

The Visible Fruit Project



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Inspiration: *The Visible Human Project*

- * sponsored by the National Library of Medicine
- * research ran from 1989 through 1995
- * constructed anatomically detailed three-dimensional models from contiguous CT and MRI cross-sections of frozen male and female cadavers
- * generated a data set linking visual knowledge forms to symbolic knowledge forms
- * resulting virtual body may be sectioned in relation to three planes: transverse (X-Y), coronal (X-Z), or sagittal (Y-Z)



Objective

Following the same guiding ideas as *The Visible Human Project*, generate data sets that may be used in education or research for the three-dimensional visualization of fruit.

Summary of Results

Project included kiwis, lemons, limes, and oranges. Yielded four complete image data sets and slice animations. Resulting data sets consist of anywhere from 29 to 45 slices. Best results produced by oranges and limes.

Methods

- Indicate a continuous black line from end-to-end on each fruit, in order to frame photographs requiring minimal rotation adjustment.
- Mount camera (Canon Digital Rebel XT) directly above white surface to obtain uniformly scaled photographs of each slice.
- Slice fruit (using Chef's Choice 620 Premium Electric Food Slicer) at 3 mm thickness for each end, and at 1 mm intervals throughout body of fruit.
- Assembling the data sets:
 - align and crop images using *Matlab*
 - color adjust images using *Adobe Photoshop*
 - create slice animations using *ParaView*
- Project continuation could potentially produce complete three-dimensional models.

References

1. The National Library of Medicine's Visible Human Project
http://www.nlm.nih.gov/research/visible/visible_human.html
2. Marching Through the Visible Woman
<http://www.crd.ge.com/~lorensen/vw/>
3. ParaView Visualization Application
<http://www.paraview.org>