In order to store and image, each pixel of the image uses 8 bits of storage space. Image compression allows for the amount of storage space needed per pixel to be decreased. In this project, ideas from the FBI Fingerprint Compression method will be used to construct an image compression routine for a set of homogeneous images. The basic algorithm for image compression begins with normalization of the image. Next, the image is transformed and quantized. Finally, the image is encoded. In this talk we will describe the role the Wavelet Packet Transform plays in the algorithm and illustrate the method with several examples. (Received September 22, 2009)