

Project Flight Reservation API (FRA)

Project #: 01-22

Business Requirements Document (BRD)

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1. Introduction

1.1. Document Purpose

1.2. Intended Audience

The main intended audience for this document is the business owners of the proposed system. This document should be readable by business owners of the proposed system. They must be able to verify that their business requirements have been documented here completely, accurately, and unambiguously.

Data Architects, Application Architects, and Technical Architects would also find the information in this document useful when they need to design a solution that will address these business requirements.

Since the requirements are documented here in a technology-independent manner, the end-users of the system should be able to comprehend the requirements fairly easily from this document.

1.3. Project Background

This section describes if the Business Requirements are a result of any previous meetings, correspondence, legislation, etc.

There is no previous background but we have “know-how” and personnel knowledge.

1.4. Purpose of the Business Requirements

The purpose of this document is to define “business requirements for a new application development”.

1.5. Business Goals/Objectives to be achieved

The major goals/objectives of this project are to;

- Provide Flight Reservation Application

1.6. Benefits/Rationale

The major benefits of the project are to;

- Provide an environment for student of Clarusway from FS domains,

1.7. Stakeholders

Project FRA will be sponsored by Clarusway LLC as an internal project.

- Relevant personnel from Clarusway LLC.

1.8. References

- General Data Protection Regulation (EU) 2016/679 (GDPR)

1.9. Assumptions

- Basic IT literacy is required for using this application.
- This application will be used in online environments.
- Authentication will be done through existing modules.



2. Requirements Scope

Project FRA will provide an environment for students of Clarusway.

2.1. Actor Profiles Specification

This section describes all the Actors and their profiles within the scope of the Business Requirements being documented. An Actor is a person, organization, or an external system/sub-system/program that has interactions with the Application. Actors, by definition, are external to the system with which they are having interactions. Actors have goals that are achieved by use cases. Typically, Actors have behavior and are represented by the roles they play in the use cases. An Actor stimulates the system by providing input and/or receiving something of measurable value from the system.

The scope of the application will be determined based on the following actors;

Actor	Description
Client	Clients should be internet literate, authenticated. Clients can be any individual using the web interface or any system or application using the programmatic access to the API.
Admin	Internet literate, authenticated. Admin is the representative from the vendor (Clarusway)

Actors will have the following roles;

- Client:
 - API Client
- Admin:
 - API Admin

2.2. Scenarios Specification

The scope of the application will be determined based on the following scenarios;

- Search FRA: Clients can search..
- View information: Clients can see flight details.
- Display results: Clients can see the flight output from the web or API.
- Authentication and authorization: Clients must be authenticated and authorized.

2.3. In Scope

- Search Flight:
 - All actors
- View Flight and Reservation information:
 - All actors
- Display results:
 - All actors
- Authentication and authorization:
 - Client
 - Admin



3. Functional Requirements

This section describes the *Functional requirements* part of the Business Requirements. In the use case approach, based on the scope, the *Functional Requirements* combine Actors, Roles, Scenarios into use cases and provide details as business rules in narrative text form.

3.1. Essential Use Case Specifications

A Use case typically has one basic course of action and one or more alternative courses of action. The basic course of action is the main start-to-finish success path that the use case will follow, whereas the alternate courses represent the infrequently used paths and exceptions, error conditions, etc. The complete business logic of a use case such as a basic course of action, alternate course of action, pre-condition, post-condition, etc is not depicted in the BRD.

Scenario	Actor's Role	Main Goal (Action of Success)	Use Case Id
Search FRA	API Client	Filter by categories	UC-0001
	Web Admin	Search by keyword	UC-0002
View Flight information	API Client API Admin	Show Flight	UC-0003
Add Flight	API Admin	Add/Update/Delete Flight	UC-0004
View Reservation information	API Client API Admin	View Reservation Info	UC-0005
Make Reservation	API Client	Add/Update/Delete Reservation	UC-0006
Authentication and authorization	API Client API Admin	Authenticate user	UC-0007
	API Client API Admin	Check authorization of user	UC-0008
	API Client API Admin	Delete user data	UC-0009
	API Client API Admin	Log out user	UC-0010

3.2. Business Rules

This section lists and describes the business rules applicable to the application or proposed system

Use Case Id	Business Rule Id	Rule Description
UC-####	BR-####	As a <user--role>, I want to <user--activity>, so that I can <business--value>.
UC-0001	BR-0001	As an API Client I want to filter flights by date so that I can list flights for specific categories easily.
UC-0001	BR-0002	As an API Admin I want to filter flights by date so that I can list flights for specific categories easily.
UC-0002	BR-0003	As an API Client I want to search flights by keywords so that I can filter the flights according to the keywords.
UC-0002	BR-0004	As an API Admin I want to search flights by keywords so that I can filter the flights according to the keywords.
UC-0003	BR-0005	As an API Client I want to see a summary of flights listed so that I can get overall info of flights.
UC-0003	BR-0006	As an API Admin I want to see a summary of flights listed so that I can get overall info of flights.
UC-0004	BR-0007	As an API Client I want to add/update/delete flights so that I can add flights.
UC-0005	BR-0008	As an API Client I want to see a summary of reservations listed so that I can get overall info of reservations.
UC-0005	BR-0009	As an API Admin I want to see a summary of reservations listed so that I can get overall info of reservations.
UC-0006	BR-0010	As an API Client I want to add/update/delete reservations so that I can add reservations.
UC-0007	BR-0011	As an API Client I want to authenticate myself so that I can securely connect and use the application.
UC-0007	BR-0012	As an API Admin I want to authenticate my system so that I can securely connect and use the application.
UC-0008	BR-0013	As an API Client I want to get the user authentication details (roles, user ids)

		so that I can use the related services.
UC-0008	BR-0014	As an API Admin I want to get the user authentication details (roles, user ids) so that I can use the related services.
UC-0009	BR-0015	As an API Client I want to delete my private data so that I can be sure to purge my personnel data.
UC-0009	BR-0016	As an API Admin I want to delete my private data so that I can be sure to purge my personnel data.
UC-0010	BR-0017	As an API Client I want to end my session securely so that I can securely log out from the system.
UC-0010	BR-0018	As an API Admin I want to end my session securely so that I can securely log out from the system.

4. Non-Functional requirements

This section describes the non-functional requirements part of the Business Requirements. A non-functional requirement is typically a special requirement that is not easily or naturally specified in the text of the use case's or function's event flow. Examples of non-functional requirements include legal and regulatory requirements, application standards, and quality attributes of the system to be built including usability, reliability, performance or supportability requirements.

4.1. Architectural Requirements

The application will be deployed as Software-as-a-Service (SaaS) on the AWS cloud infrastructure. Clarusway cloud account will be used for both the development and production environment. There is no regional preference for the data center since the users of the application will be from all over the world.

4.2. Security Requirements

This section describes the Security requirements part of the Business Requirements.

Django Basic Token will be the primary preference for token management to provide more flexibility within the parts of the application

4.3. Availability Requirements

This section describes the system availability requirements.

Use Case / Business Function Name	<u>Availability Requirements</u> - Regular work hours - 24x7 - Any other (please describe)
All use cases	24x7

4.4. Portability

This section describes the system portability requirements.

4.5. Usability Requirements

This section describes the system usability requirements. A usability requirement specifies how easy the system must be to use. Usability is a non-functional requirement, because in its essence it doesn't specify parts of the system functionality, but specifies only how that functionality is to be perceived by the user.

The web application must have responsive design so that the web page can adapt to the size of the screen of the device from which it is accessed

4.6. System Help Requirements

This section describes what kind of System Help features are needed to be built into the system.

- Field level (online)
- Screen level (online)

4.7. Performance Requirements

This section describes system performance expectation levels (response times).

Use Case Name / Business Function Name / Transaction description	<u>Performance Requirements (response time)</u> (in seconds or minutes)
All use cases	Less than 6 seconds

4.8. Scalability Requirements

This section describes how the system is expected to scale to new higher or lower levels. Both user and application scalability requirements are described here.

4.8.1. User Scalability

Actor / Business Unit Name	Stage or Year	Concurrent Users
API users	Year 1	100
	Year 2	500

4.8.2. Application Scalability

The system must have the ability to allow its resources (hardware, software, networks, data centers, facilities and related equipment) to be adjusted automatically to scale in line with increase in the number of requests.

4.8.3. Data Scalability

The data structure of the system must adjust automatically to scale in line with the increase in the amount of data.

4.9. Disaster Recovery

The application should recover from disaster events or from a problem which leads to a disastrous effect on the system. Application backups should be taken redundantly and in disaster proof manner to effectively recover the system.

4.10. Constraints

This section describes the restrictions for the system that should be dealt with such as legal compliance, standards, talent hiring, cost, time-to-market etc.

- The Application should comply with General Data Protection Regulation (EU) 2016/679 (GDPR)

5. Interface Requirements

This section describes User and System Interface requirements for the proposed system.