Software Requirements Specification

for

JISS(Judiciary Information System Software)

Version 1.0 approved

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Table of Contents

Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

It is proposed to build a software, Judiciary Information System Software (indicated as 'JISS' hereafter) to manage court cases and make past cases data easily accessible. The purpose of this document is to present a detailed description of the JISS*. It will explain the objective/purpose of this project and its scopes of application, features of the projects, the interface and the details about interactions through the interface with database, data management strategies,constraints under which it will operate. This document is intended for understanding requirements and specifications in details as requested by the office of Attorney general.

1.2 Document Conventions

1)An asterisk after a word indicates more information about it in the glossary
2)To denote subheaders dot separated numbers are used ,For ex 1.2.1 is subheader of 1.2
3) The priority of features are indicated as high , medium and low keywords in braces in the System Features section[4].

1.3 Intended Audience and Reading Suggestions

This document is intended for developers contributing towards the project, the client, users, and testers and anyone who is reviewing the project to easily view descriptions about functional and no-functional requirements and understand product scope.
This document contains six(6) sections:
a. An overall description, which includes a summary of the scope, assumptions and limitations of the project, types and characteristics of users, plan for implementation.
b. A brief description of external interfaces requirements.
c. A description of the system, which includes an explanation of the system's purpose, features and benefits, characteristics, and technical and operational background; and,
d. A list of nonfunctional requirements, which contains information regarding performance,safety, security and business rules.
e. A description of other uncategorised requirements.
f. A list of the appendices.(definition of terms used in the document, analysis model UML and future extension possibilities)

This is a suggested sequence to go through the SRS:
-product scope and perspective
-product function
-user classes and characteristics
-Appendix B
-system features
-other requirements

1.4 Product Scope

The Judiciary Information System Software is being developed to handle court cases, and making information of past cases easily accessible to judges and lawyers.It stores all ongoing and previous court cases in a database.Users can login as Registrar*, Judge or Lawyers,where details for each user is conveniently stored in a databases.The Registrar being the admin can add/delete accounts and schedule hearings based on free slots ,computed and shown by the software.The other users will have facilities for accessing past information conveniently.

The main goal of the software is to ensure a smooth functioning of the judicial system in respect to:

- Ensuring smooth scheduling of hearings.
- Maintaining progress of current cases and related information.
- Providing easy access to information of past cases.

1.5 References

The material content of the following books and sites would be helpful in the development process:

1) https://realpython.com/token-based-authentication-with-flask/
2) https://www.digitalocean.com/community/tutorials/how-to-add-authentication-to-your-app-with-flask-login
3) https://medium.com/@subalerts/creating-protected-routes-in-react-js-89e95974a822
4) https://reactrouter.com/web/example/basic
5) https://reactjs.org/docs/hello-world.html/

2. Overall Description

2.1 Product Perspective

It is a new self contained product which aims to automate the manual processes of the Judiciary Information System, like scheduling of hearings, querying past cases, managing and tracking the proceedings of the ongoing cases, etc.

2.2 Product Functions

The major Functions of JISS are:

- Court Cases
    1) Storing the following information about ongoing and closed cases:
        - Defendant Name
        - Defendant Address
        - Crime Type

- Crime Date
- Crime Location
- Name of Arresting Officer
- Date of Arrest
- Unique Case ID Number/CIN*(Auto Generated)
- Date of First Hearing
- Latest Hearing Date
- Dates of Adjournment and reasons for each
- Public Prosecutor
- Starting Date
- Expected Date of Completion of Trial.

2) Implementation of following functionalities:
   - Allowing searching of previous cases by users ,giving free access to judge and charging lawyers for each query to recover computation costs.
   - Allowing the registrar to query :
     1) Pending Cases
     2) All cases resolved over any given time
     3) Cases coming up on a particular date
     4) Status of any particular case.

- Hearings
  Implementation of following functionalities:
  1) Allowing the Registrar to search regarding available vacant slots for hearings.
  2) Allowing the Registrar to assign new hearing dates .
  3) Allowing the Registrar to close a case with Case summary*.

2.3 User Classes and Characteristics

The various user classes using the product are:

1) Registrar: Has administrative access, namely :
   - Creation and Deletion of user* accounts
   - Add a new case or close a past case.
   - Assigning of hearing dates based on free slots
   - Entering Reason and date for adjournment of each court case and related court proceedings.
   - Querying the following:
     1) The currently pending court cases
     2) The cases that have been resolved over any given time
     3) The cases that are coming up for hearing on a particular date
     4) The status of any particular case identified by the CIN.
2) Judge: Can query information regarding past cases
3) Lawyer: Can query information regarded past cases but is charged each time to recover computerization costs.

2.4 Operating Environment

Updated Browsers and Internet connectivity is all that is required since this is a web based project.

2.5 Design and Implementation Constraints

1)Since the application has to store all the past cases, if sufficient memory requirements are not available it might be a problem over a long period of time.
2)Login and password for user identification are used as means of security and authentication*.
3)The response time may vary slightly depending on the size of the database.

2.6 User Documentation

User Documentation include:

1) A readme.txt file to set up the application and in brief ,the using instructions.

2.7 Assumptions and Dependencies

1)It is hoped that the Registrar enters correct details.
2)A good internet connection would ensure getting the information in a shorter time.
3)It is hoped that enough memory will be available to store all data.

3. External Interface Requirements

3.1 User Interfaces

The UI* will be GUI* displayed in a browser have the following key functions:

1.A basic Login Screen .
2.A dashboard from where the user can navigate and choose his/her actions like searching old cases adding case reports, adding accounts in case of Registrar etc.

3.2 Hardware Interfaces

- Any modern PC or Laptop with Internet connection would suffice.
- Large database managing memory and resolution on server side.

3.3 Software Interfaces

Language Used:

For Frontend : JavaScript(React JS)

For Backend : Python(Flask)
Operating System: Ubuntu 20.04.2 LTS,Windows
IDE : VSCode
Database : SQLite
Server for hosting web pages : TBD*

3.4 Communications Interfaces

Internet protocol used: FTP and HTTP for downloading case reports ,loading and other information from the database and for sending information for updates to the database.
Web Browser : 86.0 (64 Bit) Mozilla Firefox for Ubuntu and all modern browsers where ES6 is supported.

4. System Features

4.1 Administrator Login

4.1.1 Description and Priority: (High Priority),Login as the Registrar by providing correct username and password

4.1.2 Stimulus/Response Sequences

Stimulus : Registrar request to add another user

Response : System provides a form for the Registrar to enter New User Data.

Stimulus : Registrar request to delete another user.

Response : System provides a form for the Registrar to enter User Id to delete.

Stimulus : Registrar requests to query resolved* cases.

Response : System provides a form to select a time interval.

Stimulus : Registrar selects time interval

Response : System provides a list of resolved cases chronologically sorted by start date.

Stimulus : Registrar requests to query pending cases.

Response : System provides a list of pending cases sorted by CIN.

Stimulus : Registrar requests to query cases upcoming on date.

Response : System provides a form to enter date and shows upcoming cases on that date.

Stimulus :Registrar requests to query status of a case.

Response : System provides a form to enter CIN.

Stimulus : Rigertrar enter CIN

Response : The status(pending case / resolved case)

Stimulus : Registrar requests to assign Date of Hearing.

Reponse : If no user selected,System provides a form to choose date and then select from the free slots.

Else if a slot has been selected, the system prompts the user to choose from the ongoing cases or create a new case.

Stimulus : Registrar requests to view vacant slots on any date.

Response : System provides a form to input date and outputs vacant slots.

The Registrar may choose a free slot.

Stimulus : Registrar requests to entry reason and date of Adjournment.

Response : System provides a form to entry Adjournment details.

(Can be done if a case is already selected)

Stimulus : Registrar requests to close a case

Response : System provides a form to choose a case and close it,

and record case summary.

(Can be done while entering Adjournment details)

4.1.3 Functional Requirements

Adding/Delete Users: The Registrar can add/delete user accounts by using the unique ID of the user.For invalid ID system should prompt that no user with given

ID found.

Query* resolved cases: The Registrar can query resolved cases.The system will how all the resolved cases sorted by CIN.

Query pending cases: The Registrar can query pending cases.The system will how all the pending cases sorted by CIN.

Query upcoming cases on a Date The Registrar can query upcoming cases on a particular date.The system will show all the upcoming cases on that date sorted by CIN.

Query Status of a case: The Registrar can query the status of any case by searching by the CIN.The system will output the status of that case ,if the CIN is valid.

Assign : Assign date of hearing for each case.Additionally here the Registrar can choose an ongoing case or create a new case.

Search Free Slots:The registrar can search and view the free slots on any day.

Entry : Entering reason and date of adjournment and assigning new hearing date.

Close Case : Closing a Case.

Enter Case Summary : Enter Case Summary while closing a case.

4.2 Non-Administrator Login

4.2.1 Login as Lawyer

4.2.1.1 Description and Priority :(Medium) Login as a lawyer by entering correct username and password.

4.2.1.2 Stimulus/Response Sequences

Stimulus : User Requests to query past cases

Response : System provides a form to search by CIN or by Keywords

Stimulus: User inputs CIN/Keyword

Response : A list of matching cases with limited details revealed(CIN, start date, Crime type, Attending Judge Name)

Stimulus : User selects one case.

Response : Full details of the case shown and prompt the charge added to account.

4.2.1.3 Functional Requirements

Querying Past Cases : The lawyer can query past cases by searching by keyword or by CIN. However the lawyer would be charged every time information is retrieved.

4.2.2 Login as Judge

4.2.2.1 Description and Priority :(Medium) Login as a judge by entering correct username and password.

4.2.2.2 Stimulus/Response Sequences

Stimulus : User Requests to query past cases

Response : System provides a form to search by keywords or by CIN.

4.2.2.3 Functional Requirements

Querying Past Cases : The judge can query past cases by searching by keyword or by CIN.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

1)The Database Management system should be public-domain
2)The system should be able to handle multiple logins (upto 1000 to ensure negligible down-time)
3)The server hosting the webpage should be efficient ,and also the net connection needs to be good.

5.2 Safety Requirements

The data of past cases should be securely stored. Closed/ Resolved cases should not lose any information or undergo any deformation in the data stored.
The CIN of any case should not be changed/damaged in any way
Account authentication details for users(lawyers and judges) should not change or be damaged unless mentioned by the Registrar.

5.3 Security Requirements

1)The password of the registrar should be strong to prevent misuse of the System.
2) Any user should be authenticated to ensure no privacy breach.
3)The charge for searching cases should be private and well preserved to each lawyer account.

5.4 Software Quality Attributes

1.The software should be user-friendly.
2.The software should be reliable ,testable, and maintainable.
3.The software should be efficient in terms of speed and security.

5.5 Business Rules

The development of JISS incurred some cost to the Attorney General's Office. This cost of computerization may be recovered by charging lawyers for each past case they search.

6. Other Requirements

1) For management of Slots working hours(8 am- 6 pm) each day is divided into 5 slots of two hours each.

Appendix A: Glossary

JISS : Judicial Information System Software

CIN:Case Identification Number

Registrar:The Administrator of the System is the Registrar of the court.

Query:General Querying Use Case which can be of 4 types as mentioned in the Use Case Diagram

UI:User Interface

GUI:Graphic User Interface

authentication: The process of verifying if the user is a valid user.

resolved/ closed case: Cases which have been closed.

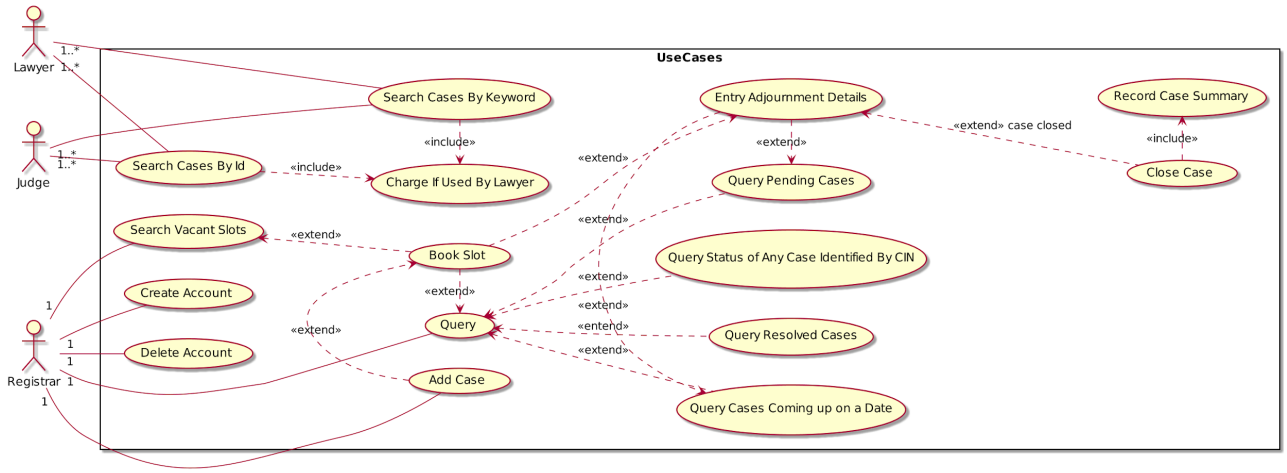
UserNonAdmin: Constitutes the Non Admin Users of JISS that is,lawyer and judge.

Case summary : The details of the case are entered while closing the case ,along with the reasons and date of the last adjournment

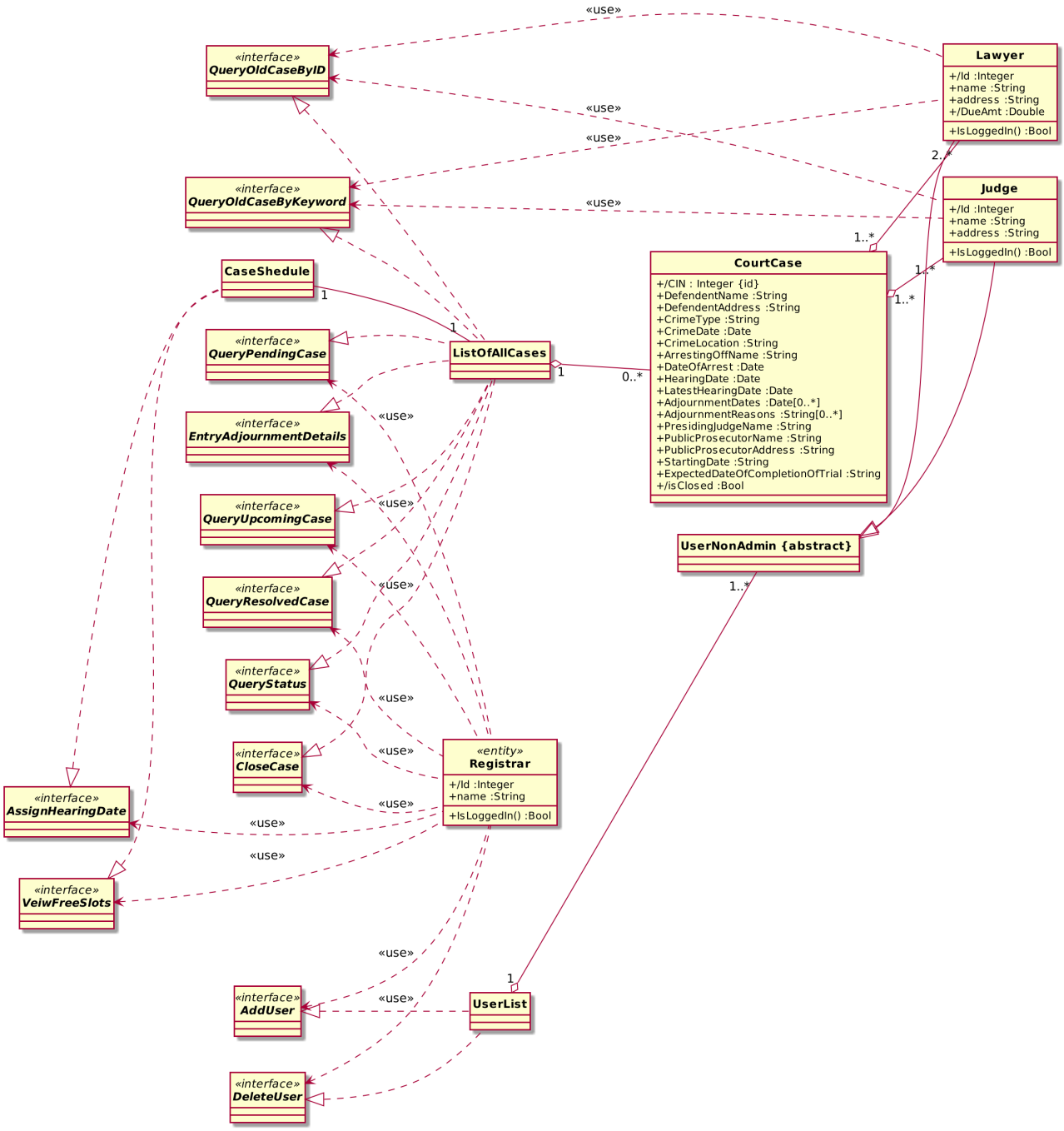
TBD : To Be Determined

Appendix B: Analysis Models

Use Case Diagram:



Class Diagram:



Appendix C: To Be Determined List

1)More Details of User Interface(viz. exact design)
2)Hosting Server Details