**README**

**Directory/Files Details:**

kernel -> Directory, Has diff of changes in kernel and the corresponding files.

damagetool -> Directory, Has user code and an executable to damage filesystem.

recovertool -> Directory, Has user code and an executable to recover filesystem.

3.2.0r1-116fcea -> Directory, Enhanced minix boot image.

Design\_CS551\_P3\_Group1 -> Has Design details, program flow chart, exception handling etc.,

Testcases\_CS551\_P3\_Group1 -> Contains testcase details and their outputs where ever necessary.

**Minix Version**: Minix 3.2.0.

**Compiler:** Clang

**Setting up the new Minix:**

1. If you want to use boot image then
2. Copy the files in 3.2.0r1-116fcea directory to /boot/minix\_latest/ directory in your minix machine.
3. Reboot the minix machine.

**(or)**

1. If you want to compile enhanced minix from scratch
2. Goto kernel/ directory
3. unistd.h 🡪 Added syscall declarations. Copy the file (or the changes) to /usr/include/ and /usr/src/include
4. callnr.h 🡪 Added syscall numbers. Copy the file (or the changes) to /usr/include/minix and /usr/src/include/minix
5. vfsif.h 🡪 vfs specific. Copy the file (or the changes) to /usr/include/minix and /usr/src/include/minix
6. vfs/proto.h 🡪 Copy the file (or the changes) to /usr/src/servers/vfs
7. vfs/table.c 🡪 Added syscalls in call vector in VFS. Copy the file (or the changes) to /usr/src/servers/vfs
8. vfs/request.c 🡪 For communication with MFS. Copy the file (or the changes) to /usr/src/servers/vfs
9. vfs/myvfslink.c 🡪 Added syscalls in call vector in VFS. Copy the file (or the changes) to /usr/src/servers/vfs
10. vfs/Makefile 🡪 Add the changes to /usr/src/servers/vfs
11. mfs/proto.h 🡪 Copy the file (or the changes) to /usr/src/servers/mfs
12. mfs/table.c 🡪 Added syscalls in call vector in MFS. Copy the file (or the changes) to /usr/src/servers/mfs
13. mfs/mymfslink.c 🡪 Added syscalls in call vector in MFS. Copy the file (or the changes) to /usr/src/servers/mfs
14. mfs/Makefile 🡪 Add the changes to /usr/src/servers/mfs

**Compilation:**

1. Kernel
2. goto /usr/src/tools

make hdboot

reboot

1. User tools
2. Copy damagetool to some directory in minix machine.
   1. cd damagetool
   2. make
3. Copy recovertool to some directory in minix machine.
   1. cd recovertool
   2. make

**Steps to run the program:**

**Damagetool**

1. goto damagetool directory
   1. ./dfstool
2. When the program is executed you will see below options. Pick appropriate options.

# ./dfstool

DAMAGE TOOL to Damage the FS

0. No Damage: Delete file without damaging folder

1. Damage: Remove file without editing directory

2. Damage: Don't remove file, just delete dir entry

3. Damage: Corrupt file's inode (time)

4. Damage: Corrupt directory's inode(time). give file in that dir

5. Damage: Corrupt directory's inode(links). give file in that dir

6. Exit

Enter Your Choice ->

**Recovertool**

1. goto recovertool directory
   1. df

# df

Filesystem Size (kB) Free Used % Files% Mounted on

/dev/c0d3p0s0 65536 43540 21996 34% 3% /

/dev/c0d3p0s2 6729208 5891624 837584 13% 2% /usr

/dev/c0d3p0s1 1589248 1564268 24980 2% 1% /home

* 1. ./rfstool /dev/c0d3p0s0

1. When the program is executed it recovers file system on the device provided.

**Functionality:**

Described in the Design Doc.

**Testing:**

Described in the Test cases Doc.