**Steganography Phase** III

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**Overview**

In week 7, our group focused on testing, minor bug fixes, and minor improvements to the design. All features have been implemented. We are currently on schedule. Specific milestones and their status are listed in the table below.

Phase III (Week 7) Milestone Status Table

|  |  |  |  |
| --- | --- | --- | --- |
| **Scope** | **Milestone** | **Status** | **Notes** |
| Week5-6 | Main GUI | complete |  |
| Week5-6 | Popup windows | complete |  |
| Week5-6 | ImageObject Class | complete |  |
| Week5 | File Input | complete |  |
| Week5-6 | File Output | complete | JPEG compression disabled due to message corruption when images are compressed. JPEG images can be saved with the .jpeg extension but will not be compressed. |
| Week5 | Message conversion | complete |  |
| Week6 | Image encoding | complete | Will need to refactor to simplify some of the code. |
| Week6 | Image decoding | complete |  |
| Week6 | Image reset | complete |  |
| Week6 | Image save | complete |  |
| Week7 | Test plan updated |  |  |
| Week7 | ImageObject unit tests | complete |  |
| Week7 | Message conversion utility unit test | complete |  |
| Week7 | Front end unit tests | complete |  |
| Week7 | Manual Integration tests | complete |  |

**Problems Encountered and Reevaluation of the Decisions**

We are unable to implement automated testing for some parts of the application due to some design choices. Notably, exception testing cannot be automated for methods which handle their own exceptions instead of passing the exception to the caller. A major refactor would be required to fix this issue which may affect our ability to deliver on time. We decided to press forward with manual testing the exceptions.

Another small issue with the testing framework came up while testing on Windows systems. The framework presented depreciation warnings for a few methods used in the tests themselves. While not something that needs to be corrected right now, this is something that should be corrected before Python 3.12 is released.

**Document Changes**

The test plan has been completely updated. We have added two tables of automated tests, removed some redundant tests, updated testing criteria to align with changes in the design and implementation, and added columns to record test results and figure numbers. We also added figures to the document to show the results of the tests.

**Phase III Results**

We have fully functional and tested software. Figure 1 shows the results of the automated unit tests. Figure 2 shows the application as seen on launch.

Graphical user interface, text

Description automatically generated

*Figure 1*. Automated unit tests all pass

A picture containing text, screenshot, indoor

Description automatically generated

*Figure 2*. Application in operation.