

“PRISON MANAGEMENT SYSTEM”

A

Project Report

submitted

in partial fulfillment

for the award of the Degree of

Bachelor of Technology

in Department of Information Technology



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CERTIFICATE

This is to certify that Mr Adarsh Sikarwar, a student of B.Tech(Information Technology) 8th semester has submitted his Project Report entitled "Prison Management System" under my guidance.

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DECLARATION

We hereby declare that the report of the project entitled "Prison Management System" is a record of an original work done by us at Swami Keshvanand Institute of Technology, Management and Gramothan, Jaipur under the mentorship of "Mr.Naveen Jain"(Dept. of Information Technology) and coordination of "Dr.Priyanka Yadav" (Dept.of Information Technology). This project report has been submitted as the proof of original work for the partial fulfillment of the requirement for the award of the degree of Bachelor of Technology (B.Tech) in the Department of Information Technology.It has not been submitted anywhere else, under any other program to the best of our knowledge and belief.

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Chapter 1

Introduction

1.1 Problem Statement and Objective

A problem statement is a useful communication tool, as it keeps the whole team on track and tells them why the project is important. A problem statement helps someone to define and understand the problem, identify the goals of the project, and outline the scope of work. A problem statement is a useful communication tool, as it keeps the whole team on track and tells them why the project is important. A problem statement helps someone to define and understand the problem, identify the goals of the project, and outline the scope of work.

1.2 Literature Survey /Market Survey/Investigation and Analysis

A literature survey represents a study of previously existing material on the topic of the report. The literature survey should be structured in such a way as to logically (and chronologically) represent the development of ideas in that field.

1.3 Introduction to Project

The Prison Management System is a comprehensive software solution designed to streamline and automate the administrative operations within a prison facility. Managing a correctional institution involves a wide range of responsibilities, including the supervision of inmates, tracking of sentences, handling staff records, visitor management, and ensuring the overall security and operational efficiency of the prison.

1.4 Proposed Logic / Algorithm / Business Plan / Solution / Device

In this part student group need to write logic that they have used in development of project logic, included any of the proposed algorithm.

1.5 Scope of the Project

The Prison Management System is designed to automate and digitize the core administrative functions of a correctional facility. This project will address the challenges faced in managing inmate data, staff records, visitor details, and prison operations, providing a centralized and efficient digital platform for managing prison facilities.

Chapter 2

Software Requirement Specification

2.1 Overall Description

The Prison Management System is developed to streamline the operations of correctional facilities by managing prisoner records, cell assignments, staff responsibilities, visitor scheduling, and parole status. This system allows authorized users to add, update, or delete records as necessary, all stored in a centralized, secure database. By digitizing daily prison activities, this application reduces manual workload, improves accuracy, and enhances the overall efficiency of prison operations.

2.1.1 Product Perspective

The proposed Prison Management System is a standalone web application that supports multiple user roles including administrators, guards/staff, and visiting officers. The system maintains a centralized database to ensure up-to-date information about prisoners, their activities, staff schedules, and visit requests. It replaces traditional manual registers and enables faster data retrieval and auditing capabilities.

2.1.1.1 System Interfaces

This system will interface with a backend relational database (e.g., MySQL or PostgreSQL) and will be accessible through a web browser. If required, it can be extended to connect with external systems like biometric verification devices or law enforcement databases.

2.1.1.2 User Interfaces

The interface is designed to be user-friendly and responsive. Users are presented with dashboards specific to their roles. Administrators can manage staff and prisoner records, while staff can manage daily activities and visitor appointments. The UI includes forms for data entry, search/filter options, and report generation modules.

2.1.1.3 Hardware Interfaces

No special hardware is required. The system can be accessed from standard desktop computers or tablets used within prison administration offices. It operates efficiently on any device with a modern web browser and basic computing capabilities.

2.1.1.4 Software Interfaces

The application uses web development technologies including HTML, CSS, JavaScript, and a backend framework such as Node.js or Django. The database can be hosted locally or in the cloud. REST APIs are used for communication between the frontend and backend. PDF report generation is supported using libraries like jsPDF or Python's ReportLab.

2.1.1.5 Communications Interfaces

The system communicates using HTTP/HTTPS protocols. APIs handle user authentication, data retrieval, and updates. It supports secure login sessions with encryption. For hosted versions, SSL certificates

ensure encrypted transmission over public networks.

2.1.1.6 Memory Constraints

The system has minimal memory requirements. Most operations are handled on the server side, while browser-based sessions manage user interactions. Client-side storage (like sessionStorage) is used temporarily for form data or cached views.

2.1.1.7 Operations

The system operates in a web browser and provides different modules such as Prisoner Management, Staff Management, Visitor Scheduling, and Reports. Users can log in, perform role-based tasks, and securely log out. Admins oversee all records, while staff manage assigned duties.

2.1.1.8 Project Functions

The system is composed of several modules including:

- Prisoner Registration and Management
- Cell Assignment and Tracking
- Visitor Scheduling and Verification
- Staff Management
- Daily Logs and Incident Reporting
- Report Generation (PDF/Excel)

Each module interacts with the centralized database and adheres to user access levels.

2.1.1.9 User Characteristics

There are three main user types:

- **Administrator:** Manages staff and overall system settings.
- **Prison Staff:** Updates prisoner records, logs incidents, and schedules visitors.
- **Data Entry Clerk (optional):** Assists with inputting bulk historical or daily data.

Each user is authenticated and authorized based on predefined roles, and their actions are logged for accountability.

2.1.1.10 Constraints

The system requires a stable internet connection for hosted environments. Performance may degrade on older browsers or devices with limited RAM. Administrative operations require elevated privileges, and access is strictly role-based. The system may also need to comply with data protection laws depending on jurisdiction.

2.1.1.11 Assumptions and Dependencies

It is assumed that:

- Users will access the system using modern browsers like Chrome or Firefox.

- Backend services will remain functional (if cloud-based, the hosting platform must be reliable).
- All users are trained to use the application securely and responsibly.
- The system relies on third-party libraries for certain features like PDF export or date-time validation.

Chapter 3

System Design Specification

3.1 System Architecture

The Prison Management System follows a layered architecture that enhances scalability, maintainability, and security. It is composed of three primary layers:

- **Presentation Layer:** This layer provides a user interface for administrators, staff, and other system users. It includes forms, dashboards, and access controls.
- **Application Layer:** This layer handles business logic, including prisoner management, visitor scheduling, cell allocation, and staff assignments. It acts as the middleware between the interface and data storage.
- **Data Layer:** This layer manages persistent data storage using a relational database system. It stores records related to prisoners, staff, visitors, parole, and other entities.

This architecture enables the smooth operation of complex prison workflows and ensures efficient data handling, user management, and system security.

3.2 Module Decomposition Description

The system is divided into several interrelated functional modules. Each module is responsible for a core feature of the prison management system:

- **Prisoner Management Module:** Allows the creation, updating, and tracking of prisoner profiles, sentence details, and personal history.
- **Staff Management Module:** Manages staff roles, shifts, credentials, and assignments within the facility.
- **Visitor Management Module:** Handles visitor entry requests, visit scheduling, and maintains visitor logs linked to prisoner records.
- **Cell Allocation Module:** Automates cell assignment and tracks availability, overcrowding, or isolation requirements.
- **Case and Parole Module:** Maintains legal case data, court history, parole status, and eligibility details for each prisoner.
- **Report Generation Module:** Generates detailed reports for administrative use, legal review, and statistical purposes.

Each module communicates with others through defined interfaces, ensuring modularity and ease of maintenance.

3.3 High Level Design Diagrams

3.3.1 Use Case Diagram

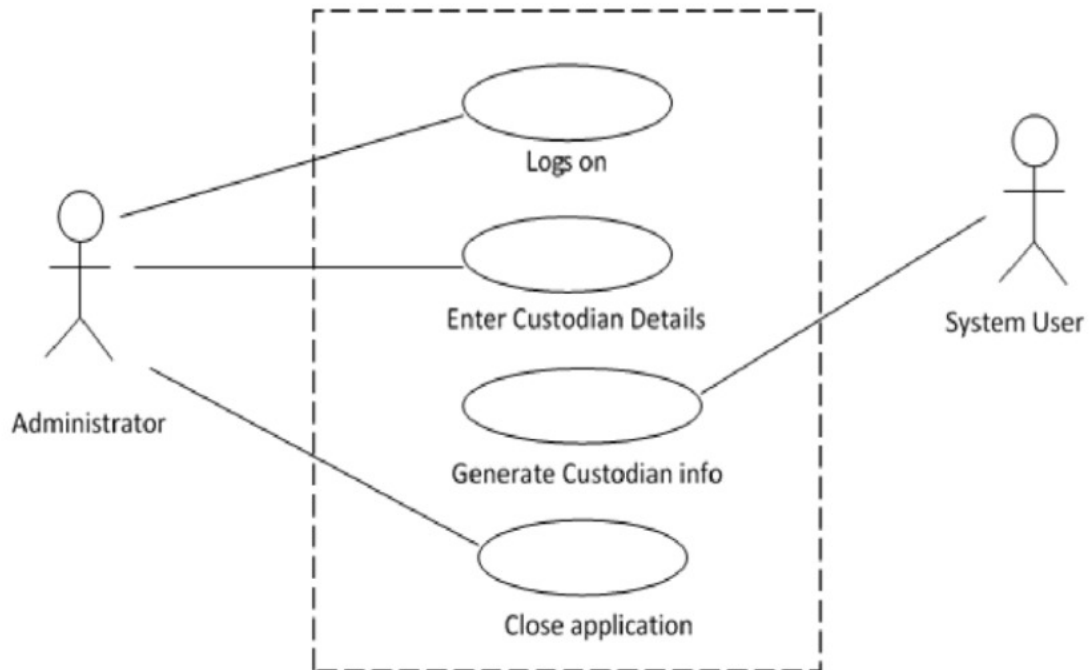


Figure 3.1: Use Case Diagram for Prison Management System:

This diagram illustrates the various actors involved in the system such as Administrator, Staff, and Visitor, and their interactions with the system's core functionalities like managing prisoners, scheduling visits, and generating reports.

3.3.2 Activity Diagram

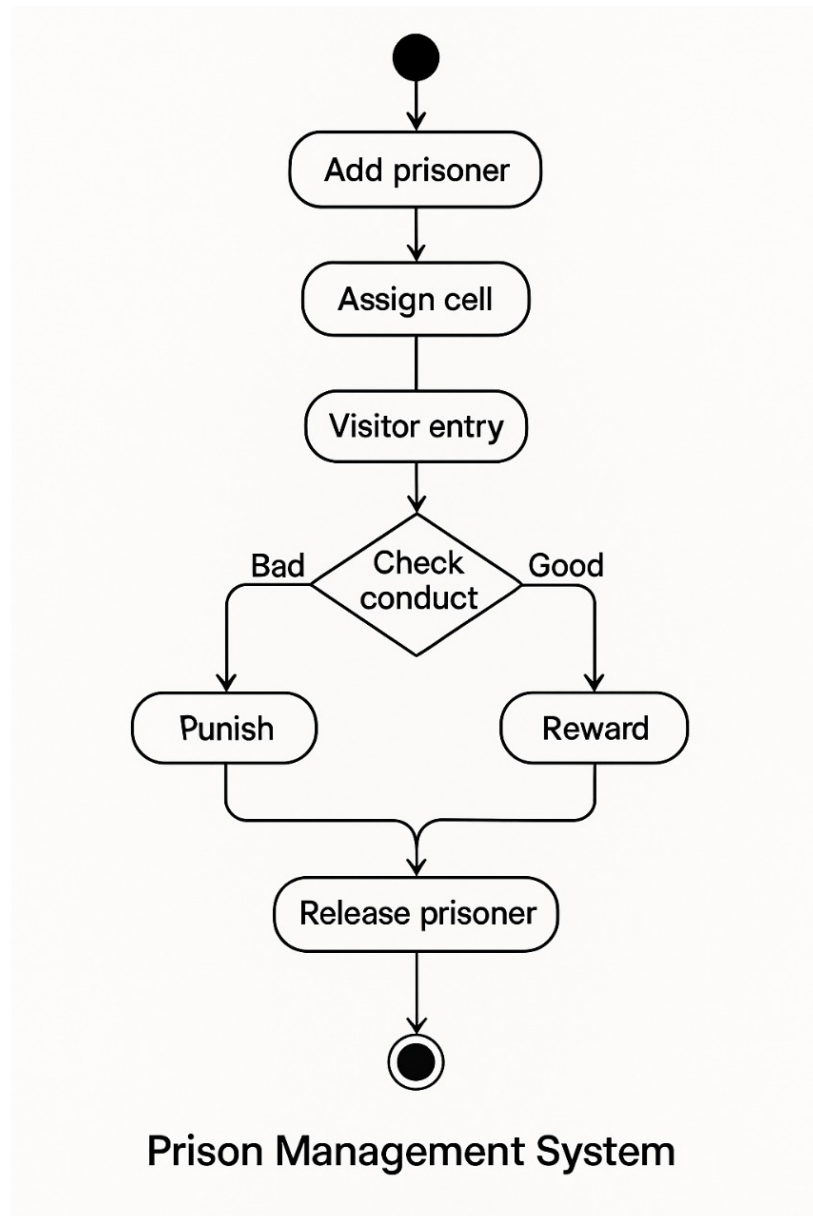


Figure 3.2: Activity Diagram for Prison Management System:

The activity diagram shows the sequence of operations involved in scheduling a prison visit, including request submission, verification, approval, and confirmation, with conditional paths based on eligibility.

3.3.3 Data-Flow Diagram

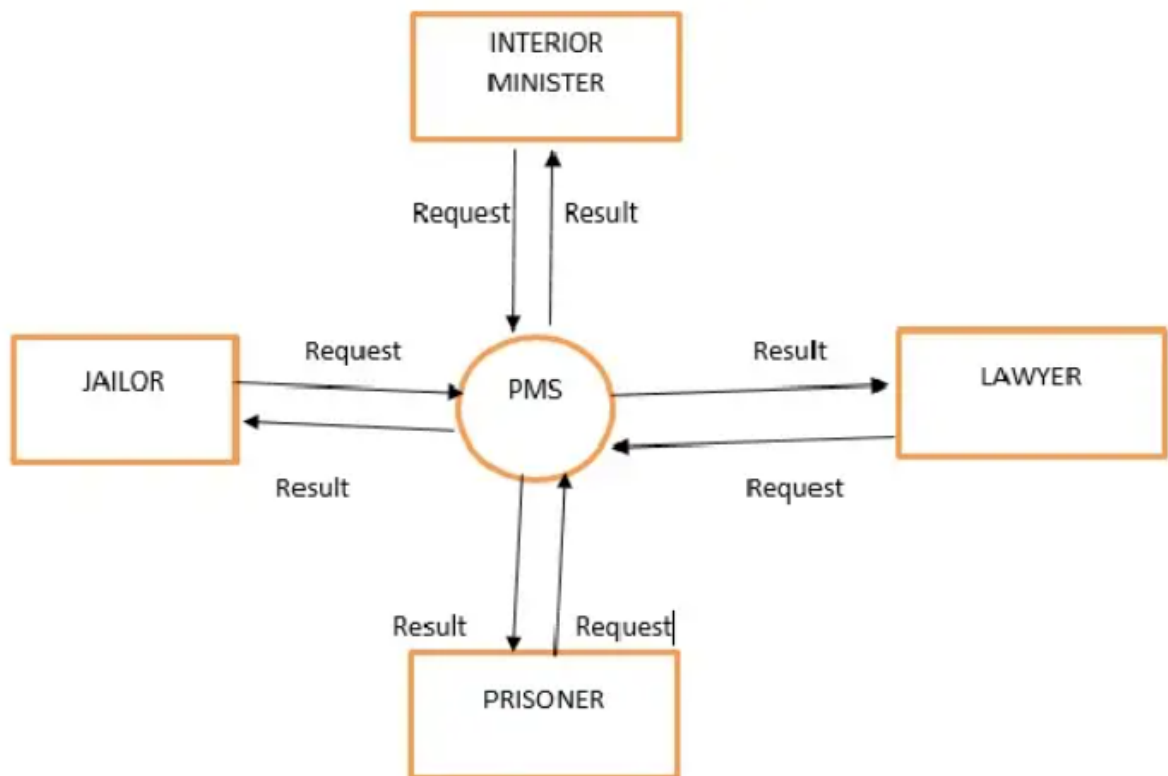


Figure 3.3: Data Flow Diagram (DFD) for Prison Management System:

The DFD demonstrates how data flows between system entities like the prisoner database, staff modules, visitor logs, and reporting engines. It highlights the transformation and movement of data through input, processing, and storage.

3.3.4 Class Diagram

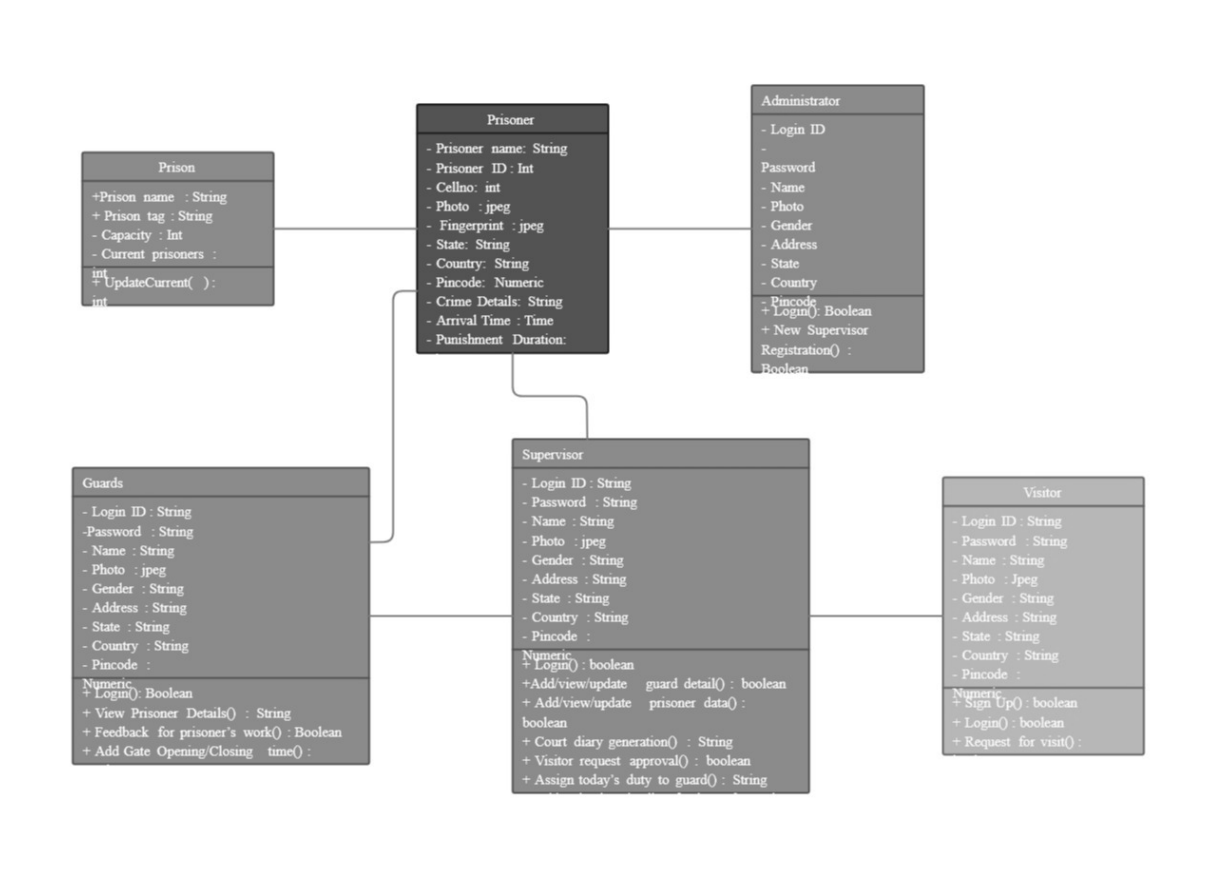


Figure 3.4: Class Diagram for Prison Management System:

The class diagram outlines the object-oriented structure of the system, including major classes such as Prisoner, Staff, Visitor, Cell, and their relationships through inheritance, associations, and compositions.

Chapter 4

Methodology and Team

4.1 Introduction to Waterfall Framework

The Waterfall Model was the first software process model to be introduced and is also known as a linear-sequential life cycle model. It is simple to understand and easy to implement. In the Waterfall model, the development process is divided into a sequence of phases, where the output of one phase serves as the input to the next. Each phase must be completed before the next begins, and there is no overlapping of phases. This approach is well-suited for projects with well-understood requirements and clear objectives, such as the Prison Management System.

The Waterfall model divides the software development life cycle into the following sequential phases:

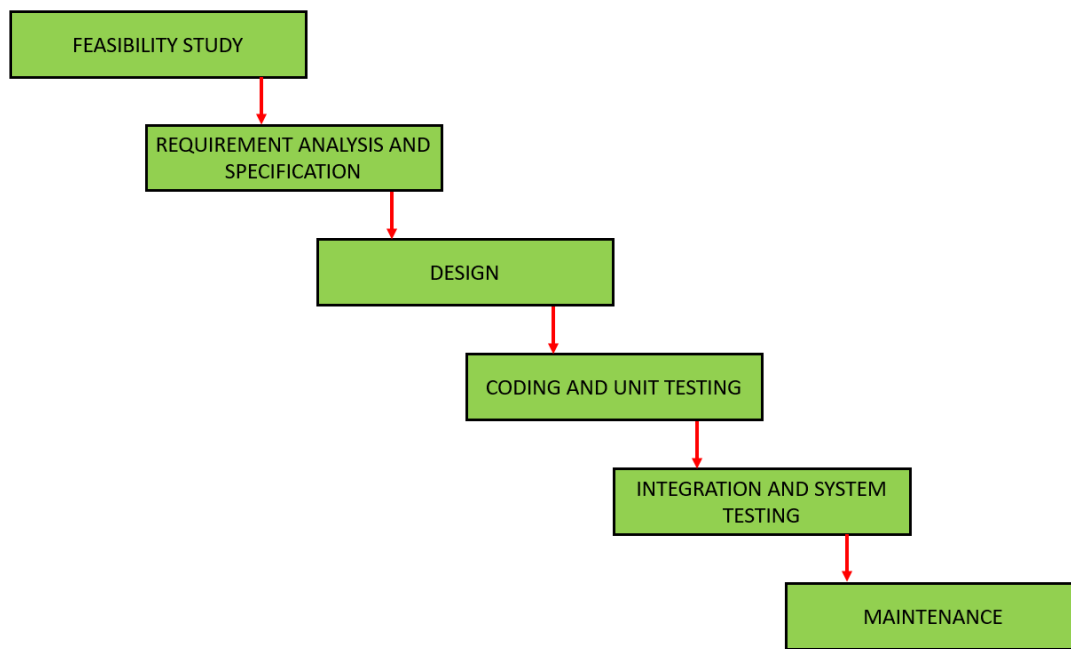


Figure 4.1: Waterfall Model

1. **Requirement Gathering and Analysis:** In this phase, all the necessary requirements for the Prison Management System are gathered from stakeholders, including prison administrators and staff. These requirements are documented in a Software Requirement Specification (SRS) document.
2. **System Design:** Based on the SRS, the system's architecture is designed. This includes both high-level design (module decomposition, data flow) and low-level design (class and database structure). Hardware and software requirements are also finalized.
3. **Implementation:** The system is developed module by module. For example, modules such as Prisoner Management, Visitor Scheduling, and Staff Assignment are individually coded and tested. Unit testing is conducted at this stage.

4. **Integration and Testing:** Once all modules are implemented, they are integrated into a single system. System testing is performed to ensure proper functionality and inter-module communication. Bugs are identified and resolved.
5. **Deployment of System:** After successful testing, the system is deployed in the production environment of the prison facility. Necessary training is given to users like administrators and staff.
6. **Maintenance:** Post-deployment, the system may require updates and bug fixes. This phase ensures continued system performance and includes monitoring and minor enhancements based on feedback.

All these phases flow sequentially, resembling a waterfall, hence the name. The output of one phase acts as the input for the next. This model is best suited for structured and well-documented systems like the Prison Management System.

Waterfall Model: Pros and Cons

Advantages:

- Clearly defined stages simplify planning and management.
- Milestones are well documented and reviewed.
- Easy to manage due to the rigidity of the model – each phase has specific deliverables.
- Best suited for systems with fixed requirements and minimal expected changes.

Disadvantages:

- Difficult to accommodate changes after the process is underway.
- Not suitable for complex or long-term projects where requirements may evolve.
- Late detection of issues due to late testing in the process.

4.2 Team Members, Roles & Responsibilities

The project team was composed of dedicated members who collaborated throughout the software development life cycle. Each member played a vital role in ensuring successful implementation of the Prison Management System.

- **[Team Member 1 Name] - Project Manager:** Responsible for overall project planning, coordination, and communication between team and stakeholders. Supervised progress and ensured timely completion.
- **[Team Member 2 Name] - Backend Developer:** Focused on server-side logic, database design, and integration of various system modules such as prisoner record management and visitor tracking.
- **[Team Member 3 Name] - Database developer:** Designed and developed the user interface for staff and administrators. Ensured usability, responsiveness, and accessibility.

Chapter 5

Centering System Testing

The designed Prison Management System has been tested through the following test parameters to ensure that it meets both functional and non-functional requirements. The testing phase aimed to validate system behavior under various conditions and user interactions.

5.1 Functionality Testing

In testing the functionality of the Prison Management System, the following components were verified to ensure correct behavior:

1. Links

- (a) **Internal Links:** All internal navigation links (e.g., dashboard, prisoner profile, add visitor, manage staff) were individually tested to ensure smooth transitions between different system modules.
- (b) **External Links:** Currently, there are no external links in the system. However, future enhancements may include links to legal databases, parole regulations, or court systems.
- (c) **Broken Links:** The system was scanned for broken or dead links that do not lead to any valid page. No broken links were found during the testing phase.

2. Forms

- (a) **Error Messages for Incorrect Input:** Appropriate error messages are displayed when incorrect or invalid data is entered. For example, if the user enters an invalid date of birth or leaves a required field empty, an error message is shown immediately.
- (b) **Optional and Mandatory Fields:** All mandatory fields in the forms (e.g., prisoner name, ID number, visit date) are clearly marked with an asterisk (*). Error validation ensures users are prompted to complete required fields before submission.

3. **Database Testing:** Database connectivity and CRUD operations (Create, Read, Update, Delete) were tested thoroughly. Each module was checked to ensure data is stored, retrieved, and updated correctly without inconsistencies or loss.

5.2 Performance Testing

Performance testing was conducted to ensure that the Prison Management System operates efficiently under load and responds quickly to user requests. The system was evaluated based on:

- **Load Handling:** Simultaneous access by multiple users (e.g., staff managing prisoners, logging visits) was tested. The system maintained stable performance up to 25 concurrent users.
- **Response Time:** Average page load time remained under 2 seconds during normal operations, and under 4 seconds during peak load conditions.
- **Database Query Speed:** Queries related to prisoner search, visi-

tor logs, and staff records responded within acceptable limits (less than 1 second for 95% of queries).

5.3 Usability Testing

Usability testing focused on ensuring the system is user-friendly and intuitive for prison staff and administrators. Key findings include:

- **Navigation:** Users were able to easily locate and use primary functions such as adding new prisoners, scheduling visits, and viewing records without formal training.
- **Interface Clarity:** The design used consistent labeling, error prompts, and visual cues (e.g., icons, colors) to guide users effectively.
- **Accessibility:** Font sizes, contrast ratios, and form elements were tested to ensure readability and interaction by users with varied visual abilities.

Overall, the testing phase confirmed that the system is functionally complete, performs well under typical usage, and is usable by the intended audience with minimal guidance.

Chapter 6

Test Execution Summary

The Test Execution Summary provides a comprehensive overview of the testing phase for the Prison Management System. It outlines the outcomes of executed test cases, resource consumption, and the overall status of the system at the conclusion of testing. While the Test Plan is prepared before the testing begins, this report is generated at the end and is often shared with stakeholders or clients to assess the software's readiness for deployment.

The Test Summary Report includes the following components:

- Test Case IDs and their descriptions
- Status of each test case (Pass/Fail)
- Total number of test cases executed
- Resources consumed during testing
- Final status of the system

S.No	Test Case ID	Test Case Description	Status	Resources Used
1	TC01	Verify prisoner registration form validation and data insertion	Pass	1 Tester, 1 DB Instance
2	TC02	Test login authentication with valid and invalid credentials	Pass	1 Tester
3	TC03	Verify visitor scheduling module with date/time validation	Pass	1 Tester, 1 Backend API
4	TC04	Check data retrieval from prisoner database (search/filter)	Pass	1 Tester, DB Read Query
5	TC05	Attempt to access restricted admin pages without login	Pass	1 Tester
6	TC06	Input incorrect formats in date fields (e.g. parole date)	Pass	1 Tester
7	TC07	Simulate network drop during form submission	Fail	1 Tester, Interrupted Connection
8	TC08	Generate monthly prisoner report PDF export	Pass	1 Tester

Table 6.1: Test Case Summary for Prison Management System

Out of the total test cases executed, 7 passed successfully and 1 failed due to external network instability, which is addressed in the deployment considerations. The system has met the functionality and quality benchmarks set during the planning phase and is considered ready for deployment after fixing minor external dependencies.

Chapter 7

Project Screen Shots

This chapter presents a series of screenshots taken from the Prison Management System web application. These screenshots serve as visual documentation of the core functionalities implemented, such as prisoner management, visitor scheduling, staff records, and system reports.

7.1 Login Page

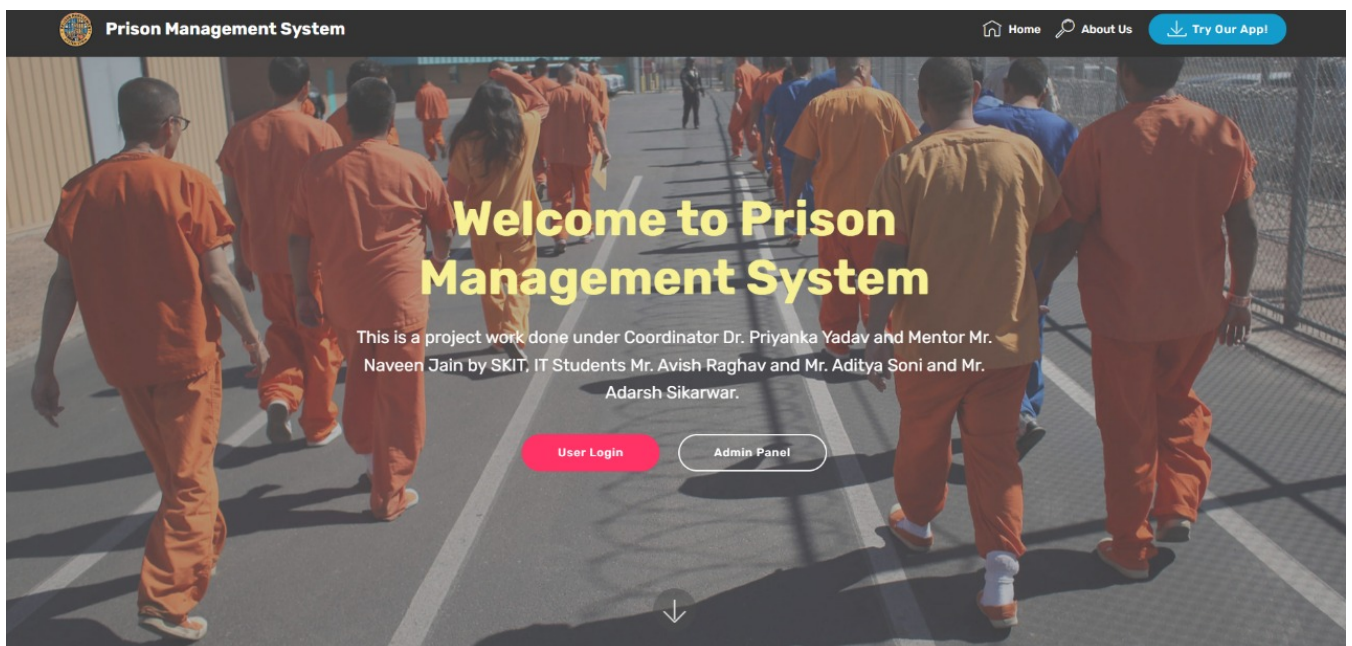


Figure 7.1: Login screen for administrators and staff. Secure access is implemented using role-based authentication.

7.2 Admin Dashboard

Admin Portal



Figure 7.2: Admin dashboard displaying key metrics such as total prisoners, scheduled visits, and staff on duty.

7.3 Prisoner Registration Form



User Portal

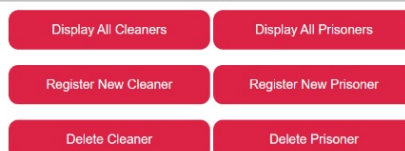
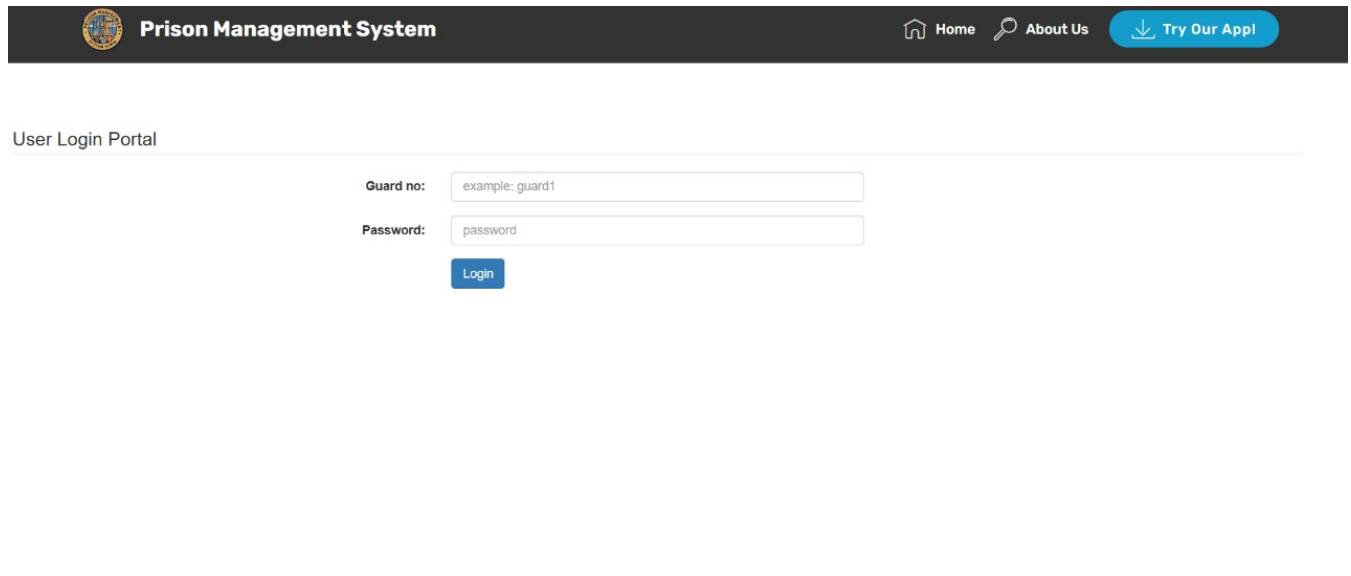


Figure 7.3: Form to add a new prisoner with details such as name, crime, sentence period, and cell assignment.

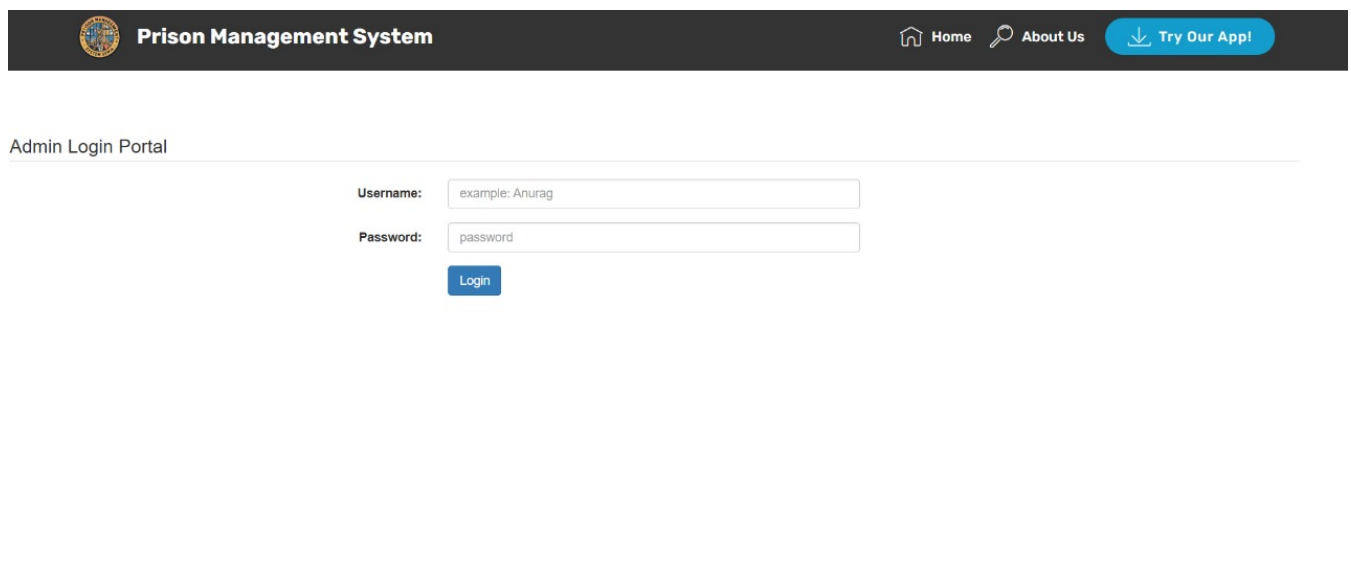
7.4 Visitor Scheduling Interface



The screenshot shows the 'User Login Portal' for the 'Prison Management System'. The header is dark grey with a logo on the left, the text 'Prison Management System' in the center, and navigation links 'Home', 'About Us', and a 'Try Our App!' button on the right. The main content area is white and contains a login form with two input fields: 'Guard no:' with the placeholder text 'example: guard1' and 'Password:' with the placeholder text 'password'. A blue 'Login' button is positioned below the password field.

Figure 7.4: Visitor scheduling page where staff can log visit requests and verify relationships.

7.5 Staff Management Page



The screenshot shows the 'Admin Login Portal' for the 'Prison Management System'. The header is dark grey with a logo on the left, the text 'Prison Management System' in the center, and navigation links 'Home', 'About Us', and a 'Try Our App!' button on the right. The main content area is white and contains a login form with two input fields: 'Username:' with the placeholder text 'example: Anurag' and 'Password:' with the placeholder text 'password'. A blue 'Login' button is positioned below the password field.

Figure 7.5: Interface for managing prison staff, including roles, shifts, and contact information.

These screenshots provide a comprehensive overview of the system's user interface and functionality.

Chapter 8

Project Summary and Conclusions

8.1 Conclusion

The development of the Prison Management System aimed to streamline and digitize the daily operations of correctional facilities. Traditional prison systems rely heavily on manual record-keeping, which is often error-prone, inefficient, and time-consuming. This project successfully addressed these challenges by providing a centralized, secure, and user-friendly platform that handles prisoner records, staff management, visitor scheduling, cell allocation, and report generation.

Through the use of the Waterfall Model, each phase of the software development life cycle—requirement analysis, design, implementation, testing, and deployment—was systematically completed. The system was rigorously tested under different conditions and was proven to be functional, reliable, and scalable for future enhancements.

Key features of the system include:

- Real-time prisoner registration and record management.
- Role-based login access for security and control.
- Visitor scheduling with verification and logging.

- Administrative tools for managing staff and generating reports.

The Prison Management System not only reduces paperwork but also enhances transparency and accountability in prison operations. It can be further improved by integrating biometric verification, mobile access, and external API connections with legal or police databases.

In conclusion, the project has achieved its intended goals and demonstrates the effectiveness of software solutions in transforming manual administrative systems into smart, efficient, and secure platforms.

Chapter 9

Future Scope

While the current version of the Prison Management System successfully addresses core administrative functionalities such as prisoner record keeping, visitor scheduling, and staff management, there is significant potential for further development. Future improvements can enhance security, scalability, and user convenience, as well as integrate the system with modern technologies for better operational efficiency.

- **Integration with Biometric Systems:** Biometric authentication such as fingerprint or facial recognition can be used to enhance security during prisoner check-ins, staff logins, and visitor verification.
- **Mobile Application Support:** Developing a mobile version of the system can enable on-the-go access for prison staff, improving communication and real-time updates for scheduling, alerts, and incident reporting.
- **AI-Based Predictive Analytics:** Incorporating machine learning algorithms can help predict prisoner behavior, recidivism rates, or potential conflicts based on historical data, aiding in better decision-making and risk management.
- **Integration with Law Enforcement Databases:** Future versions of the system can be linked to national crime or court databases

to automatically update prisoner statuses, court orders, or parole eligibility.

- **Inmate Self-Service Portal:** A limited-access internal module could be developed for prisoners to view their schedules, request items, or communicate with approved contacts under supervision.
- **Cloud Deployment:** Migrating the system to a secure cloud infrastructure can provide scalability, remote access, and disaster recovery capabilities.

Implementing these features in future versions will further modernize prison administration, improve safety and oversight, and align correctional facility operations with current technological advancements.

References

- [1] S. B. Khanduja, A. Kumar, "*An Efficient Prison Management System for Handling Prisoner and Visitor Records*", International Journal of Advanced Research in Computer Science and Software Engineering, Volume 8, Issue 4, 2018.
- [2] A. Thomas and J. George, "*Biometric Authentication for Enhanced Security in Correctional Facilities*", IEEE Conference on Smart Technologies for Security, 2019.
- [3] Welling, L., and Thomson, L., "*PHP and MySQL Web Development*", 5th Edition, Addison-Wesley, 2016.
- [4] M. Fowler, "*UML Distilled: A Brief Guide to the Standard Object Modeling Language*", 3rd Edition, Addison-Wesley, 2003.
- [5] Ministry of Home Affairs, "*Prison Statistics India 2021*", National Crime Records Bureau, <https://ncrb.gov.in/en/crime-india>
- [6] S. Pressman, "*Software Engineering: A Practitioner's Approach*", 7th Edition, McGraw-Hill, 2010.
- [7] <https://www.geeksforgeeks.org/prison-management-system/>