Software Requirements Specification

Version 1.0

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Judiciary Information System

14CS10059

Vaishal Shah

14CS30019

Mousam Roy

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1. Introduction

1.1. Purpose

The purpose of this document is to present a detailed description of the Judiciary Information System. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system and will be proposed to the office of the Attorney General for its approval.

1.2. Scope of project

The Judiciary Information System will be designed to help handle court cases by maintaining a digital record and to make the complete data of past cases easily available to the lawyers and judges. The Court registrar acts as the system administrator and he has the privileges to enter a new case, and maintain its details as it progresses, until it is finally closed whereby it is archived and kept in the past record. The lawyers and judges have limited functionality: they can only browse past cases without modifying any details. The JIS will provide a common log-in interface to the registrar and all lawyers and judges from where they can access their respective accounts.

1.3. Document from the customer

The original document received from the customer has been reproduced below.

The attorney general's office has requested us to develop a Judiciary Information System (JIS), to help handle court cases and also to make the past court cases easily accessible to the lawyers and judges. For each court case, the name of the defendant, defendant's address, the crime type (e.g., theft, arson, etc.), when committed (date), where committed (location), name of the arresting officer, and the date of the arrest are entered by the court registrar. Each court case is identified by a unique case identification number (CIN) which is generated by the computer. The registrar assigns a date of hearing for each case. For this the registrar expects the computer to display the vacant slots on any working day during which the case can be scheduled. Each time a case is adjourned, the reason for adjournment is entered by the registrar and he assigns a new hearing date. If hearing takes place on any day for a case, the registrar enters the summary of the court proceedings and assigns a new hearing date. Also, on completion of a court case, the summary of the judgment is recorded and the case is closed but the details of the case is maintained for future reference. Other data maintained about a case include the name of the presiding judge, the public prosecutor, the starting date, and the expected completion date of a trial. The judges should be able to browse through the old cases for guidance on their judgment. The lawyers should also be permitted to browse old cases, but should be charged for each old case they browse. Using the JIS software, the Registrar of the court should be able to query the following:

(a)The currently pending court cases.

In response to this query, the computer should print out the pending cases sorted by CIN. For each pending case, the following data should be listed: the date in which the case started, the defendant's name, address, crime details, the lawyer's name, the public prosecutor's name, and the attending judge's name.

(b)The cases that have been resolved over any given period.

The output in this case should chronologically list the starting date of the case, the CIN, the date on which the judgment was delivered, the name of the attending judge, and the judgment summary.

(c)The cases that are coming up for hearing on a particular date.

(d)The status of any particular case (cases are identified by CIN).

The lawyers and the judges need to refer to the past court cases. The lawyers need to refer these to prepare for their line of arguments. The judges need to refer the past court cases to examine the lines of judgments given previously to similar cases. It should be possible to search for the history of past court cases by entering key words. However, the lawyers should be charged for each time they see the details of a court case to recover some of the computerization costs. For this purpose, it is necessary to provide separate log-in accounts to the JIS software and keep track of how many court cases each lawyer views. The registrar should be able to create log-in accounts for the different users (i.e. judges, lawyers, etc) and should be able to delete these accounts.

1.4. Questions raised to the customer

The following questions were raised to the customer after careful examination of the document provided by the customer.

(a) How many slots are there in a day (for hearing of trials) and what are their details?
(b) Is the software required to have functionality for modifying case details, such as defendant's address and expected completion date?
(c) Can lawyers and judges create accounts on their own, or is it only the registrar who creates accounts for them?
(d) Can the registrar prepone or postpone hearings for cases?
(e) Can lawyers and judges view details of court cases that have not yet been closed?

1.5. Answers obtained / assumptions made

The following are the answers that were obtained from the customer and the assumptions that were made (where applicable) on the basis of those answers.

(a) How many slots are there in a day (for hearing of trials) and what are their details?

Answer: This is an open-ended question. The slot timings/details are up to you.
Assumption: There are 3 slots in a day, labeled A, B and C, corresponding to morning, afternoon and evening sessions of hearing of trials.

(b) Is the software required to have functionality for modifying case details, such as defendant's address and expected completion date?

Answer: This would be good to have, but is optional.
Assumption: This functionality is not critical to the software, and hence not to be implemented.

(c) Can lawyers and judges create accounts on their own, or is it only the registrar who creates accounts for them?

Answer: You can assume that only the registrar can create/delete accounts.

(d) Can the registrar prepone or postpone hearings for cases?

Answer: Yes, the software should support this.

(e) Can lawyers and judges view details of court cases that have not yet been closed?
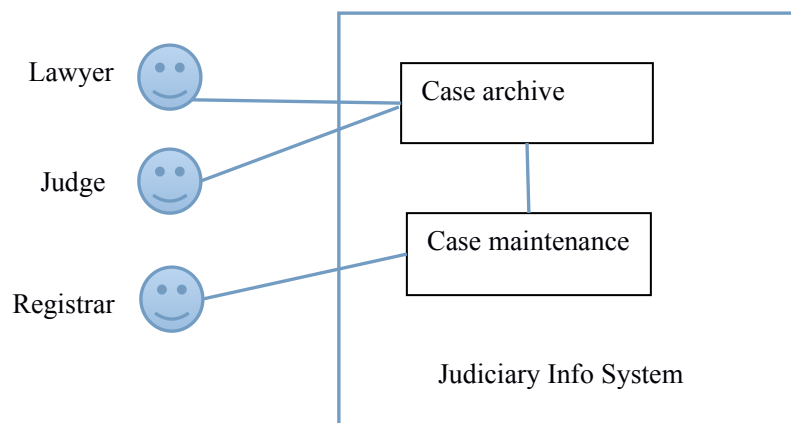
Answer: Yes, they can (although this use case is not specified in the assignment).

Additional assumptions:
A case can be closed only after a hearing takes place. This means that a case cannot be closed from a state of adjournment (suspension).

2. Overall description

2.1 System environment

Judiciary Info System

The main log-in screen of the JIS will have options to log-in as registrar, lawyer or judge, by entering user name and password. If correct log-in details are entered, the JIS will show the home screen of the respective users from where they can access their various functions. These functions been enlisted later in this section.
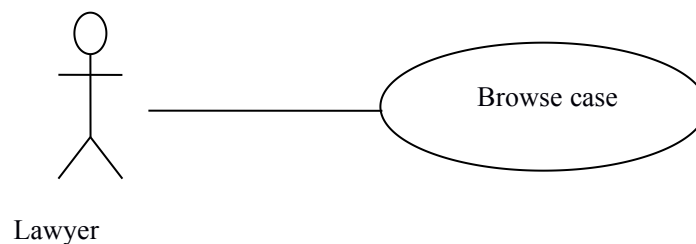
2.2. Functional requirements specification

This section outlines the use cases for each of the active users separately. The lawyer and the judge have only one use case apiece while the registrar is the main actor in this system.

2.2.1. Lawyer use case
Use case: Browse case
Diagram:

Lawyer

Brief description:
The lawyer searches cases by keyword and then selects the case to be viewed.
Initial step-by-step description:
Before this use-case can be initiated, the lawyer has to be logged in to the system.

1. Lawyer selects 'Browse case' option.

2. Lawyer enters keywords to search by.

3. The system generates a list of cases that match the keywords.

4. Lawyer selects case to be viewed.

5. System displays details of the selected case.

6. Lawyer returns to list of cases.

7. Lawyer selects another case or returns to home screen.

8. When lawyer finally returns to home screen, system updates record of number of cases viewed by lawyer.

2.2.2. Judge use case
Use case: Browse case
Diagram:

Judge

Brief description:
The judge searches cases by keyword and then selects the case to be viewed.
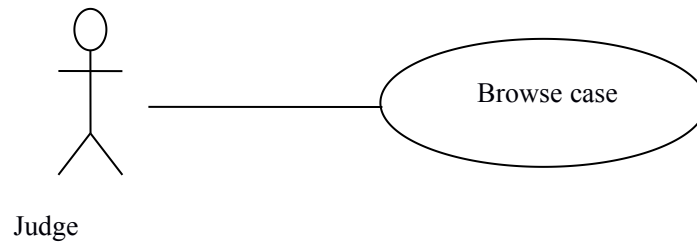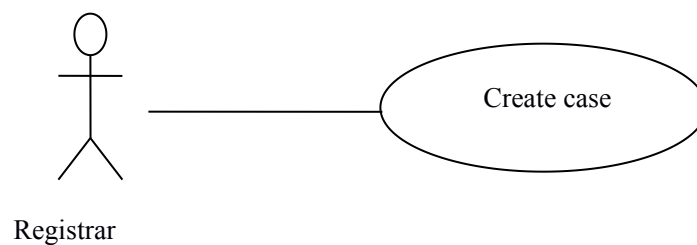**Initial step-by-step description:**
Before this use-case can be initiated, the judge has to be logged in to the system.

1. Judge selects 'Browse case' option.

2. Judge enters keywords to search by.

3. The system generates a list of cases that match the keywords.

4. Judge selects case to be viewed.

5. System displays details of the selected case.

6. Judge returns to list of cases.

7. Lawyer selects another case or returns to home screen.

2.2.3. Registrar use cases

Use case: Create case
Diagram:

Registrar

Brief description:
The registrar enters the details of a new case into the system.
Initial step-by-step description:
Before this use-case can be initiated, the registrar has to be logged in to the system.

1. Registrar selects 'Create case' option.

2. Registrar enters details of the new case and assigns a date of hearing.

3. The system generates a list of empty slots on the assigned date, if any.

4. Registrar selects a slot or assigns a new date of hearing if no slot is available, until a slot is finally selected.

5. System generates a Case Identification Number.

6. Registrar returns to home screen.

Use case: Adjourn case
Diagram:

Registrar

Brief description:
The registrar adjourns a case to a later date.
Initial step-by-step description:
Before this use-case can be initiated, the registrar has to be logged in to the system.

1. Registrar selects a case from the list of all cases (or a particular query result) displayed on his home screen.

2. System displays details of the case along with various options.

3. Registrar selects 'Adjourn' option.

4. Registrar enters reason of adjournment and assign new date of hearing.

5. The system generates a list of empty slots on the assigned date, if any.

6. Registrar selects a slot or assigns a new date of hearing if no slot is available, until a slot is finally selected.

7. System updates case details on confirmation.

8. Registrar returns to home screen.

Use case: Update case
Diagram:

Registrar

Brief description:
The registrar updates case after a hearing happens.
Initial step-by-step description:
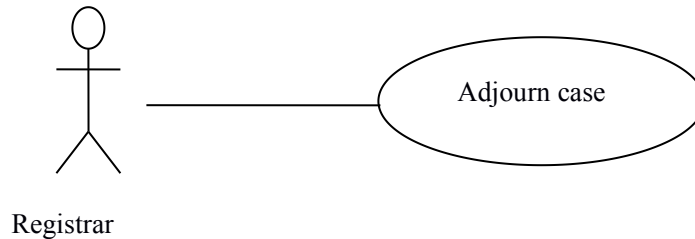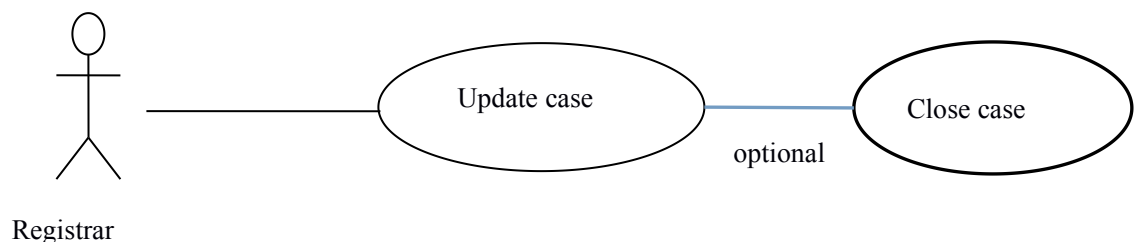Before this use-case can be initiated, the registrar has to be logged in to the system.

1. Registrar selects a case from the list of all cases (or a particular query result) displayed on his home screen.

2. System displays details of the case along with various options.

3. Registrar selects 'Update' option.

4. Registrar enters summary of proceedings and assign new date of hearing.

5. The system generates a list of empty slots on the assigned date, if any.

6. Registrar selects a slot or assigns a new date of hearing if no slot is available, until a slot is finally selected.

7. System updates case details on confirmation.

8. Registrar returns to home screen.

Use case: Close case
Diagram:
<<included in update case>>
Brief description:
The registrar closes a current case.
Initial step-by-step description:
Before this use-case can be initiated, the registrar has to be logged in to the system. Further, he must have selected 'Update' option for a case and entered the summary of proceedings.

1. Registrar selects 'Close' option.

2. Registrar enters judgment summary of the case to be closed.

3. System updates case details on confirmation.

4. Registrar returns to home screen.

Use case: Query cases
Diagram:

Registrar

Brief description:
The registrar queries the list of stored cases by various parameters.
Initial step-by-step description:
Before this use-case can be initiated, the registrar has to be logged in to the system.

1. Registrar selects query parameter from a list: *pending, resolved, by date of next hearing* or *by CIN*.

2. System prompts for additional parameters depending on the query parameter.

3. System generates a list of the matching cases.

4. Registrar may choose to view one or more cases from the list or change/reset the query parameter.

Use case: Create user {abstract}
Diagram:

Create lawyer

Registrar ———— Create user

{Abstract use case}

Create judge

Registrar

Brief description:
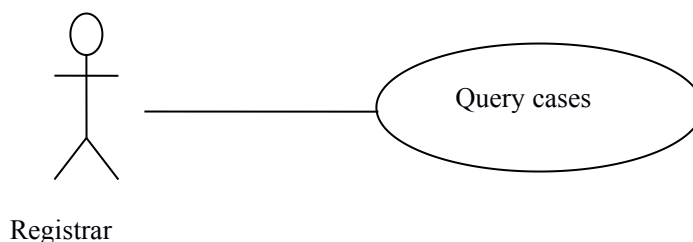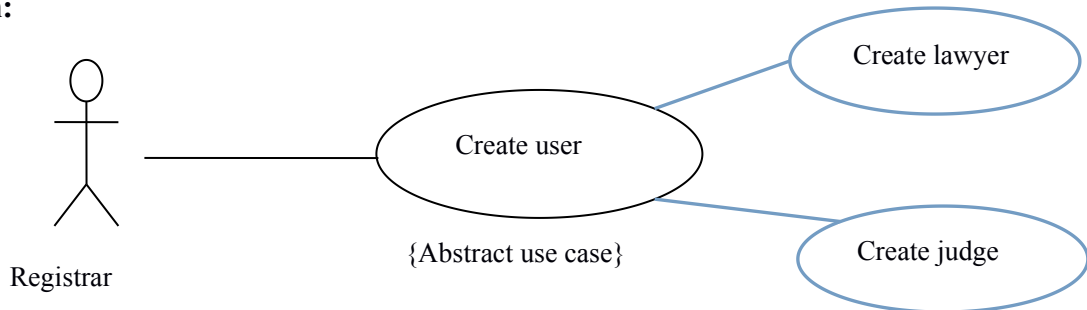The registrar creates an account for a lawyer or judge.
Initial step-by-step description:
Before this use-case can be initiated, the registrar has to be logged in to the system.

1. Registrar selects 'Create user' option.

2. Registrar enters user type and details.

3. System updates users record on confirmation.

Use case: Delete user {abstract}
Diagram:

Delete lawyer

Registrar ———— Delete user

{Abstract use case}

Delete judge

Registrar

Brief description:
The registrar deletes an account for a lawyer or judge.
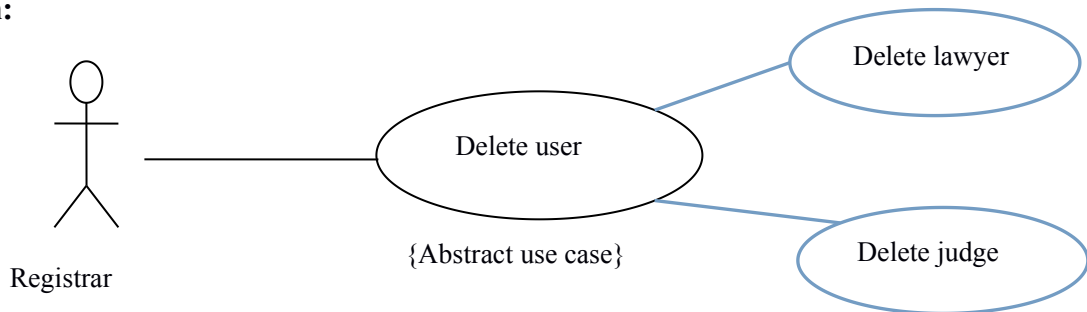**Initial step-by-step description:**
Before this use-case can be initiated, the registrar has to be logged in to the system.

1. Registrar selects 'Delete user' option.

2. Registrar select user type and the user to be deleted from the list of users.

3. System updates users record on confirmation.

2.3 User Characteristics

The registrar, lawyer and judge are expected to be comfortable with using a basic

Graphical User Interface consisting of windows, buttons, drop-down menus and input fields. They are expected to be familiar with search engines, so that they may utilize the search capabilities of the JIS.

2.4. Non-functional requirements

There are requirements that are not functional in nature. Specifically, these are the constraints the system must work within.

The software must be compatible with both UNIX and Windows operating systems.

3.0. Requirement specifications

3.1. External interface specifications
None

3.2. Functional Requirements

3.2.1. Browse case

Use Case Name:	Browse case
Priority	Essential
Trigger	Button selection
Precondition	User logged in as judge/lawyer, currently on home screen
Basic Path	1. User selects 'Browse case' option. 2. User enters keywords to search by. 3. The system generates a list of cases that match the keywords. 4. User selects case to be viewed. 5. System displays details of the selected case. 6. User returns to list of cases. 7. User selects another case or returns to home screen. 8. When user finally returns to home screen, if user type is Lawyer, system updates record of number of cases viewed by lawyer.
Alternate Path	N/A

Postcondition	User is on home screen
Exception Path	If there is a connection failure the user returns to home screen

3.2.2. Create case

Use Case Name:	Create case
Priority	Essential
Trigger	Button selection
Precondition	Registrar logged in, currently on home screen
Basic Path	1. Registrar selects 'Create case' option. 2. Registrar enters details of the new case and assigns a date of hearing. 3. The system generates a list of empty slots on the assigned date, if any. 4. Registrar selects a slot or assigns a new date of hearing if no slot is available, until a slot is finally selected. 5. System generates a Case Identification Number. 6. Registrar returns to home screen.
Alternate Path	N/A
Postcondition	Registrar is on home screen; new case has been created in the record
Exception Path	If there is a connection failure the user returns to home screen

3.2.3. Adjourn case

Use Case Name:	Adjourn case
Priority	Essential
Trigger	Button selection
Precondition	Registrar logged in, currently on home screen
Basic Path	1. Registrar selects a case from the list of all cases (or a particular query result) displayed on his home screen. 2. System displays details of the case along with various options. 3. Registrar selects 'Adjourn' option. 4. Registrar enters reason of adjournment and assign new date of hearing. 5. The system generates a list of empty

	slots on the assigned date, if any.
	6. Registrar selects a slot or assigns a new date of hearing if no slot is available, until a slot is finally selected.
	7. System updates case details on confirmation.
	8. Registrar returns to home screen.
Alternate Path	N/A
Postcondition	Registrar is on home screen; the desired case has been adjourned
Exception Path	If there is a connection failure the user returns to home screen

3.2.4. Update case

Use Case Name:	Update case
Priority	Essential
Trigger	Button selection
Precondition	Registrar logged in, currently on home screen
Basic Path	1. Registrar selects a case from the list of all cases (or a particular query result) displayed on his home screen.
	2. System displays details of the case along with various options.
	3. Registrar selects 'Update' option.
	4. Registrar enters summary of proceedings and assign new date of hearing.
	5. The system generates a list of empty slots on the assigned date, if any.
	6. Registrar selects a slot or assigns a new date of hearing if no slot is available, until a slot is finally selected.
	7. System updates case details on confirmation.
	8. Registrar returns to home screen.
Alternate Path	N/A
Postcondition	Registrar is on home screen; the desired case has been updated
Exception Path	If there is a connection failure the user returns to home screen

3.2.5. Close case

Use Case Name:	Close case
Priority	Essential
Trigger	Button selection
Precondition	Registrar logged in, currently in 'update case', has entered proceedings summary
Basic Path	1. Registrar selects 'Close' option. 2. Registrar enters judgment summary of the case to be closed. 3. System updates case details on confirmation. 4. Registrar returns to home screen.
Alternate Path	N/A
Postcondition	Registrar is on home screen; the desired case has been updated and closed
Exception Path	If there is a connection failure the user returns to home screen

3.2.6. Query cases

Use Case Name:	Query cases
Priority	Essential
Trigger	Button selection
Precondition	Registrar logged in, currently on home screen
Basic Path	1. Registrar selects query parameter from a list: *pending, resolved, by date of next hearing* or *by CIN*. 2. System prompts for additional parameters depending on the query parameter. 3. System generates a list of the matching cases. 4. Registrar may choose to view one or more cases from the list or change/reset the query parameter.
Alternate Path	N/A
Postcondition	Registrar is on home screen
Exception Path	If there is a connection failure the user returns to home screen

3.2.7. Create user

| Use Case Name:	Create user
Priority	Essential
Trigger	Button selection
Precondition	Registrar logged in, currently on home screen
Basic Path	1. Registrar selects 'Create user' option. 2. Registrar enters user type and details. 3. System updates users record on confirmation.
Alternate Path	N/A
Postcondition	Registrar is on home screen, new user has been added
Exception Path	If there is a connection failure the user returns to home screen

3.2.8. Delete user

Use Case Name:	Delete user
Priority	Essential
Trigger	Button selection
Precondition	Registrar logged in, currently on home screen
Basic Path	1. Registrar selects 'Delete user' option. 2. Registrar selects user type and the user to be deleted from list of users. 3. System updates users record on confirmation.
Alternate Path	N/A
Postcondition	Registrar is on home screen, specified user has been deleted
Exception Path	If there is a connection failure the user returns to home screen

3.3. Detailed non-functional requirements

3.3.1 Logical structure of the data
The logical structure of the data has been represented in the diagram below.
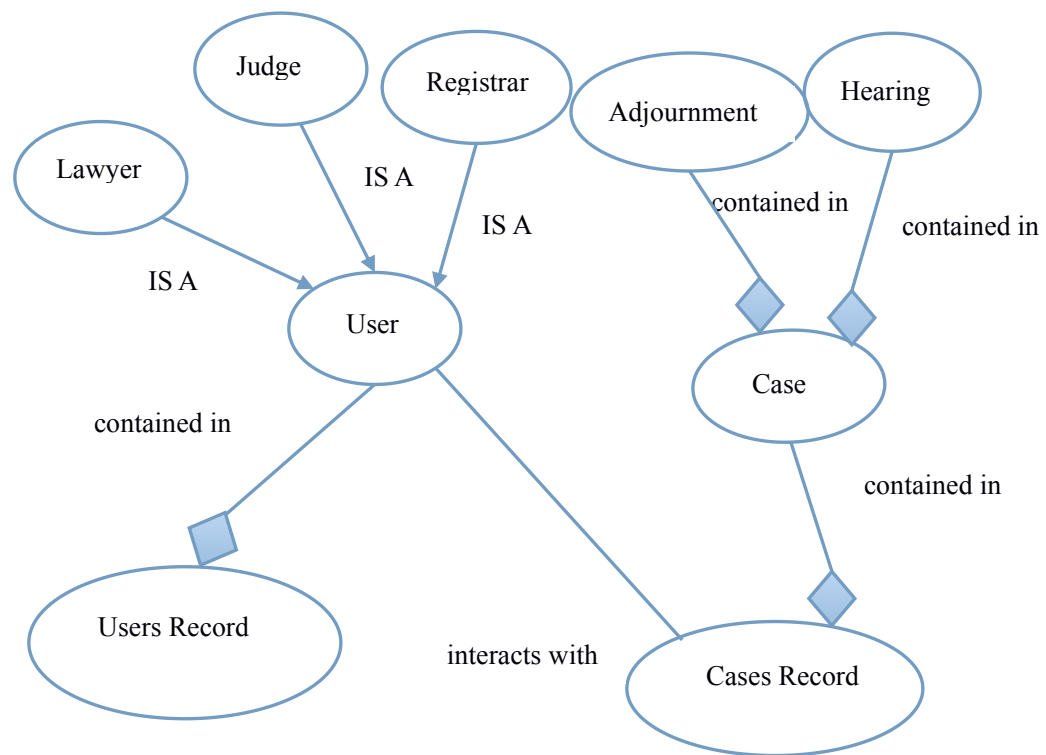
The descriptions of the various data entities are as follows:

User Data Entity

Data Item	Type	Description	Comment
Username	Text	Username of the user	Assigned by Registrar
Password	Text	Password of the user	Assigned by Registrar initially
Type	Text	Type of the user	One of 'Lawyer', 'Judge', 'Registrar'

Lawyer Data Entity

Data Item	Type	Description	Comment
ID	Integer	Lawyer ID	
Number of views	Integer	Number of cases viewed by the lawyer	

Judge Data Entity

Data Item	Type	Description	Comment
ID	Integer	Judge ID	

Registrar Data Entity

Data Item	Type	Description	Comment
(none)			

Adjournment Data Entity

Data Item	Type	Description	Comment

Original date of hearing	Date	The date on which hearing was scheduled	
Reason	Text	Reason of adjournment	

Hearing Data Entity

Data Item	Type	Description	Comment
Date of hearing	Date	The date of the hearing	
Summary	Text	Summary of proceedings	

Case Data Entity

Data Item	Type	Description	Comment
Defendant name	Text	Self explanatory	
Defendant address	Text	Self explanatory	
Type of crime	Text	Self explanatory	Murder, assault, etc
Date of crime	Date	Self explanatory	
Location of crime	Text	Self explanatory	
Arresting officer	Text	Self explanatory	
Date of arrest	Date	Self explanatory	
CIN	Integer	Self explanatory	Generated by system
Date of hearing	Date	Self explanatory	
Slot of hearing	Char	Self explanatory	A, B, C
Presiding judge	Text	Self explanatory	
Public prosecutor	Text	Self explanatory	
Starting date	Date	Self explanatory	
Expected completion date	Date	Self explanatory	May be updated
Status	Text	Self explanatory	Scheduled (Active), Closed
Judgment summary	Text	Self explanatory	Valid for closed cases
Adjournments	Adjournment[]	Record of all the times the cases is adjourned	
Hearings	Hearing[]	Record of all hearings	
Closing date	Date	Self explanatory	Valid for closed cases