

**The Visible Human Data Sets (VHD) and Insight Toolkit (ITk):
Experiments in Open Source Software
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From its inception in 1989, the Visible Human Project was designed as an experiment in open source software. In 1994 and 1995 the male and female Visible Human data sets were released by the National Library of Medicine (NLM) as open source data sets. In 2002 the NLM released the first version of the Insight Toolkit (ITk) as open source software.

The initial goal of NLM's Visible Human Project was to produce a public domain open source database of MRI, CT and anatomical images representing a complete human male and female. The Visible Human data sets (VHD) became available for FTP download over the Internet in 1994 and 1995 respectively through a royalty free license. The purpose of the license is to track the data set's usage as part of NLM's ongoing research program. There are currently 1600 licensees in 43 countries. Although none of the users have added to the VHD, many have provided added value in the form of segmentations, labeling, and graphic interfaces for exploring the dataset.

http://www.nlm.nih.gov/research/visible/visible_human.html.

In 2002, as a continuation of the Visible Human Project, the NLM released ITk, a software toolkit for the segmentation and registration of tomographic image data sets. NLM's open source goal was to create a dynamic, self-sustaining, public domain and

extensible toolkit that will empower researchers throughout the world to develop new segmentation and registration algorithms and create new applications that leverage the NLM's investment in the Visible Human Male and Female data sets. ITk serves as a common Application Programmers Interface (API) in order to provide: a framework for software development; a toolkit for registration and segmentation; and an open source resource for future research. ITk also contains a validation model for segmentation and registration which provides: a framework for validation development; a seed repository for validated segmentations; and assistance for algorithm designers. About 6 months later, there are already over 100 users. These users are actively suggesting improvements to the existing tools and contributing additional tools to add greater functionality. <http://www.itk.org/>.