

Figure – 3 zooms a small region from the sample MRI image of the human brain. This zoomed region would be used for demonstrating the compression system.

Figure – 4 shows that the image is made up of lot of pixels in grayscale.

5 Figure – 5 shows a 36-pixel region within the sample MRI image of the human brain. Figure – 6 shows the ASCII value equivalent of the image data values which are originally used for data storage. Each value requires eight bits of data memory or in other words 1 byte of data memory. Currently the 36-pixel region requires about 288 bits or 36 bytes of data memory. It would later be
10 demonstrated that the data could be compressed and stored with only 112 bits.

Figure – 7 shows the application of Repetition Coded Compression along the Horizontal Direction in the Image Matrix. This results in the Horizontal bit-plane and also the horizontal values stored. Figure – 8 shows the application of Repetition Coded Compression along the Vertical Direction in the Image
15 Matrix. This result in the Vertical bit-plane and also the vertical values stored.

Figure – 9 shows the combination of Horizontal and Vertical bit-planes by a binary addition operation thereby resulting in only five zero values which correspond to the final values store from the original image matrix. Figure – 10 shows the total memory required for the 36-pixel region before and after
20 applying repetition coded compression. The original memory requirement was