**qUALITY aSSURANCE tEST Plan**



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# **Chapter 1: Automation Test Plan**

## **1.1. In Scope**

* Login functionality
* Employee Management
* Time and Attendance
* Leave Management
* Dashboard

## **1.2. Entry and Exit Criteria**

## **Entry Criteria**

* Requirement Spec Doc
* Test Plan
* Test cases

## **Exit Criteria**

* Completion of Planned Test Case’s Execution.
* Zero Installer defects.

# **Chapter 2: Automation Test Execution Model**

## **2.1. Test Specification**

Regression suite comprises of below modules:

|  |  |  |
| --- | --- | --- |
| Modules | Tester Name | Module\_TestCase\_Count |
| PIM | Siddhant | 16 |
| Leave | Shweta | 17 |
| Time | Saba | 15 |
| Dashboard | Pulkit | 47 |
| Login | Pulkit | 5 |
| Total Test cases | | 100 |

Note: We have Identified 100 Test cases out of which 50 are high priority, 33 medium priority and 17 low priority test cases. We will automate test cases based on priority.

**\*\*Note: Number or Test Scenarios which are automated will be based on capacity of Team**

Detailed Test Scenario list:

|  |  |  |
| --- | --- | --- |
| Test Case Number | Test Case Name | Test Case Description |
| Time\_Employee\_1 | Time and Attendance Module | Employee to record Punch In |
| Time\_Employee\_2 | Time and Attendance Module | Employee to record Punch Out |
| Time\_Employee\_3 | Time and Attendance Module | Employee to view the punching record |
| Time\_Employee\_4 | Time and Attendance Module | Employee to Enter/record the time sheet 8 hrs. |
| Time\_Employee\_5 | Time and Attendance Module | Employee to Enter/record the time sheet more than 24 hrs. a day |
| Time\_Employee\_6 | Time and Attendance Module | Employee to Enter/record the time sheet less than 0 hrs. a day |
| Time\_Admin\_1 | Time and Attendance Module | Admin to record Punch In |
| Time\_Admin\_2 | Time and Attendance Module | Admin to record Punch Out |
| Time\_Admin\_3 | Time and Attendance Module | Admin to view the punching record |
| Time\_Admin\_4 | Time and Attendance Module | Admin to view the employee record |
| Time\_Admin\_5 | Time and Attendance Module | Admin to Enter/record the time sheet for him |
| Time\_Admin\_6 | Time and Attendance Module | Admin to Enter/record the time sheet for Employee |
| Time\_Admin\_7 | Time and Attendance Module | Admin Reporting:Project Report |
| Time\_Admin\_8 | Time and Attendance Module | Admin Reporting:Employee Report |
| Time\_Admin\_9 | Time and Attendance Module | Admin Reporting:Attendence Summary Report |
| Leave\_Admin\_1 | Leave Module | Verify Admin able to assign/allocate leave for a Specific Employee. |
| Leave\_Admin\_2 | Leave Module | Verify Employee Leave Entitlements by Employee Name, Leave Type, and Leave Period |
| Leave\_Admin\_3 | Leave Module | Verify Admin Allocating Leave for Multiple Employees |
| Leave\_Admin\_4 | Leave Module | Verify User Can Configure Leave Types |
| Leave\_Admin\_5 | Leave Module | Verify User Can Configure Holidays List |
| Leave\_Admin\_6 | Leave Module | Verify Leave List Displayed Based on "From Date," "Show Leave with Status," and "Leave Type" Selections |
| Leave\_Admin\_7 | Leave Module | Verify Error Message for Missing "Show Leave with Status" Selection |
| Leave\_Admin\_8 | Leave Module | Verify Leave List Displayed with Multiple Leave Status Filters and Date Range |
| Leave\_Admin\_9 | Leave Module | Verify Employee Leave List Filtered by Name, Leave Status, and Date Range |
| Leave\_Admin\_10 | Leave Module | Verify Leave List Displayed with Single Leave Status and Date Range |
| Leave\_Admin\_11 | Leave Module | Validate Error Message for Insufficient Leave Balance |
| Leave\_Admin\_12 | Leave Module | Validate all the employee leave should be shown as per leave type, location and subtype is selected. |
| Leave\_Admin\_13 | Leave Module | Validate all the employee leave should be shown as per leave type and location is selected. |
| Leave\_Admin\_14 | Leave Module | Validate all the employee leave should be shown as per leave type and location is selected. |
| Leave\_Employee\_1 | Leave Module | Validate New Employee Can Apply for Leave Type with Sufficient Leave Balance. |
| Leave\_Employee\_2 | Leave Module | Validate New Employee Can Apply for Half-Day Leave with Sufficient Leave Balance. |
| Leave\_Employee\_3 | Leave Module | Validate New Employee Can Apply for Specific Time-Based Leave with Sufficient Leave Balance. |
| Add\_Employee\_01 | PIM | Verify if the user is able to Add New Employee |
| Add\_Employee\_02 | PIM | Verify if the user is not able to Add Employee if Mandatory Field is missing |
| Add\_Employee\_03 | PIM | Verify the Uniqueness of Employee ID |
| Add\_Employee\_04 | PIM | Verify if the Employee is added and kept as disabled the employee should not be able to login |
| Add\_Employee\_05 | PIM | Verify if the User is not able to proceed if "Password " and "Confirm Password" are different. |
| Add\_Employee\_06 | PIM | Verify if the Employee created is able to login with valid credentials. |
| Edit\_Employee\_01 | PIM | Verify if the Employee is able to Edit a Single Field of an Employee Record |
| Edit\_Employee\_02 | PIM | Verifyif the Employee is able to Edit Multiple Fields of an Employee Record |
| Edit\_Employee\_03 | PIM | Verify if the user is not able to edit the Employee Id which is already taken or exists. |
| Edit\_Employee\_04 | PIM | Verify if the user is able to Edit a Field with Invalid Data or keep it Empty. |
| Delete\_Employee\_01 | PIM | Verify if the user is able to Delete a Single Employee Record |
| Delete\_Employee\_02 | PIM | Verify if the user is able to Delete multiple Employees Record |
| Delete\_Employee\_03 | PIM | Verify if the user is able to Cancel Deletion Process |
| Search\_Employee\_01 | PIM | Verify if the user is able to Search employee based on Employee name. |
| Search\_Employee\_02 | PIM | Verify if the user is able to Search employee based on Employee Id. |
| Search\_Employee\_03 | PIM | Verify if proper message is displayed to the user if no records are found. |
| Dashboard\_Admin\_1 | Dashboard Module | "Time at Work" should be there |
| Dashboard\_Admin\_2 | Dashboard Module | "My action" should be there |
| Dashboard\_Admin\_3 | Dashboard Module | "Quick Launch" should be there |
| Dashboard\_Admin\_4 | Dashboard Module | "Buzz Latest Post" should be there |
| Dashboard\_Admin\_5 | Dashboard Module | "Employees on Leave Today" should be there |
| Dashboard\_Admin\_6 | Dashboard Module | "Employee distribution by subunit" should be there |
| Dashboard\_Admin\_7 | Dashboard Module | "Employee distribution by location" should be there |
| Dashboard\_Admin\_8 | Dashboard Module | verify Timesheets to Approve is displayed under my action |
| Dashboard\_Admin\_9 | Dashboard Module | verify Pending Self Review is displayed under my action |
| Dashboard\_Admin\_10 | Dashboard Module | verify Candidate to Interview is displayed under my action |
| Dashboard\_Admin\_11 | Dashboard Module | verify leaves to approve is displayed under my action |
| Dashboard\_Admin\_12 | Dashboard Module | verify Assign Leave is displayed under Quick launch wizard |
| Dashboard\_Admin\_13 | Dashboard Module | Verify Leave List is displayed under Quick launch wizard |
| Dashboard\_Admin\_14 | Dashboard Module | Verify Time Sheet is displayed under Quick launch wizard |
| Dashboard\_Admin\_15 | Dashboard Module | Verify Apply leave is displayed under Quick launch wizard |
| Dashboard\_Admin\_16 | Dashboard Module | Verify My Leave is displayed under Quick launch wizard |
| Dashboard\_Admin\_17 | Dashboard Module | Verify My timesheet is displayed under Quick launch wizard |
| Dashboard\_Admin\_18 | Dashboard Module | Verify username icon is coming at right top banner |
| Dashboard\_Admin\_19 | Dashboard Module | verify profile icon has Support link |
| Dashboard\_Admin\_20 | Dashboard Module | verify profile icon has About link |
| Dashboard\_Admin\_21 | Dashboard Module | verify profile icon has Change Password link |
| Dashboard\_Admin\_22 | Dashboard Module | verify profile icon has logout link |
| Dashboard\_Admin\_23 | Dashboard Module | Verify Dashbord has leave link on left side navigation panel. |
| Dashboard\_Admin\_24 | Dashboard Module | Verify Dashbord has time link on left side navigation panel. |
| Dashboard\_Admin\_25 | Dashboard Module | Verify Dashbord has My Info link on left side navigation panel. |
| Dashboard\_Admin\_26 | Dashboard Module | Verify Dashbord has directory link on left side navigation panel. |
| Dashboard\_Admin\_27 | Dashboard Module | Verify Dashbord has Claim link on left side navigation panel. |
| Dashboard\_Admin\_28 | Dashboard Module | Verify Dashbord has Buzz link on left side navigation panel. |
| Dashboard\_Admin\_29 | Dashboard Module | Verify Dashbord has Admin link on left side navigation panel. |
| Dashboard\_Admin\_30 | Dashboard Module | Verify Dashbord has PIM link on left side navigation panel. |
| Dashboard\_Admin\_31 | Dashboard Module | Verify Dashbord has Recruitment link on left side navigation panel. |
| Dashboard\_Admin\_32 | Dashboard Module | Verify Dashbord has Performance link on left side navigation panel. |
| Dashboard\_Admin\_33 | Dashboard Module | Verify Dashbord has Maintenance link on left side navigation panel. |
| Dashboard\_Employee\_1 | Dashboard Module | "Time at Work" should be there |
| Dashboard\_Employee\_2 | Dashboard Module | "My action" should be there |
| Dashboard\_Employee\_3 | Dashboard Module | "Quick Launch" should be there |
| Dashboard\_Employee\_4 | Dashboard Module | "Buzz Latest Post" should be there |
| Dashboard\_Employee\_5 | Dashboard Module | "Employees on Leave Today" should be there |
| Dashboard\_Employee\_6 | Dashboard Module | Verify Apply leave is displayed under Quick launch wizard |
| Dashboard\_Employee\_7 | Dashboard Module | Verify My Leave is displayed under Quick launch wizard |
| Dashboard\_Employee\_8 | Dashboard Module | Verify My timesheet is displayed under Quick launch wizard |
| Dashboard\_Employee\_9 | Dashboard Module | Verify Dashbord has leave link on left side navigation panel. |
| Dashboard\_Employee\_10 | Dashboard Module | Verify Dashbord has time link on left side navigation panel. |
| Dashboard\_Employee\_11 | Dashboard Module | Verify Dashbord has My Info link on left side navigation panel. |
| Dashboard\_Employee\_12 | Dashboard Module | Verify Dashbord has directory link on left side navigation panel. |
| Dashboard\_Employee\_13 | Dashboard Module | Verify Dashbord has Claim link on left side navigation panel. |
| Dashboard\_Employee\_14 | Dashboard Module | Verify Dashbord has Buzz link on left side navigation panel. |
| Login\_Admin\_1 | Login Module | Verify able to login using valid admin credentials |
| Login\_Admin\_1 | Login Module | Verify not able to login using invalid admin credentials |
| Login\_Employee\_1 | Login Module | Verify able to login using valid admin credentials |
| Login\_Employee\_1 | Login Module | Verify not able to login using invalid admin credentials |
| Login\_ForgotYourPassword | Login Module | Verify Forgot your password works |

Automation Regression Test Execution will be conducted on **LOCAL environment** as it is less risk on overall delivery cycles.

## **2.2. Automation Deliverables**

This **section** outlines planned deliverables for Automation Testing, the following documents should be provided to Stakeholder by Internal Testing Team.

* Automation Test Plan
* Automation Test Strategy
* Test Scenario suite for which automation scripts are executed

# **Chapter 3: Implementation Process/Standards**

## **3.1. Automation Script Maintenance Plan**

* **Clear Test Data Management Approach:**

Every time a change is made to the application, refresh the database. Build a new set of data every time you run the scripts. A clear test data management approach can help in maintaining the test automation suite and contribute to bring a clear ROI.

* **Regular health check of automation suites:**

Get regular health checks of the automation suites. Regular checks will ensure automation suites perform as anticipated and give the best results.

* **Impact analysis of any new enhancement in the application:**

The analysis inspects the proposed change to recognize modules to be created, modified, or rejected and to estimate the effort associated to implement the change. Based on the analysis, QA should be planned to update the impacted automated scripts during the release itself.

## **3.2 Automation Test Success Metrics**

Below are Key Test Automation Metrics for Measuring Success:

* >70% of Automatable Test Scenarios
* 100% Automation of High priority Testcases
* Automation Script Effectiveness
* Build Stability
* >90% Automation Test Pass Percentage
* In-Sprint Automation
* >10% Effort on maintaining Automation Script
* **Pareto Principle (80/20 Thumb Rule)**:
  + 80% of the test cases which, if automated, would reduce the risk of errors during regression testing to an acceptable level
  + Remaining 20% can then be either left for manual testing or not considered part of the current regression suite.

## **3.3. Guidelines for Resolving Git Conflicts and Managing Pull Requests**

* Communicate with your team
* Break up large changes into smaller ones
* Ensure You Have the Latest Changes
* Use descriptive commit messages
* Avoid Concurrent PRs

## **3.4. Risk Analysis Assumptions**

We shall undertake the task of identifying and documenting all probable risks, assumptions, issues, and dependencies that may have an impact on our testing endeavours. This proactive approach will enable us to manage any potential issues effectively and ensure the efficacy and efficiency of our testing process

.

**Assumptions:-**

1. **Clear Requirements:** Assumption that project requirements are well-defined, documented, and agreed upon by all stakeholders. Any changes will be formally documented and approved through a change management process.
2. **Resource Availability**: Assumption that the necessary skilled resources, both internal and external, will be available as needed throughout the project. Any potential resource constraints will be addressed promptly.
3. **Infrastructure and Environment**: Assumption that the required hardware, software, and network infrastructure will be provisioned and maintained as needed for development, testing, and production environments.
4. **Client Involvement**: Assumption that the client or product owner will actively participate in reviews, provide timely feedback, and be available for necessary discussions and decisions.
5. **Third-party Services**: Assumption that third-party services and APIs, if used, will be available and reliable as per their service level agreements (SLAs)

**Risk:-**

1. The loss of existing data occurs due to the system being refreshed every hour.
2. Compatibility issues with various browsers, devices, or screen sizes.
3. Lack of scalability to handle increased user loads.
4. **Resource Risks**:
5. Unexpected departures or unavailability of team members
6. Inadequate infrastructure or cloud service limitations
7. **Scope Risks**:
8. Requirements changes or additions during the project
9. Unrealistic client expectations
10. **Schedule Risks**:
11. Unforeseen delays due to technical challenges.
12. Project dependencies or external factors beyond your control.
13. Inaccurate time estimates.
14. Conflicting priorities or resource constraints
15. **Quality Risks:**
16. Insufficient testing coverage.
17. Inadequate test data or environments.
18. Miscommunication or misunderstandings about quality standards.
19. **Legal and Compliance Risks:**
20. Legal challenges related to user-generated content or accessibility.

Non-compliance with data protection regulations (e.g., GDPR).

# **Chapter 4: Automation Test Estimation**

Below is the estimation for all detailed test scenarios.

|  |  |
| --- | --- |
| **Abbreviation used in estimation** | |
| Test case Complexity/Additional efforts | Script development in Hrs/Percentage |
| Low | 4 |
| Medium | 6 |
| High | 8 |
| Review incorporation | 5 |
| Review (Development + functional team) | 5 |
| Framework Modification | 5 |
| Test Batch Dry Run(Single test data, Different environment , CI/CD Integration) | 10 |
| Contingency | 25 |
| Skill Set – Beginner | 1.50 |
| Skill Set – Intermittent | 1.25 |
| Skill Set – Expert | 1.00 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Details/Test Scenario Complexity** | **Low** | **Medium** | **High** |
| No of Test Case | 33 | 50 | 17 |
| Script Development for each TC (in hrs) | 4 | 6 | 8 |
| **Total Script development Efforts (in hrs)** | 132 | 300 | 136 |
| Review (Development + functional team) | 6.6 | 15 | 6.8 |
| Review incorporation | 6.6 | 15 | 6.8 |
| **Batch Dry Run** | 62 | | |
| **Script development total efforts** | 687 | | |
| **Additional Efforts(in Hrs)** | | | |
| Framework Modification | 34 | | |
| Contingency | 172 | | |
| **Total Efforts(in hrs.)** | 893 | | |
| Total Efforts based on skill competency | **1116.25** | | |
| Total Efforts in person(in Day's) | 140 | | |