SAP ERP Portal Development

Functional Requirement Specifications

Internship Batch – 2022

Project Identification	
Project ID	
Project Name	SAP ERP Portal Assessment – Batch 2022
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Approvals and Authorizations

Ver. No.	Ver. Date	Prepared By	Reviewed By	Review Date	Approved By	Affected Section & Summary of Change
V1	08.10.2021	Salick/Naveen				

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Standard Naming Conventions

Technical Naming Standards

Field WF_
Flag WG_
Local variables LOC_
Constants C_
Internal tables IT_
Work area WA_
Field symbol <FS_>
Select-options S_
Parameters P_
Types TY_

Data Dictionary & Reports & Etc.

Z <Module Name> <Text> -> ZSD_<TEXT>
Domain: ZXXXXXXXXXX_D
Data element: ZXXXXXXXXXX_DE
Structure: ZXX_XXXXXXXXXX_S
Table Type: ZXX_XXXXXXXXXX_T
Table: ZXX_XXXXXXXXXX
Report: ZXX_XXXXXXXXXX
Form: ZF_XX_XXXXXXXXXX
Interface: ZIF_XX_XXXXXXXXXX
Enhancement: ZEN_XX_XXXXXXXXXX

1 General Project Overview

1.1 Development Overview

Development Type	☒ **ABAP (WRICEF)** ☒ **MEAN Stack** ☒ **SAP Ui5** ☒ **SAP PI/PO** ☒ **OData** ☐ **Others (Specify)**
Development Title	SAP ERP Portal Assessment (Internship batch – 2021)
Logical System IDs	
Duration of Development work (in man-days)	

1.2 Objective of Development

The main objective of the portal development is to make oneself gain business level understanding of the SAP core functional modules and to become full stack techno functional consultant. One should design an SAP ERP Portal for a particular organisation which is a user-friendly portal.

SAP Portal needs to be developed for below given verticals, the front-end portal application needs to be developed using Angular (UI/UX) and SCP (SAP Ui5) and the SAP ERP system will be the data centre for Angular and SCP app.

The verticals are to be developed as follows

1. Customer Portal (Angular App)
2. Vendor Portal (Angular App)
3. Employee Portal (Angular App)
4. Maintenance Portal (SAP Ui5 App)
5. Shop floor Portal (SAP Ui5 App)
6. EHSM - Safety Ticket (SAP Ui5 App)
7. Quality Check (SAP Ui5 App)

The below table illustrates the portal and its respective SAP module which are to be integrated.

S No	Portal Application	SAP Module
1.	Customer Portal	✓ Sales and Distribution (SD) ✓ Finance (FI)
2.	Vendor Portal	✓ Material Management (MM) ✓ Finance (FI)
3.	Employee Portal	✓ Human Resource (HR) ✓ Finance (FI)
4.	Maintenance Portal	✓ Plant Maintenance (PM)

5.	Shop floor Portal	✓ Production Planning (PP)
6.	EHSM - Safety Ticket	✓ Environmental Health and Safety Management (EHSM)
7.	Quality Check	✓ Quality Management (QM)

1.3 Development Requirement Specification

This project is to develop the user-friendly portals for the given verticals. Angular and SAP Ui5 app has be developed for the respective portals

1.4 Cross Functional Reference

Module / Component	Description
NA	

1.5 Configuration Consideration

IMG Activity	Consideration Description / Notes
NA	

2 Customer Portal

2.1 Objective of development

The objective of the customer portal is to understand the functionalities of Sales and Distribution (SD) and Finance (FI) module. This portal is to be designed for maintaining the data of all the customers carrying out business with the organization. The need of Customer portal is to access and view the complete transaction between the company and customer.

Development Technology Stack to be used: **Angular, SAP PI/PO, SAP Database**

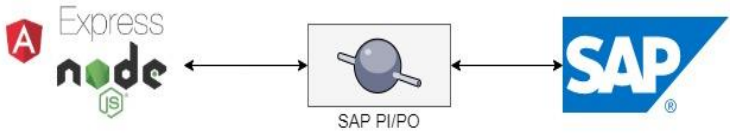

Fig 2.1 customer portal overall process

2.2 Front-end

2.2.1 Customer Login

Customer login page needs to be designed to login with the user-ID as Customer-ID and the Password. While authenticating, the presence of the Customer-ID in the standard table has to be checked, post which both the Customer-ID and the password must be verified in the custom table (Z-table).

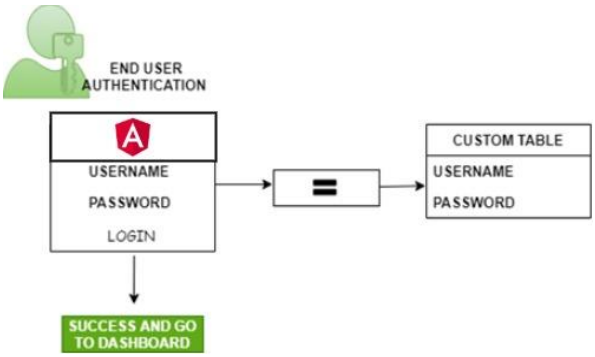

Fig 2.2 customer login validation

The Customer-ID will reach SAP ERP system via SAP PO interface. Once the Customer-ID and Password is validated in the SAP ERP system the response will be sent back to portal with the validation result. Once the validation is successful, the Customer will be allowed to access to their respective Dashboard.

2.2.2 Customer Profile View

Customer profile page needs to be designed to display the customer information. When the customer requests to view his information, a web-service call will be initiated from the portal and collects all the master data from the SAP system via SAP PO in a synchronous call. The collected customer information will be displayed.

2.2.3 Customer Dashboard

The customer dashboard needs to be designed and developed to have the end to end transactions between logon customer and the company. This page needs to be developed to have complete sales data belonging to that customer, Such as

i. Inquiry data
ii. Sale order data
iii. List of Delivery

Inquiry data

a) Inquiry data is a request to a company that they provide a quotation or sales information without obligation
b) A customer inquiry comprises one or more items that contain the quantity of a material or service that the customer asked for.

Sale order data

a) Sale order is a request from a customer to a company to deliver a defined quantity of products or provide a service at a certain time.

List of Delivery

The delivery document is the central object in the Shipping component. Based on the portal request, the desired business data needs to be fetched from the SAP ERP system and displayed in the customer portal with seamless web-service interaction. The customer dashboard needs to be designed and developed to help the customer to know the complete business transaction in a single window with user friendly navigations.

2.2.4 Customer Financial Sheet

The customer financial sheet need to have a complete financial transaction between the customer and the company. This page needs to be developed to have complete financial data belonging to that customer, Such as

i. Invoice details
ii. Payments and aging
iii. Credit/Debit memo
iv. Overall sales data

Invoice details

a) Invoice is a document which holds the amount to be paid back to the vendor. The amount in the invoice would be entered against the purchase order in the incoming invoice transaction. This amount would be verified against the goods received and the price in the purchase order. The details have to be displayed as a form output using Adobe forms.

Payments and Aging

Calculate the aging for billing document

Aging = Billing Date – Due Date

a) The aging report displays the balances, sorted by date interval or by aging period definition.

Credit/Debit Memo

a) A debit memo is a transaction that reduces Amounts Payable to a vendor
b) A transaction that reduces Amounts Receivable from a customer is a credit memo.

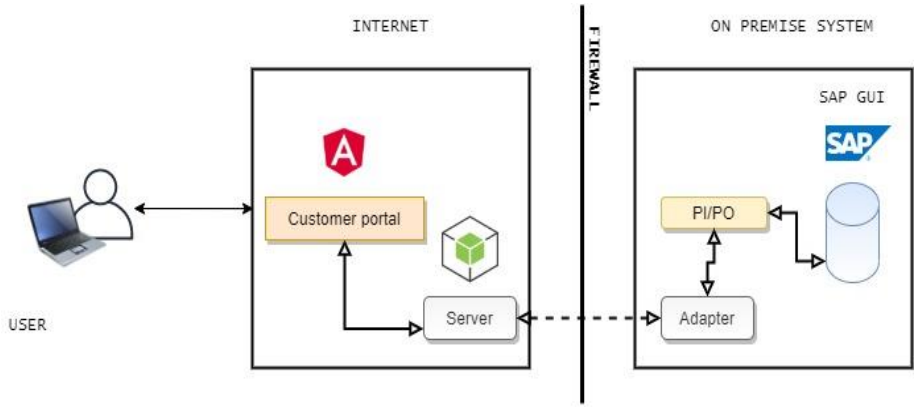

Fig 2.3 customer portal architecture

2.3 Middleware

2.3.1 SAP PI/PO

SAP Process Integration / Process Orchestration (PI/PO) is used as middleware to integrate the SAP ERP Portal with the SAP Database. A seamless synchronous connection is to be made via the adapters (ABAP PROXY/ RFC/ IDOC) available. The adapters provide the end to end communication between the server and database.

2.4 Back-end

The complete back-end have to be implemented using SAP ECC/S4 Systems via ABAP (Advanced Business Application Programming). All the ABAP programs are to be saved in packages with the corresponding TR (Transport Request).

3 Vendor Portal

3.1 Objective of development

The objective of the vendor portal is to understand the functionalities of Material Management (MM) and Finance (FI) module. This portal is to be designed for maintaining the data of all the vendors carrying out business with the organization. The need of vendor portal is to access and view the complete transaction between the company and vendor.

Development Technology Stack to be used: **Angular, SAP PI/PO, SAP Database**

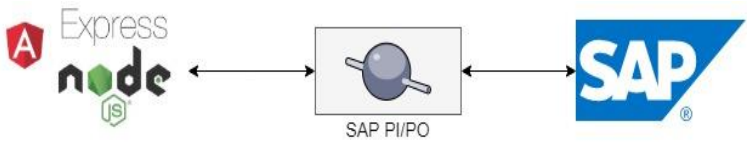

Fig 3.1 vendor portal overall process

3.2 Front-end

3.2.1 Vendor Login

Customer login page needs to be designed to login with the user-ID as vendor-ID and the password. While authenticating, the presence of the vendor-ID in the standard table has to be checked, post which both the vendor-ID and the password must be verified in the custom table (Z-table).

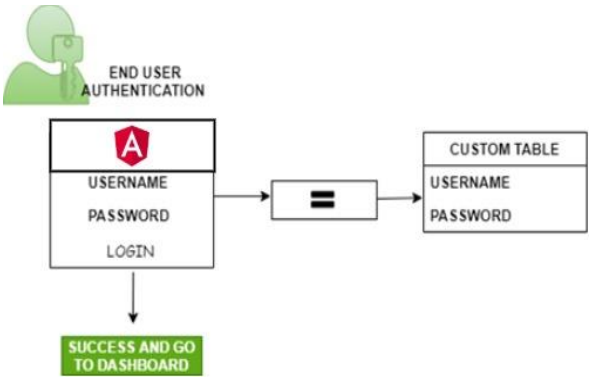

Fig 3.2 vendor login validation

The Customer-ID will reach SAP ERP system via SAP PO interface. Once the vendor-ID and password is validated in the SAP ERP system the response will be sent back to portal with the validation result. Once the validation is successful, the Vendor will be allowed to access to their respective dashboard.

3.2.2 Vendor Profile View

Vendor profile page needs to be designed to display the Vendor information. When the Vendor requests to view his information, a web-service call will be initiated from the portal and collects all the master data from the SAP system via SAP PO in a synchronous call. The collected Vendor information will be displayed.

3.2.3 Vendor Dashboard

The Vendor dashboard needs to be designed and developed to have the end-to-end transactions between logon Vendor and the company. This page needs to be developed to have complete sales data belonging to that Vendor, Such as

I. Request for Quotation
II. Purchase Order
III. Goods Receipt

Based on the portal request the desired business data needs to be fetched from the SAP ERP system and the same needs to be displayed in the Vendor portal with seamless web-service interaction. The Vendor dashboard needs to be designed and developed to help the Vendor to know the complete business transaction in a single window with user friendly navigations.

Request for Quotation

a) Request for quotation is a form of invitation that is sent to the vendors to submit a quotation indicating their pricing and terms and conditions.

b) It contains details about goods or services, quantity, date of delivery, and date of bid on which it is to be submitted.
c) Make use of standard BAPI to fetch the available RFQ.

Purchase Order

a. A formal purchase order will be generated which include material details, quantity and other related details
b. Use the standard BAPI to get the available PO and display in the portal

Goods Receipt

a) Goods receipt refers to the physical movement of goods into the warehouse from external vendors. It always increases the stock of goods in your warehouse. You can plan and manage your goods receipts and monitor the stock of ordered and produced materials. The corresponding GR for the vendor must be displayed.

3.2.4 Vendor Financial Sheet

The vendor financial sheet need to have a complete financial transaction between the vendor and the company. This page needs to be developed to have complete financial data belonging to that vendor, Such as

I. Invoice details
II. Payments and aging
III. Credit/Debit memo

Invoice details

a) Once goods are procured from a vendor and placed in company's premises through goods receipt, we need to pay to the vendor for the acquired goods and services. The amount to be paid along with the details of the material is provided by the vendor in the form of a document that is known as the invoice.

b) Develop invoice receipt as Adobe Form.

Payments and Aging

Calculate the aging for billing document

Aging = Billing Date – Due Date

b) The Vendor aging report displays the balances that are due to vendors, sorted by date interval or by aging period definition.

Credit & Debit Memo

c) A debit memo is a transaction that reduces Amounts Payable to a vendor
d) A transaction that reduces Amounts Receivable from a customer is a credit memo.

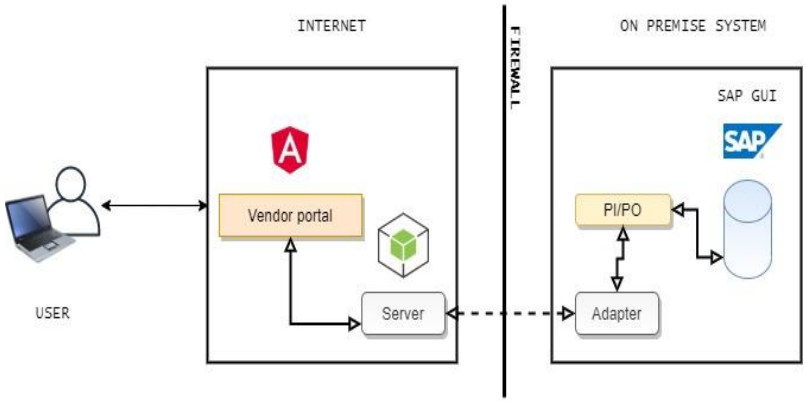

Fig 3.3 vendor portal architecture

3.3 Middleware

3.3.1 SAP PI/PO

SAP Process Integration / Process Orchestration (PI/PO) is used as middleware to integrate the SAP ERP Portal with the SAP Database. A seamless synchronous connection is to be made via the adapters (ABAP PROXY/ RFC/ IDOC) available. The adapters provide the end to end communication between the server and database.

3.4 Back-end

The complete back-end have to be implemented using SAP ECC/S4 Systems via ABAP (Advanced Business Application Programming). All the ABAP programs are to be saved in packages with the corresponding TR (Transport Request).

4 Employee Portal

4.1 Objective of development

The objective of the Employee portal is to understand the functionalities of Human Resource (HR) and Finance (FI) module. This portal is to be designed for providing info about the organization and employees, getting the pay slip as printable, leave balance and to request leave. The need of Employee portal is to have quick and easy access to HR-related transactions and services.

Development Technology Stack to be used: **Angular, SAP PI/PO, SAP**

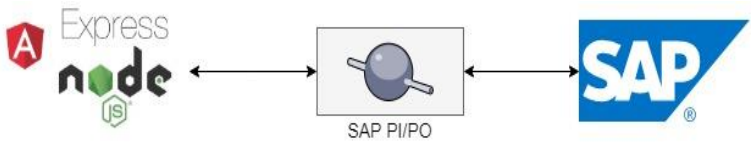

Fig 4.1 employee portal overall process

4.2 Front End

4.2.1 Employee Login

Employee login page needs to be designed to login with the user-ID as Employee-ID and the Password. While authenticating, the presence of the Employee-ID in the standard table has

to be checked, post which both the Employee-ID and the password must be verified in the custom table (Z-table).

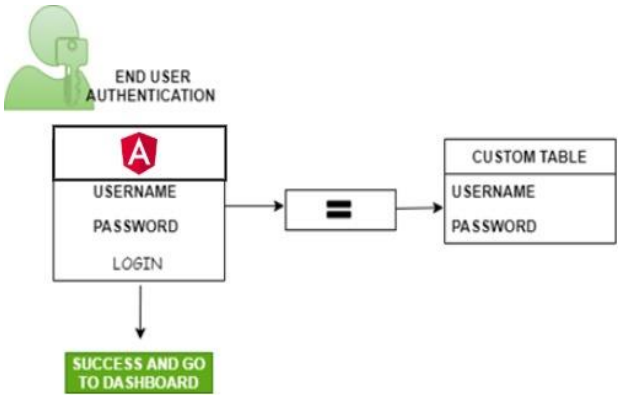

Fig 4.2 employee login validation

The Employee-ID will reach SAP ERP system via SAP PO interface. Once the Employee-ID and Password is validated in the SAP ERP system the response will be sent back to portal with the validation result. Once the validation is successful, the Employee will be allowed to access to their respective Dashboard.

4.2.2 Employee Dashboard

The employee dashboard needs to be designed and developed to have end to end transactions with the employees and the company. The dashboard design should resemble the MS office 365 dashboard. Employee dashboard should contain the complete functionalities such as

1. Employee profile data
2. Leave request
3. Pay slip

The dashboard represents each employee's organization, hierarchy, Projects assigned and performance charts. All information in the dashboard must have real-time data.

4.2.3 Employee Profile data View

Employee profile page needs to be designed to display the Employee information. When the Employee requests to view his information, a web-service call will be initiated from the portal to collect all the necessary Information from the SAP ERP system by SAP PO's synchronous call and the collected Employee information will be displayed.

4.2.4 Leave data

Employee leave data needs to have the provision to display the complete leave data of the employee.

The display leave data needs to have the provision to display the complete leave data in report format. The report must contain options like sort and filter options which all the data are created against the employee in the SAP ERP system.

4.2.5 Salary Pay slip

When employee requires to view the pay slip, desired month and year will be received from the employee portal and through the web-service the pay slip data will be collected from the corresponding Info types from the SAP ERP system. The collected pay slip data will be sent back as response to the Employee portal and same will be displayed. There must be options to download the pay slip as a pdf and save it locally. Options to print and mail the pay slip are required.

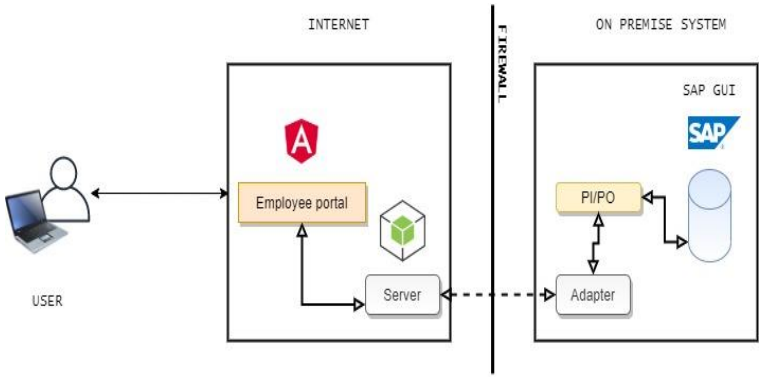

Fig 4.3 employee portal architecture

4.3 Middleware

SAP Process Integration / Process Orchestration (PI/PO) is used as middleware to integrate the SAP ERP Portal with the SAP Database. A seamless synchronous connection is to be made via the adapters (ABAP PROXY/ RFC/ IDOC) available. The adapters provide the end to end communication between the server and database.

4.4 Back-end

The complete back-end have to be implemented using SAP ECC/S4 Systems via ABAP (Advanced Business Application Programming). All the ABAP programs are to be saved in packages with the corresponding TR (Transport Request).

5 Maintenance Portal

5.1 Objective of development

Maintenance Portal needs to be designed and developed to provide easy and anywhere access through our mobile phone which has the below functionalities. The maintenance portal will be accessed by the maintenance department or maintenance engineer belonging to the organization (plant). The need of maintenance portal is to access and view the complete maintenance related activities of the organization (plant).

Development Technology Stack to be used: **SAP Ui5, OData, SAP**

Fig 5.1 maintenance portal stack

5.2 Front End

5.2.1 Maintenance Login

The initial step is validation of the user. Login page needs to be designed to login with the User-ID as Employee ID and the Password. When the Maintenance Dept. Employee logins with the user id and password, a request needs to be initiated and should reach the Backend system via service interface. Once the User-ID and Password is validated by the service interface of the Backend system the response will be sent back with the validation result. Once the validation is successful, the Logon user will be allowed to view his/her page.

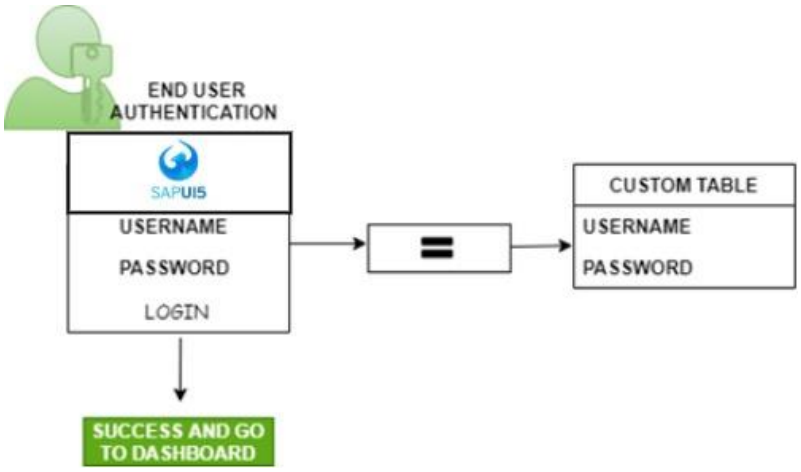

Fig 5.2 maintenance portal login validation

5.2.2 Maintenance Dashboard

The Maintenance Employee dashboard needs to be designed and developed to have the end-to-end Maintenance related activities in the plant. This page needs to be developed to have complete maintenance data belongs to that plant, such as

I. Notification
II. Work Order

Based on the portal request the desired business data needs to be fetched from the Backend system and the same needs to be displayed in the Maintenance portal with seamless front end service interaction.

The Maintenance dashboard needs to be designed and developed to help the Maintenance Department employee to know the Notifications assigned to him/her and the Work Orders assigned.

Also, the dashboard needs to have provision to create a new notification and create a work order with respect to the notification.

Dedicated to the employee, the notifications should be available based on Priority.

Notification and Work Order History

a) Maintenance Dashboard should display all the open and closed Notifications and Work Orders assigned to the Maintenance Engineer. He/she can see all the details of the corresponding Notifications and Work Orders on clicking respective Notifications and Work Order.

5.3 Middleware

The developer should be able to connect the backend [SAP Netweaver] and SAP UI5 Application with help of OData service.

- Creation of Data Model
- Generate Run Time Objects
- Service Implementation
- Registration of Service

5.4 Backend

The complete back-end have to be designed and implemented using SAP ABAP (Advanced Business Application Programming). A dedicated package must be maintained with all required functionalities. Sap ECC or HANA system is provided as backend. The ABAP programs are saved in packages with the corresponding TRs.

6 Shop Floor Portal

6.1 Objective of development

The objective of the Shop floor portal is to understand the functionalities of Production Planning (PP) module. This portal is to be designed for maintaining the data of all the production orders and planned orders carried out in a shop floor of an enterprise. The main objective of this Shop Floor portal is to provide the Production Shop Floor Engineer and the employees, the details of the complete transaction of supplies & goods.

Development Technology Stack to be used: **SAP Ui5, OData, SAP**

Fig 6. 1 shop floor portal overall process

6.2 Front-end

6.2.1 Shop Floor Engineer Login

Shop floor portal login page needs to be designed to login with the user-ID and the Password. While authenticating, the presence of the user-ID in the standard table has to be checked, post which both the user-ID and the password must be verified in the custom table (Z-table). The user-ID will reach SAP ERP system via ODATA Service. Once the user-ID and Password is validated in the SAP ERP system the response will be sent back to portal with the validation result. Once the validation is successful, the respective engineer will be allowed to access to their respective profile.

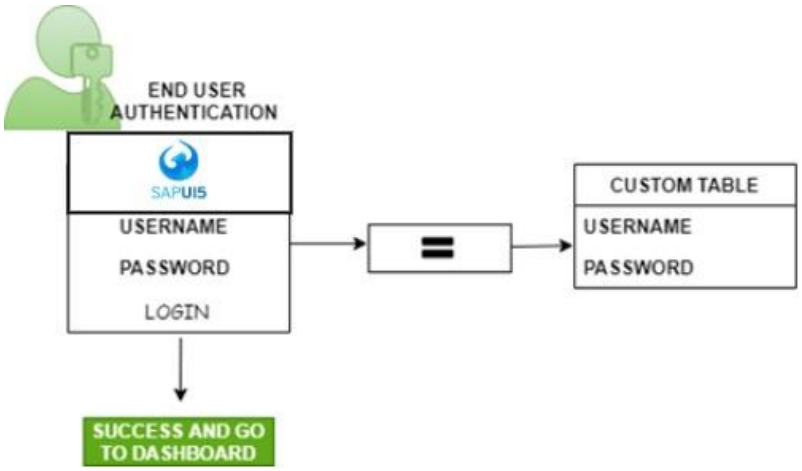

Fig 6.2 shop floor portal login validations

The user has to login from SAP UI5 Shop Floor Portal application with his/her credentials which is already present in the custom login table in SAP Netweaver. If the credentials match with data in the database, then the user moves to his dashboard or else a warning message should be shown to enter correct credentials.

Step 1: Creation of OData Service testing the user credentials match or mismatch
Step 2: Consuming the OData service using SAP UI5 application in SCP Web IDE.

6.2.2 Shop Floor Dashboard

Display Shop Floor Details

The user has to display the following as tiles in the SAP UI5 Application

- planned orders - month wise
- production orders- month wise
- planned orders - year wise
- production orders - year wise

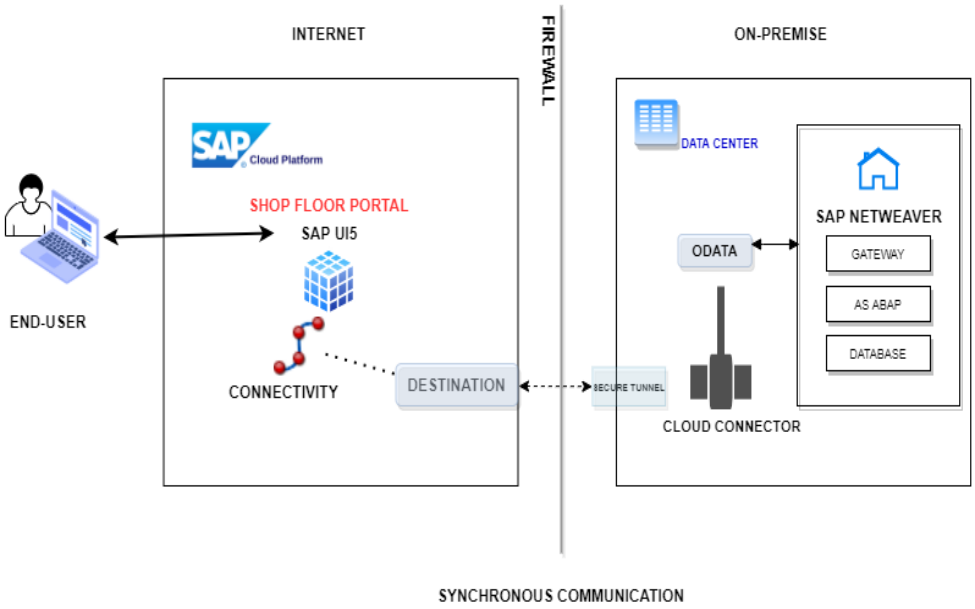

Fig 6.3 Shop floor Portal architecture

MTD [Month To Date] & YTD [Year To Date] Tiles
When the user clicks the related tile, a provision should be provided to select the corresponding month [In month wise tile] or year [In year wise tile] to fetch the Planned or Production Orders. The entire data should be read from the backend through OData service and should be displayed.

6.2 Middleware

The developer should be able to connect the backend [SAP Netweaver] and SAP UI5 Application with help of OData service.

- Creation of Data Model
- Generate Run Time Objects
- Service Implementation
- Registration of Service

6.3 Backend

The complete back-end have to be designed and implemented using SAP ABAP (Advanced Business Application Programming). A dedicated package must be maintained with all required functionalities. Sap ECC or HANA system is provided as backend. The ABAP programs are saved in packages with the corresponding TRs.

7 EHSM Portal

7.1 Objective of Development

Safety Engineer Portal needs to be designed and developed to have the below functionalities by integrating with the SAP ERP system via SAP PO. The EHSM portal will be accessed by the

Safety Engineer belonging to the organization (plant). The need of EHSM portal is to access and view the Incidents taking place in plant and take respective safety measures.

Development Technology Stack to be used: **SAP Ui5, OData, SAP**

Fig 7.1 EHSM portal overall process

7.2 Front-end

7.2.1 Safety Engineer Login

Login page needs to be designed to login with the User-ID as Employee ID and the Password. When the Engineer logins with the user id and password a web-service request needs to be initiated and the request will reach SAP ERP system via SAP PO interface. Once the User-ID and Password validated at the SAP ERP system the response will be sent back to portal with the validation result. Once the validation is successful Employee will be allowed to login to view his page.

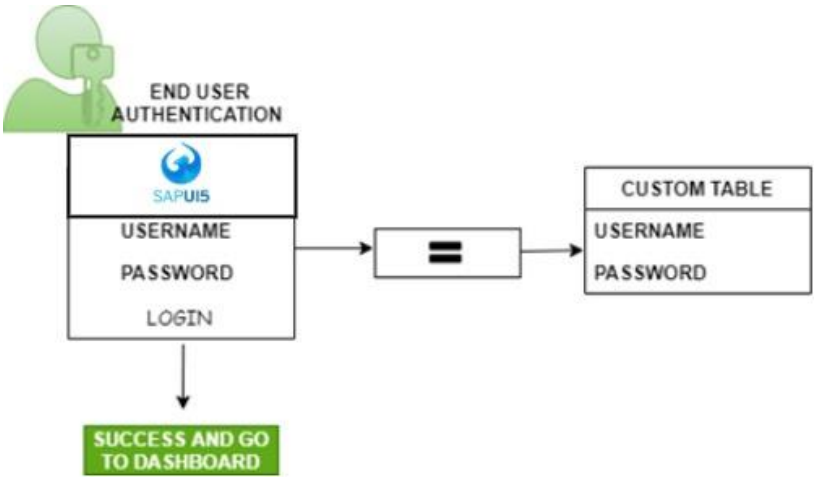

Fig 7.2 EHSM Login validations

7.2.2 Safety Engineer Dashboard

The Safety Engineer dashboard needs to be designed and developed to have complete information related to incidents and risks in the plant. This page needs to be developed to have complete EHSM data belongs to that plant, such as

i. Incident Management
ii. Risk Assessment

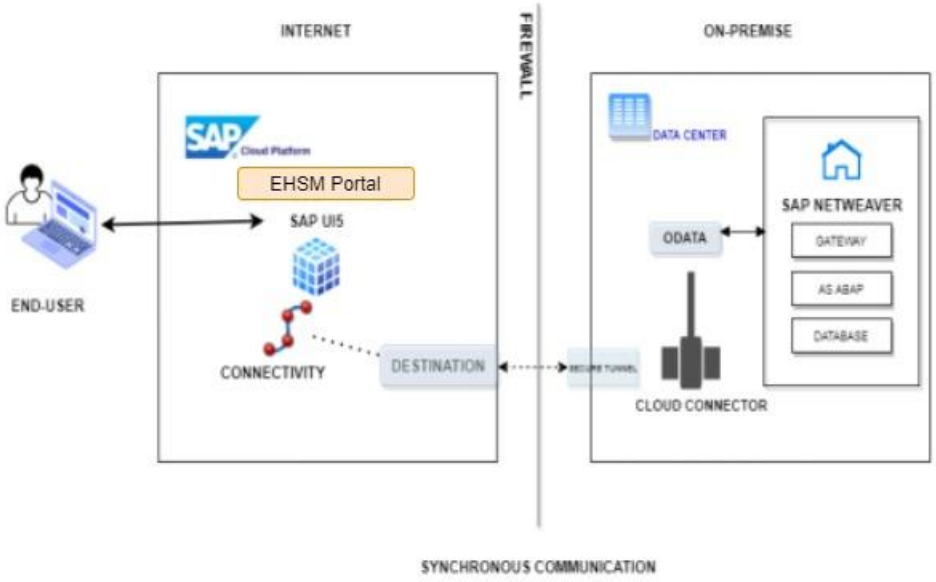

Fig 7.3 EHSM portal architecture

Based on the portal request the desired business data needs to be fetch from the SAP ERP system and the same needs to be displayed in the EHSM portal with seamless web-service interaction. The Safety Engineer dashboard needs to be designed and developed to help the Safety Engineer to have history of Incidents created in the system as to plan Production activities.

7.3 Middleware

Middleware is to be developed using Process Orchestration (PI/PO) which is used for integrating the SAP ERP Portal with the SAP Database. Among the many adapters available, the middleware for the customer portal has to be developed using ABAP PROXY Method / RFC / IDOC.

7.4 Back-end

The complete back-end have to be designed and implemented using SAP ABAP (Advanced Business Application Programming). A dedicated package must be maintained with all required functionalities. A dedicated package must be maintained with all required functionalities. Sap ECC or HANA system is provided as backend. The ABAP programs are saved in packages with the corresponding TRs.

8 Quality Portal

8.1 Objective of development

The objective of the Quality Portal is to get the understanding about the workflow of Quality Management (QM) Module. It needs to be designed and developed for maintaining the data of the inspection lots, result recording and usage decision of the lot carried out by the Quality Engineer of an organization. The quality check portal will be accessed by the Quality Engineer belonging to that organization (plant). This portal should provide the Quality Engineer and the employees, the details of the complete transaction of supplies & goods and inspect the respective materials from the corresponding lots.

Development Technology Stack to be used: **SAP Ui5, Odata, SAP**

Fig 8.1 Quality portal process overflow

8.2 Front-end

8.2.1 Quality Engineer Login

Login page of the Quality portal needs to be designed so as to login using the Quality Engineer user-ID and a password. While authenticating, the presence of the user-ID in the standard table has to be checked, post which both the user-ID and the password must be verified in the custom table (Z-table). The user-ID will reach SAP ERP system via ODATA Service. Once the user-ID and password is validated in the SAP ERP system the response will be sent back to portal with the validation result. Once the validation is successful, the respective engineer will be allowed to access to their respective profile.

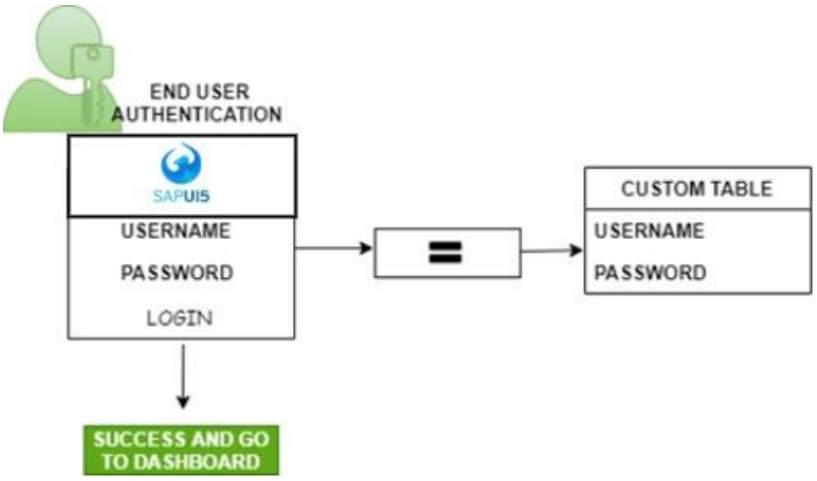

Fig 8.2 quality login validations

The user has to login from SAP UI5 Shop Floor Portal application with his/her credentials which is already present in the custom login table in SAP NetWeaver. If the credentials match with data in the database, then the user moves to his dashboard or else a warning message should be shown to enter correct credentials.

Step 1: Creation of OData Service testing the user credentials match or mismatch
Step 2: Consuming the OData service using SAP UI5 application in SCP Web IDE.

8.2.2 Quality Engineer Dashboard

The user has to display the following as tiles in the SAP UI5 Application

- Inspection lot
- Result records
- Usage decision

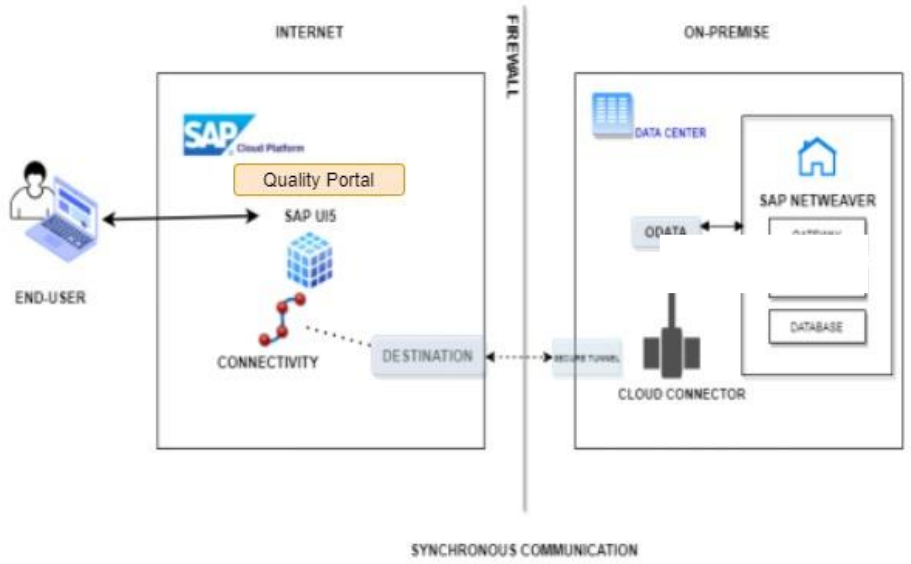

Fig 8.3 quality process architecture

Inspection lot

In the dashboard when the quality Engineer logins, the list of inspection lots should be displayed. The lot is nothing but the same products in large quantity. The inspection of products can be the products forwarded by the production plant, or it can be direct purchase (i.e.) buying it as whole product and inspect, or the inspection of the products can also be done during process which is called in-process inspection.

NOTE: In the inspection lot display, usage decision taken against each lot must also be displayed as Approved or Rejected.

Result records

Now the lot will contain certain quantity of products, so that the quality Engineer can record the results of that particular lot. But what is result recording? It is nothing but analyzing the products in the lot and segregating them into three different category:

- Unrestricted stock (Can be delivered to customer)
- Block stock (Defective or scrap work)
- Production stock (Rework and then can be delivered to customer)

Case 1: So when the Engineer clicks on result recording, once the usage decision is taken for that lot, then the Engineer can only view the recording and cannot record because once the decision for a lot is taken by an Engineer then it is not appreciable to change their decision.

Case 2: If the decision is not taken, then in the dashboard according to the total lot quantity, Engineer should divide them into above mentioned three categories.

The result recording can be done for days. For e.g. if a lot contains 100 bicycles, from that the Engineer inspects and records the results for 30 bicycles in day 1 and save it. Next time when Engineer clicks that lot, the saved results for that 30 bicycles should be displayed.

Usage decision

Once the result recording is done for a particular lot, then the notification will be sent to the responsible person for making the decision as approved or rejected.

Case 1: If the lot quantity doesn't match the inspected quantity (quantities of unrestricted stock + block stock + production stock), then it should not allow the person to make the decision and throw an error message stating lot quantity should match the inspected quantity.

Case 2: The person can make the decision only when the lot quantity and the inspected quantity are equal.

The lot quantity and the inspected quantity should match because this ensures that all the products are checked thoroughly. Inspection doesn't mean checking one quantity alone and making decision for whole lot, whereas every single item must be checked and only then the usage decision can be made.

8.3 Middleware

The developer should be able to connect the backend [SAP NetWeaver] and SAP UI5 Application with help of OData service.

- Creation of Data Model
- Generate Run Time Objects
- Service Implementation
- Registration of Service

8.4 Back-end

The complete back-end have to be designed and implemented using SAP ABAP (Advanced Business Application Programming). A dedicated package must be maintained with all required functionalities. Sap ECC or HANA system is provided as backend. The ABAP programs are saved in packages with the corresponding TRs.

9 Test Case and Test Related Result Specification

9.1 Unit Test Plan

S. No	Test Scenarios	Process
1.		
2.		

10 Technical Specification

Sample TS has been attached for the reference. Once the complete portal development has been done, all technical details needs to be documented as Technical specification.

SAP Portal Development Assess

Review

S.NO	Reviewer	Schedule
1	Mentor	Weekly Once
2	L1: APL Panel	Two Week Once
3	L2: PL Panel	Monthly Once
4	Final Viva-Voice**	

**Final Viva-Voice presentation will be conducted by APL, PL and the best project will be awarded with the cash prize

11 Evaluation

The evaluation process, reviewers and the scores details are given below

S.NO	Reviewer	Score
1	Mentor	20
2	L1: APL Panel	30
3	L2: PL Panel	30
4	Final Viva- Voice	20