**Project Management Plan**

**Toll Management System (TMS)**

**Copyright**

*“This document is confidential toTechnologies Private Limited.The information contained herein is not to be distributed, revealed or disseminated outside the company to any other party without the prior expressed consent and written permission ofTechnologies Private Limited*

Techsture Technologies

India Private Limited

| **Author** | **Change Description** | **Section Numbers changed** | **Version No** | **Date** | **Approving Authority** |
| --- | --- | --- | --- | --- | --- |
| PM | Initial Version | All | 0.1 |  |  |
| Mr. Keyur Shah | Baseline Version | All | 1.0 |  |  |
| Mr. Keyur Shah | Updated Project Overview | Section #1, #2 | 1.1 |  |  |
| Mr. Keyur Shah | Updated Managerial Process | Section #2.9 | 1.1 |  |  |
| Mr. Keyur Shah | Updated ACD | Section #2.9, #3, #4 | 1.2 |  |  |
| Mr. Keyur Shah | Updated Data Management Plan and CCB | Section #5, #6 | 1.3 |  |  |
| Mr. Keyur Shah | Updated Reviews and Audits, Assets artifacts, Stakeholder plan | Section #5, #6 | 1.4 |  |  |
| Mr. Keyur Shah | Updated Reviews and Audits, Assets artifacts, Stakeholder plan | Section #7, #8, #9, #10 | 1.4 |  |  |
|  | Updated CAR and DAR | Section #11, #12 | 1.5 |  |  |

**Records for Revision**

**Table of Contents**

[**1. Project Profile 6**](#_heading=h.1fob9te)

[**1.1. Project Overview 6**](#_heading=h.3znysh7)

[**1.2. Project Information 6**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.1jlao46)

[**1.3. Project Deliverables 7**](#_heading=h.tyjcwt)

[**1.4. Project Acceptance Criteria 8**](#_heading=h.1t3h5sf)

[**1.5. Project Scope Inclusion 9**](#_heading=h.4d34og8)

[**1.6. Project Scope Exclusion 11**](#_heading=h.2s8eyo1)

[**1.7. Project Organization 11**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.43ky6rz)

[**1.8. Internal Contact Details 13**](#_heading=h.3rdcrjn)

[**1.9. Client Contact Details 13**](#_heading=h.26in1rg)

[**2. Managerial Process 14**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.2iq8gzs)

[**2.1. Project Estimates 14**](#_heading=h.35nkun2)

[**2.1.1.**](#_heading=h.1ksv4uv) **Project Costing 14**

[**2.2. WBS 15**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.xvir7l)

[**2.3. Project Life Cycle 15**](#_heading=h.2jxsxqh)

[**2.4. Process Tailoring 16**](#_heading=h.z337ya)

[**2.5. Process Deviation 17**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.3hv69ve)

[**2.6. Resource Plan 17**](#_heading=h.1y810tw)

[**2.6.1.**](#_heading=h.4i7ojhp) **Development Systems: 17**

[**2.6.2.**](#_heading=h.2xcytpi) **Production Systems: 17**

[**2.7. Inter Group Dependency 18**](#_heading=h.qsh70q)

[**2.8. Monitoring and Controlling Mechanisms 18**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.1x0gk37)

[**2.9. Escalation Procedure 19**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.4h042r0)

[**2.10. Assumptions, Dependencies, and Constraints 20**](#_heading=h.49x2ik5)

[**2.11. Project Skill Requirements 21**](#_heading=h.147n2zr)

[**2.12. Training Plan 21**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.2w5ecyt)

[**2.13. Project Milestones 21**](#_heading=h.23ckvvd)

[**2.14. Project Schedule 22**](#_heading=h.32hioqz)

[**3. Goals and Metrics 22**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.1baon6m)

[**4. Risk Management 23**](#_heading=h.41mghml)

[**4.1. Risk Strategy 23**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.3vac5uf)

[**4.2. Risks Identified: 23**](#_heading=h.vx1227)

[**5. Data Management Plan 24**](#_heading=h.1v1yuxt)

[**6. Configuration and Change Management Plan 25**](#_heading=h.2u6wntf)

[**6.1. Identification of Configuration Items 25**](#_heading=h.2u6wntf)

[**6.2. Configuration Management System 26**](#_heading=h.19c6y18)

[**6.2.1.**](#_heading=h.3tbugp1) **Access control mechanism 26**

[**6.2.2.** **Library System 27**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.2afmg28)

[**6.2.3.** **Check-in and Check-out procedures 28**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.pkwqa1)

[**6.2.4.**](#_heading=h.28h4qwu) **Release Nos. and Version Nos. 28**

[**6.2.5.**](#_heading=h.1mrcu09) **(For Internal Deliverables) 28**

[**6.3. Creation of Base Lines 28**](#_heading=h.1mrcu09)

[**6.4. Change Control 28**](#_heading=h.46r0co2)

[**6.5. Back Up Plan 29**](#_heading=h.2lwamvv)

[**6.6. Configuration Status 29**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.111kx3o)

[**6.7. Configuration Audits 29**](#_heading=h.3l18frh)

[**7. Reviews And Audits 30**](#_heading=h.4k668n3)

[**7.1. Reviews Plan 30**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.39kk8xu)

[**7.2. Audit schedule 30**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.1opuj5n)

[**8. Validation Plan 30**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.48pi1tg)

[**9. Asset / Component / Reusable Artifact 31**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.2nusc19)

[**10. Stake Holder Involvement Plan 31**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.1302m92)

[**11. CAR Plan 33**](#_heading=h.3cqmetx)

[**12. DAR Plan 33**](#_heading=h.1rvwp1q)

[**12.1. Identification of issues for Decision Analysis & Resolution 34**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.3mzq4wv)

[**12.2. Evaluation Method 34**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.2250f4o)

[**12.3. Evaluation Criteria 34**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.haapch)

[**13. Project Closure 35**](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit#heading=h.319y80a)

**[14. Definitions and Acronyms 35](https://docs.google.com/document/d/1_EtCth42YhE5C3vplcyEEivLxsO2_iAz/edit" \l "heading=h.1gf8i83)**

1. **Project Profile**
   1. ***Project Overview***

eToll is an electronic toll collection system brought to you by Highways and Traffic Management Division of Techsture Technologies India Private Limited, one of the highly established IT Services & Automation Company. Our firm carries credentials of having over 1-million-man hours of experience and over 900 clients which makes us among the top IT Services and Solution companies in the state of Gujarat and among the top players in Electronic Toll Collection System in India.

Our Electronic Toll Collection System boasts superior quality, cost effectiveness and proven methodologies that maximize your toll collection and productivity.

The solution should cover the below-mentioned modules

* Admin Module
* HR Module
* Account Module
* Validation Module
* Report Module
* POS Module
* Lane Module
* LSDU

* 1. ***Project Information***

|  |  |
| --- | --- |
| **Vertical** | Toll Management System |
| **Technology** | VB Dot Net, C#, SQL server |
| **Project Planned Start Date** | 1st June 2023 |
| **Project Planned End Date** | 31 st Dec, 2023 |
| **Project Duration** | 6 Months |
| **Project Type** | Development and Maintenance |

* 1. ***Project Deliverables***

The following is the delivery process for all the Releases:

| **S. No.** | **Deliverable Description** | **Deliverable Type (Client/Project)** | **Delivery Method** | **Responsible for Delivery** | **Responsible for Acceptance (Client/Project team)** |
| --- | --- | --- | --- | --- | --- |
| 1 | User RequirementDocument | Project | Documents | PM | Client |
| 2 | Systems Requirement Specifications | Project | Documents | PM | Client |
| 3 | Application Release (Beta V.x) | Project | Development & Customization deployment for UAT | Dev, CM& Tester | Client |
| 4 | Application Release (Final Version) | Project | Customization deployment for go-live | CM& Tester | Client |

* 1. ***Project Acceptance Criteria***

| **S.No.** | **Deliverables** | **Acceptance Criteria** |
| --- | --- | --- |
| 1 | User Requirements Document (URD) | 1. Our client needs to confirm their scope and details regarding work |
| 2 | Systems Requirement Specifications (SRS) | 1. Client published or sign-off for all the requirement such as features/functions and modules given as per the contract agreement document or general published by any government authority |
| 3 | Application Release | 1. Must confirm to all the requirements given in the SRS 2. Must pass all Acceptance Tests as defined in the Test Scripts 3. All the development should have been passed through the Unit testing with defects fixes incorporated 4. All the development should have been passed through the Code Review process with Review comments incorporated. 5. The application at the time of delivery should pass through all the identified defects. 6. Application tested with the Seed / Master data given by client |
| 5 | Application Release (Final Version) | 1. Must confirm to all the requirements given in the SRS 2. Must pass all Acceptance Tests as defined in the Test Scripts 3. All the development should have been passed through the Unit testing with defects fixes incorporated 4. All the development should have been passed through the Code Review process with Review comments incorporated. 5. The application at the time of delivery should pass through all the identified defects. 6. Application tested with the Seed / Master data given by client 7. Attend all the remarks of beta version |

* 1. ***Project Scope Inclusion***

The purpose of the project is to analyze the requirements, design, customize, implement, test, and support the software for the Cochin Port Trust according to the requirements and specifications of the client.

|  |  |
| --- | --- |
| **Modules** | **FUNCTIONALITY** |
| **Admin Module** | **Dashboard** |
| * Routes Management |
| * Add Routes |
| * Delete Routes |
| * Edit Routes\Name |
| * Server management |
| * Add\Edit plaza name |
| * Assign Code |
| * Add\Edit Server name |
| * Add\Edit Server IP |
| **Lane management** |
| **Lane Route Management** |
| **Manage Administrator User** |
| **Master Data Management** |
| * System Global Configuration |
| * Enable Disable Ticket Types |
| * Change Ticket Validity Period |
| * Mange Shift |
| * Manage Toll Rates |
| * Mange Company Address |
| * Manage Exempt Reasons |
| * Update Server shared folder |
| * Mange Vehicle class |
| * Manage Mop |
| **HR Module** | * Add new Administrator user & Lane operators, * Assign rights to systems * Change Password |
| Update details of Administrator & Lane operators |
| Enable\Disable Administrator user & Lane operators |
| **Account Module** | Create operator Shiftkey & POS shiftkey |
| Cashup Wizard |
| Bleed off |
| **Validation Module** | Shift Validation |
| Check Ticket |
| Cancel Ticket |
| Invalid Login Logs |
| Valid Login Logs |
| Search Vehicle Details |
| Transaction Review |
| Manage Exempted Vehicles |
| Manage Blacklisted Vehicles |
| All Transaction Details |
| AVCC Mismatch Review |
| **Report Module** | Traffic Reports |
| Pass Reports |
| Account Reports |
| Validation Reports |
| **POS Module** | Create Master Account |
| Create New Pass |
| Assign Smart Card |
| Recharge Pass |
| Renew Pass |
| Refund Pass\Repalce Smartcard |
| Cancel Pass |
| **LSDU** | Lane Monitor |
| Server Monitor |
| Live Traffic |
| iAvcc Status |
| **Lane** | Dashboard |
| Issue Ticket |
| Check Ticket |
| Exmergency Vehicle |
| Exempt Vehicle |
| Tow Vehicle |
| Convoy Vehicle |
| FasTag Vehicle |
| Surprise Check |
| Bleed Off |
| Port Configuration |

* 1. ***Project Scope Exclusion***

1. Any feature or function requirement not mentioned in the SRS document are excluded.

* 1. ***Project Organization***

| **Sr.No** | **Role** | **Number of Resources Required** | **Responsibilities** |
| --- | --- | --- | --- |
| 1 | Project Manager (PM) | 1 | Project Planning and Organizing, Project Execution, Monitoring and Control, Conducting Internal Reviews, Delivery and all Project Management related activities, Client Meetings and Communications, Measurement and Improvement, Authority Limits, Metrics analysis, Risk management |
| 2 | CM | 1 | Prerequisite capacity, Configuration of Services / Master data, Installation of application, Setup of Database |
| 3 | Business Analyst (BA) | 1 | Requirements gathering and Analysis, Preparing URD defining functional process and preparing SRS and Signoff, preparing requirements milestone documentation and Quality compliance |
| 4 | Training Mgr | 1 | Create training calendar, Keep records of Training |
| 5 | Dev/Designer& Coder/Integrator | 8 | SRS reviews, Module Design, Development Monitoring and Control, Technical Guidance, Module Integration, Code Reviews, Quality compliance and Maintenance Activities |
| 6 | Tester | 1 | Project Quality Control, Functional Test Plan preparation and reviews, Testing |

***Internal Contact Details***

| **Name** | **Role** | **Email ID** | **Location** | **Contact No** |
| --- | --- | --- | --- | --- |
| Keyur Shah | Project Manager | [keyur@etollsys.com](mailto:keyur@etollsys.com) | Ahmedabad | - |
| Keyur Shah | SRS | [keyur@etollsys.com](mailto:keyur@etollsys.com) | Ahmedabad | - |
| Mr. Akshit Thumar | Design, Development |  | Ahmedabad | - |
| Mr. Dhimant Gadhethariya | Tester |  | Ahmedabad | - |
| Mr. Meet Prajapati | Configuration Manager |  | Ahmedabad | - |
| Ms Komal Kanani | Training Manager | hr@techsture.com | Ahmedabad | - |

* 1. ***Client Contact Details***

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Role** | **Email ID** | **Contact No.** |
| Confidential | Confidential | Confidential | Confidential |

1. **Managerial Process**
   1. ***Project Estimates***

Project Manager along with the Tech Lead and other senior members of the team are involved to arrive at the estimations. Estimations sheets (Excel) are used to estimate the size in FP (Function Points).

* + 1. **Project Costing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Cost Category** | **Value** | **Duration** | **Remarks** |
|  | Total Estimated Effort | 796900 | 3552 Hours |  |
|  | Additional Hardware /Software | 0 | 0 |  |
|  | Travel (Local and Onsite) | 0 | 0 |  |
|  | Training | 20 | 3000 |  |

* 1. ***WBS***

Please refer the WBS

* 1. ***Project Life Cycle***

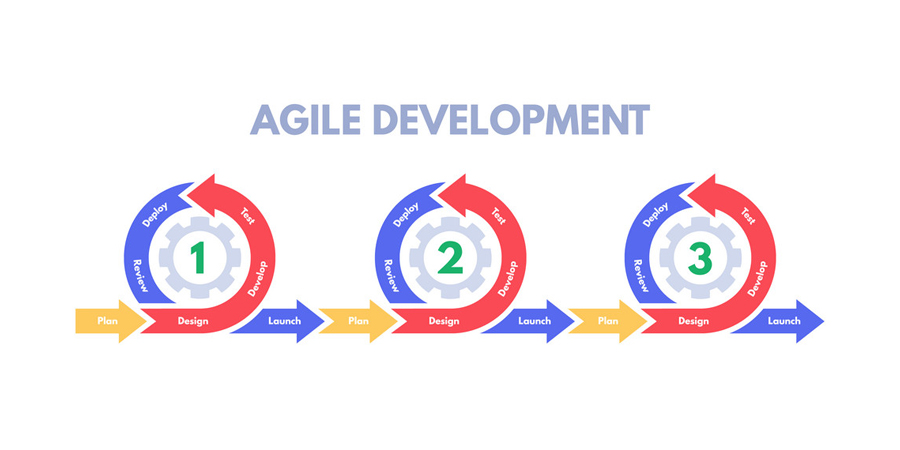
The project adopted agile software development life cycle. The entire project phases have been planned using agile model. The processes are described as below:

**The Agile software development model:**

Agile iterations are usually between two and four weeks long, with a final completion date. The workflow of an agile iteration will typically consist of five steps:

* Plan requirements
* Develop product
* Test software
* Deliver iteration
* Incorporate feedback

Each Agile phase will contain numerous iterations (sprints) as software developers repeat their processes to refine their product and build the best software possible. In essence, these iterations are smaller cycles within the overarching Agile life cycle.



***Lifecycle Phases per Requirement:***

| **Sl. No** | **Lifecycle Phase** | **Inputs Needed** | **Entry Criteria** | **Exit Criteria** | **Outputs and Deliverables** | **Acceptance Criteria for deliverables** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Requirements Gathering | List of features and functionality, Requirement Questionnaire | Statement of Work | Approved SRS | SRS | Approved SRS |
| 2 | Design, Development and Coding | Approved SRS | Approved SRS | Code reviewed | Test Plan | Approved Test Plan |
| 3 | System and Integration Testing | Approved Test Plan, Test Cases | Approved code components | Approved System and Integration Tested code | System and Integration Test case reports, Approved Source Code | Closure of all System and Integration Test defects |
| 5 | Deployment  and Go Live | Executable of Approved Source Code, User Documentation | Approved System and Integration tested software code executable, Approved User Manuals | Signoff UAT | Validated Reports | Validated Reports |

* 1. ***Process Tailoring***

The project to take deviation from the QMS defined process to suit to the nativity of the project planning and execution through tailoring request approved from SEPG.

The metrics data to be captured on release and not sprint wise.

* 1. ***Resource Plan***
     1. **Development Systems:**

| **S.No.** | **Software / Hardware Resources (Specify the Version number of the Resources if Mandatory)** | **Priority** | **Usage** |
| --- | --- | --- | --- |
| 1 | Visual Studio 2019 | High | Tool for Development |
| 2 | SQL Server Std 2017 | High | Database |

* + 1. **Production Systems:**

**Hardware (Server)**

| **Item** | **Specification** |
| --- | --- |
| Production Server OS | Windows Server Std 2019 or Higher |
| Development Environment | IIS |
| RAM | 16GB or Higher |
| Hard Disk | 1 TB or Higher |
| No of Unit | 1 |

**Hardware (Workstation)**

| **Item** | **Specification** |
| --- | --- |
| Production Server OS | Windows Pro 10 or Higher |
| Development Environment | IIS |
| RAM | 8GB or Higher |
| Hard Disk | 1 TB or Higher |
| No of Unit | 3 minimum |

**Software**

|  |  |  |
| --- | --- | --- |
| **Item** | **Software** | **Version** |
| Database Application | SQL Server Std 2017 or higher |  |
| Framework Platform | .Net |  |
| IDE | Visual Studio 2010 or higher |  |
| Web Server | IIS |  |
| Source Control | SVN |  |

* 1. ***Inter Group Dependency***

| **Group** | **Priority** | **For** |
| --- | --- | --- |
| Top Management | High | Review of Project Progress |
| Systems Department | High | Procurement of Hardware, Server Setup and Maintenance |
| HR Department | High | Providing required resources to the project, along with training requirements whenever applicable. |
| Process and Quality Department | Medium | Facilitation of process compliance, Conducting Internal Quality Audits and provide process trainings and process related help |

* 1. ***Monitoring and Controlling Mechanisms***

| **S. No** | **Review Type** | **Frequency** | **Agenda** | **Participants** | **Output** | **Report sent to** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Meeting with the client for Project Progress | Quarterly | Review of the progress of the project (task status and challenges) | PM , BA, Client Representative | MOM | Distributed to all attendees on Hand / Email |
| 2 | Milestone Review | End of each milestones | Project progress during the milestone | Project Team, Development team | Mile stone Review report | Senior Management |
| 3 | Internal Audit | Quarterly | Review the documentation and check the Quality of work | PM | Analysis for quality output | All attendees |
| 4 | Issues | Monthly | Review of Issues related to Project | PM | Issue Register | PM |
| 5 | PMP Re-planning | Trigger | 1.When there is a deviation in according to plan  2.Any Scope changes  3.Any new requirement added | PM,BA ,Tester | PMP | Senior Management |
| 6 | DAR | When Triggered as per guidelines | DAR Approaches | PM, SQA | DAR Report | PM |
| 7 | CAR | When Triggered as per guidelines | CAR Problem Definition if any, root cause, analysis | PM,SQA | CAR Report | PM |

* 1. ***Escalation Procedure***

| **Origin** | **Issue with** | **Level** | **Escalate to** |
| --- | --- | --- | --- |
| Client | Deliverables | 1 | Project Manager |
| Project Team | Requirement Clarifications | 1 | Project Manager |
| Project Team | Design Review Clarifications | 1 | SSE |
| Project Team | Design Review Clarifications | 2 | Architect |
| Project Team | Configuration Audit | 1 | QA Lead |
| Project Team | Configuration Audit | 2 | Team Lead |
| Project Team | Configuration Audit | 3 | Project Manager |
| Project Team | Build Issues | 1 | QA Lead |
| Project Team | Build Issues | 2 | Team Lead |
| Project Team | Build Issues | 3 | Project Manager |
| Project Team | Internal Issues | 1 | Project Manager |

* 1. ***Assumptions, Dependencies, and Constraints***

| **SI No.** | **Description** | **Impact on project** | **Plan to handle** | **Person Responsible** |
| --- | --- | --- | --- | --- |
| **Assumptions** | | | | |
| 1 | You will get all the resources you need |  |  |  |
| 2 | Your team members have all the required skills |  |  |  |
| 3 | All required Hardware are in good condition |  |  |  |
|  |  |  |  |  |
| **Dependencies** | | | | |
| 1 | Suitable work Environment |  |  |  |
| 2 | Fixed and explicit Requirement |  |  |  |
| 3 | Availability of deployment environment |  |  |  |
| **Constraints** | | | | |
| 1 | Not getting requirement from client timely |  |  |  |
|  |  |  |  |  |

* 1. ***Project Skill Requirements***

| *Employee Name* | *Role* | *Skill Assessment* | | *Skill Gap* |
| --- | --- | --- | --- | --- |
| *Required* | *Actual* |
| *Keyur Shah* | *PM, BA* | *PP, PMC, RSKM, DAR, REQM* | *PP, PMC, RSKM* | *Missing DAR skills* |
| *Akshit Thumar* | *Designer, Developer* | *.Net Experience, VS Tool, SQL knowledge* | *.Net Experience, VS Tool, SQL knowledge* | *None* |
| *Dhimant Gadhethariya* | *Tester* | *Experience of Preparing Test cases, Prepare report of testing* | *Experience of Preparing Test cases, Prepare report of testing* | *None* |
| *Meet Prajapati* | *Deployment Manager* | *System Knowledge, Configuration skill* | *System Knowledge, Configuration skill* | *none* |

* 1. ***Training Plan***

| *Training Name* | *No of Persons* | *Training Mode* | *Start Date* | *End Date* | *Status* |
| --- | --- | --- | --- | --- | --- |
| *End User Training* | *10* | *Remote Session* | *05-Dec-2023* | *20-Dec-2023* |  |

* 1. ***Project Milestones***

|  |  |
| --- | --- |
| **Releases** | **Project name** |
| Release 1 | 30th April |
|  |  |
|  |  |

1. **Goals and Metrics**

The metrics applicable for the project is as per the metrics management guidelines document. The metrics will be collected and reported, as specified in the Metrics Analysis document.

1. **Risk Management**
   1. ***Risk Strategy***

Risks will be identified and managed as per the risk guidelines in the QMS. Risk register will be reviewed and updated on a monthly basis

* 1. ***Risks Identified:***

|  |  |
| --- | --- |
| **Risk Attribute** | **Description** |
| **Source** | * Organization-wide risk repository * Assumptions, Constraints and limitations * Technology * Methodology * Human resources * Connectivity and performance * Communication * Power /Backup * Customer expectations, etc |
| **Category** | * Requirements * Technical * Political * Resource / Budget * Schedule |
| **Probability** | * Very unlikely – 0.1 * Unlikely – 0.3 * Likely – 0.5 * More Likely – 0.7 * Almost Certain – 0.9 |
| **Impact** | * Very Low – 1 to 2 * Low – 2 to 4 * Moderate – 4 to 6 * High – 6 to 8 * Very High - >8 |
| **Risk Score** | Probability x Impact |
| **Risk Handling Plan** | Mitigation and Contingency plans will be identified for all the Risks  For the Risks with score more than 3, Mitigation plan will be implemented  For the Risks that are occurred, Contingency plan will be implemented |
| **Risk Monitoring Frequency** | Risks will be monitored on fortnightly basis |

1. **Data Management Plan**

| **Non-Configurable Items** | **Frequency** | **Repository** |
| --- | --- | --- |
| Project Internal Status MOMs | Weekly | Share Drive |
| MRM MOM | Weekly | Share Drive |
| Metrics Report | Monthly /End of the phase | Share Drive |
| Risk Register | Fortnightly | Share Drive |
| Issue Tracker | Fortnightly | Share Drive |
| MRM Report | Fortnightly | Share Drive |
| Milestone Review Report | End of the Milestone | Share Drive |
| Review Defect Tracker | Updated and tracked based on the Reviews conducted. | Share Drive |
| Skill Record | Based on Skill changes | Share Drive |
| Training Record | Based on Trainings attended by team members | Share Drive |
| Baseline Register | Updated and tracked at the time of Baseline Creation | Share Drive |
| Process Tailoring Form | Based on the process changes and SEPG approval is taken. | Share Drive |
| Project Initiation Note | Starting of project | Share Drive |
| Project Profile | Starting of Project | Share Drive |
| Build Release note | Updated and tracked based on the each Build and Release | Share Drive |
| Audit Reports | Quarterly | Share Drive |
| PPM | Monthly | Share Drive |
| Corrective and Preventive Actions Tracker | Updated and tracked based on goals and metrics are missed the targets | Share Drive |
| DAR Report | Done when critical decisions are taken against the DAR process. | Share Drive |
| Testing Defect tracker | Updated and tracked based on the Testing conducted. | Share Drive |
| Test Report | Updated and tracked based on the each Build and Release | Share Drive |
| Best Practices | Updated and tracked based on the Best Practices found during project execution | Share Drive |
| Lessons Learnt | Updated and tracked based on the Lessons Learnt found during project execution | Share Drive |

1. **Configuration and Change Management Plan** 
   1. ***Identification of Configuration Items***

| **Phase** | **Config. Item** | **Owner** | **Base lining Criteria** | **Change approval** | **Location of Config. Item** |
| --- | --- | --- | --- | --- | --- |
| Requirements | SRS | PM | Reviewed and approved by the review panel. Sign off from customer at the end of the requirement phase. | PM | HO |
| Design and Development | Source code | PM, Developer | Reviewed and approved by the PM at the end of the development phase | PM | HO |
| Testing | Test Cases and Test Plan | Tester | To be Approved by the PM | PM | HO |
| Project Planning & Control | Project Management Plan, Schedules | PM | Review by PM | PM | HO |
| Deployment | Deployment Manual | Configuration Manager | Review by PM,  approved by the Client | PM | HO |

* 1. ***Configuration Management System***
     1. **Access control mechanism**

| **CI Item** | **Read Only access** | **Modify access** |
| --- | --- | --- |
| Project Plan | Team, QA | PM |
| Estimation sheet | Team, QA | PM, TL |
| SRS | Team, QA | PM, BA |
| RTM | Team, QA | PM, BA,TL, QA Lead |
| Test plan | Team, QA | PM, QA Lead |
| Test cases | Team, QA | PM, QA Lead, Test Engineer |
| Product Integration plan | Team, QA | PM, Release Engineer,TL |
| Software Release Plan | Team, QA | PM, QA Lead |
| HLD | Team, QA | PM, TL |
| LLD | Team, QA | PM, TL |
| Source Code | Team, QA | PM, TL, Developers |
| Deployment Manual | Team, QA | Release Engineer |

* + 1. **Release Nos. and Version Nos.**

| **Release Type** | **Version Numbering Convention** |
| --- | --- |
| Major Release (New Phase) | IPOS-Build Release No DD-MM-YYYY |
| Minor Release (Within Phase) | Increment by.1.0 |
| Patch Release | Increment by.0.1 |
|  |  |
|  |  |

* 1. ***Creation of Base Lines***
* Baseline will be created for all the configurable items as per the Baseline Criteria defined in Section 6.2 of PMP
* Release wise impacted configurable items will be labeled in the share drive with appropriate release numbers
* After getting approval from CCB members, the artifacts will be base lined in the Configuration Library, the access control will be imposed on the base lined item and Baseline Register will be updated.

* 1. ***Change Control***

1. Change request are gathered by BA team and approved by Management.
2. Work products are updated for the approved requests.
3. PM approves the release based on the test reports.

|  |  |
| --- | --- |
| **Step** | **Description** |
|  | In case of any changes required to the base lined items/artifacts, change request will be raised by the team member |
|  | The assigned member identifies the effected items and performs Impact Analysis. |
|  | After impact analysis, the same will be put-up for approval to the CCB board. |
|  | The PM will analyze the impact |
|  | And they take the decision to approve the change or reject the same. |
|  | Upon approval from management the CC will set required permissions to the concerned team member after updating the Baseline Register. |
|  | After incorporation of the required changes, the concerned team member will inform CC and CCB. |
|  | Configuration will be conducted by the CC before release |
|  | CCB will approve the baseline the artifact, after review. |
|  | Based on the CCB’s approval, the CC will baseline the item and removes the access control on that item. |
|  | Thereafter the Baseline Register will be updated by CC. |

* 1. ***Configuration Status***

Configuration status identifies the status of each of the change that is to be implemented in the Configuration Items. A status report is maintained indicating the log of status of changes to the Configuration Items using standard quality record template (Baseline Register).

* 1. ***Configuration Audits***

Configuration Audits shall be carried out by SEPG for every Milestone.

1. **Reviews And Audits**
   1. ***Reviews Plan***

| **Item** | **Review Type** | **Frequency/Event driven** | **Potential Reviewers** |
| --- | --- | --- | --- |
| Project Management plan | Peer Review | Based on the changes identified | SEPG, Sr Manager |
| SRS | Peer Review | Based on the changes identified | Sr Manager |
| Design Documents and Code | Peer Review | Based on the changes identified, Once the developer completes the development of code | SEPG, |
| Test Plan and test cases | Peer Review | Based on the changes identified | PM |

* 1. ***Audit schedule***

As per Internal Audit Schedule published by QA Team once in a Quarter

1. **Validation Plan**

|  |  |  |  |
| --- | --- | --- | --- |
| **Work Product** | **Type of Validation** | **Frequency/Event driven** | **Potential Participants** |
| Wireframes & Designs | Online Presentation | Approval of SRS, Change Request | PM, BA, Client |
| Source Code | Unit testing, Integration testing and system testing | Developed Source code | Developers |
| Final deployment | Implementation | Final deployment | PM, Client |

1. **Asset / Component / Reusable Artifact**

| **Artifact Name** | **Artifact Description** | **Changes / Modification Required** | **Impact of Change / Modification** | **Expected Benefits due to re-use** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| Developed Modules | Common Features/Functions in all modules | Yes | As per the Module requirement | Time Saving |  |
| Templates for Risk Register, Issue Tracker, Mom’s, Test Plan, Test Cases | Knowledge based Repository are used for reusability | Yes | As per Requirement | Time Saving | Reducing the efforts by reusing the documents. |

1. **Stake Holder Involvement Plan**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Phase** | **Potential Stakeholders** | **Responsibility** | **Communication** | **Frequency** |
| Requirement Analysis | Client, BA,PM,CC | SRS will be prepared by BA, Reviewed by PM/TL. | Emails, Meeting | Weekly |
| CRs Approval | CCB | CR Approval based on impact analysis | Meeting | As required after receipt of changes. |
| Design | TA, TL, PM , Technical Team | Design document will be prepared by Technical Architect and Technical Lead,  Reviewed by Technical Architect  Approved by PM | Mails | As required |
| Development | Developer ,Team Lead, PM | Coding by developer, Reviewed by TL | Internal Mails , Meetings | Daily |
| Testing | QA Lead, Tester | Test case prepared by tester,  Reviewed by QA Lead and Testing by Tester | Internal Mails, Meetings | Daily |
| Build Release | RE | Deployment done by RE  Approved by TL | Mails ,Meetings | As required |
| All Phases | IT Team | Hardware, Network, Server support | Help Desk, Mails | Whenever Network/System/Server issues arise |
| All Phases | Head-Talent Acquisition | PM will provide the requisition details and Head, Talent Acq. Will provide the resources. | Phone ,Meetings | As required |
| All Phases | SQA | SQA will conduct quarterly audits and provide process implementation support. SEPG will forward Metrics, Best Practices and Lessons Learnt to the SQA. | Meetings | Fortnightly |
| All Phases | Sr. Management | PM will provide project status through Sheets senior management every month. Emails will be sent to update on status, as and when required. | MRM, Mails. | Monthly for the team and Quarterly for the Sr.Management and SQA |
| All Phases | Client | Project progress, Change Requests communication,  Feedback | Mails, Phone, Meetings | Weekly |
| All Phases | OT Team | Provide Trainings based on Skill Gap identified | Phone,Meeting | As required |

1. **CAR Plan**

CAR will be initiated to:

* To reduce the impact of a risk in achieving the defined quality and process performance objectives.
* To improve the process performance limits of process or sub process in cases of high variation.
* To analyze repeated defects previous similar instances, and of similar types for reduction.
* To establish a formal mechanism to identify the causes of superior performance and hence assess them for incorporation at a broader level

**Triggers for CAR**

1. Positive/Negative trends in the project
2. Continuously when not meeting the metrics target.
3. **DAR Plan**

Please refer DAR report in share drive at

DAR will be initiated for project critical decision around

* Design Approaches
* Product Integration - Formal evaluation process for selecting the appropriate software integration sequence and procedures and for deciding whether the integration environment should be acquired or developed.
* Risk Management - DAR guidelines are applied to evaluate alternatives for selection and mitigation of identified risks.
* Organizational Innovation and Deployment – DAR can be used for formal evaluations related to improvement proposals and innovations

In addition to the above mentioned areas, Formal Decision Analysis has to use by a project/department:

* When the decision would cause significant scheduling delays
* When the decision affects the ability to achieve objectives
* When the costs of the decision process are reasonable compared to the decision’s impact

1. **Project Closure**

Project Closure report would be prepared at the end of the Go-live and Implementation phase as defined in our QMS.

1. **Definitions and Acronyms**

| **S. No.** | **Acronym** | **Definition** |
| --- | --- | --- |
| 1 | DM | Delivery Manager |
| 2 | PM | Project Manager |
| 3 | BA | Business Analyst |
| 4 | DEV | Developer |
| 5 | SE | Software Engineer |
| 6 | SSE | Senior Software Engineer |
| 7 | DES | Designer |
| 8 | TST/QL | Tester/QA Lead |
| 9 | TL | Team Lead |
| 10 | SQA | System Quality Advisor |
| 11 | TW | Technical Writer |
| 12 | PC | Project Coordinator |
| 13 | VP | Vice President |
| 14 | CCB | Change Control Board |
| 15 | SEPG | Process Quality Facilitator |
| 16 | DBA | Database Administrator |
| 17 | TA | Technical Architect |
| 18 | AM | Account Manager |