Software Requirements Specification

for

Crew Connect

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

1.   Introduction

1.1   Purpose

The Crew connect is a software that will enable a more efficient way for the Wasup airlines to manage flights and communicate with employees.

1.2   Document Conventions

Some of the conventions used are:

- *(LAX) Los Angeles International Airport*
- *(JFK) John F. Kennedy International Airport*
- *(GLA) Glasgow International Airport*
- *(HKG) Hong Kong International Airport*
- *(GRU) San Paulo International Airport*
- *(DXB) Dubai International Airport*
- *(SYD) Sydney International Airport*

1.3   Intended Audience and Reading Suggestions`

The product is intended to serve the employees, executive staff, technical staff, software testers, project managers.

1.4   Product Scope

This product's purpose is intended to enable clear communication between staff, the team leaders, and executives as it relates to the Crew Rostering, Crew scheduling, HR compliance monitoring and weather alerts for different destinations/cities. Also enable crew members to have quick access to alerts and changes as they go.

1.5   References

Dunkley, K. (2023). Software Requirement Specifications for Wassup Airlines.

2. Overall Description

2.1 Product Perspective

Crew Connect is a brand-new app for WASSUP airlines. It is intended to not only serve the crew members but also the executive staff, HR staff and technical staff alike. It is designed to aid in the management of Crew and flight Schedules, Crew Rosters, Vacation leaves, Travel destinations as well as weather changes.HR will have the most user control as it relates to Vacation leaves, Request, and remainder while the crew will be able to only view the days they have and receiving alerts to schedule changes. Ultimately the crew connection should provide an efficient solution for management and improve the reliability of the company's operation.

2.2 Product Functions

The Major Functions of this app are:
1. *Crew Scheduling: This will allow crew members to see their schedules, different flight times(estimated) and their availability while giving administrators quick and easy access to make changes.*
2. *HR Compliance Monitoring: This will allow users to generate their vacation leaves to see how much is available, request vacation, see how much is remaining.*
3. *Weather Alerts: Users will be able to receive weather forecast and alerts in real time and to take the necessary precautions in the event of unforeseen weather hazards.*
4. *User Login: Users should be able to create logins and passwords with he specific information given to them by the administration.*

2.3 User Classes and Characteristics

This software will be usable to the following individuals. Staff and Executives of Crew Connect. They will be able to retrieve flight information as well as schedules for vacations etc.
1. Crew Members: These consist of the pilots and other support staff who will be using it to view their schedules, manage their vacation leaves and to communicate with other crew members.
2. HR: This enables required administrative staff to manage the different crew members information such as vacations and time off.

2.4 Operating Environment

These are the operating environment for the software:
1. *Hardware: Crew connect will typically run on an android and IOS operating system.*
2. *Network: The software may need to operate over a WIFI network connected to the device being used or the device must have its own data service.*

3. *Data Storage: The crew connect may need to store large amount of data such as crew roster and flight schedules. It should be designed to store data into a database.*
4. *Security: The Crew Connect should be secure against all unauthorized access nd other security breaches.*

2.5   Design and Implementation Constraints

Design and Implementation Constraints may be affected by the following:
1. Available Resources: This may impact the funding and staff resources available to implement the software.
2. Functionality: This may be influenced by the user's feedback and input as it regards how the software functions.
3. Compliance: This may be influenced by the regulatory guidelines set by the specific authorities.

2.6   User Documentation

The following will assist users with using the crew Connect:
- *The Crew Connect Manual*
- *The Crew connect Quick Reference Guides*

2.7   Assumptions and Dependencies

Assumptions
- The software assumes that all crew members and technical staff know how to use a mobile phone.
- This software assumes that all crew members have some interaction or basic knowledge with applications.

Dependencies
- *This software may depend on internet networks to work efficiently.*

3.   External Interface Requirements

3.1   User Interfaces

This software will show the following user interfaces/characteristics:
1. *Easy Navigation: It should be very easy for users to find their way around the software with clear and precise buttons, icons, and links to access the function or feature that they are trying to complete.*
2. *Data Input: It should provide the necessary instructions to assist in the accuracy of the data being inputted.*
3. *Display Customization: It should allow users to customize certain aspects of the software to make it more personalized and comfortable for them. These include color schemes and data fields.*
4. *Responsiveness: It should respond quickly to the data input.*

3.2   Hardware Interfaces

This software will show the following hardware interfaces/characteristics:
1. *Input/Output This should display a touchscreen interface, processor, and wireless communication capabilities.*
2. *Networking: Should be able to connect wireless networks and cellular data to get real-time feedback.*

3.3   Software Interfaces

The software interfaces intended to be used are mobile app interface which will enable the user to view their schedules and communicate with administrators etc. It will need to communicate with a central database system to access all the required features and functions.

3.4   Communications Interfaces

The software should support the standard protocols like TCP/IP and HTTP. In addition to wireless protocols such as Wi-Fi and Bluetooth or mobile data to communicate with crew and the software entirely. Messaging protocols will be implemented as well such as SMS.

4.   System Features

4.1   Crew Communication

4.1.1   The software should enable the crew to communicate with each other in real time through instant messaging.

Description and Priority

4.1.2   Stimulus/Response Sequences
- *Send a message to the pilot.*
- *Pilot responds*
- *Software tracks communication history for later reference*

4.1.3   Functional Requirements

REQ-1: Should have Built in security features to prevent access from unauthorized access or interception when crew members are communicating.
REQ-2: The software should provide some translation capabilities for crew members who speak different languages.

4.2   System Feature 2 (and so on)

5.   Other Nonfunctional Requirements

5.1   Performance Requirements

The following performance requirements should be in effect:
- *Response time: The system shall respond to users request within 3 seconds or less to ensure that tasks are completed efficiently and in a timely manner.*
- *Storage Capacity: The system should be able to store and process a lot of records for a database size of 500GB. This is to ensure the system can handle large amounts of data without slowing down.*
- *Multiple Users Simultaneously: System should be able to process multiple users using the software at the same time without delaying.*

5.2   Safety Requirements

The system must follow the relevant safety standards and regulations. Backup and recovery would be essential to ensure data recovery in the event of data loss. This software should have some level of access control to prevent unauthorized access to sensitive data.

5.3   Security Requirements

This software will use and need the following security features:
- *User Authentication that lets users verify themselves by way of username and password.*
- *User Authorization that grants users access to features and data that they are authorized to.*
- *User Monitoring that tracks the activities of all users and detects any breach.*
- *End to End Encryption which protects sensitive data in transit.*

5.4   Software Quality Attributes

Some Qualities of this software are:
- *Portability which enables the system to be easily carried/ported to different environments or platforms.*
- *Usability ensures the system is easy to use, learn, and navigate for all types of users no matter the knowledge levels and experience.*
- *Maintainability which ensures that the software should have clear data and formats that are easy to understand, update and modify.*

5.5   Business Rules

The Software should adhere to the following rules:
  1. *All users must have a valid account.*
  2. *Users must be notified if they enter invalid information.*
  3. *Only authorized persons can view and edit sensitive and confidential information.*
  4. *Crew members must follow procedures and guidelines.*

6.   Other Requirements

The system must be scalable to accommodate changes in the size and structure of the crew as well as organization operations.

Appendix A: Glossary

  1. *Crew member – An employee of the organization responsible for performing flight duties.*
  2. *Roster – A schedule of flight duties assigned to crew members.*
  3. *Compliance- Adherence to regulatory requirements, company policies and industry practices.*

Appendix B: Analysis Models

Appendix C: To Be Determined List