**Project Design Phase-II**

**Data Flow Diagram & User Stories**

| Date | 31 January 2025 |
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| Team ID | **LTVIP2025TMID52738** |
| Project Name | **Flight Finder: Navigating Your Air Travel Options** |
| Maximum Marks | 4 Marks |

**Data Flow Diagram (DFD)**

**Level 0 – Context-Level DFD**

This high-level diagram shows how the user interacts with the system and how data flows between external and internal components.

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| | Search Request | | API Request | |

| User +-------------------------->+ Flight Finder App +--------------------------->+ Flight API(s) |

| | | | | (e.g., Amadeus) |

+---------+ +----------+----------+ +--------+---------+

| |

Filtered Results |

| |

v |

+---------+----------+ |

| Display Results <------------------------------------+

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**Level 1 – Detailed DFD**

This breaks the application into functional components and shows detailed data flow:

[User]

|

| 1. Enters Search Criteria (origin, destination, date, passengers)

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[Input Handler] ---> [Flight Search Engine] ---> [API Aggregator] ---> [External Flight APIs]

| | |

| v |

| [Retrieve Flight Data] <-----------+

|

v

[Filter & Sort Module] --> [Results Formatter] --> [UI Display / Output Renderer]

**Modules Explained:**

* **Input Handler**: Accepts and validates user inputs.
* **Flight Search Engine**: Initiates search and coordinates modules.
* **API Aggregator**: Sends search parameters to multiple flight APIs.
* **Filter & Sort Module**: Applies filters (e.g. price, layover).
* **Results Formatter**: Organizes response data into readable format.
* **UI Display**: Presents final flight listings to the user.

**User Stories (Agile Style)**

Here are user-centered requirements written in standard Agile format:

**Core User Stories**

1. **Search Flights**  
   *As a user, I want to search for flights by origin, destination, and date, so that I can find flights that match my travel needs.*
2. **Filter Results**  
   *As a traveler, I want to filter flight results by price, airline, layovers, and travel time, so I can quickly find the most suitable flights.*
3. **Sort Options**  
   *As a user, I want to sort flights by price, duration, or departure time, so I can evaluate my best options easily.*
4. **Flight Details**  
   *As a user, I want to view flight details like baggage allowance and layover durations, so that I can make informed booking decisions.*

**Feature-Oriented Stories**

1. **Mobile-Friendly Interface**  
   *As a mobile user, I want the interface to be responsive and simple, so I can search and browse flights on my phone.*
2. **Save Recent Searches**  
   *As a frequent flyer, I want to save my recent search queries, so I don’t have to re-enter them every time.*
3. **Set Price Alerts**  
   *As a user, I want to receive notifications when flight prices drop for a particular route, so I can book at the best time.*
4. **Redirect to Booking Site**  
   *As a user, I want to be redirected to the airline or partner website to complete my booking, so I can finalize my travel plans securely.*

**Account & Security (Optional Scope)**

1. **User Authentication**  
   *As a user, I want to create an account and log in, so I can track my searches and price alerts.*
2. **Data Privacy**  
   *As a security-conscious traveler, I want my personal and search data to be handled securely, so my privacy is protected.*