

Game Based UI for Health Modeling

Ben Stoddard

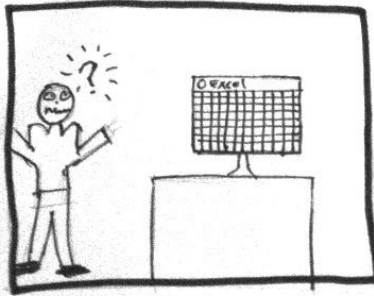
Suman Jandhyala

Luke Dressel

Basic concept

- A Better Model for Public Health
 - Lots of good data, very poorly represented
 - Unnecessary effort done to visualize current data
- Game/Map Based Geo-locational Modeling
 - Maps make it easy to visualize physical locations
 - Sensible way to display data based on stock levels and location
 - Supply Managers (NGO's and Governments) will better be able to manage and report stock of supplies (like vaccines)

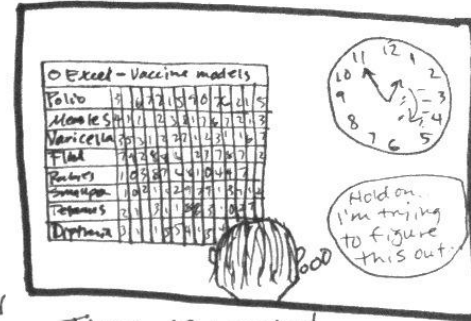
Basic Scenario



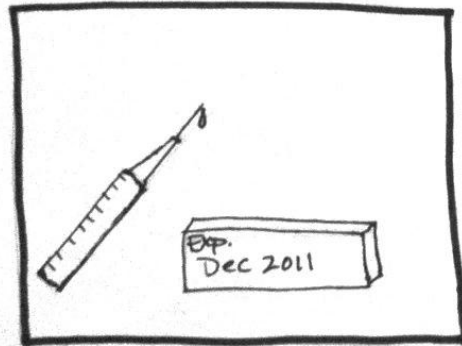
Text-based interface is confusing, not intuitive.



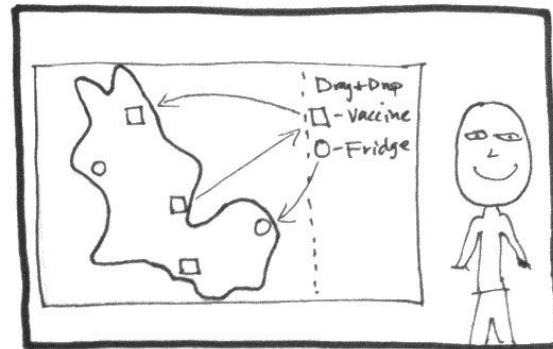
People and system ill-equipped to handle long-term planning and emerging issues



Time is wasted...



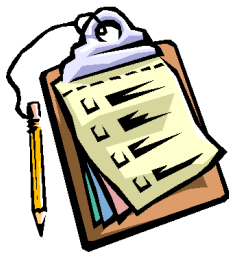
Vaccine is wasted...



Later... Officials enjoy new map-based modeling system, and resources are used more efficiently.

Initial thoughts on Architecture

- Cold-Chain Management, A Desktop Solution
 - Data is gathered with low frequency, and is input by hand after it is collected
 - An overhead map display makes sense for tracking locations, units, and resources
- From Data to Display
 - Data is geo-tagged, and location is important
 - Recorded areas of need, surplus, and shortage determine where supplies will be best placed and stored.



Expected effort

- What do we need to know?
 - What will workers know with respect to computers and maintaining the system?
 - What we can do to make this accessible in multiple cultural areas.
 - Best algorithms for modeling and estimation of data and trends
- What do we need to build/design?
 - Desktop architecture, GUI design, map import, database
- What do we want this to do?
 - Minimum: display data/recent trends, ability to research effect/cost of restructuring and upgrade
 - Desired: Distributed access to central data

Related Work

- What other projects relate to this one?
 - Smart phone vaccine registry, PATH's CCEM, UNICEF, general inventory management/visualization systems.
- What ideas does it draw on and who has worked on them?
 - Game GUIs, Game Companies, UW Center for Game Science, existing public health modeling and planning, geovisualization
- What makes this project novel/interesting?
 - Vaccines and cold chains are a major world health priority right now – 21 percent of children lack access to needed vaccines
 - Broader map-based public health modeling potential