**CSE 222**

**2nd PROJECT REPORT - GROUP 1**

**Prison Management System**

**1. Group Members**

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**2. Problem Deﬁnition**

The problem is to manage a prison fast, easily and safely. In big institutions such as prisons  
most of the time the problem is weak communication and information among the  
personnel. Our aim is to solve this communication and information problem. Prisons have  
personnel such as administrator, governor, chief jailer, jailers, staff members (e.g. cook,  
cleaning, healthcare), prisoners etc.; or rooms such as cells, wards, dining hall etc.  
All this information is kept tracked by the system and only authorized personnel can use this  
system. We call them users. Users can reach any data and do actions about their authorities  
in the prison. For example; registering, head counting, shifting, adding daily food menus etc.  
As a Result by using this system, we will be able to handle weak communication and  
information problem such that users can access everything immediately.

**3. Users of the System**

The prison system has users such as administrator, governor, jailers, chief jailer and staff members(cooks , healthcare personnels and cleaning personnels).

* **Administrator** manage the system by adding and removing governor.
* **Governor** can enter and remove information about the prisoners such as name, surname, T.C number, criminal record, the number of the ward and prisoner’s relative information. Also, governor can add and remove another users.

He/She keeps the information of these users. This information is name, surname, T.C number and user’s profession.

* **Chief jailer** manages other guards. He/She assigns them to the necessary departments. Chief jailer also manages visitor entrance and exit.
* **Jailers** enter the census details of the prisoners every morning and evening. He/She can access prisoners' information.
* **Healthcare personnels** enter prisoners’ health information into the system. Arranges the appointment system for health check.
* **Cleaning personnels** arranges the hours of cleaning. He/She enters the cleaning information of the wards into the system.
* **Cooks** organize the menu and enter the menu into the system.

**4. Requirements**

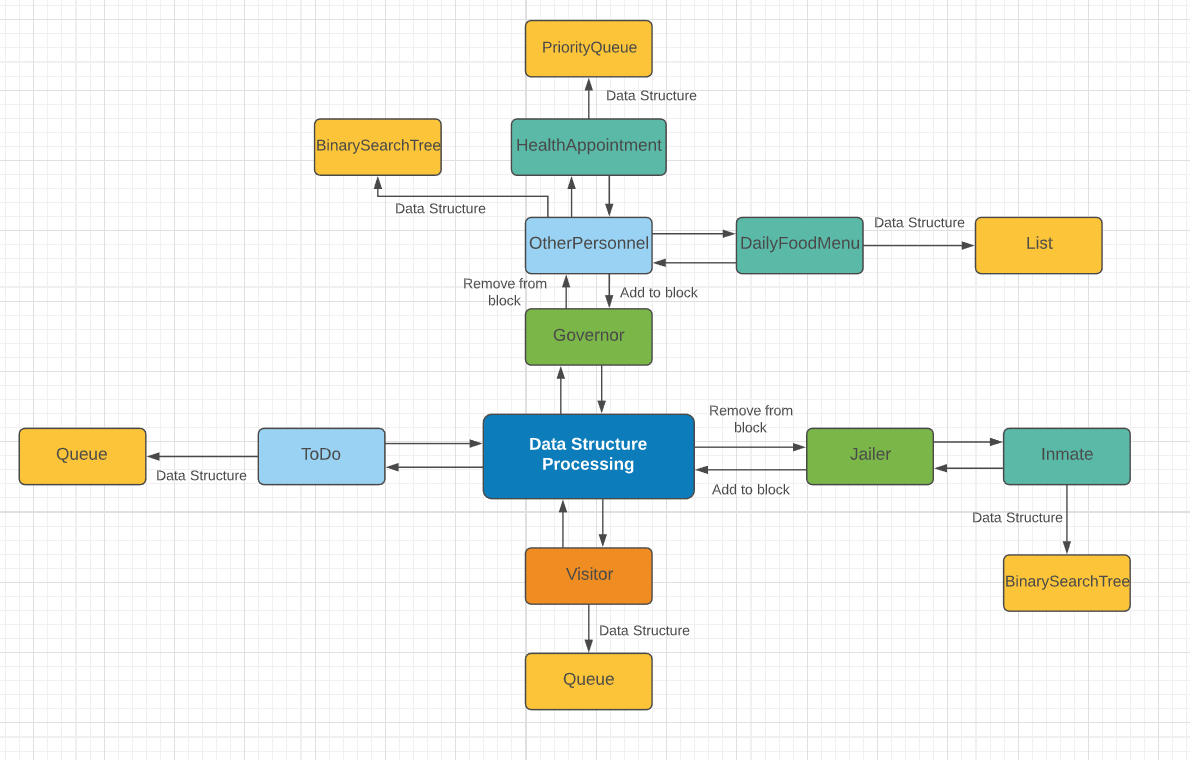
**Functional Requirements**

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| **Requirement**  **ID** | **Description of the Requirement** |
| **FR1** | Administrator (e.g. Secretary of Justice) shall be able to add or remove  Governor or Chief Jailer. |
| **FR2** | Governor shall be able to add or remove prisoners. |
| **FR3** | Governor shall be able to add or remove personnel  (Jailers, Cooks, Health Personnel). |
| **FR4** | Chief Jailer shall be able to manage visitors. |
| **FR5** | Chief Jailer shall be able to manage jailers (Work Deportments, Shift Hours). |
| **FR6** | Jailers shall be able to update prisoner census data. |
| **FR7** | Jailers shall be able to declare state of alert. |
| **FR8** | Healthcare Personnel shall be able to manage and update prisoners health status. |
| **FR9** | All Users shall be able to login successfully and safely. |

**Non-Functional Requirements**

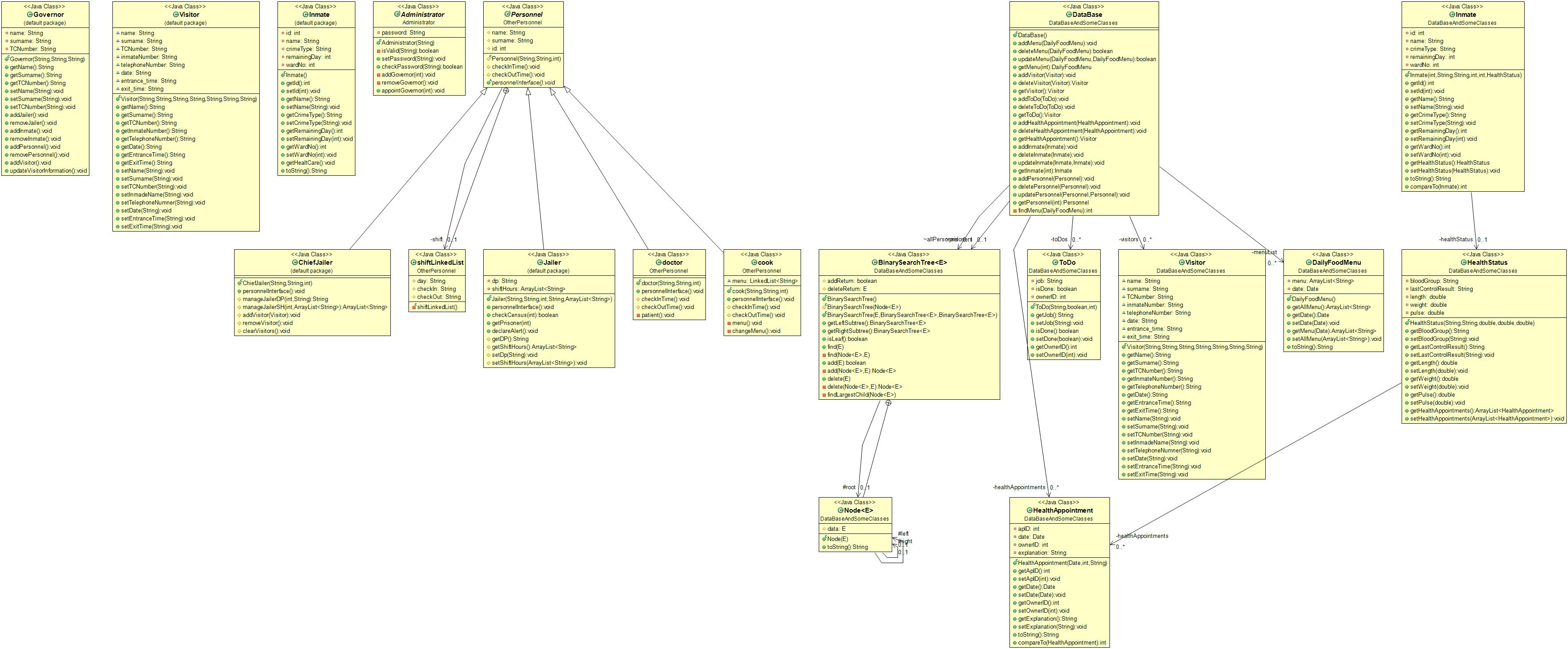
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| **Requirement**  **ID** | **Description of the Requirement** |
| **NFR1** | Hardware should be able to run at least Java SE13. |
| **NFR2** | System can operate on any hardware. The seller is not in charge of any leaks in security if customer decides to change their hardware or their operating system. |
| **NFR3** | System should be able to provide information on user’s request in less than 1 second in optimal conditions. |
| **NFR4** | Anyone outside the prison ( such as visitor ) does not have any access to prisoners’ information. Visitors need to be conﬁrmed by prison’s prisoner’s to be able to enter the jail. |
| **NFR5** | Personnel having access to the system (especially administrators) should do the training course provided by our experienced staff. |
| **NFR6** | System should be easy to use and user experience should be simple enough so that even the elderly personnel is able to catch up fast. |
| **NFR7** | Customer buying the system is required to report the maximum capacity of the prison (maximum number of prisoners, staff, administrators of the  system etc.) |
| **NFR8** | For registering someone new into the system they are required to be in possession of an either id card, residential permit or a passport, otherwise they become a temporary prisoner until their identiﬁcation is conﬁrmed. |
| **NFR9** | Reinstalling the system should be done by professionals in case of failure |

**5. Detailed System Modules**

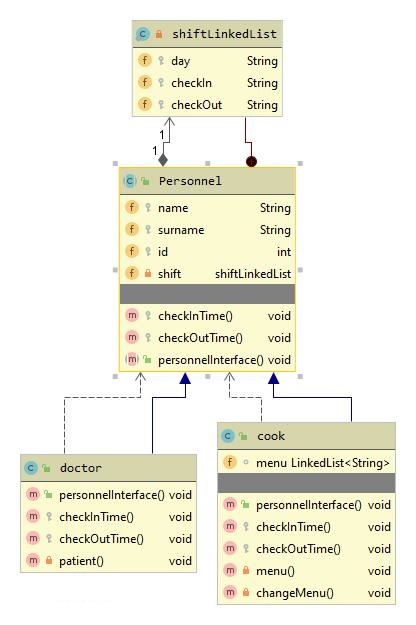
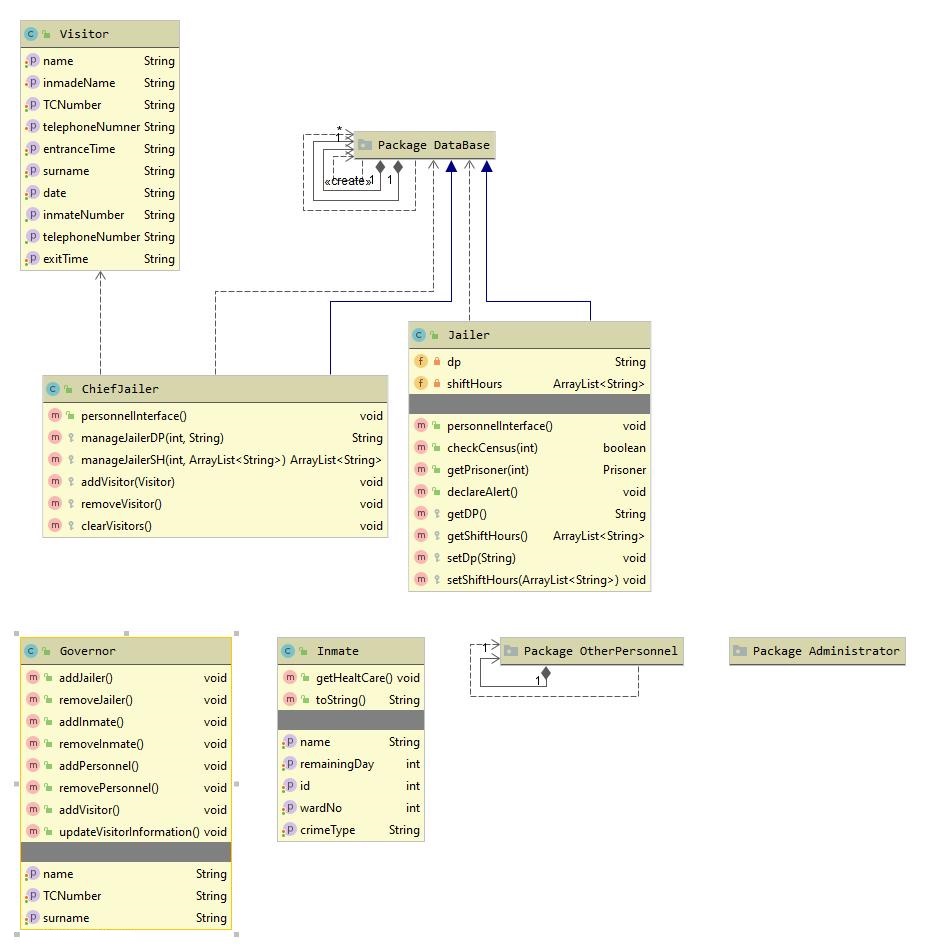


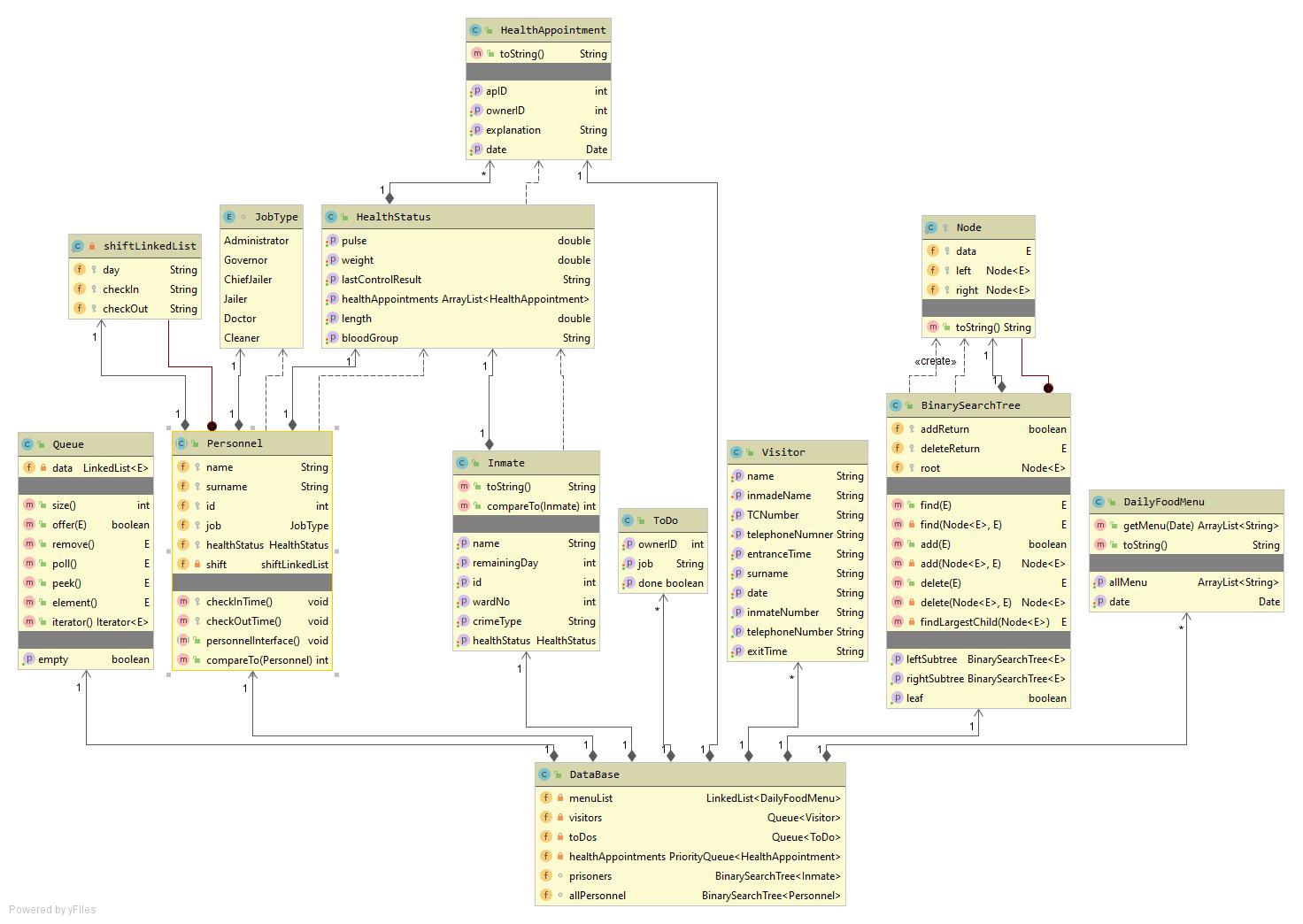
**6. Class Diagrams**

* All Classes in one Diagram



* Class Diagrams Separately





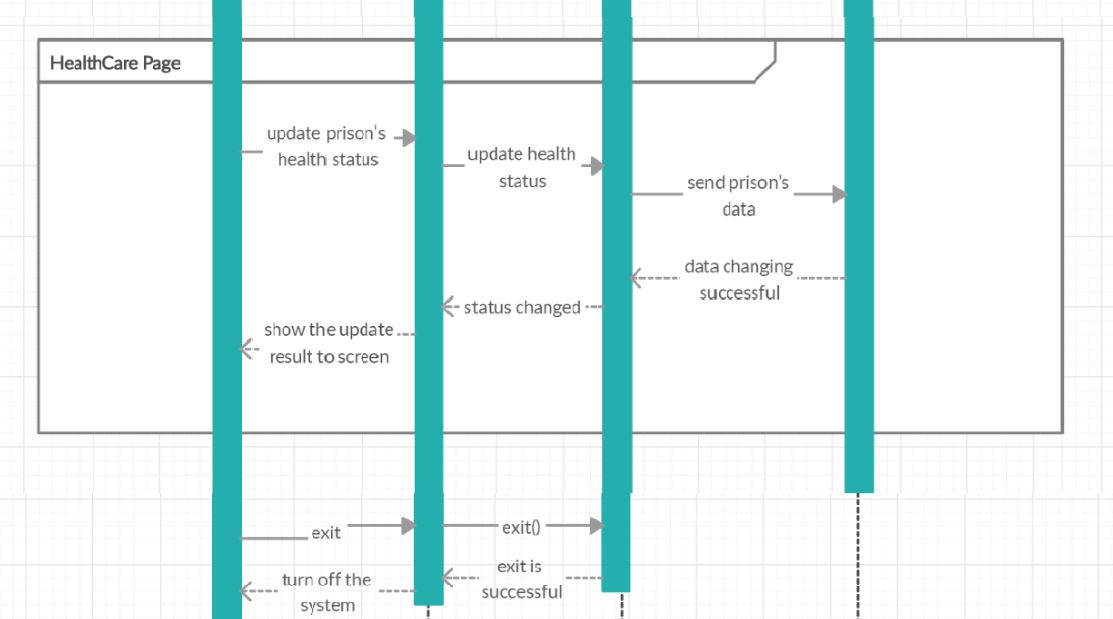
**7. Sequence Diagrams**



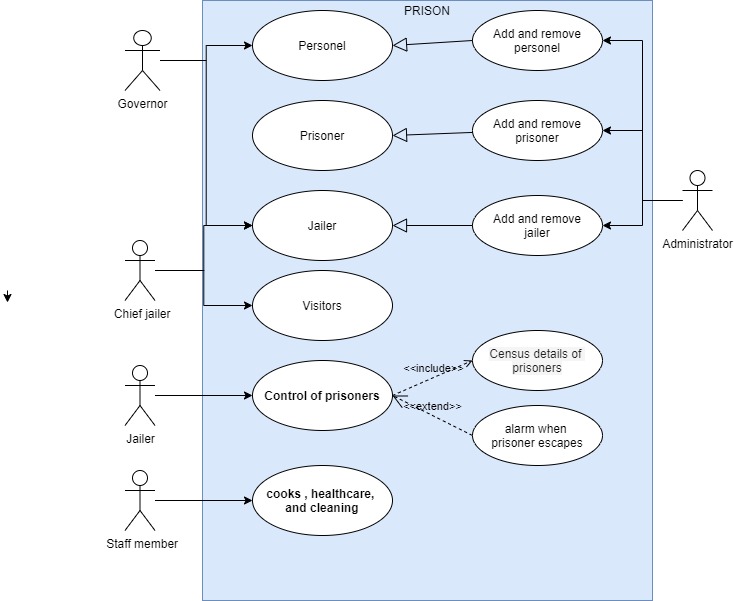




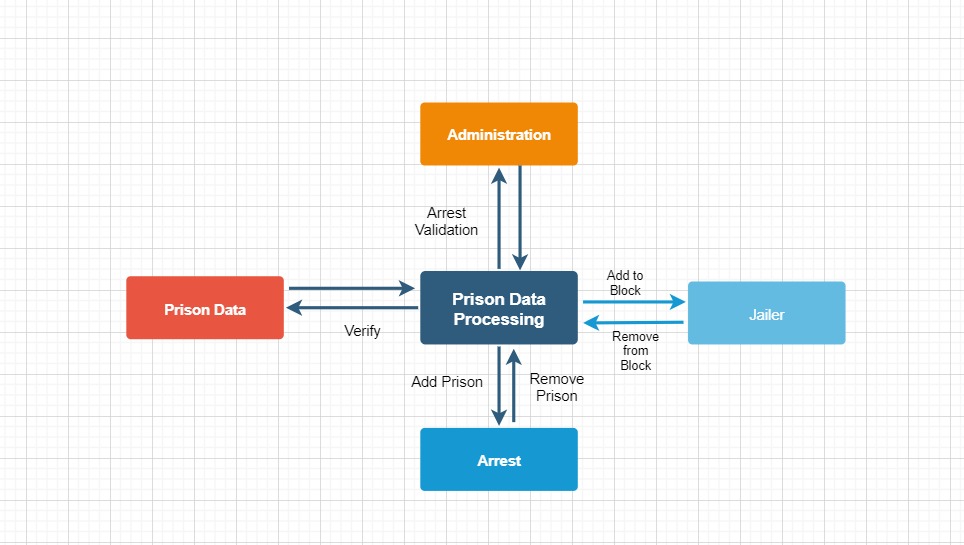




**8. Other Diagrams (Use Case Diagram)**



**8. Other Diagrams (Basic Module diagram)**



**9. Implementation Details**

In this project most of the implementation part belongs to java so there is no need things from outside of java.

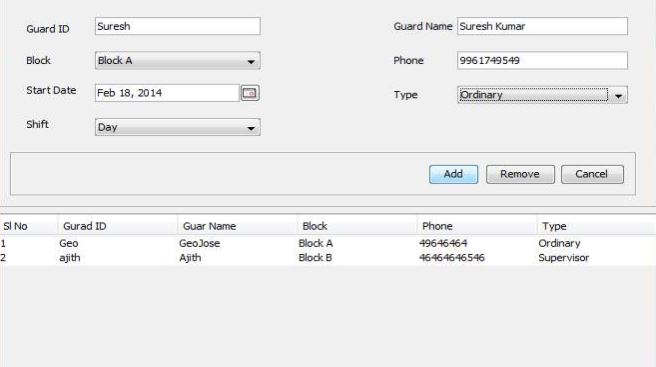
As an important information we will use **java awt and swing library** to make our graphical user interface.

**Some swing GUI examples**

Login Form (As a sample):



Guard add screen (As a sample):



**SOFTWARE REQUIREMENTS**

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| **Java SE Version** | Java 13 and above |
| **IDE** | NetBeans, Eclipse and IntelliJ IDEA |

**10. Test cases**

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| Test ID | Requirement ID | Test Scenario | Test Steps | Test Data | Expected Results |
| T01 | **FR1** | **Administrator adds a new Governor to the system.** | **1.Go to app.**  **2.Go to add Governor screen.**  **3.Enter name.**  **4.Enter UserID.**  **5.Enter Phone.**  **6.Set random password.** | **Name =**  **Ray Holt**  **UserID = 101**  **Phone =**  **123564345**  **Password =**  **password1** | **Administrator should add Governor to the system.** |
| T02 | **FR1** | **Administrator adds a new Chief Jailer to the system.** | **1.Go to app.**  **2.Go to add Chief Jailer screen.**  **3.Enter name.**  **4.Enter UserID.**  **5.Set random password.**  **6. Enter Block.**  **7.Enter Phone.**  **8. Enter Type.**  **9. Enter Shift.**  **10.Enter start date.**  **11.Click add.** | **Name = Jack Peralta**  **UserID= 102**  **Password = password2**  **Block = 2**  **Phone =**  **212124343**  **Type = Chief**  **Shift = Day**  **Start date =**  **18 May, 2020** | **Administrator should add Chief Jailer to the system.** |
| T03 | **FR9** | **Check Governor**  **Login with valid data.** | **1.Go to app.**  **2.Enter UserID.**  **3.Enter Password.**  **4.Click Login.** | **UserID = 101**  **Password = password1** | **User should**  **Login into**  **Application.** |
| T04 | **FR2** | **Governor adds an Inmate to the system** | **1.Go to app.**  **2.Go to add Inmate screen.**  **3.Enter name.**  **4.Enter InmateID.**  **5.Enter crimeType**  **6.Enter remainingDay.**  **7.Enter wardNo.**  **8.Click add.** | **Name = Doug Judy**  **InmateID = 1000**  **CrimeType =**  **Theft**  **RemainingDay = 378**  **WardNo = 4** | **Governor should add Inmate to the system** |

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| Test ID | Requirement ID | Test Scenario | Test Steps | Test Data | Expected Results |
| T05 | **FR3** | **Governor adds personnel( cook ) to the system.** | **1.Go to app.**  **2.Go to add personnel screen.**  **3. Enter name.**  **4.Enter UserID.**  **5.Set random password.**  **6.Enter Phone.**  **7.Enter Type.**  **8.Enter Shift.**  **9.Enter start date.**  **10.Click add.** | **Name =**  **Love Quinn**  **UserID = 103**  **Password =**  **password3**  **Block = 3**  **Phone =**  **03432545423**  **Type = Cook**  **Shift = Day**  **Start Date =**  **20 March, 2020** | **Governor should successfully add personnel( cook ) to the system.** |
| T06 | **FR3** | **Governor adds personnel( health ) to the system.** | **1.Go to app.**  **2.Go to add personnel screen.**  **3. Enter name.**  **4.Enter UserID.**  **5.Set random password.**  **6.Enter Phone.**  **7.Enter Type.**  **8.Enter Shift.**  **9. Enter start date.**  **10.Click add.** | **Name = Alex Karev**  **UserID = 104**  **Password = password4**  **Block = 5**  **Phone =**  **02324325235**  **Type = Health**  **Shift = Day**  **Start date =**  **2 March, 2019** | **Governor should successfully add personnel ( health ) to the system.** |
| T07 | **FR3** | **Governor adds personnel ( Jailer ) to the system.** | **1.Go to app.**  **2.Go to add personnel screen.**  **3.Enter name.**  **4.Enter UserID.**  **5.Set random password.**  **6. Enter Block.**  **7.Enter Phone.**  **8. Enter Type.**  **9. Enter Shift.**  **10.Enter start date.**  **11.Click add.** | **Name = Rosa Diaz**  **UserID = 105**  **Password = password5**  **Block = 3**  **Phone =**  **943545346**  **Type = Jailer**  **Shift = Day**  **Start date =**  **23 August, 2014** | **Governor should add personnel to the system.** |

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| Test ID | Requirement ID | Test Scenario | Test Steps | Test Data | Expected Results |
| T08 | **FR9** | **Check Chief Jailer**  **Login with valid data.** | **1.Go to app.**  **2.Enter UserID.**  **3.Enter password.**  **4.Click Login.** | **UserID = 102**  **Password = password2** | **User should Login into application.** |
| T09 | **FR4** | **Chief Jailer adds visitor to the system.** | **1.Go to app.**  **2.Go to add visitors screen.**  **3. Enter name.**  **4. Enter TCNumber.**  **5. Enter Phone.**  **6. Enter inmateID.**  **7. Enter date.**  **8. Enter entrance\_time.** | **Name = Trudy Judy**  **TCNumber = 12345367490**  **Phone = 15643234355**  **InmateID = 1000**  **Date = 4 October, 2018**  **Entrance\_time = 14:00** | **Chief Jailer should add visitor to the system.** |
| T10 | **FR4** | **Chief Jailer updates visitor’s exit time.** | **1.Go to app.**  **2.Go to visitors screen.**  **3. Enter visitor’s name.**  **4. Update exit\_time.**  **5.Click update.** | **Name = Trudy Judy**  **Exit\_time = 15:00** | **Chief Jailer should update visitor’s exit time.** |
| T11 | **FR5** | **Chief Jailer updates Jailers’ shift hours.** | **1.Go to app.**  **2.Go to jailers screen.**  **3.Enter jailer’s UserID.**  **4.Update shift hours.**  **5.Click update.** | **UserID= 105**  **Shift = Night** | **Chief Jailer should update jailer’s shift hours.** |
| T12 | **FR9** | **Check Jailer Login with valid data.** | **1.Go to app.**  **2.Enter UserID.**  **3.Enter Password.**  **4.Click Login.** | **UserID = 105**  **Password = password5** | **User should Login into application.** |

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| --- | --- | --- | --- | --- | --- |
| Test ID | Requirement ID | Test Scenario | Test Steps | Test Data | Expected Results |
| T13 | **FR6** | **Jailer updates census data.** | **1.Go to app.**  **2.Go to census screen.**  **3.Enter census data.**  **4.Compare number of inmates registered.**  **5. Click check.** | **Census = 105**  **Number of inmates = 105** | **Chief Jailer should update census data.** |
| T14 | **FR7** | **Jailer declares state of alert.** | **1.Go to app.**  **2.Go to alert screen.**  **3.Set alert state true.**  **4.Click save.** | **Alert\_state = true.** | **Jailer should declare state of alert.** |
| T15 | **FR9** | **Check Health Personnel Login with valid data.** | **1.Go to app.**  **2.Enter UserID.**  **3.Enter Password.**  **4.Click Login.** | **UserID = 104**  **Password = password4** | **User should Login into application.** |
| T16 | **FR8** | **Health Personnel manages and updates prisoners health status.** | **1.Go to app.**  **2.Go health screen.**  **3.Enter patient’s name.**  **4.Enter patient’s UserID.**  **5.Enter patient’s health problem.** | **Name = Doug Judy**  **UserID= 1000**  **Health\_problem = Flu** | **Health Personnel should manage and update health status.** |
| T17 | **FR1** | **Check if the Administrator removed Governor.** | **1.Go to app.**  **2.Go to remove screen.**  **3.Enter UserID.**  **4.Click remove.** | **UserID= 101** | **Administrator should remove Governor from the system.** |
| T18 | **FR1** | **Check if the Administrator removed Chief Jailer.** | **1.Go to app.**  **2.Go to remove screen.**  **3.Enter UserID.**  **4.Click remove.** | **UserID= 102** | **Administrator should remove Chief Jailer from the system.** |

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| Test ID | Requirement ID | Test Scenario | Test Steps | Test Data | Expected Results |
| T19 | **FR2** | **Check if the**  **Governor removed Inmate.** | **1.Go to app.**  **2.Go to remove screen.**  **3.Enter InmateID.**  **4.Click remove.** | **UserID = 1000** | **Governor should remove**  **Inmare from the system** |
| T20 | **FR3** | **Check if the Governor removed**  **personnel.** | **1.Go to app.**  **2.Go to remove screen.**  **3.Enter UserID.**  **4.Click remove.** | **UserID = 105** | **Governor should remove personnel from the system** |