PROJECT DOCUMENTATION

FINAL REPORT

TOPIC: Prisoner Management System (PMS)

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PROJECT REPORT

PROJECT REPORT

- **Problem:** A high-security prison requires a software application that can handle multiple aspects of its operations efficiently. The key challenges faced include:
- **Record Accessibility:** Managing prison records with paper files is slow and risky. It is hard for the staff to quickly find prisoner details or track how much time is left in a sentence.
- +1
- **Staff Management:** Managing guard shifts and assigning duties manually is disorganized. There is a need to track daily attendance and duty areas effectively.
- **Data Security:** There is a need for a simple digital system to store all records safely in a database to prevent the loss of sensitive data.
- +1
- **Daily Operations:** Recording visitor entries and generating daily status reports manually causes delays in operations.
- **Solution:** To address these challenges, we will design a multi-user Java application called the **Prisoner Management System (PMS)**. This software will replace manual registers with a digital database.
- +1
- **Reasoning for Using Digital Database and Java Architecture:**
- **Digital Transition:**
- The software replaces physical registers, allowing for instant data retrieval and secure storage.
- It helps the prison staff manage inmate profiles, track crimes, and organize staff duties efficiently.
- **Object-Oriented Design:**
- Since it is built in Java, we will use "Objects" (like Prisoner, Guard, and Visitor) to make the system easy to understand, design, and scale.
- This approach meets the prison’s current needs but also provides scalability for future growth, such as adding biometric integration.
- **Here’s how each aspect can be handled:**
- **Inmate Management:**
- **Prisoner Profiling:** Develop a simple form to record a prisoner's name, age, physical marks, and ID number.

- **Sentence Tracking:** Implement a feature that shows the entry date and automatically calculates the expected release date.
- **Cell Assignment:** Keep track of which cell or block each prisoner is staying in to manage overcrowding.
- **Staff & HR Management:**
- **Employee Info:** Store professional details of jailors and guards, including their ID, rank, and salary.
- **Shift Management:** Create a digital duty roster to assign guards to specific duty areas such as the Gate or the Yard.
- **Attendance:** Record daily check-in and check-out times for all prison staff.
- **Daily Activity & Reporting:**
- **Visitor Logging:** Implement a logging system to record the name of visitors, their ID, and the specific inmate they came to see.
- **Daily Status:** Provide a one-click report showing how many prisoners are currently in the jail and how many staff members are on duty
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INTRODUCTION

Software Before Changes:

- The initial system relied entirely on physical paper registers and manual filing.
- Staff had to manually calculate sentence durations and release dates, which was prone to human error.
- Searching for a specific prisoner required looking through hundreds of pages in physical binders.
- There was a high risk of data loss due to damaged or misplaced files.

Software After Changes:

- The updated software introduces a centralized digital database that stores all records safely.
- The system now allows the **Admin** to:
    1. Register new prisoners and instantly assign them to specific cells.
    2. Automatically calculate the "Expected Release Date" based on the sentence duration.
- **Prison Staff** can now quickly search for any inmate by Name, ID, or Crime using the new search tool.
- The new features allow for greater organization and data security, enhancing the overall management of the facility.

Key Enhancements:

- **Automated Tracking:** Eliminates manual errors in calculating sentence completion.
- **Instant Retrieval:** Reduces the time needed to find prisoner details from hours to seconds.
- **Digital Rosters:** Replaces paper schedules with an organized digital duty system for staff

USE CASE DOCUMENTATION

UC ID: PMS-105-001
Title: Manage Prisoner Registration & Cell Assignment
Primary Actor: Admin
Pre-Conditions: The Admin is logged into the Prisoner Management System.
Post-condition: The prisoner is successfully registered, sentence is calculated, and a cell is assigned.

MAIN FLOW:

1. Admin requests to add a new inmate.
2. System shows the main dashboard with the "Register Prisoner" option.
3. Admin selects the "Register Prisoner" option.
4. System displays the "New Inmate Registration Form."
5. Admin enters the prisoner's personal details (Name, Age, Physical Marks, and ID Number).
    - **5.1. Admin enters an ID that already exists in the database.**
        - **5.1.1.** The system displays a message: "Error: Prisoner ID already exists."

        - **5.1.2.** Admin re-enters a unique ID number.
6. System asks for crime details and punishment duration.
7. Admin selects the crime type and inputs the sentence duration (e.g., 5 years).
8. The system automatically calculates and displays the expected "Release Date" based on the entry date.
9. Admin verifies the release date and clicks "Next."
10. System displays a list of Cell Blocks (e.g., Block A, Block B) with their current capacity status.
11. Admin selects a specific Cell Block.
12. The system checks the capacity of the selected block.
    - **12.1. Admin selects a Cell Block that is currently full (Capacity reached).**
        - **12.1.1.** The system displays a message: "Block is full. Please select another block."
        - **12.1.2.** The system suggests the nearest available blocks with empty cells.
        - **12.1.3.** Admin selects an available block from the suggestions.
13. System temporarily assigns the prisoner to the selected cell.
14. System displays a complete summary of the profile (Personal Info, Crime, Sentence, Assigned Cell).
15. Admin reviews the summary and clicks "Save Record."
    - **15.1. Admin attempts to save with missing mandatory fields (e.g., Name is empty).**

- **15.1.1.** System highlights the empty fields in red.
- **15.1.2.** System displays a message: "Please fill in all required fields."
- **15.1.3.** Admin fills in the missing information.

16. System saves the data to the central database.
17. System displays a confirmation message: "Inmate Registered Successfully."
18. System returns to the main dashboard

USE CASE DOCUMENTATION (STAFF OPERATIONS)

UC ID: PMS-105-002
Title: Search Prisoner Record
Primary Actor: Staff
Pre-Conditions: The Staff member is logged into the Prisoner Management System.
Post-condition: The prisoner's details are retrieved and displayed on the screen.

MAIN FLOW:

1. Staff requests to search for a prisoner.
2. System displays the "Search Prisoner" dashboard with a search bar.
3. Staff enters the prisoner's "Prisoner ID" or "Full Name" into the search bar.
4. Staff clicks the "Search" button.
5. System searches the central database for matching records.

- **5.1. Staff enters an ID that does not exist in the database.**
  - **5.1.1.** The system displays a message: "Error: No Prisoner found with this ID."
  - **5.1.2.** Staff clears the field and re-enters a correct ID.

6. System retrieves the specific prisoner profile.
7. System displays the full details (Name, Cell Block, Crime, and Release Date) to the Staff member.
8. Staff views the information and clicks "Close" to return to the dashboard.

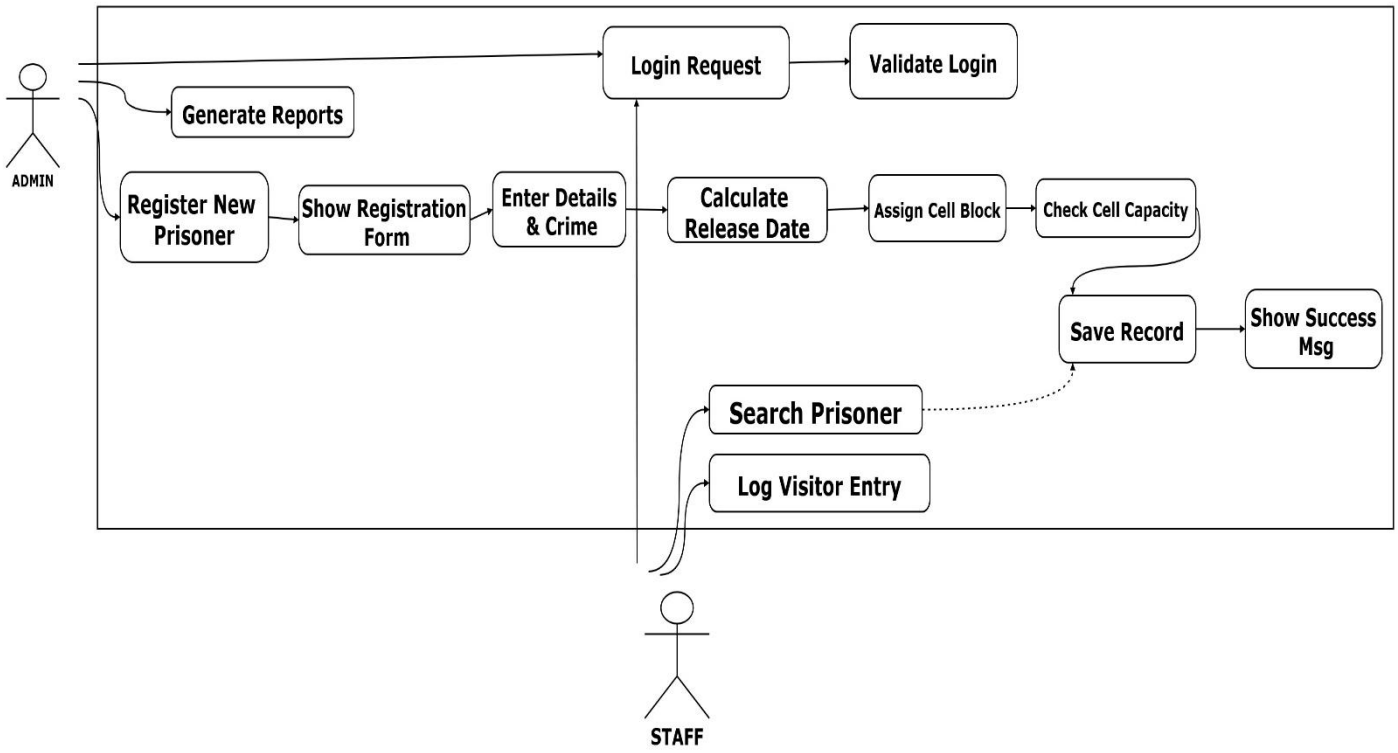
UC ID: PMS-105-003
Title: Log Visitor Entry
Primary Actor: Staff
Pre-Conditions: The Staff member is logged in, and a visitor is present at the facility.
Post-condition: The visitor's entry is successfully logged in the system.

MAIN FLOW:

1. Staff selects the "Log Visitor Entry" option from the main menu.
2. System displays the "Visitor Entry Form."
3. Staff enters the Visitor's details (Visitor Name, ID Proof Number, and Relation to Prisoner).
4. Staff enters the "Prisoner ID" of the inmate being visited.
5. System validates the Prisoner ID and checks visitation status.
   - **5.1. The Prisoner ID entered is invalid.**

        - **5.1.1.** The system displays a message: "Error: Invalid Prisoner ID."
        - **5.1.2.** Staff re-enters the correct Prisoner ID.
    - **5.2. The Prisoner is currently under a visitation ban (Restricted).**
        - **5.2.1.** The system displays a warning: "Alert: Visitation is currently restricted for this inmate."
        - **5.2.2.** Staff informs the visitor and cancels the entry process.
6. System displays a summary of the visit (Visitor Name + Prisoner Name).
7. Staff confirms the details and clicks "Save Log."
    - **7.1. Staff attempts to save without entering Visitor ID Proof.**
        - **7.1.1.** System highlights the field in red.
        - **7.1.2.** Staff enters the missing ID Proof number.
8. System saves the entry to the daily visitation log.
9. System displays a confirmation message: "Visitor Entry Logged Successfully."

USE CASE DIAGRAM



DOMAIN MODEL

Scenario Story:

The **Prison Staff** initiates the system by performing a login. The **System** validates the credentials to ensure the user is authorized. Once logged in, the staff member searches for a **Prisoner**.

If the prisoner exists, the system displays their details, and the staff member can update the **Prisoner Record**. If the prisoner is not found, the staff member registers a new **Prisoner**. During this process, the **System** automatically assigns a **Cell** and calculates the release date. The system then saves the prisoner data.

The **Prison Staff** also records their daily **Attendance**, which the system saves to the database.

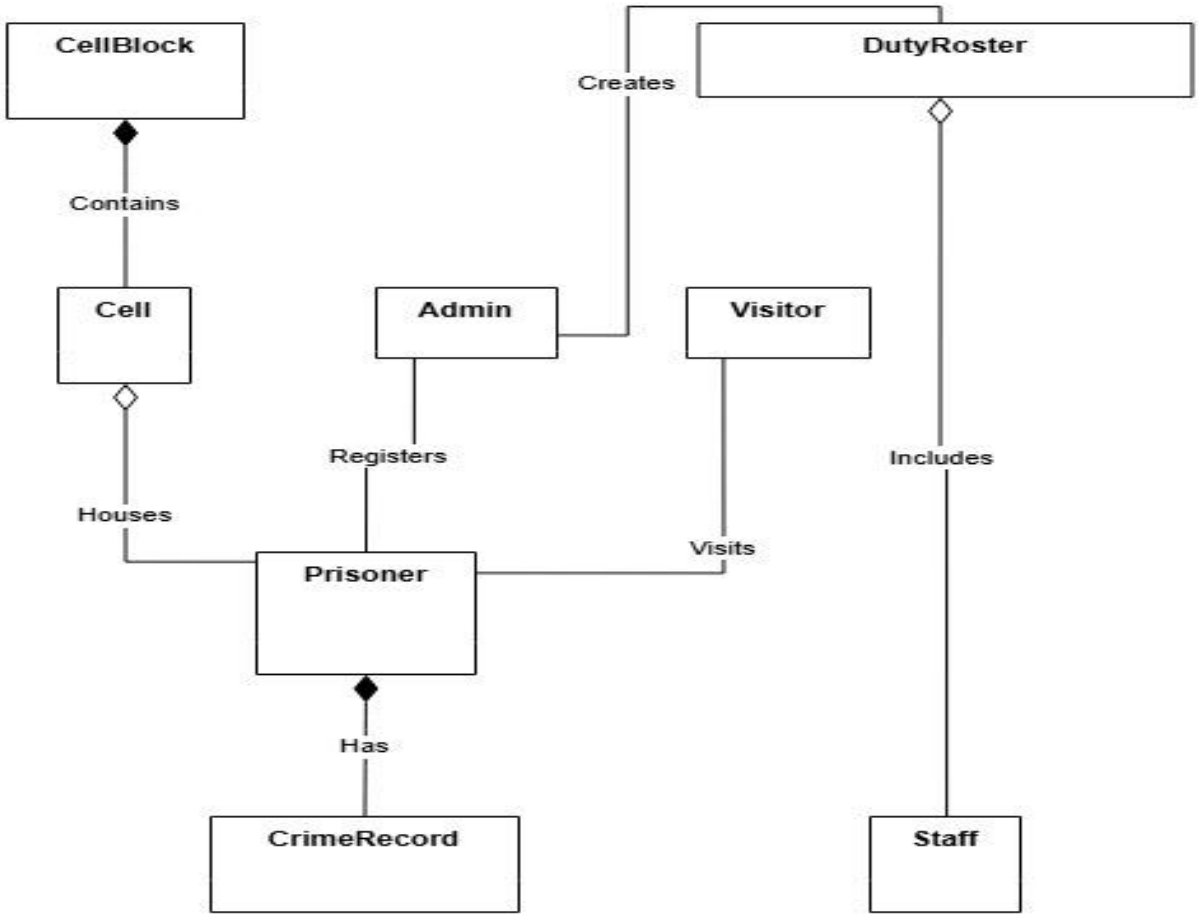
Simultaneously, other departments use the system. The **HR Manager** manages the **Staff** profiles and schedules staff shifts. The **Administrator** logs **Visitor** entries and generates visitor passes. The **Security Guard** monitors restricted **Areas**. If suspicious activity is detected, they handle the **Security Alert**.

Finally, for every completed action, the system displays a confirmation message before the user logs out.

ENTITIES TABLE

CANDIDATE ENTITIES	DISCARDED ENTITIES
Prisoner (Managed by Prison Staff)	System (Name of the /software)
Staff (Managed by HR Manager)	Login (This is an action/process)
Cell (Assigned by System)	Search (This is an action)
Visitor (Logged by Administrator)	Confirmation (System message/Output)
Attendance (Recorded by Staff)	Shift (Attribute of Staff, or part of Schedule)
Security Alert (Handled by Guard)	Database (Technical storage term)

DOMAIN MODEL



ACTIVITY DIAGRAM: