**Project Life-Cycle**

1. **Understanding the business objective of the problem**

Develop a customer personality analysis system that helps the business understand its target customers better and tailor its products or marketing strategies accordingly. Specifically, its includes

* Analyse customer behaviour
* Segment customers and identify potential customers
* Provide insights for decision-making and Optimize marketing efforts

1. **Data Collection**
2. **Data Cleaning/Data Pre-processing**

* Dropping unnecessary columns
* Checking for missing values and imputing them
* Checking the data structure
* Checking the duplicate values
* Outlier Detection

1. **EDA**

* EDA is basically done to gain insights, identify patterns and understand relationships between variables
* Visualization techniques includes Histogram, Scatter Plot, bar graphs etc.

1. **Feature Engineering**

* Feature Scaling
* Encoding categorical variables
* Dimensionality Reduction (PCA)
* Feature Transformation

1. **Model Selection (Clustering Algorithm)**
2. **Model Training**
3. **Model Evaluation**
4. **Deployment**

Create a web-based application to demonstrate the build solution