A GISystem Approach to Improving Resource Discovery and Provisioning for In Need Community Members

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Presentation Overview

- Background
- Current Approach
- Proposed Solution
- Use Examples
- The Four Phases
- Constraints
- Next Steps
- Questions
Why This Project

- Solve a Problem
- Help People
- Build Something
Background

- Some History
- Stats
- Current Stressors
- Forecast
Questions

• Can a GISystem solution more efficiently allocate available resources to the unhoused and in need?

• Can it better demonstrate where need overwhelms availability?

• Can it provide a more comprehensive understanding of the locus and extent of need in our communities?

• Can it connect those in need with what they need without requiring them to be questioned and cataloged?
Current Approach

- Tracking individuals to demonstrate existing need

1. Point in Time Survey
2. HMIS
3. Coordinated Assessment

- Funding

Figure 1. "Homelessness Assistance Audit Series: Allocation of City Resources". City of Austin Office of the City Auditor. May 2018.
Proposed Solution

▪ Let demand on available resources demonstrate existing need

▪ Maximize resource availability

▪ Create a comprehensive provider network

▪ Connect those in need with what they need
Proposed Solution

- Let demand on available resources demonstrate existing need
- Maximize resource availability
- Create a comprehensive provider network
- Connect those in need with what they need

- What's the difference?
Examples of Use

- Resource Provider
- Outreach Volunteer
- Social Worker
- Police
- In Need
- Houseless
The Project in 4 Phases

1. Planning and Preparation
2. The Web Map Application
3. The Admin Portal
4. Implementation
Planning and Preparation

Criteria for Selecting Technologies

- Freely Available
- Free to Distribute
- Light and Fast
- Well Documented
- Familiarity
Planning and Preparation

Requisite Functionality – Web Map
- Spatial data
- Geolocation
- Routing
- Spatial Querying
- Attribute Querying
- Mobile/Desktop
- Nice GUI
Planning and Preparation

Requisite Functionality – Admin Portal

- Login Protection
- Privilege limiting
- Take User Input
- Push Input to Database
- Mobile/Desktop
- Nice GUI
Planning and Preparation

- Comprehensive Dataset of Resources
  - Shelters
  - Food
  - Clothing
  - Medical
The Web Map Application

Evaluating Technical Solutions

- Database
  - PostGIS
The Web Map Application

Evaluating Technical Solutions

- Server
  - GeoServer
  - MapServer
  - FeatureServer
The Web Map Application

Evaluating Technical Solutions

- Framework
  - Leaflet
  - OpenLayers
  - GeoExt
  - Folium
The Web Map Application

- Current Solution
  - PostGIS
  - GeoServer
  - Leaflet
The Web Map Application
The Web Map Application

- Zoom to extent
- Geolocate user device
- Shelters
- Food
- Medical care
- Clothing
- Find route
- Print / Export
- Settings

Search / Query panel

Find route to Jesus Center:
(530) 345-2640
The Web Map Application

- Field Testing
- Get Feedback
  - In Need Community
  - Social Workers
  - Resource Providers
- Refine Web Map
The Admin Portal

- Login
- Input
- Push to Database
Putting it Together
Implementation

- Soliciting Resource Provider Buy-In
- Incorporate Feedback
- Prepare Beta Release
Possible Constraints

- Resource provider participation
- Limited access to internet connected devices
- Completeness of resource dataset
Next Steps

- Add all additional resources
- Process use data to demonstrate demand
- Incorporate portal to HMISs and social workers
- Find grant funding opportunities
- Create portal for donations to providers
- Allow dynamic scalability and unlimited adoption
Questions?