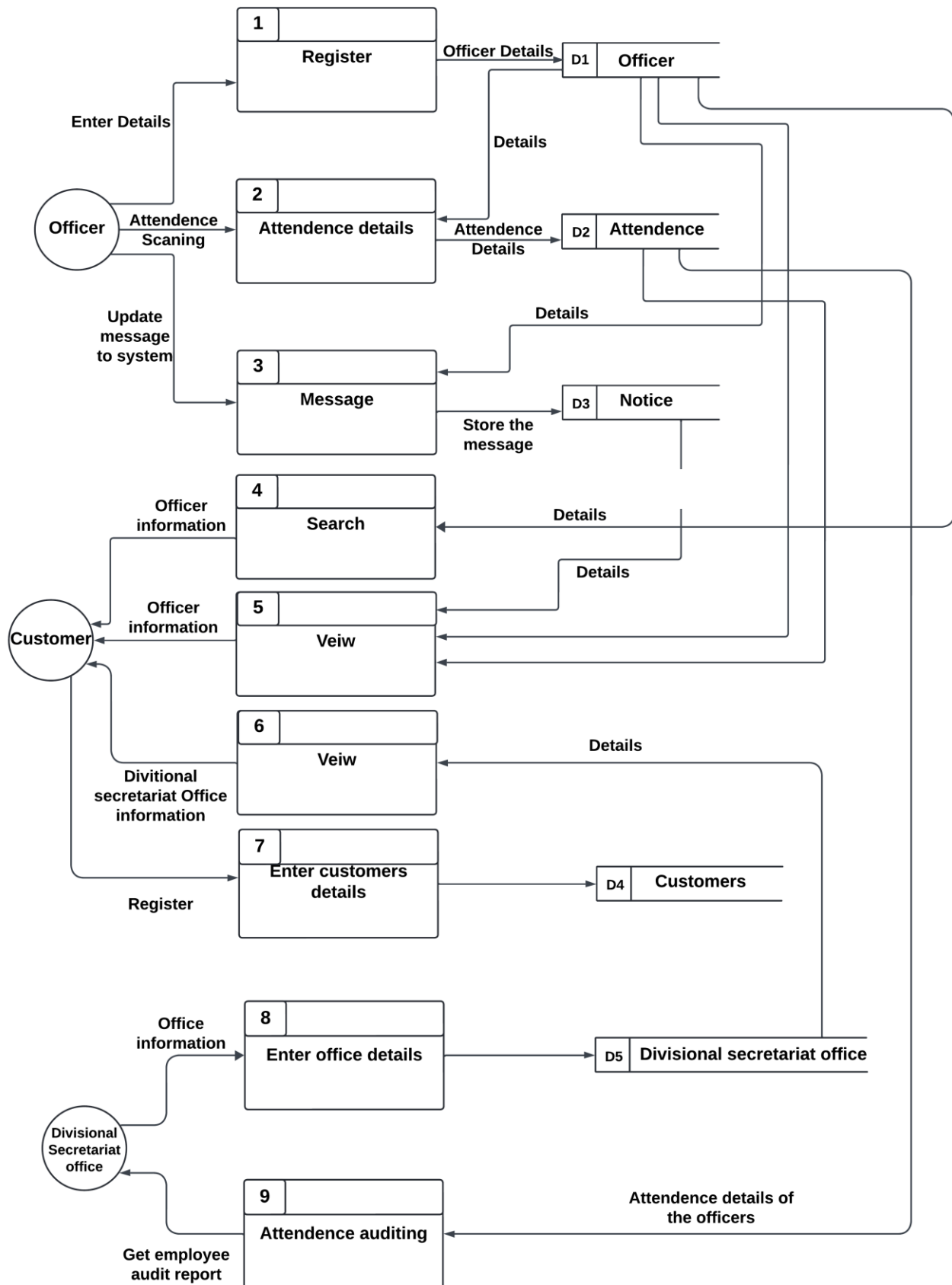


Data Flow Diagram (DFD)

Level 0



Level 1



Database (DB) Diagram

