**FIJI: Entertainment Content Organizer**

**Software Requirements Specification**

**Version <1.0>**

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# **Revision History**

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| --- | --- | --- | --- |
| **Date** | **Description** | **Author** | **Comments** |
| <n/a> | Version 1.0 | <name> | n/a |
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# **Document Approval**

The following Software Requirements Specification has been accepted and approved by the following:

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# **1. Introduction**

## **1.1 Purpose**

The purpose of this SRS is to describe the requirements and specifications of FIJI, which is a content organizer. It explains the functional features of the product, as well as the interface functionalities, design constraints, and other characteristics. This SRS is intended for clients that seek entertainment and developers that seek exposure to share their content.

## **1.2 Scope**

1. Our product is FIJI.

2.FIJI provides a simple user interface that connects content creators to users and open marketplaces. It also organizes and executes content across all platforms while integrating a social media aspect with account profiles with forums, groups, content gifting, and chat systems. We provide an online gaming platform to connect online multiplayer game users together. FIJI does not sell, ship or organize physical content.

3. Our goal is to provide a nice easily usable interface for indie content creators and for users to have access to their content.

## **1.3 References**

1. IEEE 830-1998

## **1.4 Overview**

The rest of the SRS examines the specifications of FIJI in detail. Section 2 of the SRS presents the general factors that affect FIJI and it’s requirements such as user characteristics and constraints. Section 3 outlines the specific functional, non functional requirements of FIJI.

# **2. General Description**

## **2.1 Product Perspective**

FIJI is a client that organizes various types of digital products ranging from music, photos, videos, and games depending on the category assigned to them. This client is responsible for providing ease of access to those products that are readily available from the database, as well as allowing content creators to upload their content for others to obtain monetarily.

## **2.2 Product Functions**

**2.2.1 Registration**

A user must register to gain access to the FIJI’s features by providing a

username and password. Registering is a requirement to be allowed to log in.

**2.2.2 Log-in**

A user that has registered can gain access to the FIJI’s features after

entering their username and password.

**2.2.2 Settings**

Users can manage their account settings, such as change their password, email, and display name.

**2.2.3 Administration**

Administrators can manage the database with this system.

**2.2.4 Messaging**

Users can send messages to each other or multiple people.

**2.2.5 Uploading/Downloading**

A user can send files to FIJI’s server and likewise retrieve files from FIJI’s server.

**2.2.6 Personal Libraries**

A user can organize the items that they have purchased by storing them in libraries, which are essentially a directory folder with links to item data.

**2.2.7 Overlay**

Users that use any executable provided by the FIJI client can activate an overlay that will allow them to message other users and change user settings while playing or working.

**2.2.8 Store**

A market containing all uploaded items can be purchased by users.

**2.2.9 Rating**

An item on the market may be reviewed by users, which consist of providing a 1 to 5-star rating with a written review on the product.

**2.2.10 Wish List**

If there are items on the market that a user desires, then they may add it to a

wish list to be viewed later or by other users.

**2.2.11 Gifting**

Users are given the option to purchase items from the market and gift the item(s) to other users.

**2.2. Log-out**

A user can log out to let another user register or log-in.

**2.2. Exit**

A user can exit the program.

## **2.3 User Characteristics**

There are two types of users for FIJI: a user that solely uses the client for entertainment purposes by utilizing the developers’ content and the other user would be that developer that uploads their content for others to obtain. Users that come for entertainment do not need to understand the client in depth since it would be simple enough to click a button to download and another to play the game, song, video, etc. As for developers, they would have the same characteristics as a normal user, but the only difference is that they would be uploading their own digital products, titling it, writing a description, and categorizing it to prepare for the market.

## **2.4 General Constraints**

The most crucial constraint for this project is the hardware aspect for FIJI’s server. Assuming that there will be a vast number of digital products being uploaded to the servers with various file sizes with the possibility that several users are downloading/uploading simultaneously, servers will need to keep up with this load by having plenty of hard drive space and an efficient RAM to process user requests.

## **2.5 Assumptions and Dependencies**

FIJI is dependent on the official servers. The official servers must be running for the FIJI client to connect to the necessary databases to display user information and store information. FIJI will be available for Windows and Linux platforms. With a server that requires file transfers to be completed, there might be several user requests that could occur simultaneously so server hardware needs to be up to date to keep up with high loads of tasks.

# **3. Specific Requirements**

## **3.1 External Interface Requirements**

### **3.1.1 User Interfaces**

There will be multiple user interfaces.

3.1.1.1 Main View - Displays user and their current market suggestions and navigation

bar.

3.1.1.2 Market View - Displays the Trending content and search/filters for navigating the

market.

3.1.1.3 Profile View - Displays the current selected profile and their information.

3.1.1.4 Setting View - Displays settings to edit the logged in profile.

3.1.1.5 Library View - Displays your current content library.

3.1.1.6 Product View - Displays the content and its ratings/reviews, trailers.

3.1.1.7 Purchase View - Displays the necessary forms to make a payment.

3.1.1.8 Developer View - Displays agreements and forms to upload content.

### **3.1.2 Hardware Interfaces**

3.1.2.1 Minimum Requirements

3.1.2.1.a Client Side

512 MB RAM, 2 GB Disk Space, and Intel Pentium III or AMD 800 MHz processor.

3.1.2.1.b Server Side

32 GB RAM, 10 TB Disk Space, and Intel i5 or AMD FX-9590 processors.

3.1.2.2 Recommended Requirements

3.1.2.2.a Client Side

1 GB RAM, 4 GB Disk Space, and all Intel or AMD - 1 GHZ

processors.

3.1.2.2.b Server Side

128 GB RAM, 100 TB Disk Space, and Intel Xeon E5-2660 processor.

### **3.1.3 Software Interfaces**

3.1.3.1 Client

Client will be using FIJI software, any Operating System

3.1.3.2 Database Server

MySQL, any Operating System

3.1.3.3 Development End

C#, AJAX, HTML, MySQL, OS (Windows)

### **3.1.4 Communications Interfaces**

3.1.4.1 Client on Internet will be using TCP/IP protocol with a TLS connection.

3.1.4.2 Server will be using a TCP/IP protocol with a TLS connection.

## **3.2 Functional Requirements**

### **3.2.1 Content Checker**

3.2.1.1 Introduction

A content checker will make sure that content that is being uploaded and

downloaded remains appropriate and that copyrights and licenses are being

respected.

3.2.1.2 Inputs

The inputs will be the content that is uploaded.

3.2.1.3 Processing

The input will be checked for inappropriate images and text and then compared to other products to check for duplicates.

3.2.1.4 Output

The output will be a Boolean value, true if the content is appropriate, false if it is not.

3.2.1.5 Error Handling

We will handle errors in our content checking by adding user flagging to reinforce its effectiveness and furthermore help us improve our detection system.

### **3.2.2 User Accounts**

3.2.2.1 Introduction

Ranks will be assigned to a particular position and will be based on if the person is an admin, client user, or a developer.

3.2.2.2 Inputs

Usernames is an identification used by each person to access into their

accounts.

3.2.2.3 Processing

Passwords are required to log into an account using a secret word or phrase.

3.2.2.4 Outputs

Account settings are focused on the settings directly related to one’s account.

3.2.2.5 Error Handling

Account Information is used to recover forgotten email address, and passwords.

### **3.2.3 Log-In**

3.2.3.1 Introduction

Login screens will allow our users to keep their data secure and private when

accessing their accounts.

3.2.3.2 Inputs

The inputs will be the user’s username and password.

3.2.3.3 Processing

The inputs will be hashed and checked against the database.

3.2.3.4 Outputs

Transition to the next window will give access to FIJI’s main features.

3.2.3.5 Error Handling

The output on failure will be a window to recover account, on success it will

bring up the main user interface.

### **3.2.4 User Authentication**

3.2.4.1 Introduction

Password-based authentication is done through the use of login IDs

and passwords.

3.2.4.2 Inputs

Pin based authentication is done through a number generator sent to the users personal email accounts.

3.2.4.3 Processing

If the authentication process fails 3 subsequent times the user must verify their

identity by providing correct answers to security questions. Once the user has verified their identity a temporary password will be sent to the email address associated with the account.

3.2.4.4 Outputs

Location based authentication will be done by checking the mac address of the system being used to access the account. If the mac address is not one

previously associated with the account, the user will receive a notification via

email containing a one-time use pin code that they must enter in the FIJI client in order to verify their identity.

3.2.4.5 Error Handling

If the pin the user enters is incorrect, then an option for account recovery will be displayed.

### **3.2.5 Administration**

3.2.5.1 Introduction

Administrators have the ability to handle user accounts and content.

3.2.5.2 Inputs

Administrator account information.

3.2.5.3 Processing

The input will be checked for correctness and then added to the database of

users.

3.2.5.4 Outputs

The output will be a user account with administrative permissions.

3.2.5.5 Error Handling

If the information is incorrect, then an error stating that the username or

password is incorrect will be displayed.

### **3.2.6 Overlay**

3.2.6.1 Introduction

An overlay is provided for any content that enables the system’s full-screen to

easily access settings and menus while continuing full-screen.

3.2.6.2 Inputs

The overlay will be activated via unique keyboard input.

3.2.6.3 Processing

The keys pressed will be retrieved and parsed to see if the correct combination of keys was inputted.

3.2.6.4 Outputs

the output will be a transparent version of the main user interface over the

current application being run.

3.2.6.5 Error Handling

If the incorrect hotkey is pressed, then the overlay will not be displayed. The

same will occur if the files required to be installed for the overlay has been

deleted or incorrectly installed.

### **3.2.7 Messaging**

3.2.7.1 Introduction

Every user account will have an inbox to send and receive messages. Apart from an inbox, a user has the ability to open an instant messaging chat box with other user(s).

3.2.7.2 Inputs

The inputs will be a mouse click to open inbox window or instant message window to compose their message. Then either a subsequent mouse click or pressing enter would send newly composed message.

3.2.7.3 Processing

Messages will route to the correct user (or users) and store message in their personal inbox. Instant messages will open a chat box window and notification on the receiving end. Instant message conversations are not stored.

3.2.7.4 Outputs

The outputs will be text and notifications.

3.2.7.5 Error Handling

If there is no message in the text box, then the message will not be sent without an error message as well. If message fails to send, sender will be notified of message failure and be prompted to try again.

### **3.2.8 Rating System**

3.2.8.1 Introduction

Every user will be able to rate content. Every content uploader will receive the

summary of rating data as a part of analytics for their content. Ratings and reviews will also assist potential buyers in whether or not they will purchase the item.

3.2.8.2 Inputs

The inputs will include mouse clicks to register button selections for ratings

(1 to 5-star rating) as well as a submission of a description for the reviewer’s thoughts and opinions.

3.2.8.3 Processing

The user will be checked to see if they own the product. If they do, then the rating and review will be inserted into a database with a table associating the reviewing user’s ID with the item’s ID that they reviewed.

3.2.8.4 Outputs

A new record of the review will be displayed on the item’s page for clients to

view.

3.2.8.5 Error Handling

If no rating or review has been written, then an error saying “No rating and review written.” If the user does not own the product, then the option to review will not be given.

### **3.2.9 Wish list**

3.2.9.1 Introduction

A Wish list will allow users to be able to browse through the store and add desired items to the user’s Wish list array.

3.2.9.2 Inputs

The user will click “Add to Wish List” to add desired item or “Delete” to remove item. And a checkbox input to select whether or not it will be private or public.

3.2.9.3 Processing

Item Id and link information will be push into an array. And by default be sorted by when it was added to the array. If an item is deleted, then items will shift accordingly while maintaining order.

3.2.9.4 Outputs

Notifications will be sent out if item in Wish list are discounted, discontinued, or purchased (Favored scenario). If Wish list is public then it will display on profile.

3.2.9.5 Error Handling

If item in Wish List is no longer available, then a notification will be triggered and it will be removed from array. If an item is already owned and in Wish list, then it will be removed from Wish list.

### **3.2.10 Uploading/Downloading**

3.2.10.1 Introduction

Users will have the ability to upload their content into our server as well as

download what is available in the market.

3.2.10.2 Inputs

A button will be displayed saying “Upload,” then users can browse for the files

they would like to upload, title it, write a description, and add the appropriate category for what they have uploaded. Downloading is as simple as clicking a “Download” button while on the item’s page.

3.2.10.3 Processing

To upload FIJI will open the machine's file system and save the selected files

name. FIJI will then establish a connection to the server and sends the data over a TCP/IP connection. To download, FIJI will establish connection with the server and extract the data from database.

3.2.10.4 Outputs

An “Upload success” or “Download has finished” prompt.

3.2.10.5 Error Handling

If upload is interrupted then user will be required to re-upload again on next startup. If download is interrupted, FIJI will save download progress and resume from that point on next startup.

### **3.2.11 Licenses**

3.2.11.1 Introduction

Content creators are given the ability to design their own licenses

3.2.11.2 Inputs

A button to upload the license document will be clicked.

3.2.11.3 Processing

The file will be downloaded by the server to give the license a place in the

database as well as associate it with the item’s ID.

3.2.11.4 Outputs

A title displaying the license name will be displayed on the item.

3.2.11.5 Error Handling

If the incorrect file format has been uploaded, then a message will show that the file transfer will not occur without the correct format.

### **3.2.12 Store**

3.2.12.1 Introduction

The store will allow users to purchase content for personal use or as a gift to

another user on their friends list.

3.2.12.2 Inputs

A link to access the store or an item in the store will be clicked.

3.2.12.3 Processing

Prices will be listed in US Dollars. Accepted payment forms will include

credit/debit cards and PayPal. Payments will be processed via a secure connection to a payment processing service.

3.2.12.4 Outputs

Upon completion of a transaction, purchased content will be added to the

appropriate user’s library for downloading.

3.2.12.5 Error Handling

If there is an error connecting to the store database, then a message stating that there is a failed connection will be displayed while attempting to reconnect to the database.

### **3.2.13 Advertisement**

3.2.13.1 Introduction

Advertising will inform users on current trends on the market. And help focus revenue on specific products.

3.2.13.2 Inputs

User can select to enable or disable anonymous information gathering that assist in determining what type of advertisement would be more relevant.

3.2.13.3 Processing

If information gathering is enabled then an algorithm would determine what products would be most similar to user’s preferences. Else advertisement preferences would be inherited from popular consensus.

3.2.13.4 Outputs

In selected advertising locations, advertisements selected will be displayed with previewing information and prices.

3.2.13.5 Error Handling

If a script has decided to show an advertisement that has been deleted from the database, then a placeholder advertisement will be shown instead.

If advertise fails to display, then a default FIJI advertisement will be displayed.

### **3.2.14 Analytics/Reporting**

3.2.14.1 Introduction

Content creators will be able synthesize business data about their sales.

3.2.14.2 Inputs

A button will be pressed asking if content creator wants to see summarized information.

3.2.14.3 Processing

FIJI will then associate user ID with existing user ID in the database and the user’s content ID and extract content information.

3.2.14.4 Outputs

Data from the item(s) such as views, downloads, and sales. It will be displayed on a window.

3.2.14.5 Error Handling

If user is unable to see or obtain data, then FIJI will automatically retry. After a few attempts and the error is not resolved, administrators will be notified and an error will display.

### **3.2.15 Settings**

3.2.15.1 Introduction

Settings allows users to modify preferences of their account, as well as that of their FIJI client.

3.2.15.2 Inputs

The Account section of settings allows the user to change their password and/or email address.

3.2.15.3 Processing

The interface section allows users to select FIJI’s theme/skin .

3.2.15.4 Outputs

The Downloads section allows users to control when downloads are allowed, and limit the amount of bandwidth allocated for downloading content.

3.2.15.5 Error Handling

If the file required to display the client settings window has been deleted or

incorrectly installed, then the settings window will not display.

### **3.2.16 Gifting**

3.2.16.1 Introduction

Gifting allows users to purchase items and “gift” them to another user.

3.2.16.2 Input

User can select “Gift” button during checkout to purchase an item for another user instead of oneself. A window then prompts user to select to whom they want to send the item to and an optional personalized message they may add. User must be registered to receive gift.

3.2.16.3 Processing

FIJI then verifies that user is a registered user and sends a link containing gift and personal message.

3.2.16.4 Outputs

A notification will appear in receiving user’s client informing them of a pending gift. They can choose to accept it, doing so would show sender’s name and message attached. Else, declining gift would invoke an error and notification would disappear.

3.2.16.5 Error Handling

If user does not exist then checkout will not complete and user can optionally include a valid email to send to potential recipients to inform them to register to receive gift. If user declines gift then sender’s purchase would be voided and refunded.

## **3.3 Non-Functional Requirements**

### **3.3.1 Performance**

### *3.3.1.1 Capacity*

The maximum number of content and users is only limited by the size of the

database.

3.3.1.2 *CPU Utilization*

The maximum percentage of CPU used should be under 25%

3.3.1.3 *Ram Usage*

The maximum amount of memory usage should be less than or equal to 1gb.

### **3.3.2 Availability**

FIJI will be available to anyone with an internet connection with a system that meets the minimum requirements.

### **3.3.3 Security**

*3.3.3.1 Security Considerations*

FIJI will encrypt or hash any passwords, credit card information or anything else

considered sensitive information. FIJI’s server’s will be encrypted and encryption

keys will be changed every 4 months.

### **3.3.4 Maintainability**

*3.3.5.1 Maintenance*

Servers will be checked for consistency every 2 months.

### *3.3.5.2 Maximum Time to Repair*

In case of outage, it should take at maximum 1 hour.

### **3.3.5 Portability**

3.3.6.1 *Portable*

FIJI will run on windows, Mac and Linux.

## **3.4 Design Constraints**

### **3.4.1 Software Language**

All coding will be done in C#

## **3.5 Logical Database Requirements**

### **3.5.1 File Format**

The system must store all the user account information as well as digital product information. All the data shall be stored in text-based flat files. For each user account, the user ID, a unique username, display name, password, birthday, and email address shall be stored in one file. The email address gives the user option to receive newsletters and assist in account recovery. Each attribute shall be delimited by a semicolon, and all the entries will be sorted alphabetically by the login ID. Also, each user account will contain every library they have with all of the individual digital products’ information within them, however, the library will be a localized way of organizing a user’s products rather than having using the database to store that information. Instead, each digital product will have the following attributes: product name, product ID, creator name, and price. Each entry will be delimited by a semicolon and sorted alphabetically by the product name.

### **3.5.2 Accessibility and Security**

Only the user who has access to their account can access their personal libraries and the products that they own, otherwise other users will not have access to make modifications to that certain account’s settings.