ICTAK WEBSITE TEST PLAN

Prepared By,
Group 5

Revision Sheet

Document History - *To maintain a list of changes being made*

VERSION	DATE	AUTHOR	DESCRIPTION OF CHANGE
1.1	Tuesday, 15 November 2022	• Arjun CS • Janza Rasheed • Sherin Thomas • Sonia K George • Teenumol PD	Draft

Approvers List - *To track who has reviewed and signoff on the Test plan*

NAME	ROLE	APPROVER/REVIEWER	APPROVAL/REVIEW DATE

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1. INTRODUCTION

1.1. Purpose

The Test Plan document include and tracks the necessary information required to effectively define the approach to be used in the testing of the 'ICTAK' website-http://64.227.132.109/LandingPage .
This document is created during the Planning Phase of the project. Its intended audience is the project manager, project team, and testing team.

- The document introduces :

- Test Strategy: rules the test will be based on, including the givens of the project (e.g.: start / end dates, objectives, assumptions); description of the process to set up a valid test (e.g.: entry / exit criteria, creation of test cases, specific tasks to perform, scheduling, data strategy).

- Execution Strategy: describes how the test will be performed and process to identify and report defects, and to fix and implement fixes.

- Test Management: process to handle the logistics of the test and all the events that come up during execution (e.g.: communications, escalation procedures, risk and mitigation, team roster)

1.2. Project Overview

ICT Academy of Kerala is a Social Enterprise created in a Public Private Partnership model (PPP) for imparting ICT skills to the youths of Kerala and improve their employability opportunities in the Industry.. 'ICTAK Website' helps users to apply for different courses.

There is also an option for applying for partnership and membership with ICT academy, by filling the corresponding registration form. This website also notifies the upcoming events and also Paatshala to help students redirect to the learning platform.

- Key features of ICTAK website:

- Easy enrolling of courses.
- Easy course registration for students.
- Offerings for different membership and partnerships.
- Option to explore upcoming events.
- Option to download registration, membership and partnership details by Admin.
- Offers Paatshala(LMS) to help students to get access to the learning platform.
- Contact Us page include contact us form.

- Features of the User Panel:

- Login: Once registration completed in the 'ICTAK Website' app like, users can log in using credentials like password.
- Homepage : user can access the webpage.

- Features of the Admin Panel:

- Login: Admin can log in here to the 'ICTAK Website' web app using his/her login details and password.
- Dashboard: Admin can see each and everything that is happening on in the 'ICTAK Website' in the dashboard. It gives total business performance statistics such as total number of registered users and staffs. Total number of courses and testimonials. Admin also have access to 'What to do!' list in the dashboard.
- Manage course: Admin can view, delete and edit added courses and its status. Also he/she can search course by name and also can add new courses.
- Manage Testimonials : Admin can view, add, delete and edit added testimony . Also he/she can search testimony by name and also can add new testimonies.
- Manage course registered users : Admin can view and delete course registered users. Also he/she can search course by date and also can download list of registered users.
- Manage Academic Membership : Admin can view and delete registered academic members. Also he/she can search members by name and also can download the list of academic members.
- Manage Corporate Membership : Admin can view and delete registered corporate members. Also he/she can search members by name and also can download the list of corporate members.
- Manage Partnership : Admin can view and delete registered partners. Also he/she can search members by name and also can download the list of partners.
- Manage Industrial Partners : Admin can view and delete registered partners. Also he/she can search members by name and also can download the list of partners.
- Manage Knowledge Partners : Admin can view , add and delete registered knowledge partners. Also he/she can search partners by name and also can download the list of knowledge partners.
- Manage Patrons : Admin can view, add and delete patrons . Also he/she can search members by name.
- Manage Events : Admin can view, edit, add and delete registered events. Also he/she can search events by name.
- Manage Staff : Admin can view, edit, add and delete registered staff. Also he/she can search staffs by name.

- Manage Admin Users : Admin can view, edit, add and delete registered admin. Also he/she can search admin by name.

1.3. Audience

- Project team members perform tasks specified in this document, and provide input and recommendations on this document.
- As Project Manager Plans for the testing activities in the overall project schedule, reviews
- The document, tracks the performance of the test according to the task herein specified, approves the document and is accountable for the results.
- The stakeholders' representatives and participants may take part in the UAT test to ensure the business is aligned with the results of the test.
- Technical Team ensures that the test plan and deliverables are in line with the design, provides the environment for testing and follows the procedures related to the fixes of defects.

Business analysts will provide their inputs on functional changes.

2. TEST STRATEGY

2.1. Test Objectives

- The objective of the test is to verify that the functionality of 'ICTAK Website' *VERSION 1.1*

- Ensure the Application Under Test conforms to functional and non functional requirements.
- Ensure the AUT meets the quality specifications defined by the client.
- Bugs/issues are identified and fixed before go live.

2.2. Test Completeness

- Criteria's to check Test Completeness would be:

- 100% test coverage
- All Manual & Automated Test cases executed
- All open bugs are fixed or will be fixed in next release

2.3. Scope and Levels of Testing

2.3.1 Functional Test

PURPOSE: Functional testing will be performed to check the functions of application. The functional testing is carried out by feeding the input and validates the output from the application.

SCOPE: The below excel sheet details about the scope of Functional test. Note: The scope is high level due to changes in the requirement

Test Module	Sub Module	Number of Test Cases
Home		38
About us		12
Courses	• Mean FullStack • Data Science and Analytics • Software Testing • Digital Marketing	21
Membership	• Academic Membership • Corporate Membership • Partnership	29
Events	• ICSET • Techathlon	13
Paatshala LMS		1
Contact us		10
Login	• User Login • Admin Login	20
Logout		5
Dashboard		8
Admin Login_Course		18
Admin Login_Testimonial		15
Admin Login_CourseRegistration		12
Admin Login_AcademicMembership		9
Admin Login_CorporateMembership		9
Admin Login_Partnership		9
Admin Login_Industrial		11
Admin Login_Knowledge		11

Admin Login_Patrons		11
Admin Login_Events		13
Admin Login_Staffs		15
Admin Login_AdminUsers		16

TESTERS: Testing Team.

METHOD: The test will be performed by manual and automated methods.

TIMING: During system testing.

2.3.2. Performance Test

- **PURPOSE:** Performance Testing is done to provide stakeholders with information about their application regarding speed, stability, and scalability.
- **SCOPE:** Load Test, Stress Test.
- **TESTERS:** Testing team.
- **METHOD:** this performance testing will perform using Apache JMeter, it is an open-source load testing tool. Predominantly used for volume and performance testing.
- **TIMING:** At the end of functional testing.

2.4 TEST ACCEPTANCE CRITERIA

1. Approved Functional Specification document, Use case documents must be available prior to start of Test design phase.
2. Test cases approved and signed-off prior to start of Test execution.
3. Development completed, unit tested with pass status and results shared to Testing team to avoid duplicate defects.
4. Test environment with application installed, configured and ready to use state.

2.5 TEST DELIVERABLES

S.No	Deliverable Name	Author	Reviewer
1	Test Plan	Test Team	Test Lead/ Team Lead
2	Functional Test Cases	Test Team	Test Lead/ Team Lead

3	Performance Test Cases	Test Team	Test Lead/ Team Lead
4	Logging Defects in JIRA	Test Team	Test Lead/ Team Lead
5	Daily/weekly status report	Test Team	Test Lead/ Team Lead
6	Test Closure report	Team Lead	Project Manager

2.6 MILESTONE LIST

The milestone list is tentative and may change due to below reasons

A. Any issues in the System environment readiness
B. Any change in scope/addition in scope
C. Any other dependency that impacts efforts and timelines

Milestone Task	Effort (PD)	Start Date	End Date
Test Planning	5	15/11/2022	19/11/2022
Test Design	4	20/11/2022	23/11/2022
Manual Test Execution	2	24/11/2022	25/11/2022
Test Automation	8	26/11/2022	03/12/2022
Performance Testing	6	04/12/2022	09/12/2022
Test Evaluation	2	10/12/2022	11/12/2022

2.7 Entry and Exit Criteria

- The entry criteria refer to the desirable conditions in order to start test execution; only the migration of the code and fixes need to be assessed at the end of each cycle.

- The exit criteria are the desirable conditions that need to be met in order proceed with the implementation.

- Entry criteria to start the execution phase of the test: the activities listed in the Test Planning section of the schedule are 100% completed.

- Entry criteria to start each cycle: the activities listed in the Test Execution section of the schedule are 100% completed at each cycle

Exit Criteria	Test Team	Technical Team	Notes
100% Test Scripts executed			

95% pass rate of Test Scripts			
No open Critical and High severity defects			
95% of Medium severity defects have been closed			
All defects logged in JIRA			
Test Closure Memo completed and signed off			
Test environment cleanup completed and a new back up of the environment			

2.8 Validation and Defect Management

- It is expected that the testers execute all the scripts in each of the cycles described above. However testers could also do regression testing if they identify a possible gap in the scripts.

- The defects will be tracked through JIRA only. The technical team will gather information on a daily basis from JIRA, and request additional details from the Defect Coordinator. The technical team will work on fixes.

- It is the responsibility of the tester to open the defects, link them to the corresponding script, assign an initial severity and status, retest and close the defect, it is the responsibility of the Defect Manager to review the severity of the defects and facilitate with the technical team the fix and its implementation, communicate with testers when the test can continue or should be halt, request the tester to retest, and modify status as the defect progresses through the cycle; it is the responsibility of the technical team to review JIRA on a daily basis, ask for details if necessary, fix the defect, communicate to the team the fix is done, implement the solution per the tester's request.

- **Defects found during the Testing will be categorised according to the bug-reporting tool "JIRA" and the categories are:**

Severity	Impact
1 (Critical)	•This bug is critical enough to crash the system, cause file corruption, or cause potential data loss. •It causes an abnormal return to the operating system (crash or a system failure message appears). • It causes the application to hang and requires re-booting the system.
2 (High)	•It causes a lack of vital program functionality with workaround.
3 (Medium)	•This Bug will degrade the quality of the System. •This bug prevents other areas of the product from being tested. •However other areas can be independently tested.
4 (Low)	•There is an insufficient or unclear error message, which has minimum impact on product use

2.9 Test Metrics

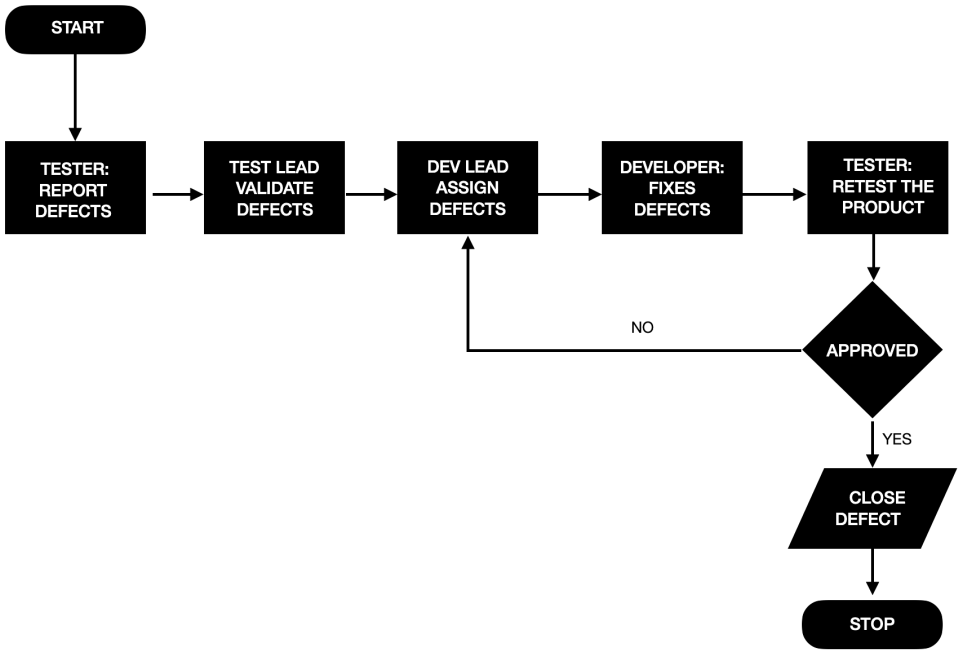
- **Test metrics to measure the progress and level of success of the test will be developed and shared with the project manager for approval. The below are some of the metrics :**

Report	Description	Frequency
Test preparation & Execution Status	•To report on % complete, %WIP, % Pass, % Fail • Defects severity wise Status - Open, closed, any other Status	Weekly / Daily (optional)

Daily execution status	•To report on Pass, Fail, Total defects, highlight Showstopper/ Critical defects	Daily
Proiect Weekly Status report	•Project driven reporting (As requested by PM)	Weekly - If project team needs weekly update apart from daily and there is template available with project team to use.

2.10 Defect tracking & Reporting

-Following flowchart depicts Defect Tracking Process:



3 TEST MANAGEMENT PROCESS

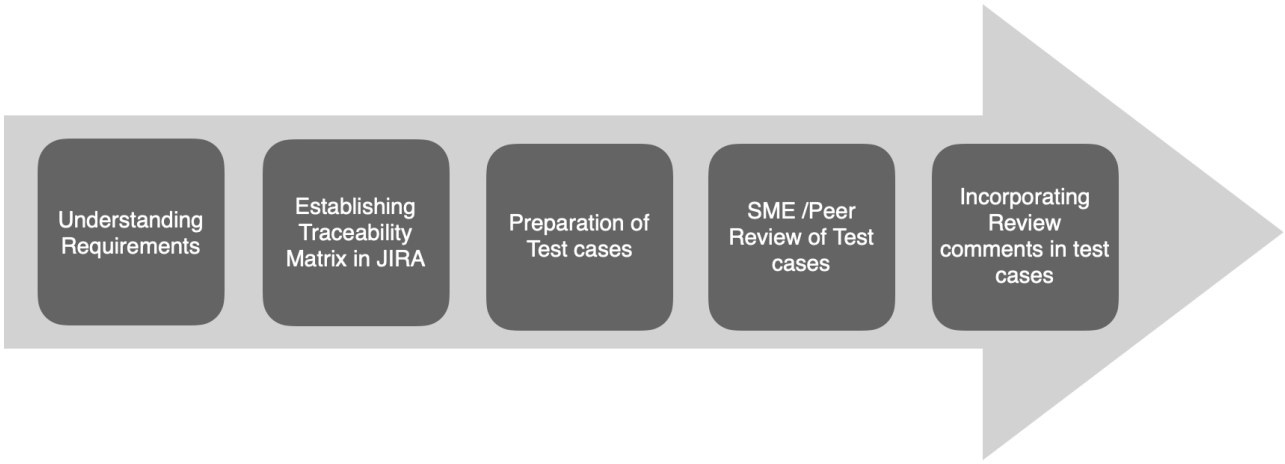
3.1 Test Management Tool

JIRA Application Lifecycle Management is the tool used for Test Management. All testing artefacts such as Test cases, test results are updated in the JIRA tool.

- Project specific folder structure will be created in JIRA to manage the status of this project.
- Each resource in the Testing team will be provided with Read/Write access to add/ modify Test cases in JIRA.
- During the Test Design phase, all test cases are written directly into JIRA. Any change to the test case will be directly updated in the JIRA tool.

- Each Tester will directly access their respective assigned test cases and update the status of each executed step in JIRA directly.
- Any defect encountered will be raised in JIRA linking to the particular Test case/test step.
- During Defect fix testing, defects are re-assigned back to the tester to verify the defect fix. The tester verifies the defect fix and updates the status directly in JIRA.
- Various reports can be generated from JIRA to provide status of Test execution. For example. Status report of Test cases executed, Passed. Failed. No. of open defects, Severity wise defects etc.

3.2 Test Design Process



- The tester will understand each requirement and prepare corresponding test case to ensure all requirements are covered.
- Each Test case will be mapped to Use cases to Requirements as part of Traceability matrix.
- Each of the Test cases will undergo review by the BUSINESS ANALYST and the review defects are captured and shared to the Test team. The testers will rework on the review defects and finally obtain approval and sign-off.
- During the preparation phase, tester will use the prototype, use case and functional specification to write step by step test cases.
- Testers will maintain a clarification Tracker sheet and same will be shared periodically with the Requirements team and accordingly the test case will be updated. The clarifications may sometimes lead to Change Requests or not in scope or detailing implicit requirements.
- Sign-off for the test cases would be communicates through mail by Business Analyst's.
- Any subsequent changes to the test case if any will be directly updated in JIRA.

3.3 Test Execution Process

- Once all Test cases are approved and the test environment is ready for testing, tester will start a exploratory test of the application to ensure the application is stable for testing.
- Each Tester is assigned Test cases directly in JIRA.
- Testers to ensure necessary access to the testing environment. JIRA for updating test status and raise defects. If any issues, will be escalated to the Test Lead and in turn to the Project Manager as escalation.
- If any showstopper during exploratory testing will be escalated to the respective development SPOCs for fixes.
- Each tester performs step by step execution and updates the executions status.
- The tester enters Pass or Fail Status for each of the step directly in JIRA
- Tester will prepare a Run chart with day-wise execution details
- If any failures, defect will be raised as per severity guidelines in JIRA tool detailing steps to simulate along with screenshots if appropriate.
- Daily Test execution status as well as Defect status will be reported to all stakeholders.
- Testing team will participate in defect triage meetings in order to ensure all test cases are executed with either pass/fail category.
- If there are any defects that are not part of steps but could be outside the test steps, such defects need to be captured in JIRA and map it against the test case level or at the specific step that issue was encountered after confirming with Test Lead.
- This process is repeated until all test cases are executed fully with Pass/Fail status
- During the subsequent cycle, any defects fixed applied will be tested and results will be updated in JIRA during the cycle.

3.4 Test Risks and Mitigation Factors

RISK	PROB	IMPACT	MITIGATION PLAN
SCHEDULE Testing schedule is tight. If the start of the testing is delayed due to design tasks, the test cannot be extended beyond the UAT scheduled start date	High	High	The testing team can control the preparation tasks (in advance) and the early communication with involved parties Some buffer has been added to the schedule for contingencies, although not as much as best practices advise.
RESOURCES Not enough resources, resources on boarding too late (process takes around 15 days.	Medium	High	Holidays and Vacation have been estimated and built into the schedule ; deviations from the estimation could derive in delays in the testing.
DEFECTS Defects are found at a late stage of the cycle or at a late cycle; defects discovered late are most likely be due to unclear specifications and are time consuming to resolve.	Medium	High	Defect management plan is in place to ensure prompt communication and fixing of issues.
SCOPE Scope completely defined	Medium	Medium	Scope is well defined but the changes are in the functionality are not yet finalised or keep on changing.
Natural disasters	Low	Medium	Teams and responsibilities have been spread to two different Cetastophic event in One of the areas, there will resources in the other areas needed to continue (although at a slower pace) the testing activities .

Delayed Testing Due To new Issues	Medium	High	During testing, there is a good chance that some 'new' defects may be identified and may become an issue that will take time to resolve. There are defects that can be raised during testing because of unclear document specification.These defects can yield to an issue that will need time to be resolved. If these issue become showstoppers, it will greatly impact on the overall project schedule. If new defects are discovered , the defect management and issue management procedures are in place to immediately provide a resolution.

4.TEST ENVIRONMENT

- A testing environment is a setup of software and hardware for the testing teams to execute :

- Operating Systems: Windows 8+, Mac
- Web browser : Chrome, Edge, Firefox, Safari
- Database: Local Storage
- Automation Test Tools : Selenium, Java, TestNG, Maven
- Test Management Tools: JIRA
- Project Management Tool: JIRA
- Version Control : GitHub

5. APPROVALS

- The Names and Titles of all persons who must approve this plan :

Signature :	
Name :	
Role :	
Date :	