

Introduction

For the past few years, global rise in crime has taken place which is really unfortunate. So there is necessity to develop a management system to securely manage the growing prisoner population and the incremental number of identification records. The project entitled “**Prison Management System**” has been developed to with the objective of providing an easy effective and efficient mechanism benefiting the prisoners and the concerned prison department. The period prior to implementation of the above mentioned system was marked by multiple complexities and hurdles including manual based time consuming process, human errors, insufficient security due to time consuming record keeping, difficulty in managing visitors, faulty calculation of correct remission and release dates, delay in application process, negligence of records and so on. The shortcomings fostered corrupt and inefficient administration and compromised constitutional rights of prisoners and the rule of law. But the “**Prison Management System**” has weeded out key limitations of prisons management resulting in drastic improvements in prison administration.

1.1 Terminologies and Definition

Prison Management System: It is a management system that helps in improving the prison administration by securely managing prisoner records.

Prisoner: A prisoner is a person legally committed to prison as a punishment for a crime.

Jailer: A jailer is a person in charge of a prison or of the prisoners in it.

Visitor: A person visiting someone or somewhere, in this case person visiting the prisoners in jail.

Parole: It means the temporary or permanent release of a prisoner before the expiry of a sentence, on the promise of good behaviour.

Automated release diary generator: This report should be display the list of prisoners to be released on a day, the next day, the next week, the next month, or any given duration of time.

1.2 Problem Definition

The project entitled “**Prison Management System**” is aimed at developing a prison management system that is a collection of registers and reports for the effective management of prisons. This system should contain the modules like nominal roll, case register, parole register, interview requests, in-out register and an automated release diary generator. The period prior to the implementation of this system was marked by multiple complexities and hurdles including manual based time consuming process, human errors, insufficient security due to time consuming record keeping, difficulty in managing visitors, faulty calculation of correct release dates etc. This system is aimed at providing an easy effective and efficient mechanism benefiting the prisoners and the concerned prison department.

1.3 Objective of the Project

The main objectives of the project are as follows:-

- To securely manage prisoner records
- To maintain case register of corresponding prisoners
- To create automated release diary generator
- To create parole register
- To manage interview requests and in-out register

1.4 Tools & Platform

The tools and platform required to develop this android application are - JSP using J2EE, Eclipse Neon .2, Tomcat 8.0.27, MySQL, Google Chrome.

Hardware Requirements:

For Developer's side:

- RAM: 2 GB or higher
- Harddisk: 80 GB or more free space
- Processor: 1.8GHz or higher

For Client's side:

- RAM: 512MB or more for Windows XP and 1GB or more for Windows 7 or higher
- Processor: 1.8 GHz or higher

Software Requirements:

For Developer's side:

- OS: Windows XP
- Database: MySQL 5.5 or higher
- Frontend: HTML, CSS, JavaScript
- Code: J2EE
- IDE: Eclipse Neon .2
- Application server: Tomcat 8.0.27
- Internet browser: Google Chrome 58.0.3029.96

For Client's side:

- OS: Windows XP or higher
- Browser: Google Chrome 58.0.3029.96

1.5 Project Organization

High Level/Detailed Design (HLD/DD)

Overview of the system

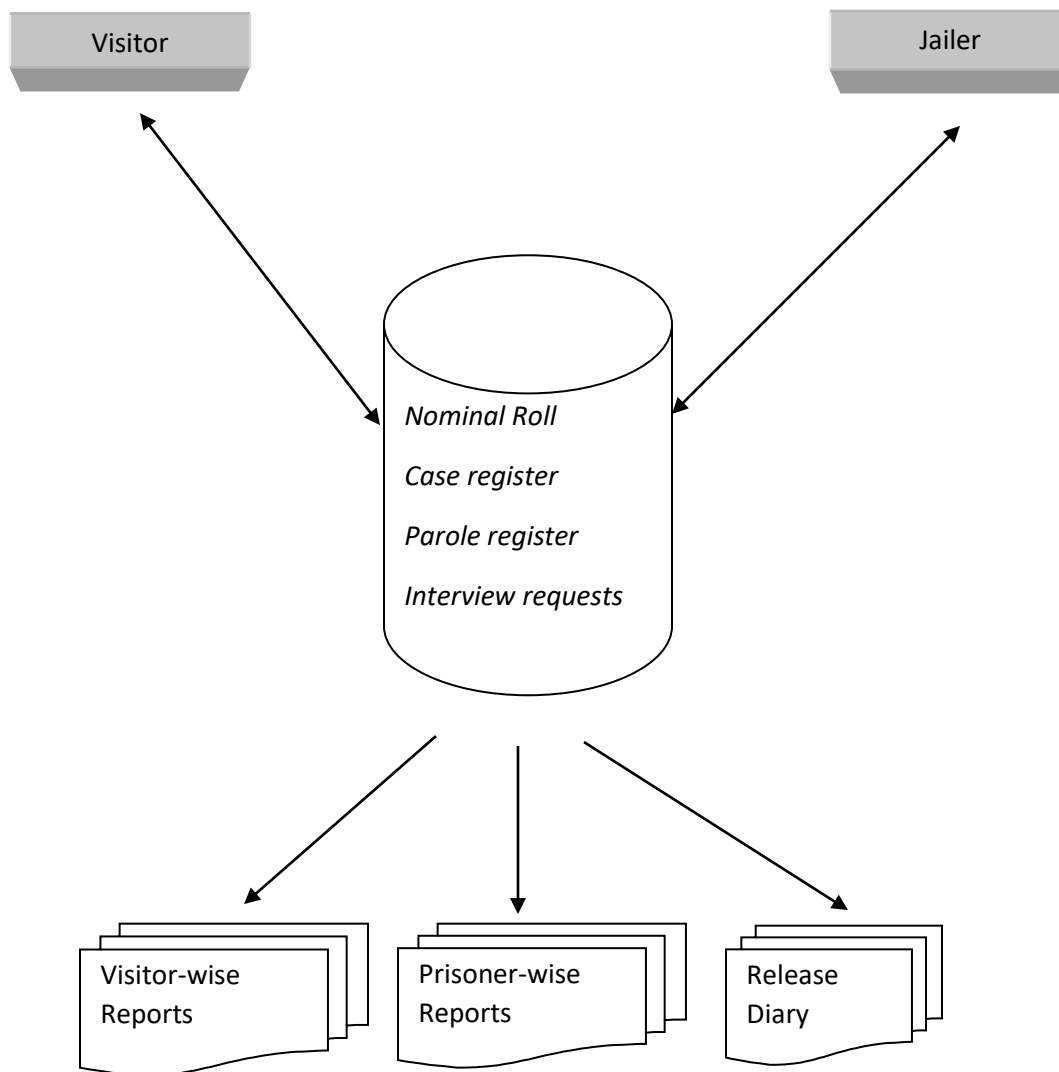


Fig.1

Literature Survey

The Prisons Management Systems (PRISMS), a landmark e-governance initiative of Goa government has not only been pioneering but also influential in many such initiatives in other states as far as automation and efficiency of Prisons management is concerned. PRISMS are an effective ICT-enabled prison administration and management system with the objective of providing an easy effective and efficient mechanism benefiting the prisoners and the concerned prison department. This case study aims to bring forth the importance of Government Process reengineering (GPR) in the context of implementing ICT systems and the resultant benefits to stakeholders. The period prior to implementation of PRISMS was marked by multiple complexities and hurdles including manual based time consuming process, human errors, insufficient security due to time consuming record keeping, difficulty in managing visitors, faulty calculation of correct remission and release dates, delay in application process, negligence of records and so on. The shortcomings fostered corrupt and inefficient administration and compromised constitutional rights of prisoners and the rule of law. Post PRISMS, implementation has weeded out key limitations of prisons management in Goa resulting in drastic improvements in prison administration and in the lives of the prisoners. Whereas PRISMS has emerged as a source of tremendous positive change among the stakeholders, it has also established its sustainability on the basis of being cost-effective. However, PRISMS has had its own share of challenges and limitations; for example, difficulty in motivating the staff in the new system, system design and deployment with 23 diverse modules, network building, and ensuring system foolproof and monitoring^[1].

Prison management system provides facility of managing all the records of prison over internet, which reduces paper work. It also includes Face Recognition System to match achieved photo graph with photographs in database. It creates different system users and assign different roles with related permissions, tracks all the visitors their contact details, all the staff, non-staff and prisoner in out details. It also tracks the Fund allotment and expenditure details. All activities performed by the system users will be maintained in the form of logs for auditing and maintaining the integrity of the system. It maintains a centralized database to provide security to information which can be accessed only by the admin. Face recognition is included^[2].

Concepts & Problem Analysis

The project entitled “**Prison Management System**” is aimed at developing a prison management system that is a collection of registers and reports for the effective management of prisons.

In general, the system does the following:-

- It securely manages prisoner records in the database
- It maintains case register of each prisoner
- It creates automated release diary generator for the prisoners
- It creates parole register
- It manages interview requests of the visitors and in-out register of the prisoners

This system contains the modules like nominal roll, case register, parole register, interview requests, in-out register and an automated release diary generator.

- Nominal Roll: The details of the prisoner and his/her demographic details should be captured. A digital photo comprising different views of the prisoner and the list of articles surrendered by prisoner during nominal roll are to be recorded.
- Case register: All the details of the cases against the prisoner should be captured. This includes the sentence details, conviction details, etc.
- Automated release diary generator: This report should display the list of prisoners to be released on a day, the next day, the next week, the next month, or any given duration of time. The system should consider the reduction of sentence length due to various considerations.
- Parole register: This module should track all prisoners on parole and provide necessary reports on this data.
- Interview requests and In-out register: All interview requests by the relatives of the prisoners need to be recorded and tracked. An in-out register will track all prisoners and others who move in and out for various reasons. This should include provisions for recording the prisoners sent to courts for hearing.
- Various status reports and demographical analysis reports are to be generated.

Features for Jailer:

- At first, the jailor must login to the system with his/her id and password.
- Then, he/she must enter the prisoner details (nominal roll, digital photo), case details in the case register, etc.
- The visitor details are also entered by the jailor.
- The jailor also manages the parole details and release details of each prisoner.
- The jailor is capable of generating reports case-wise, visit-wise, etc.

Limitations:

- Since this is a system consisting of persons involved in criminal activities, security measures like biometric system must be introduced.
- Internet is required to operate the system.
- Since the visitor details are also provided by the jailer, the visitor needs to come to the prison to know the status of his/her visit to the prisoner.

Design & Methodology

Data Flow Diagrams and Entity Relationship Diagram are provided as follows:-

DFD 0:

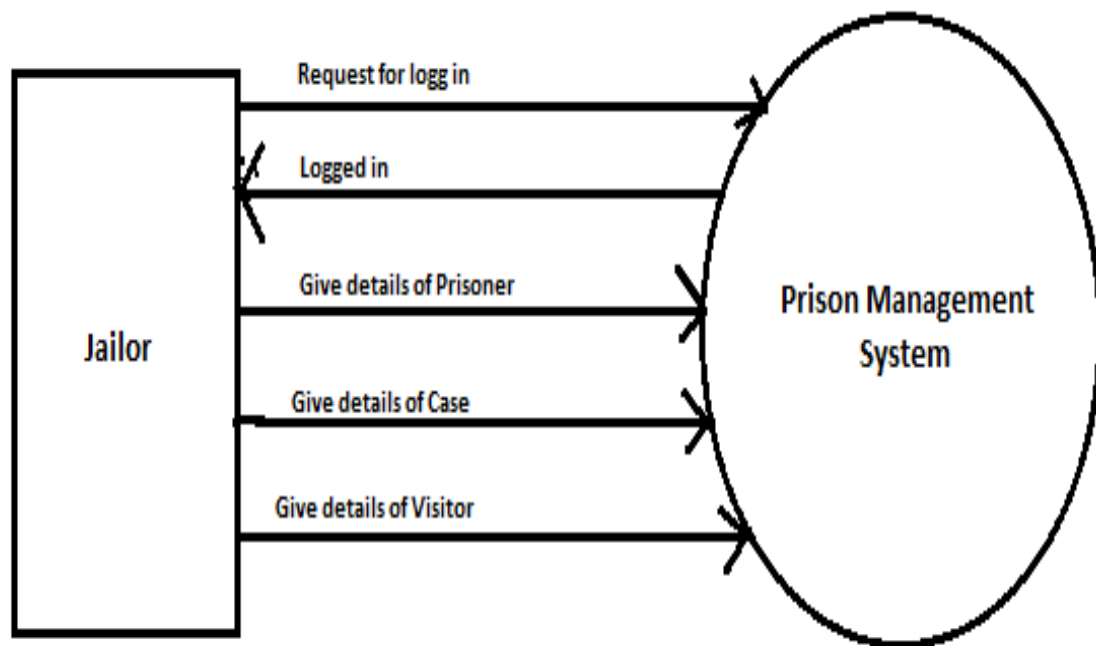


Fig.2

DFD 1:

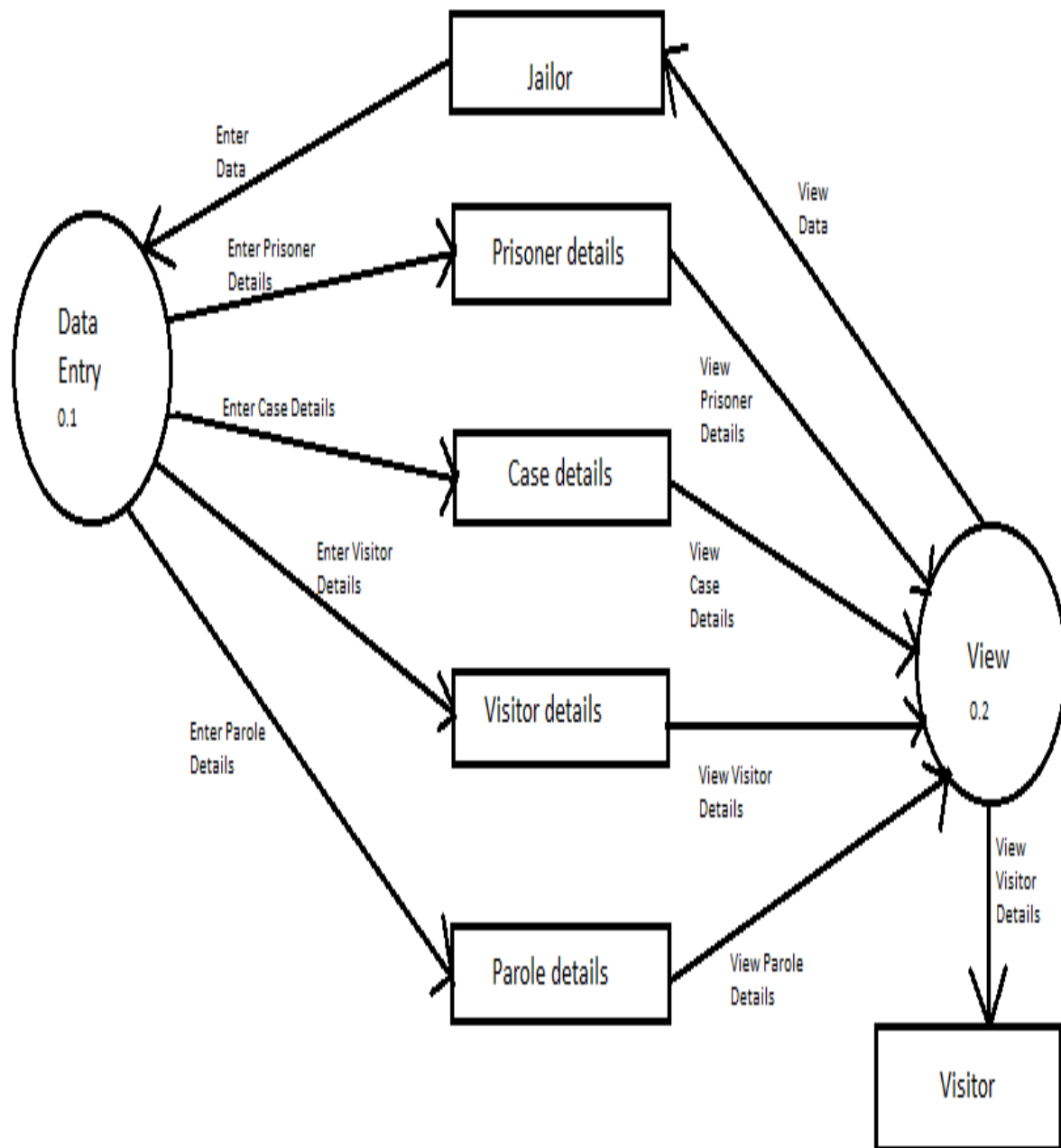


Fig.3

ERD:

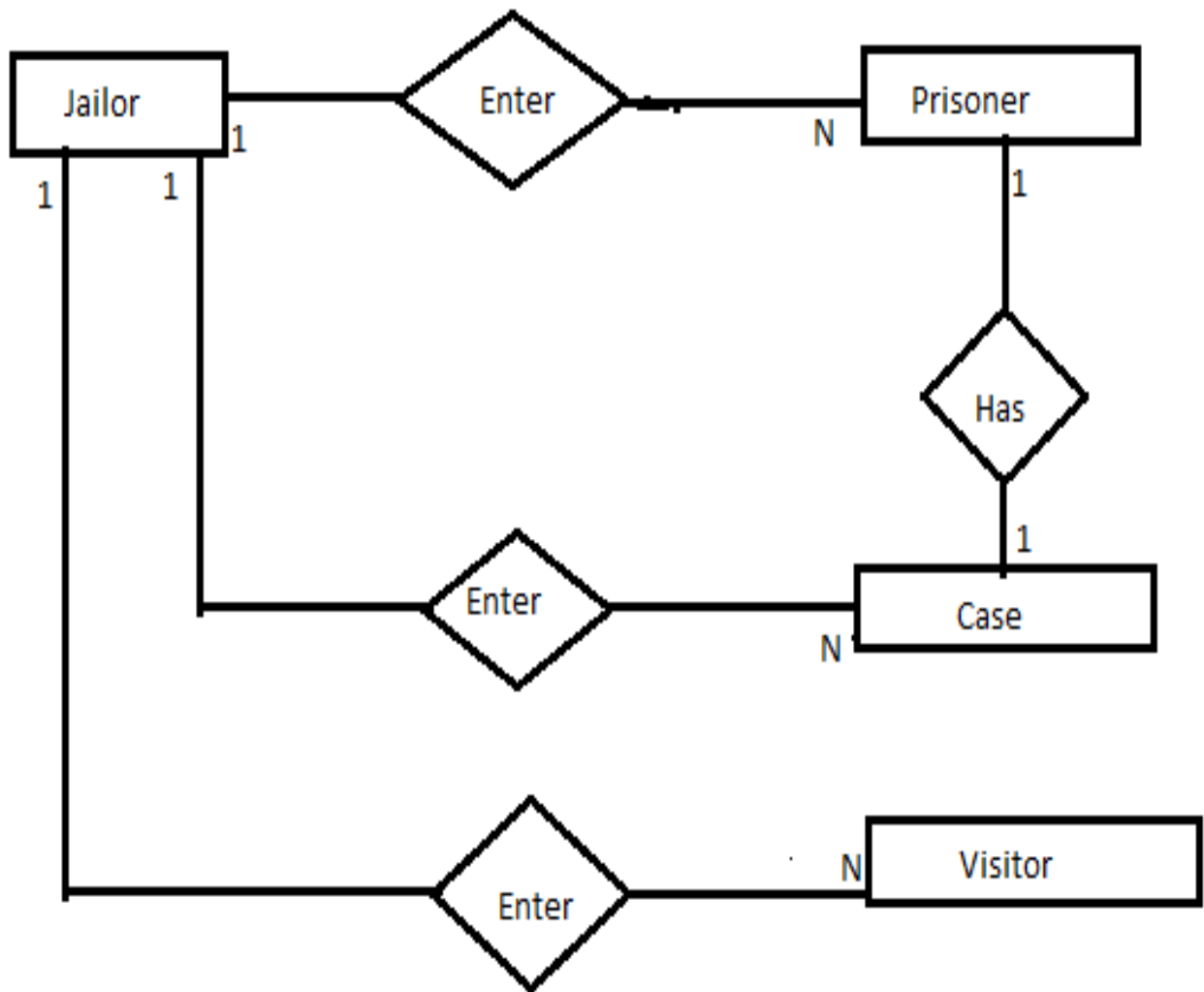
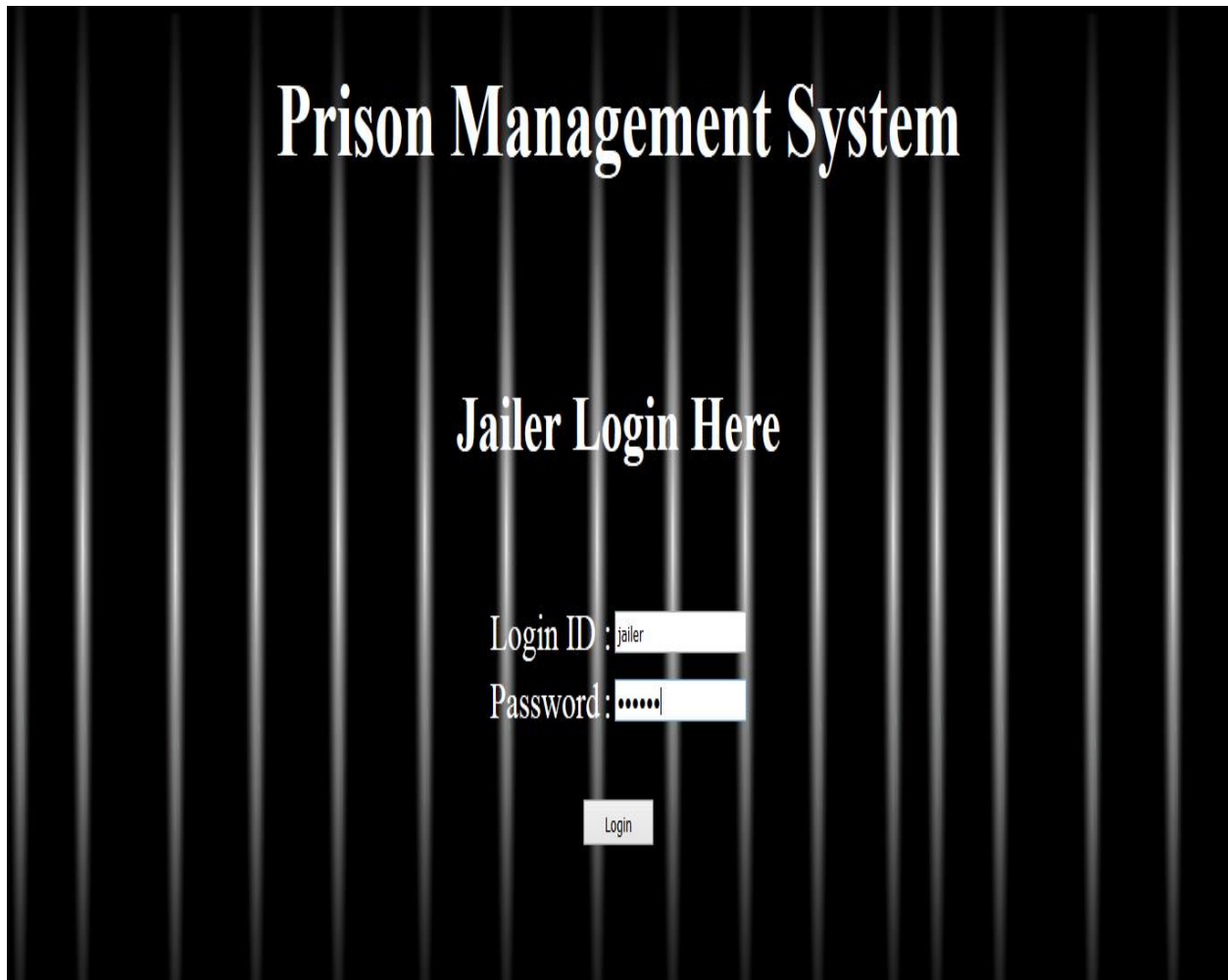


Fig.4

Sample Codes

Provided below are certain codes and designs those have been used in creating the application:-



The image shows a login interface for a 'Prison Management System'. The title 'Prison Management System' is at the top in a large, white, serif font. Below it, the text 'Jailer Login Here' is centered in a similar font. There are two input fields: 'Login ID:' with the text 'jailer' entered, and 'Password:' with masked characters '.....'. A 'Login' button is positioned below the password field. The entire interface is set against a black background with vertical white bars, resembling prison bars.

Jailer login page

WELCOME!!!

[Enter Prisoner Details here](#)

[Enter Case Details here](#)

[Enter Visitor Details here](#)

[Enter parole details](#)

[Release details](#)

[Enter Visit Details here](#)

[Prisoner wise report](#)

[Case wise report](#)

[Visitor wise visit report](#)

[Prisoner wise visit report](#)

Welcome page

ENTER THE PRISONER DETAILS

PRISONER ID:

CASE ID:

NAME:

SELECT THE GENDER OF THE PRISONER

☐ Male

☒ Female

TYPE OF SENTENCE:

ENTRY DATE:

LAST DATE:

DURATION OF SENTENCE:

HEIGHT in FEET:

WEIGHT in KILOGRAM:

ADDRESS:

SELECT PRISONER'S STATUS

☐ IN JAIL

☒ ON PAYROLE

☐ RELEASED

☐ DEAD

com.mysql.jdbc.exceptions.jdbc4.MySQLIntegrityConstraintViolationException: Column 'prisoner_id' cannot be null

Prisoner details page

CaseID:	<input type="text"/>
Description:	<input type="text"/>
CaseType:	<input type="text" value="murder"/>
<input type="button" value="submit"/>	<input type="button" value="reset"/>

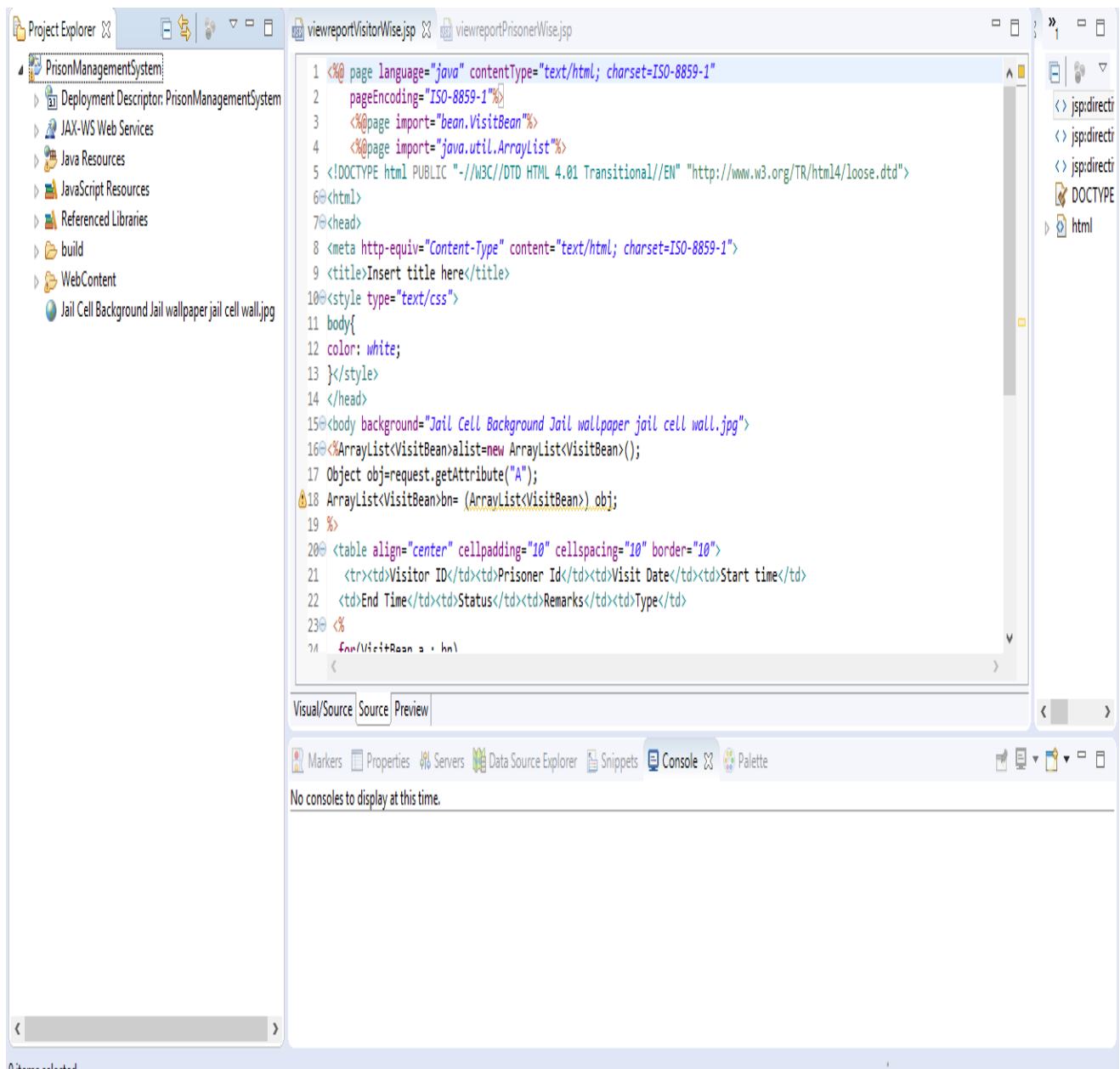
Case details page

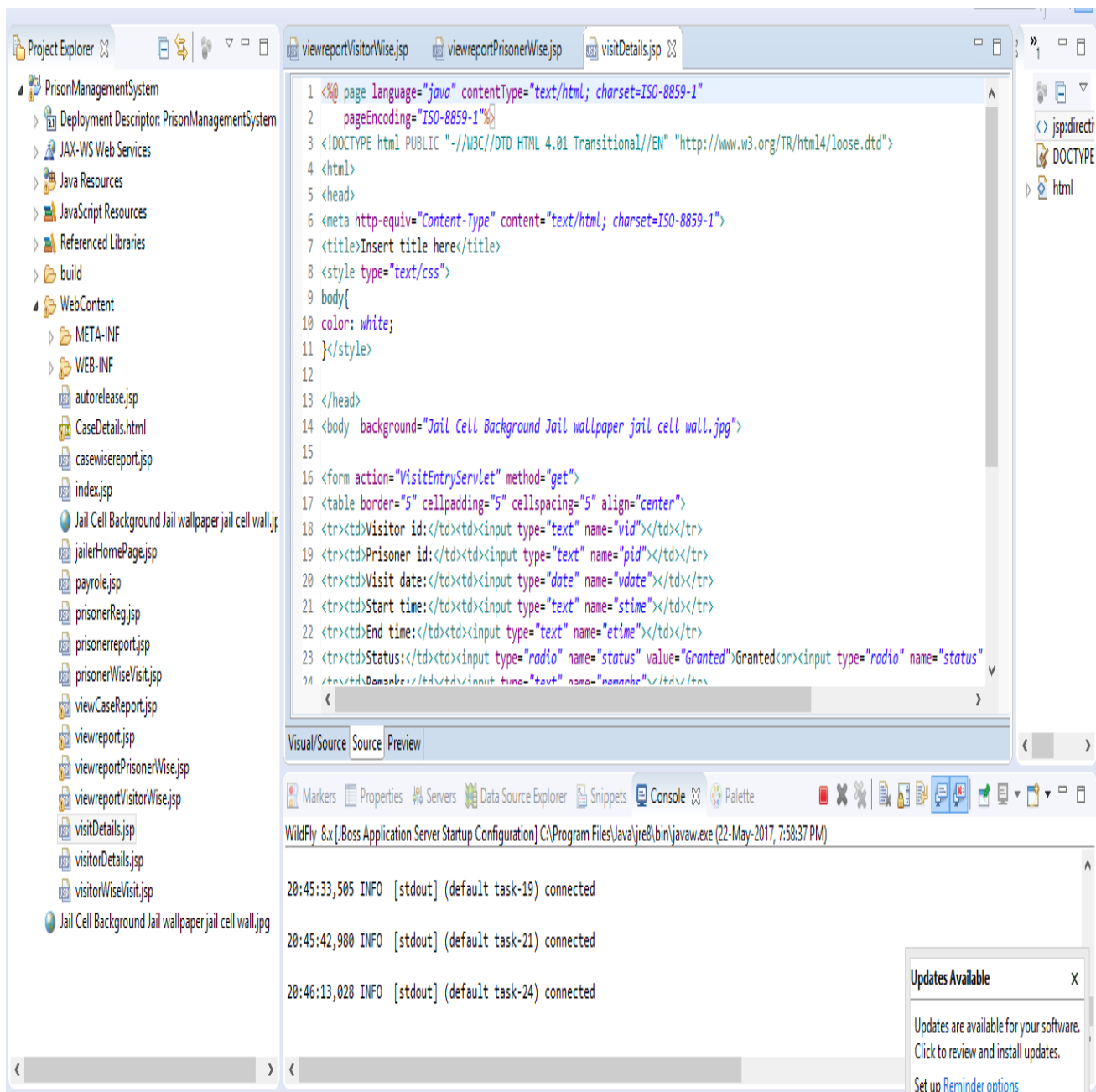
ID	PrisonerId	Caseld	Name	Sex	Type of Sentence	Entry date	Last Date	Duration of Semytence	Height	Weight	Address	Status
1	th1	Tania Pal	Female	abcdef	2017-04-04	2017-04-06	5	4	55	behala thana	ON PATROLE	

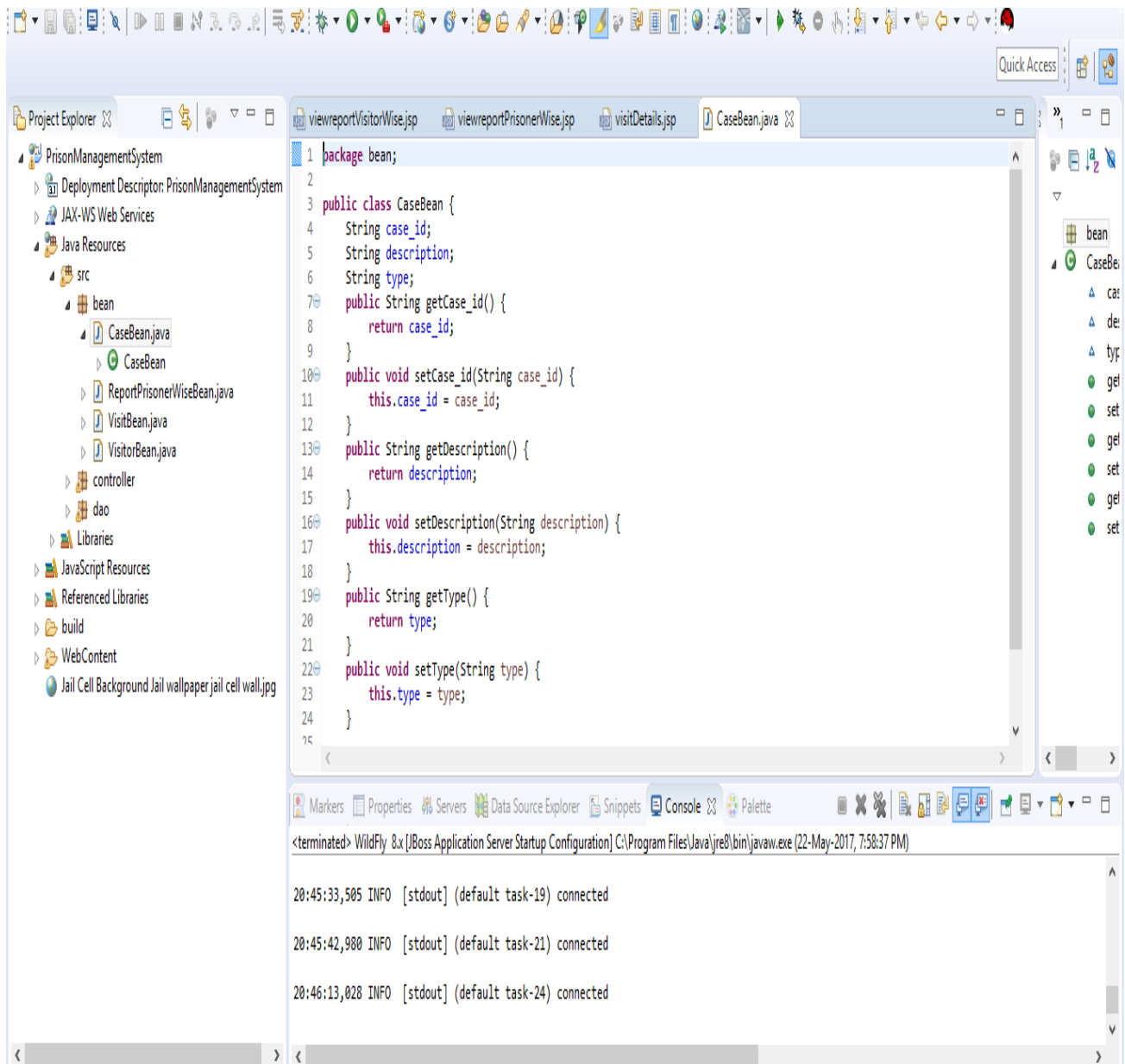
Database view

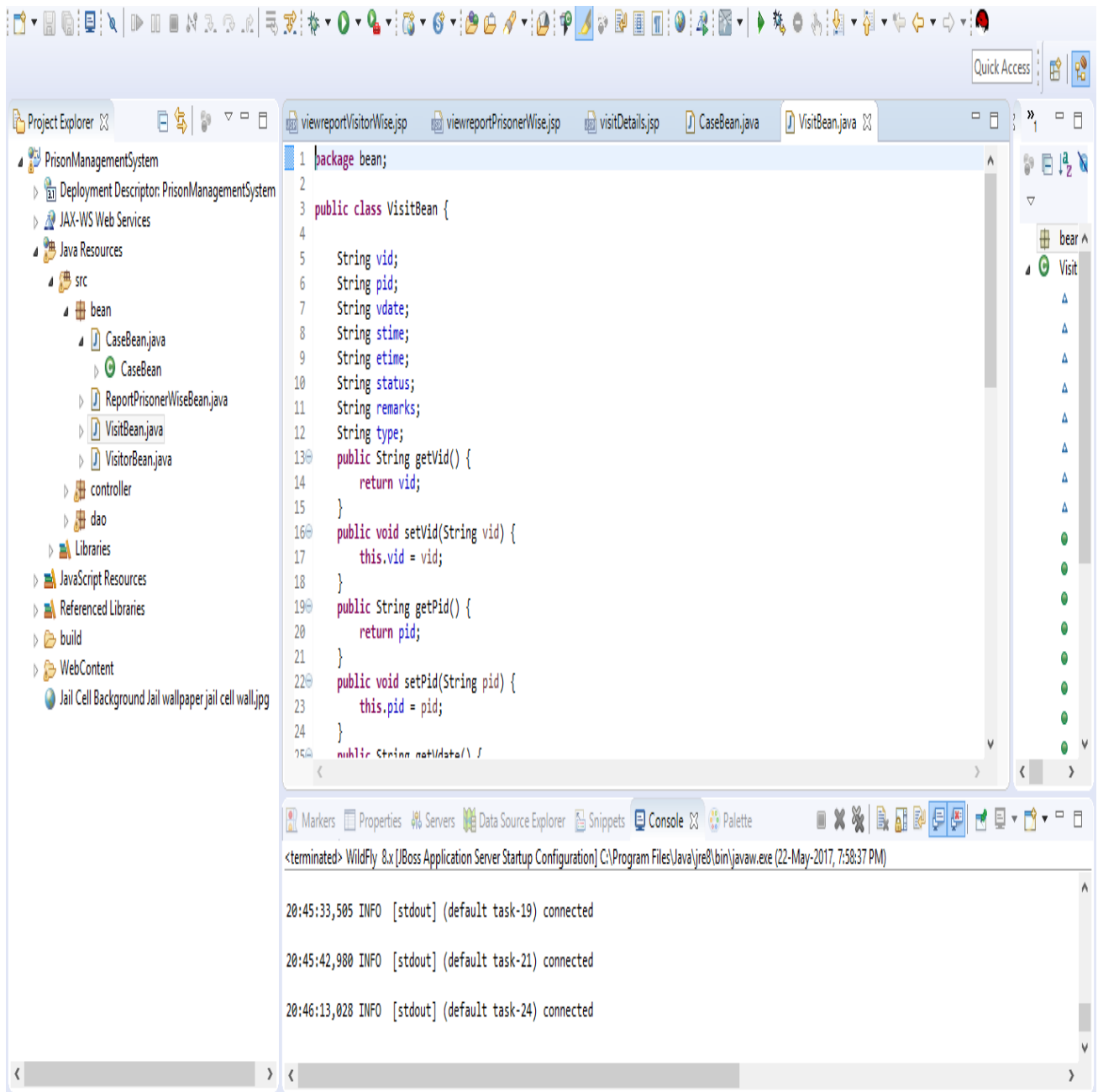
Visitor ID	Prisoner Id	Visit Date	Start time	End Time	Status	Remarks	Type
4	1	2017-05-05	10:00 am	11:00 am	Granted	abcd	T

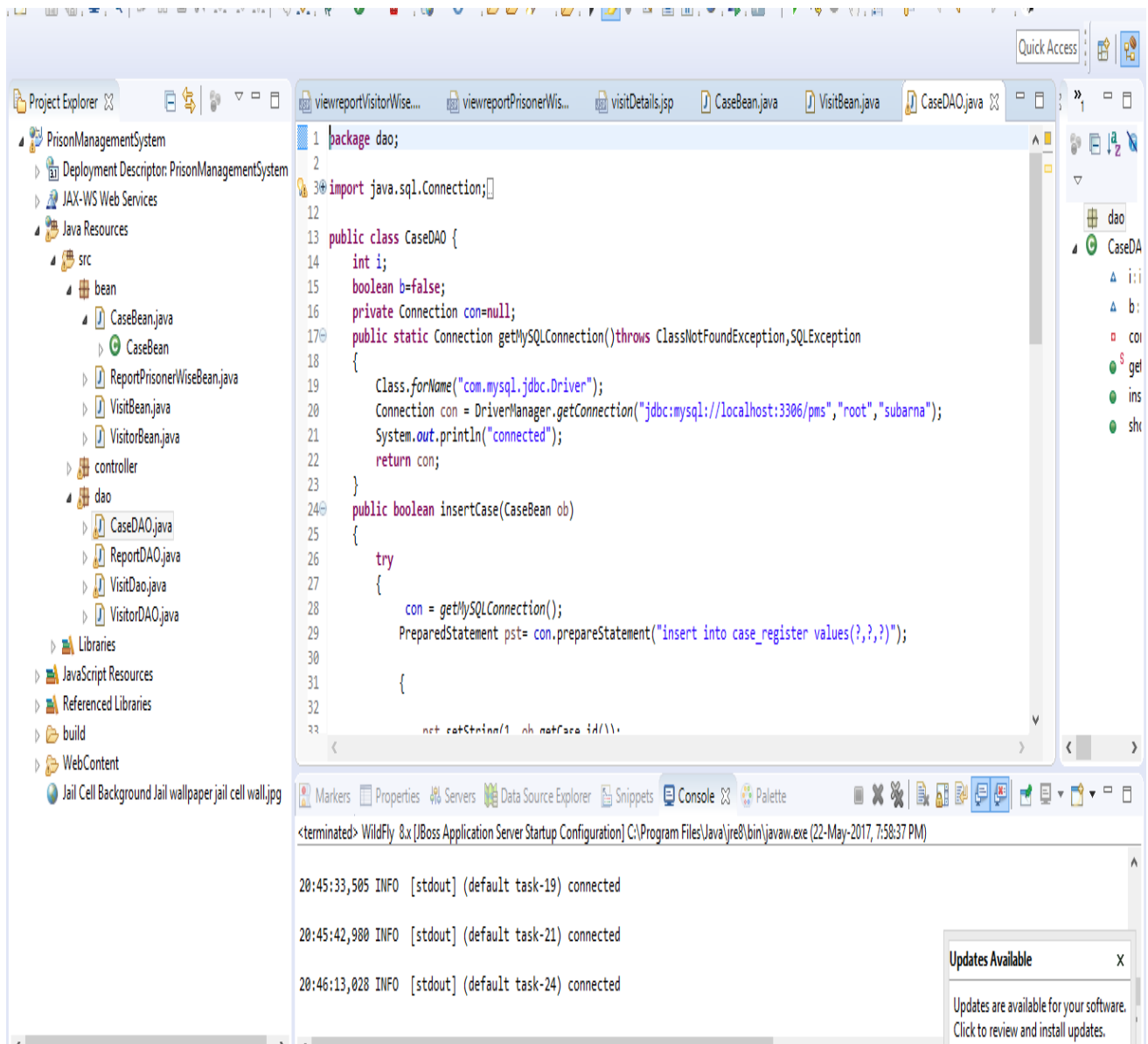
Database view

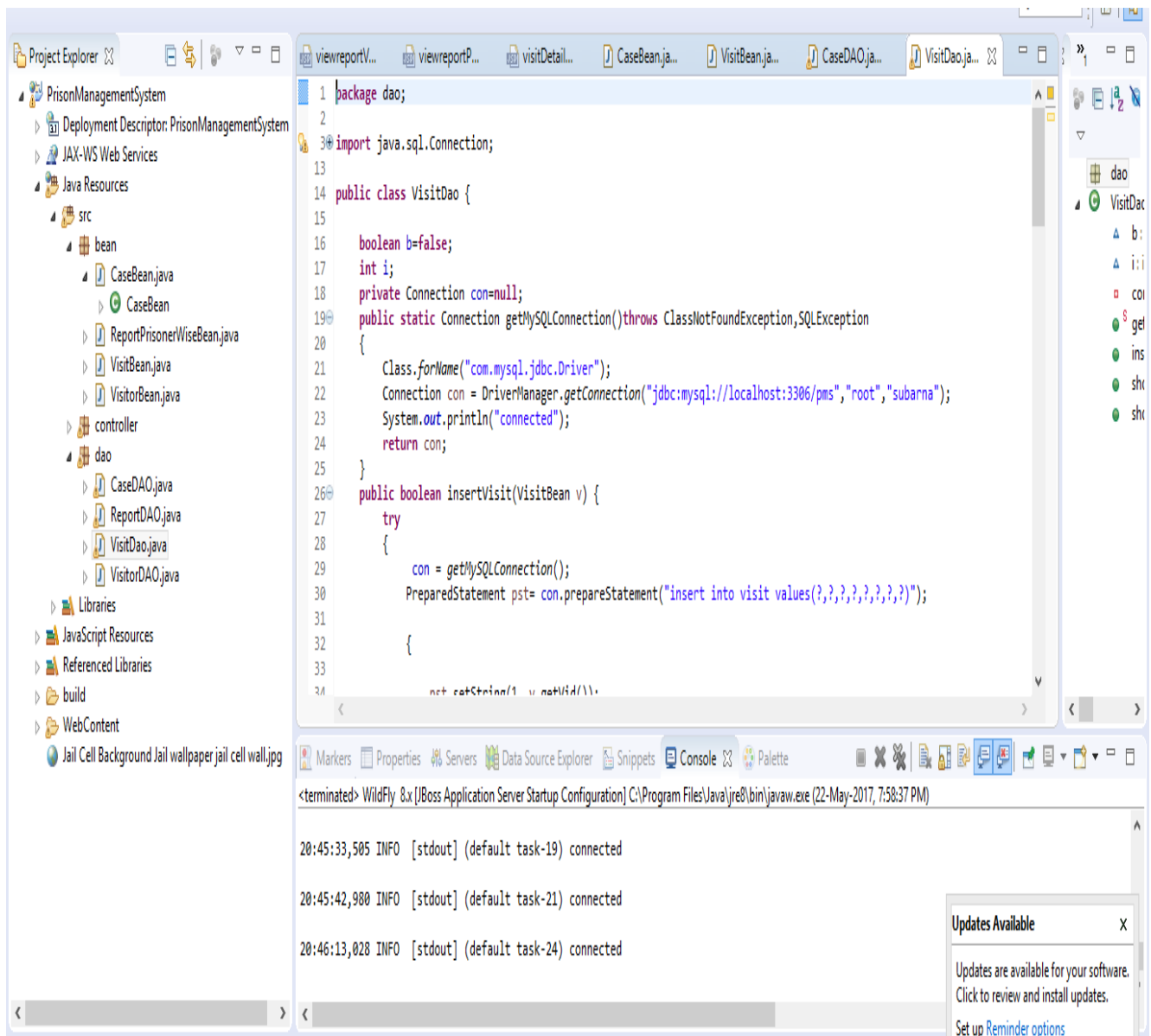












Testing, Results, Discussion on Results

After an application or a system is built, it needs to be run and checked in order to find out the faults still residing in the application. If it is not tested properly, the users may face inconvenience. Similarly, in this project also, there are certain provisions to avoid such misbehaviors.

For example- While entering the prisoner details, if the jailer keeps the prisoner id blank, exception is thrown.

ENTER THE PRISONER DETAILS

PRISONER ID:

CASE ID:

NAME:

SELECT THE GENDER OF THE PRISONER

☐ Male

☒ Female

TYPE OF SENTENCE:

ENTRY DATE:

LAST DATE:

DURATION OF SENTENCE:

HEIGHT in FEET:

WEIGHT in KILOGRAM:

ADDRESS:

SELECT PRISONER'S STATUS

☐ IN JAIL

☒ ON PAYROLE

☐ RELEASED

☐ DEAD

com.mysql.jdbc.exceptions.jdbc4.MySQLIntegrityConstraintViolationException: Column 'prisoner_id' cannot be null

Prisoner registration will only be successful when this particular condition is fulfilled.

ENTER THE PRISONER DETAILS

PRISONER ID:

CASE ID:

NAME:

SELECT THE GENDER OF THE PRISONER

☐ Male

☒ Female

TYPE OF SENTENCE:

ENTRY DATE:

LAST DATE:

DURATION OF SENTENCE:

HEIGHT in FEET:

WEIGHT in KILOGRAM:

ADDRESS:

SELECT PRISONER'S STATUS

☐ IN JAIL

☒ ON PAYROLE

☒ RELEASED

☒ DEAD

Submit

PRISONER REGISTRATION IS SUCCESSFUL

Conclusion and Future Work

In this project, we have tried to provide the idea of creating a **Prison Management System** so that the prisoner records along with the case details and interview requests can be managed more securely and efficiently. Moreover, this project also allows automated release diary generator which weeds out the key limitations of prisons management resulting in drastic improvements in prison administration.

Since this system deals with prisoners, it requires utmost security to prevent any wrong-doing. For this purpose, biometric system can be introduced for the jailer, prisoners and visitors as well.

Bibliography

[1]Prison Management System (PRISMS):An e-Governance Project of the Govt. of Goa, Osama Manzar.

[2] Prison Management System, under Prof.Mr.Y.V.Kolhe.