

Requirements Document

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Introduction

1a. The Purpose of the Project

There are many popular software and websites that do not accept all image file formats, which is an annoyance for the user. To find a solution for an issue involving image file type, a person would need to find a website that has image file conversion options.

This project involves a creation of a program that is a convenient desktop application that converts common image file formats (PNG, JPG/JPEG, WebP, Tiff, and BMP) into one of the other accepted formats from one program. The program will also contain extra image editing features for the user to manipulate the image in basic ways.

With this program, the problem of having an image file type that is not supported by a specific software or website is able to be solved in a more efficient and convenient way.

1b. The Background of the Project

One of my personal hobbies is to edit videos where images are used quite often in the editing program. When using an image search engine, like Google Images, there are images that have no background that are useful for video editing, but there is a good chance the image file format will be a WebP format, and not a PNG format. While they appear to be similar in outcome, many video editing programs, like version of Premiere Pro before 2023, do not accept WebP as a file format for images. Many social media websites are not able to currently accept certain formats, like the

application of Discord is not able to accept the “Tiff” image file format.

1c. The Scope of the Project

The scope of the project will include a desktop application that will include the ability to import a file in the image file formats of PNG, JPG/JPEF, WebP, Tiff, and BMP, and able to export the image in the same file formats. The program will not be able to accept any other image file format, unless updated in the future to add more image file formats. The program will display the image imported to show the user the image they imported. The program will not store or ask for any personal information.

Requirements

ID:	1
Type:	Functional
Description:	The program shall allow the user to import any image of the accepted image file formats.
Rationale:	The image the user imported is not in the correct image file format for the intended use.
Fit Criterion:	The image file formats of PNG, JPEG, WebP, Tiff, and BMP are able to be imported into the program.
Priority:	High
Dependencies:	None

ID:	2
Type:	Functional
Description:	The program shall convert the imported image file format into a desired image file format.
Rationale:	The image file format the user imported is not in the correct image file format.
Fit Criterion:	The image file formats of PNG, JPEG, WebP, Tiff, and BMP are able to be converted in the program to a desired file format.
Priority:	High
Dependencies:	1

ID:	3
Type:	Functional
Description:	The program shall give the user multiple image file formats to export the imported file.
Rationale:	The image the user exported is in the correct image file format after the conversion in the program.
Fit Criterion:	The image file formats of PNG, JPEG, WebP, Tiff, and BMP are able to be exported from the program.
Priority:	High
Dependencies:	2

ID:	4
Type:	Appearance
Description:	The program shall display the image the user imported into the program.
Rationale:	The user is able to see the image they have selected within the program.
Fit Criterion:	The imported image appears on the user interface.
Priority:	Medium
Dependencies:	1

ID:	5
Type:	Convenience
Description:	The program shall use a user-interface the user can click on to navigate.
Rationale:	Many users find a program with a user-interface much easier to navigate.
Fit Criterion:	The program shall launch with a user-interface to control the functionalities.
Priority:	High
Dependencies:	None

ID:	6
Type:	Ease of Use
Description:	The program shall be simple to navigate for users without a guide or tutorial.
Rationale:	The program is no issue for users to use on first time use.
Fit Criterion:	The program has the user click a maximum of five boxes within the program to convert an image file format.
Priority:	Medium
Dependencies:	None

ID:	7
Type:	Speed and Latency
Description:	The program shall be fast and efficient in the process of converting images.
Rationale:	The user does not have to wait very long for images to convert.
Fit Criterion:	The process of importing, converting, and exporting images with the program takes no longer than 45 seconds.
Priority:	Medium
Dependencies:	1, 2, 3

ID:	8
Type:	Learning
Description:	The program shall have an icon next to each functionality to describe the user process.
Rationale:	Any user who may need written guidance can be walked through the process.
Fit Criterion:	The user shall click on the icon next to the functionality for a window to describe what the functionality completes.
Priority:	Low
Dependencies:	None

ID:	9
Type:	Reliability and Availability
Description:	The program shall be reliable to use for image file format conversion for the supported image file types.
Rationale:	The user knows the program will complete the same goal of image file conversion at any time.
Fit Criterion:	The program will be able to be accessed and used once downloaded to the user's computer.
Priority:	Medium
Dependencies:	None

ID:	10
Type:	Robustness or Fault-Tolerance
Description:	The program shall stop the import process if the user selects an unsupported file type.
Rationale:	The program shall not work if an unsupported file type is imported into the program.
Fit Criterion:	The user is granted a message if they import an unsupported file type and the importing of that file stops.
Priority:	High
Dependencies:	1

ID:	11
Type:	Understandability and Politeness
Description:	The program shall use images and icons for the user to visually understand the user process.
Rationale:	The user is able to understand every part of the process the program is asking for the user to complete.
Fit Criterion:	The user is able to convert an image with using resources within the program.
Priority:	Low
Dependencies:	None

ID:	12
Type:	Understandability and Politeness
Description:	The program shall hide the details of its construction from the user.
Rationale:	The inner workings of the program are not relevant to the user.
Fit Criterion:	The user is able to convert and export an image without issues they do not understand.
Priority:	Low
Dependencies:	None

ID:	13
Type:	Capacity
Description:	The program shall convert images one at a time.
Rationale:	The conversion process of images is able to corrupt if multiple is converted at the same time.
Fit Criterion:	The user is only able to convert one image at a time.
Priority:	Low
Dependencies:	1

ID:	14
Type:	Privacy
Description:	The program shall not ask the user for personal information.
Rationale:	The program does not require personal information of the user.
Fit Criterion:	The program does not ask for personal information from the user.
Priority:	Low
Dependencies:	None

ID:	15
Type:	Privacy
Description:	The program shall not store the images uploaded by the user.
Rationale:	The images uploaded by the user have no need to be stored within the program data for future use.
Fit Criterion:	The image files are not stored inside of the files of the program.
Priority:	Low
Dependencies:	1

ID:	16
Type:	Cultural
Description:	The program shall not be offensive to religious or ethnic groups.
Rationale:	The program should be used by every religious and ethnic group.
Fit Criterion:	The program does not contain any offensive text or images that is offensive to religious or ethnic groups.
Priority:	Low
Dependencies:	None

ID:	17
Type:	Robustness or Fault-Tolerance
Description:	The program shall continue to be used if no internet connection is available.
Rationale:	The user may use a program that needs an image conversion while having no internet connection.
Fit Criterion:	The program is able to be used and function properly without internet connection.
Priority:	Low
Dependencies:	None

ID:	18
Type:	Personalization & Internationalization
Description:	The program shall retain the user's default export image file type.
Rationale:	The user should not have to keep on selecting the same file type for multiple conversions.
Fit Criterion:	The program automatically has the user's selected default export image file type selected on program launch.
Priority:	Low
Dependencies:	None

ID:	19
Type:	Ease of Use
Description:	The program shall be installed through an installer program.
Rationale:	The user process of installing the program should be a simple process.
Fit Criterion:	The user downloads a single installer file that is used to install the program and the proper files.
Priority:	Low
Dependencies:	None

ID:	20
Type:	Ease of Use
Description:	The program shall help the user to avoid making mistakes.
Rationale:	The user should be guided within the program to fix mistakes during the conversion process.
Fit Criterion:	The program explains to the user their mistake once the user makes a mistake and gives a solution.
Priority:	Medium
Dependencies:	None