**Proposal for *Test Design & Automation* for**

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*Prepared by*

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1. Executive Summary

Automation of functional tests is one of the priorities for the <Project Name>.

Automating all tests in all the modules of the <Project Name> suite is a long-term exercise. In order to provide quick benefits from incorporating test automation in a structured and regular manner in <Project Name> testing practices, it is proposed that a key set of scenarios that provide reasonable coverage for functional / regression testing be identified for each of the modules and these scenarios be automated.

The overall duration projected for this engagement is <Period in weeks>. Consultant testing company will deliver the agreed upon scope of work for a fixed price of $000000. These are only resource costs. One-time tool cost is estimated to be $xxxxxxxx. Any timelines dates, and/or delivery schedules provided are estimates only and subject to change.

1. Project Objectives and Scope
	1. Objectives

Constant Team understands the current business drivers for this project to be the following:

* To create test automation assets that can be used immediately by the project team and improve the throughput of the testing cycles and increase test coverage. The tests that will be automated will be identified based on the set of test scenarios that will provide good coverage from an overall system testing and regression testing point of view

Automating tests that cover all the functionality of every product in the Project suite will involve a huge effort and time-line. In order to provide quick benefits to the project QA teams, it is proposed that the initial objective be to have automated tests for validating key functional / regression areas of the applications.

* 1. Areas Within Scope

The product that is considered in-scope for this proposed project is:

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| --- | --- |
|  | **Scope** |
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The targeted activities for each of the above-mentioned products that are considered in-scope for this proposed project are:

* Understand key test scenarios that provide reasonable coverage for functional and regression testing of the product
	+ NOTE that we do not have an objective way of measuring “reasonable coverage”. This will be determined basis review and sign-off from the QA team and SME team of Project
	+ This step will be done basis functional understanding received from the project team and existing documentation (specifications, user guides, existing test cases)
* Design and author detailed test cases in a matrix format with test data for each of the identified test scenarios
* Design and build appropriate automation framework for the modules
	+ The tool of choice is QTP
* Create automated scripts for the designed test cases
	1. Areas Out of Scope

Anything not excluded in this section and not listed in the above “Areas within Scope” is considered out of scope for this proposal.

* 1. Test Design & Automation Strategy
		1. Approach

A four-phased approach will be taken towards achieving the project objectives:

* **Phase-I: Identify Key Test Scenarios**
	+ The objective in this phase will be to understand the product functionality, review existing product and test case documentation and identify a set of test scenarios that provide reasonable coverage for the product’s functional and regression testing
	+ Whether the identified scenarios provide “reasonable coverage” or not will be determined basis review of identified scenarios with QA and SME team
* **Phase-II: Design Automation Framework**
	+ Design and build a suitable automation framework (using QTP) that will be used for creating automated scripts for the designed test cases
		- NOTE that we expect to use non-QTP means to automate some tests.
* **Phase-III: Design Test Cases with Test Data**
	+ Based on the signed-off test scenarios, detailed test cases will be designed and documented. The test cases will be designed such that optimal coverage is achieved for the test scenario across various factors
	+ QA team are prioritized first for test case design and automation.
	+ A test data-bed will also be built per the designed test cases so that repeatable execution of the tests on the same data-set is possible
* **Phase-IV: Create Automated Test Scripts**
	+ Based on the outputs of Phase-II and Phase-III, automated test scripts will be created
	+ Documentation will also be prepared to help understand the developed automated scripts and help understand how to execute the scripts and view the test execution results
		1. Assumptions

Some key assumptions made include:

* Dedicated environments will be made available for use in test designing and automation development
* The required number of QTP licenses will be procured and made available by the project team. Costs for the same are provided in the *Project Cost* section below.
* The approach that QA has taken for test case design does not rely on any pre-configuration on the test simulator.
	+ 1. Risks

Some key risks include:

* **A few system test cases may not get validated:** <Specify feature>
* **Test script rework:** Scripts will be developed on an application version deployed within QA environment. Between the time the scripts are created and the time they are deployed for execution within test environment, the application under test may have gone through changes. To accommodate the same, test scripts/ test data may require minimal rework.
* **Test data rework:** Some tests may pass on QA environment even if they have incomplete / incorrect data.  Such test data need to be reworked when being validated against actual environment.

1. Project Deliverables And Governance
	1. Key Service Deliverables and Acceptance Process

The following is a list of the key project service deliverables that will be delivered within this proposal which must be formally reviewed and accepted.

|  |  |
| --- | --- |
| **Service Deliverable Name** | **Service Deliverable Description** |
| Project Plan | Estimates of efforts & time-lines/schedule for the various tasks identified |
| Test Scenarios | This will detail the set of test scenarios that are identified for detailing into test cases and automating. These are targeted to achieve reasonable coverage of functional/regression testing of each of the products |
| Test Cases | Detailed documented test cases with test data  |
| Automated Test Scripts | Automated scripts for the designed test cases, along with a script catalog and user guide to help understand what scripts exist and how to execute them |
| Traceability Matrix | An initial version of traceability matrix, providing clear visibility and linkage across the requirements covered by the tests, use cases / test scenarios, test cases and the automated scripts |
| Training | Appropriate training and knowledge transfer will be provided to the project QA team to enable them to consume and utilize the outputs of this project |

* 1. Project Governance Approach
		1. Communication Plan

A formal process will be employed to facilitate communication during the project. There will be two key vehicles for providing this communication: a weekly status report and a weekly status meeting.

* The testing Lead will compile status reports with the frequency defined above for distribution to all stakeholders in the project team
* Meetings will be held with the frequency defined above to review overall status, the project schedule and open issues noted in the status report.
* In addition, the team executing on this engagement will have calls as required with the development team members they work with on a continual basis

Issue/Risk Management Procedure

The following general procedure will be used to manage project issues and risks:

* Identify and document, as part of the weekly status reports
* Assess impact and prioritize
* Assign responsibility
* Monitor and report progress, as part of the weekly status reports
* Communicate issue resolution

A mutually agreed upon issue escalation process will be defined at the outset of the project.

For Project team to escalate any issues, the following are the people to escalate to:

1. First level escalation -

QA will escalate any issues to the following people from the project team:

1. First level escalation –

Change Management Process

During the project either party may request in writing additions, deletions, or modifications to the services described in this proposal (“change”).

Upon a request for a change, we shall submit an updated proposal with the changes clearly tracked, including the estimated impact of the change on the project schedule, fees and expenses. The updates need to be formally approved and signed-off.

* 1. Project Completion

The project will be considered complete, when any of the following are met:

1. all of the service deliverables identified within this -proposal have been completed, delivered and accepted or deemed accepted;
2. the fee provisions of the proposal have been met; or
3. this agreement is terminated pursuant to the provisions of the agreement
4. General Responsibilities

Our delivery of the services are dependent on your involvement in key areas of the engagement, your ability to procure & provide accurate and complete information as needed, your timely and effective completion of the responsibilities as identified herein, and timely decisions and approvals by your management. You will be required to perform the tasks, furnish the personnel, provide the resources, or undertake the responsibilities specified below:

* Provide access to SMEs who can be used over the course of this engagement to help clarify any product/functionality-related queries
* Provide support for installation and maintenance of the test development environment (over phone, email)
* Review the service deliverables of QA Testing and provide feedback, so that QA Testing can fine-tune further work accordingly

In performing our services under this proposal, we will rely upon any instructions, authorizations, approvals or other information provided to us by your project Manager or by any other personnel identified by your Project Manager.

1. Project Organization and Staffing
	1. Project Staffing

We propose that this project be staffed by the following number of resources:

1. Test Engineer (Senior)
2. Test Engineer

The staffing may be changed upward/downward based on ongoing progress, etc.

* 1. Project Roles and Responsibilities

This section provides a brief overview of key project role responsibilities.

| **Team Members**  | **Estimated****% of Project****or Participation Hours** |
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1. Project Timelines and Cost
	1. Project Timeline

A detailed break-down of tasks required to perform this engagement will be provided once we finalize on the dates for this engagement. Based on current knowledge, we estimate the following time-line:

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| Week | Test case design |
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| Week | Test script automation |
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* 1. Milestones

The **Deliverables** will comprise of the following:

* Test Cases (in xls form, including test data and test execution steps)
* Test Automation Design Document (pdf document)
* QTP-based Test Automation Scripts (QTP code)
* Results of one round of test execution using automated scripts (in xls)
* User Guide explaining how to use the delivered scripts and execute them (pdf document)

Each of the above will be delivered for each set of tests that are designed and automated per the milestone schedule provided in below table:

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| Month | Week | Deliverables |
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* 1. Project Cost

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| **Stages** | **Schedule (in calendar weeks)** | **Stage cost** |
| Generic test cases applicable for all modules and automation framework design; customization of test suite and automation framework for the project | weeks |  |
| Automated test suite for module 1 |  |  |
| Automated test suite for module 2 |  |  |
| Automated test suite for module 3 |  |  |
| **Total** |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **One-time costs** | **Item cost** | **Support cost** | **Quantity** | **Total cost** | **Cost ^** |
| HP QTP | Xx | Xx | 2 | Xx | Xx |

^Conversion rate: $1 = Rs.

\* Licenses are proposed to be bought in India and transferred to customer location later. Additional transfer costs to the extent of 15% of tool cost (actual numbers depend on the region to which tool is transferred to) need to be borne by consultant team. If the licenses are transferred within the same region, no transfer costs are involved.