Software Requirements Specification

Version 1.0

21 September 2022

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Revision History

Revision Letter	Primary Author	Description	Date
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1. Introduction

1.1. Scope

This Software Requirements Specification (SRS) document will define the requirements for *EyeCandy* and is what will be considered the absolute necessity for *ColorTheory Software (CTSW)* for the *ColorTheory Project* developed by group MAAKDE.

1.2. Product Value

Our goal with this application is to provide users with stylish recommendations for outfits using machine learning and color theory. The application would be able to aid uninformed users in gaining a sense of what makes an outfit stylish and provide them with proper recommendations for an outfit without having to actually put one together and give the user inspiration for future outfits for users.

Our product can provide convenience, inspiration, fashion based recommendations, and more to our users. We found that the world of fashion can be difficult to enter and we would like to create an application that makes it much easier. Even for those who are already familiar with fashion there can be times where they may experience something analogous to writer's block when creating a stylish outfit. Our application could create a stylish outfit for them in that case with little to no effort.

1.3. Intended Audience

The immediate audience that this product intends to target are young adults from ages 18 to 30 as well as older aged adults from ages 30 to 50. It would be most beneficial to both our target audiences due to its potential to assist in finding an outfit for an occasion or finding a general style.

1.4. Intended Use

Our product can be utilized by many people for different types of situations and some of them are as follows:

- There are people who aren’t very familiar with fashion and wish to be more involved with it, but don’t know how. Our application would be able to provide these people with an easily accessible doorway into fashion.
- Creating a decent outfit from scratch can often be intimidating, require a lot of time, and effort. With the use of our application users would be able to have outfits created for them without all of the effort!
    - Our recommendations could also serve as inspiration for them and their wardrobe.

2. Functional Requirements

2.1. General Requirements

Requirement	Description
GR_SRS_001	This web application shall include a homepage for basic user navigation
GR_SRS_002	This web application shall provide the user with multiple options to click through
GR_SRS_003	This web application shall grant the user the ability to select through different pages needed
GR_SRS_004	This web application shall give users the freedom to look at multiple outfits to choose their look with our recommendation
GR_SRS_005	This web application shall give the users the ability to search up other users on the website
GR_SRS_006	This web application shall allow users to access the contact page to directly talk to the team
GR_SRS_007	This web application shall help expand a users understanding of self fashion through UI aids such as hints

Table 2.1.1 Functional General Requirements

2.2. User Requirements

Requirement	Description
UR_SRS_001	This program shall have a navigation bar for users to navigate through the website.
UR_SRS_002	This program shall provide users the ability to upvote other user generated outfits.
UR_SRS_003	This program shall provide a form for users to input their article of clothing they'd like to base their outfit on
UR_SRS_004	This program shall be able to generate a fashionable outfit based on input and preferences.
UR_SRS_005	This program shall give users the ability to select preferences for

	their generated outfits.
UR_SRS_006	This program shall have a main page where the fashion outfits are generated
UR_SRS_007	This program shall have a contact page on the web application
UR_SRS_008	This program shall have an about us section on the webpage
UR_SRS_009	This program shall allow the user to create a personalized profile to save their creations

Table 2.1.2 Functional User Requirements

2.3. Front End Requirements

Requirement	**Description**
FR_SRS_001	The web application shall be able to reroute users to different webpages
FR_SRS_002	A website landing page should be included in this web application formatted with various remote buttons and other interactive buttons.
FR_SRS_003	Website should be able to be logged into to keep user data safe
FR_SRS_004	The web application shall have a home page where a user interface is displayed to call the backend to retrieve the generated fashion fit via react components.
FR_SRS_005	The web application shall have an about us page displaying our Linkedin and Github portfolios
FR_SRS_006	The web application shall have a resources page showing the documentation and the supplementary API's we have integrated.
FR_SRS_007	The web application shall have a forum page where the generated outfits can be displayed in a forum style format
FR_SRS_008	The web application shall have the ability to display the most upvoted outfits
FR_SRS_009	The web application shall have a login and registration page
FR_SRS_010	The web application shall include include various CTA's (primary and secondary) throughout the page, especially within landing page
FR_SRS_011	The website shall be responsive to multiple screen types and platforms

Table 2.3.1 Functional Front End Requirements

2.4. Back End Requirements

Requirement	Description
BR_SRS_001	This program shall have a database in order to have user profiles
BR_SRS_002	This program shall have an API to call upon when running the clothing recognition.
BR_SRS_003	This program shall save new user profiles to the database to recall profile
BR_SRS_004	This program shall save user preferences into user profile in the database to recall information within profile
BR_SRS_005	This program shall authenticate login with the database to allow user to access profile
BR_SRS_006	This program shall be able to supported by the latest browsers
BR_SRS_007	This program shall be able to request access to photo library of user
BR_SRS_008	This program shall allow the user to choose a photo from their library

Table 2.4.1 Functional Back End Requirements

3. External Interface Requirements

3.1. User Interface Requirements

Requirement	Description
UI_SRS_001	This web application shall consist of a user registration page to …
UI_SRS_002	This website shall have login page for the user so the user can save their information to their profile
UI_SRS_003	This web application shall have a navigation bar
UI_SRS_004	This web application shall have a drop down list to select a certain season (Fall, Summer) will be featured in the website on where the fashion fits are generated
UI_SRS_005	The web application shall include a Resources Page

3.1.1. User Interface Requirements

3.2. Software Interface Requirements

Software Used	Description
Operating System	This program will use the Windows operating system due to its best support and user friendliness
Database	This program will use the mySQL database to save the users login information and personal information
React.js	This program will incorporate a JavaScript library to streamline the front-end development.
CSS Tailwind/Bootstrap	This program will include a CSS framework to make accessible user interfaces.
Node.js	This program will include Node.js to work with our backend and send data from our machine learning software to our website.
Tensorflow.js	This program will allow the developers to train/deploy machine learning models in a browser including any web application that will be used

3.3.1 Software Interface Requirements

Our application will consist of a database, an API to communicate with the server, and a user friendly interface that will offer recommendations for fashion choices.The frameworks/tech stack will consist of but are not limited to React.js, Tailwind CSS, SQL, and Tensorflow. The web application must be able to receive user input in the form of images and send out HTTP/HTTPS requests to our backend where our machine learning model will offer a recommendation based on color theory/style/fit. We will utilize image-processing Python libraries which will assist our machine learning model for offering recommendations for clothes. The way our machine learning model will work is that we will feed a dataset of clothes where the machine learning model will give out recommendations.

3.3. Communication Interface Requirements

Requirement	Description
N/A	N/A

3.4.1 Communication Interface Requirements

The web application must consist of user input in the form of an image. Our web application will send that data to our backend where the properties of the image are processed and then the user is given many clothing pairs that compliment the style.

4. Non-Functional Requirements

4.1. Security

Requirement	Description
SEC_SRS_001	The program shall give the users the ability to hide their passwords as they type them out to prevent stolen passwords
SEC_SRS_002	The program will use hashing to store passwords
N/A	

4.2. Capacity

Requirement	Description
N/A	

4.3. Compatibility

Requirement	Description
N/A	

4.4. Reliability

Requirement	Description
N/A	

4.5. Scalability

Requirement	**Description**
N/A	

4.6. Usability

Requirement	Description
U_SRS_001	The program shall be easy to navigate due to the use of present day UI development
U_SRS_002	The program shall give the user multiple options they can do in order to give them freedom in the application

4.7. Other

Requirement	Description
N/A	

5. Qualification Provisions

A - Analysis: When using this method, we will be using simulations under specific conditions to display the theoretical result of the program. We will be using this method when testing in realistic conditions is not possible. We want to be sure that the requirement, specification or derived requirement can be met through this simulation and can provide the solution necessary to continue or improve on the program.

D - Demonstration: Within this methodology, the program undergoes the process that involves the manipulation or procedural steps that must be done from start to finish in order to achieve the desired requirement/result. This process will display the responsiveness to stimuli requiring minimal to no instrumentation. The requirements through this process must be similar to the requirements that were stated in the documentation and if it is not suitable then must be changed then redemonstrated
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I - Inspection: This simply will be a thorough examination of the code with the correct documentation to make sure that it complies with the requirements that were stated. This can be done through a simple observation of the code, or through an examination.

T - Test: This action will be testing the performance capability of the entirety or a specific section of the software. It will be verified through controlled conditions that will be either real or simulated depending on the required situation.

SRS Req. ID	Description	Verification Method
GR_SRS_001	This web application shall include a homepage for basic user navigation	Inspection
GR_SRS_002	This web application shall provide the user with multiple options to click through	Inspection
GR_SRS_003	This web application shall grant the user the ability to select through different pages needed	Demonstration
GR_SRS_004	This web application shall give users the freedom to look at multiple outfits to choose their look with our recommendation	Inspection

GR_SRS_005	This web application shall give the users the ability to search up other users on the website	Demonstration
GR_SRS_006	This web application shall allow users to access the contact page to directly talk to the team	Demonstration
GR_SRS_007	This web application shall help expand a users understanding of self fashion through UI aids such as hints	Inspection
UR_SRS_001	This program shall have a navigation bar for users to navigate through the website.	Demonstration
UR_SRS_002	This program shall provide users the ability to upvote other user generated outfits.	Demonstration
UR_SRS_003	This program shall provide a form for users to input their article of clothing they'd like to base their outfit on	Demonstration
UR_SRS_004	This program shall be able to generate a fashionable outfit based on input and preferences.	Testing
UR_SRS_005	This program shall give users the ability to select preferences for their generated outfits.	Demonstration
UR_SRS_006	This program shall have a main page where the fashion outfits are generated	Inspection
UR_SRS_007	This program shall have a contact page on the web application	Inspection
UR_SRS_008	This program shall have an about us section on the webpage	Inspection
UR_SRS_009	This program shall allow the user to create a personalized profile to save their creations	Demonstration
FR_SRS_001	The web application shall be able to reroute users to different webpages	Demonstration
FR_SRS_002	The web application shall have a landing page that is formatted with various remote buttons and other interactive buttons.	Inspection
FR_SRS_003	The web application website shall be able to be logged into to keep user data safety	Testing
FR_SRS_004	The web application shall have a home page where a user interface is displayed to call the	Inspection

	backend to retrieve the generated fashion fit via react components.	
FR_SRS_005	The web application shall have an about us page displaying our Linkedin and Github portfolios	Inspection
FR_SRS_006	The web application shall have a resources page showing the documentation and the supplementary API's we have integrated.	Inspection
FR_SRS_007	The web application shall have a forum page where the generated outfits can be displayed in a forum style format	Inspection
FR_SRS_008	The web application shall have the ability to display the most upvoted outfits	Inspection
FR_SRS_009	The web application shall have a login and registration page	Demonstration
FR_SRS_010	The web application shall include include various CTA's (primary and secondary) throughout the page, especially within landing page	Demonstration
FR_SRS_011	The website shall be responsive to multiple screen types and platforms	Inspection
BR_SRS_001	This program shall have a database in order to have user profiles	Inspection
BR_SRS_002	This program shall have an API to call upon when running the clothing recognition.	Testing
BR_SRS_003	This program shall save new user profiles to the database to recall profile	Testing
BR_SRS_004	This program shall save user preferences into user profile in the database to recall information within profile	Testing
BR_SRS_005	This program shall authenticate login with the database to allow user to access profile	Demonstration
BR_SRS_006	This program shall be able to supported by the latest browsers	Demonstration
BR_SRS_007	This program shall be able to request access to photo library of user	Testing
BR_SRS_008	This program shall allow the user to choose a photo from their library	Demonstration

UI_SRS_001	User Interface Requirement	Demonstration
UI_SRS_002	This website shall have login page for the user so the user can save their information to their profile	Demonstration
UI_SRS_003	This web application shall have a navigation bar	Inspection
UI_SRS_004	This web application shall have a drop down list to select a certain season (Fall, Summer) will be featured in the website on where the fashion fits are generated	Demonstration
UI_SRS_005	The web application shall include a Resources Page	Inspection
SEC_SRS_001	The program shall give the users the ability to hide their passwords as they type them out to prevent stolen passwords	Testing
SEC_SRS_002	The program will use hashing to store passwords	Testing
U_SRS_001	The program shall be easy to navigate due to the use of present day UI development	Demonstration
U_SRS_002	The program shall give the user multiple options they can do in order to give them freedom in the application	N/A