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Jonathan R Wayland* (jonwayland47@yahoo.com), DuBois, PA 15801. *Modifications of Watershed Segmentation in Digital Image Processing.*

There are multiple methods to attempt to segment objects in digital image processing. This paper focuses on one specific method, watershed segmentation. There are multiple steps in this proposed process where the results allow you to visualize the accuracy of segmentation. Accuracy in this case is defined by how many objects are successfully identified when the segmentation takes place.

All of the processing will take place in Matlab where the code is given in the Appendices. The "Original Method" was adapted by Mathworks, the Matlab website. Here an example of segmented peaches is given and the steps of the process are also given. Following these steps, an image of baseballs were segmented using the same process. The "Original Method" and the example of segmented peaches also follow the same code except for some arguments that are specific to the baseball image.

Basing the segmentation process of the provided example, alterations were done considering specific steps that resulted in fluctuations in the original image. With a total of three different changes, and four total altered results, it was shown that better, similar and worse results were obtained. The altered methods' codes are also given in the Appendix. (Received September 17, 2013)