**Week Four Project: Project Plan**

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CYB333: Security Automation

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October 22, 2022

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**Problem to Solve:**

A best practice for anyone downloading files from the internet is to verify the checksum/hash of files against the published known hash if one is available. Although different operating systems have built-in tools to provide the user the ability to check a files checksum/hash, remembering each of them may prove to be cumbersome. Table 1 below will help illustrate the differences between top operating systems.

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| --- | --- |
| **Operating System** | **Command Examples** |
| Windows | Standard Command Line:  *certutil [options] -hashfile infile [hashalgorithm]*  PowerShell:  *Get-FileHash [file] -Algorithm [value]* |
| MacOS | *Md5, shasum -a [value]* |
| Linux | *Md5sum, sha1sum, sha256sum, sha224sum, sha384sum* |

**Table 1**: File hashing in different operating systems

**Project Goals:**

Create a cross-platform solution using Python to check and verify integrity of files using hash algorithms available on all systems. Use only Python’s standard library.

**Expected Outcomes:**

A command line Python program able to take in arguments such as a file to verify and the expected checksum/hash value to verify the file against. Feedback provided on screen.

**Timeline:**

Four Weeks.

**References**

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