Project Topic:

Asset Management System

Requirements:

Create an asset management system for an organization called XYZ Technologies. The system should manage organizational assets like mobile phones, laptops, printers and other devices like sensors, mobile charges etc.

The system should have following modules for the procurement and tracking of its organizational assets. Design and develop **Module A** and **E** for evaluation.

A. **User Registration and Login**
B. Asset Definition (*predefined*) : provide **AssetType** and **AssetDefinition** tables with records
C. Vendor Creation (*predefined*) : provide **Vendor** table with records
D. Purchase Order (*predefined*) : provide **PurchaseOrder** table with records
E. **Asset Creation**

Required Architecture:

a. Database: **MS SQL SERVER / ORACLE 12c**

b. WEB API: **(NET Core WebAPI, EF Core/ SPRINGBOOT, JPA)**

c. Front End: **ANGULAR**

Module A

User Registration and Login GUI: Create a login page for the user to login into the system given the right username and password. If not, user registration needs to be done.

Table: Login

Sl No.	Field ID	Data Type	Constraints
1	l_id	Numeric	pk
2	Username	Varchar	
3	Password	Varchar	
4	UserType	Varchar	1.Admin 2.Purchase Manager

Table: User Registration

Sl No.	Field ID	Data Type	Constraints
1	u_id	Numeric	pk
2	First Name	Varchar	
3	Last Name	Varchar	
4	Age	integer	
5	Gender	Varchar	
6	Address	Varchar	
7	Phone Number	Numeric	
8	l_id	Numeric	Ref. l_id from Login Table

Module B

Asset Definition : The functional module maintains different types of assets for the organization.

SL #	Mandatory Fields	Sample Values
1	ID	
2	Asset Name	1. Geo Magnetic Sensor – Ground 2. LoRaGetway– Tata 3. Mobile Phone 4. Laser Printer – Colour 5. Laptop 6. Desktop 7. Mobile Charger 8. Printer Charger 9. Thermal Printer 10. Lora Getaway - ICFOSS
3	Asset Type	1. Mobile 2. Thermal Printer 3. Sensor 4. Gateway 5. Laptop 6. Boom Barrier
4	Class	1. HW 2. SW

Table Definition: Asset type Table

Sl No	Field ID	Data Type	Constraints
1	at_id	Numeric	pk
2	at_name	Varchar	1.Mobile 2.Thermal Printer

Table Definition:Asset Definition Table

Sl No.	Field ID	Data Type	Constraints
1	ad_id	Numeric	pk
2	ad_name	Varchar	
3	ad_type_id	Numeric	Ref. at_id from Asset Type table
4	ad_class	Varchar	

Module C

Vendor Creation: Maintains different vendors and their products.

SL #	Mandatory Fields	Sample Values
	ID	
	Vendor Name	1. Samsung 2. MI 3. Vivo 4. Softland India 5. Mobio 6. ICOFSS 7. WIFI solutions 8. Talent Services
	Type	Supplier
	Asset Type	1. Mobile 2. Thermal Printer 3. Sensor 4. Gateway 5. Laptop 6. Boom Barrier
	Valid from	15-Jun-19
	Valid To	31-Dec-99
	Address	

Table Definition: Vendor Table

SL NO	Field ID	Data Type	Constraints
1	vd_id	Numeric	pk
2	vd_name	Varchar(100)	
3	vd_type	Varchar(40)	
4	vd_atype_id	Numeric	Ref. at_id from Asset Type table
5	vd_from	Date	
6	vd_to	Date	
7	vd_addr	Varchar(200)	

Module D

Purchase Order Creation: - Module purchases the assets from any vendors individually or in bulk.

S#	Mandatory Fields	Sample Values
1	Id	
2	Purchase order Number	
3	Asset Type	1. Mobile 2. Thermal Printer 3. Sensor 4. Gateway 5. Laptop 6. Boom Barrier
4	Quantity	
5	Vendor Name	1. Samsung 2. MI 3. Vivo 4. Softland India 5. Mobio 6. ICOFSS 7. WiFi solutions 8. Talent Services
6	Order Date	
7	Delivery Date	
8	Status	1. PO - Raised with Supplier 2. Awaiting Delivery by Supplier 3. Consignment Received 4. Asset Details registered internally 5. Asset Allocated to Resources 6. Identified Faulty 7. Replaced - Repaired

Table Definition:Purchase Order Table

SL NO	Field ID	Data type	Constraints
1	pd_id	Numeric	Pk
2	pd_order_no	Varchar(10)	
3	pd_ad_id	Numeric(20)	Ref. ad_id from asset_det
4	pd_type_id	Numeric	Ref. at_id from Asset Type table
5	pd_qty	Numeric	
6	pd_vendor_id	Numeric	Ref. vd_id from Vendor Table
7	pd_date	date	
8	pd_ddate	date	
9	pd_status	Varchar	

Module E

Asset Creation GUI: -: Module should have a capability to create and maintain the assets based on its availability in the 'Purchase Order' module. System should create a new record if the asset is available in the purchase order module and the status is 'Asset Details registered internally'.

Table Definition: Asset Master Table

Sl No	Field ID	Data Type	Constraints
1	am_id	Numeric	pk
2	am_atype_id	Varchar(40)	Ref. at_id from Asset Type table
3	am_make_id	Numeric	Ref. vd_id from Vendor table
4	am_ad_id	Numeric(20)	Ref. ad_id from asset_det
5	am_model	Varchar(40)	
6	am_snumber	Varchar(20)	
7	am_myyear	Varchar(10)	
8	am_pdate	Date	
9	am_warranty	Varchar(1)	
10	am_from	Date	
11	am_to	Date	

Evaluation Criteria:

1. Understanding the requirement [**Marks**: 5 points]
    - Evaluation will be made on all the below aspects to see how the user has understood the requirement.

2. Create **Module A** and **E** of the above GUI modules [**Marks**: 20 points]
    - Evaluation is made on how the User Experience is ensured and how the user has implemented and integrated technologies.
    - All necessary validations / UI / UX components both Client and Server side will be considered here.

3. Create tables and stored procedures, use of Joins and view Model wherever necessary [**Marks**: 15 points]
    - All the necessary Tables, Stored procedures should be created
    - Joins should be properly done to ensure parent client relations.
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4. Proper Authentication should be done: Role based [**Marks**: 5 points]

5. Test Case : It should be created based on the requirements [**Marks**: 5 points]

6. All the above modules should have the following facilities [**Marks**: 20 points]
    - Create
    - Read
    - Update
    - Delete
    - Search

7. Use Exception Handling [**Marks**: 5 points]

8. Use **Swagger** for API documentation [**Marks**: 5 points]

9. Must follow proper Coding Standards, Indentations, Naming conventions and Comments [**Marks**: 15 points]

10. Completed solution should be uploaded into the GIT for evaluation. [**Marks**: 5 points]

Note*

Pass Mark: **70%**

- If it's found that candidates are sharing the same code, both the candidates will be disqualified based on the recommendation of the trainer.
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- Every candidate should use Faith GitHub, which is provided and create a repository for this project.
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- Once completed update to the respective Ms teams along with the GIT url.

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