**Waterfall Model Documents- ERP ENHANCEMENT**

Document 1- Business case document template-

* Why this Project is initiated?
* The purpose of this project is to make enhancement to some working modules also to implement new modules.
* With enhancement / implementation there will be ease of working, updating status to end users.
* Users will save time and efforts which they are currently wasting on maintaining data and report generation.
* Automation in various reports will ease work of all (including management) as situation of company is better projected.
* Will get better query resolution and customer satisfaction with quick service.
* Company can compete with competitors easily.
* What are current Problems?
* Current state has no sample tracking system.
* Current Order Tracking system is too old to compete with current fast updation to customer.
* Payment system tracker has no Credit/ debit note generation pages, also no due date invoice tracker.
* Costing is done manually with excel, change in raw material cost need updation for all designs manually.
* Stock Module having no low stock updation, faulty/old stock updation also missing.
* With this Project how many problems could be solved?
* This project will solve majority of problems.
* After this project getting accurate and real time data will be easy.
* As reports generated with ease, making and presenting management reports will be easy.
* New modules like sampling tracker and costing will help to solve issue of repetitive and tedious work.
* Automation in stock module will give added advantage to sell and increase revenue.
* What are the resources required?

HW- 1 network admin and 1 DB admin

Software Training Resources-

Project Manager- 1

Sr. Developer- 2

Developers- 6

Tester- 6

BA-2

Solution Architect-1

Financial Structure- Billing Project

Estimated Budget- 3 Cr.

Estimated Time- 1.5 Year

PM-1200 Rs./Hour

Solution Architect- 1100 Rs./Hour

Sr. Developer- 1000 Rs./Hour

Developer- 600 Rs./Hour

Testers- 600 Rs./Hour

Network and DBA- 400 Rs./Hour

Software and Licencing Fees- Rs. 30 Lacks

Site Visits, Data request reports- Rs. 20 Lacks

* How much organizational change is required to adopt this technology?
* All users to train only for new modules and enhancement which is done. Else all are well aware about handling ERP System.
* Time frame to recover ROI?
* 3 Years to recover ROI as these modules enhance working ability, reduces repeated works, gives better idea of company situation as on date.
* How to Identify Stakeholders?
* Identify Stakeholders.
* Stakeholder listing documents.
* Stakeholder Summary

**Document 2: BA Strategy**

BA Approach Strategy-

* Elicitation Techniques to apply-
	+ **Interview**- Interviews with stake holder to understand the exact requirement and it will help in understanding working as well
	+ **Workshop**s- Work shop with stake holder will allow us to understand coordination and requirements of every staff involved in Lead generation Process.
	+ **Document Analysis**- Documents required to process SDLC
	+ **Reverse Engineering –** Where the process for an existing system has little or outdated documentation and it is necessary to upgrade with new technology. Will use **Black Box Reverse Engineering** and **White Box Reverse Engineering technique.**
	+ **Questionnaire**- in later stage questions will help BA in understanding missing requirements and target specific stage.
* **Stakeholder Analysis-**
* Identify Stakeholders- To list all the stakeholders which are affected or influenced due to current project.
* Categorization- Primary stakeholders which are directly affected by project and secondary stakeholders which are indirectly affected.
* RACI Matrix- Is used to clarify and define roles and responsibilities. Here R-Responsible, A-Accountable, C- Consulted and I- Informed.
* What documents to write-
* BRD- Business Requirement Document
* RACI- Responsible, Accountable, Consulted and Informed
* RTM- Requirement Traceability Matrix.
* FRS- Functional Requirement Specification.
* HDD- High level Design Document.
* LDD- Low level Design Document.
* Test Documents.
* Process to follow to Sign off on document.
* Prepare a complete document with all necessary details
* Identify final signatory
* Send the document for review.
* Collect the signature- Either physically or by electronically.
* Follow up & reminders
* Store the document
* How to take approval from Client-
* Requirement Approval- BA will create requirement documents and get approval from client before taking SDLC to design stage.
* Design Approval- BA will show basic design and take approval before development stage.
* Communication Channel to establish and implement-
* Phone Calls
* Video Conferencing
* Emails
* Face to Face conversation.
* How to Handle Change Request-
* Initially we will do Feasibility Study to accept the change.
* Then the impact analysis to measure change to project.
* Finally effort estimation to implement the change in the project.
* How to update the progress of project to Stakeholders-
* Tracking the project with help of Project Management Tool.
* Naming the project report and timestamp for east identification of the report.
* Mentioning the project summary.
* High level overview to be added of each key area.
* Share link of documents.
* Highlight if any block the project has gone into.
* Highlight next steps.
* How to take Sign off on the UAT- Client project Acceptance form

UAT is conducted on a product by the end users of the product for approval for production release. It collaborates with various stakeholders - project sponsors, business owners, business analysts, development and testing team. The testing constitutes test suites which involve multiple test cases and the result of the test case is either a pass or a fail.

PROCESS

Planning- create stages of testing, and test data should cover all the several activities done in the real world

Design- design the test

Exception- execute the test with help of team consist of stake holder and real world end-user’s bugs and defect found in system resolve and retest

Sign-off – the stage where the software/website meets the requirements and prepare the product for delivery.

**Document 3- Functional Specifications**

|  |  |
| --- | --- |
| Project name  | ERP Enhancement (Enterprise Resource Planning) |
| Customer name  | VS Infotech |
| Project Version  | V00001 |
| Project Sponsor  | VS Infotech |
| Project Manager  | Mr. Anuj Sharma |
| Project Initiation date  | 05/09/2024 |

**Functional Requirement specifications:**

|  |  |  |  |
| --- | --- | --- | --- |
| Req. ID | Req. Name | Req. Description | Priority |
| FR0001 | LOGIN | User should be able to LOGIN in to application for all modules with UN & PW. | 1 |
| FR0002 | Reister New User | System admin should create new user profile and provider of remote user access | 5 |
| FR0003 | Search | Search the availability of Samples | 2 |
| FR0004 | Sample Order | If sample is not available, to generate order in system | 3 |
| FR0005 | Order Information | Sample order generation info to factory sample team, design and coloration team by email | 4 |
| FR0006 | Tracking | Sample status tracking in system, update in status by factory sample team. | 5 |
| FR0007 | Modification | Design modification emails to designers, factory people | 8 |
| FR0008 | Sample delay email | If sample get delay more than delivery date, auto mail/pop up to respective dept. | 7 |
| FR0009 | Sample status excel | Daily basis sample status to all stakeholders | 10 |
| FR0010 | Code generation | Unique material code generation based on new design and color selected by customer | 8 |
| FR0011 | Order Generation | Order generation in system with unique code | 3 |
| FR0012 | Price Update | For each Unique material code, price updation in system  | 9 |
| FR0013 | Price modification | With change in RAW material cost price updation in system with just single click | 5 |
| FR0014 | Customer Mat. Info | Customer Barcodes/ Ref. codes to edit against each Unique material code | 5 |
| FR0015 | Order Tracking | Daily basis order tracking in system | 3 |
| FR0016 | Order Status download | Order status download (all) manually possible in excel form  | 3 |
| FR0017 | Order Status Automation | Auto status update to each user on email everyday morning | 1 |
| FR0018 | Status Update | Factory people should able to update status against each Unique code | 2 |
| FR0019 | Codes & Lot No | Material transfer from each dept. can be done only after Lot No and Barcode generation | 7 |
| FR0020 | Rejection | Any rejection/damage to get update in system | 6 |
| FR0021 | Repeat Order | In case of rejection, repeat order to generate, revised delivery date and order should kept on highest priority | 6 |
| FR0022 | Order Delays | Delay in order than delivery date should get highlighted in status and pop up to respective departments and HO. | 3 |
| FR0023 | Ready Goods | Ready goods list to download in excel form | 10 |
| FR0024 | Roll Selection | Tick mark based roll selection, so as to dispatch customer exact quantity he want | 10 |
| FR0025 | Invoice Marking | Marking of Final Invoice No. against each Order and Line Item. | 9 |
| FR0026 | Order Short Closing | Auto Short closing of the orders based on tolerance limit of ± 10% | 5 |
| FR0027 | Customer Complaint | Customer complaint to track based on Order No. so we get everything at one place | 5 |
| FR0028 | Payment Ledger | Customer outstanding ledger to download in excel form in single click | 3 |
| FR0029 | Debit/Credit Note | Based on complaint from customer debit and credit note to generate against Unique order No. | 2 |
| FR0030 | Auto Notification | Invoices which are not paid over due date to get highlighted as pop up and in excel form | 1 |
| FR0031 | Costing new development | Construction and raw material details from designers to feed in system | 2 |
| FR0032 | Available design update | Old, available design and modified designs construction and raw material details to update in system | 5 |
| FR0033 | Auto costing | Costing to done automatically when raw material cost and production cost changes | 1 |
| FR0034 | Search/Download | Search/Download option for costing for each design | 1 |
| FR0035 | Stock Search | Search for available Stock in warehouse and factory | 2 |
| FR0036 | Stock correction | After each dispatch and cut in order, system should get automatically updated | 3 |
| FR0037 | Low stock Alert | If stock hits low to tolerance, system should generate popup and excel data to each responsible user | 2 |
| FR0038 | Rejection Alert | Rejected quantity/ rejected stock data to generate to sell at less price | 5 |
| FR0039 | Old Stock Alert | Old stock more than given limit to download in excel form  | 4 |
| FR0040 | Stock Report | Stock report to download based on collection name and year of launch | 2 |

**Document 4- Requirement Traceability Matrix**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Req. ID | Req. Name | Req. Description | Design | D1 | T1 | D2 | T2 | UAT |
| FR0001 | LOGIN | User should be able to LOGIN in to application for all modules with UN & PW. | Yes | Pending | No | Yes | Yes | Yes |
| FR0002 | Reister New User | System admin should create new user profile and provider of remote user access | yes | pending | No | Yes | Yes | Yes |
| FR0003 | Search | Search the availability of Samples | yes | Yes | No | No | Yes | No |
| FR0004 | Sample Order | If sample is not available, to generate order in system | Yes | Yes | pending | No | Yes | No |
| FR0005 | Order Information | Sample order generation info to factory sample team, design and coloration team by email | Yes | Yes | pending | Yes | Yes | Yes |
| FR0006 | Tracking | Sample status tracking in system, update in status by factory sample team. | Yes | No | No | pending | Yes | No |
| FR0007 | Modification | Design modification emails to designers, factory people | Yes | pending | Yes | No | Yes | No |
| FR0008 | Sample delay email | If sample get delay more than delivery date, auto mail/pop up to respective dept. | Yes | Yes | No | No | Yes | No |
| FR0009 | Sample status excel | Daily basis sample status to all stakeholders | Yes | Yes | pending | No | No | Yes |
| FR0010 | Code generation | Unique material code generation based on new design and color selected by customer | Yes | Yes | No | No | No | Yes |
| FR0011 | Order Generation | Order generation in system with unique code | Yes | Yes | pending | No | No | Yes |
| FR0012 | Price Update | For each Unique material code, price updation in system  | yes | Yes | No | No | No | Yes |
| FR0013 | Price modification | With change in RAW material cost price updation in system with just single click | Yes | Yes | pending | No | No | No |
| FR0014 | Customer Mat. Info | Customer Barcodes/ Ref. codes to edit against each Unique material code | Yes | No | Yes | Yes | Yes | Yes |
| FR0015 | Order Tracking | Daily basis order tracking in system | Yes | Yes | Yes | Yes | No | pending |
| FR0016 | Order Status download | Order status download (all) manually possible in excel form  | Yes | Yes | Yes | Yes | Yes | pending |
| FR0017 | Order Status Automation | Auto status update to each user on email everyday morning | Yes | No | Yes | No | Yes | Yes |
| FR0018 | Status Update | Factory people should able to update status against each Unique code | Yes | Yes | No | Yes | No | pending |
| FR0019 | Codes & Lot No | Material transfer from each dept. can be done only after Lot No and Barcode generation | Yes | pending | Yes | Yes | Yes | Yes |
| FR0020 | Rejection | Any rejection/damage to get update in system | Yes | No | Yes | No | Yes | Yes |
| FR0021 | Repeat Order | In case of rejection, repeat order to generate, revised delivery date and order should kept on highest priority | Yes | Yes | No | No | Yes | No |
| FR0022 | Order Delays | Delay in order than delivery date should get highlighted in status and pop up to respective departments and HO. | Yes | Yes | No | pending | No | No |
| FR0023 | Ready Goods | Ready goods list to download in excel form | Yes | Yes | Yes | pending | No | Yes |
| FR0024 | Roll Selection | Tick mark based roll selection, so as to dispatch customer exact quantity he want | Yes | Yes | pending | Yes | No | Yes |
| FR0025 | Invoice Marking | Marking of Final Invoice No. against each Order and Line Item. | Yes | Pending | No | Yes | Yes | Yes |
| FR0026 | Order Short Closing | Auto Short closing of the orders based on tolerance limit of ± 10% | yes | pending | No | Yes | Yes | Yes |
| FR0027 | Customer Complaint | Customer complaint to track based on Order No. so we get everything at one place | yes | Yes | No | No | Yes | No |
| FR0028 | Payment Ledger | Customer outstanding ledger to download in excel form in single click | Yes | Yes | pending | No | Yes | No |
| FR0029 | Debit/Credit Note | Based on complaint from customer debit and credit note to generate against Unique order No. | Yes | Yes | pending | Yes | Yes | Yes |
| FR0030 | Auto Notification | Invoices which are not paid over due date to get highlighted as pop up and in excel form | Yes | No | No | pending | Yes | No |
| FR0031 | Costing new development | Construction and raw material details from designers to feed in system | Yes | pending | Yes | No | Yes | No |
| FR0032 | Available design update | Old, available design and modified designs construction and raw material details to update in system | Yes | Yes | No | No | Yes | No |
| FR0033 | Auto costing | Costing to done automatically when raw material cost and production cost changes | Yes | Yes | pending | No | No | Yes |
| FR0034 | Search/Download | Search/Download option for costing for each design | Yes | Yes | No | No | No | Yes |
| FR0035 | Stock Search | Search for available Stock in warehouse and factory | Yes | Yes | pending | No | No | Yes |
| FR0036 | Stock correction | After each dispatch and cut in order, system should get automatically updated | yes | Yes | No | No | No | Yes |
| FR0037 | Low stock Alert | If stock hits low to tolerance, system should generate popup and excel data to each responsible user | Yes | Yes | pending | No | No | No |
| FR0038 | Rejection Alert | Rejected quantity/ rejected stock data to generate to sell at less price | Yes | No | Yes | Yes | Yes | Yes |
| FR0039 | Old Stock Alert | Old stock more than given limit to download in excel form  | Yes | Yes | Yes | Yes | No | pending |
| FR0040 | Stock Report | Stock report to download based on collection name and year of launch | Yes | Yes | Yes | Yes | Yes | pending |

**Document 5- BRD Template**



Mr.Vinay Sankpal

ERP Enhancement (Enterprise Resource Planning )

V0001

By

Mr. Vinay Sankpal.

1. Document Revisions

|  |  |  |
| --- | --- | --- |
| Date | Version No. | Document Changes |
| 05/09/2024 | 0.1 | Initial Draft |
| 06/09/2024 | 0.2 | Second Draft |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1. Approvals

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Role | Name | Title | Signature | Date |
| Project Sponsor | VS Infotech | VP |  |  |
| Business Owner | Mr. Rohit M | VP |  |  |
| Project Manager | Mr. Anuj Sharma | Project Manager |  |  |
| System Architect | Mr. Harish | SR consultant |  |  |
| Development Lead | Mr. Dinesh | SR. Software engineer |  |  |
| User Experience Lead | Mr. Vinay Sankpal | BA |  |  |
| Quality Lead | Mr. Sunil | Software engineer |  |  |
| Content Lead | Ms. Anupama | developer |  |  |

1. RACI Chart for this Document-

The RACI chart identifies the persons who need to be contacted whenever changes are made to this document. RACI stands for Responsible, accountable, consulted and informed. These are to appear in a RACI Chart, used here to describe the roles played by team members and stakeholders in the production of BRD. RACI can be made for project stakeholders as well as Business stakeholders also.

Codes Used in RACI Charts-

R- Responsible for creation documents.

A- Accountable for accuracy of this document.

S- Support - Provide supporting services in the production of this document.

C- Consulted (Provides Input)

I – Informed- Must be informed of any changes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name | Position | R | A | S | C | I |
| Mr. Rohit M | Project Owner |  |  | **Y** | **Y** | **Y** |
| Mr. Anuj Sharma | Project Manager | **Y** | **Y** | **Y** | **Y** |  |
| Mr. Dinesh | Sr. Developer | **Y** | **Y** |  | **Y** |  |
| Ms. Anupama | developer |  | **Y** | **Y** | **y** |  |
| Ms. Sayali | developer |  | **Y** | **Y** | **Y** |  |
| Mr. Abhijeet | developer |  | **Y** | **Y** | **Y** |  |
| Mr. Abhishek | developer |  | **Y** | **Y** | **Y** |  |
| Mr. Vinay Sankpal | BA | **Y** | **Y** |  |  |  |
| Ms. Prachi | Tester |  |  | **Y** |  | **Y** |
| Mr. Ajay | Tester |  |  | **Y** |  | **Y** |
| Mr. Rajendra | Sol. Architect |  |  | **Y** | **Y** | **Y** |

1. Introduction-

4.1 Business Goals

To enhance / implement module so as to ease working, updating status to customers, automation reporting will reduce risk and error in working.

4.2 Business Objective

* The purpose of this project is to make enhancement to some working modules also to implement new modules.
* With enhancement / implementation there will be ease of working, updating status to end users.
* Users will save time and efforts which they are currently wasting on maintaining data and report generation.
* Automation in various reports will ease work of all (including management) as situation of company is better projected.
* Will get better query resolution and customer satisfaction with quick service.
* Company can compete with competitors easily.

4.3 Business Rules

* Government acts and regulations.

4.4 Background

* Create a platform where business will enhance from current state.
* Current state has no sample tracking system.
* Current Order Tracking system is too old to compete with current fast updation to customer.
* Payment system tracker has no Credit/ debit note generation pages, also no due date invoice tracker.
* Costing is done manually with excel, change in raw material cost need updation for all designs manually.
* Stock Module having no low stock updation, faulty/old stock updation also missing.

4.5 Project Objectives-

* Implementation of Sample Development Module.
* Enhancement in Order Status Tracking Module.
* Enhancement in Payment Module.
* Implementation of Costing Module.
* Enhancement in Stock Module.

4.6 Project Scope

* To enhance and implement current ERP module so as to reduce repetitive work, ease of working, ease of reporting, ease of information, auto highlight from system.

4.6.1 In scope functionality-

* Sample module
* Order Tracking
* Payment Module
* Costing Module
* Stock Module

4.6.2 Out Scope Functionality-

None

5 Assumptions-

* All the Sales team staff who will be involved in process are well educated so they will basic knowledge about computers
* Everyone will know and understand English
* Well aware about Lead generation process
* Basic knowledge of login and logout
* Companies will have enough systems in place for everyone to use
* Companies will have stable internet connection
* Companies will have VPN to protect data.
* Company should give every user separate ID and PW to track working.

6 Constraints-

* Time Constraint- could face problem if time constraint is not followed.
* Budget Constraint- Budget allocation will be problem if project delayed.

7 Risks-

In this section of the BRD, you describe risks. A *risk* is something that could affect the success or failure of a project. Analyse risks regularly as the project progresses. While you may not be able to avoid every risk, you can limit each risk’s impact on the project by preparing for it beforehand. For each risk, you’ll note the likelihood of its occurrence, the cost to the project if it does occur, and the strategy for handling the risk. Strategies include the following:

* **Avoid:** Do something to eliminate the risk.
* **Mitigate:** Do something to reduce damage if risk materializes.
* **Transfer:** Pass the risk up or out to another entity.
* **Accept:** Do nothing about the risk. Accept the consequences.

Technological Risk

* Many change requests.
* System is not equipped to support current updation
* Improper hardware provided

Skills Risk

* Low productivity
* Improper recruitment
* Improper training

Political Risk-

* Market trends may change.
* New political rules implementation may bring risks

Business Risk-

* Credit Risk
* Company process Risk
* Not complying with company policy
* Budget issue

Requirement Risk-

* Wrong stakeholders
* Requirement are not conveyed properly
* Incomplete requirement
* Changing requirements frequently

Other Risks-

* Stakeholders issue
* Lack of communication
* Co ordination between team members.

8 Business Process Overview-

* Requirement Gathering-
* BA will complete stakeholder analysis.
* BA will gather the requirement from stakeholder and sort them.
* Create Use cases and expectations
* Requirement Analysis-
* All possible requirements of the system to be developed are captured in this phase and documented in a requirement specification document.
* This describes overall process flow from each phase.
* Design-
* The system design is prepared which specifies hardware and system requirements.
* It includes a list of functionalities of modules, correlation between these modules, architecture diagrams and database tables.
* Development-
* Developers will design the system based on the requirement shared.
* This system design helps in specifying hardware and system requirements and helps in defining the overall system architecture.
* Testing-
* Testers check the program for all possible defects by running test cases.
* The client is involved in the testing phase as will in order to ensure all requirements are met.
* All errors and bugs detected during this phase are fixed to ensure quality assurance.
* Deployment and Implementation-
* In this phase the source code is written as per requirements. The physical design specification are turned into a working code.
* The system is developed in small program called units, after which these units are integrated.

8.1 Legacy System-

* Current state has no sample tracking system.
* Current Order Tracking system is too old to compete with current fast updation to customer.
* Payment system tracker has no Credit/ debit note generation pages, also no due date invoice tracker.
* Costing is done manually with excel, change in raw material cost need updation for all designs manually.
* Stock Module having no low stock updation, faulty/old stock updation also missing.

8.2 Proposed Recommendation-

* **Sample-** Search for sample availability, tracking of new development status, report automation and access to users to change and modify details.
* **Order Status-** Order generation, tracking, update in system. Status tracking, report automation, auto order closures.
* **Payment**- Payment Ledger update and download, credit/ debit note generation, email popup for delayed payment.
* **Costing**- Automatic costing for new developments, auto updating in costing when raw material prices varies.
* **Stock**- Search availability, Low stock updation (Email report) Old stock & faulty stock report generation.

9 Business Requirements-

* Functional Requirements- These are actual requirements from end users which can be termed as Use Case.

e.g. FR0001 – User should be able to login in ERP to enter sample order details.

* Non Functional Requirements- These requirements are system related, that how system should work and respond.

e.g. NFR0001- System should respond to user actions within specified time (Performance)

10. Appendices

10.1 List of Acronyms

* BRD- Business Requirement Document
* RACI- Responsible, Accountable, Consulted and Informed
* RTM- Requirement Traceability Matrix.
* FRS- Functional Requirement Specification.
* HDD- High level Design Document.
* LDD- Low level Design Document.
* UAT- User Acceptance Test.

10.2 Glossary of Terms

10.3 Related Documents