

Project Design Phase-I
Solution Architecture

Date	10 November 2023
Team ID	Team - 592211
Project Name	Understanding Audience: A Machine Learning Approach To Customer Segmentation
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture for the Customer Segmentation project is a comprehensive framework aligning business objectives with technological solutions. Key objectives include:

1. Business-Technology Alignment:

Aligning technology solutions with the goal of enhancing marketing effectiveness through customer segmentation using RFM analysis.

2. Structural Description:

Defining the structure involves detailing the integration of RFM analysis with machine learning algorithms, ensuring a cohesive system that processes and analyzes customer data efficiently.

3. Behavior and Characteristics:

Describing the behavior and characteristics of the solution involves outlining how the model adapts to evolving customer behaviors, ensuring the segmentation remains dynamic and reflective of real-time trends.

4. Feature Definition:

Clearly defining features involves specifying the functionalities of the machine learning model, such as recency, frequency, and monetary value analysis, as well as the adaptability to new data for continuous improvement.

5. Development Phases:

The solution's development unfolds in phases, including data collection, model training, implementation, and ongoing optimization. Each phase contributes to the evolution of a robust customer segmentation system.

6. Solution Requirements:

Articulating the solution requirements involves detailing the necessary data inputs, technology stack, and infrastructure to support the machine learning model, ensuring seamless integration into existing business processes.

7. Specifications and Management:

Providing specifications involves creating a roadmap for the implementation and management of the solution, including protocols for data privacy, model updates, and ongoing monitoring to ensure optimal performance.

8. Delivery Mechanism:

Defining how the solution is delivered encompasses deployment strategies, user training, and post-implementation support, ensuring a smooth transition and sustained value for businesses leveraging the customer segmentation model.

Example - Solution Architecture Diagram:

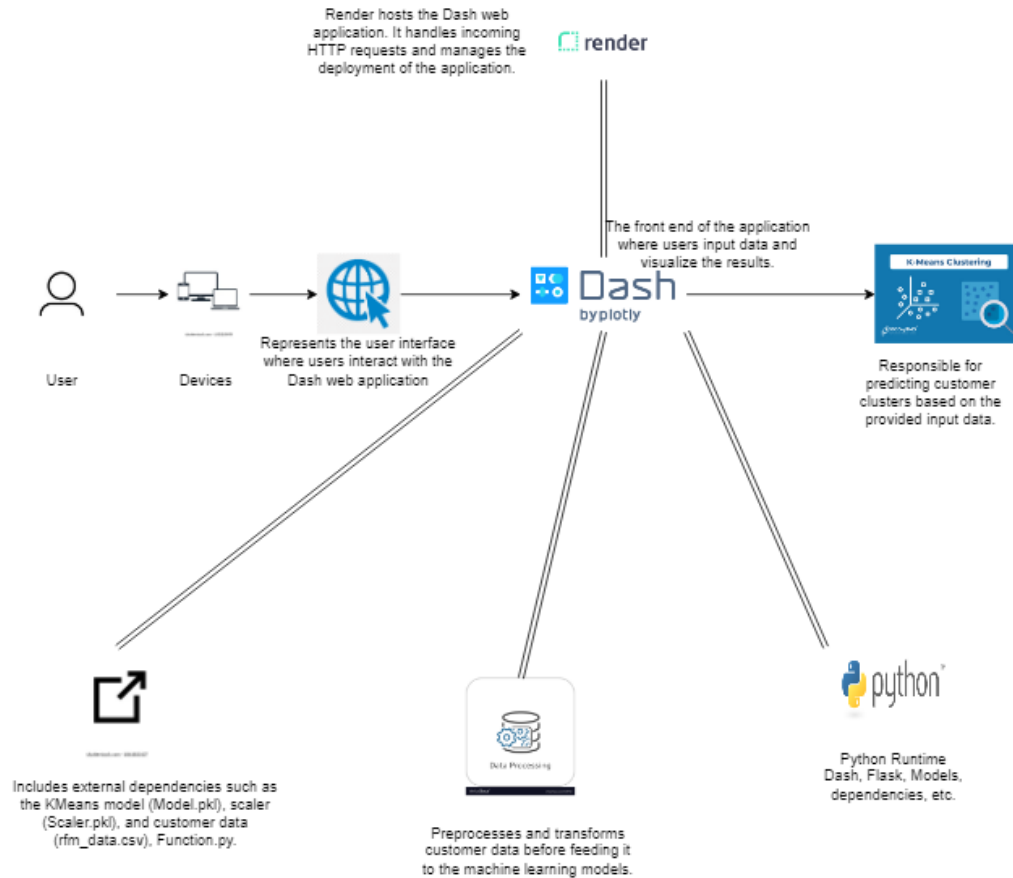


Figure 1: Architecture and data flow of the Customer Segmentation