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# **AXES Automation**

**A Project Report**

*Submitted By*

**Ishita Prafullbhai Bhatt**

**181310132004**

*In partial fulfilment for the award of the degree of*

**BACHELOR OF ENGINEERING**

**In**

**Information and Communication Technology**

**Adani Institute of Infrastructure Engineering**

**Ahmedabad-382421**

**adani** | Institute of  
Infrastructure



**Gujarat Technological University**

**Ahmedabad-382424**

**April 2022**



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## **ADANI INSTITUTE OF INFRASTRUCTURE ENGINEERING**

**Ahmedabad-382421**

### **CERTIFICATE**

This is to certify that Ishita Prafullbhai Bhatt has successfully completed the internship along with project entitled **AXES Automation** from 3rd January 2022 to 1st April 2022 (under my supervision) in partial fulfilment for the degree of Bachelor of Engineering in Information & Communication Technology, at Adani Institute of Infrastructure engineering, 8th Semester, Gujarat Technological University, Ahmedabad during the academic year 2021-22.

1

**Dr. Vijeta Khare**

Internal Guide

1

**Dr. Hitesh Chhinkaniwala**

Head of Department

## INTERNSHIP CERTIFICATE



**MEDITAB**  
Improving the Business and Delivery of Healthcare

Date: 26 April 2022

To Whomsoever It May Concern

This is to certify that Ishita Bhatt is an intern in our organization since January 3, 2022 to April 1, 2022. She has worked on AXES Automation project during her internship period in the organization.

This letter is issued on employee's request and the company is not responsible for any current or future liabilities.

For Meditab Software (India) Pvt. Ltd.

A handwritten signature in black ink, appearing to read "Chaitra R".

Chaitra Shetty  
Human Resources

Meditab Software (I) Pvt. Ltd. • 219/A, 2<sup>nd</sup> Floor, Kalasagar Shopping Hub,  
Opp. Sattadhar Saibaba Temple, Ghatlodia, Ahmedabad - 380061.  
Ph. +91 98250 3811 • hrindia@meditab.com • www.meditab.com

## **DECLARATION**

I hereby declare that the project report submitted with the project entitled AXES Automation to Gujarat Technological University, at Adani Institute of Infrastructure engineering Ahmedabad, in partial fulfilment of the degree of Bachelor of Engineering in Information & Communication Technology, accurate record of original project work completed by me at Meditab, Ahmedabad, under the supervision of Internal Guide is Dr. Vijeta Khare and External Guide is Bhavik Tikudiya, and that no part of this report has been altered in any way.

**Ishita Bhatt**

(181310132004)

Name of Student

Sign of Student

## ACKNOWLEDGMENT

I would sincerely like to thank **Mr. Rajesh Shah** (Automation Department Manager | Meditab) for giving us this opportunity and guiding us through the entire training period. I would also like to thank **Mr. Bhavik Tikudiya** (Sr. Lead Automation Engineer | Meditab) for being a very good mentor and leader and always being so supportive and helpful. Even through their busy schedule, they have always come forward to help us.

We are highly indebted to Head of Department **Dr Hitesh Chhinkaniwala** sir for his integral role in our journey of becoming capable Engineers and giving us the opportunity to work at Meditab.

We are highly indebted to **Dr Vijeta Khare** sir of ICT Department at Adani Institute of Infrastructure Engineering, Ahmedabad for her support and guidance during the internship period.<sup>18</sup>

I also feel a great sense of gratitude to all those who have helped me directly through the entire phase of training.

Ishita Prafullbhai Bhatt  
(181310132004)

## **ABSTRACT**

### **Purpose of Internship:**

The Internship has assisted me in the development of employer-valued skills such as teamwork, communications skills, and other technical skills. To gain profound experience in automation script development and deployment.

### **Scope of Internship:**

To work with technologies and tools such as TestNG, Maven, Selenium, UFT and other related concepts in order to develop automation scripts and enable thorough learning of the same.

### **Work done:**

I worked on development of an automation scripts for an internal company website termed as “AXES” which stands for Automation Execution Environment for Selenium. This automation script tests the website by performing sanity testing. The Test Suites were provided by QA Team.

Sanity or Unit testing is performed to ensure that the code changes that are made are working properly. It helps in quickly identifying the defects in the core functionality.

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# CHAPTER 1

## OVERVIEW OF THE COMPANY

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Meditab is software solutions provider in the healthcare industry. Our EHR platform, Intelligent Medical Software (IMS), brings together EHR, practice management, billing, and office management into one, seamless system.



Figure 1.1 Company Logo

### 1.1 HISTORY

The Patel family founded Meditab in 1998., they were determined to create a system and a company that works with providers, instead of getting in the way.

### 1.2 DIFFERENT PRODUCTS

The FertilityEHR logo features a purple hexagon containing a white icon of a pregnant woman. Below it, the text 'FertilityEHR™ INTELLIGENT MEDICAL SOFTWARE' is displayed. <p>FertilityEHR provides a software solution that advances the healthcare delivery of Assisted Reproductive Technology clinics by integrating laboratory, clinical and administrative operations into a single platform.</p> <p>Learn More: <a href="http://fertilityehr.com">fertilityehr.com</a></p>	The DrCatalyst logo consists of a red hexagon containing a white icon of a person in a medical coat. Below it, the text 'DrCatalyst' is displayed. <p>DrCatalyst offers remote staffing services to medical practices and pharmacies. Their remote assistants handle front-office and back-office operations so that practices can focus on patient care.</p> <p>Learn More: <a href="http://drcatalyst.com">drcatalyst.com</a></p>	The MedVision logo features a large blue 'M' icon. Below it, the text 'MEDVISION' is displayed. <p>MedVision addresses the business needs of payer organizations by providing QuickCap, a robust care coordination, benefit, and claim administration system that reduces workload, increases efficiency, and minimizes costs.</p> <p>Learn More: <a href="http://medvision-solutions.com">medvision-solutions.com</a></p>
The MedSpecialized logo features a green and blue 'MS' monogram. Below it, the text 'MedSpecialized' is displayed. <p>MedSpecialized, Inc. is a software support company that provides outsourcing services to Meditab Software, Inc., MedVision, Website4MD, and CosmetiSuite.</p> <p>Learn More: <a href="http://medspecialized.com">medspecialized.com</a></p>	The HonestAbeApps logo features a small illustration of Abraham Lincoln's head. Below it, the text 'HonestAbeApps' is displayed. <p>HonestAbeApps is a mobile application development company that builds innovative and intuitive applications for iOS, Android, IoT, and wearables.</p> <p>Learn More: <a href="http://honestabeapps.com">honestabeapps.com</a></p>	The DosePacker logo features a blue and orange 'DP' monogram. Below it, the text 'DosePacker' and 'Revolutionizing Pharmacy Dose Automation' is displayed. <p>DosePacker is a pharmacy technology company that manufactures the DosePacker, the first automatic, multi-dose dispensing robot in its class, designed to automate pharmacy operations and increase productivity.</p> <p>Learn More: <a href="http://dosepack.com">dosepack.com</a> Activate Windows</p>

### **1.3 CAPACITY OF COMPANY**

Currently our company holds over 500 to 1000 employees. But as company is growing rapidly its capacity is going higher and higher.

## **CHAPTER 2**

### **INTRODUCTION**

#### **2.1 PROJECT OVERVIEW**

Automation Development and Testing has made it possible to reduce the time and efforts for manual testing the specific website or application by creating an automated script and checking the performance so that for each new release we don't need to develop different script and have to spend same efforts to create and test the application and due to which customers and client can have a friendly and great experience for using the website.

#### **2.2 PURPOSE OF PROJECT**

The main objective of this project to increase the efficiency for testing the application with more depth with repetitive testing and creating a good image in front of the client by providing a user-friendly experience

#### **2.3 SCOPE OF PROJECT**

By the development of this project, we will be able to test any website or desktop Application with the help of automated developed script by us. The script would be dynamic due to which it will be common for the entire client.

From this project we will be able to perform various type of performance testing like Sanity Testing and Regression Testing

#### **3.4 OBJECTIVE**

Bad user experience and insufficient application testing are two of the most common causes of application failure. There are a number of reasons that can degrade the performance of your application in today's digital environment. If the programme is not extensively tested or have not domain knowledge of testing, the worst-case scenario is a data breach!

Testing is diverse and encompasses a wide range of actions to verify that the Application under Test (AUT) works flawlessly under pressure, is secure, and can withstand the rigours of the market.

The aim is to develop a successful test automation plan that eliminates the errors that can occur during manual testing. A Test Automation framework allows teams to save time and money during the testing process. Most significantly, it makes the procedure reproducible, which aids in the verification of the application's functionality.

It also includes the reusability component, where the test automation framework may be utilized for any other testing project after being updated with new test cases.

### **3.5 TECHNOLOGY AND TOOLS**

**Programming language** - Java

**Tools** - Eclipse IDE, Selenium WebDriver, Maven Repositories, TestNGFramework

**Java** - Popular Object Orient Language, huge community support and open source.

**Eclipse IDE** - IDE for easily maintaining the project structure and using its robust feature

**Selenium WebDriver** - Object Oriented API and is a W3C Recommendation.Used for automating the web application

**Maven Repositories** - For maintaining all the libraries to same version for everyone who are working on same project as a team.

**TestNG** - Automation Testing Framework used for creating and running test suites and you can also generate a report and have the statistics for passed and fail test suites.

## CHAPTER 3

### PROJECT STRUCTURE AND MANAGEMENT

#### 3.1 PROJECT PLANNING

##### 3.1.1 Project Development approach

The different phases are

Initiation/First phase Testing Strategy

- Automation Feasibility/ Requirements gathering
- Manual Testing & Automated components
- Tools selection for automation (Like Selenium, UFT, Jenkins)

Testing Requirements for Project

- Unit Testing
- Functional Requirements
- All interfaces
- Security levels/ IT Security requirements
- Compatible platforms
- Critical transactions for performance testing
- Performance objectives
- Globalization requirements

- Estimation of efforts and price approval
- Scheduling sign off
- Organizing and developing project
- Project communication
- Workflow between Development & Testing teams

#### **Knowledge Transfer & Test Plans Scenarios**

- Demonstration of Application
- Domain Knowledge/ Training
- Shadow transfer
- Study of user and operations manuals
- Test plans and Test cases Scenarios

#### **Environment/Platform Setup**

- Hardware and Software resources set up
- Test suites creation
- Special requirements for global testing

#### **Automation Script**

- Architecture/ Designing workflow
- Automation Test workflows
- Identify reusable elements/ flow
- Create and test scripts for test plans

### **Performance Testing**

- Critical transactions/ Worst case scenarios
- Scripting
- Environment/Platform setup
- Iterative test run/Re run

### **Execution/ Final Stage**

- Execute test scripts or Testcases
- Logs, tracks and reports for pass and fail statement
- Improve/Update and increase automation

### **Continuous Improvement/ Maintenance**

- Increase automation scripts
- Improve test scripts and testcases

### **3.1.2 Project Efforts and time, Cost estimation for project:**

In this project, we will apply the COCOMO (Constructive Cost Estimation Model).

Based on the development complexity, software development projects can be divided into one of three categories: organic, semi-detached, or embedded. Application, utility, and system programmes are represented by these three product categories.

**Normally, Automation and Performance projects are considered to be application programs.**

#### **LOC (Line of Code) and FP (Function Point)**

Function points allow the measurement of software size in standard units,

Instead of counting the lines of code that make up a system, count the number of externals (inputs, outputs, inquiries, and interfaces) that make up the system.

Parameters	Count	*	Simple	Avg.	Complex	=	Total
No.of user Input	22	*	3	4	6	=	88.5
No. of user Output	5	*	4	5	7	=	25.0

No. of Inquires	3	*	3	4	6	=	12.0
No. of Files	8	*	7	10	15	=	80.0
External Interface	2	*	5	7	10	=	14.0

TABLE 3.1 Information for COMOCO Calculation

Question	0	1	2	3	4	5
1. Does the system require reliable backup and recovery?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Are data communications required?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Are there distributed processing functions?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Is performance critical?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
5. Will the system run in an existing, heavily utilized operational environment?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
6. Does the system require on-line data entry?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Does the on-line data entry require the input transaction to be built over multiple screens or operations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Are the master file updated on-line?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
9. Are the inputs, outputs, files, or inquiries complex?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
10. Is the internal processing complex?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. In the code designed to be reusable?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
12. Are conversion and installation included in the design?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
13. Is the system designed for multiple installations in different organizations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
14. Is the application designed to facilitate change and ease of use by the user?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Total	58.00					

Fig 3.1 Question Dependent on the Project

The Function Points is:  269.37

Fig 3.2 Function Points Calculation

Programming Language	LOC/FP (average)	Select
Assembly Language	320	<input type="radio"/>
C	128	<input type="radio"/>
COBOL	105	<input type="radio"/>
Fortran	105	<input type="radio"/>
Pascal	90	<input type="radio"/>
Ada	70	<input type="radio"/>
Object-Oriented Languages	30	<input checked="" type="radio"/>
Fourth Generation Languages (4GLs)	20	<input type="radio"/>
Code Generators	15	<input type="radio"/>
Spreadsheets	6	<input type="radio"/>
Graphical Languages (icons)	4	<input type="radio"/>

LOC/FP:  8081.10

Software Project	a <sub>b</sub>	b <sub>b</sub>	c <sub>b</sub>	d <sub>b</sub>	Select
Organic	2.4	1.05	2.5	0.38	<input type="radio"/>
Semi-detached	3.0	1.12	2.5	0.35	<input type="radio"/>
Embedded	3.6	1.20	2.5	0.32	<input checked="" type="radio"/>

$$\text{Effort (E)} = a_b(\text{KLOC})^{b_b} = 44.18 \quad \text{Duration (D)} = c_b(E)^{d_b} = 8.40$$

Fig 3.3 LOC/FP Calculation

### **3.1.3 Roles and responsibilities:**

**Name – Ishita Bhatt**

**Responsibility:** Feasibility study and Sanity Testing

Requirements Gathering and AnalysisDesigning

Coding Testing Documentation

### **3.2. Project scheduling and representation (Gantt chart/network chart):**

Gantt Chart Representation

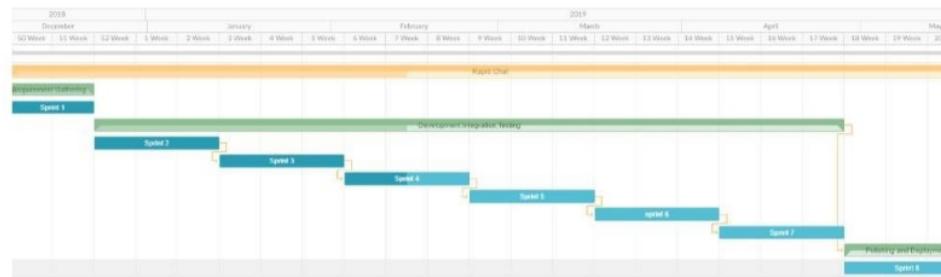


Fig 3.4 GANTT CHART

## CHAPTER 4

### Project And System Requirement Study

#### **4.1 USER CHARACTERISTICS**

- Hardware developers: For Testing Functional Requirements of Hardware.
- Production Team: For Testing of final product.
- Sales Team: For demonstration of product to clients.
- Client: App after customization according to their requirements.

#### **4.2 HARDWARE AND SOFTWARE REQUIREMENTS**

##### **Software Requirements:**

- IDE which supports Java (Eclipse)
- JAVA
- Selenium
- TestNG Framework
- Maven Repositories

##### **Hardware Requirements:**

- RAM minimum 8 GB
- Processor frequency minimum 3.5 GHz

#### **4.3 ASSUMPTIONS AND DEPENDENCIES FOR PROJECT**

##### **Assumptions:**

- Other than the target application, no other applications are operating on the system.
- Auto lock utility is turned off on the target system

##### **Dependencies:**

- Reusable actions which are being called in main script.
- The function libraries having all the application related functions.
- Test input files for parameterization during execution.
- Result Log viewers for analysing the results.
- Configuration files for pre setup for the execution/ properties file for dynamic configuration

## CHAPTER 5

### SYSTEM/RESOURCE ANALYSIS

#### 5.1 STUDY OF CURRENT SYSTEM/RESOURCE

- The tool/utility for automating the execution of performance and automation scripts is not yet ready, and the web application we're automating is still being developed.

#### 5.2 CURRENT SYSTEM PROBLEMS AND WEAKNESS

- System is not capable of handling unexpected conditions like power cut or crashing.
- As the web application is currently under development, if something changes then it may be possible that scenario is not handled properly
- Browser compatibility issue and web drivers issue due to session creation is possible.

#### 5.3 REQUIREMENTS OF NEW SYSTEM

##### 5.3.1 Functional requirements

###### **Module 1: Better and robust recovery scenarios.**

- This can help in gaining the confidence for successful execution.
- Any type of crashing or unexpected situations can be handled.
- Can continue the execution after handling such situations.
- Can reduce the failure rate.

###### **Module 2: Better execution utility**

- Can execute the scripts independently with 0 human interaction.
- Can give absolute counts of passed, failed and skipped scripts.
- Can give better options for creating the batches for execution.

- Better search filters to find the target script.

### **Module 3: Better logging mechanism**

- Logs can be managed more precisely for analysis of execution.
- Can be able to notify about the reasons for failure.
- Logs can be stored in such a way that can be accessed from anywhere.

### **Module 4: Better Result Viewers**

- Can be very useful for analyzing the overall execution of the scripts.
- Results can have more user-friendly GUI for easy understanding of the results.
- Can be accurate enough to analyze and find bug just from the results.

#### **5.3.2 Non-functional requirements**

- 9
- **Reliability:** The ability of a system or component to perform its needed functions for a set period of time under specified conditions.
  - **Performance:** Like Response Time, Throughput, etc.
  - **Scalability:** Capability of a system (horizontal, vertical scaling)
  - **Usability:** Components should be totally reusable.

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#### **5.4 FEASIBILITY STUDY**

##### **5.4.1. Does the system contribute to the organization's overall goals?**

- YES, system will help the organizations to reduce required human resources and generate more and more revenue by ensuring the products are working smooth in any environment.

5.4.2. Can the system be implemented using the current technology and within the given cost and schedule constraints?

- Yes, the system can be created with current technology and timeframes, however the cost is determined by the technology and manpower used to develop the target application.

5.4.3. Is it possible to integrate the system with other systems that are currently in place?

- Yes, the system can be integrated with other systems.

#### 5.4 NEW SYSTEM FEATURES

- User can run automation or performance scripts even in the most adverse environment having a lot of crashing and unexpected situations.
- User can use the utility developed to automate the execution of the automation and performance scripts in batches.
- The system will be capable of having the logs of every situation so the user can easily study the logs and can analyze the results.
- The results will be more accurate and user friendly so the user can analyze the results more efficiently.

#### 5.5 FUNCTIONS OF SYSTEM

- Admin can assign task to the employee for the project added by the admin. Admin can add new employee user also. Admin can see all the task assigned to the employee and see the status. Admin can update profile also.
- Employee can see the task assigned by admin or other assigned by other employee as well. Employee can update profile also. Employee can see the tasks assigned to him/her and tasks which he/she assigned to other employee and its status as well.

## 5.6 ACTIVITY DIAGRAM

Automation Testing:

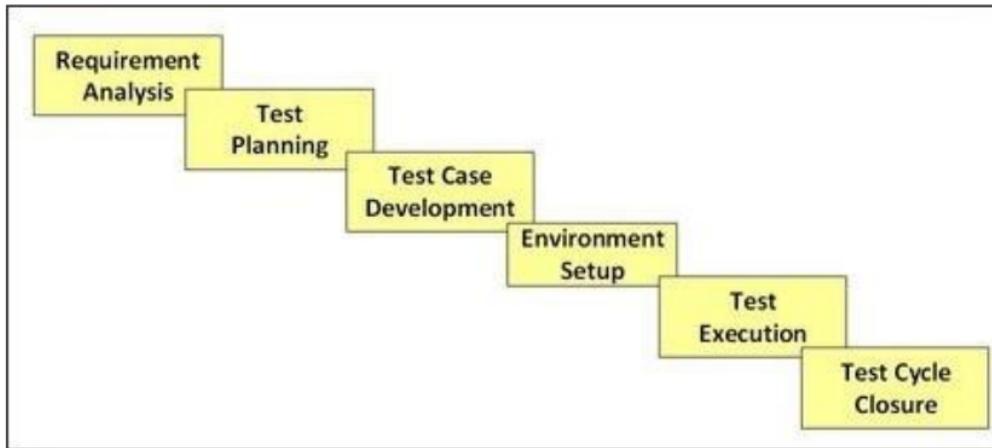


Fig. 5.1 Activity Diagram for Automation Testing

## 5.7 USE CASE DIAGRAM

**AXES Portal:**

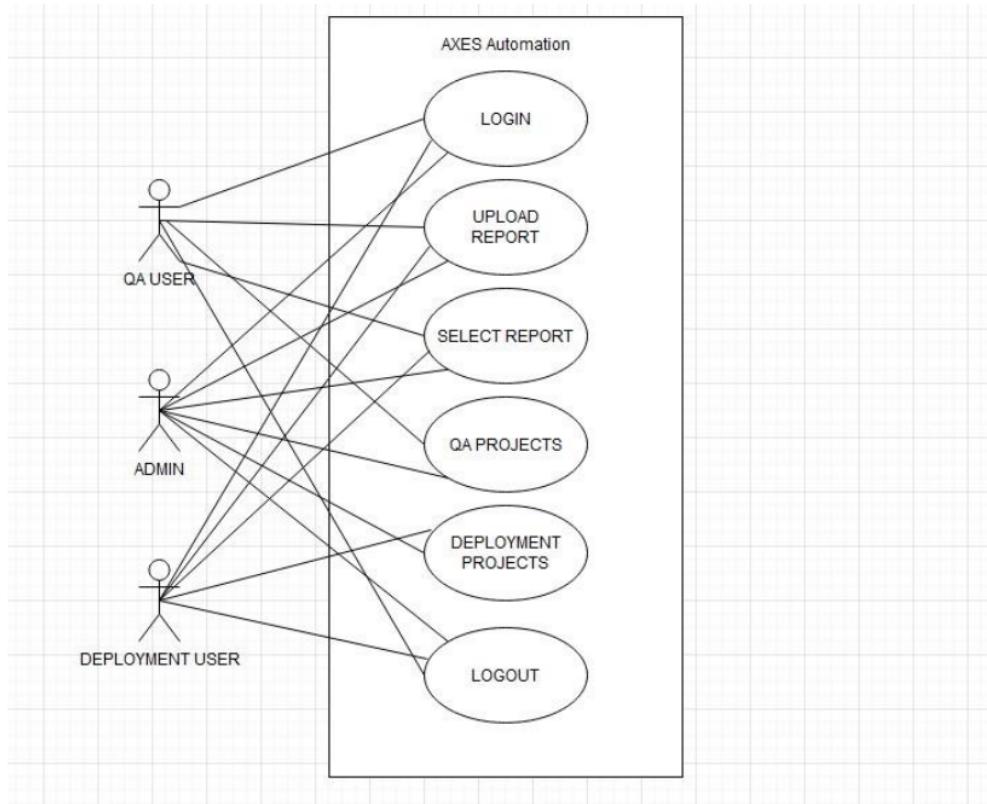


Fig. 5.2 Use Case Diagram for AXES Automation Portal

### Framework for Automation Testing:-

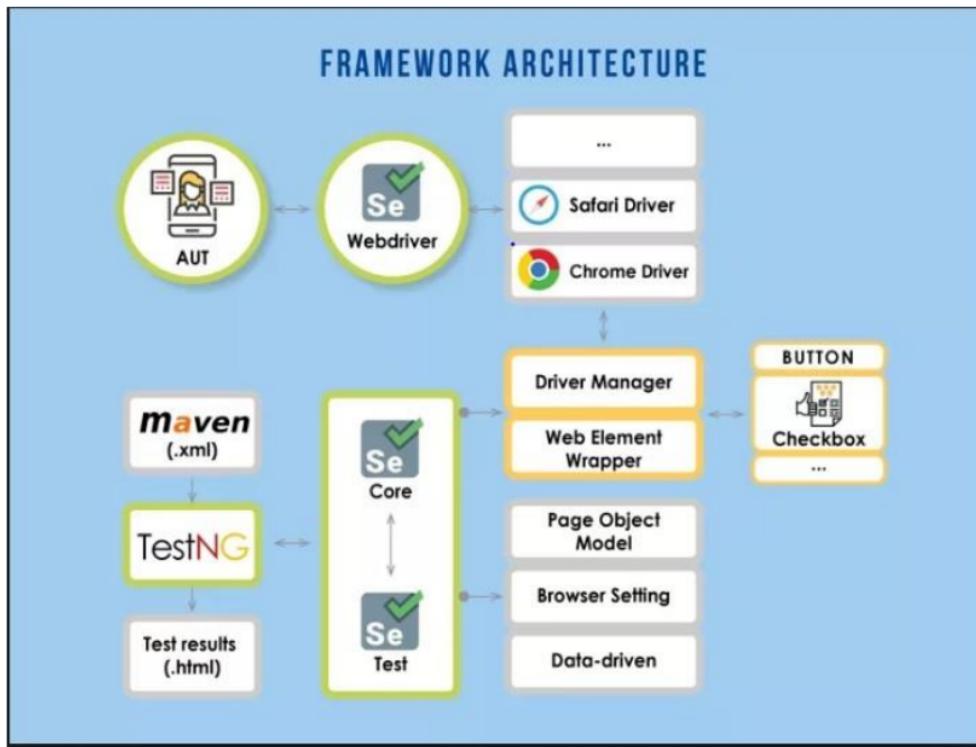


Fig. 5.3 Framework for Automation Testing

## 5.8 SEQUENCE DIAGRAM

AutomationTesting:

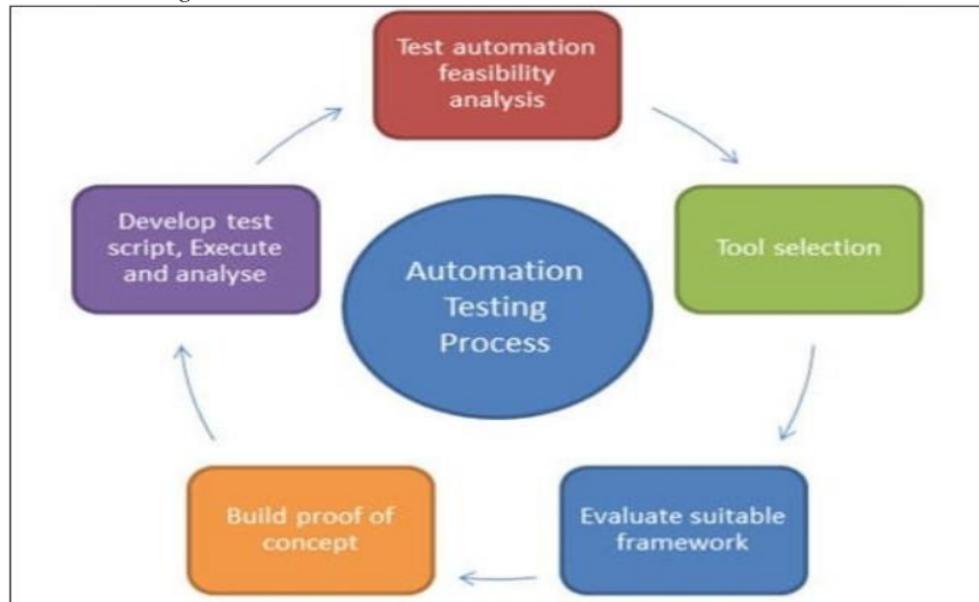


Fig. 5.4 Sequence Diagram for Automation Testing

## CHAPTER 6

### AXES DESIGN

#### 6.1 LOGIN PAGE AND INTERFACE DESIGN

##### 6.1.1 SAMPLES OF LOGIN PAGE, REPORTS AND INTERFACE OF AXES PORTAL

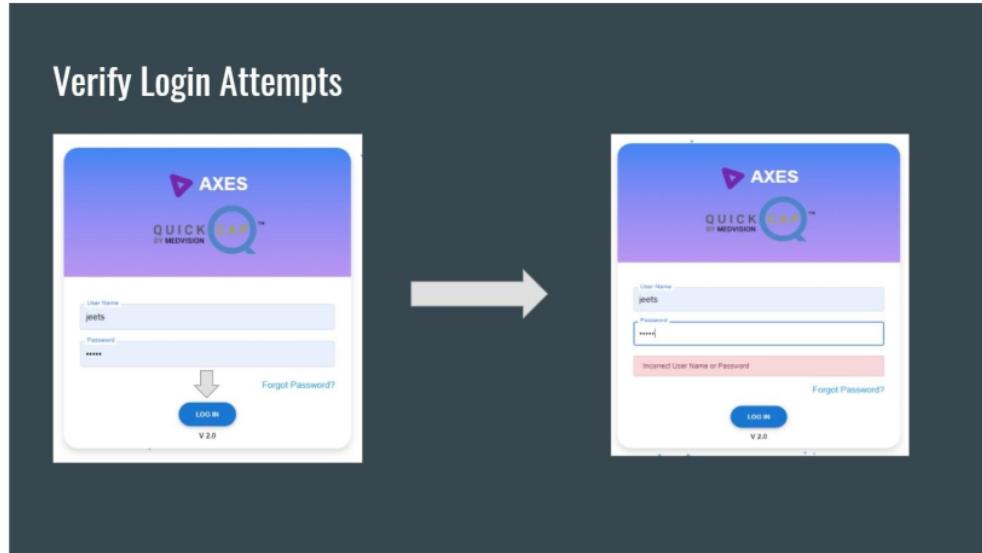


Fig 6.1 Login Attempts

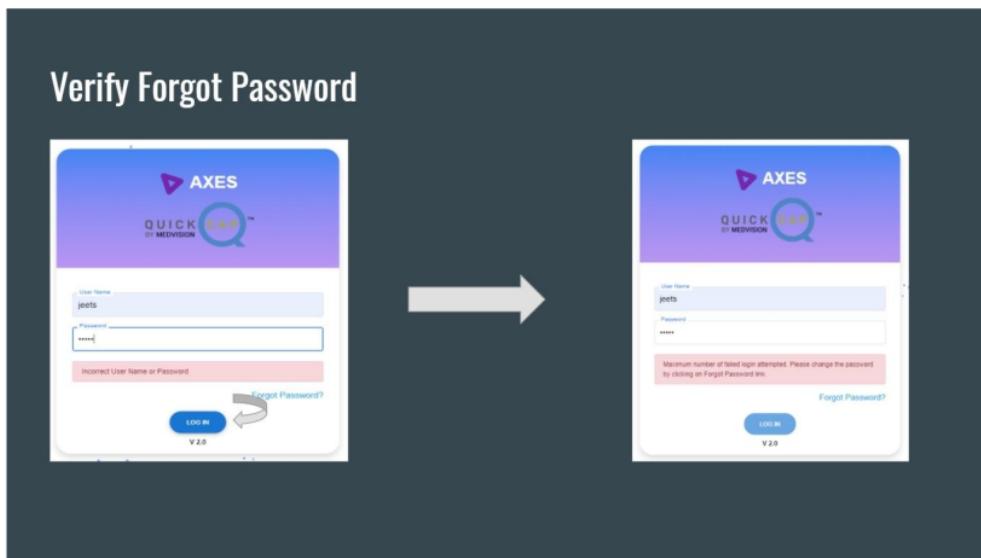


Fig 6.2 Verify Forgot Password

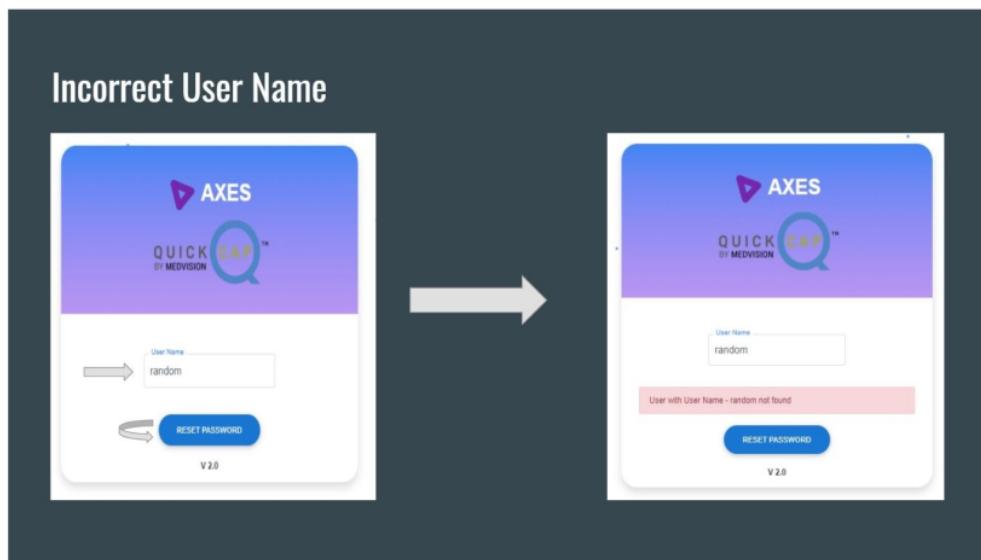


Fig 6.3 Verify incorrect credentials

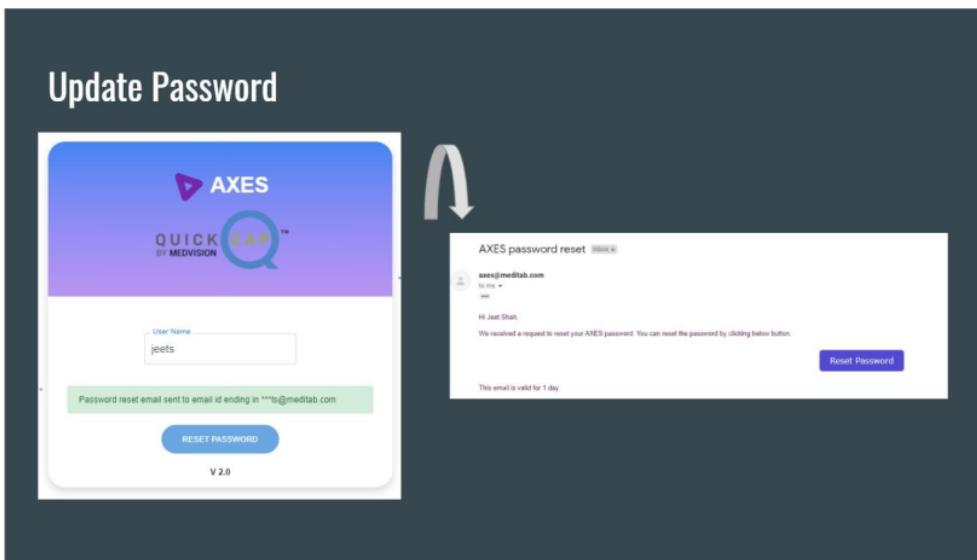


Fig 6.4 Update Password

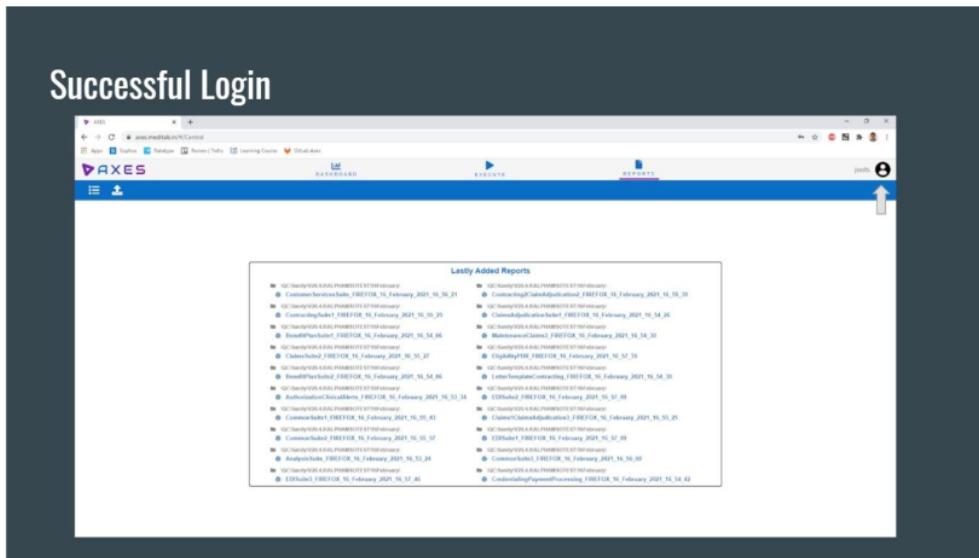


Fig 6.5 Home Page on successful login

## CHAPTER 7

### IMPLEMENTATION PLANNING

#### 7.1 IMPLEMENTATION ENVIRONMENT

##### ❖ For Automation Testing

- Automation Testing an Utility GUI is needed which is actually automated on the automation script testing due to which multiple script can be run together and avoid wasting of time
- Depending on the Database size of the client we need to setup the environment due to which we can replicate client scenarios
- Also for automation we need to have at least a system which contains a high configuration RAM, Size , Processor as the Browsers may consume more memory
- Also whenever the execution of the system is going on we cannot use that machine so to avoid time waste we need to have an extra machine for Script Development

#### 7.2 PROGRAM/MODULES SPECIFICATION

##### ❖ For Automation Testing

- In this project I have created Automation script on majority of modules of the portal

#### 7.3 CODING STANDARDS

- Use the Naming Convention like Camel Case
- Keep functions small
- Write code only for the current requirements
- Use function as much as possible

## CHAPTER 8

### TESTING

#### 8.1 TESTING PLAN

##### For Automation Testing:-

- Automation tools required
- Framework and its characteristics
- Automation that are both in-scope and out-of-scope
- Preparation of an automation test suite
- Scripting and execution schedules and timelines
- Automation Testing Deliverables

##### For Performance Testing: -

- When 1000 users access the website at the same time, make sure the response time is less than 4 seconds.
- When network connectivity is slow, verify that the Application Under Load's response time is within an acceptable range.
- Before the application crashes, check the maximum number of users it can manage.
- Verify database execution time when 500 records are read/written simultaneously.
- Verify CPU utilization and memory usage of the application and the database server under peak load conditions for performance
- Check the application's reaction time under low, medium, moderate, and heavy load circumstances.

## 8.2 TESTING STRATEGY

### For Automation Testing:-

- Tests that are repeated for numerous builds.  
3
- Tests that are prone/cause to human error.
- Tests that are required for multiple data sets.
- This is a frequently used feature that introduces high-risk situations.
- Tests that are impossible to perform manually by testing.
- Tests that are performed on a variety of hardware and software platforms and configurations.
- When manual testing, tests that involve a lot of time and effort.

### For Performance Testing:-

- Verify page load time is within the acceptable range.  
4
- Verify page load on slow connection or while machine is down.
- Verify the response time for any action under a light, normal, moderate, and heavy load conditions.  
4
- Examine the performance of stored procedures and triggers in the database.
- Verify the time of query execution in database.
- Verify the load testing for the application.
- Verify the stress testing
- Examine CPU and memory use during high/peak loads.

## CHAPTER 9

### CONCLUSION AND DISCUSSION

#### **9.1 PROBLEM ENCOUNTERED AND POSSIBLE SOLUTIONS**

##### **For Performance testing: -**

While Generating the Result of the application we have observed that due to use of long and sub query in the development of the product the performance of the systems gets harm and decrease and make it to negligible amount we have suggested the developer team that this query of database is affecting to the system make it simple using join operation.

##### **For Automation Testing: -**

We have observed that while developing the script we have observed that some functionality of system remains for all module or sub module So we were writing the repetitive code for all module instead of that we have suggested that why don't we createthe function for these and avoid the repetitive use of the code and call this function at thatplace

Also, another problem is that for execution of entire module we don't have any mechanism to execute the script so we have suggested to the .net Developer to develop and utility which can help the automation team as well as QA Team to have a such functionality that can import all the script and execute all the script and store the result atone place

#### **9.2 SUMMARY OF PROJECT WORK**

Through the medium of performance testing project, we arrive at the conclusion that to develop the good website/application we have to maintain satisfy benchmark standards. We have to check how the application works under more no. of users for long duration without maintaining website. If suddenly more no of users come than how it reacts. Because it affects company value in market.

Because of handling more no of user in single time and fast results Google ruled on market. If we want our place in market than we have to maintain this all things. Because of performance testing most probably company doesn't have complaints about slowness issue. Performance built company's market value.

Through the medium of automation project, we arrive at the conclusion that to if your application is complex and have quick enhancement in short time, then before launching in market you have to check old functionality also. There may be bug occurs in old functionality Because of new enhancement. We cannot check whole functionality in short time, if we can then also it may be possible that human errors there.

We can use automation to overcome this problem. Because it Reduce cost, increase time economy, large coverage of testing, increase productivity, eliminating human errors, reduce repetit

## **CHAPTER 10**

### **LIMITATIONS AND FUTURE ENHANCEMENT**

#### **9.1 LIMITATIONS**

- Many people who has less understanding of automation attempt to automate everything. However, due to time and financial constraints, it is not possible to do so.
- Wherever there is a change in the user interface, most scripts require code updates, which needs ongoing maintenance.
- Testing software does not have the same level of intelligence as humans. They only have extremely little programmed intelligence.

#### **9.2 FUTURE ENHANCEMENT**

- We are developing our utility that can generate testing automation scripts automatically. We only must develop components. QA Enters the flow of test case and it will create script.

## **CHAPTER 11**

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