**Project Overview:**

**Product Owner:**

RUSHEEK G

**Team**

RUSHEEK G

**Stakeholders:**

Hotel

**Epic 1:** **SYSTEM SETUP AND ENVIROINMENT CONFIGURATION**

**User Story 1.1** - Task of setting up local environment

**Acceptance Criteria:** Installed Python and local virtual environment

**Status:** Completed

Subtask 1.1.2 - Install Python

Subtask 1.1.2 - Set up virtual environment

Subtask 1.1.3 – Get desired Dataset

**Epic 2:** **SENTIMENT ANALYSIS IMPLEMENTATION**

**User Story 2.1:** Implement AI models (Meta LLAMA) for analyzing

Guest feedback and sentiment.

**Acceptance Criteria:** System should categorize feedback/review as positive, negative, neutral.

**Status:** Completed

**Epic 3:** **RECOMMENDATION ENGINE DEVELOPMENT**

**User Story 3.1:** Build a personalized recommendation engine based on guest preferences.

**Acceptance criteria:** System should suggest activities and services tailored to guest interest.

**Status:** Completed

**Epic 4:** **NOTIFICATIONS AND REAL TIME UPDATES**

**User Story 4.1:** Integrates email and slack notifications for proactive service adjustments.

**Acceptance Criteria:** Alerts should be triggered based on sentiment analysis results.

**Status:** Completed

## **Sprint Plan**

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| **Sprint** | **Goal** | **Key Tasks** | **Deliverables** |
| Sprint 1 | Local env setup and data collection | Install Python, setup virtual environment, integrate Google sheets/Excel sheets for CRM data. | Data |
| Sprint 2 | Feedback Analyz  er | Implement sentiment analysis using OpenAI GPT and Meta LLAMA. | Feedback analysis module |
| Sprint 3 | Develop recommendation engine and dynamic profile recommendation system | Build a recommendation logic, personalize guest experience using database. | Recommendation engine module and profile management system |
| Sprint 4 | Add email and slack alerts | Integrate sentiment analysis and notification logic | Alerts |
|  |  |  |  |

## **Testing Plan**

**Unit Testing**: Validate AI models, sentiment analysis accuracy and recommendation logic.  
**Integration Testing**: Ensure seamless communication between AI models, CRM data, guest profile management.  
**Performance Testing**: Test response time of the recommendation system and feedback processing.  
**User Testing**: Gather feedback from hotel staff on system usability and effectiveness.

## **Key Metrics**

* **Recommendation Accuracy**: Precision, Recall of personalized suggestions.
* **Sentiment Classification Accuracy**: F1 Score measuring AI model effectiveness.
* **Profile Update Latency**: Average time taken to update guest profiles preferences.
* **Feedback Processing Time**: Time taken to analyze guest feedback and trigger alerts.