WOLKITE UNIVERSITY

COLLEGE OF COMPUTING AND INFORMATICS

DEPARTMENT OF INFORMATION TECHNOLOGY

TITLE: - WEB BASED GURAGE ZONE HIGH COURT MANAGEMENT SYSTEM

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August, 25, 2021 G.C

Wolkite University, Wolkite, Ethiopia

Wolkite University

College of Computing and Informatics

Department of Information Technology

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Submitted to Department of Information Technology in Partial Fulfillment of the Requirement for The Degree of Bachler of Science in Information Technology.

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Aug, 25, 2021 G.C

Wolkite University, Wolkite, Ethiopia

Declaration

This is to declare this project work which is done under the Advisor Mr. Zelalem Truneh and having the title web based Gurage zone high court management system is the sole contribution of:

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No part of the project works has been reproduced illegally (copy and paste) which can be considered as plagiarism. All referenced parts have been used to argue the idea and have been cited properly.

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APPROVAL FORM

This is to confirm that the project report entitled Web Based Gurage Zone High Court Management System submitted to Wolkite University, College of Computing and Informatics (Department of Information Technology) in Partial fulfillment of the requirement for the award of the degree of bachelor of science in information Technology is an original work carried out by Ayele, Fozya, Mohammed under my guidance.

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Acknowledgement

We want to appreciate the almighty of God for the gift of life, protection, Health, academic success and for giving us the strength to preparing the first-semester final project documentation. We want to also in a special way appreciate our Parents for the support and sponsorship of our education from initial to preparing the first-semester final project documentation, for care, patience, and love we pray the Almighty God grants them long life on earth to enjoy the fruit of their labor. We want to in a special way acknowledge our project advisor Mr. Zelalem Truneh (MSc.) for his support in the realization of this project work. We appreciate all our friends and well-wishers whose name were not mentioned we say our Lord reward you all what you want.

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Abbreviation or Acronym

Acronyms Description

CPU……...Central Processing Unit.

CSS ……Cascading Style Sheets

GZHCMS.....Gurage Zone High Court Management System

PHP …….. Hypertext Preprocessor

SNNP……. South Nation Nationalities People's

UML……. Unified Model Language

Abstract

This document deals about automating Gurage Zone high court management system that can easily assign case to judge, can handle full information about advocators so as to reduce wastage of time to find them. The manual work will result in customer wastage of time and resource to open file and do other activities. To overcome this problem, we are proposing the new web based high court management system for Gurage zone. In our proposed system, customer can find advocate online, give comment online, customer see their appointment, and they can register new cases. The project has been planned to be having the view of distributed architecture, with centralized storage of the database. The application for the storage of the data has been planned. Using the constructs of MYSQL server and all the user interfaces have been designed using the Notepad ++ technologies.

CHAPTER ONE

1. INTRODUCTION

Information Technology benefits the world by allowing organization to work more efficiently and to maximize productivity. At this time living in the world without computer technology is difficult. It is known that every process is digitalized to manage complex tasks. Gurage zone high court management system is not an exception of the organization in which complex tasks are processed. To manage those complexities, gaining the benefit of computer technology is must. Therefore, implementing computer science based system will bring dramatic change to this organization. Gurage zone high court management system is located in Wolkite, SNNP of Ethiopia. The organization is owned by Federal Democratic Republic of Ethiopia (FDRE). The Gurage zone high court management system was established in 1985. At that time there were one president and three lawyers and two legal officers and other workers. The organization is located around the Wolkite Town gateway from Addis Ababa on the Jimma road. The purpose of the court is to provide legal decision for those plaintiffs and defendants based on their evidences as well as for those who do crimes. The lawyers make decision based on the constitution of the country. The court information management system contains two major cases those are civil case and criminal cases.

1.1. Background of the Organization

The system based on the information management system that improves the manual data processing. Gurage zone high court management system is document management system or handling of data, data flow system and also concern with a customers' comment. There are two major types of cases. Those are civil law and criminal law. Each of them contains their own sub branches. In order to execute those cases some process takes place.

As we visited the work place of Gurage zone high court management system; how the court management system takes place; we have seen some problems in data processing and handling. During the process there may be many difficulties of manual processing of files/data. Not only this but also giving comment for one court may be difficult because of distance. This means there is no online giving comment service before for the court found on the distance.

Now we are going to develop software that can solve problems of data processing, data handling, and etc. we can achieve our aim by using hardware (pc) and software (programming language). The main purpose of doing this project is that to save person's file from damage, store files forever, secure files that must be secured, will send the files to the concerned party in secure way. There will be data communication from one party to the other. There will be many advantages after the end of our project. The following things will be the result after the implementation of the software we are going to develop.

Protect the data from danger, prevent the data from the thieves and robbers, store data securely. Send the file/data online to the concerned party and giving comment online for court workers is possible. Detail of accuser, accused, witnesses, defendant and advocate will be saved properly. If appeal is needed by somebody it will be sent online to the concerned court, then dead files can be seen by a person who wants to see it but active file is secure.

1.2. Statement of the problem

Gurage zone high court management system does on both criminal and civil case type. As mentioned above these major types contain so many sub branches. Criminal case is initiated when crime is committed, then investigation held to collect information and evidence about what is happened to determine who committed the crime. After that the accused is charged with the crime and taken into custody.

Based on evidence, then the judge determines whether he/she guilty or not guilty. At the end the decision is presented. This process is done manually. Also Civil court cases arise where an individual or a business believe their rights have been attacked in some way. All these processes and documentation system is takes place manually. By this system the following problems have appear.

- Problem on information storage: - The information generated by various transactions takes time and store in insecure place.
- Problem on updating records: - Various changes to information like crime details are difficult to update.
- Most of court records, such as criminal files, judgement cases and other documents are being damaged.
- Limitation on crime recording: - recording crime information manually.

- Limitation on information retrievals: - difficult to find and retrieve a particular case's information.

E.g. - Searching for crime detail information.

- Files may be stolen by thieves, robbers or internal attackers (living Trojan horse).
- Files may be destroyed by natural disasters like fire, flood.
- Documents at low level sent to the higher level in the form of written paper or in the form of printed form. E.g. from justice office to court.
- Customers (users) may lost appeal paper during their journey to other court.

E.g. when he/she goes to court from justice office.

- Even though they use password individually as security but it is not more secure.
- Difficulty of retrieving needed document timely.
- Detail of accuser, accused, witnesses, defendant and advocate may be lost.
- Recording examination, cross examination and re-examination may difficult while collecting evidence from witness.

1.3. Objective of the project

1.3.1. General objective

The main objective of this project is to develop web based Gurage zone high court management system.

1.3.2. Specific Objective

The main purpose of this project is to develop web based high court management system. This system contains the modules like civil and criminal details, court scheduling, public defender's prosecutors, document managements, dispositions and sentencing, database and etc.

- To study and analyze limitation of the existing system.
- To gather requirements.
- To design and develop of our system.
- To select the appropriate development tools for the system.
- To maintain and update the proposed system when it is needed.

- To implement standard security algorithms that can keep the confidentiality of the data.
- To test the system.

1.4. Feasibility Analysis

Feasibility study is an important phase in both research and software development process. It enables the developer to have an assessment of the product being developed. It refers to the feasibility study of the product in terms of outcomes of the product, operational use and technical support required for implementing it. Feasibility analysis is undertaken to prove if the proposed system is valuable to implement.

1.4.1. Operational Feasibility

Operational feasibility is the ability to utilize, support and perform the necessary tasks of a system or program. It includes everyone who creates, operates or uses the system. To be operationally feasible, the system must fulfill a need required by the business. So the project system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development.

1.4.2. Technical feasibility

The court management system has deliver service by using digital system of file handling and transferring files digitally, which will simplify task. It has a graphical user interface to assist employers and customers of the organization. The system can be easily maintained, portable, available and reliable. It is also support multi user, data handling system and easy to install. Generally, the system is technical feasible.

1.4.3. Economic Feasibility

The project that we are going to develop is economically feasible than the manual system. Manual system uses large amount of document for registration and record decision this implies economically infeasible, our System changes this into computerized system so no wastage of resource. The system developed by considering budget of an organization which is economically feasible. This refers to the benefits or outcomes we are deriving from the product as compared to the total cost we are spending for developing the product.

Intangible benefits

- Reduce workload of the organization
- Increase customer and user satisfaction
- Modernize organization work
- Error reduction
- Give better and effective service
- Increase security
- Increase efficiency

1.4.4. Time Feasibility

Time feasibility refers to the time that particular work takes to implement or too performed. A System that going to be developed should save times than the exist system. i.e. The software we are going to develop could perform action within short time when compare with current system. Searching, saving, viewing details, should be shorter than before action.

1.4.5. Managerial Feasibility

Managerial feasibility is ascertained by certain key elements like employee involvement, demonstrated management availability & capability and commitment. The managerial and organizational structure of the project is addressed by this feasibility which ensures that the proponent's structure mentioned in the submittal is feasible to the kind of operation undertaken.

1.4.6. Schedule feasibility

schedule feasibility study is a process of assessing the degree to which the potential period and completion dates for all major activities within a project meet organizational deadlines and constraints for affecting change. This assessment is the most important for project success. A project will fail if not completed on time. In scheduling feasibility, an organization estimates how much time the project will take to complete.

1.5. Scope and limitation of the project

1.5.1. Scope of the Project

The scope of our project is to implement a web based high court management system which is aimed to avoid the problems associated with the manual system. It works in Amharic and English languages. The new system will provide better performance than the existing system.

This includes registering cases, whether criminal or civil, manage accuser and accused information, scheduling, register prosecutor, record decision, generating report, accept comment from customer online, register and show appointment dates that judges give to customers, assign case, manage document, record and view decision and easier and fast searching of needed data.

1.5.2. Limitation of the Project

- ✓ Our system has no Online Court.
- ✓ The system has no online judgment or rendering decision.
- ✓ Our system does not take online evidence from the witness.

1.6. Significance of the project

This document aims to give a brief description about the Gurage Zone high court management system. Accurate, timeliness, reliable, secured, relevant and valuable data are needed for high court management system in all dimensions.

The significance of the study is that it has facilitate the easy storage and retrieval of needed information pertaining to court case records.

This project will reduce work overload of High Court development office workers, the system increase document preservation without need of large area.

1.7. Beneficiaries of the Project

After the implementation of this project, it provides various benefits for the courts and the societies.

1.7.1. Benefits for the court

- ✓ Employers will have confidence on handling data.
- ✓ Searching documents when it is needed is easy.
- ✓ They can secure active files and dead file as they want.
- ✓ They will send appeal online to the concerned parties (from woreda to zone).
- ✓ Information about court can be accessed any time from any place based on given privilege.
- ✓ The project will contribute by making the court part of the paperless society.
- ✓ Data communication is possible
- ✓ They can upload something on the web for customers.

1.7.2 Benefits for societies

- ✓ Customers will give their comment online without going there, i.e. to give comment for judges or for other employees, giving comment is not mandatory.
- ✓ They could not fear for their documents security, especially when they want to ask appeal to the upper court.
- ✓ Customers could see information from the web what they want to see.

1.8. System Development and Methodology

In order to achieve our aim, we use different methods to bring the system from imagination to realization. These methods include different models, techniques and tools for our work.

1.8.1. Investigation (Fact-finding) Methods

To get a precise data from the society the team has used the following fact finding techniques. Those are: -

For the collection of data: Observation, Interview and Document analysis was used.

- ❖ **Observation**:-Observation is common methods of scientific research to collect the data. We used observation to know how the existing system work, to know exactly how different sub offices and how office member is handling the work in the office.

- ❖ **Interview:-**Interview is particularly useful for getting the history behind the participant's experiences. We used interview to get information about the existing system for developing our project. The interview was conducted on the head of High Court and staff members.

- ❖ **Document Analysis: -** Document analysis is used to understand how the system is working. We used this method to know all about the staff mission, vision, function and overall of their work in short and brief.

1.8.2. System Analysis and Design Techniques

In this project used object oriented system and Analysis and design development methodology (OOSAD) and it has two phases.

1.8.3. Object Oriented Analysis (OOA)

During this phase used to model the function of the system (use case modeling), find and identify the business objects, organize the objects and identify the relationship between them and finally model the behavior of the objects. [1]

1.8.4. Object Oriented Design (OOD)

During this phase the model interactions and behaviors that support the use case scenario, and finally update object model to reflect the implementation environment. And also transforms the conceptual model produced in object-oriented analysis to take account of the constraints imposed to our system format, so that we will use this phase to refine the use case model to reflect the implementation environment.

1.8.5. System Development Tools

For this project system development, we will be using PHP for the front end as means of communication between system & the user. This enables the system to be friendly interactive.

Programming Language Tools

HTML: -Hypertext Markup Language (html) is a language in which web Pages are written, documents displayed over the internet. It is platform Independent language that is predominantly used the web and web base applications.

CSS: -for attractive of the html style.

WAMPSERVER: - Software's are implements the latest protocols, including HTTP and is highly configurable and extensible with third-party modules can be customized according to user needs encourages user feedback through new ideas, bug reports and patches. It is a powerful, flexible, current standard compliant server is more secure

Hardware Tools: - pc (personal computer) including its internal part and external part (i.e. system, keyboard, mouse, monitor, storage parties and etc.).

- ✓ Highest processor speed and latest CPU.
- ✓ 4GB RAM.
- ✓ Hard disc 700MB.
- ✓ Flash Disk: - used for the movement of data from one machine to another.

Software Tools: - software is the main requirement to develop the project. Software we are going to use in our project are; programming language such as html and PHP since the project is web based.

- ✓ Microsoft office word 2016:-It is very useful because it takes less time to write and format the text, communicative effectively smart diagram and chart tools,

quickly assemble document. By looking its useful properties, we use Microsoft office word to type our project work to get all the above benefits of it.

- ✓ WampServer: - software used to develop PHP database. To create our PHP database implementation WampServer is very important. It's a development server for PHP projects.
- ✓ EdrawMax: To develop the Unified Model Language (UML) diagrams we use this software.
- ✓ Notepad++ (editor): Software used to write the code in the interface.

CHAPTER TWO

2. DESCRIPTION OF THE EXISTING SYSTEM

2.1. INTRODUCTION

In this chapter we gather information from the Gurage zone high court, that how the organization works at the current system and operate tasks, and how we intend to replace the existing system. It is possible to develop better system by understanding the existing system. Even if it's a manual system. The employees in the organization clearly define how the current existing system works and how will be enhanced to computerize system that they want to have. They told us in what way the file is reported? What types of techniques are being used to report? What are the business rule of the existing system? And what are the problem in this existing system? After studying the existing system it's possible to understand that how the proposed system can solve the existing system problem.

2.2. Overview of the existing system

The existing system works manually from the beginning to the end of process, that means information records on the paper. In Gurage zone high court management system, the system has provided many services such that register case, assign case, prosecutor and schedule appointment manually. And the description also contains two major cases. These are civil case and criminal case including their sub branches according to our scope.

- Civil Case

Civil case proceeding is case among or between two individuals. Types of civil case are family issue, property and succession. Since civil case takes place between two individuals; the plaintiff opens the case to the court. The court registered the case. This is done by law officer or registrar office. The law officer verifies the case. In this case or during verification; the case may be accepted or rejected. If the case accepted the law officer receive court fee. The amount of the court fee depends on the case type. Then he/she register court fee on the paper. After that the database administrator records the amount of the court fee into the database including plaintiff details. Then the law officer writes the summon for the plaintiff. The plaintiff sends summon to the defender. On the day of appointed the defendant present and asks the question and answer this is called hearing process. During this process the defendant is allowed to

defend and also have the right to bring question to the advocator. All these things (information) record on paper and documented. In the second phase the judge sees the case and rendering decision is given by judgment passer. If extra information is needed the appointment takes place? The process repeated in the same manner. Starting from hearing to rendering decision.

- Criminal Case

The criminal case is the same process like civil case what makes it different is that it can be conducted between state and individuals. Public prosecutor investigates, collect information and evidence and so on. The summon send to the accused when the accused is present on the appointment he/she can defense the case. If accused (defendant) cannot defend by him/herself finding advocator is allowed like in civil case. In both civil and criminal case all information, detail of accuser and accused as well as advocator detail and also their words registered on the paper. If plaintiff, accuser, advocator or public prosecutor does not satisfy to the decision of judges he/she can ask appeal to the upper court. There is limitation date to ask appeal after decision made by judges. Then if one asks appeal, the hard copy of all his/her document including words of witnesses given to him/her within a given time. The other is if customer wants to give his/her comment for employees or for organization, he/she writes and put it in comment box. In order to give comment for them one must go there. On the holding of data; the file saved in two ways active files and dead files. Those files handle manually. Also searching document is takes place manually.

2.3. Organization Structure

The court consists of the Administer, judge, and Lawyer (law officer) and customer. The clients of the court include those people who accuse a person and they want their case to be handled legally by the court and the others are, the people who come to the court when they are accused by another person/organization. The state can also accuse a person in case of criminal case. So, when a case comes to the court it will be registered as a civil or criminal case. The whole process of case handling takes place manually. That means, from opening of the case until it gets a final decision.

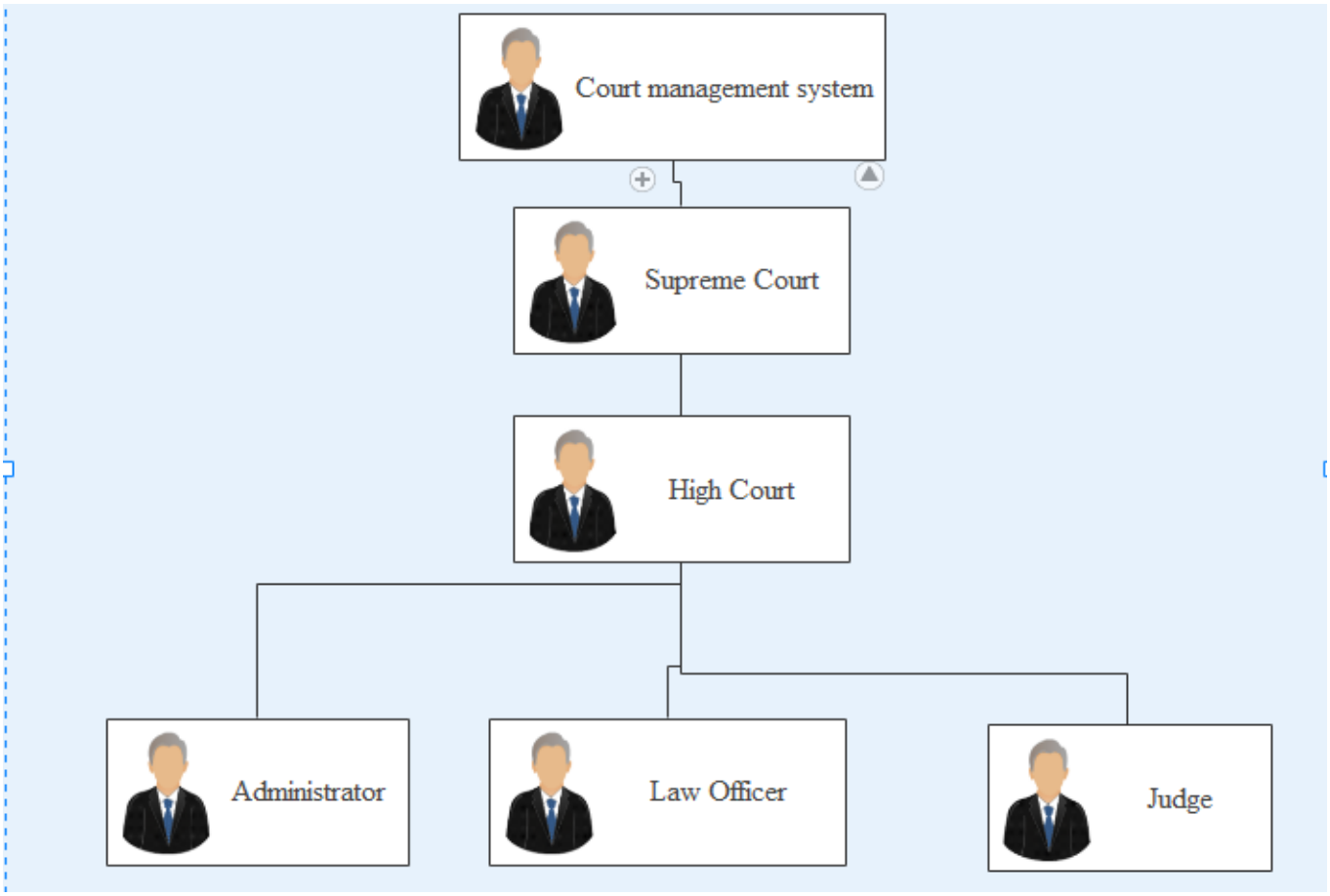


Figure 1 Organization structure

2.4. Users of the Existing system

As mentioned the earlier the court consists of different fields which consists of actors within its own responsibilities.

Administrator

Responsible for managing and controlling the overall activities of the organization. Provide support for judges and other employees.

Judge

- Can record evidence and decision, view report and different type of Cases, can give appointment for the registered cases, collect information from a witness, finally give a decision for the case and the Case will have closed.
- Oversee a court to ensure that people accused of breaking the law are treated fairly. Make judgements based on the evidence and the law.

Law Officer

- It allows civil and criminal law officer to view appointments.
- Civil and criminal law officers and judge successfully view selected information.
- Law officer is posted his duty is to perform various responsibilities related to legal, compliances, regulations as per directions of the senior officials.
- Prosecutor

Customer

- It allows customer to view information that is the information of advocator and courts.
- He/she can see information.

2.5. Major Function of Current System

Gurage zone high court management system has provided many services to the society.

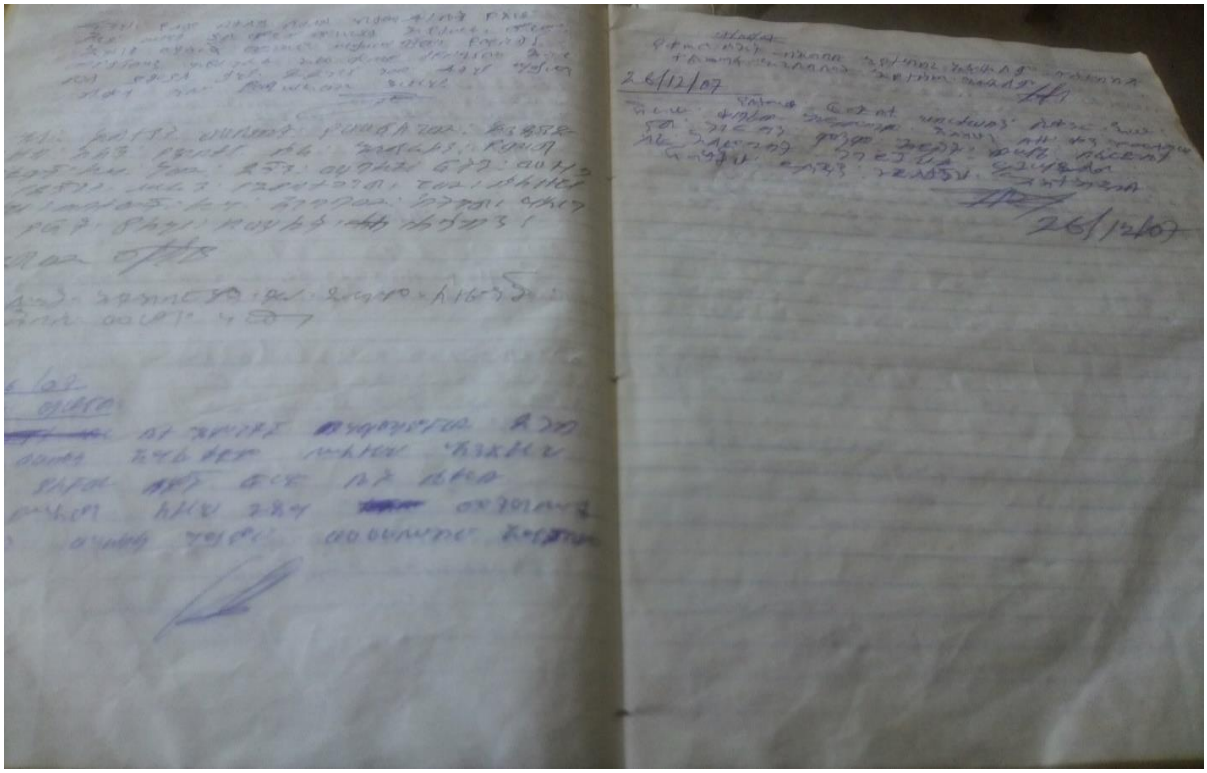
- Register case: First the user goes to the court, his/her case should be registered as a criminal or civil case with the detail of accuser and accused informed. The accuser opens the case to the court. The court registered the case. This is done by lawyers on the paper.
- Register employee information: The employee information is recorded on the paper with their responsibility in the court. i.e. either client, judge. Chief Judge, lawyer and administrator.
- Record decision: After the case is analyzed, then judge makes a decision based on the case, according to the constitution of the country where the accused and accuser present.

2.6. Forms and Other Documents of the Existing System

- Document data: All information which should be carried out during this process is documented on paper and kept on the shelf. The file saved in two ways active files and dead files. Those files handle manually. Also searching the document takes place manually and tedious.
- Giving comment: - If the customer wants to give his/her comment for employees or for the organization; he/she writes on paper. In order to give comment for them one must go there.

- Give appointment: - If the judge is not satisfied by the collected information of the accused person he gives appointment to collect enough information about that case.
- Assign cases to judge: - In order to give a decision, the president of the court (chief judge) assign different cases for different judges by calling the judge to his office.

We have seen these forms in the organization which is used to provide users for giving comments to the organization manually.



- form that is used for giving comment.

Figure 2 form to give comment in manual

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- **Case registration form**

We have seen from the organization the following forms are register book(enrollment) customer information of the organizations by the following forms in a manual.

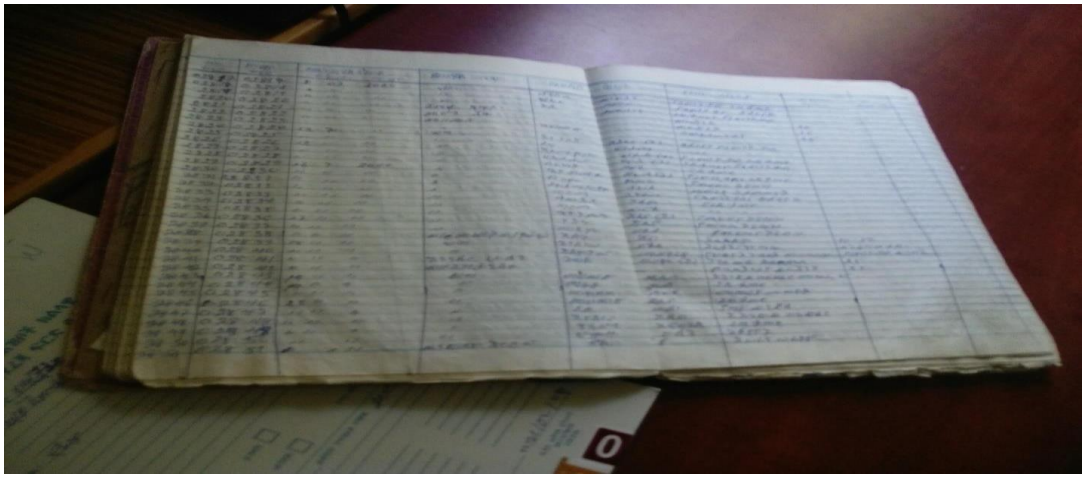

Figure 3 form to register case in manual way

2.7. Bottlenecks of the Existing System

Problems are undesirable situations that hinder the organization from fully achieving its purpose, goals or objectives. The current system that we have observed faces a lot of problems can be list the following.

- Performance

The performance of the existing system does not provide fast response time because it is difficult to access data from the stored document. And also, it is time and energy consuming. Because of no use of technology; doing activities in manually have less performance than doing activities in a computer. When cases and documents manage with manual it takes much time, much resources so delay of activities are present. Generally, performance in the current Gurage zone high court is very low or have less performance.

- Security and Controls

Every record of document in the existing in Gurage zone high Court Management System is stored manually, so it is difficult to control and secure these manual records, since it doesn't have any authentication and authorization system.

- Economic

Due to the reason all operation is done by hand most of the activities causes high consumption of resources like papers, man power, time, pen etc. This makes the existing system's expenditure too high.

- Data storage problem

- Data are not easily accessible due to place stored in different location.
- Difficult to change and edit.
- Data inconsistency

- Inputs/outputs

When employee of the court fills different forms and documents inaccurate, redundant, unreadable, data are interred to the court. Wastage of resource, Way of giving due to the operation that is done by the manual most of the activities cause high consumption of resources like papers, manpower, time, pen etc. This makes the existing system costs too high. Data are not easily accessible due to place in a different location. Difficult to change and edit. Data inconsistency. Generally, the detail of the problem is listed under statement of the problem

- Efficiency

Because of poor communication between court offices efficiency is low, there is delay of activities. They may not get notification of case appointment date. The document collected for the case is not documented in organized form so it is difficult to search and give decision, as a result the efficiency of the decision is late.

2.8. Business rule of the system

Business rule is effectively an operating principle or policies that can be we have gather information from the organization both the existing system and the new system must satisfy. The business rule is principle or a policy in which the proposed system operates accordingly. There are some business rules and constraint to prevent any violation during the process. This focuses on access control issue.

BR1: The person or entity to whom the subpoena is directed.

BR2: Court users should timely and just resolutions.

BR3: Judge give decision information on court programs, procedures, and services provided in plain language.

BR4: Court users whether self-representing or represented by an attorney-at-law(advocate) are welcome to ask the court and staff for explanations of policies, procedures, processes, and actions.

BR5: The court processes a highly volume of cases. Be prepared for delays during your visit.

BR6: Each document shall be deemed to have been signed by the attorney.

BR7: Court Users can seek the assistance of a lawyer when they need legal advice.

BR8: A bailiff shall be present at all times while the court is in session.

BR9: Accused should be above eighteen years old.

BR10: Registrar opens new documents and fill all information and assign new case number. When new criminal is coming.

BR11: court users access to court records and decisions that are not confidential by court rule or statute.

CHAPTER THREE

3. PROPOSED SYSTEM

3.1. INTRODUCTION

This is a new system that can be avoid the existing system problems which can be usually occurred in the court system. The purpose of proposed system is to improve the current activities through digitalized(computerized) way, that can be simplified the man power and save time of existing system and speedup the operation of the system. The new proposed system used to save time and money for customers or for the organization and suitable for employees find customers information in a short time. The new proposed system is suitable for register for customer information and record the final decision of customer's case. The new system used to store more data in a large space. The new system used for customers easily find the advocators by searching in the web based court management systems, this helps to save time and cost, etc. The proposed system will use the major functionality of the existing system able to advance accordance with performance, security and reliability of the system, by using different object oriented techniques in order to overcome the current problems.

3.2. Overview of the Proposed System

The Gurage zone high Court management system is web based that allows the Office of the Registrar to use it well to search court system in the desired format. It has also a help option to facilitate the working environment effectively. The system will be designed to be used very easily, for those who have prior knowledge of the internet. The user can read more about the system on the organization website.

High Court Management System for Gurage Zone is all about to provide the user the system that enable to operate tasks timely, store information accurately and reliably, therefore the proposed system makes user to:

- ⇨ Protect their data from risk.
- ⇨ Prevent their data from thieves, robbers.
- ⇨ Save their data in secure way.
- ⇨ Send the file/data online to the concerned party.
- ⇨ Giving comment online for court workers is possible.

- ⇨ Court fee can be registered and saved into database.
- ⇨ Detail of accuser, witnesses, plaintive, defendant and advocate will be saved properly.
- ⇨ If appeal is needed by somebody it will be sent online to the concerned court.
- ⇨ Dead files can be seen by a person who wants to see it but active file is secure.

3.3 Functional Requirements

3.3.1 Process Requirements

The proposed system will do the following processes.

- ⇨ The system shall allow to manage accounts or users by system administrator.
- ⇨ The system shall support Amharic and English language.
- ⇨ The system should allow manage cases, manage documents such as create and update documents.
- ⇨ The system gives appointment for the registered case.
- ⇨ The system notices every activity for the law officer.
- ⇨ The system can register a case and record decision.
- ⇨ Register prosecutor.
- ⇨ The system categories cases as civil and criminal case.

3.3.2. Input Related Requirements

The information about each case, accuser, defendant, advocator and the judge should be entered into the system as input.

- ⇨ Document collected for the retested case must be attached to the case.
- ⇨ The witness full information with the required age registered.
- ⇨ The user of the system can register by the administrator.
- ⇨ The customer can give comment.
- ⇨ Court officers can communicate by sending messages within the office.

3.3.3. Output Related Requirements

- ⇨ Since the input is effective the output is also effective. There will be an accurate display of reports in accordance with the query it processes.
- ⇨ Customer can view advocator information.
- ⇨ Accused can view the appointment date without coming to the court.

- ⇨ Judge can view different notification. Such as assigned case notification, task notification, and appointment notification.
- ⇨ Messages can have reached within minimum time and read by the receiver.

3.3.4. Storage Related Requirements

In this system data is very much secured. Means that we use a different hashing algorithm for preventing external attacks.

3.4. Non-Functional Requirements

It describes the aspect of the system that is concerned with how the system provides the functional requirements.

- User Interface and Human Requirements

The system will use a user friendly and simple for users to understand, it has different user interfaces for the system users. The system provides a user friendly, Intuitive GUI. It contains various forms, buttons, textboxes and dropdown menus to help users interact with the system.

- Hardware Requirements

For the development of the system we used the following hardware and software:

- Hardware's

- ⇨ Printer: For printing documentation
- ⇨ Highest processor speed and latest CPU.
- ⇨ 4GB RAM.
- ⇨ Hard disc 700MB.
- ⇨ Flash Disk: - used for the movement of data from one machine to another.

- Software Requirements

To develop this system, the following software's are used.

- ⇨ Wamp Server.
- ⇨ EdrawMax.
- ⇨ Notepad++.
- ⇨ MySQL database server.
- ⇨ Microsoft office word 2016.

- Security

As long as personal information of the crime and cases is stored in the database, the system is expected to provide security options. The system does not allow unauthorized user to access it. Because we use hashing algorithm for inscription and remove unauthorized attackers.

- Performance

The system shall perform its operations within a minimum amount of time. The system shall be interactive and the user gets the expected result within few seconds. For better response and throughput, it should be given more emphasis for the faster access to the system across the network.

- Error handling

The system displays error messages if the user enters invalid input, that means we will implement this system by validating at front end and back ends so error is handled from both sides easily.

- Usability

The proposed system is user friendly, all the interfaces are interactive and easy to use. Web based court management system can be used by specified consumers to achieve quantified objectives with effectiveness, efficiency, and satisfaction in a quantified context of use.

- Effectiveness

The proposed system produces an exact outcome. The proposed system achieved objectives and the extent to which targeted problems are solved.

- Accessibility

Any user can access the system in anywhere and anytime with any computers and websites. But internet connection must be fulfilled.

- User friendly

The user interface of our system should have user familiar and attractive interface so the system should easy and understandably for every user. To increase understandability of the system we will use input, button, Text Field preferable and attractive color user interface.

- Backup and Recovery

The system should enable to task a backup at any time in point in point and able to restore from backups.

- Resource issues

The system can provide available resource for the community as well as the members of the firm on specified time as needed.

- Documentation

The new system provides required full documentation, help contents and tips to allow further maintainability and to support and guide users how to use the new system.

CHAPTER FOUR

4. SYSTEM ANALYSIS

4. 1. Overview of System Model

The project development team used an object oriented system development methodology. Because the object system development approach gives easier and natural way to break down problems into simple small and manageable components so that it reduces the vague appearance of the big problem. Moreover, it is predominately used and popular method in present software development trend. The major activities describe in this chapter are constructing a use case diagram, class diagram, sequence diagram, activity diagram, user prototype about the proposed system.

The following lists of objects are System Model for High Court Management System.

- ⇨ Use Case Diagram
- ⇨ Activity diagram
- ⇨ Data Dictionary
- ⇨ Class diagram
- ⇨ Sequence diagram
- ⇨ State diagram

4.1.1. Use Case Model

A use case diagram one of UML that indicate an interaction between users and a system. It captures the goal of the users and responsibility the system to its users. It is the functionality of the system or the service provided by the new system. The main purpose of a use case diagram is to show what system functions are performed for which actor. These diagrams contain the following elements:

Use cases

- ⇨ Login
- ⇨ Create Account
- ⇨ Report
- ⇨ Post Advocator

- ⇨ Update Account
- ⇨ Activate and Deactivate file
- ⇨ Record Decision
- ⇨ Decision
- ⇨ View Accused Case
- ⇨ Appointment
- ⇨ View report
- ⇨ Post notice
- ⇨ Assign Case
- ⇨ Change Password
- ⇨ Appeal
- ⇨ Generate Report
- ⇨ Registration
- ⇨ View Appointment
- ⇨ View Decision
- ⇨ Comment
- ⇨ Logout

4.1.2. Use Case Diagram

Actor: Actors are usually individuals involved with the system defined according to their roles.

Use Case: A use case describes how actors uses a system to accomplish a particular goal.

Relationship: The relationships between and among the actors and the use cases.

System Boundary: The system boundary defines the system of interest in relation to the world around it.

- **Actor Specification**

Actors	Actors role
Administrator	Login to the system Mange account • Create account • Update account • See activate and deactivate file Generate report • Write Report • Update Report • Search customer information Post Advocator • Post Advocator page View • View appeal • View comment • View report • View Register • Forget Password Logout
Law officer	Login to the system Registration: • Register Advocator • Register accuser • Register defender Generate report • Write report • Update report Register Prosecutor

	Assign case • Assign case • Send appeal Post notice • Write notice for the customers/organizations • Search customer information View • View report • View Accuser • View comment • View Defender • View Advocator • View witness Logout
Judge	Login to the system Search customer information Record • Record decision • Record evidence Gives Appointment • Give appointment page View • View appointment • View assigned case • View comment • View Report • View evidence • View decision Change password

	Logout
Customer	• View information • view comment • View appointment • View decision Logout

Table 1. description of Actor

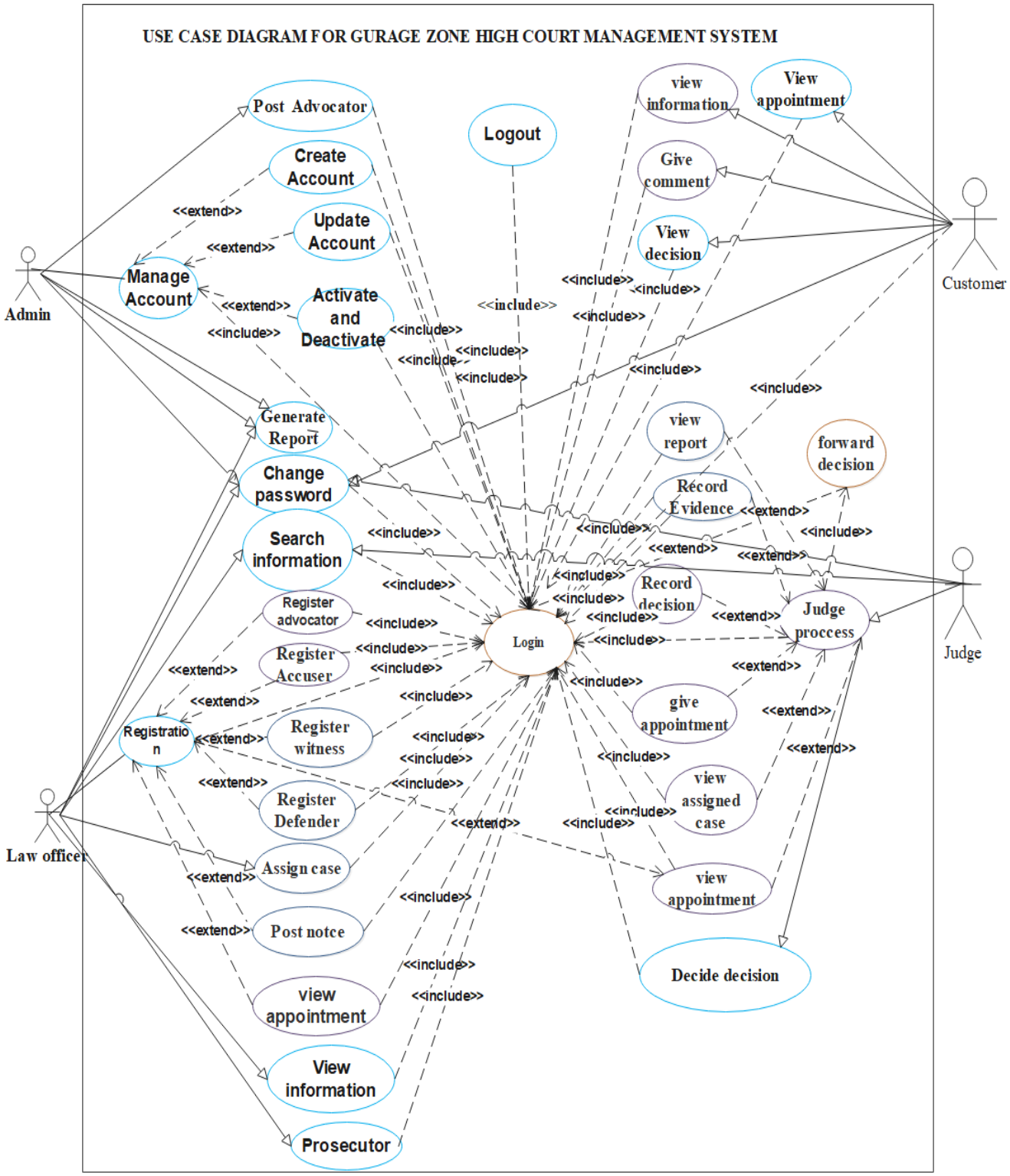

Figure 4 Use case Diagram

4.1.3. Use Case Description and Scenarios

The use case description is used to detail description of the use case what and how the use case works in order to perform user and system functionality. Below we depict detail description of use cases using tables.

Use case name	login
Use case id	UID:1
Actor	Administrator ,Judge ,law officer and Customer.
Description	Login to the system using by Username, password.
Pre-condition	Login to the system using by username, password and.
Post-condition	User login and use respective functions of the system.
Basic course of action	Step1: The system displays active for the Employee username and Password, the login button is displayed as well Step2: The system displays login page that asks enter Username and password and choose the role. Step3: the user fills username and password Step4: the user of the system clicks login button. Step5: The login controller validates the username and password. Step6: The database checks First name and password. Step7: The system displays access page for the respective user step. 8: use case end.
Alternative course of action	If the user does not enter the correct user name and password A1: The system asks to enter the correct username and password A2: The system displays error message.

Table 2. Use case Description for Login

Use case name	Manage account
Use case id	UID:2
Actor	Administrator
Description	Used to create account to judge, Law officer, judge and Customer and also can create, delete, and update account.
Pre-condition	The user doesn't have account previously.
Post-condition	User become the member of the system and use the system.
Basic course of action	Step1: Administrator login to the system Step2: Administrator click create account link. Step3: The admin clicks add new button. Step4: The administrator enters the required information of judge, law officer and Customer Step5: The administrator clicks save button and all information are recorded in the database. Step6: account created successful message will be displayed.
Alternative course of action	If the administrator does not enter the correct information A1: The system asks to enter the correct information details.

Table 3. Use case Description for Manage account

Use case Name	Create Account
Use case id	UID:3
Actor	Administrator
Description	It allows administrator to create for new user accounts.
Precondition	He/she must login in to the home page.
Post condition	The system successfully created account.
Basic course of action:	Step 1. Open the manage account page. Step2. The system Displays the Manage account page. Step3. Open create account link. Step4. The system display creates account page. Step5. Administrator fill create account form and click create button. Step6. The system displays successfully created message. Step 7. The use case end.
Alternate course of action:	Invalid information entry If enter incorrect ID error message display for the user Go to step3 and fill again

Table 4. Use case Description for Create Account

Use case Name	Update Account
Use case id	UID:4
Actor	Administrator
Description	It allows administrator to update user accounts.
Precondition	He/she must login in to the home page.
Post condition	The system display successfully updated account.
Basic course of action	Step 1. Open the manage account page. Step2. The system Displays the Manage account page. Step3. Open update account link. Step4. The system displays update account page. Step5. Administrator fill update account form and click create button. Step6. The system displays successfully updated message. Step 7. The use case end.
Alternate course of action	Invalid information entry If enter incorrect ID error message display for the user Go to step3 and fill again

Table 4. 1 Use case Description for Update Account

Use case Name	Generate Report
Use case id	UID:5
Actor	Administrator and Law Officers
Description	It allows generating report in the database.
Precondition	He/she must login in to the home page login form
Post condition	Successfully generate report as him/her wanted.

Basic course of action	Step 1. Open the generate report button form menu. Step2. The system Displays the page. Step3. Select link he/she want to generate a report. Step4. The system displays the selected report. Step5. The use case ends.

Table 5. Use case Description for Generate Report

Use case name	View Appointment
Use case id	UID:6
Actor	Law Officer, judge, customer
Description	It allows law officer to view appointments.
Precondition	He/she must login in to the home page.
Post condition	Law officers and judge successfully view selected information.
Basic course of action:	Step 1. Open the view appointment form from menu. Step2. The system Displays the view appointment page. Step 3. Law officers and judge enter appointment date and judge id and click search button. Step4.The system Displays selected information. Step5. The use case ends
Alternate course of action:	Invalid information entry If enter incorrect date error message display for the user Go to step3 and fill again

Table 6. Use case Description for View Appointment

Use case Name	View Information
Use case id	UCID:7
Actor	Customer
Description	It allows customer to view information that is the information of advocator and courts.
Precondition	Open view information page from website.
Post condition	He/she see information.
Basic course of action:	Step 1. Open the view information page. Step2.The system Displays the View information page. Step3. Select one from lists link. Step4. The system displays information. Step5. The use case ends
Alternate course of action:	Unknown the website.

Table 7. Use case Description for view information

Use case name	Search Customer Information
Use case id	UCID-8
Actor	Administrator ,law Officer and Judge
Description	It allows Administrator, law Officer and Judge to search the required information in the database.
Precondition	They must login in to the home page.
Post condition	Successfully display the required information.
Basic course of action:	Step 1. Open the search Customer Information page. Step2. The system displays the search customer information page. Step3.Enter ID number and Click Search Button. Step4. The system displays the selected user information. Step5. The use case ends.

Alternate course of action:	Invalid information entry. If enter incorrect ID error message display for the user. Go to step3 and fill again correct user id.

Table 8. use case description for search customer information

Use case name	Assign case to judge process
Use case id	UID:9
Actor	judge
Description	Used assign case to judge in order to gather information and record decision.
Pre-condition	judge should have an account and new case are come to his office by the law officer.
Basic course of action	Step1: judge login to the system Step2: judge click assign case button. Step3: the system displays assign case page. Step4:it selects case and free judge and fill required information Step5: The judge clicks send button. Step6: all the information stored on the judge account and notification reached to the judge. Step7: case assigned to judge successful message will be displayed. Step 8: use case end.
Post-condition	Judge have permission to accept cases.

Alternative course of action	If the judge does not select free judge A1: The system asks to select free judge from cases.

Table 9. Use case description for assign case

Use case name	Record decision to judge process
Use case id	UID:10
Actor	judge
Description	Judge give the right decision to the accused client according to the collected information and evidences. The judge must consider constitution of the country.
Pre-condition	Judge have full of evidence and view all witness word as well as advocators evidence.
Post-condition	Decision reached to the customer and the judge.
Basic course of action	Step1: Judge login to the system Step2: all function of the judge is displayed and click record decision. Step3: Then view button is displayed by clicking this button judge view all the recorded information and view the articles of the constitution. Step4: Judge click add decision button. Step5: Judge fills all the required information and click save button. Step6: decision recorded successful message will be displayed. Step7: use case end.

Alternative course of action	If the decision does not reach to the client and the chief judge A1: The system asks to send message.

Table 10. Use case Description for Record decision

Use case name	Registration
Use case id	UID:11
Actor	Law Officer
Description	It allows the law officer to register accuser, advocator, witness, defender, assign case and post notice.
Pre-condition	He or she must login in to the home page. New case must be present.
Post-condition	After case categorized and registered, cases must be send to the judge then notification will be reached to his/her account. Successfully registered.
Basic course of action	Step1: Law officer start the system Step2: login with valid user name and password. Step3: The Law officer clicks on selection option. Step4: The system displays civil case and criminal case come as drop down list. Step5: The Law officer selects one category from the drop down list and fills the necessary information when new cases are registered. Step6: The Law officer clicks save button and all information are recorded in the database, case categorization successful message will be displayed. Step 7: use case end.

Alternative course of action	If the Law officer doesn't select either civil case or criminal case. A1: The system asks to select case categories.

Table 11. Use case Description for law officer to Registration

Use case name	Give Appointment
Use case id	UCID:12
Actor/s	Judge
Description	It allows judge to give appointments for customers.
Precondition	He/she must login in to the home page.
Post condition	Judge successfully gives appointment.
Basic course of action:	Step 1. Open the give appointment page from menu. Step2. The system displays the give appointment page. Step 3. Judge fills the form. Step4.The system displays success or fail. Step5. The use case ends
Alternate course of action:	Invalid information entry If enter incorrect date error message display for the user Go to step3 and fill again

Table 12. Use case Description for Give appointment

Use case Name	Register Advocator
Use case id	UCID:13
Actor	Law Officer
Description	It allows the law officer to register Advocator. Those are for accuser or accused person.
Precondition	He or she must login in to the home page login form .
Post condition	Successfully registered.
Basic course of action:	Step 1. Open the advocator page from menu.

	Step2. The system displays the registration form. Step3. Fill the advocator registration page and click save button. Step4. The system displays registered successfully or failed. Step5. The use case ends
Alternate course of action:	Invalid information entry. The system displays error message. Go to step 3 to fill again

Table 13. Use case Description for advocator registration

Use case name	View Assigned Case
Use case id	UCID:14
Actor/s	Judge
Description	It allows the judge to view the assigned case.
Precondition	He/she must login in to the home page.
Post condition	See the assigned case.
Basic course of action:	Step 1. Open view assign case page from menu Step2. The system Displays the View assigned case page. Step3. Enter the date and Judge ID in the view assigned case page form and click view button. Step4. The system displays assign case or no assigned case. Step5. The use case ends
Alternate course of action:	Invalid information entry. The system displays error message. Go to step 3 to fill again

Table 14. Use case Description for View Assigned Case

Use case name	Customer information
Use case id	UID:15
Actor	Customer

Description	customer give comment to the court.
Pre-condition	Any user starts the system.
Post-condition	Comment notification reached to the appropriate department.
Basic course of action	Step1: user click comment button of the system Step2: the system displays comment user interface. Step3: Customer fill all the necessary information and their comment. Step4: click save button and system displayed comment created successful message displayed. Step7: use case end.

Table 15. Use case Description for Customer information

4.2. Object Model

Object Model is a logical interface, software or system that is modeled through the use of object-oriented techniques. It enables the creation of an architectural software or system model prior to development or programming. In our system we use object model like class diagram and data dictionary.

4.2.1. Class Diagram

Class diagrams describe the structure of the system in terms of objects, classes, attributes, operations, and their associations. A class is an abstraction in object-oriented programming languages. Like abstract data types, a class encapsulates both attributes and operation Analysis level class diagram (conceptual modeling).

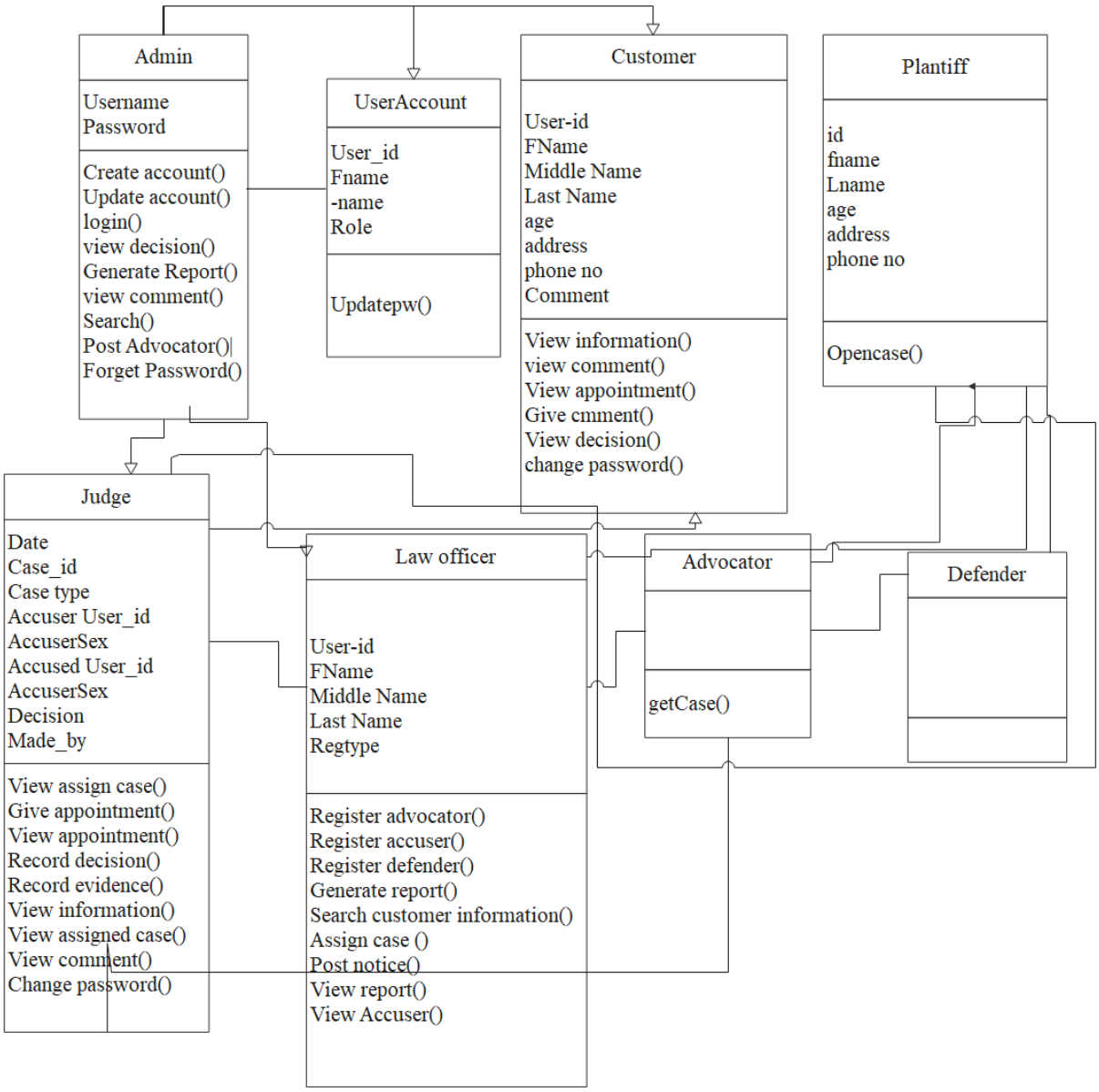

Figure 5 Class Diagram

4.2.2. Data Dictionary

A data dictionary is a file or a set of files that includes a database's metadata. The data dictionary holds records about other objects in the database, such as data ownership, data relationships to other objects, and other data. In our system the following table describe data dictionary. The table 4.2.1 below illustrate data dictionary of the admin for the create account of the system.

attribute	Data Type	Data size	constraint
Fname	String	16	
Lname	String	16	
User Id	Int	8	Primary key
Password	Varchar	10	
Role	Varchar	8	

Table 16. data dictionary of the Judge for the Register Decision of the system

Attribute	Data Type	Data size	constraint
Date	Date		
Case_id	Int	16	Primary key
Case type	Varchar	15	
Accuser User_id	Int	8	
AccuserSex	Varchar	6	
Accused User_id	Int	5	
AccuserSex	Varchar	6	
Decision	Varchar	50	
Made_by	Varchar	15	

Table 17. data dictionary of the Law Officer for the Register Accuser of the system

Attribute	Data Type	Data size	constraint
Date	Date		
Case_id	Int	15	Primary key
Case type	Varchar	30	
User-id	Int	10	
Fname	Varchar	18	
Middle Name	Varchar	18	
Last Name	Varchar	18	
Sex	Varchar	6	

Age	Int	3	
Martial	Varchar	50	
Nationality	Varchar	20	
Religion	Varchar	24	
Region	Varchar	30	
Zone	Varchar	10	
Woreda	Varchar	20	
House_no	Int	255	
Phone_no	Int	20	
Regtype	Varchar	45	

Table 18. data dictionary of the Customer for the Give comment of the system

Attribute	Data Type	Data size	constraint
Date	Date		
Comment	Varchar	254	

4.3. Dynamic Model

A dynamic model represents the behavior of an object over time. It is used where the object's behavior is best described as a set of states that occur in a defined sequence.

4.3.1. Sequence Diagram

Sequence diagrams model the interactions between objects in a single use case. They illustrate how the different parts of a system interact with each other to carry out a function, and the order in which the interactions occur when a particular use case is executed. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario. In our project there will be different process to do specific actions and we include some sequence diagrams to handle these interactions. [2]

Gurage Zone High Court Management System Sequence Diagram

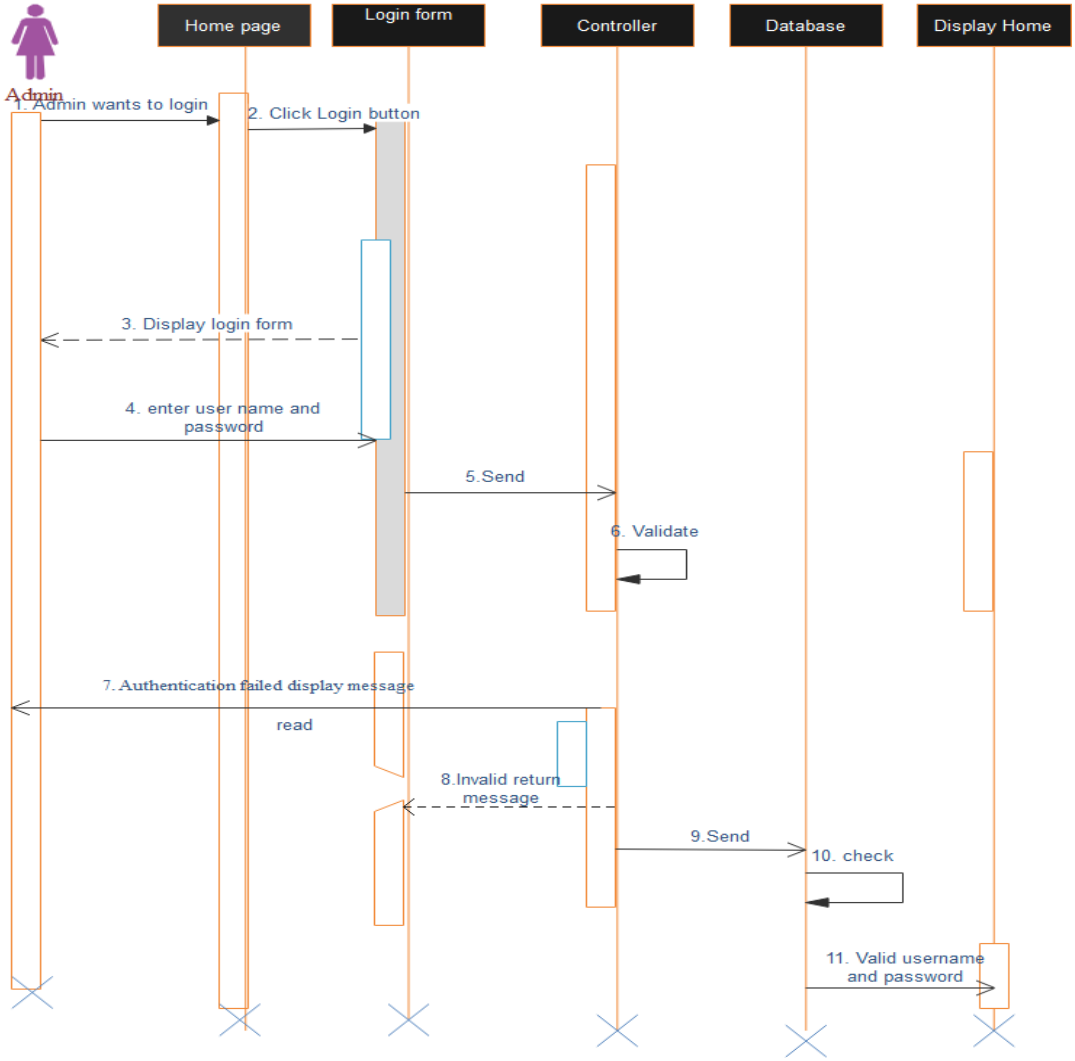

Figure 6. Sequence diagram for login

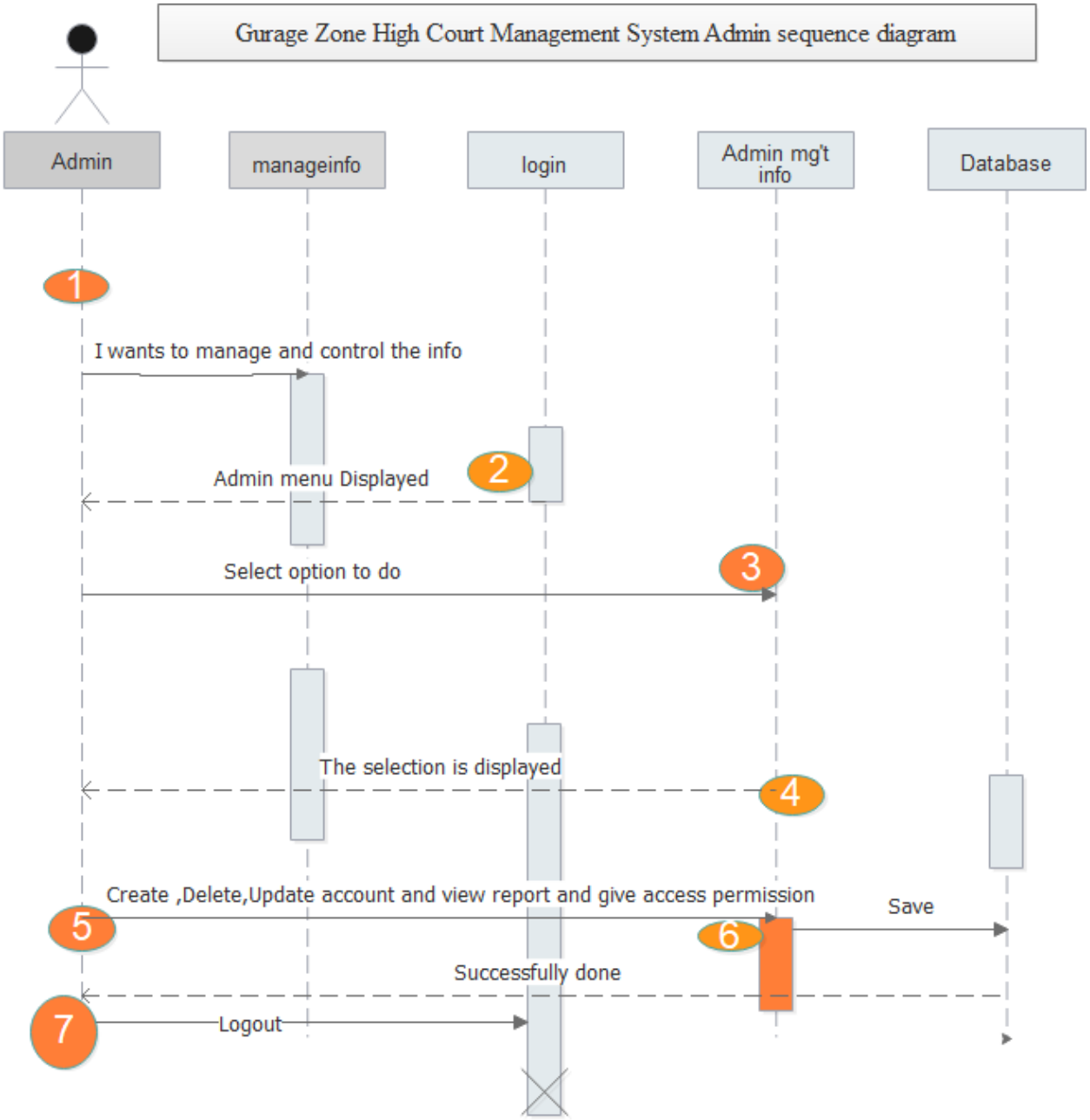

Figure 7. sequence diagram for Admin

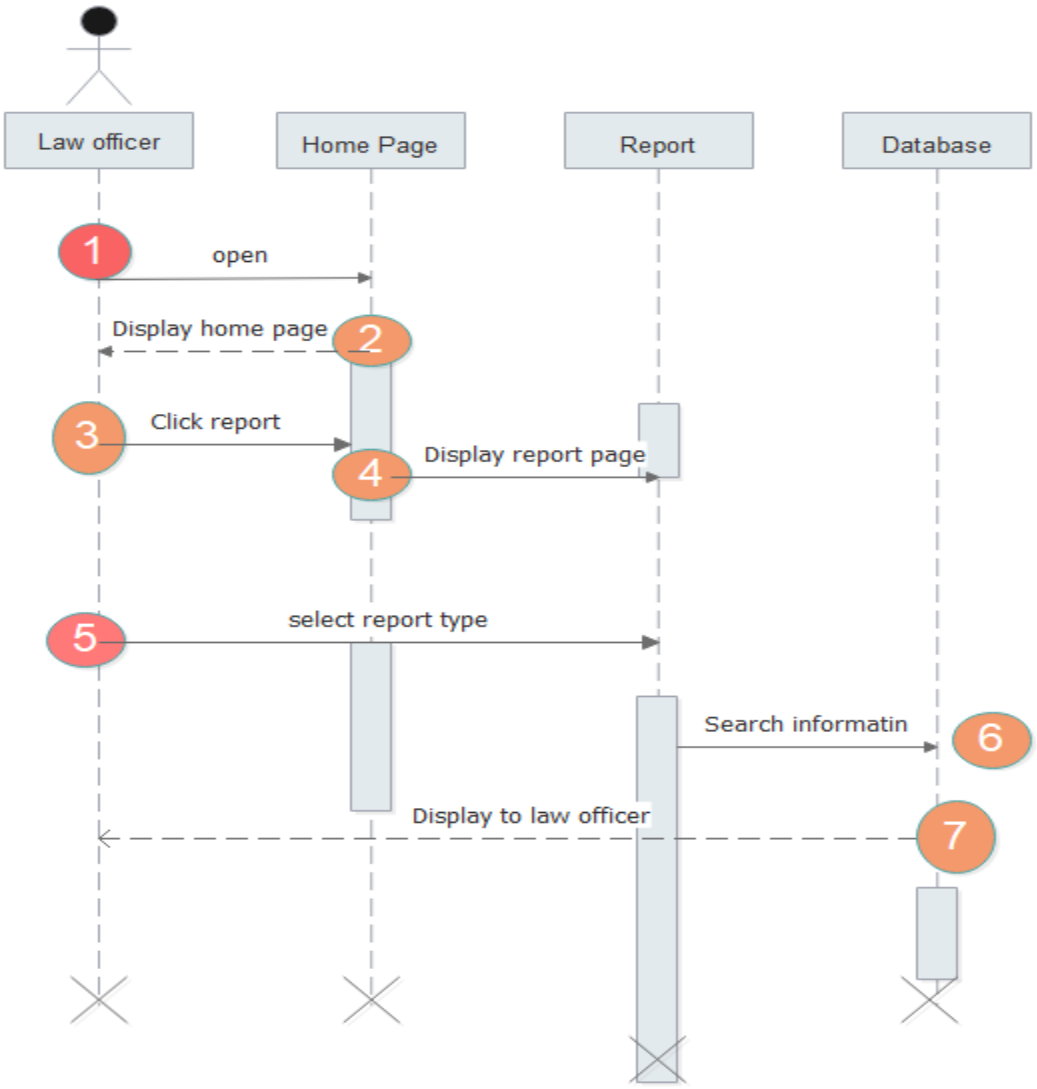

Figure 8. sequence diagram for Generate Report

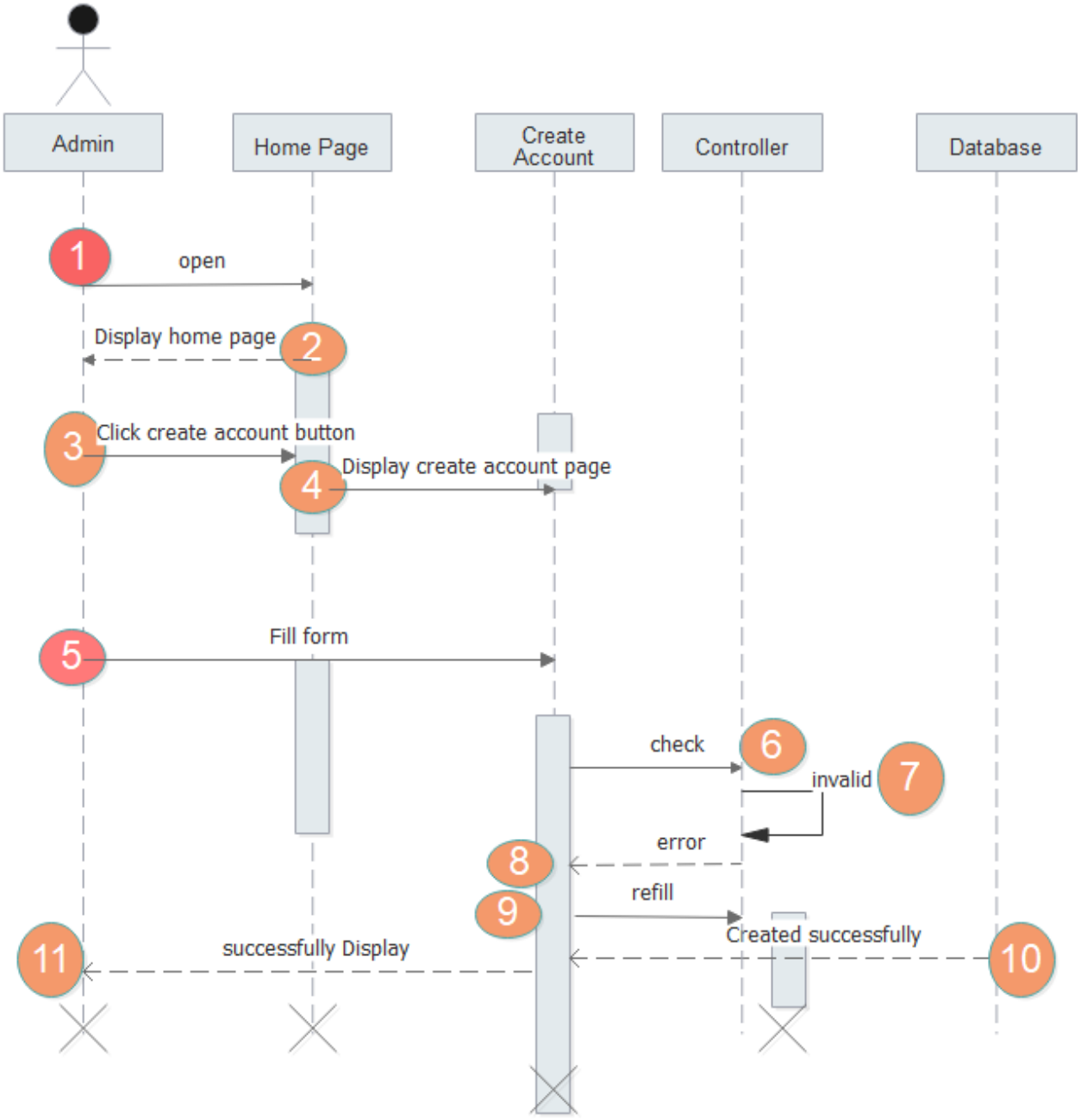

Figure 9. sequence diagram for Create Account

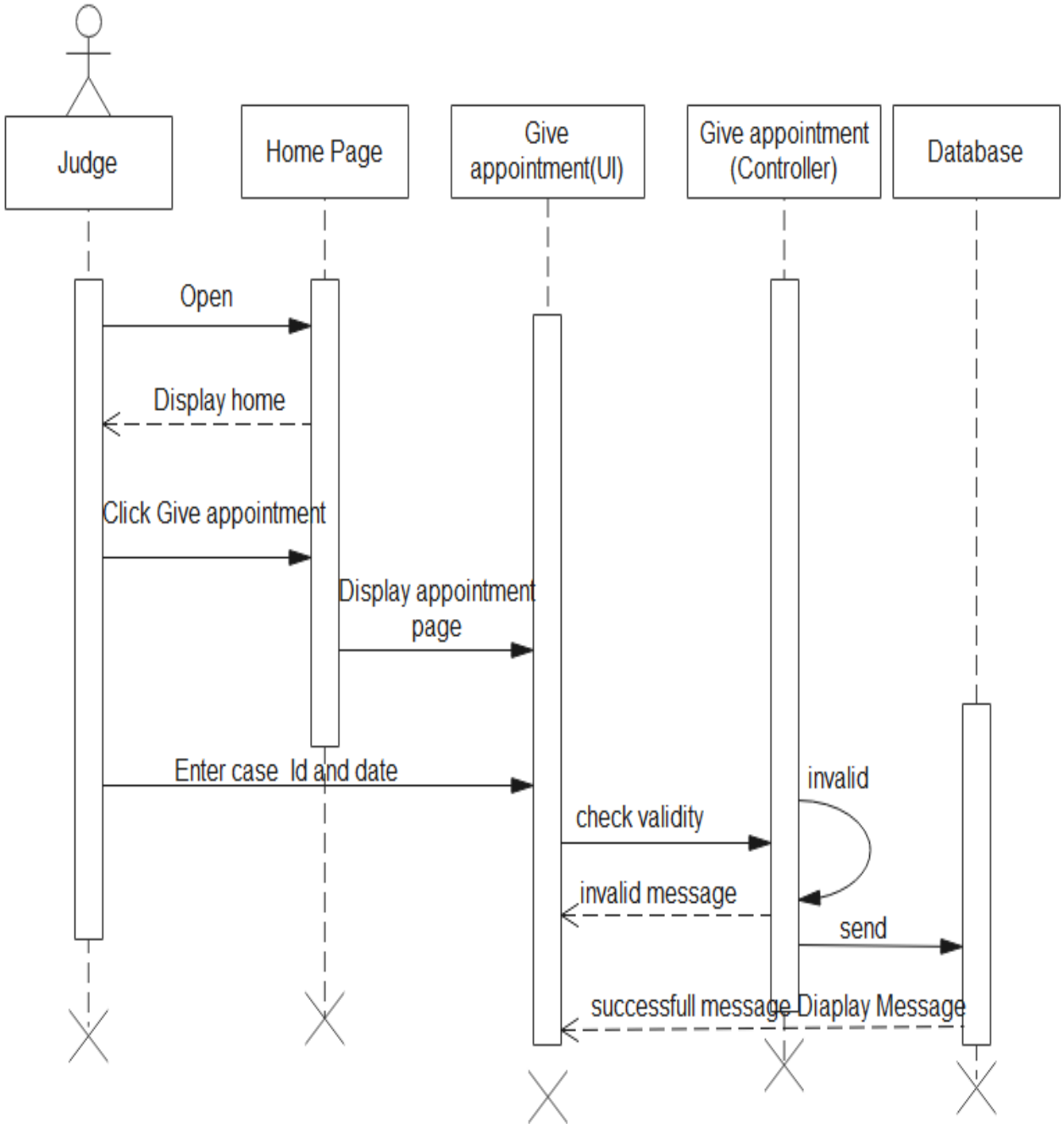

Figure 10. Sequence diagram for Give appointment

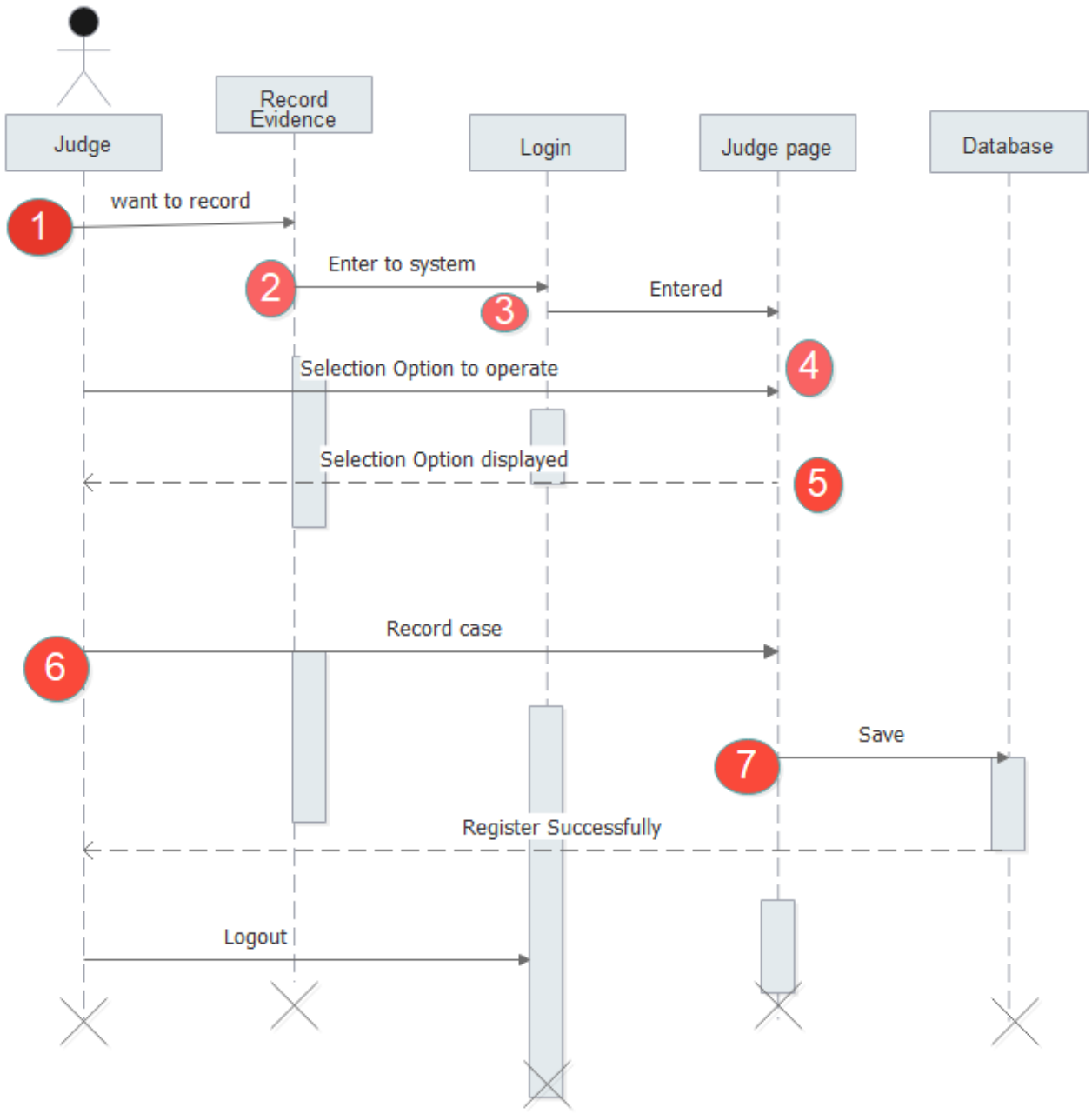

Figure 11. Sequence Judge process for Record evidence

4.3.2. Activity diagram

Activity diagram is another important diagram in UML. The basic purpose of activity diagram is to show the message flow from one object to another activity. An action is indicated on the activity diagram by a capsule shape or container shape or shell shape.

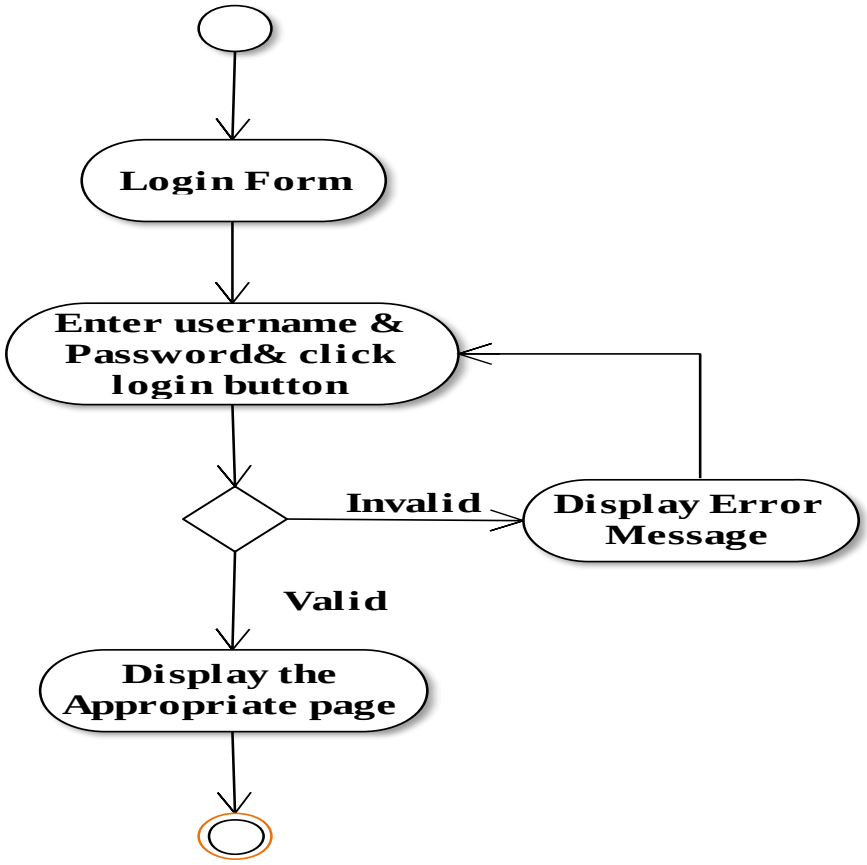

Figure 12. Activity diagram for login

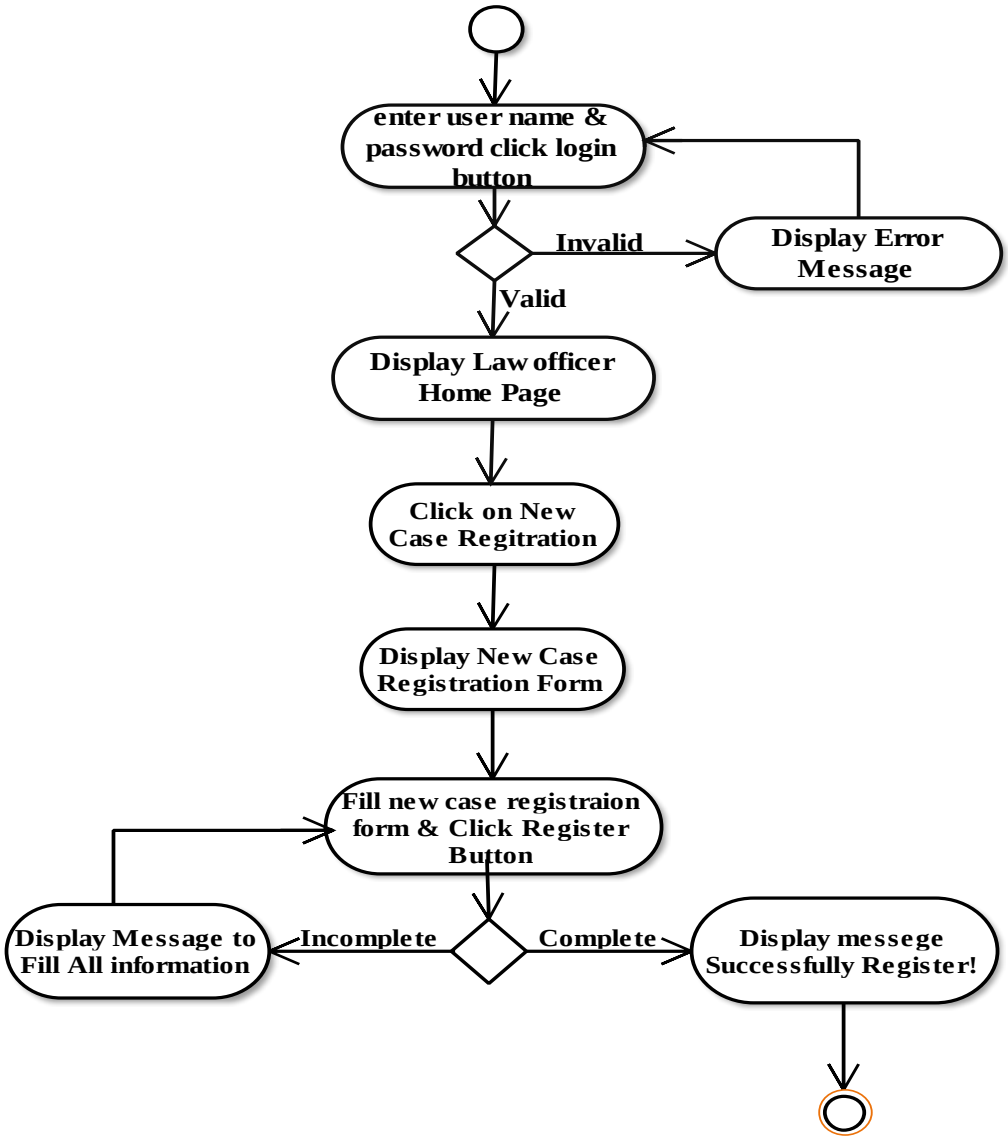

Figure 13. Activity Diagram for New Case Registration

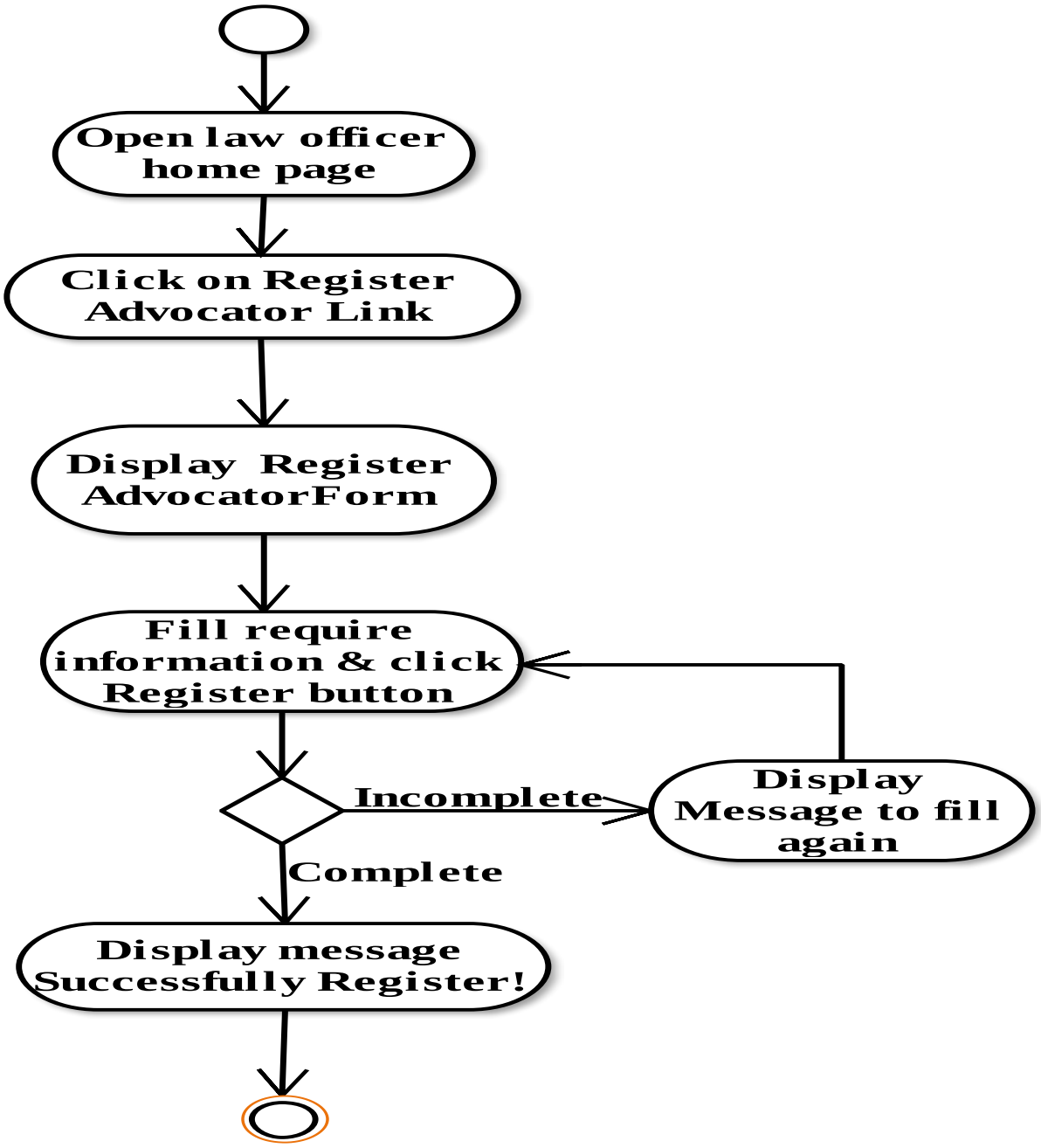

Figure 14. Activity Diagram for Advocator Registration

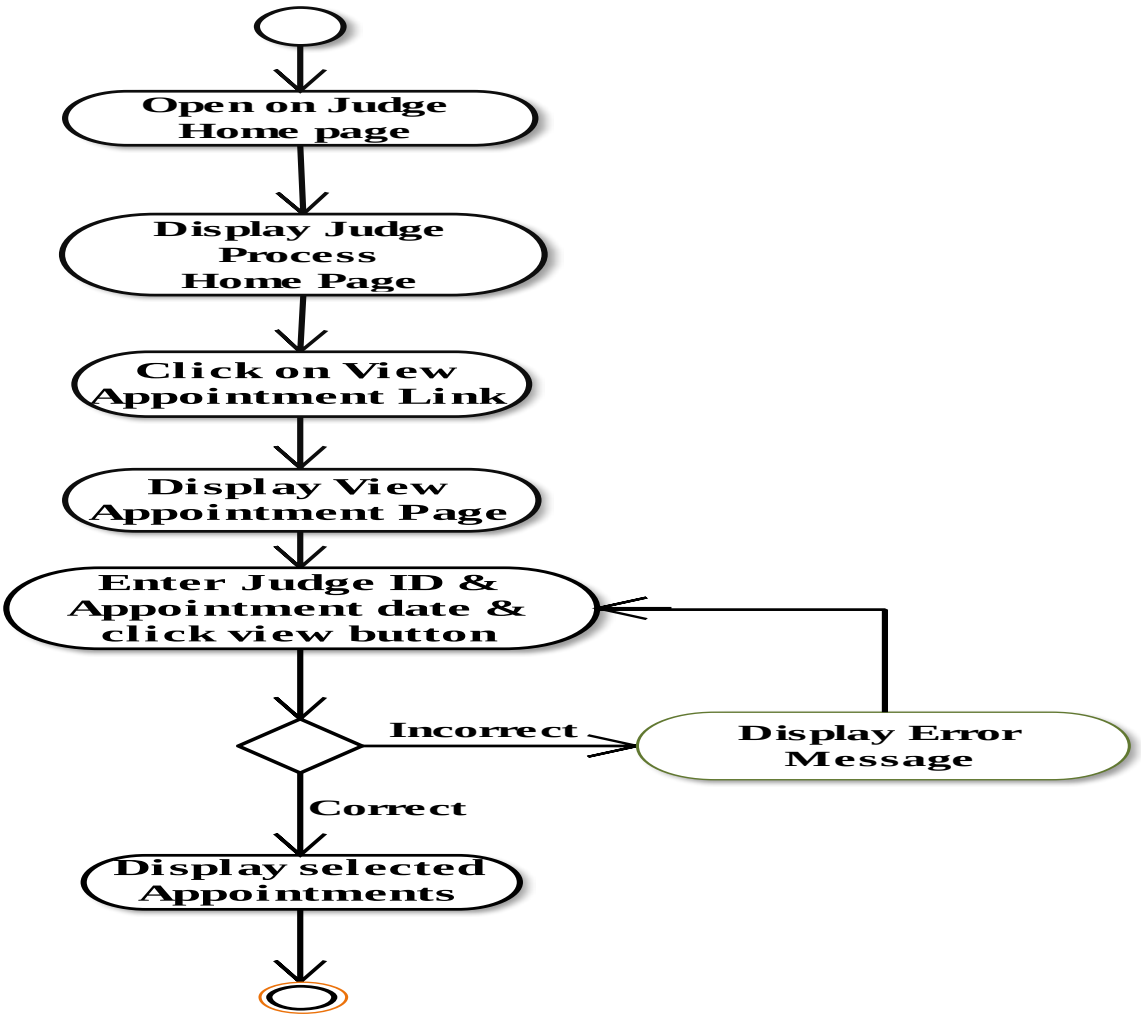

Figure 15. Activity Diagram give appointment

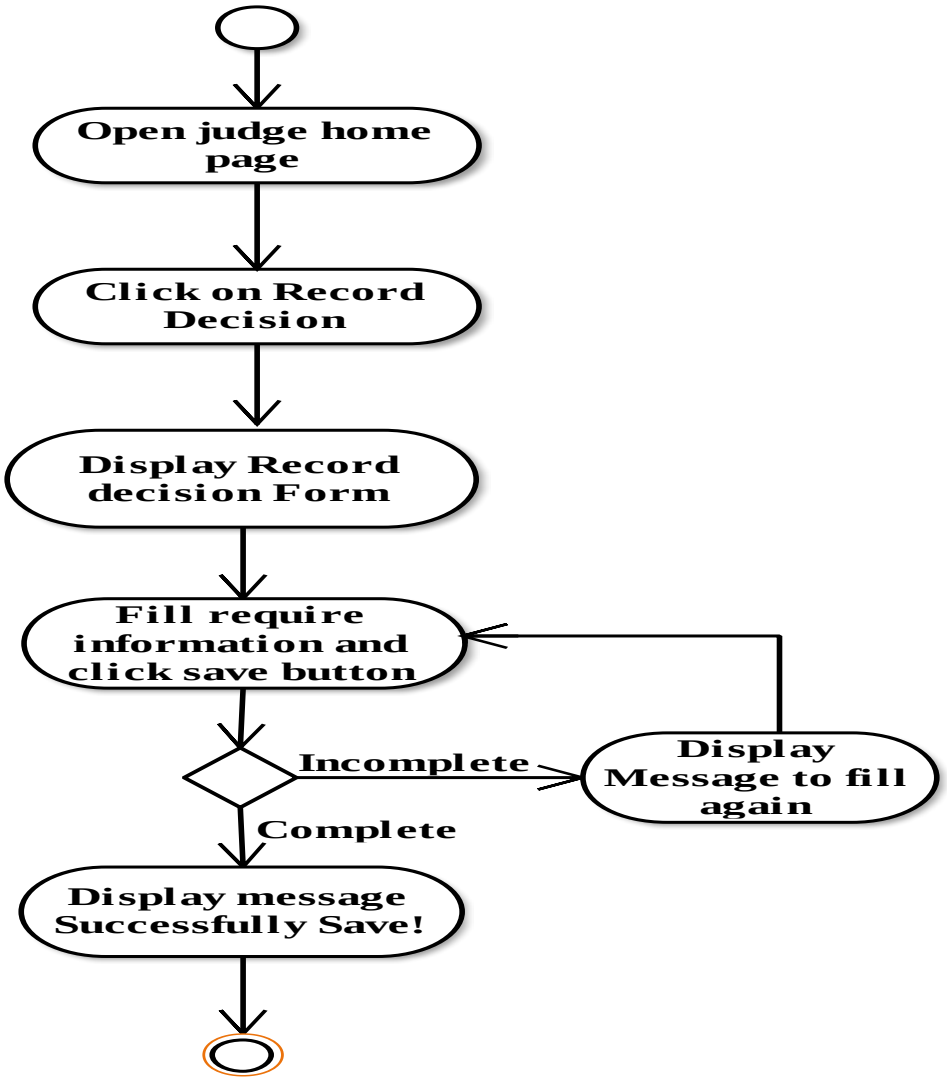

Figure 16. Activity Diagram for Record Decision

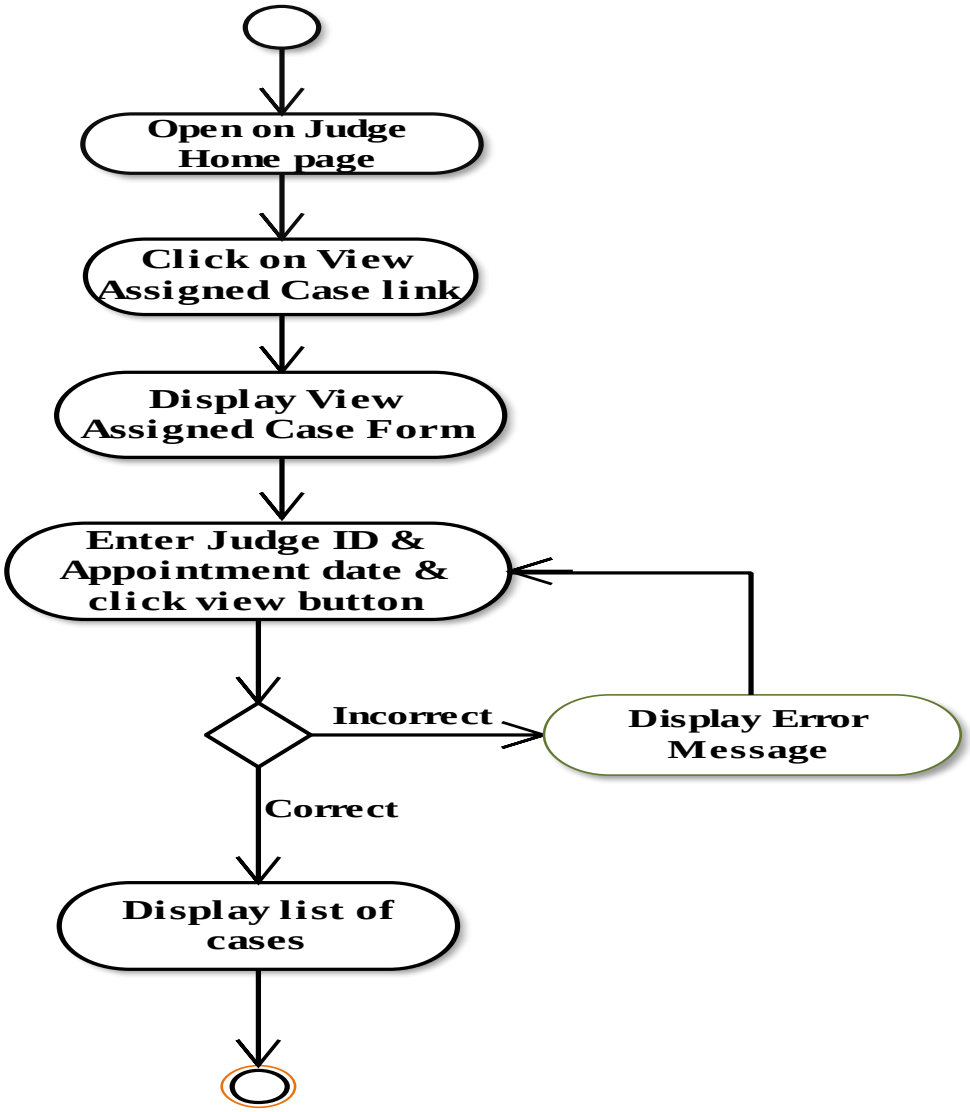

Figure 17. Activity Diagram for View Assigned Case

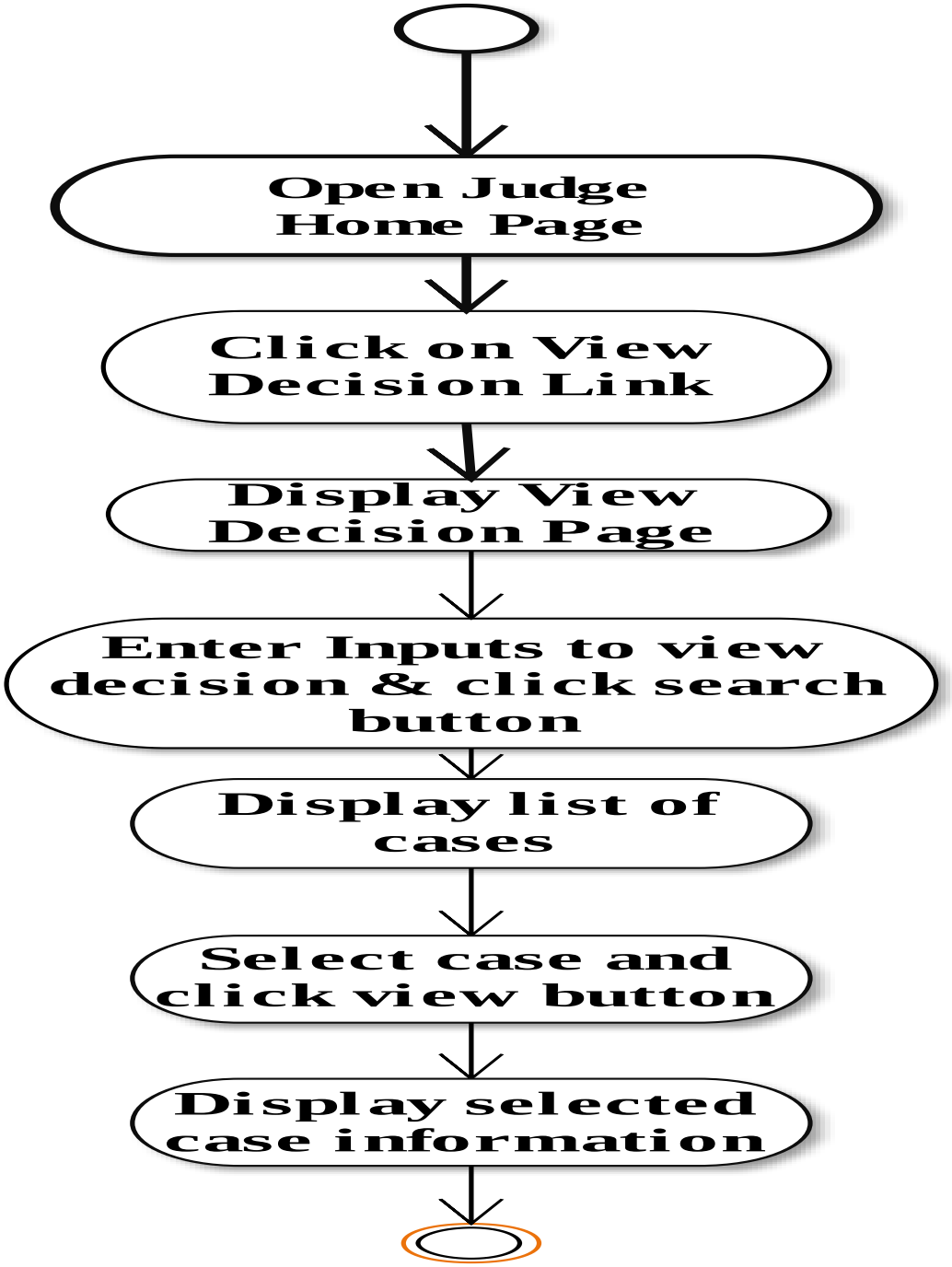

Figure 18. Activity Diagram for View Decision

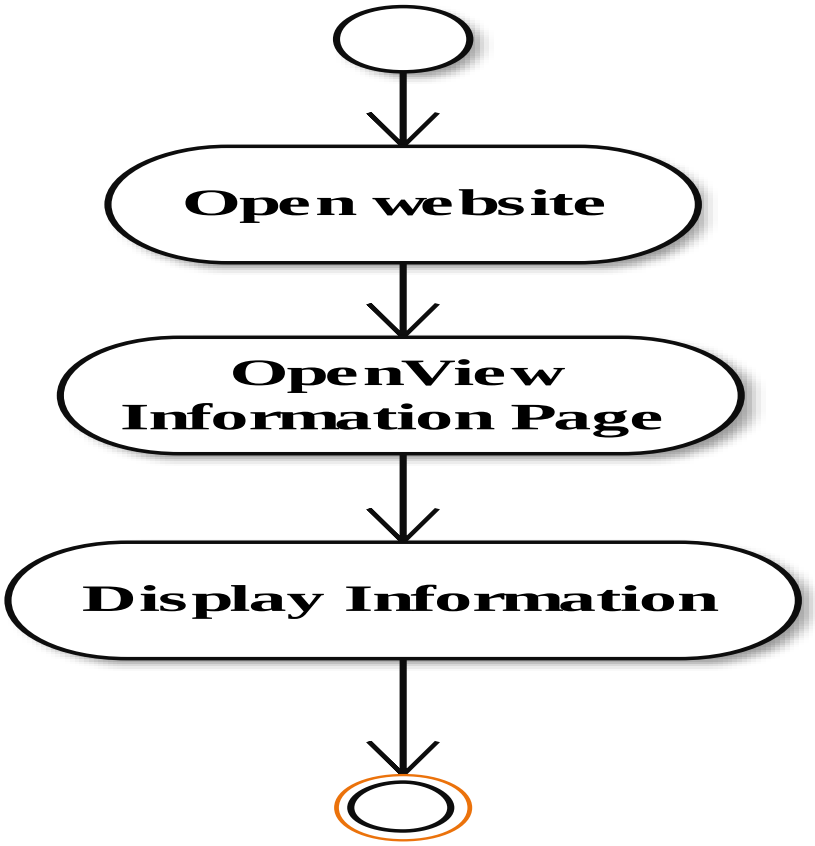

Figure 19. Activity Diagram for View Information

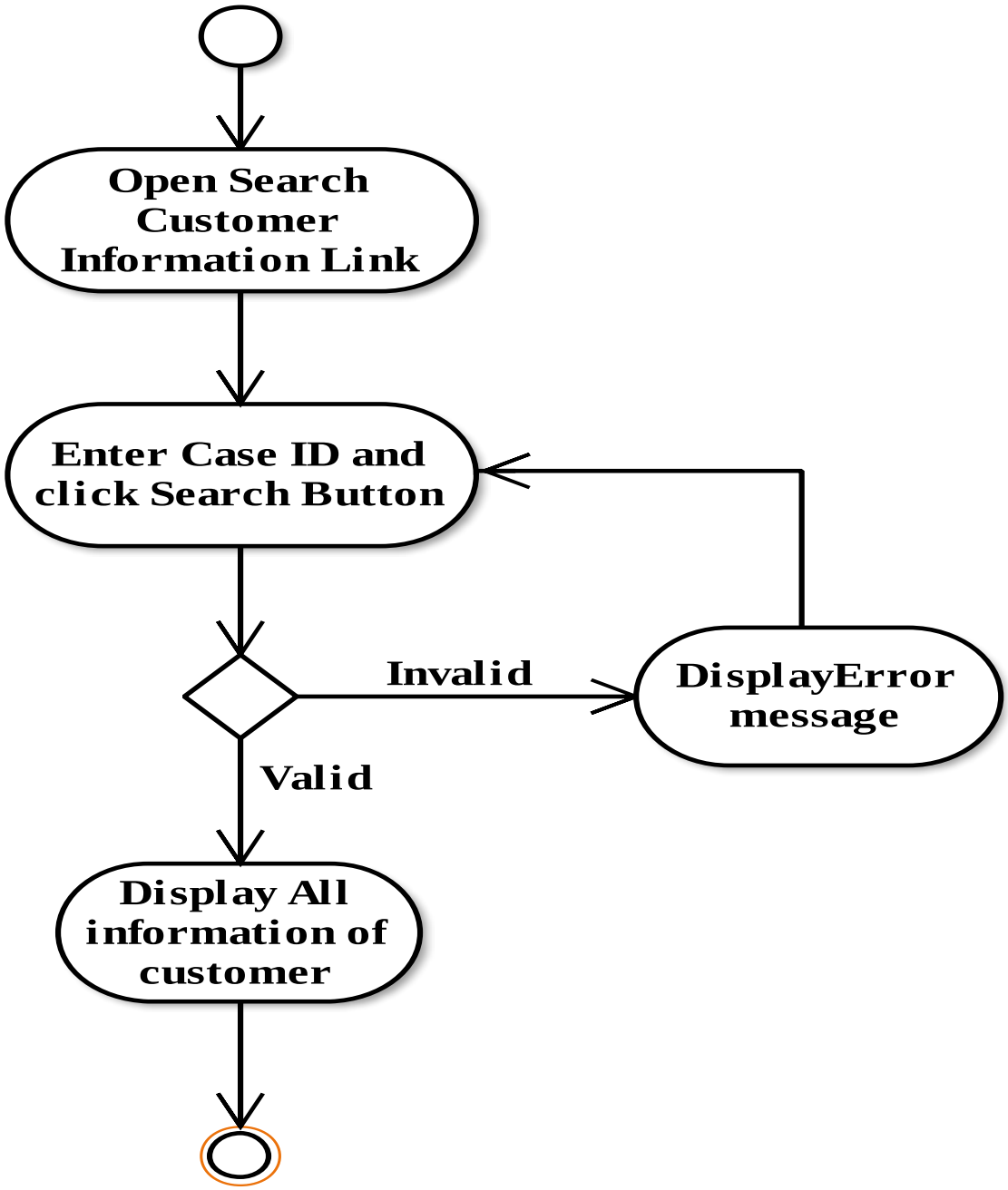

Figure 20. Activity Diagram for Search Customer Information

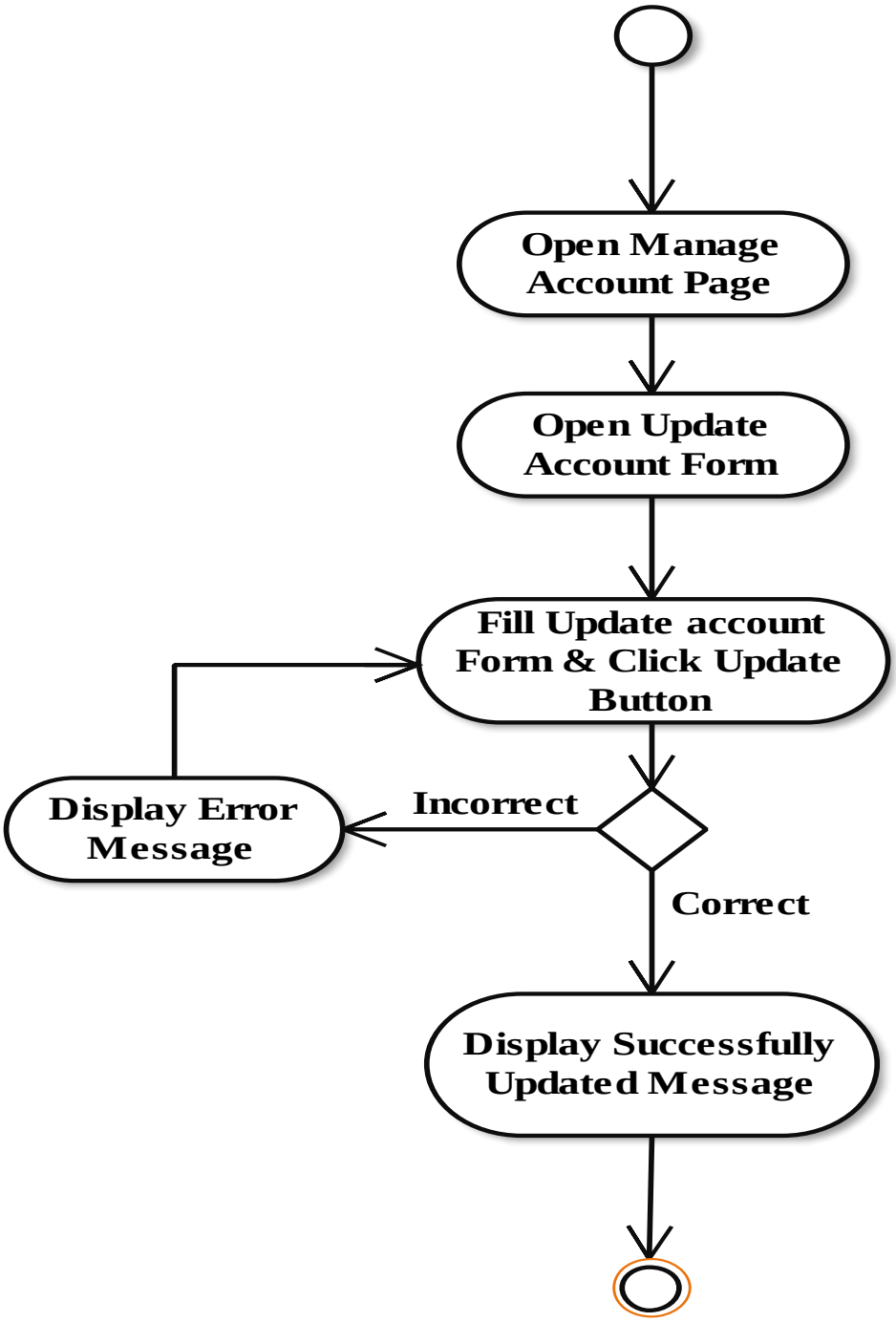

Figure 21. Activity Diagram for Update Account

4.3.3. State Chart Diagram

State Chart Diagram is an illustration of the states an object can attain as well as the transitions between those states in the Unified Modeling Language (UML). State chart diagram describes the flow of control from one state to another state. States are defined as a condition in which an object exists and it changes when some event is triggered. In our project we have listed below some states that can be covered during the user interacts with the system.

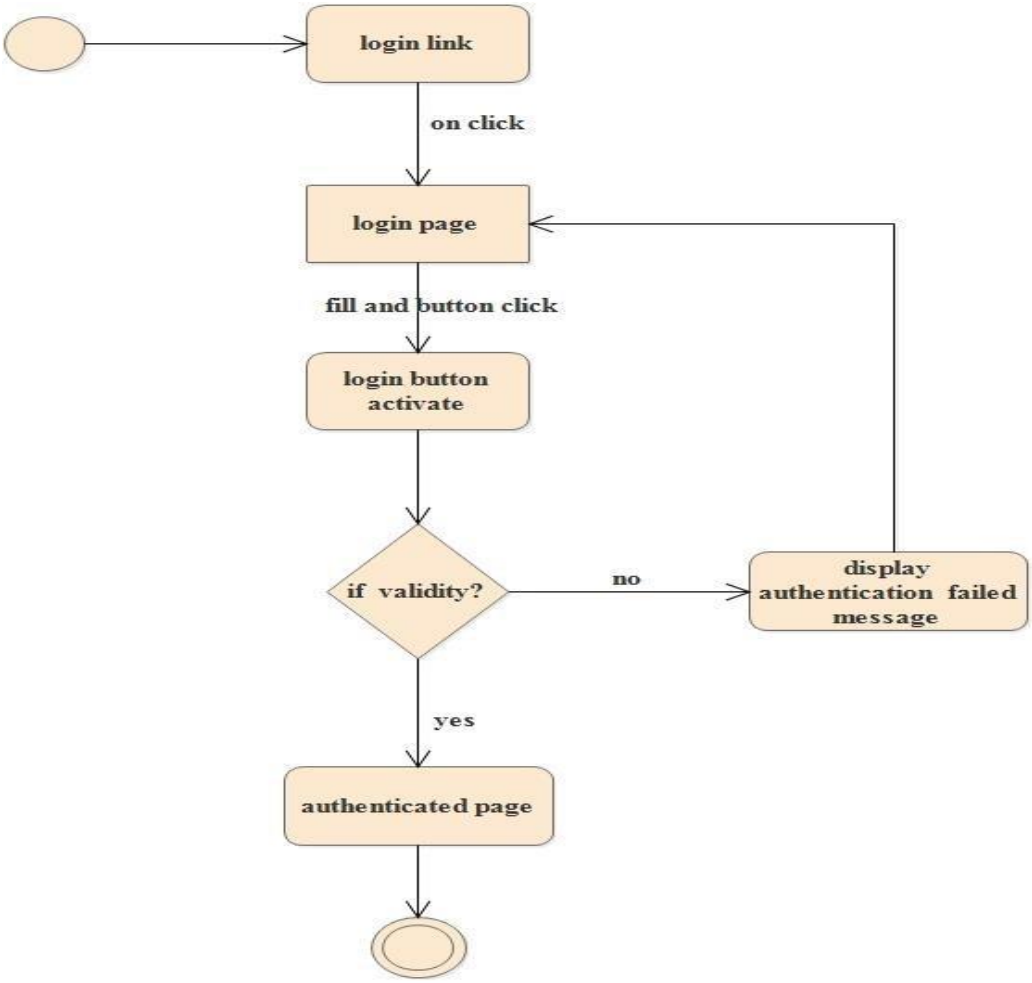

Figure 22. State chart diagram for login use case

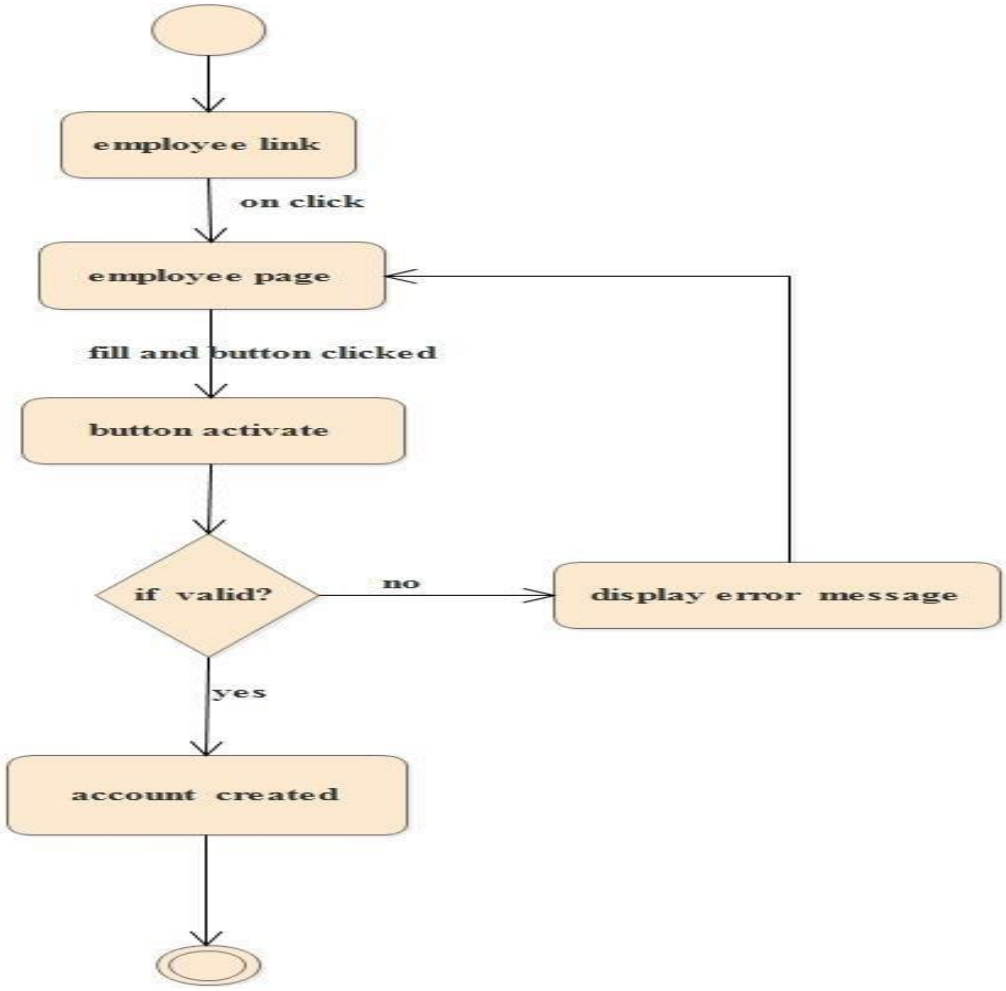

Figure 23. State chart diagram for create account use case

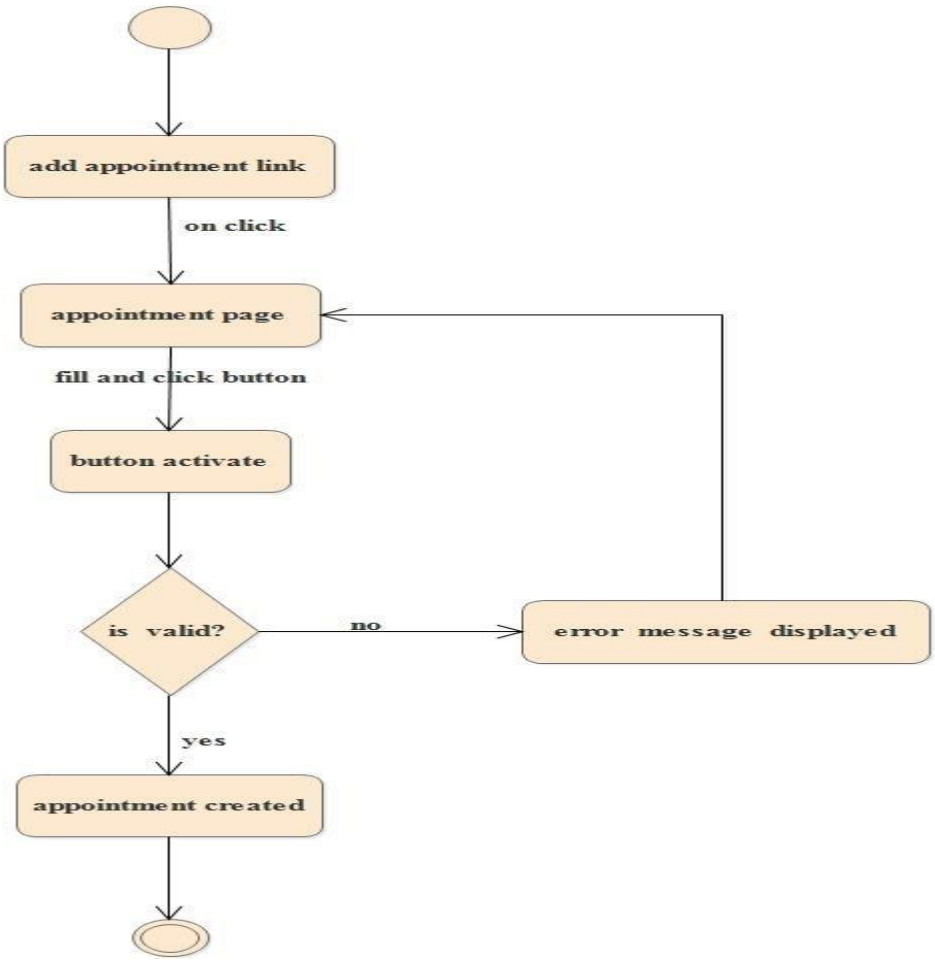

Figure 24. State chart diagram for give appointment use case

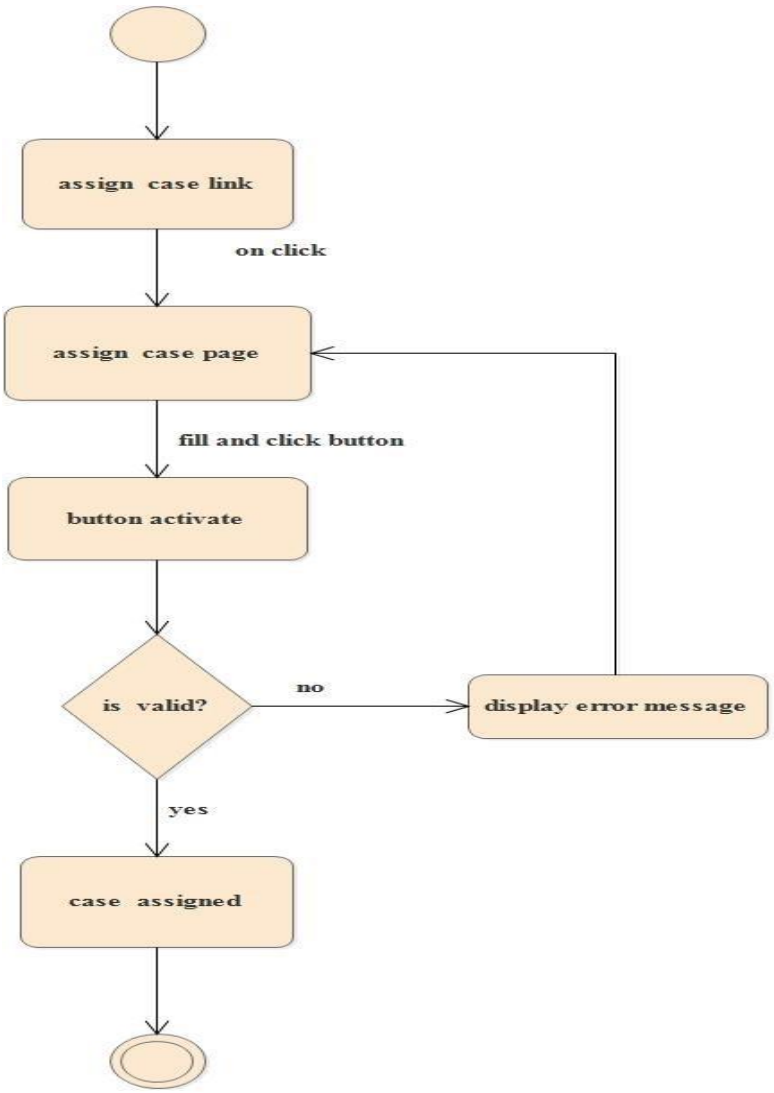

Figure 25. State chart diagram for assign use case

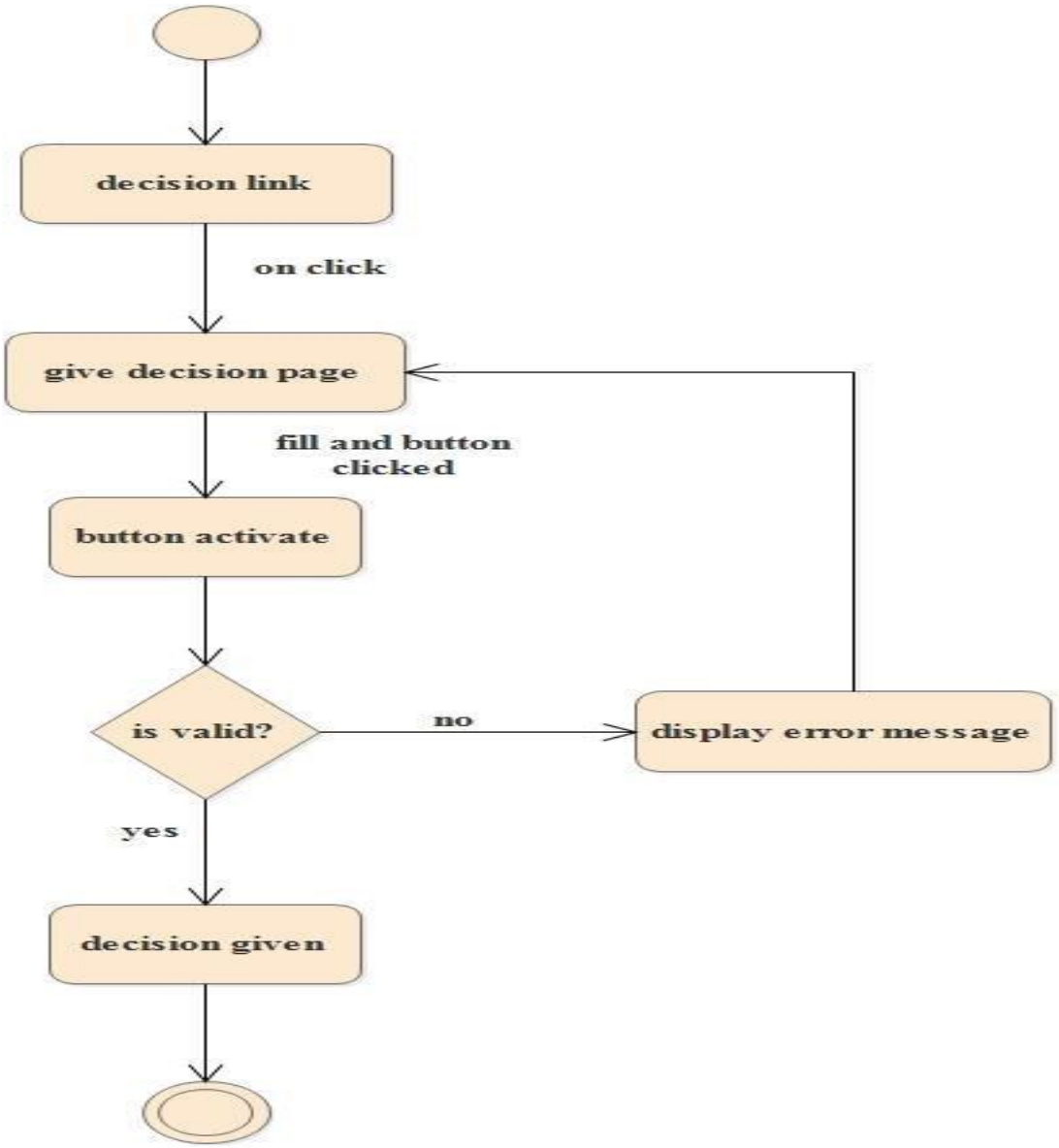

Figure 26. State chart diagram for give decision use case

CHAPTER 5

5. SYSTEM DESIGN

The system that we are going to be developed assures the requirements of the organization by ensuring different activities through web based systems. The system provides different authenticate page for different users and requires each individual actor username and password in order to view their privilege. However, to see the information about the internal structure of the system and the system design will be discussed in this phase.

5.1. Design Goals

Design goals are targets for design work we are going to develop. Design goals are specified by stakeholder by making many criteria consideration. Since non-functional requirement is the description of the feature characteristics and attribute of the system as well as any constraints that may limit the boundary of the proposed system, the design goals are derived from nonfunctional requirements. Below we have mentioned our design goals:

- Performance and portability

Our system has best performance. It has fast speed when any user is using it in order to do privileged thing, also it has good responsiveness and stability. This leads to user satisfaction in our system because they will not annoy and get bothered when using our system rather they will do what they want. Also our system can be used in any operating systems other than the one in which it was created (i.e. windows) without requiring major rework so that it can run in the new environment.

- Dependability

Our system needs to be highly dependable. Our system is robust and fault tolerant. Our system is handling sensitive data, high emphasis given with regards to security. The proposed system should achieve the following dependability characteristics:

Security: the system should be secured, i.e., not allow unauthorized users to access the database system.

Reliability: the information provided by the system is as reliable as it is presented on the web page interface, and this is maintained by the persistent database.

Robustness: Since the system is a web-based system that mainly uses a menu driven access there would not be an input problem by the user side. But for the server side there might be an error during the process of entering a data. In this time the system will provide an error page and the system will continue without failure or affection.

Availability: -as long as there is an internet connection the system will be available always.

- **Maintainability**

In time of failure or need modification the system needs to be maintained. To be maintainable the system should meet the following maintenance criteria.

Modifiability: - If in the system, some functionality requires to be modified, this modification must be done specifically to that function or page without affecting the overall system organization.

Extensibility: - If it is needed to add new functionality to the system, this must be achieved by only making a separate page and integrate this page with the existing system.

5.1.2. Priorities of Design Goal

- **Performance vs. portability**

The system selects performance compares to portability but this does not mean our system perform its task with only large sized devices system. It has fast speed when any user is using it in order to do privileged thing, also it has good responsiveness and stability. Also it performs its operation without depending specific type of operating system as a result of this users can install the system any place where ever it needed without bother a kind of plate form, they going to use.

- **Functionality vs. Usability**

The system favors usability compared to functionality yet it doesn't its mean proper functionality. Rather the developing team will endeavor to maintain the basic requirements of the system along with high usability. The system will avoid lavish functionalities, which are not a must for the system for the sake of encouraging basic system utilization.

- **Security vs. Usability**

Possible have lots of reason for selecting security instead of usability but again our system considers usability besides security. Relating security issues our system will drown line for each stakeholder which functionality of the system need to access by authenticate finally, record each users of the systems' they have done on that specific date, also securing data during transfer is one of task our system handles additional to others security matter.

5.2. Proposed System Architecture

We will use three tier client server architectures; we choose this architecture because of the following.

- As each layer is independent, it is possible to enable parallel development of each tier by using different sets of developers.
- Since application layer is between the database layer and presentation layer so database layer will be more secure and the client will not have direct access to the database.
- Posted data from presentation layer can be verified or validated at the application layer before updating it to the database.

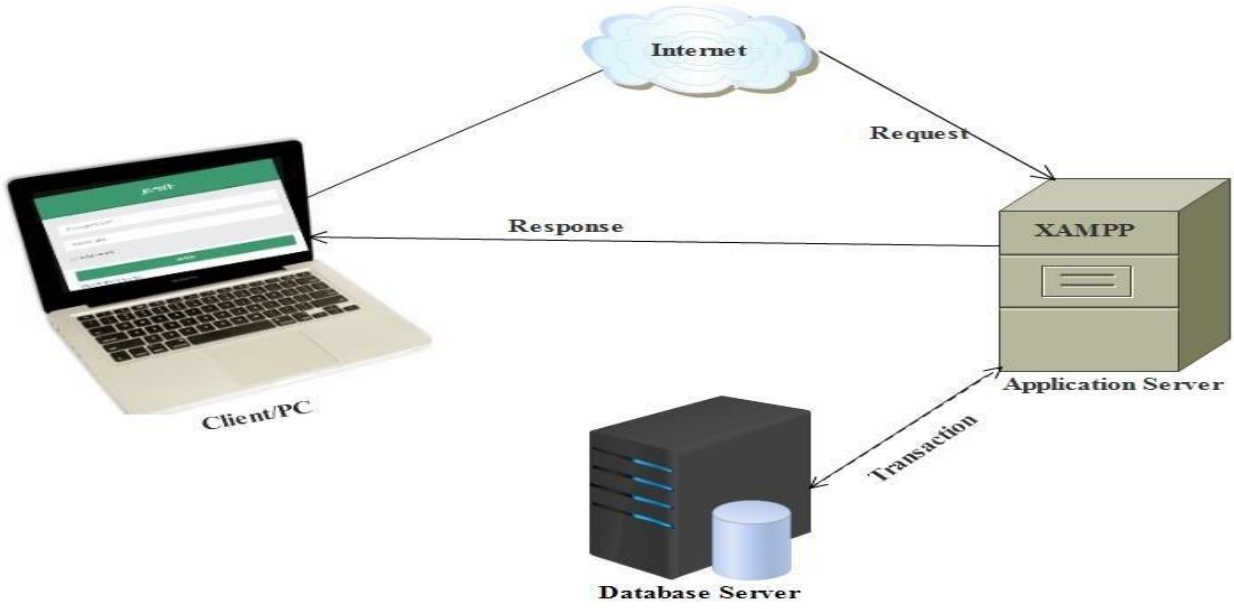

Figure 27. Three tier client server architecture

5.2.1. Subsystem Decomposition and Description

The subsystem is where work is processed on the system. A subsystem is a single, predefined operating environment through which the system coordinates the work flow and resource use. The system can contain several subsystems, all operating independently of each other. Subsystem decomposition is the process of dividing the system in to manageable subsystems from the analysis model of the proposed system. The goal of the subsystem decomposition is to reduce the complexity of design model and to distribute the class of the system in to large scale and cohesive subsystems. The different subsystems of a system are likely to interact while the system is in operation to provide the service expected of the system. We have depicted our system subsystems below using table.

Actors	Actors role
Administrator	Login to the system Mange account • Create account • Update account • See activate and deactivate file Generate report • Write Report • Update Report • Search customer information Post Advocator • Post Advocator page View • View user Account • View appeal • View comment • View report • View Register

	• Forget Password Logout
Law officer	Login to the system Registration: • Register Advocator • Register accuser • Register defender Generate report • Write report • Update report • Search customer information Assign case • Assign case • Send appeal Post notice • Write notice for the customers/organizations View • View report • View Accuser • View comment • View Defender

	• View Advocator • View witness Logout
Judge	Login to the system Search customer information Record • Record decision • Record evidence Gives Appointment • Give appointment page View • View appointment • View assigned case • View comment • View Report • View evidence • View decision Change password Logout
Customer	login View information view comment View appointment View decision Logout

Table 19. Subsystem Decomposition

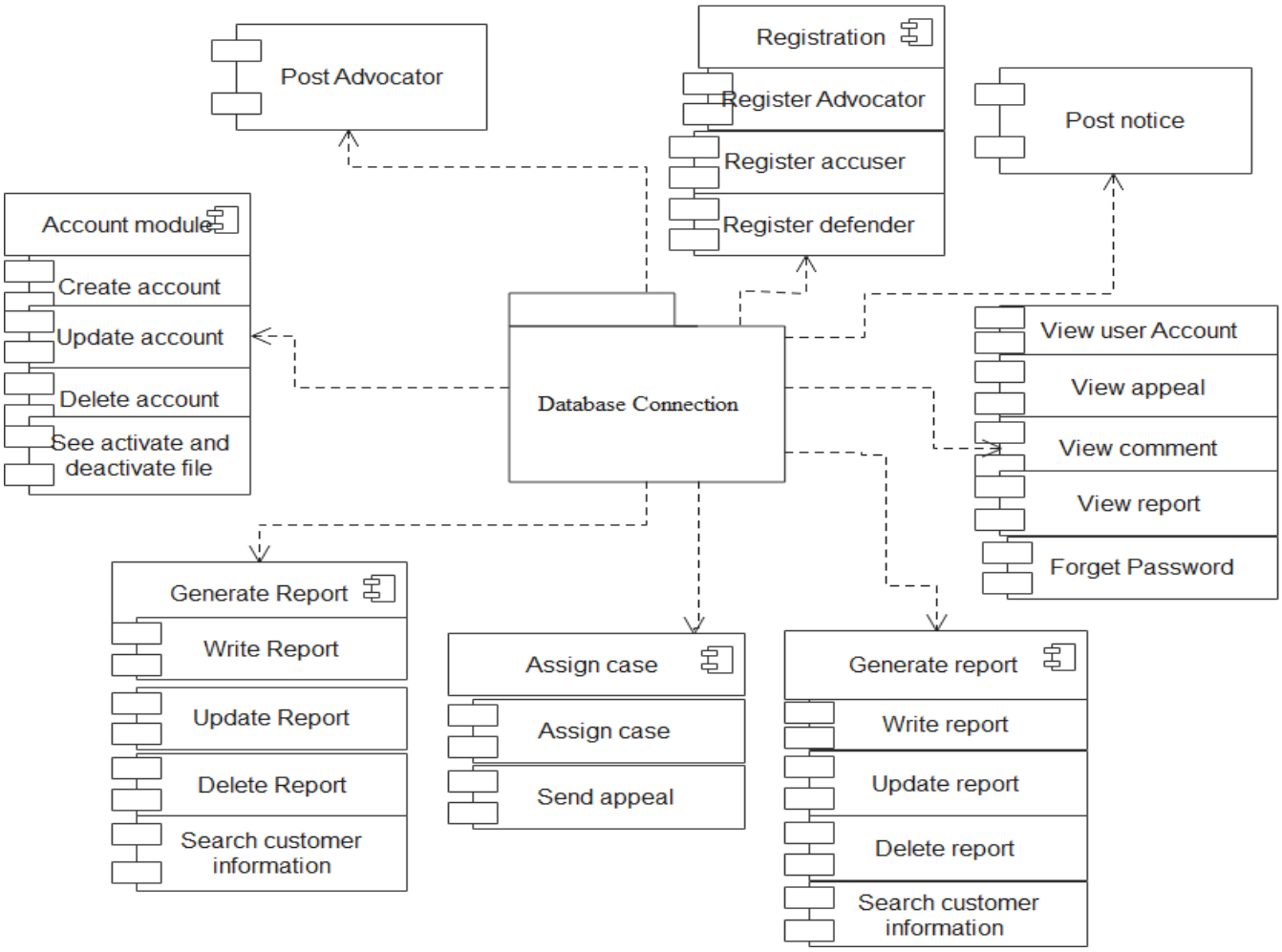

Figure 28. Subsystem Decomposition

5.2.2. Hardware/Software Mapping

Deployment diagram is a structure diagram which shows architecture of the system as deployment (distribution) of software artifacts to deployment targets. Deployment diagram depicts a static view of the run-time configuration of processing nodes and the components that run on those nodes. In other words, deployment diagrams show the hardware for your system, the software that is installed on that hardware, and the middleware used to connect the disparate machines to one another. Artifacts represent concrete elements in the physical world that are the result of a development process. Examples of artifacts are executable files, libraries,

archives, database schemas, configuration files, etc. Deployment is usually represented by a node which is either hardware device or some software execution environment. Nodes could be connected through communication paths to create networked systems of arbitrary complexity. Deployment diagram created for applications that are deployed to several machines. It also shows how the software and the hardware components work together. Deployment diagram used to show the hardware of the system, the software that is installed in the hardware and also the middleware that is used to connect the disparate machines to one and other. It also shows how the software and hardware components of the system work together. The figure below shows the deployment diagram of our system.

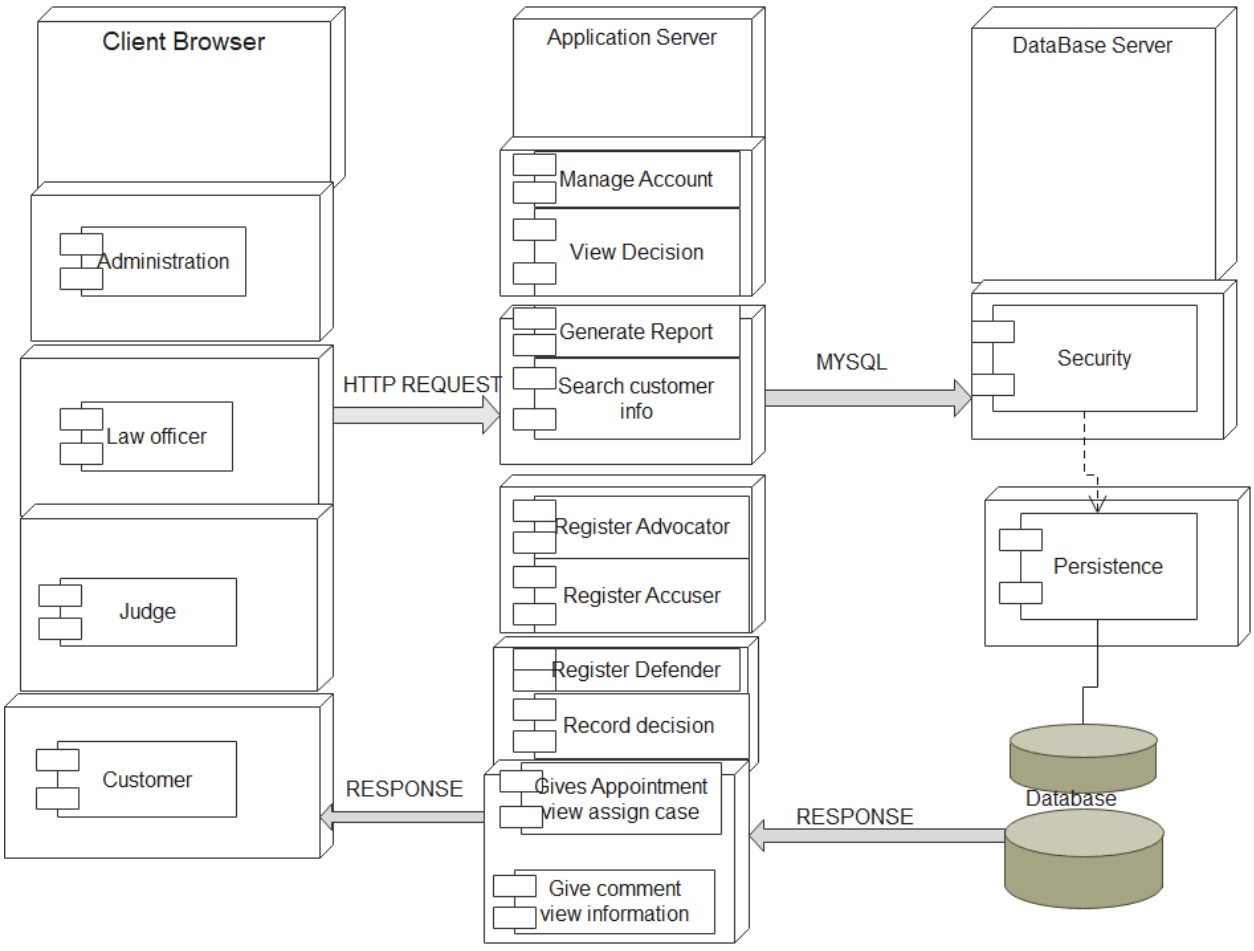

Figure 29. Deployment diagram

5.2.3. Detailed Class Diagram

Detail class diagram is class diagram that include attributes, methods, attribute data types, visibility of attributes and methods, inheritance, association, aggregation, composition, dependency, and municipality (cardinality and optimality. Below we have depicted our project class diagram figure.

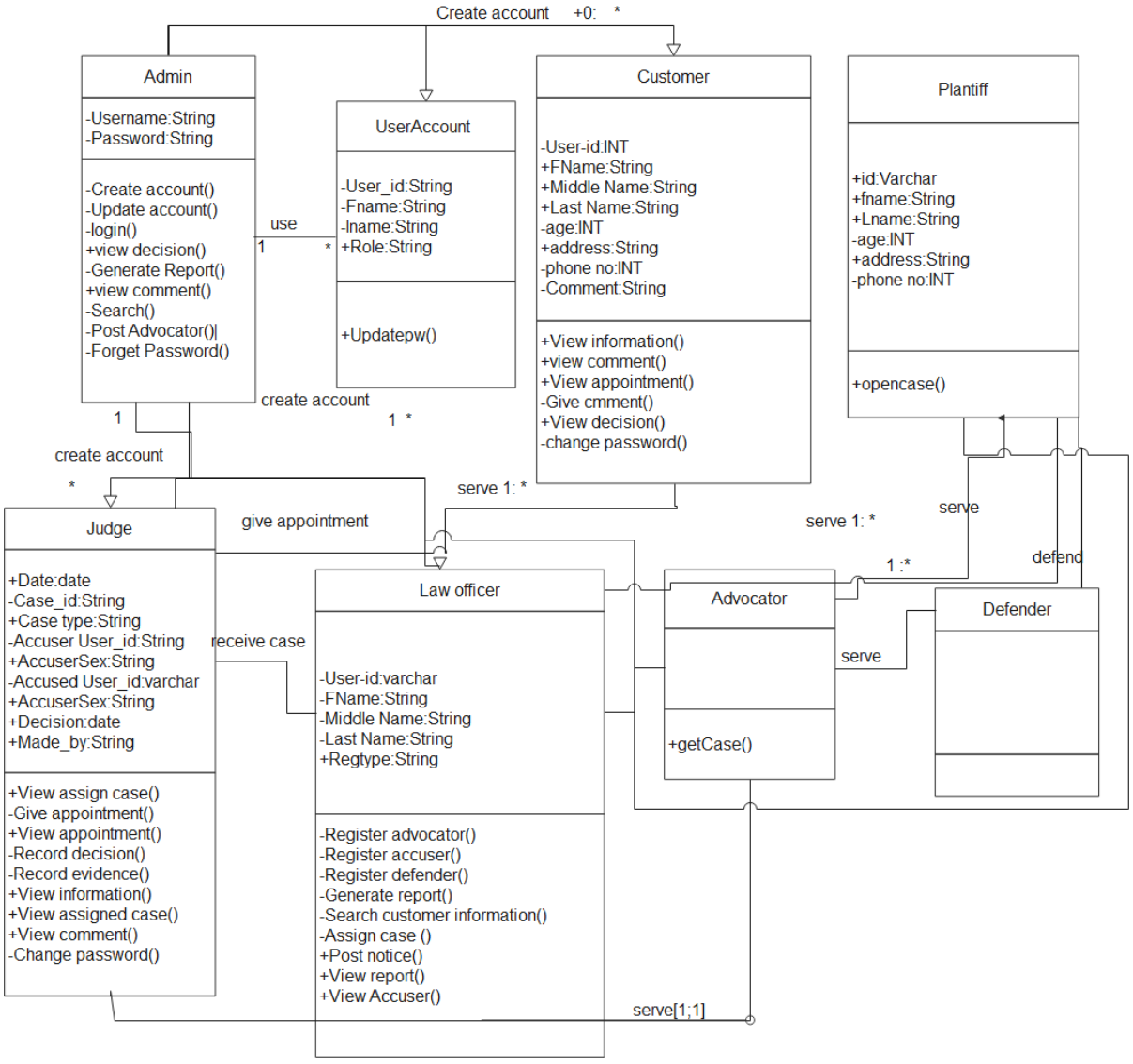

Figure 30. Class Detail Diagram

5.2.4. Persistent Data Management

Persistent data management deals with how the persistent data (file, database) are stored and managed and it outlives a single execution of the system. Information related to court basic information, case registration, judicial processes, record decision and management information produced and other related information is persistent data and hence stored in a database management system. This allows all the programs that operate on the Wolkite court management data to do consistently.

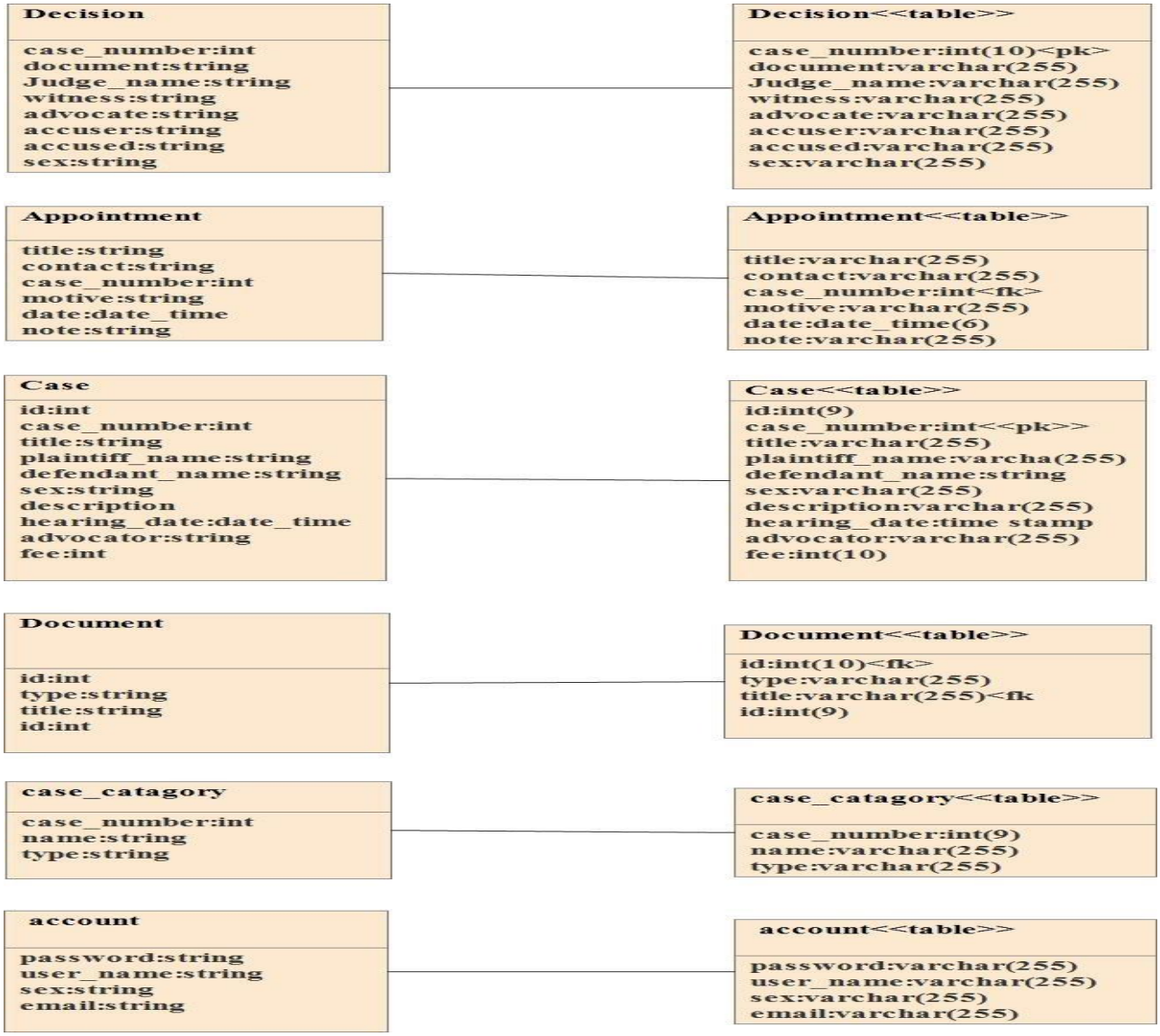

Figure 31. Persistent Data Diagram

5.3. Access Control and security Policy

Access control is way of enabling & limiting access to a system or to physical or virtual resources according to access level. A control is a process by which users are denied access to the system or granted access and certain privileges to systems, resources or information. When the user can login, the user will be authenticated and then authorized access to the system.

Table 20. System access control

Use case	Administrator	Judge	Law officer	Customer
Create account	✓			
Update account	✓			
Delete Account	✓			
Active and Deactivate file	✓			
New case registration			✓	
View decision	✓		✓	✓
View appointment		✓	✓	✓
Give appointment		✓		
Give comment				✓
Generate report	✓		✓	
Register advocator			✓	
Record decision		✓		
View information				✓
View assigned case		✓		

5.4. Packages

Package is an organized and functionality-based set of related interfaces and classes. Packages organize classes that belong to the same category or provide similar functionality.

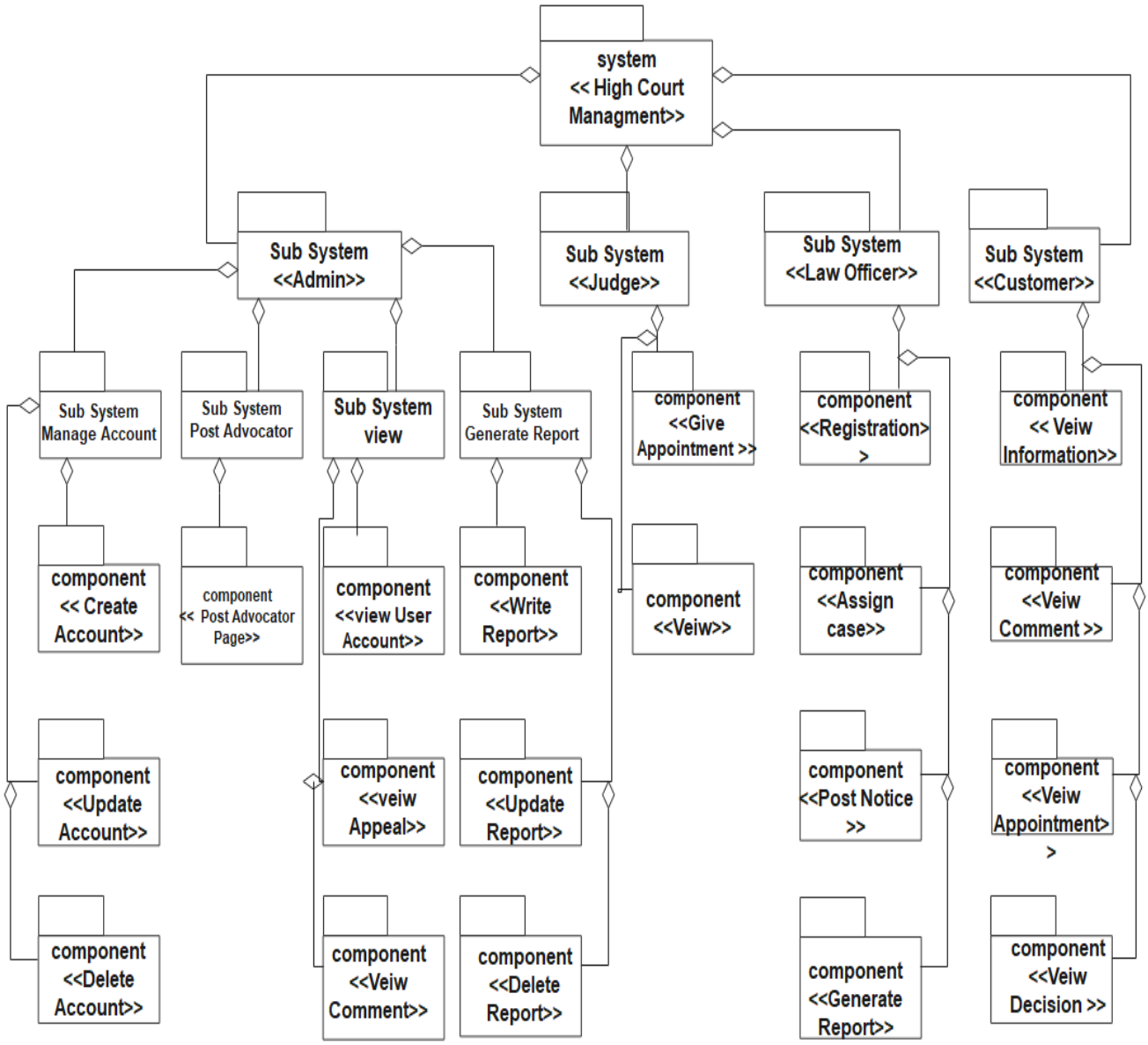

Figure 32. Package Diagram

5.5 User Interface Design

The goal of user interface design is to make the user's interaction as simple and efficient as possible, in terms of accomplishing user goals (user-centered design) so in our project we have designed sample of the user interfaces that increase the user experience.

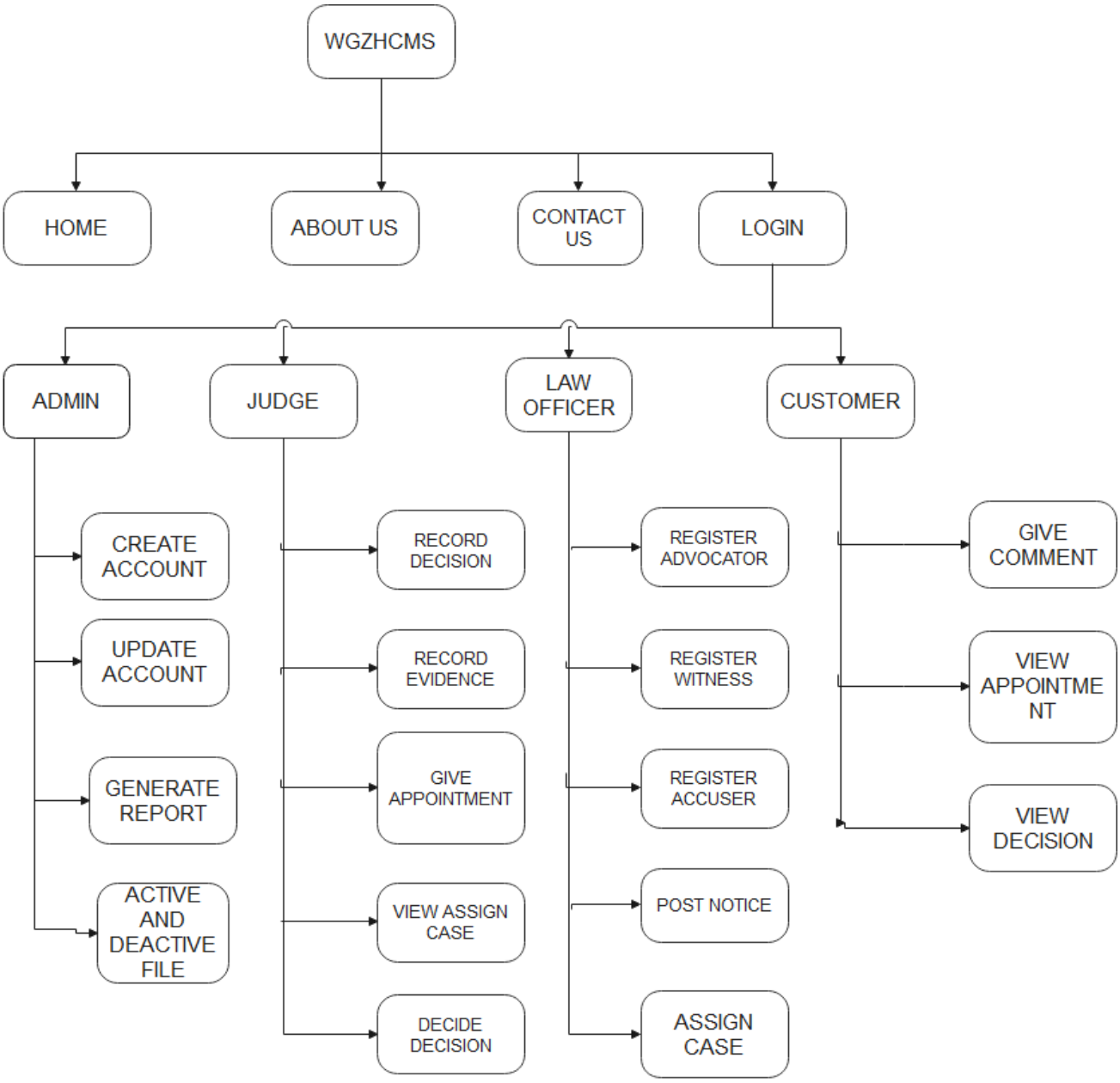
WGZHCMS
HOME
ABOUT US
CONTACT US
LOGIN
ADMIN
JUDGE
LAW OFFICER
CUSTOMER
CREATE ACCOUNT
UPDATE ACCOUNT
GENERATE REPORT
ACTIVE AND DEACTIVE FILE
RECORD DECISION
RECORD EVIDENCE
GIVE APPOINTMENT
VIEW ASSIGN CASE
DECIDE DECISION
REGISTER ADVOCATOR
REGISTER WITNESS
REGISTER ACCUSER
POST NOTICE
ASSIGN CASE
GIVE COMMENT
VIEW APPOINTMENT
VIEW DECISION

Figure 33. user Interface Diagram

CHAPTER SIX

6. IMPLEMENTATION AND TESTING

6.1 INTRODUCTION

This chapter consists of implementing the requirements and designed the implementation (code). We used latest and simple technologies to implement this project such as PHP for script and HTML and JavaScript to implement the beautiful interfaces and MYSQL Server for the database. The interfaces designed based on the use cases and the database based on our class diagram that has been designed. The implementation document enables the user (society) as well as the administrator to work with the system and to use the application efficiently and effectively. It helps users not to be confused with the system. It includes sample snapshot and some selected fragment code. It gives the users a brief over view of the system.

6.2 Implementation of the Database

We implemented databases of the system based on the class diagram that we have designed and MYSQL for the database implementation. The system which we implemented involves in the central database system that accessing and storing runs on the server or localhost computers. The most advantage of centralized system is for security and the ability to handle enormous amount of storage of data on storage devices. Coding is the process whereby the physical design specification created by the designers is turned in to working computer code by the programmer. Modern language that used is Hypertext Preprocessor (PHP) and WAMPSERVER. The code is made simple in such a way that another programmer can easily understand and work using the WampServer.

-- phpMyAdmin SQL Dump

-- version 3.3.9

-- http://www.phpmyadmin.net

-- Host: localhost

-- Generation Time: Aug 23, 2021 at 10:44 AM

-- Server version: 5.5.8

```
-- PHP Version: 5.3.5

SET SQL_MODE="NO_AUTO_VALUE_ON_ZERO";

CREATE TABLE IF NOT EXISTS `useraccount1` (
  `fname` varchar (20) NOT NULL,
  `lname` varchar (20) NOT NULL,
  `password` varchar(20) NOT NULL,
  `userid` varchar(20) NOT NULL,
  `role` varchar(20) NOT NULL,
  PRIMARY KEY (`userid`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Dumping data for table `useraccount1`

INSERT INTO `useraccount1` (`fname`, `lname`, `password`, `userid`, `role`) VALUES

CREATE TABLE IF NOT EXISTS `register` (
  `date` date NOT NULL,
  `case_id` varchar(43) NOT NULL,
  `case_type` varchar(43) NOT NULL,
  `user_id` varchar(45) NOT NULL,
  `fname` varchar(45) CHARACTER SET utf8 NOT NULL,
  `mn` varchar(45) NOT NULL,
  `lname` varchar(45) NOT NULL,
  `sex` varchar(34) NOT NULL,
  `age` int(20) NOT NULL,
  `martial` varchar(23) NOT NULL,
```

```
  `nationality` varchar(43) NOT NULL,
  `religion` varchar(43) NOT NULL,
  `nation` varchar(43) NOT NULL,
  `zone` varchar(43) NOT NULL,
  `woreda` varchar(43) NOT NULL,
  `city` varchar(43) NOT NULL,
  `kebele` varchar(43) NOT NULL,
  `house_no` varchar(43) NOT NULL,
  `phone_no` varchar(43) NOT NULL,
  `job` varchar(43) NOT NULL,
  PRIMARY KEY (`case_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

-- Dumping data for table `register`

INSERT INTO `register` (`date`, `case_id`, `case_type`, `user_id`, `fname`, `mn`, `lname`, `sex`, `age`, `martial`, `nationality`, `religion`, `nation`, `zone`, `woreda`, `city`, `kebele`, `house_no`, `phone_no`, `job`) VALUES
```

6.3 Implementation of the Class Diagram

```
<? php
 session_start();
 if(isset($_SESSION['validuser']))
 {
  $username=$_SESSION['validuser'];
 } else { ?>
 <?php
 }
```

```
 ?>
<?php
 //session_start();
 include("see.php");
?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en">
<head>
  <title>GURAGE ZONE HIGH COURT MANAGEMENT SYSTEM</title>
  <link rel="icon" type="image/png" href="Img/medo.jpg"/>
  <meta name="description" content="free website template" />
  <meta name="keywords" content="enter your keywords here" />
  <meta http-equiv="content-type" content="text/html; charset=utf-8" />
  <meta http-equiv="X-UA-Compatible" content="IE=9" />
  <link rel="stylesheet" type="text/css" href="css/style.css" />
  <script type="text/javascript" src="js/jquery.min.js"></script>
  <script type="text/javascript" src="js/image_slide.js"></script>
  <style type="text/css">
  </style>
</head>
<body>
  <div id="main">
```

```
   <div id="header">

    <img width="1200" height="120" src="Img/court1.png" alt="image1" width="1201"
height="118"/></div>

          <div id="menubar">

    <ul id="menu">

             <li class="current"><a href="officer.php"><font
color="black">Home</font></a></li>

            <li class="current"><a href="offregist.php""><b><font
color="black">Registration</font></b></a></li>

                      <li class="current"><a href="studregist2.php""><b><font
color="black">register</font></b></a></li>

      </ul> </div><div id="site_content">

            <div class="sidebar_container">

                    <div class="sidebar">

        <div class="sidebar_item">

<body bgcolor=#9494B8>

<hr><hr>

 <font size="3"color ="green">             
                     
                 

 <?php

echo "<b>".date('l\, F jS\, Y ')."</b>";

?></font>

<br>
```

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     Related Links

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-webkit-border-radius:5px; -moz-border-radius:5px; border-radius:25px; -webkit-box-shadow:0 0 18px rgba(0,0,0,0.4);

-moz-box-shadow:0 0 18px rgba(0,0,0,0.4); box-shadow:0 0 18px rgba(0,0,0,0.4); margin-top:20px; color:#F00000;">

<form method='POST' action='insertnewcase.php' onsubmit='returnn formValidation()' enctype="multipart/form-data">

 Register form,fill the form correctly and save it to register

<img src="img/close_icon.gif">

<input type="hidden" name="role" id="name" value="<?php echo '4'; ?>" />

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<tr><td> * Date<td><input type="date" value="date" required x-moz-errormessage="Please Enter The Year In Year/Month/Date Format " title="Please Enter The Year In Year/Month/Date Format " name="date" id="date" size='20%' placeholder='Y/M/D' value=""/></td></tr><!--city==date-->

<!--<tr><td> * Procurement Office:</td><td><input type="text" pattern="\D{2,20}" required x-moz-errormessage="Please Enter Office Name " title="Please Enter The Office Name " name="offi" id="offi" size='20%' placeholder='Office Name'/></td></tr>-->

<tr><td> * case_id :</td><td><input type="text"pattern="\D{3,5}/\d{3}/\d{2}" required x-moz-errormessage="Please Enter case_id " title="Please Enter case_id" name="case_id" value="" size='20%' id="txt_pass" placeholder='ID'></input></td></tr>

<tr><td> * case type: </td><td> <select name="case_type" id="sch" required>

<option value=""></option>

<option>criminal</option>

<option>civil</option>

<option>others</option>

</select></td></tr><tr><td> * user_id :</td><td><input type="text"pattern="\D{3,5}/\d{3}/\d{2}" required x-moz-errormessage="Please Enter user_id " title="Please Enter user_id" name="user_id" value="" size='20%' id="txt_pass" placeholder='ID'></input></td></tr>

<tr><td> * first name :</td><td><input type="text" pattern="\D{2,10}" required x-moz-errormessage="Please Enter first name" title="Please Enter first name " name="fname" value="" size='20%' id="txt_fname" placeholder='Fname'></input></td></tr>

<tr><td> * middle name:</td><td><input type="text" name="mn" pattern="\D{2,10}" required x-moz-errormessage="Please Enter Middle Name " title="Please Enter Middle Name " size='20%' id="mn" value=" placeholder='mname' /></td></tr>

<tr><td> * last name:</td><td><input type="text" name="lname" pattern="\D{2,10}" required x-moz-errormessage="Please Enter last Name " title="Please Enter Last Name " size='20%' id="lname" value=" placeholder='lname' /></td></tr>

<tr><td> * sex:</td><td>

<select name="sex" required pattern="[a-zA-Z]+" required x-moz-errormessage="Please Enter sex " title="Please Enter only character sex" >

<option value=""></option>

<option>Male</option>

<option>Female</option>

</select>

</td></tr>

<tr><td> * age :</td><td><input type="text" pattern="[0-9]+" required x-moz-errormessage="Please Enter age" title="Please

Enter age " name="age" value="" size='20%' id="txt_fname" placeholder='age'></input></td></tr>

<tr><td> * martial:</td><td>

<select name="martial" required pattern="[a-zA-Z0-9]+" required x-moz-errormessage="Please Enter The status " title="Please Enter status " >

<option value=""></option>

<option>married</option>

<option>single</option>

</select>

</td></tr>

<tr><td> * nationality:</td><td>

<select name="nationality" required pattern="[a-zA-Z0-9]+" required x-moz-errormessage="Please Enter nationality " title="Please Enter nationality " >

<option value=""></option>

<option>Ethiopian</option>

<option>American</option>

<option>Kenya</option>

<option>korea</option>

<option>china</option>

</select>

<tr><td> * religion:</td><td>

<select name="religion" required pattern="[a-zA-Z0-9]+" required x-moz-errormessage="Please Enter religion " title="Please Enter religion " >

<option value=""></option>

<option>Orthodox</option>

<option>muslim</option>

<option>Protestant</option>

<option>Catholic</option>

<option>JOBA</option>

<tr><td> * nation:</td><td>

<select name="nation" required pattern="[a-zA-Z0-9]+" required x-moz-errormessage="Please Enter nation " title="Please Enter nation " >

<option value=""></option>

<option>Oromia</option>

<option>Amhara</option>

<option>Sidama</option>

<option>SNNP</option>

<option>Gambela</option>

<option>Afar</option>

<option>B/Gumuz</option>

<option>Harar</option>

<option>Tigray</option>

<option>Somale</option>

<tr><td> * zone :</td><td><input type="text" pattern="[a-zA-Z]+" required x-moz-errormessage="Please Enter zone" title="Please Enter zone" name="zone" value="" size='20%' id="txt_fname" placeholder='zone'></input></td></tr>

<tr><td> * woreda :</td><td><input type="text" pattern="[a-zA-Z]+" required x-moz-errormessage="Please Enter woreda" title="Please Enter woreda" name="woreda" value="" size='20%' id="txt_fname" placeholder='woreda'></input></td></tr>

<tr><td> * City :</td><td><input type="text" pattern="[a-zA-Z]+" required x-moz-errormessage="Please Enter city" title="Please Enter city" name="city" value="" size='20%' id="txt_fname" placeholder='city'></input></td></tr>

<tr><td> * Kebele :</td><td><input type="text" pattern="[a-zA-Z0-9]+" required x-moz-errormessage="Please Enter kebele" title="Please Enter kebele" name="kebele" value="" size='20%' id="txt_fname" placeholder='kebele'></input></td></tr>

<tr><td> * house_No :</td><td><input type="text" pattern="[0-9]+" required x-moz-errormessage="Please Enter house_no" title="Please Enter Only number house_no " name="house_no" value="" size='20%' id="txt_fname" placeholder='house_no'></input></td></tr>

<tr><td> * phone_No :</td><td><input type="text" maxlength="10" pattern="[0-9]+" required x-moz-errormessage=Please enter Only number phone_no" title="Please Enter phone_no " name="phone_no" value="" size='20%' id="txt_fname" placeholder='phone_no'></input></td></tr>

<tr><td> * <font color=black>job:</td><td>

<select name="job" required x-moz-errormessage="Please Enter job " title="Please Enter job " >

<option value=""></option>

<option>Officer worker</option>

<option>Farmer</option>

<option>Student</option>

<option>Instructor</option></select>

<tr><td colspan="2" align="center"><input style="background-color:#808000"type='submit' class="button_example" value='Save' name='submitMain' Onclick="return check(this.form);"/>

<input style="background-color:#808000"type='reset' class="button_example" value='clear'/></td></tr>

</form>

</fieldset>

</table>

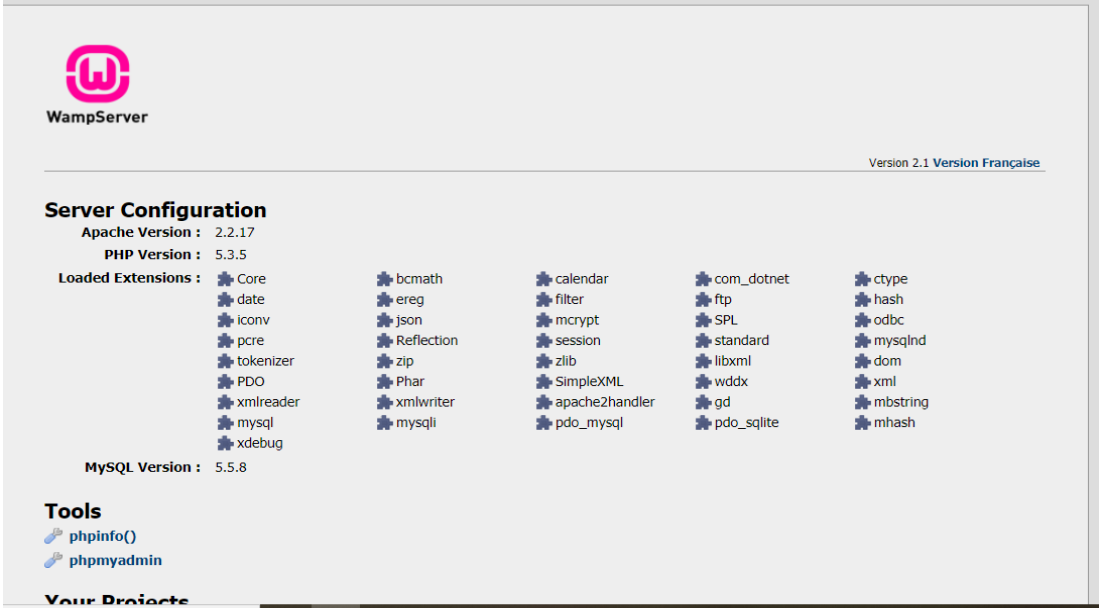
<ul class="style10" id="menu">

<li class="style9 style14 style13">

  <h2> </h2> </body></html>

6.4 Configuration of the Application Server

We use WAMPSERVER application server because is simple and Lightweight. Apache distribution its extremely easy to create a local webserver for testing and deployment purposes. Everything we needed is to setup a web server-server application(Apache), MYSQL and scripting language (PHP). The configuration server following the version and loaded extension etc.



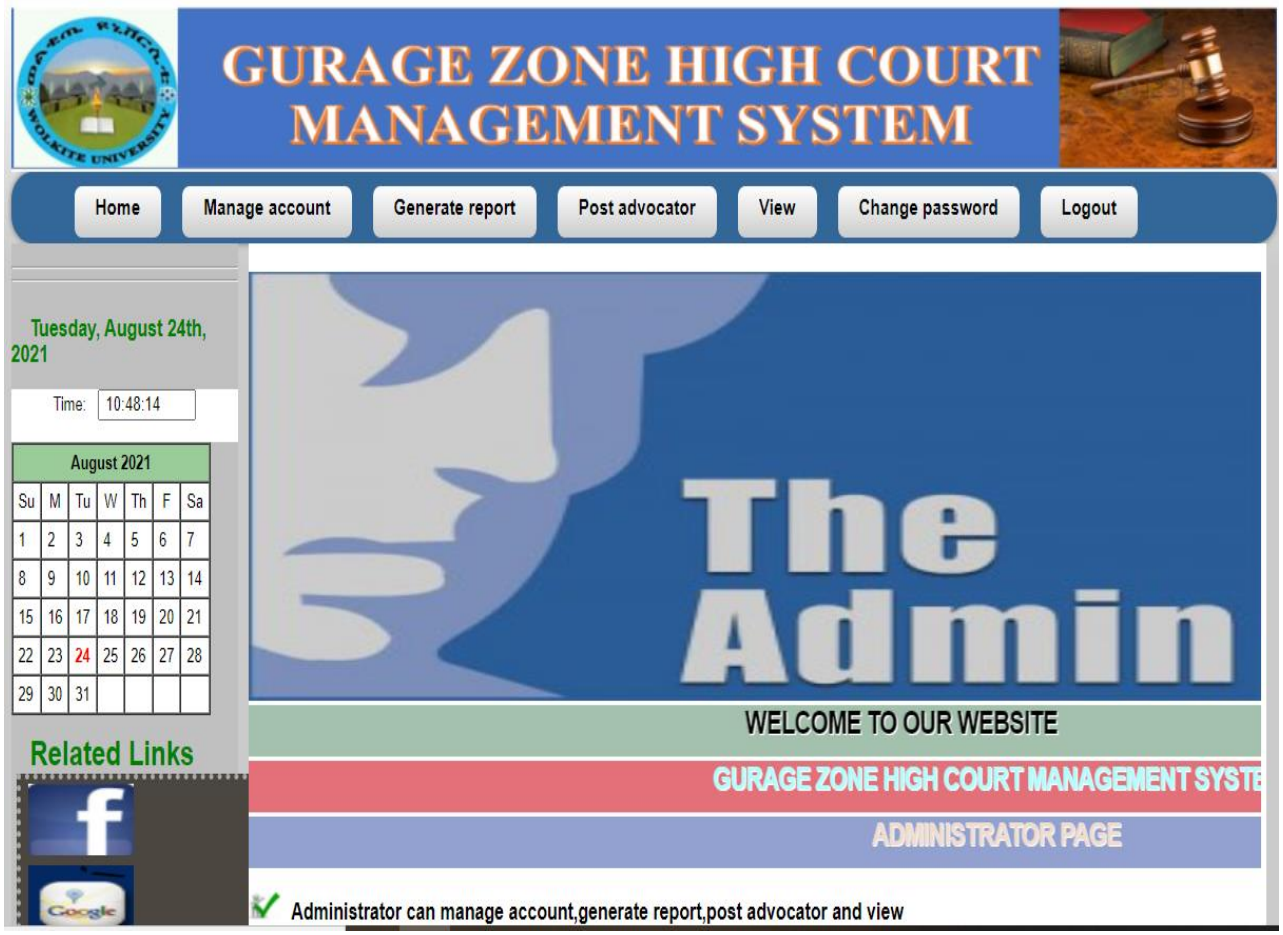
6.5 Configuration of Application Security

Our system Validates all input by returning error message and suggesting to try again message when invalid message occur. We implement session for user password when the system admin creates a user accounts. The system has four roles and the role are defined clearly and the user login to their specified page. In the system we implement session to store temporarily username and password of the users to login to the system to redirect to their specified page.

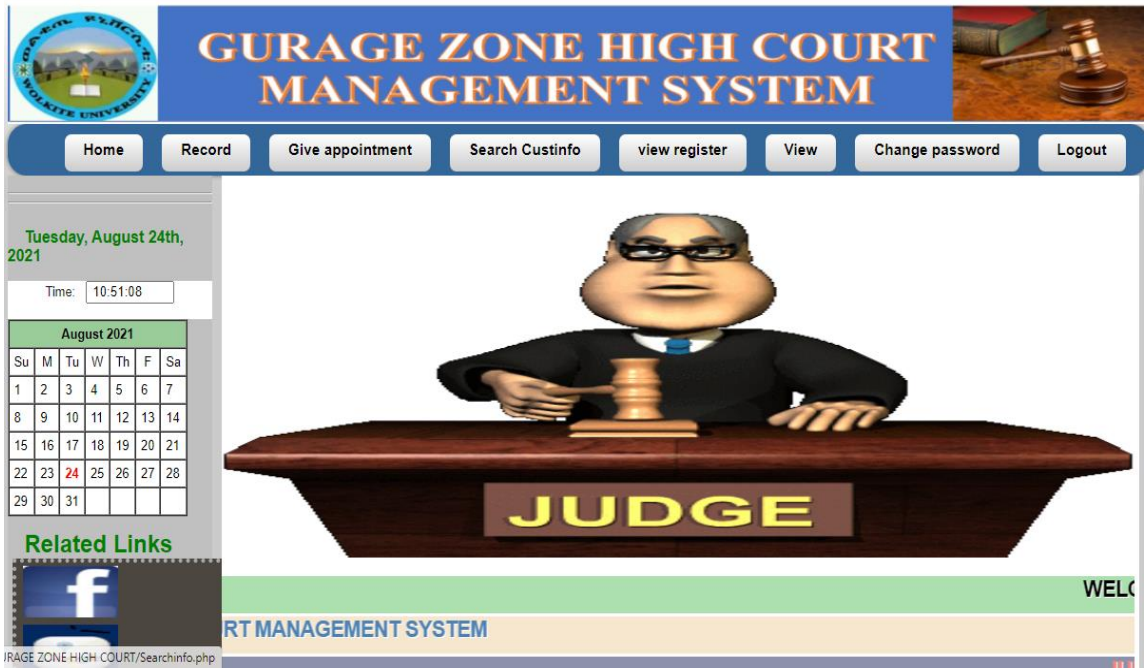
6.6 Implementation of User Interface

We implemented basic pages or interfaces of the system based on the use case diagram that have been designed. Mainly there are many interfaces for four actors they all have one index and login pages to their accessing specified pages. Under this pages there are subpages through which subtasks are performed by the actors based on the use case modeled. These pages were included as part of the system in order to increase its dynamicity.

Picture 6.1 User interface of system Home page.



Picture 6.2 User interface of Administrator



Picture 6.2. User interface of Judge.

Picture 6.2. User interface of law officer

Picture 6.2. User interface of Customer.

6.7 Testing

Testing is a process to show the correctness of the program and designed to analyze the logic used in the implementation of the System. In the case of our project we use unit, user acceptance, and integration testing method.

6.7.1 Unit testing

Each module is tested alone in an attempt to discover any errors in its code. In unit testing, each module (roughly a section of code that performs a single function) is tested alone in an attempt to discover any errors that may exist in the module's code. We tested the system as shown below in the appendix.

6.7.2 Integration testing

The process of bringing together for testing purposes all of the modules that a program comprises. Modules are typically integrated in a top-down, incremental fashion. If an error occurs, the process stops, the error is identified and corrected, and the test is redone. The

process repeats until the entire program all modules at all level is successfully integrated and tested with no errors. In integrated testing the team tested the system all modules that a program contains.

6.7.4 System testing

System testing is simply expanded integration testing, where you are testing the interfaces between programs in a system rather than testing the interfaces between modules in a program. System testing is also intended to demonstrate whether a system meets its objectives. It is the final step of testing**.** In this step the team members test the entire system as a whole with all forms, code, modules and tests all the functionalities in the System. All errors in the forms, functions, modules are tested.

CHAPTER SEVEN

7. CONCLUSION

After we have completed the project we are sure the problems in the existing system would overcome. The "GURAGE ZONE HIGH COURT MANAGEMENT SYSTEM" process made computerized to reduce human errors and to increase the efficiency. The system that have we developed has two phases; the first phase deals with the analysis phase of the life cycle with the court, and the next phase addresses the design the design phase. We began our work by identifying the significance of the new system for and the overall techniques to be used in the development process. This concerned defining the system development methodology, identifying process and resource, and setting the deliverable and planned for the project. And also helps the team to understand the major functional areas and processes of the proposed system. We identify the weakness and strength of the existing system by developing the proposed system. After that, we discovered system requirements. Through this phase, we identify functional and non-functional requirements of the new system. Then we have undertaken a major phase in system development process: Object-oriented Analysis. Here, we tried to model the new system we proposed using UML diagrams: Use case, sequence, and class diagrams. Also, we designed the new system user interface prototype. As a result, we proposed the new system to solve the problem of existing system such as time management.

7.2 RECOMMENDATION

Using this new system will make more advantage than before or to achieve their goals that are to give attention for giving information in simply, so the people greatly recommends giving more attention to this new developed system. We would like to suggest that the system is open for interested individuals who wish to add new functionalities because the scope of the proposed project is very interesting.

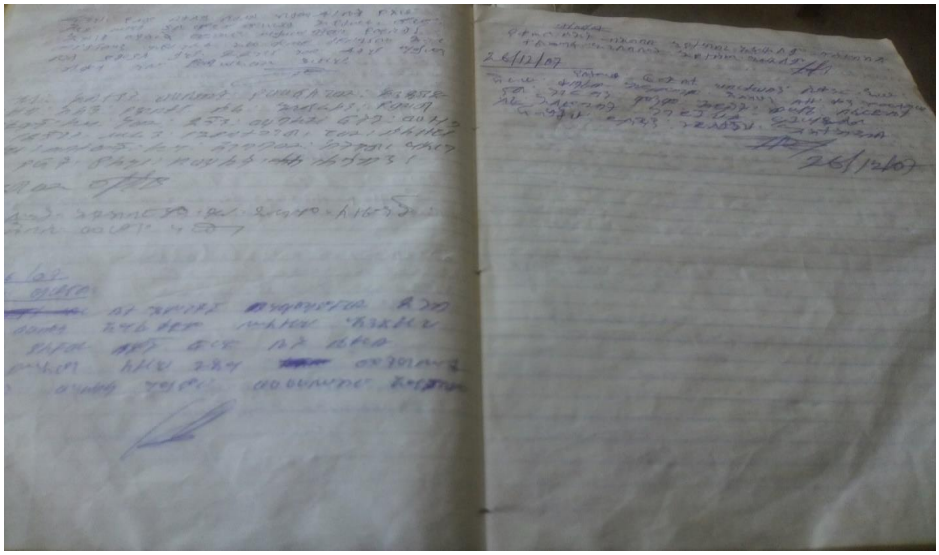
8. APPENDICES

Appendix I: Interview.

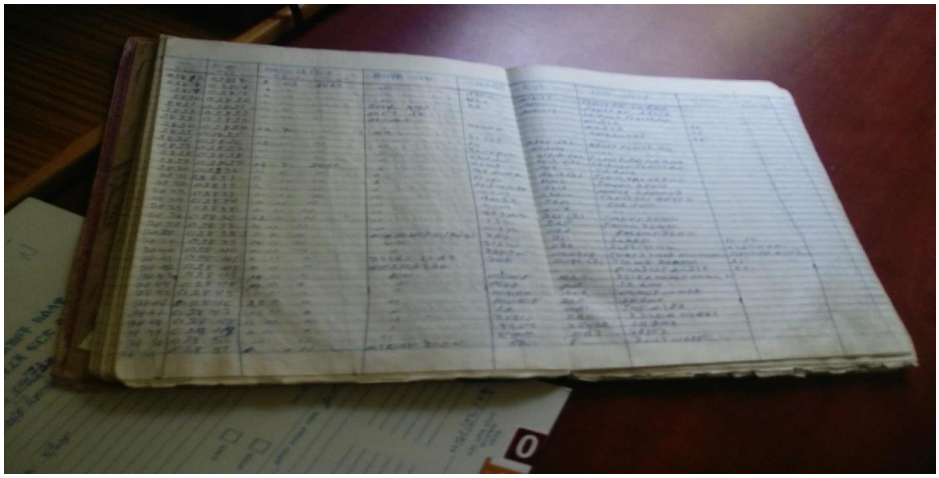
1. Problem on current manual system?
2. How the organization store data with other courts either with supreme or low?
3. The problem of security on storing documents?
4. Communication efficiency between employees and customer with the assigned case?

Appendix II: Existing System Forms and Reports

The following form shows how customer give comment for the organization in current manual system.



This picture shows that customer registration form for the first time on the current manual system.



Appendix III: Sample Source Code

```
<! DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

        <title>GURAGE ZONE HIGH COURT MANAGEMENT SYSTEM</title>

        <meta http-equiv="Content-type" content="text/html; charset=utf-8" />

        <link rel="stylesheet" href="css/style.css" type="text/css" media="all" />

   <link href="generic.css" rel="stylesheet" type="text/css" />

        <script src="js/jquery-1.6.2.min.js" type="text/javascript" charset="utf-8"></script>

        <link href="4/js-image-slider.css" rel="stylesheet" type="text/css" />

   <script src="4/js-image-slider.js" type="text/javascript"></script>

<link href="src/facebox.css" media="screen" rel="stylesheet" type="text/css" />
```

```
<script src="lib/jquery.js" type="text/javascript"></script>

<script src="src/facebox.js" type="text/javascript"></script>

<script type="text/javascript">

</script> </head><body ><center>

<table bgcolor="redblue" width="1200"id="table2" align=center style="border-bottom:1px solid #f6b45f;margin-top:1%; border:1px dotted;border-radius:10px;">

<tr><td> <img src="Img/HC.png" width="1200" height="90">

</td></tr><tr><td ><div>

<div id="header">

<div id="menubar">

<ul id="menu">

<li class="current"><a href="index.php" title="Home"><font color="black">Home</font></a></li>

<li class="current"><a href="#" title="Home"><font color="black">Login</font></a></li>

</ul></div></div><tr></tr>

</td></tr> </table> <table border='1' width="1200" id="table1" align="center" style="border-bottom:1px solid #f6b45f; margin-top:0.5%; border:1px dotted #aaaaaa; margin-top:1%; border-radius:10px;">

<tr>

<td  valign="top" height="500" width="100"  id="menu-bar" id="table2" bgcolor="#00fff" >

<img src="Img/login.png" width="250" height="250">

<img src="Img/login_icon1.gif" width="250" height="250">
```

```
</td></div></td><td valign="top" id="td" bgcolor='redblack'>
<div align="center">
        <img src="Img/login.jpg" width="390" height="155">
        <div id="welcome">
</div><div class="spacerline"></div>
  <div id="fcontainer">
<div align="center">
        <script type='text/javascript'>
function validate()
  {
     var testfname =/^([a-z] |[A-Z] *$;
          var fname = document.check.fname.value;
     if(fname == "fname" || fname == ""){
        alert("Your fname is empty!");
                return false;
          }
          if(!fname.test(fname)){
          alert("Check your fname format");
                return false;}
          var testpassword =/^([a-z]|[A-Z]| )*$/;
          var password = document.check.password.value;
     if(password == "password" ||password == ""){
        alert("password field is required!");
```

```
                return false;
            }
            {
    var testrole =/^([a-z]|[A-Z]|[0-9]*$;
            var role = document.check.role.value;
    if(role== "role" || role == ""){
       alert("Your role is empty!");
                return false;
            }  }
          </script>
<form action="login2.php" method="post" onsubmit='return formValidation ()'>
<table bgcolor="white “style="border:0px black; border-radius:20px; margin-top:50px; box-shadow:2px 2px 2px 2px white;" width="400px" height="300px" align="center">
<tr>
<td colspan=2 align='center'>
                        <! --End of PHP script-->
<font color='black' size="5px">Logins </td>
</tr><tr>
<td><font color='black'>Username</td><td><input type="text" name="fname" required x-moz-errormessage="Please Enter your user name" title="Enter your user name" value="" size="20%" id="txt_username" placeholder="username"></input></td></tr><tr>
<td><font color='black'>Password</td><td><input type="password" name="password” required x-moz-errormessage="Please enter the Password" title="Enter the Password" value="" size="20%" id="txt_password" placeholder="Password"></input></td></tr><tr>
```

<td><font color='black'>Role:</td>

<td><select name='role' required x-moz-errormessage="Please select your user type" title="Please select your user type ">

<option>select role</option>

<option value='Administrator'>Administrator</option>

<option value='Judge'>Judge</option>

<option value='customer'>Customer</option>

<option value='lawofficer'>Law Officer</option>

</td></tr> <tr>

<td colspan=2 align='center'><input type='submit' value='Login' name='submitMain' Onclick="return check(this.form);"/>

<input type='reset' value='Reset'/></td></tr><tr>

<td colspan=2 align='center'><font color='red'>Forget Password?</td></tr>

</form> </table></table></body></html>

<? php

session_start();

if(isset($_SESSION['validuser']))

{

$username=$_SESSION['validuser'];

} else {

?>

<? php

```
 }
 ?>
<?php
include("see.php");
?>
<?php
if(isset($_POST['login']))
session_start();
$fname=$_POST['fname'];
$password=$_POST['password'];
$role=trim($_POST['role']);
                    // ;and Password='$pwd' ";
                    $conn=mysql_connect("localhost","root","");
if(!$conn)
{
die('Could not connect:'.mysql_error());
}
mysql_select_db("ghcms", $conn);
                    $result=mysql_query("select * from useraccount1 where
fname='$fname'&&password='$password'&&role='$role'");
                    $num=mysql_num_rows($result);
                    $record=mysql_fetch_array($result);
```

```
            //$_SESSION['login']='yes';
            $_SESSION['loginname']=$record['fname'];
            $_SESSION['logintype']=$record['role'];
            $r=$record['password'];
            if($num>0 && $r==$password) //&& $record['password']==$pwd)
            {
          if($record['role']=='Administrator') //&& $record['password']==$pwd)
        {
                        //if($record['password']==$pwd)){
                        $_SESSION['login']='yes';
                      include("Registrar.php");
                                }



                       elseif($record['role']=='judge') //&& $record['password']==$pwd)
        {
                        //if($record['password']==$pwd)){
                        $_SESSION['login']='yes';
                       include("judge.php");
                                }
                                elseif($record['role']=='lawofficer') //&&
$record['password']==$pwd)
        {
```

```
                    //if($record['password']==$pwd)){
                    $_SESSION['login']='yes';
                  include("officer.php");
                        }
                        elseif($record['role']=='customer') //&&
$record['password']==$pwd)
        {
                    //if($record['password']==$pwd)){
                    $_SESSION['login']='yes';
                   include("customer.php");
                        }
}
else
 {
 echo"<script language=\"javascript\" type=\"text/javascript\">
alert(' please check your User name and password ');window.location='login.php'</script>";
 } ?>
```

References

[1] C. Curescu, Object Oriented Analysis and Design andSoftware Development Process, England: Addison-Wesley, 2006.

[2] J. a. W. A. Leeuwenburg, Technology for Justice Report, AJJA., 1999.

[3] A. Miriam., “APAP’s Experience on Social Court Judges Training,” unpublished report, 2002.

[4] A. A. R. a. A. M. Oskamp, IT Support of the Judiciary Australia, Singapore, 2002.