

WATCH: Summary Data in Spatial Context

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Introduction

WATCH is a wristwatch that cross-references the wearer's position with a small set of environmental, economic and social statistics about their location within the United States. The idea for this project emerged after spending some time on Staten Island's Fresh Kills Landfill, now a completely treeless span of brown dirt, and noting the US Geological Survey's perfectly accurate classification of the land as Deciduous Forest, based on rainfall. WATCH provides a means for wearers to immediately juxtapose the way in which they experience the world through statistical summaries with an understanding they derive in person with eyes, ears and hands.

Rationale

The purpose of this project is not to discount the usefulness of statistical summary data nor is it to give wearers any particular opportunities to dispute the veracity of data, though these are both potential readings, depending on the inclinations of wearers. More specifically, the goal is to wrestle with the benefits and limits of quantitative summaries of human experience by restoring their relationship in space with the circumstances they describe. This is especially important within the context of a culture that relies heavily on statistical summary in decision-making.



Still from video sketch at <http://cat.nyu.edu/~rebecca/watch>

How WATCH works

WATCH uses GPS, Global Positioning System, to pinpoint its latitude and longitude whenever it has a clear relationship to positioning satellites (usually outdoors). A database stored on WATCH supports a conversion from latitude/longitude to US Postal Service zip code. A second database contains location specific data for the entire country keyed by zip code. 32 megabytes of storage will accommodate overhead plus approximately 10 pieces of moderately precise numeric data for every zip code within the United States.

The data categories are constant across space—each data category, such as median family income, will be available throughout the country. The user interface to this data set is extremely straightforward. Access to data associated with particular zip codes is offered through travel of any kind, such as walking or driving. A single button supports simple vertical navigation through the categories of data as well as an interface for setting the time. One category of data is visible on the watch face at any given time.

WATCH Data

An initial data set is being compiled from various sources including the 2000 US Census, web sites of corporations including McDonald's and non-profit organizations such as scorecard.org—this is a draft of the set of ten statistics which would be displayed on WATCH:

Avg. Household Income	HS Graduation Rate
Carbon Dioxide Level	Average Jan. Temperature
Drug Overdoses / Annum	Annual Rainfall
AIDS cases / 1000	% Institutionalized
Number of McDonalds	% School Lunch

Continuing Research

A prototype of WATCH is being built on a Pocket PC handheld computer attached via a serial compact flash card to a self-powered GPS unit.

We are investigating the use of alternative methods for sensing location, such as GSM positioning or triangulation using known locations of nearby wireless transmitters. The specific technology used is not as relevant to this research as its application. There already exist products on the market that incorporate GPS within a wristwatch at reasonable cost.

The next step for this research will be to consider means of maintaining and varying the data set over time. Storing data on removable media and providing infrastructure for syncing with a network would provide opportunities for matching data sets to particular interests (e.g. historical, environmental or sociological) as well as ensuring relative currency. We are particularly interested in the possibility of providing WATCH as an interface to decentralized data sets, managed over the network by wide-scale communities collaboratively.

References

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