

File Archiver

Team 3 Project Pitch

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Team Information

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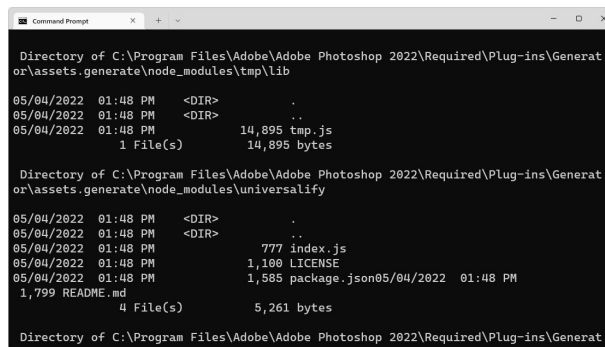
Overview

We are building a **file archiver** to efficiently manage archives of files on an user's machine, implementing different methods of compression and key functionality.

To prioritize depth and breadth of features built, we are simplifying the UI experience to a **command line**, which even in its text based format, will be designed for efficiency and user experience quality.

The user will run our program and input their own files.

In-terminal information and displays will be built custom.



```
Command Prompt

Directory of C:\Program Files\Adobe\Adobe Photoshop 2022\Required\Plug-ins\Generator\assets.generate\node_modules\tmp\lib
05/04/2022  01:48 PM  <DIR>          .
05/04/2022  01:48 PM  <DIR>          ..
05/04/2022  01:48 PM                14,895 tmp.js
                        1 File(s)                14,895 bytes

Directory of C:\Program Files\Adobe\Adobe Photoshop 2022\Required\Plug-ins\Generator\assets.generate\node_modules\universalify
05/04/2022  01:48 PM  <DIR>          .
05/04/2022  01:48 PM  <DIR>          ..
05/04/2022  01:48 PM                777 index.js
05/04/2022  01:48 PM                1,100 LICENSE
05/04/2022  01:48 PM                1,585 package.json
05/04/2022  01:48 PM                1,799 README.md
                        4 File(s)                5,261 bytes

Directory of C:\Program Files\Adobe\Adobe Photoshop 2022\Required\Plug-ins\Generator\assets.generate\node_modules\universalify
```

Key Aspects and Features

- (1) Add functionality to make the archive content modular with the ability to add files and folders to a new archive. Will display error messages accordingly.
- (2) File extraction to a specified folder capability. This will be specified by the user or the file path will be assumed based on the location of the archiver run.
- (3) Password-based encryption support. We are open to multiple password techniques but have settled with a simple hash-based password system for now (ex. AES-256)
- (4) File exploration of archive without extraction, allowing for ease of use for user.
- (5) Support of multiple compression formats (ZIP, WinRAR, etc...), with **modular** design to leave room for other formats being implemented.
- (6) Support for basic configurations for each chosen format (level, etc...).

Feature 1

Name: Add

Description:

Allows the user to add several files/folders to the archive.

The user may enter a command of the following form:

```
add <compression format> <new archive folder name>
```

If the compression format is unsupported/unrecognized, an error message will be displayed and a new prompt will open.

Otherwise, the user will be prompted to add files and a finder window will open, allowing for selection of multiple files or folders.

Champion: Charlee Lachance

Feature 2

Name: Extract

Description:

Allows the user to extract all contents of an archive into a chosen folder.

The user may enter a command of the following form:

```
extract <archive folder name>
```

If an archive of the specified name exists a finder window will appear, allowing the user to select a destination for the extraction. If no such archive exists, the user will be prompted to try again.

Champion: Charlee Lachance

Feature 3

Name: Encryption/decryption

Description: Opening a zip folder will prompt the user to enter a password. Only users with the correct password can access and retrieve the original files, adding an extra layer of security to keep confidential information safe. User can set the password for a given archive using the following command:

```
setpassword <archive> <password>
```

Implementation details:

1. Password hashing
2. Encryption algorithm

Our encryption feature employs a robust AES-256 algorithm to secure archived files, ensuring confidentiality and protection against unauthorized access. Paired with password protection, only users with the correct password can decrypt and access the original files, enhancing overall data security.

Champion: Ania Serbina

Feature 4

Name: Explore contents

Description:

The user can explore the contents of the archive without extracting them. Executing the command below will show a list of files within the chosen archive, along with their respective names, sizes, and date of addition. The user can navigate through the internal folders within the archive.

```
info <archive>
```

Navigate through folders:

```
cd <archive>
```

List contents of a specific folder:

```
ls <archive>
```

Champion: Ania Serbina

Feature 5

Name: Multiple compression formats

Description:

The user is able to choose from different compression formats that suits their needs. Create an interface that allows for multiple compression formats that users can easily add or switch between formats like ZIP and RAR without needing major changes to the software's core functionality.:

The available command-names are the following:

```
compress <archive folder name> <compression format>
```

This command will allow the user to compress a file archive with a compression format of their choice.

Champion: Jacob Roberts

Feature 6

Name: Compression configurations

Description:

Each compression format comes with its own customizable settings, allowing users to tailor aspects like compression level and encryption according to their needs. This customization is directly accessible from the software's interface

The available command-names are the following:

`compressionLevel <1, 2, 3...>`

`encryptionMethod <1, 2, 3...>`

`extractWithPassword<>`

User will be able to configure their compression to specific needs

Champion: Jacob Roberts

Time log

Member	Activity	Week number	Hours
All	Initial team meeting	2	1
Luca Snoey		2	1
Charlee Lachance	Assignment 1	2	1
Ania Serbina	Assignment 1	2	1
Jacob Roberts	Assignment 1	2	1
All	Mentor meeting and assignment 1	2	1

Signed contract

[Team contract](#)