

# GAME MAP HEALTH MODELING

A map-based, interactive visualization of public-health data

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## PROBLEM

- Cold chain a key factor of vaccine programs
- CCEM database for tracking and modeling is complex, not intuitive to use
- Many health ministries and NGOs need to be able to easily model current and possible situations for action and funding



How can public-health officials use a map-based visualization interface to improve their ability to model vaccine cold-chain scenarios?

## RELATED WORK

### Literature review

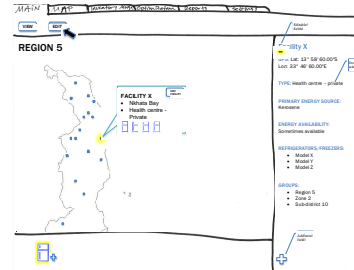


### Related projects

- PATH Cold Chain Equipment Manager
- Vaccine Modeling Initiative
- UNICEF Cold Chain Logistics taskforce



## SOLUTION IDEA



### Interactive game-based, map visualization

- Drag-and-drop interaction
- Tab-based menu UI
- Logic for intelligent allocation
- Global and local view options
- Context-sensitive staging areas

## FIELD WORK

### Interviews

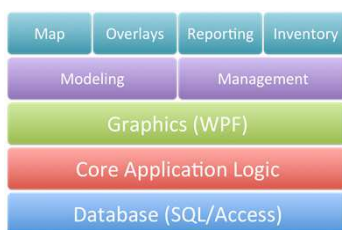
- CCEM and general cold chain: Richard Anderson, UW
- CCEM: Sophie Newland, PATH
- Gaming and graphics: Mark Chen, UW

### Turn-based game analysis

- Civilization
- Pandemic
- Rebuild
- Battalion: Nemesis
- Turn Based Battle



## ARCHITECTURE



## PROTOTYPE



### GUI Highlights

- Windows based desktop application
- Ribbon menus for standardized accessibility
- GPS tagged map from Google Maps
- Interactive panes for allocation and staging
- Separation of planning stages from the underlying database

TIME LINE

### ARCHITECTURE

Finalize Layout and Use Cases -  
Weeks 1 & 2

Work Out and Code Map Dragging and Animation - Weeks 2 to 5

Design and Implement Algorithms for Automatic and Assistive  
Assignment - Weeks 2 to 5

Plan and Code Input Systems for New and  
update Data - Weeks 4 to 6

User Testing for Interaction and View Options - Ongoing Weeks 4 to 8

Decide on and Code Overlay Options - Weeks 6 to 8

Investigate, Plan, and Code Reporting View and  
Outputs - Weeks 6 to 9

Final User and Functionality Testing and  
Fixes - Weeks 9 and 10

SPRING QTR 2012