**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.

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| **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 | |

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| **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 |  |

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| **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 | |

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| **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 |

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| **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 | |

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| **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 |

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| **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 | |

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| **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](mailto: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 |

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| **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 | |

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| **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 |

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| **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 | |

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| **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 |

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| **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 | |

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| **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:**

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| **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 displayed to the user. | Sensor data (moisture level & status) will be 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.