Software Requirements Specification

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for

Judiciary Information System

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1. Introduction

1.1 Purpose

The main objective of developing this "Judiciary information system" Software is to help handle court cases and to make the past court cases easily accessible to the lawyers and judges *the document gives detailed description of both functional and non-functional requirements proposed by the user and the administration.* The system will be used by court staff, judges, and other legal professionals to manage case information, schedule court appearances, and track case progress.

1.2 Document Conventions

Entire document should be justified.

- Convention for Main title
  - Font face: Times New Roman
  - Font style: Bold
  - Font Size: 18
- Convention for Sub-title
  - Font face: Times New Roman
  - Font style: Bold
  - Font Size: 14
- Convention for body
  - Font face: Arial Italic
  - Font Size: 11

1.3 Product Scope

The Judiciary information system" is updating the manual system to keep track of different cases of courts into a GUI-based application so that the users can know the details of current, pending and resolved court cases stored in the database, also coming cases.

The Judiciary information system" can be used by any existing or new court to manage details of different cases. It is especially useful for any departments where modifications in the content can be done easily according to requirements. The project can be easily implemented in various situations. We can add new features when we require them, making reusability possible as there is flexibility in all the modules. The language used for developing the project is languages like python/CPP as these are quite advantageous to other languages in terms of performance, tools available, cross-platform compatibility, libraries, cost (freely available), and development process.

1.4 References

The following references are used for this document: -

--Software Engineering a Practitioner's Approach by Roger S. Pressman

--Class Power Point presentation slides

--For Database, www.oracle.com

1.5 Overview of developer's Responsibility

Developer's responsibilities include installation of the software, removing any bug if occur in the software, it is developer's responsibility to provide cost-free services for a year after the installation. After one year developer is not responsible for any kind of update..

2. General Description

2.1 Product Perspective

The product will be developed using single client- single server architecture in the Windows OS. It will be a GUI based application. Its front-end will be developed using React.js while back-end will be done using MySQL Database server. The data received by the server will be stored in an integrated manner in a database of MySQL server. There will be accounts for every member or accountant along with a password for authorization validity and they will pass a login window to access theirs. There will be a payment system for user's (judge, lowers) to pay their due payments.

2.2 Product Functions overview

Primary Function: Help store essential information about different cases and scheduling.

- Registrar can assign a date of hearing for each case.
- *Registrar can update hearing date.*
- *Registrar can also update status of case and write summary.*
- *The Judges can browse to new case, old case, and status of the case.*
- *The* lawyers *can also browse old case studies and will be charged for each.*

2.3 User Classes and Characteristics

This "Judiciary information system"" software is supposed to contain the following classes:

Judges : name,cases(cin)associated,decision for case,unique_id

Lawyers: name,cin(associated with),no. of case browsed,payment due, unique_id,

Case: unique case identification number (CIN) which is generated by the computer,status,past hearings,scheduled date,incident associated,victim associated,starting date
Incident: cin,date of comitted, where committed (location), name of the arresting officer, and the date of the arrest
Victims: the name of the defendant, defendant's address, the crime type (e.g., theft, arson, etc.),
Registrar: name, the registrar enters the summary,can assign any free slot to a case,modify date of a case,update status of case
Calendar: date,time of case,case associated on given date

2.4 Operating Environment

The environment for the software will be as follows: -

The hardware platform should be above intel Pentium or any equivalent to that.

The preferred RAM for the software is a minimum of 2GB.

The preferred free hard-disk space for the software is a minimum of 4GB.

2.5 User Documentation

- Along with the software a detailed user manual will be provided to every customer.
- Also, a complete user tutorial of the software will be provided by our team to help you.
- In case of any kind of issue, an online help desk is also active to address all the issues faced.
- Users can mail about the issue anytime and we will try to solve it in the minimum time possible.
- User manual includes details related to use and installation of the software.

2.6 Assumptions and Dependencies

The assumptions are: -

→ The coding should be error free.
→ The system should be user-friendly so that it would be easy for users to operate it.
→ Information about judges, lawyers, victims, cases,and financial details must be stored in a database that is accessed by the software.
→ The system should have more storage capacity and provide fast access to the database.
→ The system should provide a search facility and support quick transactions.
→ The Judiciary information system" is running 24 hours a day.
→ A good environment is required.
→ Users must have their correct usernames and passwords to enter their accounts and do actions.

The dependencies are: -

→ The specific hardware and software due to which the product will run.

→ Based on listing requirements and specifications the project will be developed and run.
→ The end users should have a proper understanding of the product.
→ The system should have the general report stored.
→ The information of all users,cases must be stored in a database that is accessible by the Judiciary information system."

3. Functional Requirements

3.1 Introduction

These requirements would define what the system is expected to do, and would be used as a basis for the development and testing of the system.

3.2 Inputs

Case information such as case number,people involve ,and case details

Calender information ,including schedule court dates and timings

Evidents information such as document and photographs

3.3 Outputs

Case information and status

Cout schedules and timings

Notifications and reminders of coming court cases

Reports and statistics on case dispostitions

3.4 Processing

Case management-The system should be able to manage and track cases from initiation to disposition, including the ability to create new cases, update case information, and view case history.

Calendar management -The system should be able to manage court schedules and calender, including the ability to schedule court dates and times, view upcoming court dates, and receive notifications and reminders of upcoming court dates

Financial management -The system should be able to manage and track financial information related to a case, including the ability to view fines and court costs, and record payments made by parties involved in a case. Usability: The system should be easy to use and navigate for all users, including those with disabilities

4. External Interface Requirements

4.1 User Interfaces

The user (Accountant) will be responded by the GUI interface provided in the software. It will be so simple that an online GUI-based OS operating skills and English-speaking skills are required.

4.2 Hardware Interfaces

Simple desktop arrangement is required like a monitor, keyboard, and mouse. No other devices are required.

4.3 Software Interfaces

A simple GUI-based Operating System is required that can support java interpreter and the required executable file can be developed there for any OS other than Windows. It should also be capable of MYSQL server installing on it.

4.4 Communications Interfaces

It should be easily understandable by the user and on the complex points, some help should be given to the user. The GUI interface should act like a communication path between users and the database.

5. Other Non-functional Requirements

5.1 Performance Requirements

- The system must have small response time like less than 2 seconds
- The system should be able to handle enormous amounts of data .System should be able to handle a high volume of Transactions.
- The operation of the system must be fast and accurate.
- The Judiciary information system" should handle expected and unexpected errors in such a way that prevents data loss and long downtimes. So, it must have an inbuilt error testing to identify invalid username or password.

Safety Requirements

The database can fail at any time due to virus or operating system failure. So, the database should be backed up so that the database is not lost. UPS/inverter facility must be available in case of power supply failure.

5.2 Security Requirements

* System will use secured database
* users can just read information, but they cannot edit or modify anything except their personal and some other information.
*System will have different types of users and every user has access constraints.
*Authenticate users strongly.
*Implement an encryption protocol.
*Password should be strong like (upper case, lower case, numbers, and special symbols). So that no one can hack it easily.
*There should be separate accounts for admin and members such that no member can access the database and only admin has the right to update the database.

5.3 Software Quality Attributes

* Project managers may have multiple managers, all of whom have the authority to make changes to the system. However, members or other users cannot make changes.
*The database type is maintained in such a way that it can be user friendly for all database users.
*The user be able to easily download and install the system.

5.4 Business Rules

Business law is what holds and supports business policy and practice. law
You can implement business strategies, make decisions, or generate new data from existing data. This includes
The rules of the system users must follow. This includes the cost of the project, and the discount offers provided. Users must avoid illegal rules and regulations. No administrator or member is breaking the rules

6. Design and Implementation Constraints

Technology constraints:
Proposed software can be implemented using javascript/react.js/cpp/python.
Node.js can be used to communicate with the database.

For database purposes, we can use MySQL.

So, the constraints of the above elements should be applied to the product software.

Interface constraints:

Since this is windows software, it should work on any windows machine having windows 7 and above. This software is not supported in Linux or mac OS. For this issue, another software appropriate for the asked operating system should be produced by the production team.

Safety and Security constraints:

Since this software is intended for authenticated users only, anonymous persons will not be able to access and operate over the user data.

7. Other Requirements

Database requirements: -

The database of the Judiciary information system" is an integrated system composed of enrolment cases records such as case number, date, timing, people associated, evidents and supporting proofs and documents. Its functionality is based on organizing and streamlining handling of data and records.

A one-to-many relational database shall be used to validate various student requests and details can be mismatched. Moreover, mismatches are to be logged for reference. The database shall be concurrent with the performance requirements of the judiciary information system.

Appendix A: Glossary

JavaScript/React.js: -

It is a programming language that is being used to create GUI-based software like this one.

MySQL: -

It is an open-source database that can be connected to java easily and database can be easily developed.

Appendix B: Analysis Models