File Browser

Contents

[Contents 1](#_Toc38029556)

[Analysis 1](#_Toc38029557)

[Problem background 1](#_Toc38029558)

[Current System 1](#_Toc38029559)

[Project Outline 1](#_Toc38029560)

[Techniques used in the current system 3](#_Toc38029561)

[Objectives 3](#_Toc38029562)

[General objectives 3](#_Toc38029563)

[Specific objectives 4](#_Toc38029564)

[Prospective Users and Acceptable Limitations 4](#_Toc38029565)

[System limitations 4](#_Toc38029566)

# Analysis

## Problem background

A file system is essential for a computer built upon the von Neumann model, as it is where both the system files and user-created files are stored. Not having a file system, data stored in a hard drive or another storage device would just one massive piece of data not knowing where one file stops and the other starts. So having software that can traverse it allows the user of the computer to store and retrieve data without the need to know console command opens up the audience to a broader spectrum.

The most common way of displaying a traversing a file system is through an abstract data type called a Tree. A tree is a connected undirected graph with no cycles meaning the most natural way forward is through the children and going back is through the parent of the item. Already creating the folder-like system, we see on every computer today. Most operating systems have a built-in file browser some prominent ones being windows file explorer and apple macintosh finder. These file browsers are the software that allows the user to interact with the computers file system.

After helping a few family members with how to use some features in Windows file explorer, I realised that most people do not use a good portion of the built-in features of the application. When helping people with computer problems, the most common is miss placing a file or accidentally deleting it. For most people, the user interface is where most problems go wrong when asking classmates or family member the common answers where that Windows file explorer is too chaotic, and Macintosh finder did not have the option they wanted with quick access.

## Current System

The current system is that people use the built-in file browser to the operating system they are running. If Windows they would use File Explorer and Mac users would use Finder. These file browsers are very versatile and have mostly only one problem with them, which is that the everyday person does not use all the features. A feature that infrequently used is network sharing, even being a computer science student, I have never used it. When asking classmates, they said, "Windows file explorer UI not very user-friendly" and "Finder on Mac os is too simple and wish to have move options with moving files around".

## Project Outline

## Objectives

### General objectives

1. To be run on any computer running the Windows operating system.
2. Have a UI User-friendly.
   * The surface to be uncluttered
   * All fonts should be readable
   * Application wide colour scheme
   * Efficient layout of all of the interactable
3. Give different options on how to move files around.
4. The target audience should understand the application, e.g. no spelling or grammar errors
5. The application should run and be efficient without any freezing
6. Navigation should be comfortable and straight forward
7. To offer an alternative to a file browser then the native built on to the operating system.

### Specific objectives

1. The application should show all files, folder and drives that the user has permission to see.
2. Should have a search bar so the user can search through a directory or the whole computer.
3. Can navigate using both the sidebar and main viewport.
4. Have a forward and back button for navigation.
5. Use a zipper-like structure to hold all of the navigation histories and allow the user to move around using the zipper structure.
6. Have a setting to turn on and off the zipper navigation and other settings.
7. Style the window to have a material theme as it is more of modern design.

## Prospective Users and Acceptable Limitations

The prospective users of the application are going to everyday people who use the Windows operating system. These people are going to need to know general knowledge about computers just to use the programme; the skill level required will be the same as using the built-in file browser.

### System limitations

As this is a project with a limited period for development, the project will have limitations to it. The biggest one being the finishing touches as this will not be industry-standard level as it is only one developer (me) and a small time frame to produce it in. Having a fully bug free application would take longer than the time given, so having minor bugs will be inevitable.

As stated before the application will no be industry-standard, keeping common feature from both Finder and explorer, like moving, deleting or creating files or folders, is needed for the basics of a file browser. Adding a setting for people who have protanomaly, deuteranomaly and tritanomaly colour blindness or having different themes the user can choose might not be achievable due to the time limit. Making complex algorithms for compression and decompression would not be a viable option due to the time limit on the project.