Aim: Usability Evaluation of the Design: Testing of User Interface from Third Party(Test scripts).

THEORY:

A Test Case is a set of actions executed to verify a particular feature or functionality of your software application. A Test Case contains test steps, test data, precondition, postcondition developed for specific test scenarios to verify any requirement. The test case includes specific variables or conditions, using which a testing engineer can compare expected and actual results to determine whether a software product is functioning as per the requirements of the customer.

UI testing is an important element of the software testing cycle. To validate whether applications have the desired functionalities and that they are user-friendly, QA professionals should test all interface components. This not only improves the software quality but also ensures end users are comfortable when using the application.

User interface or UI testing, also known as GUI testing, is the process of testing the visual elements of an application to validate whether they accurately meet the expected performance and functionality. By testing the GUI, testers can validate that UI functions are free from defects.

The main aspects checked in UI testing include:

- Visual Design.
- Functionality.
- Usability.
- Performance.
- Compliance.

Project Name: MyHome - IoT & Android Based Smart Home Automation System	
Test Case ID: T01	**Test Designed By:** Narender Keswani
Module Name: User Login Screen	**Test Designed Date:** 04/07/2022
Test Title: Verify login with valid email and password	**Test Executed By:** Narender Keswani
Description: Test the User Login	**Test Execution Date:** 04/07/2022
Pre-Conditions: User should have email and password	

Step	Step Name	Test Data	Expected Result	Actual Result	Status (Pass/ Fail)
1	Navigate to login page	Email= narender.rk10@gmail.com	If the details are correct then OTP will be sent to the user email.	If the details are correct then OTP will be sent to the user email.	Pass
2	Provide valid email	Password: Narend-10			
3	Provide valid password				
4	Click on Login button				

Project Name: MyHome - IoT & Android Based Smart Home Automation System	
Test Case ID: T02	**Test Designed By:** Narender Keswani
Module Name: User OTP Verification Screen	**Test Designed Date:** 04/07/2022
Test Title: Verify OTP	**Test Executed By:** Narender Keswani
Description: Test the User OTP Verification	**Test Execution Date:** 04/07/2022
Pre-Conditions: User should have One Time Password of 6 - digit	

Step	Step Name	Test Data	Expected Result	Actual Result	Status (Pass/ Fail)
1	Navigate to OTP verification screen	OTP = 123456	If the OTP is correct then the user will be redirected to the dashboard.	If the OTP is correct then the user will be redirected to the dashboard.	Pass
2	Provide valid OTP				
3	Click on Verify button				

Project Name: MyHome - IoT & Android Based Smart Home Automation System	
Test Case ID: T03	**Test Designed By:** Narender Keswani
Module Name: User Forgot Password Screen	**Test Designed Date:** 04/07/2022
Test Title: Reset Password Request	**Test Executed By:** Narender Keswani
Description: User will send the Forgot Password Request	**Test Execution Date:** 04/07/2022
Pre-Conditions: User should have to provide valid email address	

Step	Step Name	Test Data	Expected Result	Actual Result	Status (Pass/ Fail)
1	Navigate to forgot password screen	Email= narender.rk10 @gmail.com	Sends the reset Password email to the registered email.	Sends the reset Password email to the registered email.	Pass
2	Provide valid email address				
3	Click on Forgot Password button				

Project Name: MyHome - IoT & Android Based Smart Home Automation System	
Test Case ID: T04	**Test Designed By:** Narender Keswani
Module Name: Edit Profile Screen	**Test Designed Date:** 04/07/2022
Test Title: Edit Profile Request	**Test Executed By:** Narender Keswani
Description: User can edit personal details	**Test Execution Date:** 04/07/2022
Pre-Conditions: User should have to provide valid email address and name and other details	

Step	Step Name	Test Data	Expected Result	Actual Result	Status (Pass/ Fail)
1	Navigate to edit profile screen	Name = NARENDER KESWANI Email = narender.rk10@gmail.com	Provided name & email will be updated.	Provided name & email will be updated.	Pass
2	Provide valid email address and name				
3	Click on Update Profile button				

Project Name: MyHome - IoT & Android Based Smart Home Automation System	
Test Case ID: T05	**Test Designed By:** Narender Keswani
Module Name: Report Issue Screen	**Test Designed Date:** 04/07/2022
Test Title: Report Issue Request	**Test Executed By:** Narender Keswani
Description: User can Report Issue	**Test Execution Date:** 04/07/2022
Pre-Conditions: User should have to provide valid issue and suggestions, etc	

Step	Step Name	Test Data	Expected Result	Actual Result	Status (Pass/ Fail)
1	Navigate to Report Issue screen	Issue = IOT device not working Problem/Suggestion = Electrical port not working	Data will be sent to the customer care.	Data will be sent to the customer care.	Pass
2	Provide valid issue and suggestions				
3	Click on Report Issue button				

Project Name: MyHome - IoT & Android Based Smart Home Automation System	
Test Case ID: T06	**Test Designed By:** Narender Keswani
Module Name: Change Password Screen	**Test Designed Date:** 04/07/2022
Test Title: Change Password Request	**Test Executed By:** Narender Keswani
Description: User can Change Password	**Test Execution Date:** 04/07/2022
Pre-Conditions: User should have to provide old password and new password	

Step	Step Name	Test Data	Expected Result	Actual Result	Status (Pass/ Fail)
1	Navigate to Change Password screen	Old Password = abc New Password = abc23	If old password is correct then the new password will be updated.	If old password is correct then the new password will be updated.	Pass
2	Provide old password and new password				
3	Click on Change Password button				

Project Name: MyHome - IoT & Android Based Smart Home Automation System	
Test Case ID: T07	**Test Designed By:** Narender Keswani
Module Name: Auto ON-OFF Screen	**Test Designed Date:** 04/07/2022
Test Title: Auto ON-OFF Ports Update Request	**Test Executed By:** Narender Keswani
Description: User can update Auto ON-OFF ports	**Test Execution Date:** 04/07/2022
Pre-Conditions: User should have to provide valid Port, Days, Start Time & Stop Time	

Step	Step Name	Test Data	Expected Result	Actual Result	Status (Pass/ Fail)
1	Navigate to Auto ON-OFF screen	Port = 1 Days = [Monday, Tuesday] Start Time = 05:00 Stop Time = 18:00	Data will be updated in database & particular electrical port will be turned on-off automatically.	Data will be updated in database & particular electrical port will be turned on-off automatically.	Pass
2	Provide valid Port, Days, Start Time & Stop Time				
3	Click on update Auto ON-OFF button				

IOT TEST CASES:

Test Case ID	Test Conditions	Input Specified	Expected Result	Actual Result
8.	Electrical Port ON	User will command or turn on the switch in android application.	Electrical port will be turned on.	Electrical Port will be turned on.
9.	Electrical Port OFF	User will command or turn off the switch in android application.	Electrical port will be turned off.	Electrical Port will be turned off.
10.	Air Monitoring	User uses app & view the air monitoring dashboard.	Sensor data (humidity, temperature, aqi level) will be displayed to the user.	Sensor data (humidity, temperature, aqi level) will be displayed to the user.
11.	Electrical Monitoring	User uses app & view the electrical monitoring dashboard.	Sensor data (bill, voltage, current, energy, power) will be displayed to the user.	Sensor data (bill, voltage, current, energy, power) will be displayed to the user.
12.	Water Monitoring	User uses app & view the water monitoring dashboard.	Sensor will measure the water tank level & same displayed to the user.	Sensor will measure the water tank level & same displayed to the user.
13.	Plant Monitoring	User uses app & view the plant monitoring dashboard.	Sensor data (moisture level & status) will be	Sensor data (moisture level & status) will be

			displayed to the user.	displayed to the user.
14.	Fire Detection	User uses app & view the dashboard.	Sensor will detect the fire & sends the notification to the user.	Sensor will detect the fire & sends the notification to the user.
15.	Gas Detection	User uses app & view the dashboard.	Sensor will detect the hazardous gas & sends the notification to the user.	Sensor will detect the hazardous gas & sends the notification to the user.

CONCLUSION:

From this practical, I have learned & created the test cases of smart home automation system user interface.