

The Map as a Model

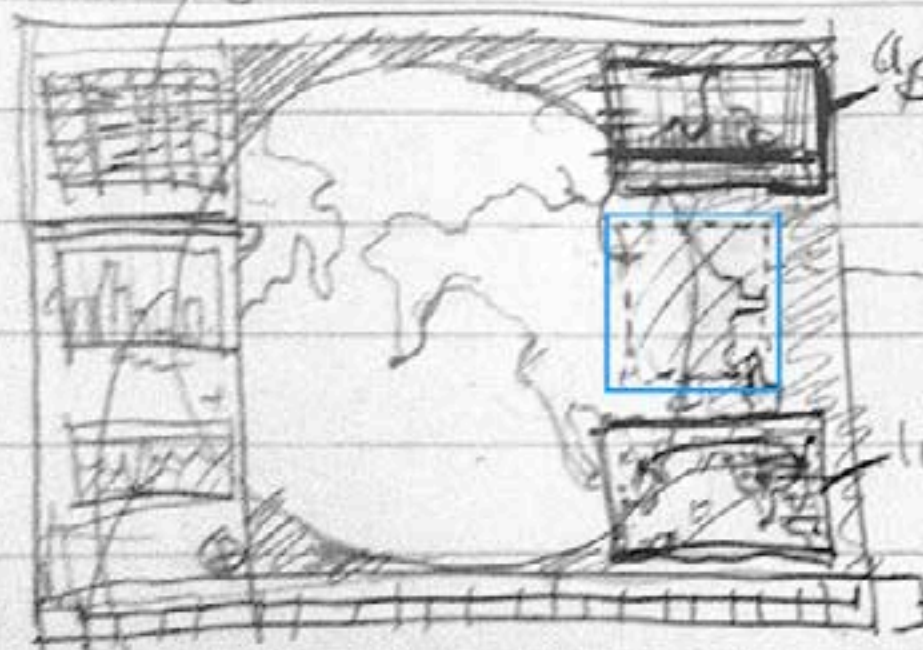
What Big Data Designers are Learning from GIS

Chris Goranson, MGIS, GISP

Director, PIIM, The New School



graph



"side" view.



highlighting areas to view details?

link & node view

histogram option to add other graphs? / otherwise



DISK/RAM/GPU

PARTIES INVOLVED

BBN	MSR
Boeing	Sotera
Continuum	Stanford B
DT	SSCI
GA Tech	UMD
IBM	UPitt
JHU	USC
MIT	

ANALYTICS

Streaming (rate of data flow)

Graph/Matrix
 Time Series
 Machine Learning
 Distance Measures

Skylark (PNLA),
Lobrain, BSP
Optimization,
NNMF, VNOM

ARIMA, Time Series

CrossCat, NP,
SMILE WIDE,
TopiCID,
Classification

Convex
Optimization,
Correlation
Approximation

AD-HOC RETRIEVAL API

INVOLVED

API/HiveQL API

Lincoln Labs

RAM/CACHE/GPU

PARTIES INVOLVED

Boeing
 Continuum
 Kitware
 Oculus
 New School
 Next Century
 Stanford
 UPitt

VISUALIZATION

HTML5
 Defaults and design
 recommendations
 Genie
 Stencil DSL

d3.js

Vega

CherryPy

Tangolo

Aperture

OWF/Neon

Bokah

3d

Virtual
Environments

LOGGING API

INVOLVED

Draper

Attention tracking, eye tracking, user
interface action tracking via keystroke
logging and mouse clicking

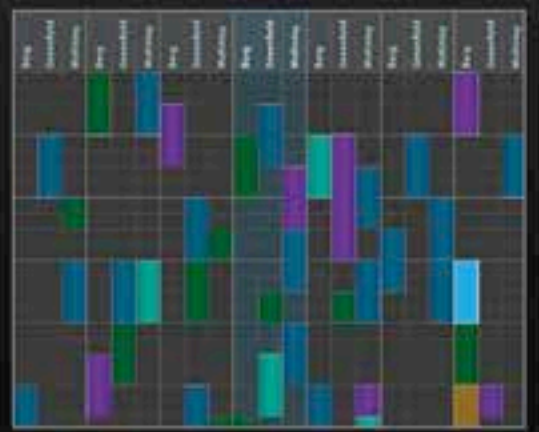
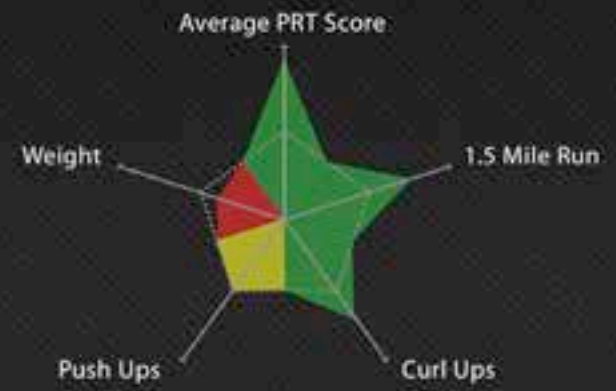
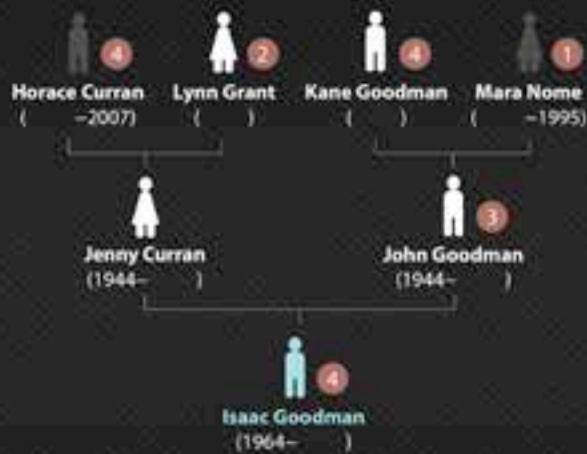
PARTIES INVOLVED

ICT
 Kitware
 Oculus

INTERACTION

*Quality of Service:
adjustable
networks:
volume, time,
accuracy/
uncertainty*

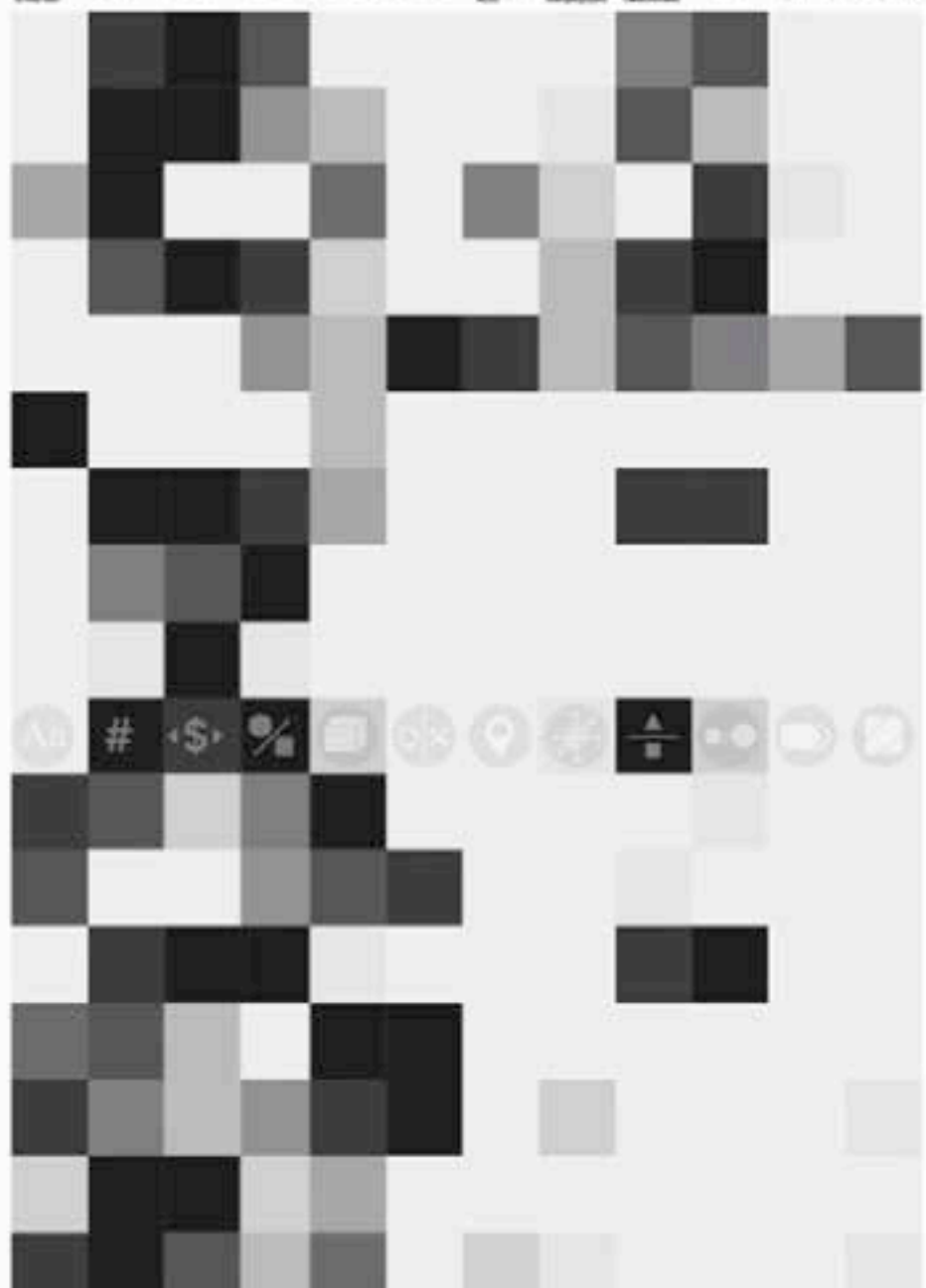
Mobile device (iPad)
 SQL-like
 Graph-like





Sheet

-  **Aa**
-  **#**
-  **\$**
-  **%**
- 
- 
- 
- 
- 
- 
- 
- 



Red Team Design Reviews for Summer 2014

(Three reviews, each occurring over two days)

RED TEAM 1

REQUIREMENTS

What should the tool be able to demonstrate?

UI CAPABILITIES

What does the tool actually demonstrate?

USABILITY

How effective is the tool in accomplishing these requirements?

RED TEAM 2

OPPORTUNITIES

How could the application / UX be better?

APPLYING
EMERGING DESIGN
THEORY AND
ALTERNATIVE
VISUAL
RENDERINGS

Apply new findings through iterative process



Messages



Messages 1

12:34 PM

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc et turpis eu nisi dictum blandit. Nam diam elit, cursus id dolor ut, vestibulum cursus leo. Fusce



Messages 2

12:28 PM

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc et turpis eu nisi dictum blandit. Nam diam elit, cursus id dolor ut, vestibulum cursus leo. Fusce



Messages 3

11:15 AM

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc et turpis eu nisi dictum blandit. Nam diam elit, cursus id dolor ut, vestibulum cursus leo. Fusce

To Do

TO DO 1:

Lorem ipsum dolor sit amet, consectetur adipiscing elit

TO DO 2:

Lorem ipsum dolor sit amet, consectetur adipiscing elit

TO DO 3:

Lorem ipsum dolor sit amet, consectetur adipiscing elit

[View More](#)

Announcements

ANNOUNCEMENT 1

SEPT 26, 2012

[View details](#)

ANNOUNCEMENT 2

SEPT 14, 2012

[View details](#)

ANNOUNCEMENT 3

AUG 27, 2012

[View details](#)

Community Alerts



ALERT 1

SEPT 26, 2012



ALERT 2

SEPT 23, 2012



ALERT 3

SEPT 21, 2012

[View All](#)

Tasking



Task 1

Pending



Task 2

Complete



Task 3

Declined



Task 4

Accepted

My Collaborators



Jane Doe

Available



Kevin Koo

Busy



Edward Goodman

Offline



PROJECTS

DATA

ANALYSIS

REPORTS

NETWORK

Project: None opened

Active Users: 3

NEW

MY PROJECTS

SHARED PROJECTS

RECENT

PROJECT 1

PROJECT 2



Isaac Goodman

Open

Edit

Delete

Duplicate

PROJECT 3

PROJECT 4



PROJECTS

DATA

ANALYSIS

REPORTS

NETWORK

Project: KVA Data Analysis 2011-2013

[Change project](#)

Active Users: 3

MY DATA LIBRARY

[SEARCH](#)[BROWSE](#)[IMPORT](#)[RECOMMENDED](#)

DATASET 1

DATASET 2

[Metadata](#)[Preview](#)[Export](#)[Refresh](#)

DATASET 3

DATASET 4

DATASET 5

DATASET 6

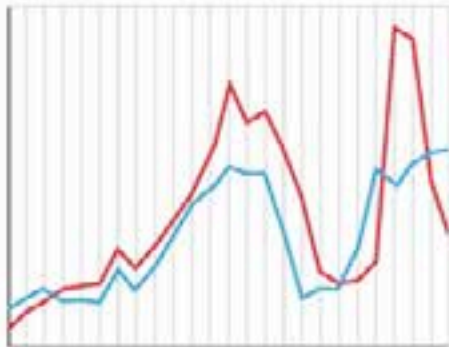
DATASET 7

Project: KVA Data Analysis 2011-2013 [Change project](#)

Active Datasets: 3/7

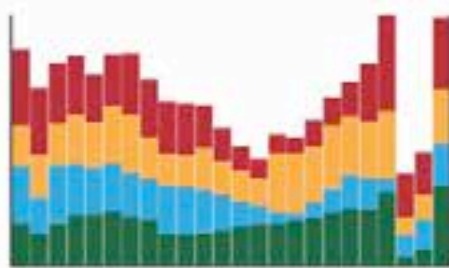
[Add Panel](#)

Dataset 001



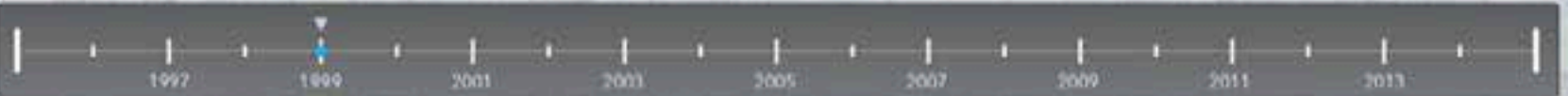
VAR 1 VAR 2

Dataset 002



VAR 1 VAR 2 VAR 3 VAR 4

Dataset 003



XDATA

DEMONSTRATION

ACKNOWLEDGEMENTS

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Any design guidance, opinions, findings, conclusions or recommendations expressed here are those of the authors and do not necessary reflect the views of DARPA or TATRC.

Thank you!