

DAT Files

The *.dat files consist of a 6 byte header followed by the actual data. The first two bytes of the header define the size of the data in x-direction, the next two bytes the size in y-direction and the fifth and sixth bytes define the size in z-direction. The actual data is stored slice-wise in 16 bit values where only 12 bits are used. The following method conceptually shows how to load such a data set:

```
void load(String filename)
{
    File fp = openfile(filename);           // open the file
    UnsignedShort sizeX, sizeY, sizeZ;       // declare variables for header information

    sizeX = readfile(sizeof(UnsignedShort),fp); // read header
    sizeY = readfile(sizeof(UnsignedShort),fp);
    sizeZ = readfile(sizeof(UnsignedShort),fp);

    UnsignedShort data[sizeX][sizeY][sizeZ]; // allocate memory for data

    // iterate over the volume slice-wise
    for (Integer z=0; z < sizeZ; z++) {
        for (Integer y=0; y < sizeY; y++) {
            for (Integer x=0; x < sizeX; x++) {
                data[x][y][z] = readfile(sizeof(UnsignedShort),fp);
            }
        }
    }
}
```

Attention!!! Depending on the processor or programming language, the byte-order might be swapped using, for example, the following macro:

```
#define SWAP_16(s) ( ((s) >> 8) | ((s) << 8) )
```