**Requirement Gathering and Analysis Phase**

**Solution Requirements (Functional & Non-functional)**

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| --- | --- |
| Date | 22-06-2024 |
| Team ID | SWTID1720166168 |
| Project Name | Project - Journify |
| Maximum Marks |  |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form  Registration through Gmail  Registration through Phone Number |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
|  | Authentication | Implement Authentication and authorization using JWT or JSON web tokens. |
| FR-3 | DashBoard | DashBoard that contains past as well as current bookings and form to book new flights. |
| FR-4 | Traveller Details | Details regarding name, age and gender, number of traveller(s) and the seat type(business, economy and so on) for the traveller(s). |
| FR-5 | Flight Details | Form for collecting Starting Airport and Destination Airport and Date for searching viable flights, and if the flight is one-way or round trip. |
| FR-6 | Flight Filters | Filters for Number of Stops(Non stop, 1 stop etc), Departure Time(early morning, morning, afternoon, evening and night), price filter and flight and airline selection and layovers. The results should show the flight duration as well as flight timings. |
| FR-7 | Flight Selection | Based on starting and destination airport along with date and Flight Filters give possible flights. Provide option to book the preferred flight from the list. |
| FR-8 | Seat Selection | Seat map to show the layout of the entire flight along with the seat type(window, extra leg-room) and highlighting the empty seats and greying out occupied seats. |
| FR-9 | Payment Page | API for creating payment method using preferred mode(UPI or card) |
| FR-10 | E-Ticket Booking Confirmation | Send booking confirmation, e-ticket and itinerary about travellers and related details via SMS and mail. |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **NFR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | The web app gives users a simple and user-friendly way to show available flights based on filters and hence book the required flight. Greatly eases searching of flights based on filters. |
| NFR-2 | **Security** | Usage of API for secure transaction of money and messages for confirmation of ticket status to track payments and give updates to user.  Authentication, authorization, data encryption(sensitive data encrypted before transmission) and securing API Endpoints allow for a secure application. |
| NFR-3 | **Reliability** | Usage of MongoDB as database allows for reliable round the clock storage of data with elimination of redundancies as well efficient storage. |
| NFR-4 | **Performance** | Usage of react for performance boost(react uses virtual DOM, a lightweight representation of real DOM, and hence minimizes direct manipulation of real DOM resulting in performance boost.  Usage of Router and conditional rendering to reduce unnecessary rendering. The data is stored, viewed and queried efficiently with the help of MongoDB. |
| NFR-5 | **Availability** | Available as a website hence is easily available on any device able to connect to internet and run a browser. |
| NFR-6 | **Scalability** | Usage of MongoDB database allows for scaling the app storage as the number of users grow.  NodeJS helps in handling multiple concurrent requests.  Usage of React helps in reusing built components. |