1046-YY-1365   **Caroline N Haddad*** (`haddad@geneseo.edu`), Department of Mathematics, State University of NY College at Geneseo, Geneseo, NY 14423, **Dawit Haile** (`dhaile@vsu.edu`), Mathematics & Computer Science, 1 Hayden Drive, Virginia State University, Petersburg, VA 23806, and **Helmut Knaust** (`hknaust@utep.edu`), Department of Mathematical Sciences, The University of Texas at El Paso, El Paso, TX 79968-0514. *Zooming in on a Transformed Image: a Project for Students.*

Many images from fingerprints to MRIs are compressed for storage purposes. This typically involves transforming the original image, e.g. with a wavelet transform, possibly quantizing the result, and encoding. The result after transforming involves a "blurred" version of the original and some detail data. These files are generally fairly large. Suppose one is only interested in refining some small portion of the blurred version. Is it possible to "zoom in" on the "region of interest" without inverting the entire transformed image? Such questions frequently arise, especially in the medical field. Here we present a proposed student project that addresses this problem. The project was developed in a Wavelets Module Writing Workshop in connection with the PREP workshop "Wavelets: A Multi-Disciplinary Approach". Knowledge of the Discrete Haar Wavelet Transform and its inverse, as well as some coding background is all that is required of the student. (Received September 15, 2008)