

## **A new approach to Interactive Mapping**

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Internet mapping and the widespread availability of mapping software are revolutionizing the world of cartography: anyone can now produce maps of any area of the world. However, many of the available tools only allow a user to work with a limited number of parameters and with a single geographical database. In addition, this limited mapping capability typically only yields a bitmap image, and the series of steps -- the process -- that led to that image are lost.

The ideal mapping tool should offer the user a variety of choices, liberty of manipulation of sources and a flexible interface. It should facilitate the manipulation of one or more datasets, to be viewed using different perspectives, keeping track at each iteration of the necessary environment for achieving the final output. The final result should be, not a single map, but a family of maps, with a clear trace of the decisions and workflow leading to those maps.

We propose a system capable of supporting these operations and many more. We present a new approach to cartography in which maps are understood to be the visual representation of a multidimensional context, and the space being mapped is one such context. This approach to mapping -- called *intensional* -- allows the developers of maps to keep track of all the choices that are being made, whether visual, structural or socio-historical, and to share these choices with others, in real-time. As a result, electronic maps become much more flexible and versatile, and much more supportive of speculative research. The mapping software is capable of doing high-quality typesetting in a wide variety of scripts, including Chinese, Arabic, Latin, Greek, Cyrillic and a number of Indic scripts.