

Community on Multimodality: Participatory Action, Service, and Support (COMPASS)

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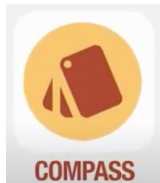
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Community Partners

Peter Gannon (United Way of the Greater Capital Region),
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Anthony Capece (Central Avenue Business Improvement District),
Nancy Chiarella (Capital Region Coalition to End Homelessness),
Dahlia Herring & Jill Peckenpaugh (U.S. Committee for Refugees and Immigrants),
Lini Jacob (Northeast New York Region 2-1-1),
Jonathan Hentrich (ServeAlbany),
Jack C. Simeone (Catholic Charities, Tri-County Services)



<https://www.albany.edu/~dz973423/projects/nsf-scc-2017/index.html>



UNIVERSITY AT ALBANY

State University of New York

Project Overview

Visual Schematic

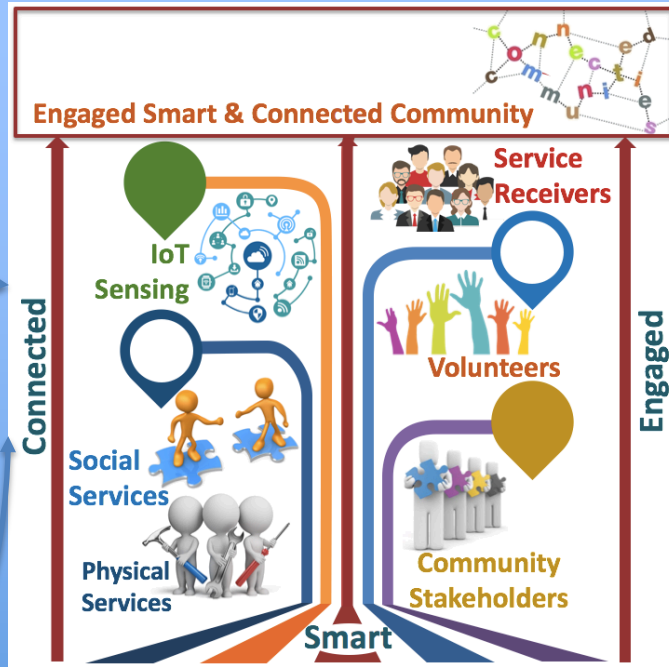
Machine Learning



Network Science



Social work/science



Simplify discovery and use of services
Enable two-way communication between service seekers and service providers
Deploy resources more efficiently

Project Vision

Proposed Research Approach



Identify needs and challenges.
Share expertise and data.
Refine conceptual research framework.
Assist in evaluation of proposed approach.

Expected Community Impact

Enable discovery and delivery of human services with a click of a button

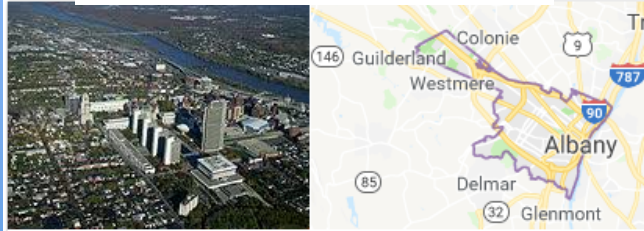
Project Overview

Use-Inspired Research

Simplify discovery and use of services

- Open and up-to-date service information
- Technology for coordination between service providers
- Automate matchmaking of clients to resources

City of Albany, NY



Fundamental Research Contributions

Fundamental Social Science Advances

- Uncover** service coordination patterns in non-profit organizations
- Identify** factors that affect service seekers pathways

Fundamental Technological Advances

- Instance-wise** decision-making in machine learning
- Multi-class **hierarchical** classification in machine learning



United Way
of the Greater Capital Region



Community Partners



Project Update

COMPASS technological solution

- Automatically compile and maintain a **comprehensive and up to date database** of human service organizations
- Web-based interface for organizations and mobile app
 - Digitally connect service seekers to providers
 - Provide **end-to-end tracking and management** of service requests
- Communicate **community prosperity** among stakeholders
 - Visualize social service requests
 - Correlations between outcomes and community characteristics

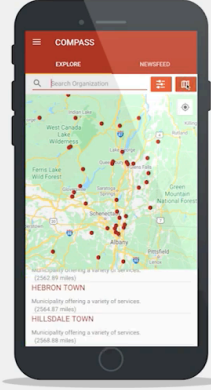
Service coordination patterns of non-profit organizations

- Network structure of human service organizations is **multipolar** with few connections to each other
- Service coordination is **problematic**

Digital divide in the context of human services

- **Digital divide** is not merely about income level but also educational background and culture
- Human service professionals need to consider **multiple channels** to reach targeted populations for service delivery.

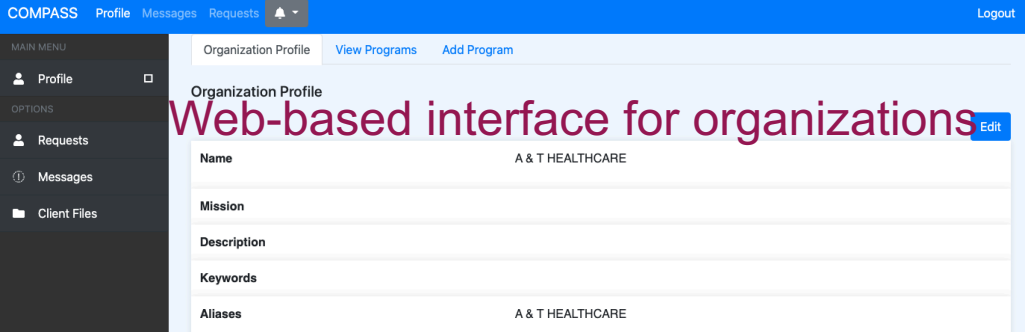
Core Features



- Search Services
- Service Request
- Live Chat
- Track Updates
- Navigates
- Volunteer
- Fast Response
- Bookmark

COMPASS mobile app

Web-based interface for organizations



Organization Profile

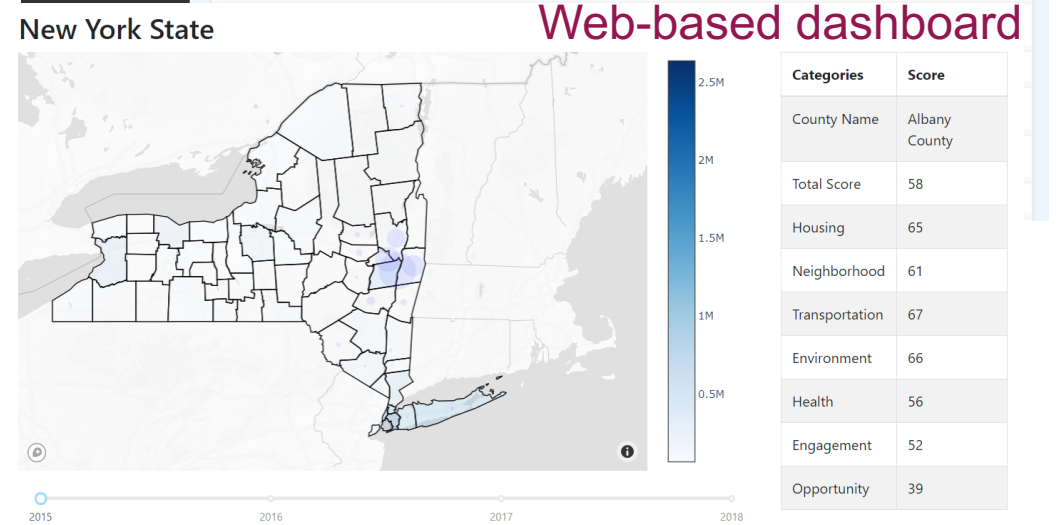
Name: A & T HEALTHCARE

Mission:

Description:

Keywords:

Aliases: A & T HEALTHCARE



Project Evolution

“We learned that both service providers and service seekers need to have access to a repository of human services information (e.g., list of active service providers, eligibility criteria, programs offered), and to maintain such information always up to date. As a result, we developed a software to semi-automatically collect and integrate information about human service providers from semi-structured data on the Web, which was not part of our initial plan. At the same time, a client-centric software for access to data, service providers and services is lacking. As a result, we developed a mobile app prototype and are currently exploring licensing/commercialization opportunities as part of our TTP activities.”

“We learned that service providers do not collect individual-level service-seeking data. Such data would enable the computational analysis of how people reach specific service providers for reasons including, lack of resources and privacy concerns (i.e., personally identifiable information or other sensitive data is anonymized and/or aggregated before being shared for research purposes). Thus, we collected and are currently analyzing data describing individual-level service-seeking behaviors from foreign- and US-born individuals in low socioeconomic status (i.e., people with social and economic barriers).”

Evaluating Project Impact on Communities

“Our technological solution for streamlining delivery of human services is still under development, but demonstration of its proof-of-concept to human service organizations in Albany, NY, has stirred excitement at the possibility of incorporating this new technology into their existing systems.”

“In-depth interviews with 43 human service organizations and interactive surveys with 94 service seekers in Albany, NY, revealed challenges in service coordination and a digital divide in the context of human services. The service providers have embraced our emphasis on addressing these challenges by rethinking their strategy to interact with service seekers.”

Anticipated outcomes & success measures for next year

Anticipated Outcomes

- **Computational approach to predict service seeker's goal given partial information:**
 - Analyze service pathways of clients
 - Interpret findings to design features for machine learning models
- **Recommendation framework to maximize probability of meeting service seeker's goal:**
 - Design dynamic programming method to identify time-efficient pathways
 - Design policy to adaptively recommend milestones to reach
- **Community-driven mobile app enhancement:**
 - Complete focus groups/outreach to collect feedback in Albany, NY
 - Test mobile app in Las Vegas, NV, and collect feedback
 - Analyze findings

Success Measures



of service seeker's request being turned down



recommendations



proposed technology

