Thoughts on a rating scheme:

Test each format at 2, 4, 8, 16, and 32 bits randomly flipped

Rank each test on a scale 0-4 as follows:

Does not open

Opens, corrupted beyond usability

Opens, obviously corrupted but recovery of some data possible

Opens, most data intact, but some corruption detected on investigation

Opens, cannot detect change

Thoughts on Procedure:

Flipping bits:

* Bits must be randomly selected
* Read file into program, use random number generator mod number of bits in file, flip the bit, repeat for number of bits to be flipped in each test.

Repeat test

* How many times per file per number of bits flipped?
* Automation to generate x “flippedFiles” per run.
* Automation to diff and score the flippedFiles (for text based files)

Text files

* Level of functionality determined using a dif between original and flipped

Image files

* Level of functionality determined by human (our) perception of change?
* Solid black/white/red/green/blue pics sent through?

Imagined Program

Will accept a directory from the user, then go through the directory flipping 1, 2, 4… bits randomly for each file, will repeat 10 times, so given file test, it will output:

testFlipped1\_1

testFlipped1\_2

testFlipped1\_3

…

testFlipped1\_10

testFlipped2\_1

testFlipped2\_2

…

testFlipped2\_10

…

testFlipped32\_1

testFlipped32\_2

…testFlipped32\_10