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SafePurge

white paper

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# License and Disclaimer

# 1. Overview

SafePurge is a macOS only application meant to safely purge old data that is otherwise taking of storage unnecessarily. Overall, SafePurge searches files for age, file size, as well as file types in order to determine which files are no longer needed. SafePurge also offers options to restrict which files should be ignored.

# 2. Assumptions

* There is a need to purge old data in order to save on space.
* Microsoft Windows already has a means to purge old data.
* Linux operating systems already have a means to purge old data.
* User cache files are under ~/Library/Caches.
* System cache files are under Library/Caches.
* iTunes library backups are under ~/Music/iTunes/Previous iTunes Libraries.
* IOS backups are under /Library/Application Support/MobileSync/Backup/.
* iPad software updates are under ~/Library/iTunes/iPad Software Updates.
* iPhone software updates are under ~/Library/iTunes/iPhone Software Updates.

# 3. Requirements

* SafePurge will purge users cache files.
* SafePurge will purge system cache files.
* SafePurge will purge old iTunes library backups.
* SafePurge will purge old IOS backups.
* SafePurge will purge all iPad software updates.
* SafePurge will purge all iPhone software updates.
* SafePurge will offer offer a preview of the files to be purged.
* SafePurge will allow the user configurable settings.

# 4. Constraints

* SafePurge must function on MacOS 10.12+.
* SafePurge must display the reason a file is being purged during preview.
* SafePurge must not delete files under the users profiles.
* SafePurge must respect settings set by the user.
* SafePurge must take a minimum of 1megabyte file sizes.
* SafePurge removes empty directories.
* SafePurge removes files with no data (zero-byte files).

# 5. Components

## 5.1. Application

### 5.1.1. Overview

All operations of SafePurge are performed under a single component, the macOS Swift application.

### 5.1.2. Features

#### 5.1.2.1. Preferences

Preferences is a graphical way to configure the settings for the application. Under these settings, the user can also add filters used by the application to restrict which files will be removed.

#### 5.1.2.2. Purge

The purge option will generate a list of files to be removed, similar to the preview option; however, with this feature, the files will be fully removed. Note that once this option is ran, the files cannot be retrieved. **If unsure of the files to be purged, please run the preview option first.**

#### 5.1.2.3. Preview

Upon load of SafePurge a list of possible files to be removed will be display in order to reduce the risk of removing needed files. The refresh option will regenerate the list keeping the user settings in mind.

# 6. Design

## 6.1. UML Class Diagram

Figure : Class Diagram

## 6.2. UML Sequence Diagram

Figure : Sequence Diagram

# 7. Parameters and Configuration

## 7.1 Parameters

|  |  |
| --- | --- |
| **Parameter** | **Description** |
|  |  |
|  |  |
|  |  |

## 7.2 Configuration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Description** | **Possible Values** | **Default** | **Public** |
| TraceLevel | Level of the tracing | 0,1,2,3,4,5 | 1 | 1 |
| MininumFileSize | Minimum file size for files to be removed |  | 5M | 1 |
| IncludedBasePaths | Base directories to include |  |  | 1 |
| ExcludedBasePaths | Base directories to exclude |  |  | 0 |
| PurgeEmptyFolders | Remove empty directories | 0,1 | 1 | 0 |
| PurgeEmptyFiles | Remove zero byte files | 0,1 | 1 | 0 |
| RetentionPeriod | Number of days to keep backups and archives |  | 30 | 1 |

# Bibliography

Kuziv, I. (n.d). *Your Startup Disk is Full on Mac OS - How to Fix It*. Retrieved 11 04, 2018, from MacPaw web site: https://macpaw.com/how-to/startup-disk-full-on-mac-os-x

# Appendices

## Appendix A – Trace levels

|  |  |
| --- | --- |
| **Level** | **Description** |
| 0 | None |
| 1 | Error |
| 2 | Warning |
| 3 | Information |
| 4 | Verbose |