**Project Design Phase-II**
**Data Flow Diagram & User Stories**

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| Date | 27th October 2023 |
| Team ID | Team - 592865 |
| Project Name | Airline Review Classification |
| Maximum Marks | 4 Marks |

**Data Collection:**

- Collect airline reviews from online websites or datasets.
- Clean and label the data.
- Split the data into training and test sets.

**Data Pre-processing:**

- Clean the text by removing extra spaces, punctuation, and special characters.
- Convert all letters to lowercase for consistency.
- Split the text into individual words (tokenization) for analysis.

**Model Evaluation:**

- Split the data into training and test sets. The training set is used to train the model and the test set is used to evaluate the model's performance.
- Train the model on the training set.
- Make predictions on the test set.
- Calculate the evaluation metrics.
- Analyze the results and make necessary adjustments to the model.

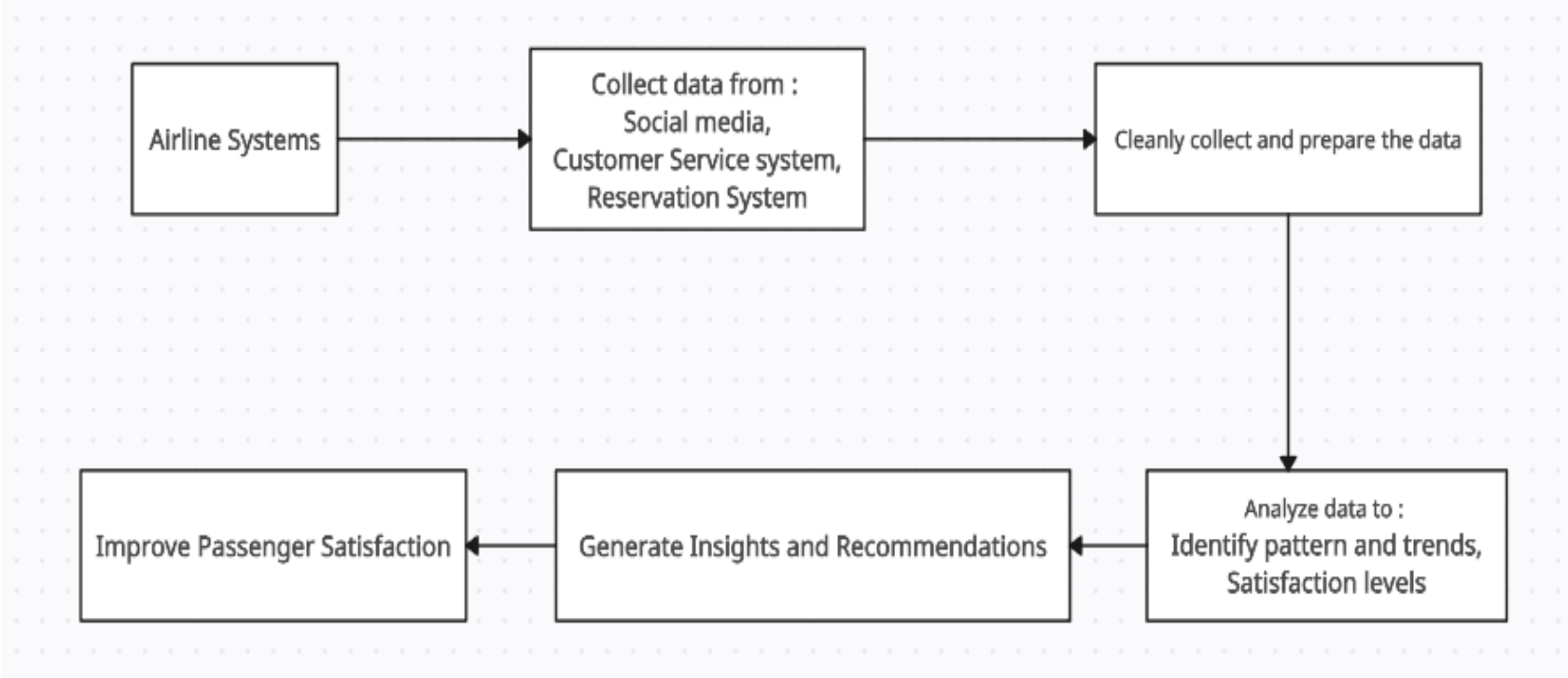
**Model Deployment:**

- Choose a deployment platform, such as a web server or cloud service.
- Prepare your model for deployment, including packaging it into a deployable format.
- Set up an interface for users to input reviews, and use the model to classify them in real-time.

**User Interaction:**

- Allow users to enter their airline reviews.
- Trigger the review classification process.
- Display the classification (positive/negative/neutral).
- Include messages for invalid inputs or errors.

**Data Flow Diagram:**



**User Stories**

Use the template below to list all the user stories for the product.

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority | Release |
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| Traveler | Classify airline reviews as positive, negative, or neutral | USN - 1 | As a traveler, I want to be able to classify airline reviews as positive, negative, or neutral so that I can make informed decisions about which airlines to choose. | The system shall be able to classify airline reviews as positive, negative, or neutral with an accuracy of at least 90%. | High | Sprint-1 |
| Traveler | View overall sentiment of airline reviews | USN - 2 | As a traveler, I want to be able to see the overall sentiment of airline reviews so that I can get a quick overview of how other travelers feel about a particular airline. | The system shall be able to calculate the overall sentiment of airline reviews for a given airline, with a breakdown by sentiment category | High | Sprint-1 |
| Transportation provider | Identify satisfied and dissatisfied passengers | USN - 3 | As a transportation provider, I want to be able to identify satisfied and dissatisfied passengers so that I can improve my service and customer satisfaction. | The system shall be able to identify satisfied and dissatisfied passengers with an accuracy of at least 80%. | High | Sprint-2 |
| Airline | Identify areas where customer satisfaction is below average | USN - 4 | As an airline, I want to be able to identify areas where customer satisfaction is below average so that I can take steps to improve them. | The system shall provide airlines with insights into the areas where their customer satisfaction is below average, with a breakdown by satisfaction category | High | Sprint-1 |
| Researcher | Study the relationship between passenger satisfaction and other factors | USN - 5 | As a researcher, I want to be able to study the relationship between passenger satisfaction and other factors (e.g., price, travel time, amenities) so that I can understand the drivers of passenger satisfaction and identify opportunities for | The system shall provide researchers with access to passenger satisfaction data and data on other relevant factors (e.g., price, travel time, amenities), with the | Medium | Sprint - 1 |

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| | | | improvement. | ability to perform statistical analysis to study the relationship between these factors. | | |
| Transportation provider | Identify satisfied and dissatisfied passengers by travel route | USN - 6 | As a transportation provider, I want to be able to identify satisfied and dissatisfied passengers by travel route so that I can identify specific areas where I need to improve my service. | The system shall allow transportation providers to identify satisfied and dissatisfied passengers by travel route, with an accuracy of at least 80%. | Medium | Sprint - 1 |
| Transportaion provider | Identify satisfied and dissatisfied passengers by demographics (e.g., age, gender, location) | USN - 7 | As a transportation provider, I want to be able to identify satisfied and dissatisfied passengers by demographics so that I can target my marketing and service improvement efforts accordingly. | The system shall allow transportation providers to identify satisfied and dissatisfied passengers by demographics (e.g., age, gender, location), with an accuracy of at least 80%. | Medium | Sprint - 2 |