

## 1. SYSTEM TESTING :

### ❖ TESTING PLAN :

The main Objective of doing testing is to identify all defects existing in software. Basically, the testing of software consists of providing the program with a set of test inputs (test case) and observing that whether the software behaves as expected.

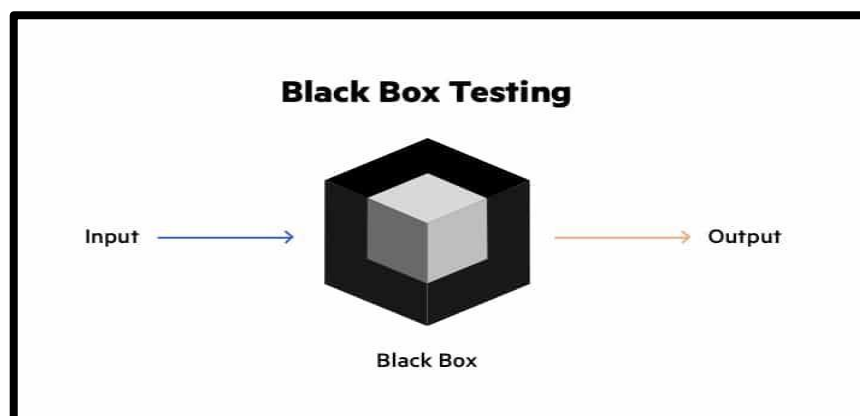
Testing is the process of executing a program with the explicit intention of finding errors, which makes the program fail. The tester is actually trying to make the program fail. A successful test is the one that finds errors.

Regardless of which strategies the analysts follow, there are preferred practices to ensure that the testing is useful. The levels of tests and practices to ensure that testing is useful. The levels of tests and types of test data, combined with testing libraries are important aspects of test process. Among the various testing practices or strategies that are followed by analysts, the two important ones are unit testing and system testing.

Software testing is crucial step in determining whether a software application is viable, ready for market and free of bugs. No software will be completely free of glitches but through software testing can and will make sure that it is as error free as humanly possible.

### ❖ TESTING METHODS:

#### i. BLACK-BOX TESTING :



- The technique of testing without having any knowledge of the interior workings of the application is called black-box testing.

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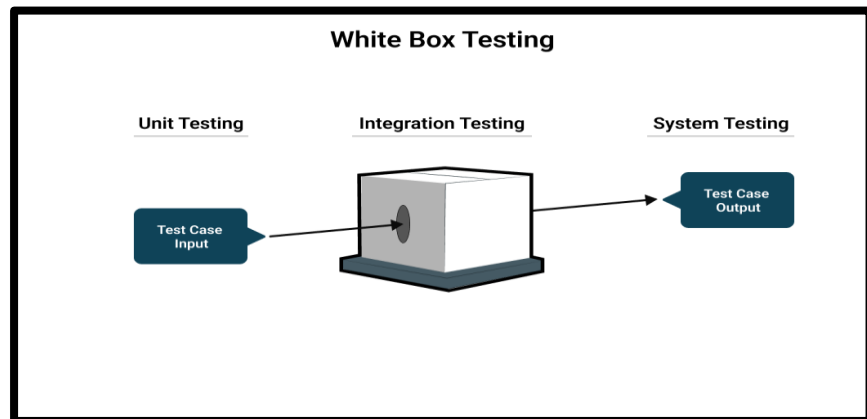
- The tester is oblivious to the system architecture and does not have access to the source code. Typically, while performing a black-box test, a tester will interact with the system's user interface by providing inputs and examining outputs without knowing how and where the inputs are worked upon.

❖ **The following table lists the advantages and disadvantages of black-box testing.**

Advantages	Disadvantages
Well suited and efficient for large code segments.	Limited coverage, since only a selected number of test scenarios is actually performed.
Code access is not required.	Inefficient testing, due to the fact that the tester only has limited knowledge about an application.
Clearly separates user's perspective from the developer's perspective through visibly defined roles.	Blind coverage, since the tester cannot target specific code segments or error-prone areas.
Large numbers of moderately skilled testers can test the application with no knowledge of implementation, programming language, or operating systems.	The test cases are difficult to design.

#### ii. WHITE-BOX TESTING :

- White-box testing is the detailed investigation of internal logic and structure of the code. White-box testing is also called **glass testing** or **open-box testing**. In order to perform **white-box** testing on an application, a tester needs to know the internal workings of the code.



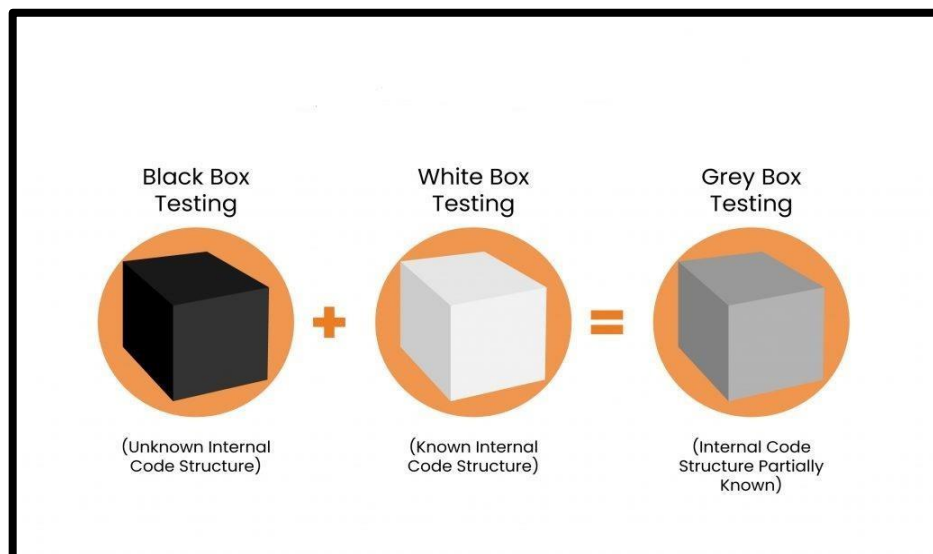
- The tester needs to have a look inside the source code and find out which unit/chunk of the code is behaving inappropriately.

❖ The following table lists the advantage and disadvantage of white-box testing.

Advantages	Disadvantages
As the tester has knowledge of the source code, it becomes very easy to find out which type of data can help in testing the application effectively.	Due to the fact that a skilled tester is needed to perform white-box testing, the costs are increased.
It helps in optimizing the code.	Sometimes it is impossible to look into every nook and corner to find out hidden errors that may create problems, as many paths will go untested. An application.
Extra lines of code can be removed which can bring in hidden defects.	It is difficult to maintain white-box testing, as it requires specialized tools like code analysers and debugging tools.

#### iii. GREY-BOX TESTING :

- Grey-box testing is a technique to test the application with having a limited knowledge of the internal workings of an application.
- In software testing, the phrase the more you know, the better carries a lot of weight while testing an application.
- Mastering the domain of a system always gives the tester an edge over someone with limited domain knowledge.
- Unlike black-box testing, where the tester only tests the application's user interface; in grey-box testing, the tester has access to design documents and the database.
- Having this knowledge, a tester can prepare better test data and test scenarios while making a test plan.



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❖ The following table lists the advantage and disadvantage of grey-box testing.

Advantages	Disadvantages
Offers combined benefits of black-box and white-box testing wherever possible.	Since the access to source code is not available, the ability to go over the code and test coverage is limited.
Grey box testers don't rely on the source code; instead, they rely on interface definition and functional specifications.	The tests can be redundant if the software designer has already run a test case.
Based on the limited information available, a grey-box tester can design excellent test scenarios especially around communication protocols and data type handling.	Testing every possible input stream is unrealistic because it would take an unreasonable amount of time; therefore, many program paths will go untested.

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## 2. TEST CASE :

- **1<sup>st</sup> Test Case :**

TEST CASE ID	1-A
Name	Login Validation
Test Scenario	It Will Check Login Data Of User If Username And Password Both Are True
Test Step	1.Open Web-site 2.Click On “Log In” 3.Enter Detail 4.Click On Login
Test Data	Username : admin Password : admin123
Expected Result	User Login As Admin Of System
Actual Result	As Expected
Pass / Fail	Pass

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- **2<sup>nd</sup> Test Case:**

TEST CASE ID	1-B
Name	Login Validation
Test Scenario	It Will Check Login Data Of User If Username And Password Both Or Either One Of Them Is False
Test Step	1.Open Web-site 2.Click On “Log In” 3.Enter Detail 4.Click On Login
Test Data	Username : admin Password : admin
Expected Result	Message : Wrong username Or Password !!
Actual Result	As Expected
Pass / Fail	Pass

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- **3<sup>rd</sup> Test Case :**

TEST CASE ID	1-C
Name	Login Validation
Test Scenario	It Will Check Login Data Of User If Username And Password Both or One Of Them Is Empty
Test Step	1.Open Web-site 2.Click On “Log In” 3.Enter Detail 4.Click On Login
Test Data	Username : ... Password : ...
Expected Result	Message : Enter Username Or Password First !!
Actual Result	As Expected
Pass / Fail	Pass



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- **4<sup>th</sup> Test Case :**

TEST CASE ID	2-A
Name	Patient Registration Validation
Test Scenario	It Will Check All Data Of Filed That Enter By user To Create Patient Account
Test Step	1.Open Web-site 2.Click On “Register As Patient ” 3.Enter Detail 4.Click On Register
Test Data	Email : kartikpatel7892@gmail.com Username : kartik Password : kartik123 Repeat Password : kartik123 Gender : Male(Radio Button) Mobile No : 8460888834 DOB : 05/22/2004 [ MM/DD/YYYY] Address : Chitra Bhavnagar
Expected Result	Message : Account Created Successfully !!
Actual Result	As Expected
Pass / Fail	Pass

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- **5<sup>th</sup> Test Case :**

TEST CASE ID	2-B
Name	Patient Registration Validation
Test Scenario	It Will Check All Data Of Filed That Enter By user To Create Patient Account And Check For Already Exist Email.
Test Step	1.Open Web-site 2.Click On “Register As Patient ” 3.Enter Detail 4.Click On Register
Test Data	Email : kartikpatel7892@gmail.com Username : kartik1 Password : kartik123 Repeat Password : kartik123 Gender : Male(Radio Button) Mobile No : 8460888835 DOB : 05/22/2004 [ MM/DD/YYYY] Address : Chitra Bhavnagar
Expected Result	Message : Email Already Exist !!
Actual Result	As Expected
Pass / Fail	Pass

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- **6<sup>th</sup> Test Case :**

TEST CASE ID	2-C
Name	Patient Registration Validation
Test Scenario	It Will Check All Data Of Filed That Enter By user To Create Patient Account And Check For Already Exist Username.
Test Step	1.Open Web-site 2.Click On “Register As Patient ” 3.Enter Detail 4.Click On Register
Test Data	Email : kartikpatel111@gmail.com Username : kartik Password : kartik123 Repeat Password : kartik123 Gender : Male(Radio Button) Mobile No : 8460888835 DOB : 05/22/2004 [ MM/DD/YYYY] Address : Chitra Bhavnagar
Expected Result	Message : Username Already Exist !!
Actual Result	As Expected
Pass / Fail	Pass

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- **7<sup>th</sup> Test Case :**

TEST CASE ID	2-D
<b>Name</b>	Patient Registration Validation
<b>Test Scenario</b>	It Will Check All Data Of Filed That Enter By user To Create Patient Account And Check For Already Exist Mobile No.
<b>Test Step</b>	1.Open Web-site 2.Click On “Register As Patient ” 3.Enter Detail 4.Click On Register
<b>Test Data</b>	Email : kartikpatel111@gmail.com Username : kartik1 Password : kartik123 Repeat Password : kartik123 Gender : Male(Radio Button) Mobile No : 8460888834 DOB : 05/22/2004 [ MM/DD/YYYY] Address : Chitra Bhavnagar
<b>Expected Result</b>	Message : Mobile No Already Exist !!
<b>Actual Result</b>	As Expected
<b>Pass / Fail</b>	Pass

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- **8<sup>th</sup> Test Case :**

TEST CASE ID	2-E
Name	Patient Registration Validation
Test Scenario	It Will Check All Data Of Filed That Enter By user To Create Patient Account And Check All Filed Must Have Data
Test Step	1.Open Web-site 2.Click On “Register As Patient ” 3.Enter Detail 4.Click On Register
Test Data	Email : ... Username : ... Password : ... Repeat Password : ... Gender : ... Mobile No : ... DOB : ... Address : ...
Expected Result	Message : All Detail Must Be Filed !!
Actual Result	As Expected
Pass / Fail	Pass

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- **9<sup>th</sup> Test Case :**

TEST CASE ID	3-A
Name	Doctor Registration Validation
Test Scenario	It Will Check All Data Of Filed That Enter By user To Create Doctor Account
Test Step	1.Open Web-site 2.Click On “Register As Doctor” 3.Enter Detail 4.Click On Register
Test Data	Email : Doctor1@gmail.com Username : Doctor1 Password : Doctor123 Repeat Password : Docto123 Gender : Male(Radio Button) Mobile No : 9924700970 DOB : 05/22/2004 [ MM/DD/YYYY] Specialist : Cardiologists Charge : 500 Image : Doc1.jpg
Expected Result	Message : Doctor Details Add For Inquiry !!
Actual Result	As Expected
Pass / Fail	Pass

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- **10<sup>th</sup> Test Case :**

TEST CASE ID	3-B
Name	Doctor Registration Validation
Test Scenario	It Will Check All Data Of Filed That Enter By user To Create Doctor Account And Check For Already Exist Email.
Test Step	1.Open Web-site 2.Click On “Register As Doctor” 3.Enter Detail 4.Click On Register
Test Data	Email : Doctor1@gmail.com Username : Doctor2 Password : Doctor123 Repeat Password : Docto123 Gender : Male(Radio Button) Mobile No : 9924700979 DOB : 05/22/2004 [ MM/DD/YYYY] Specialist : Cardiologists Charge : 500 Image : Doc11.jpg
Expected Result	Message : User With This Email Is Already Exist !!
Actual Result	As Expected
Pass / Fail	Pass

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- **11<sup>th</sup> Test Case :**

TEST CASE ID	3-C
Name	Doctor Registration Validation
Test Scenario	It Will Check All Data Of Filed That Enter By user To Create Doctor Account And Check For Already Exist Username.
Test Step	1.Open Web-site 2.Click On “Register As Doctor” 3.Enter Detail 4.Click On Register
Test Data	Email : Doctor2@gmail.com Username : Doctor1 Password : Doctor123 Repeat Password : Docto123 Gender : Male(Radio Button) Mobile No : 9924700979 DOB : 05/22/2004 [ MM/DD/YYYY] Specialist : Cardiologists Charge : 500 Image : Doc1.jpg
Expected Result	Message : User With This Username Already Exist !!
Actual Result	As Expected
Pass / Fail	Pass



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- **12<sup>th</sup> Test Case :**

TEST CASE ID	3-D
<b>Name</b>	Doctor Registration Validation
<b>Test Scenario</b>	It Will Check All Data Of Filed That Enter By user To Create Doctor Account And Check For Already Exist Mobile No.
<b>Test Step</b>	1.Open Web-site 2.Click On “Register As Doctor” 3.Enter Detail 4.Click On Register
<b>Test Data</b>	Email : Doctor2@gmail.com Username : Doctor2 Password : Doctor123 Repeat Password : Docto123 Gender : Male(Radio Button) Mobile No : 9924700970 DOB : 05/22/2004 [ MM/DD/YYYY] Specialist : Cardiologists Charge : 500 Image : Doc1.jpg
<b>Expected Result</b>	Message : User With This Mobile Number Already Exist !!
<b>Actual Result</b>	As Expected
<b>Pass / Fail</b>	Pass

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- **13<sup>th</sup> Test Case :**

TEST CASE ID	3-E
Name	Doctor Registration Validation
Test Scenario	It Will Check All Data Of Filed That Enter By user To Create Doctor Account And Check All Filed Must Have Data
Test Step	1.Open Web-site 2.Click On “Register As Doctor” 3.Enter Detail 4.Click On Register
Test Data	Email : ... Username : ... Password : ... Repeat Password : ... Gender : ... Mobile No : ... DOB : ... Specialist : -Specialist- Charge : ... Image : ...
Expected Result	Message : All Detail Must Be Filed !!
Actual Result	As Expected
Pass / Fail	Pass

### 3. USE-CASE DIAGRAM :

#### ❖ What Is Use Case Diagram :

- A UML use case diagram is the primary form of system/software requirements for a new software program underdeveloped.
- Use cases specify the expected behaviour (what), and not the exact method of making it happen.
- Use cases once specified can be denoted both textual and visual representation (i.e. use case diagram).
- A key concept of use case modeling is that it helps us design a system from the end user's perspective.
- It is an effective technique for communicating system behaviour in the user's terms by specifying all externally visible system behaviour.

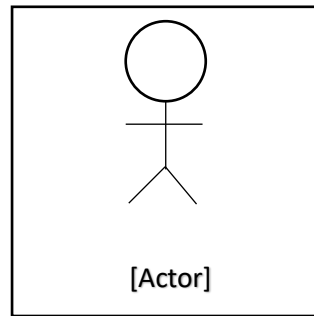
#### ❖ Origin Of Use Case Diagram :

These day use case modelling is often associated with UML, although it has been introduced before UML existed. Its brief history is as follow:-

- In 1986, Ivar Jacobson first formulated **textual** and **visual modelling** techniques for specifying use cases.
- In 1992 his co-authored book Object-Oriented Software Engineering - A Use Case Driven Approach helped to popularize the technique for capturing functional requirements, especially in software development.

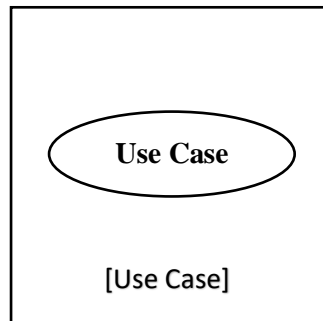
#### ❖ Symbols / Notations Of Use Case Diagram :

##### i. ACTOR :



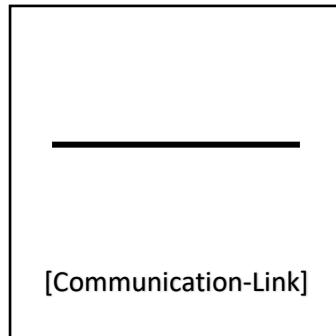
- The actor is an entity that interacts with the system. An actor is an entity that initiates the use case from outside the scope of a use case.
- It can be any element that can trigger an interaction with the use case. One actor can be associated with multiple use cases in the system. A user is the best example of an actor.

##### ii. USE CASE :



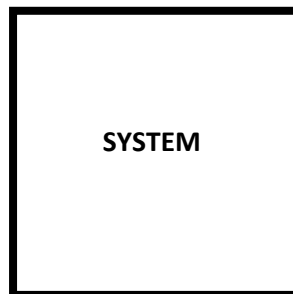
- A use case describes a sequence of actions that provide something to an actor.
- Use cases are used to represent high-level functionalities and how the user will handle the system

#### iii. COMMUNICATION LINK :



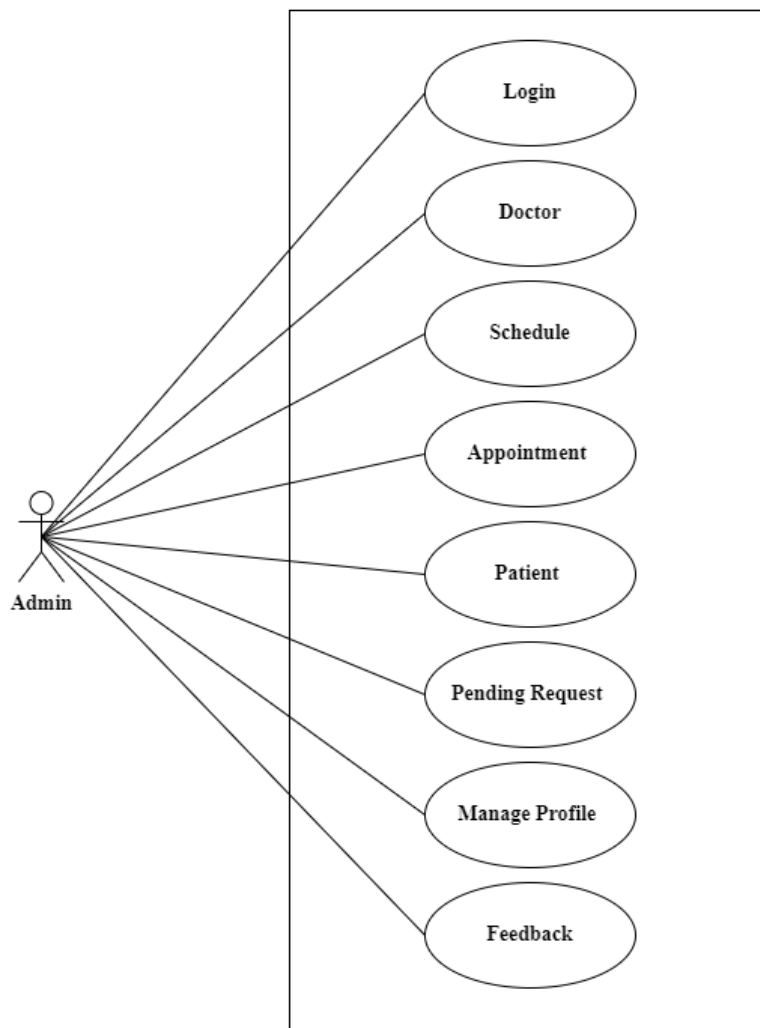
- The participation of an actor in a use case is shown by connecting an actor to a use case by a solid link.
- Actors may be connected to use cases by associations, indicating that the actor and the use case communicate with one another using messages.

#### iv. BOUNDARY OF SYSTEM :



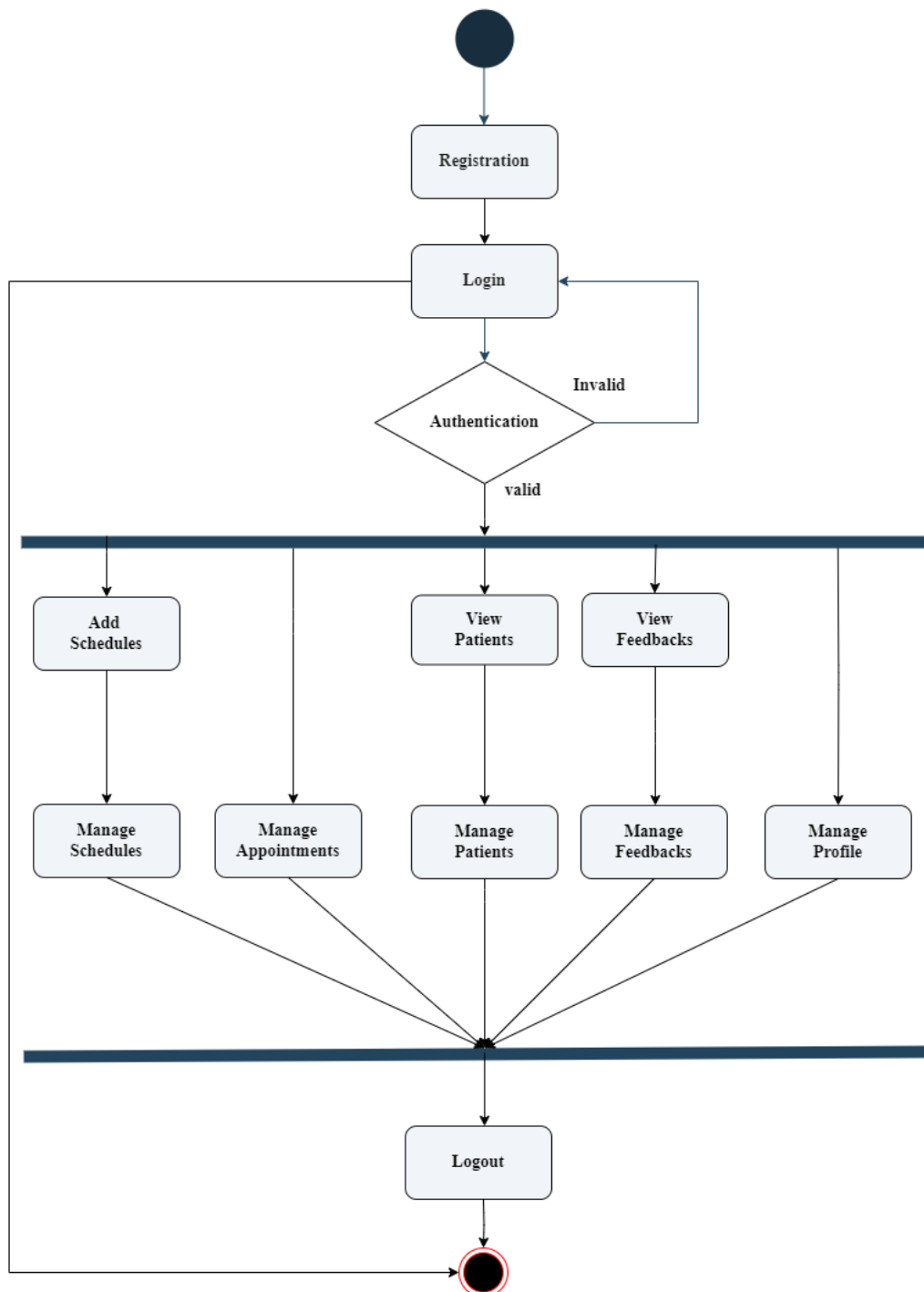
- The system boundary is the entire system as defined in the requirements document. It indicates the scope of your system.
- Anything within the box represents functionality that is in scope and anything outside the box is not. System boundary boxes are rarely used.

❖ **ADMIN USE CASE DIAGRAM :**

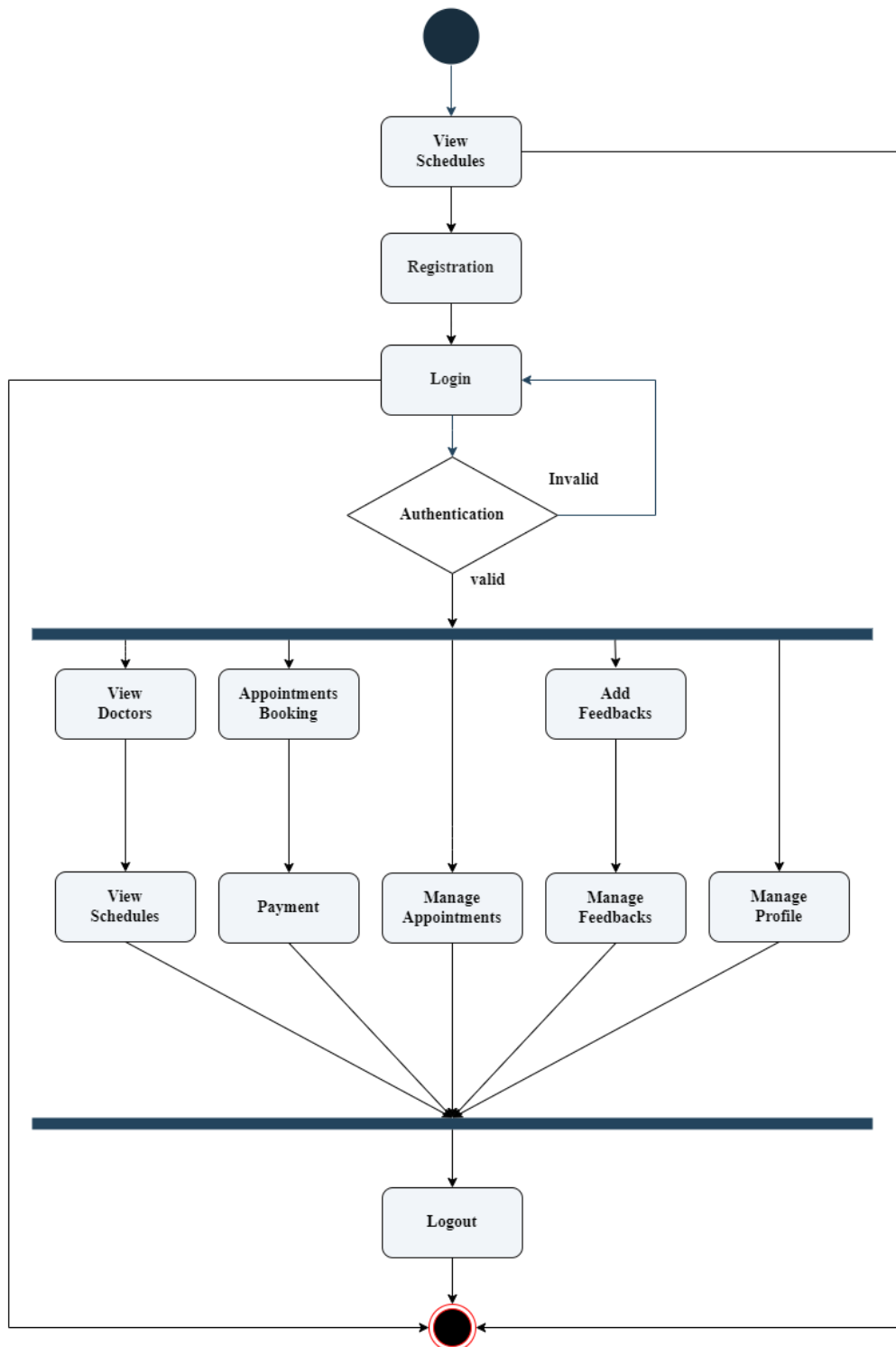


## 4. ACTIVITY DIAGRAM :

### 1. Doctor's Activity Diagram :



## 2. Patient's Activity Diagram :





## **5. LIMITATION :**

- i. User training and adoption:** Healthcare providers and staff need to be trained on how to use the e-healthcare management system properly. Resistance to change and lack of training can affect the system's adoption and utilization.
  
- ii. Limited access for certain populations:** Some patients may not have access to the technology needed to use e-healthcare management systems, leading to disparities in healthcare access and quality.