

Establishing Community Data Utilities for Resilient and Equitable Decision-Making

Ryan Witten - University of Alaska, Anchorage College of Business and Public Policy

Theory into practice



Your help, feedback, and constructive criticism are encouraged.



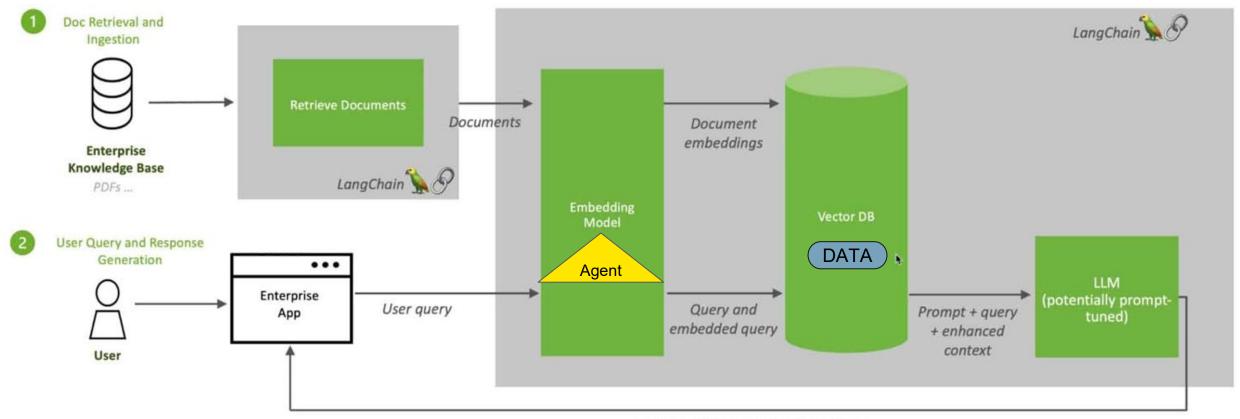


Community Data Utility (CDU)

Community Data Utility (CDU) - A municipal organizational body with a mandate to maximize the usefulness of community information and computational capacity for the community they serve.



Retrieval Augmented Generation (RAG) Sequence Diagram



Streamed text response (generative)



User Groups

Use Case

Critical Infrastructure

Relevant Data

Community Members

> Private Industry

State Partners

Federal Partners Staff

Elected Officials

Community Administrators Policy / Governance

Economic Development

Community Resilience Community Data Utility

Energy

Water & Sanitation

IT / Telecomm

Transportation

Housing

and more...

Built Systems

Historical

Natural & Social

Policy / Plans

Regulation & Governance



Utility, department, your laptop used interchangeably



CDU Agent & Utility Data Collaboration

Community Data Utility

Data Catalogue

Energy

Water & Sanitation

IT / Telecomm

Transportation

Housing

and more...

Relevant Utility Specific Data

> Built Systems

Historical

Natural & Social

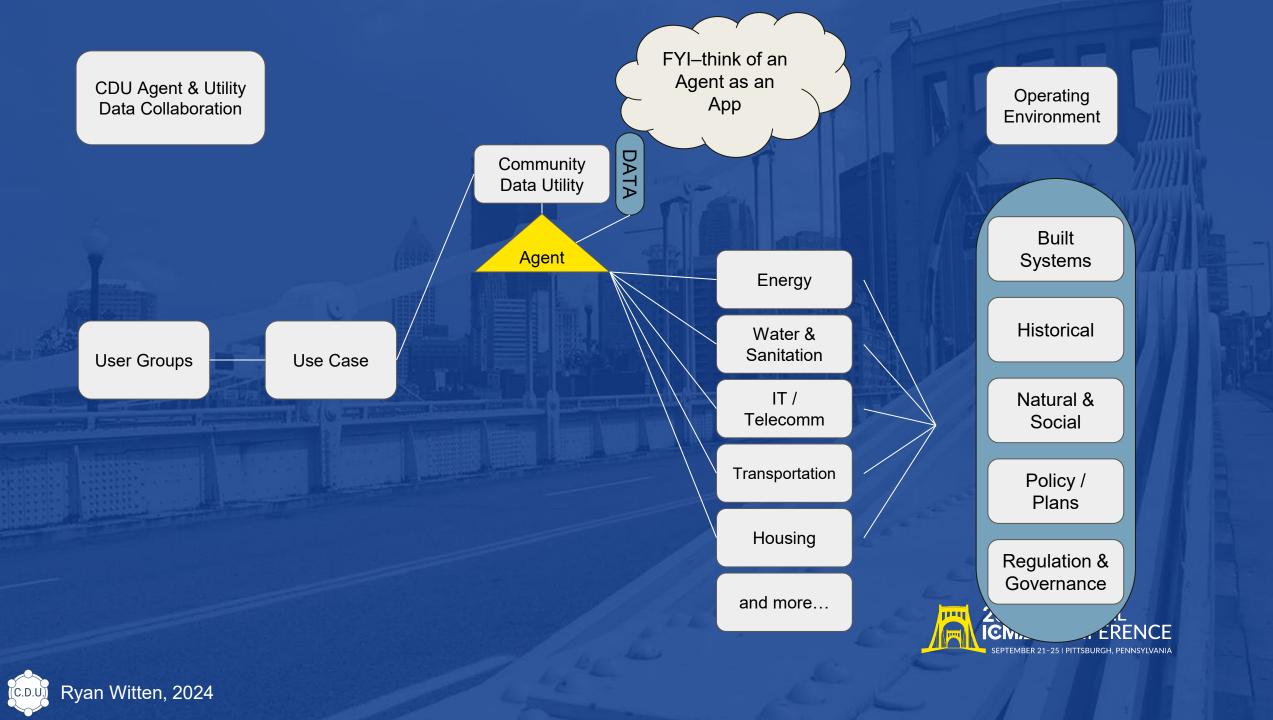
Policy / Plans

Regulation & Governance



User Groups Use Case

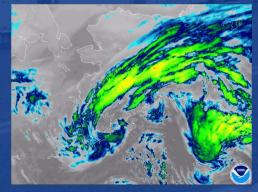
Users can still directly go to the data sources... And Departments maintain ownership of their databases



The End Product: DATA Water & Community Energy Agent to Agent Communication Sanitation **Data Utility** & Computational Arbitration Agent Agent Agent Computational Computational Computational Power Power Power DATA IT / Agent & Telecomm Computation Exchange **Use Case User Groups** Agent Computational Direct Communication Power DATA Transportation Housing And more... Agent Agent Agent Computational Computational Computational Power CONFERENCE Power Power

Juneau, Alaska - August 2024









Disaster Response:

One stop shopping More efficient and effective searches

Community Data Utility App / Platform **User Groups Use Case** Agent Power Combined Response

DATA Computational

Culvert Locations

Salmon Requirements

Culvert Sizes AK Railroad

Public Works

Long Range

Planning

Emergency

Management

Zoning Requirements

> Flood Hazard Map

After Action Reports

Hazard Mitigation Plan

Ryan Witten, 2024

Community Development: Building a new school

User Groups

Use Case

App / Platform

Architect,
Engineer,
Procurement
Department

Data Utility

Community

Agent
Computational
Power

DATA

Combined Response

Infrastructure

Public Works

School District

Long Range Planning

Finance

Emergency Management

> 2024 ICMA SEPTEMBER 21

Enrollment Trends

Comp Plan

Zoning Requirements

Permits

Funding & Grants

Hazard Mitigation Plan



Thank you! You are invited!

- A. Support local development efforts of a Community Data Utility
- B. Support the development of a Community Data Utility Association



Community Data Utilities: Under Construction

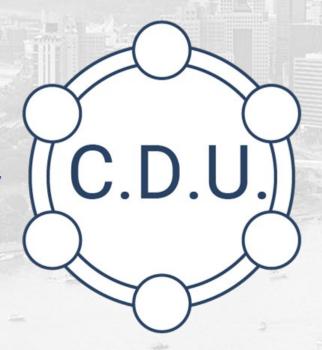
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www.communitydatautility.com

