**Project Draft Report**

**Introduction**

The project focuses on developing a tool for analyzing file and folder attributes within NTFS file systems, with an emphasis on aiding data recovery and forensic investigations. By addressing limitations in existing tools, this project aims to provide a streamlined and customizable solution for extracting valuable insights from NTFS metadata and generating structured reports.

**Problem Statement**

Managing and analyzing file and folder attributes on NTFS systems is crucial for tasks like data recovery, where understanding metadata—such as timestamps, file sizes, hidden files, and duplicates—can uncover deleted or inaccessible data. However, existing tools often lack:

* **Insight into Data Attributes:** Users frequently struggle to access and analyze key metadata, especially when dealing with large datasets.
* **Customization Options:** Many tools fail to allow users to filter and tailor analyses to specific needs, such as by file size, type, or dates.
* **Structured Reporting:** Current solutions often do not generate findings in a clear, structured manner, limiting their utility for decision-making and forensic documentation.

This tool bridges these gaps by enabling users to analyze NTFS file attributes, filter results by specific criteria, and generate organized reports. By doing so, it facilitates the recovery of valuable data and enhances the effectiveness of forensic investigations.

**Aims and Objectives**

The primary aims of this project are:

1. **Develop a Tool for File/Folder Analysis:** Create a user-friendly application to analyze folder and file attributes, such as timestamps, file sizes, hidden files, and duplication. The tool directly supports the objective of examining NTFS metadata, such as timestamps and file properties, for forensic purposes.
2. **Automatic Report Generation:** Implement functionality to automatically generate a report summarizing the analysis findings which supports forensic processes and evidence presentation.
3. **Organized Report Storage:** Ensure that the analysis results are stored in a well-structured and readable format suitable for forensic purposes.

By achieving these objectives, the tool will streamline metadata analysis on NTFS systems, aiding users in recovering critical data and conducting thorough forensic investigations.

**Research**

I conducted research to determine whether similar tools existed that provided quick analysis of folders and files. While tools like SpaceSniffer and Disk Space Analyzer are available, they primarily focus on analyzing files in isolation, rather than providing a holistic view of both files and folders. These tools emphasize storage analysis, such as calculating folder and file sizes or visualizing storage space usage, but they lack features for analyzing metadata like timestamps, hidden attributes, or duplicate files. Additionally, they do not offer options for user-defined filtering or the ability to generate structured forensic reports. This gap highlights the need for a more versatile and comprehensive tool tailored for NTFS systems, capable of supporting data recovery and forensic investigations.

A black screen with white text

Description automatically generated

A screenshot of a computer screen

Description automatically generated

A computer screen with white text

Description automatically generated