

Project Design Phase – I

Solution Architecture

Date:	23-10-2023
Team ID:	Team-592499
Project Title:	Machine Learning Model for occupancy rates and demand in the hospitality industry

Team Members:

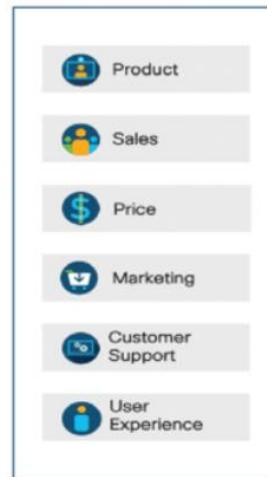
Nitin N – nitin.n2021@vitstudent.ac.in

Mekala Sujan – mekala.sujan2021@vitstudent.ac.in

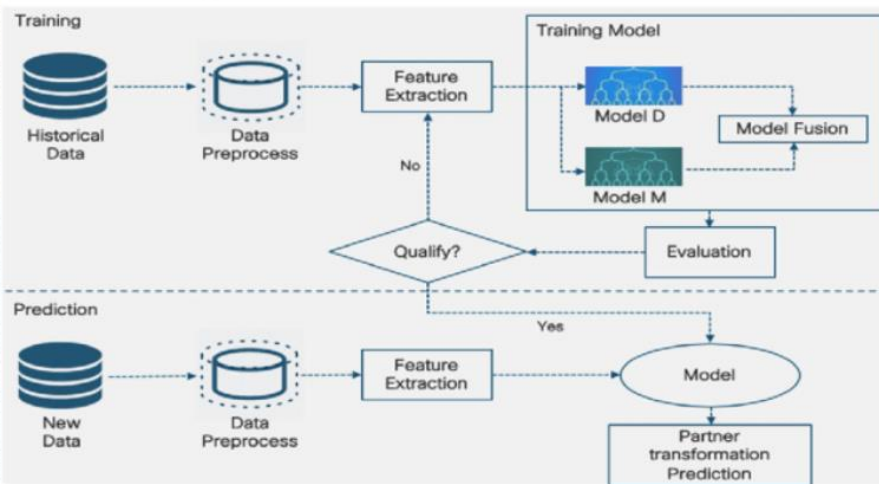
The solution architecture for the machine learning system in the hospitality industry comprises several interconnected components. It begins with data ingestion and storage, where information from various sources is cleaned and stored for analysis. Machine learning models, including time series analysis and neural networks, are trained on historical data to predict occupancy rates and demand fluctuations. Real-time prediction and dynamic pricing engines continuously analyze incoming data, adjusting room prices and optimizing resource allocation. An alerting system notifies management of unusual demand patterns, while a user-friendly dashboard provides real-time insights. Customization and integration services are available for tailored solutions, and data security and privacy measures are implemented. The architecture is designed to scale efficiently, and a feedback loop ensures ongoing refinement and improvement.

Solution Architecture Diagram:

Data Collection



Machine Learning



THANK YOU