CS416 Project 4

### RU File System using FUSE

By Nicholas Dundas (ndp59) & Logan Miller (lrm154)

### Blocks Used

We used 67 blocks in total for the meta data. The first block held the superblock which contained info about where the other blocks were located. The second block and third block held the bitmaps for the inodes and data blocks respectively. A bit of 1 indicated that it was in use while 0 indicated it was not. Finally the next 64 blocks were used to store the inode structs which contained the actual information. The remaining 8215 blocks could be used to store directory entries or actual data. To implement the functions for creating files and directories and interacting with them we had to define lower level functions. Namely dir\_add and dir\_find and get\_path\_by\_node. The first two look for the appropriate directory, whether it has the same name or is empty in the case of dir\_add. The last function is used to find an inode given a path. This calls dir\_find on each token in the path string to traverse through directories. Writei and readi write to a given inode or read from an inode. While get\_avail\_blkno/ino look through the respective btimaps for the appropriate structure or block to allocate.

### Testing Data

simple\_test used 123 datablocks in total and took 0.00194 seconds to complete.

test\_case used 123 datablocks in total and took 0.00452 seconds to complete.

### Additional Notes

The program can be compiled as it was given with the makefile provided. There was no difficulties in finishing the project. The references used were the the ones in the project4.pdf document. The only collaboration partners were Nicholas Dundas and Logan Miller.