Project Design Phase – II

Data Flow diagrams and user stories
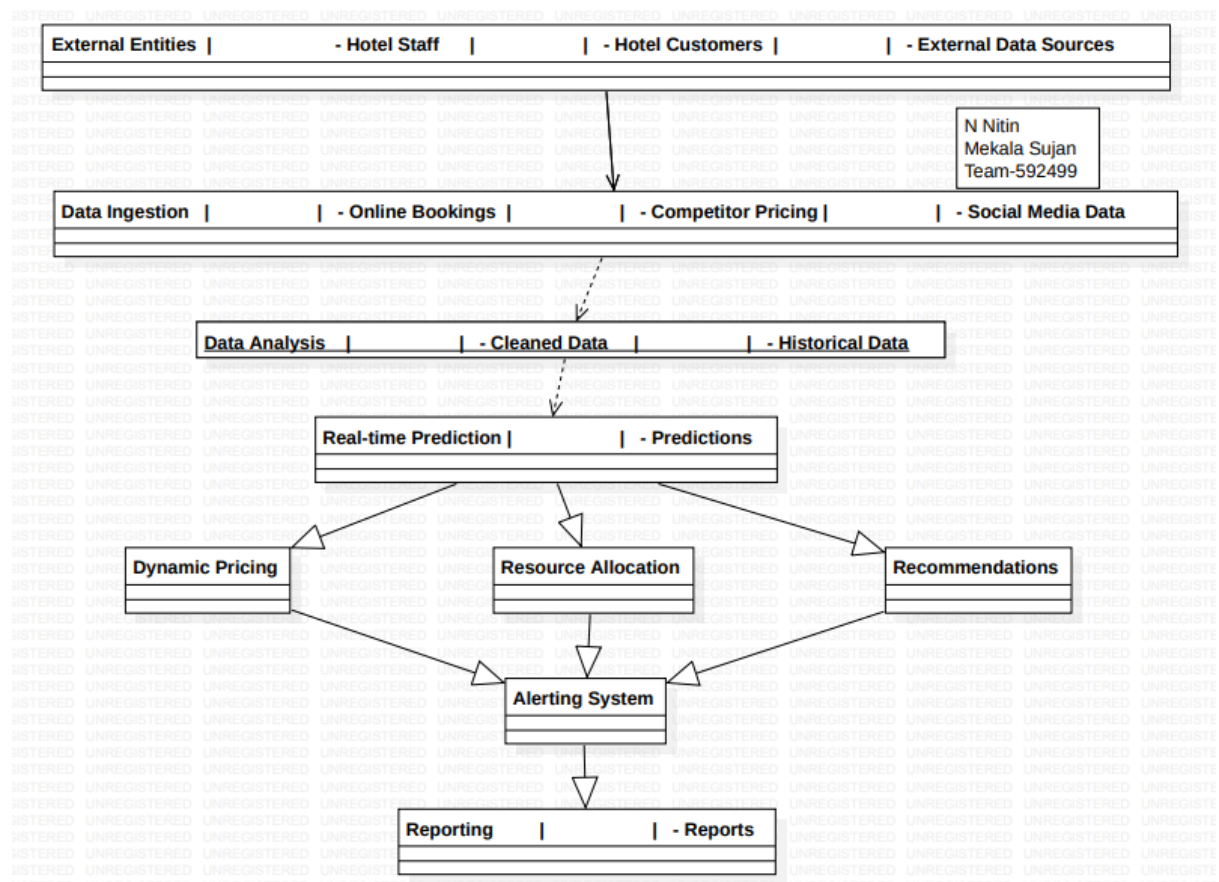
Date:	23-10-2023
Team ID:	Team-592499
Project Title:	Machine Learning model for Occupancy rates and demand in the hospitality industry

Team Members:

Nitin N – n.nitin2021@vitstudent.ac.in

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

DFD LEVEL – 0:

User Stories:

User Story ID	Functional requirement	User story	Acceptance criteria	Priority	Release
US01	Data Integration and Analysis	As a hotel manager, I want to access historical booking data to understand past occupancy trends.	- The system provides a user interface to access historical booking data. - Historical data is presented in an easily understandable format, including dates, room types, and rates.	Medium	Release 2
US02	Data Integration and Analysis	As a hotel manager, I want to integrate external data sources, such as local event calendars and competitor pricing, for comprehensive demand analysis.	- The system has a feature to integrate external data sources. - External data is continuously updated and linked to demand predictions.	Medium	Release 2
US03	Real-time Prediction and Optimization	As a hotel manager, I want machine learning models to make real-time predictions about future occupancy rates and demand fluctuations.	- The system includes machine learning models that provide real-time predictions. - Predictions are continuously updated and incorporate historical data and external factors.	High	Release 1
US04	Real-time Prediction and Optimization	As a hotel manager, I want the system to dynamically adjust room prices based on demand	The system incorporates a dynamic pricing engine that reacts to demand	High	Release 1

		predictions to optimize revenue.	fluctuations. - Room prices are automatically adjusted based on predictions and other relevant factors.		
US05	Real-time Prediction and Optimization	As a hotel manager, I want the system to optimize resource allocation, such as staff scheduling and services, in response to real-time demand fluctuations.	Resource allocation is guided by real-time predictions. - Staff scheduling, housekeeping, and other services are adjusted efficiently.	High	Release 1
US06	Monitoring and Alerting	As a hotel manager, I want an alerting system to notify me when unusual demand patterns are detected, enabling quick responses.	The system includes an alerting system that notifies management of anomalies. - Alerts are sent in real-time, allowing for immediate responses.	Medium	Release 2
US07	User Interface and Reporting	As a hotel manager, I want customization and integration services to tailor the system to our specific needs.	Custom development and integration services are offered. - The system can be adapted to the unique requirements of individual hotel chains	Medium	Release 2
US08	Scalability and Performance	As a hotel manager, I want the solution to scale efficiently to accommodate a growing number of properties and users.	The system is designed to scale efficiently as the user base and data volume increase. - It leverages cloud-based infrastructure for scalability.	Medium	Release 2
US09	Monitoring and Alerting	As a hotel manager, I want a feedback	The system includes a	Medium	Release 2

		loop for continuous improvement, where I can provide input and feedback on the system's recommendations.	feedback mechanism for hotel managers. - Feedback is used to refine and enhance the system over time.		

THANK YOU