**Semester Project Documentation**

**Report - Prison Operating System**

**Student Details**

(Fill according to number of team/group members)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Student Name | Student Reg # | Student Degree |
| Student-1 | Alizeh Dayo | 2024094 | undergraduate |
| Student-2 | Tehreem Usman | 2024638 | undergraduate |
| Student-3 | Eshal Asif | 2024161 | undergraduate |
| Student-4 | Shariah Azhar | 2024581 | undergraduate |

**Main Features**

*(Mention each by numbering as 1, 2, 3 … etc)*

1. Add Inmate
2. Display Inmates
3. Search Inmate
4. Update Behaviour

**Types of Users**

*(Just Mention the types of users For Example: Teacher, Student … etc)*

* Prison Administrator
* Prison Staff
* Inmates

**Requirements Breakdown**

*(Write requirements of each feature by numbering. For example: Requirements of feature # 1. It will be mentioned as 1.1, 1.2. Similarly for feature # 2 it will be 2.1, 2.2, 2.3 … etc.)*

**Feature #1: Add Inmate**

1.1 Input inmate personal details (Name, Age, Gender, Inmate Number).  
1.2 Validate inmate's age (must be non-negative).  
1.3 Input sentence details (Offense, Sentence Duration).  
1.4 Add family contact details (Family Member Name, Contact Info).  
1.5 Assign work details (Work Assignment, Hours Worked).  
1.6 Record behavior details (Strikes, validated as non-negative).

**Feature #2: Display Inmates**

2.1 Retrieve all stored inmate records.  
2.2 Display personal details, sentence information, family contact, work details, and strikes.

**Feature #3: Search Inmate**

3.1 Search inmate by name or unique inmate number.  
3.2 Display details of the matched record if found.

**Feature #4: Update Behavior**

4.1 Input inmate number to locate the record.  
4.2 Update the "strikes" field for the selected inmate after validation.

**Features to Codding Matrix**

*(In the following table you will mention the following items for each feature, mention the items in each column for each feature of your application)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr  no. | Feature Name | Concept Used | Functions Created | Variables / Obj Created | Line of Code Written |
| 1 | Xyz | Control structure | Xyz()  Sumnum() | Int v1, int v2 | 110 |
| 1 | Add Inmate | Input Validation | addInmate() | inmateNames, inmateAges | ~40 |
| 2 | Display Inmates | Loops and Outputs | displayInmates() | recordCount | ~40 |
| 3 | Search Inmates | Conditional Logic | searchInmates() | searchQuery | ~35 |
| 4 | Update behaviour | Input validation | updateBehavior() | strikes, inmateNumbers | ~30 |