

OKN-SDS Explainer Video script 3

Examples related to the semantic web (didn't find much good but here's the best one):

Linked Open Data - What is it?

<https://www.youtube.com/watch?v=uju4wT9uBIA>

This will be a 3-5 minute video. 1 minute = 130 words.

Our Script

Title: Spatial Decision Support for the Open Knowledge Network (SDS-OKN)

----- (Introduce problem)

Geographic information is central to making critical decisions as a society. Planning a public health program, or responding to natural disasters such as hurricanes and fires, requires the use of geographic information. Decisions about these plans and responses often involve multiple organizations with overlapping responsibilities, each with its own data, and models, and experts. In most situations, decision-makers don't have the full picture, and haven't had a chance to coordinate or learn from others.

How can we increase the chances of having the best decisions made? How can decision-makers become more competent and confident? What if they could make decisions that are informed by the most pertinent data, and based on the most relevant methods, tools, and workflows--could it strengthen and reinforce their decision-making? Wouldn't it be great if we not only could find these tools, and learn about them, but we could also connect with people who are using them too? It would be like a network of knowledge. An *open knowledge network* that supports collaborative spatial decision making.

----- (Explain OKN)

To get started, we are testing *semantic web technologies*. The semantic web (sometimes referred to as Web 3.0), extends our current World Wide Web of information by including statements representing concepts and their relationships to each other. This allows computers to more easily discover and share information and do basic reasoning that then supports the decision-making process.

The search statements themselves are typically organized in the form of subject-predicate-object (called triples). For example, an urban planner needs to consider evacuation routes

out of a city. Using a *semantic web technology*, she could look for items related to that type of *spatial decision support* - or *SDS*. When she searches for "?-isA-SDS and ?-hasApplication-evacuation routes" the search results might include models, or datasets, or even groups of experts that are known to work on these problems. In turn, those items could then link to other other helpful tools, such as case studies or other more generic spatial planning techniques, such as routing algorithms, which link to other SDS tools that implement the routing algorithms, which link to other SDS tools, and so on as far as one wants to go...

These *linked data items* can be visualized through *knowledge graphs*. The links between data types form a network that are easy for humans to browse and easy for computers to navigate. That's why organizations are increasingly adding *semantic* info to their web pages and data stores, and advances in using *natural language* are now enabling computers to derive subject-predicate-object triples from ordinary webpages. *Semantic* search engines are more likely to return *clear* and *relevant* results for spatial decision-makers, instead of the hundreds to thousands of mixed results returned by a normal internet search.

---(3 prototype application areas)

To understand how these technologies might assist in complex spatial decisions, we're working on three problems where geographic information plays a strong role in mediating complex relationships between people and natural resources:

Managing forest fires in northern California, where fires in recent years have caused over a hundred deaths, destroyed tens of thousands of properties, and sent one of the largest electric companies in the nation into bankruptcy.

Reducing water pollution in the massive Puget Sound region of Washington State, where national attention is focused on the plight of endangered orca whales. Water quality is critically affecting their food supply of salmon, and is also threatening a multi-million dollar shellfish industry.

Conserving biodiversity, because the world has lost over half of its animals since 1970. Solutions are feasible at the regional scale, which can then be interconnected, so we are working with three such efforts in the western United States.

---(wrap it up: who it will benefit, solicit input)

Our project is building a knowledge infrastructure for fostering innovation, discovery, and communication, as we seek solutions for complex problems.

It's a way for stakeholders of every type, size, and power-level to communicate their knowledge and experiences. It will help everyone broaden their own knowledge and experience by finding resources created and shared by others.

And it supports policy-makers as they seek to make better decisions that inform governance, especially when they are doing so in the midst of the uncertainty that surrounds complex problems.

We're looking forward to sharing the knowledge network with stakeholders and a broader community of interest, and making connections with new collaborators as we continue to build our knowledge and connect more dots.