User Type	Functional Requirement (Epic)	User Story Number	User Story/Task	Acceptance Criteria	Priority	Release
Customer (Mobile)	User Registration	USN-1	Register via mobile app	- User can input email, password, and confirm password. - User data is saved securely.	High	Sprint 1
Customer (Mobile)	User Registration	USN-2	Register via mobile app using social media	- User can register using Facebook or Google. - User data is linked to their social media accounts.	Medium	Sprint 2
Customer (Mobile)	User Segmentation	USN-3	View personalized recommendations	- ML model segments the user based on behaviour - User sees product recommendations based on their segment.	High	Sprint 3
Customer (Web)	User Registration	USN-4	Register via web app	- User can input email, password, and confirm password. - User data is saved securely.	High	Sprint 1
Customer (Web)	User Segmentation	USN-5	View detailed segment information	- User can see demographic info, preferences, etc., related to their segment.	Medium	Sprint 3
Marketing Team	Segment	USN-6	Analyse customer	- Marketing team can access segment data. - Data is presented in a user-	High	Sprint 4

User Type	Functional Requirement (Epic)	User Story Number	User Story/Task	Acceptance Criteria	Priority	Release
	Analysis		segments	friendly format.		
Administrator	User Management	USN-7	Admin can manage user accounts	- Admin can add, delete, or suspend user accounts. - Changes are reflected in the system.	High	Sprint 5
Administrator	System Maintenance	USN-8	Perform system maintenance	- Admin can schedule and perform system maintenance tasks. - Maintenance tasks are logged.	Medium	Sprint 5

ORDER

Customer — Make Order — Receive Order
«extend»

Write Review «extend»
«include» Enter Gender
«include» Enter Visit Frequency
«include» Enter Age

DATA COLLECTION

«extend» Collect Data «extend» Add to Dataset

Data Manager

MODEL DEPLOYMENT

Enter Data
«extend»
Obtain the Result «extend» Test the Model
«extend»

MODEL BUILDING

Preprocess the data
«include» Impute missing values
«include» Drop outliers
«include» Normalize the dataset
«extend»
Split into train and test
«extend»
Build and test models
«include» KNN
«include» Logistic Regressor
«include» Random Forest
«extend»
Select the best model
«extend»
Deploy the model

Collect the data → Dataset

Dataset → Visualize and analyze the data

Visualize and analyze the data ↓ Pre-process the data

Pre-process the data ↓ Training and testing set

Build the model

User

Build the model ↓ Trained model

Build the application

User ↓ Input

Build the application → Application → Prediction/Output

Market Segmentation analysis using ML

Planning
- Define project objectives and scope
- Establish project team and roles
- Develop a project charter
- Identify Stakeholders

Preparation
- Conduct Market research
- IdentifyDatasets
- Preprocess Relevant Datasets
- Define Target Market Segments

ML Model development
- Select ML algorithms and techniques
- Train and fine-tune ML models
- Evaluate and optimize model performance

Software and System Design
- Design Software architecture and components
- Integrate ML models into the system
- develop UI for data input and visualization
- Integrate ML models into the system

Data Indrastructure and Integration
- Set Up Data Storage and Retrieval System
- Implement Data Quality Checks and Validation
- Integrate ML Outputs into the System

Testing and Quality Assurance
- Develop Test Plans and Cases
- Perform Unit Testing and Integration Testing
- Conduct User Acceptance Testing
- Identify and Address Issues and Bugs

Deployment and Incremental Development
- Plan Deployment Strategy in Small Increments
- Monitor System Performance Post-deployment
- Provide User Training and Support
- Continuously Improve the System

Minimum Viable Architecture (MVA)
- Define MVA Components
- Build and Deploy MVA Incrementally
- nsure MVA Aligns with Organizational Goals and Scalability

Data Indrastructure and Integration
- Identify Potential Risks and Mitigation Strategies
- Establish Project Governance and Milestones
- Continuously Monitor and Manage Risks