

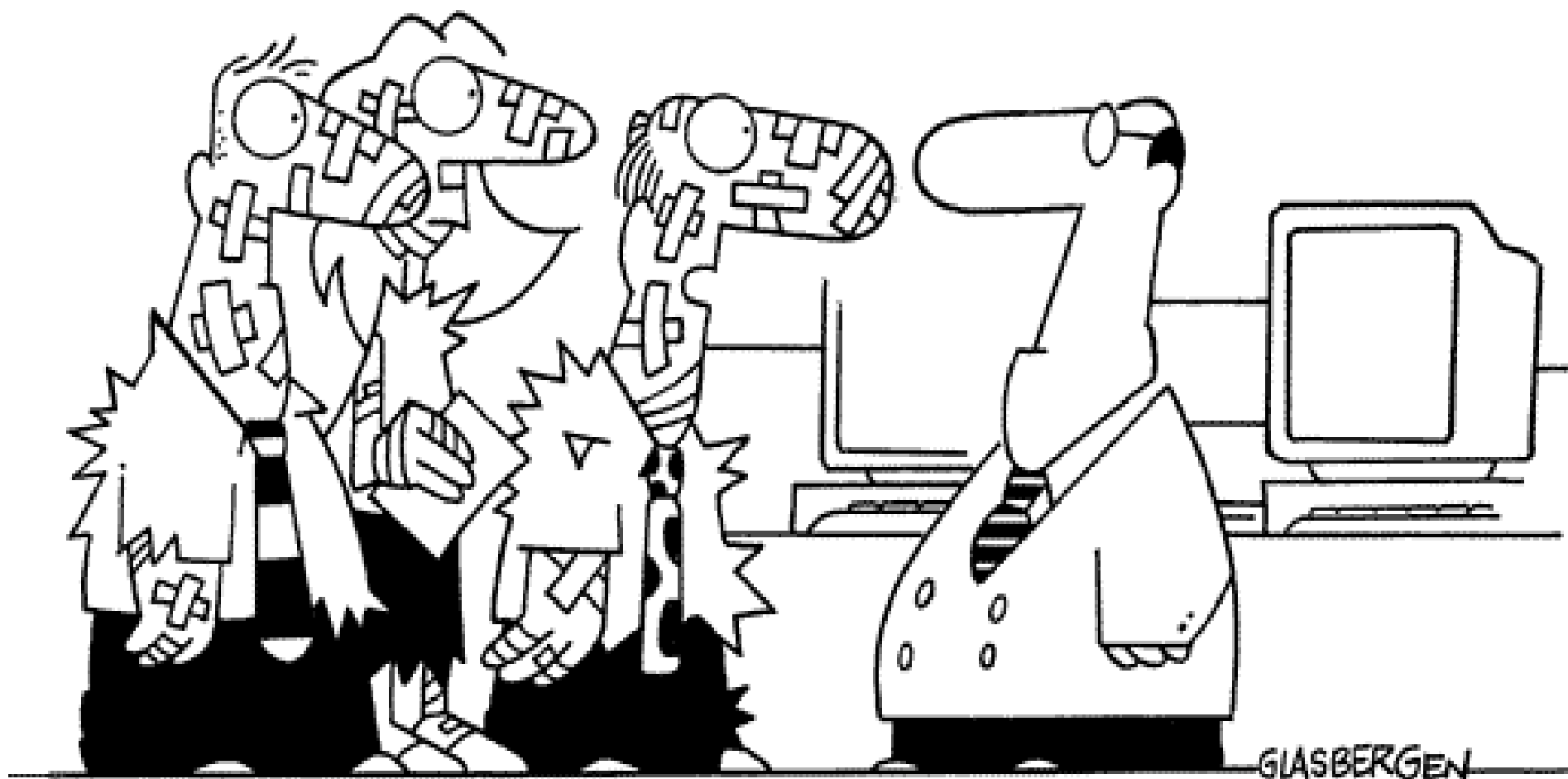


MAPS

A MEDIUM AND A METAPHOR FOR

MUNICIPALITIES

David Firman - Pacific Alliance Technologies



“Frankly sir, we’re tired of being on the cutting edge of technology.”

Nice Title - So Now What?

- Learn about Usability as a design strategy
- Look at why maps are a multi-faceted medium for municipal workers
- Look at VanMap as a case study for Usability and web-mapping
- Learn how to apply Usability as an everyday design practice

So how do we design an effective web-map application for those who do not have a GIS background?







Moving GIS into the Enterprise

So how do we design an effective web-map application for those who do not have a GIS background?

What is Usability?

A design approach that is based on the assumption that design immersed in the context of use has a very great potential for developing software that will productively support the reality of use.

Usability measures of good software

- Utility – how well the system's functionality performs the work it was designed to complete
- Usability – how well the user's who actually use the system can manipulate the functionality
- Productivity – how well the utility and usability of the software support proven work practices

Advantages of Usability

- Supports effective work practices
- Recognizes larger working environment
- By including user in design it softens user resistance to new software
- Gives specific direction to a flexible and responsive web-based design environment

Maps – a working metaphor

- ▶ The Federal Government manages institutions
- ▶ Provincial governments manage space through institutions
- ▶ Municipal governments manage people in space

Municipal map workers

Any municipal worker who uses mapping in some way in their work.

- Those with a GIS background
- Those who do not have a GIS background

Vancouver's VanMap

VanMap is a web-based GIS browser which is far and away the most common front end to the City's GIS

- Staff VanMap

- v 1 in September 1999

- v1 in September, 1999
 - v4 in September, 2001
 - several incremental and data releases

- Public VanMap

- v1 for Intel in May, 2001 (Macs in 8/01)
 - v2 for Intel and Macs in February, 2002

Month	Staff VanMap	Public VanMap
October 1999	317	not implemented
September 2000	346	not implemented
June 2001	439	1100
June 2002	540	1099
March 2003	728	2878



Address <http://vanmap.city.vancouver.bc.ca/web/html/vanmap4.htm> Go

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- City Boundary
- Public Places
- The Road Ahead
- City Projects
- Non-Market Housing
- Grow Operations(INTE
- Property Information
- Reserved Corridors
- Non-City Utilities
- Traffic Related
- Sewer
- Water
- City Streets Network
- View Cones
- Subdivision Categorie:
- DCL Areas
- Zoning Districts
- Business Improvemen
- Administrative & Servic
- East Grid Belongs



Lat: 49.255101, Lon: -123.195896 City Boundary : CITY LINE 1 : 148,026 24.4 x 13.4 (Km)

The interface . . . and beyond

- The VanMap usability study looked in detail at interface and functionality issues
- It also looked at VanMap in the context of the larger technical and social working environment

How we did it

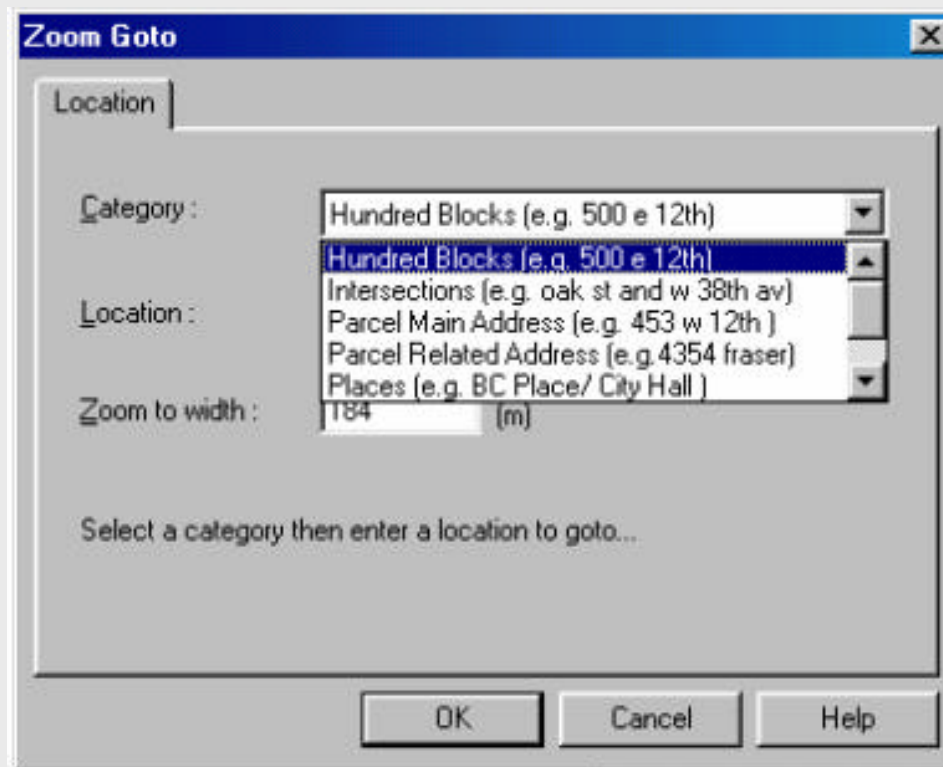
- Observation based
- Users at their desks doing actual or typical work
- Multimedia recording of sessions
- Extensive review of data

What we learned

Municipal workers are very comfortable with maps as a primary metaphor for their work and as a primary entry point to their work.

What we learned – the interface

- Different kinds of navigation styles for different kinds of navigators



Layers are a multi-layered issue

The “logic” of layers is not an obvious concept to many users.



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What we learned - support

- Support is a primary issue
- Contextual support is best
- There is support and then there is support (e.g. the soft expert)
- Support and training are design issues

A different kind of software

- Used as a front end for a variety of work processes
- Used as an essential part of work processes that end up in other software environments

How the VanMap team responded

- Initial discussion focused both on the interface and high level decisions about what work processes VanMap could realistically support
- A substantial redesign of the interface
- A rededication to including user input in the design process
- An initial reworking of the layers



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VanMap
staff edition

Introduction ▾

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Civic Address:

Street Name:

Search Reset

Toolbox

Skyview

Page Setup

Map Print

Applications

Collapse Layers

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- ELECTION
- Public Places
- The Road Ahead
- City Projects
- Non-market Housing
- Property Information
- Traffic Related
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- Water
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- Subdivision Categories
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- Zoning Districts
- Business Improvement Areas

Done Internet

Usability every day

- Identify and respect existing formal and informal methods for including users in design and implementation
- Identify and enhance formal and informal support and training situations
- Prioritize work support over problem solving (the problem of the “solution”)

Usability every day

- Look past the software
- Be goal-directed rather than task-directed
- Hire a usability expert and do a usability study

Usability every day – the challenge

The big challenge to doing usability within the context of existing working relationships is in giving up existing frameworks for understanding the software.

The solution may be simple – applying it can be quite difficult. The analysis must proceed as if the users framework is the only framework for understanding the software.

Exposing metaphors

- The problem of "solutions"
- Doers, Users and Viewers
- Getting in the way by generalizing and naturalizing domain specific language and working conventions

Hiring a Usability Specialist

- Usability currently under fire
- Make sure that they look beyond the Interface
- Insist that they spend some time learning the genealogy of web-map use at “your house”
- The study should be scaled to institution size and the complexity of projected use

Contact info

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**"It's the latest innovation in office safety.
When your computer crashes, an air bag is activated
so you won't bang your head in frustration."**