BOSCH

Proposal to:
NhP1

Project for:
Digital Cookbook

Proposal By	Proposal To
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PROPOSAL DETAILS

Confidentiality:	Confidential
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Validity:	90 days
Reference Number:	NHP1_SX/ETL_24052024

Contents

1. PROJECT SCOPE

1.1 Scope

2.1.1 Overall Scope

Design, development, and deployment of an AI/ML based digital cookbook system usable via a web application (Streamlit).

1. The proposed system will employ AI/ML techniques and enable the following:
    a. Find and retrieve the failure mode for the given DMC.
    b. Extract the defective component name based on failure mode.
    c. Localize the defective component in the schematic document.
2. The system shall connect to MWS DB to read failure mode/history.
3. The system shall handle Master file in .csv / .xlsx format.
4. The system shall handle schematic document in .pdf format.
5. The system shall handle up to 50 schematic documents.

2.1.2 Detailed Scope

UI Development Scope

UI to be developed in Streamlit with following functionalities:

- Option to enter a single DMC.
- Option to upload .xlsx file with list of DMCs.
- Display the failure history and location of the defective component in the schematic diagram.

General

- All documentations and business communications will be in English.
- Post Go-Live stabilization support of 2 weeks.

End User Training:

- One-time virtual training shall be provided in English with up to 20 participants for a duration of up to 4 working hours in a span of 5 consecutive working days.

2.2 Out of Scope

1. Data availability and data quality related issues.
2. Processing of images, media files and unstructured data.
3. Processing of file formats other than mentioned in the scope.
4. Extraction of text from images using OCR.
5. Reporting:
    - Mobile App/Report development.
    - Administration activities.

- SSO & AD integration.

2.3 Flow Diagram
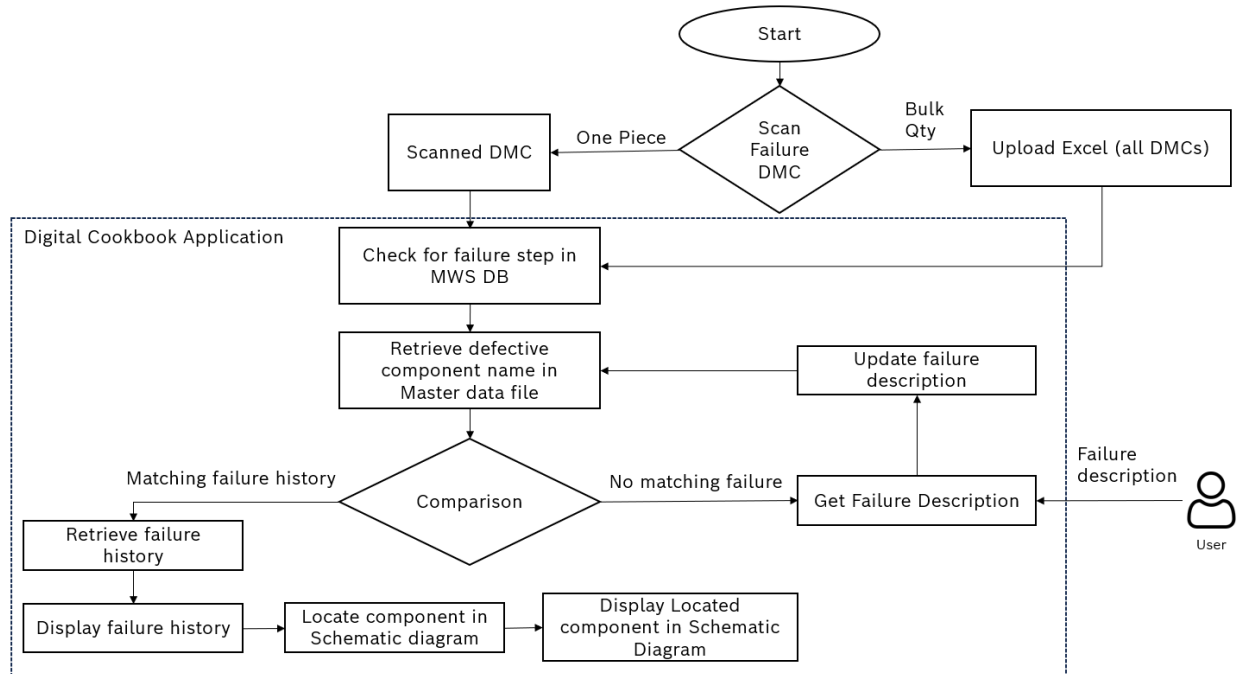
2.4 Pre-requisites
Below are the key pre-requisites from NhP1,

#	Project Phase	Pre-requisites
1	Project Kick Off	1. Single point of contact (SPOC) from NhP1 for timely clarifications. 2. Interface to connect to MWS DB to be shared. 3. Schematics documents to be shared. 4. Master data file to be shared in .csv or .xlsx format.
2	Study	1. NhP1 SME availability. 2. Agreement on data quality and acceptance criteria.
3	Design	
4	Development and Unit Testing	
5	UAT	1. Availability of Key users
6	Go-Live & Stabilization	
7	Project Closure	

2.5 Bill of Materials/ Licenses

#	Hardware / Infrastructure	Environment	No's	Unit Price (USD)	Total Cost (USD)	Specifications
1	VM	Prod & Dev	2			RAM:32GB CPU Core: 16 Storage: 500GB Linux OS Ubuntu 22.04 LTS-2024. Zone - Same zone as MWS database (SL3/SL4). Port numbers - Default ports can be opened for SSH, HTTP, TCP, HTTPS (80, 443, 22 (putty, etc.) External Server - Accessing to the VM from the BGSW Network
2	VS Code	Prod & dev	2			Open source
3	Anaconda	Prod & dev	2			Open source

2.6 Assumptions

1. Scope creep will follow the CR process.
2. In case of scope creep, revised estimates for schedule and costs will be mutually discussed and agreed.
3. Master data file contains only one defective component per failure mode.

2.7 Deliverables, Receivables and Acceptance Criteria

| #	Project Phase	Deliverables by BGSW	Receivables from NHP1	Acceptance Criteria
1	Project Kick Off	• Project plan and schedule with milestones • Team structure	• Purchase Order • Project Level Agreement • Project Team Structure	• Deliverables are in line with the project scope.
2	Study	• Requirement Specifications Document (RSD)	• Frozen requirements • Clarifications on need basis • Sign off on Requirements Specification Document (RSD)	• Solutioning covers identified requirements.
3	Design	• High Level Design Document	• Clarifications on need basis	• Solutioning covers identified requirements.
4	Development and Unit Testing	• Web Application • Unit Test cases and Test results	• Clarifications on need basis	
5	UAT	• UAT support and issue resolution	• Signoff on UAT • Clarifications on need basis	• No critical defects
6	Go-Live & Stabilization	• Deploy Solution in Production	• Signoff on Go-Live	• No critical defects
7	Project Closure	• Documentation • Transition to Operations	• Handover confirmation • Signoff on Project closure	• No deviation from the agreed scope

1. PROJECT SCHEDULE

The indicative timeline for this project is 14 weeks as depicted below. The Application engineering, Installation & Commissioning until SOP and post go-live activities would be carried out for each level board.

Phase	M1				M2				M3				M4		
	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15
Requirements / Study	■														
Design		■													
Data Preparation & EDA			■												
Model Development				■											
Model Evaluation					■										
Web app development						■									
Backend Integration								■							
Deployment										■					
Testing											■				
UAT												■			
Golive													★		
Post Golive support														■	■

2. PROJECT MANAGEMENT

4.1 Change Request Procedure:

The Change Request procedure (shown below) applies to all changes resulting from requirements outside the scope defined in this proposal.
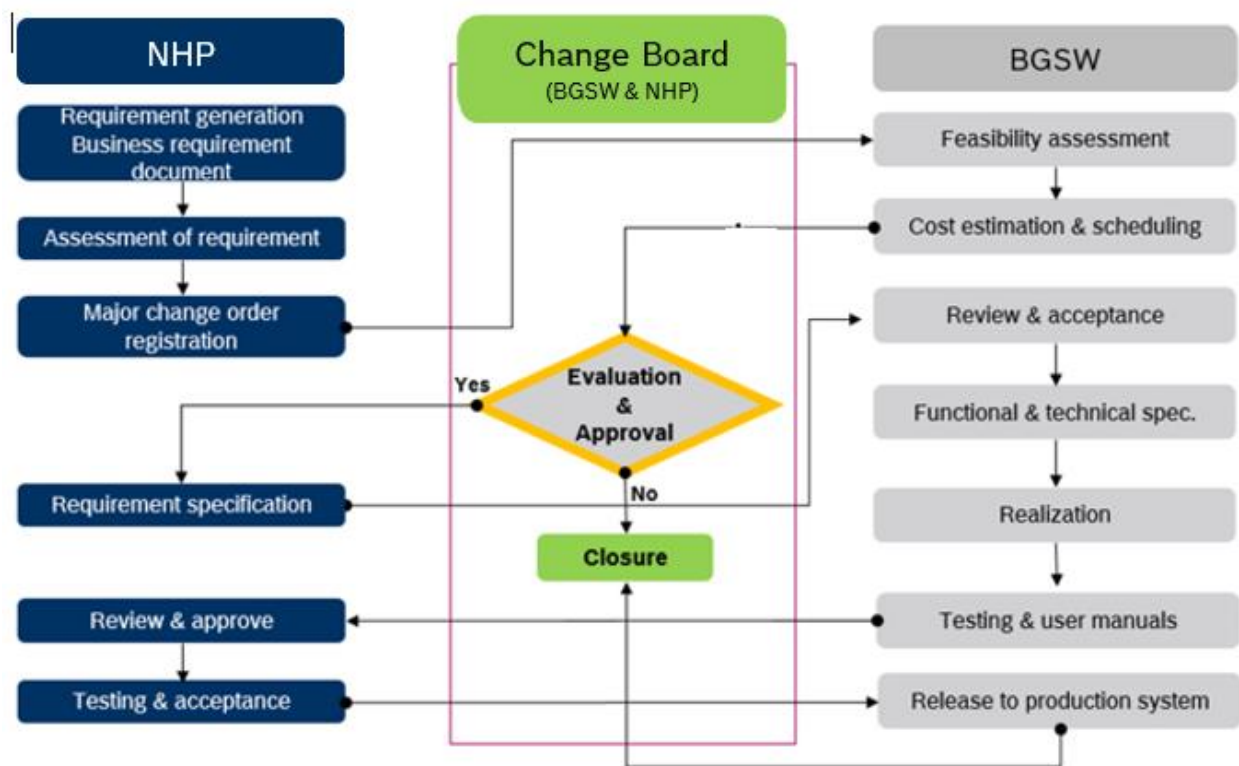
Any activity causing delay in project schedule will have an impact on project commercials and has to be discussed mutually between BGSW and NHP1. Additional efforts must be incorporated in the project through Change request process.
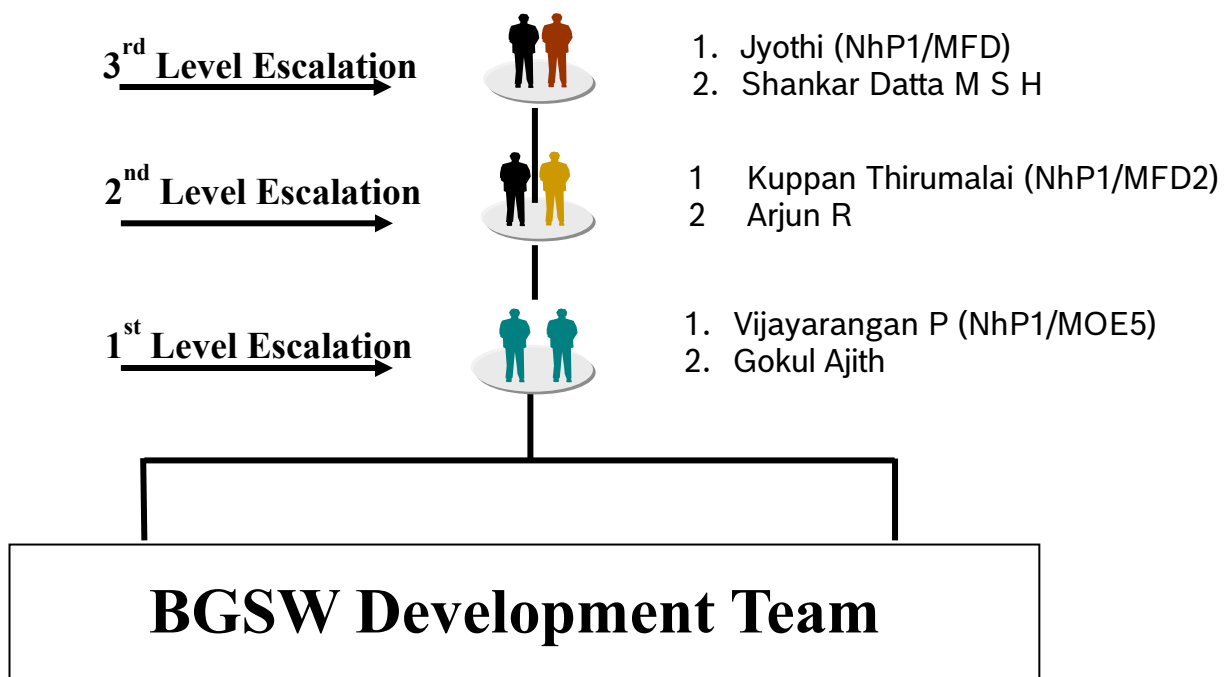
4.2 Project Execution

Roles and Responsibilities

NHP1	
Role	**Responsibility**
NHP1 Manager	• Responsible for project delivery • Overall project responsibility • Participate in joint reviews with BGSW • Approves change requests
NHP1 Core Team	• Responsible for UAT • Reports defects to product owner during UAT

BGSW	
Role	**Responsibility**
Project Manager	• Responsible for overall project management • Administrative control of BGSW project team • Project inputs to ETL5 Program Manager • Provide resources for the project • Coordination with teams
Architect	• Designing solution. • Development of data models for database structures • Integration with source systems • Integration of technical functionalities including scalability, security, reliability
Data Scientist	• Exploratory Data Analysis (EDA) • Feature Engineering • Model development • Model validation • Model Deployment

- UAT support

4.3 Escalation Management

3rd Level Escalation →	1. Jyothi (NhP1/MFD) 2. Shankar Datta M S H
2nd Level Escalation →	1 Kuppan Thirumalai (NhP1/MFD2) 2 Arjun R
1st Level Escalation →	1. Vijayarangan P (NhP1/MOE5) 2. Gokul Ajith

BGSW Development Team

4.4 Communication Plan

An effective communication is necessary for successful execution and tracking of the project. The below communication plan is proposed for the project.

S No	Communication Type / Media	Participants	Frequency	Topics to be discussed
1	Project status review	NHP1 BGSW	Weekly	Status of the project

2	Project team meeting	Project teams	Fortnightly	Activities / status / clarifications on project related activities
3	Project status reporting	NHP1 BGSW	Monthly	Monthly status of the project
4	Issue escalation	NHP1 BGSW	Ad-Hoc	Issues which are escalated

4.5 Risks & Mitigations

Risks	Mitigation
Unavailability of necessary Infrastructure/Source Systems or the interfaces for extraction of necessary data from the source systems	NHP1 team to ensure availability of all necessary infrastructure/Source Systems with necessary interfaces for data extraction as defined in the prerequisites
Missing clarity of Data field mapping and Calculation for KPIs	NHP1 team to ensure availability of all Data field mapping and calculations documented and made available to BGSW team before the Design phase
Delay in acceptance of deliverables resulting in schedule and effort deviations	NHP1 should adhere to the plan for review and sign-off.
Disturbance due to Natural calamities and social chaos	NHP1 to have necessary Business Continuity Plan. Schedule to be revisited adjusted, and mutually agreed

5 COMMERCIALS

5.1 Price Summary

Item	Topic	Duration	Total Cost (INR)	Remarks
1	NHP1 Digital cookbook	14 weeks	10,44,400	

5.2 Payment Milestones

Item	Milestone	Timeline	Cost in INR per milestone	Remarks
1	Project kick-off	T+0	4,69,980	Advance payment with PO
2	Model development	T+ 4 weeks	2,34,990	
3	UAT	T+ 12 weeks	2,34,990	
4	Project Closure	T+14 weeks	1,04,440	

Note: T indicates project kick-off date

5.3 Commercial Terms and Conditions

- Taxes as applicable are additional.
- In case the project is stopped for unforeseen circumstances, then invoice will be raised for the effort which has been spent.
- Any delay in the project schedule not attributable to BGSW will lead to a revision in the commercial estimates which will be discussed and agreed upon.
- Any change in scope or schedule from the proposal may involve re-evaluation of the pricing and revision (upward or downward) if required.
- Any change in the assumptions relating to responsibilities will involve Change Order processing and follow up proposal.

- Project start is subject to publishing of names of business users, project manager from NHP1, sign off on schedule and single point of contact in IT.
- NHP1 shall bear cost of travel, accommodation, and allowance in case of any travel.
- Any clarifications on the invoice to be completed within 10 days from the date of invoice.
- Invoices are payable without deduction within thirty (30) days from the date of invoice.

6 SIGNATURES

Signed

Krity Kansara

Sr. Project Manager

SX/EDS3-MM