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12 April 2016

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Question:
How can we create an intelligence tool that uses different sources of data to answer policy related questions in three ways - trends, snapshot and forecast

With a background in GIS and geospatial development, the focus on this presentation is on the mapping and data side of things.

Describing the aims that were discussed during the workshop and the mockup of three components, or outputs that could be wanted for the system. All three components should work with each other ideally, however the mockups are possibly optimistic in terms of smallest steps possible towards the vision and so it is estimated that only one of the components would be suitable to take to prototype. I recommend the analysis component to be piloted.

Search – This would be an improvement to current Observatory and/or Datamill which already has search built in. A way to find and explore analyses and data.

Map – this would be an improvement to current Observatory and Datamill features. An improvement in functionality it wouldn't by itself lead to an increase in understanding of data or new analysis but is essential for a final application.

Analysis – this would be a new feature for existing services. This would be the creation of analyses to share internally and externally via an online service. In my opinion this is the most innovative of the three ideas and is best suited for prototype.

Aims

- More people in services to use and understand data

- Increase council data

- Show council benefit of new data analysis with trends and correlations

Prototype Components

- Map

  - Shows data

  - Visualise geographies

  - Table / data view embedded

- Analysis Builder

  - Choose dataset, fields

  - Choose analysis

  - Creates new dataset

- Search & Discovery

  - Official / Verified datasets

  - Starred

  - Smart search

  - Shows analyses and datasets
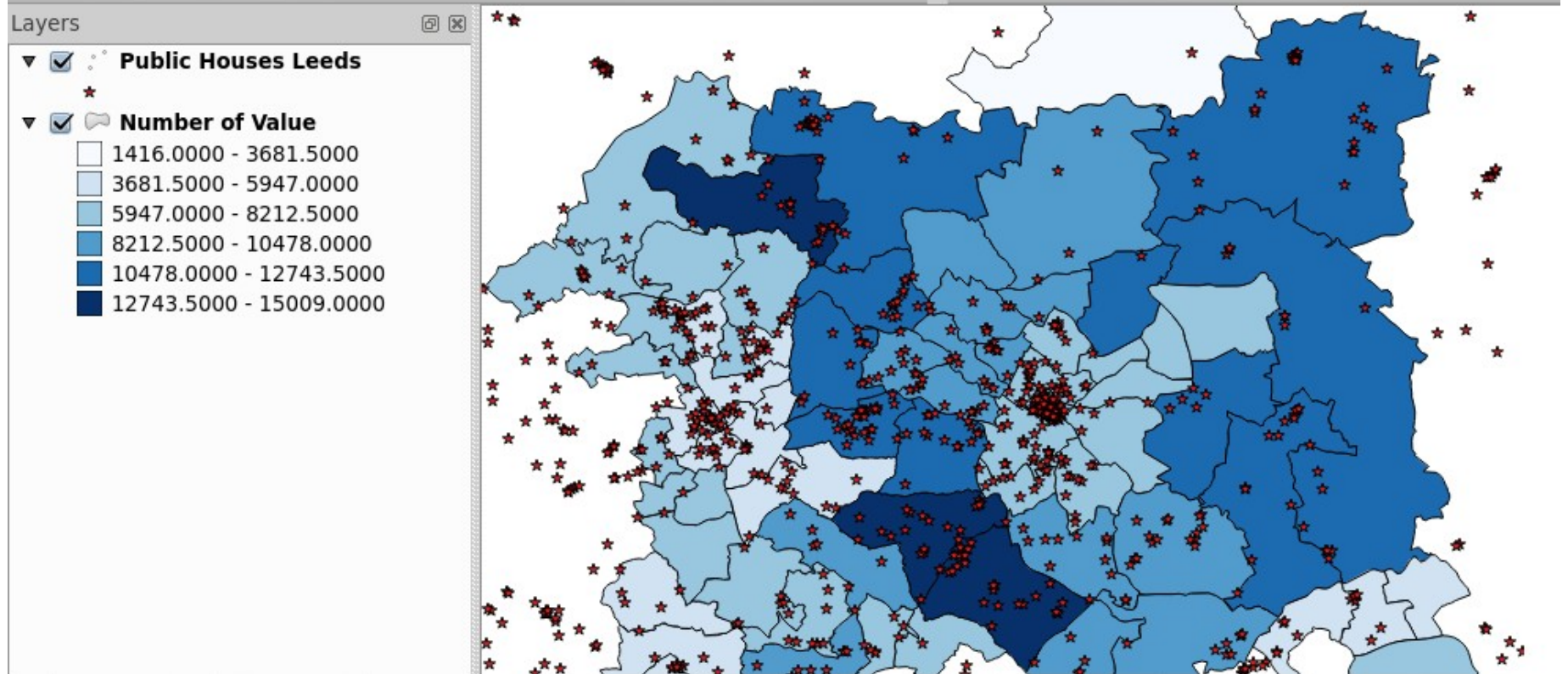
Flow between components
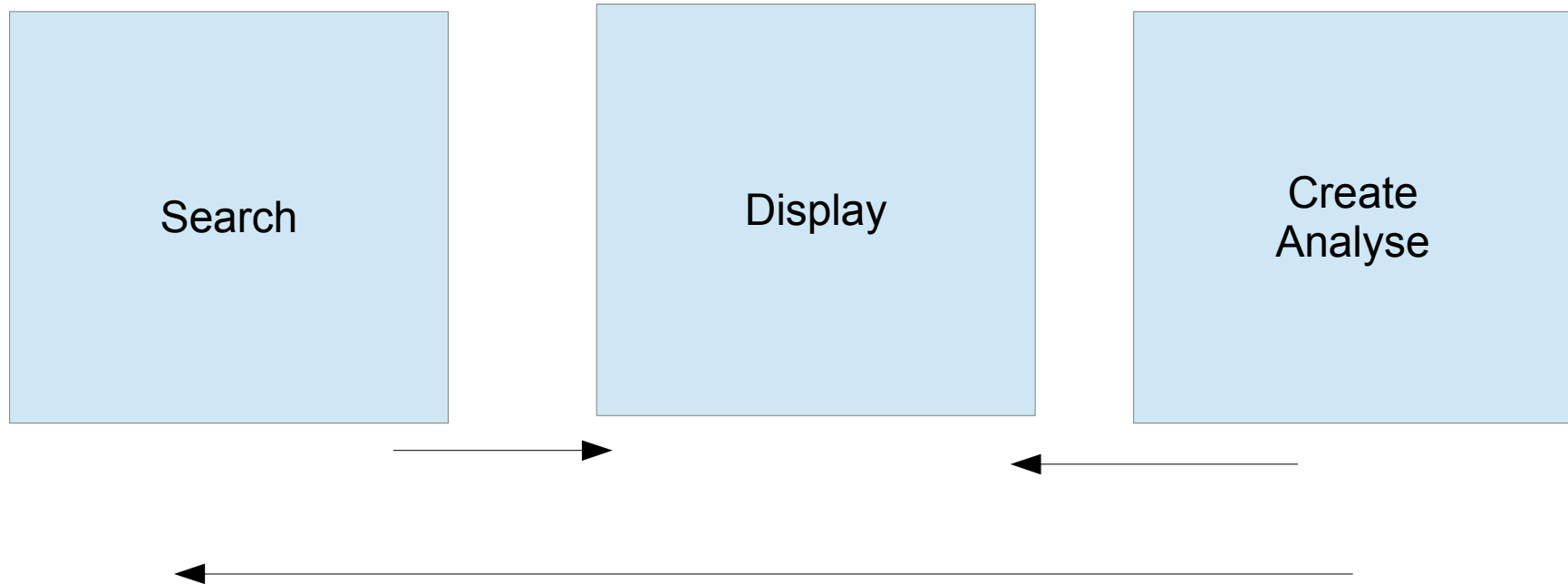
This slide helps explain how the components would work together in a final, large application. For example, the search would show new analyses and be used to select data for display, While the analyses would be displayed on the map and feed back to the search.

Map

- Visualise dataset

- Desktop GIS on web

- Dataset view incorporated

- Load datasets

Quite standard in most GIS platforms, this is a feature that it ultimately desired as an essential feature for a full application.

This feature may be the least successful as a prototype.

Layers

▼ ☑ ⋮ **Public Houses Leeds**
   ★

▼ ☑ ⌒ **Number of Value**
   ☐ 1416.0000 - 3681.5000
   ☐ 3681.5000 - 5947.0000
   ☐ 5947.0000 - 8212.5000
   ☐ 8212.5000 - 10478.0000
   ☐ 10478.0000 - 12743.5000
   ☐ 12743.5000 - 15009.0000

	ZONE_CODI ▲	ZONE_LABEL	ST1210001	ST1210002	ST1210003	ST1210004	ST1210005	ST1210006	ST1210007	ST1210
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1	00CXFB	Bingley	6623	552	9	462	441	31	3985	
2	00CXFD	Bolton	6442	473	3	75	796	51	3721	
3	00CXFE	Bowling	5616	386	6	64	983	22	2401	
4	00CXFF	Bradford M...	4236	370	12	45	754	13	1849	
5	00CXFJ	Eccleshill	5594	385	0	57	807	43	2982	
6	00CXFK	Great Horton	6447	483	3	76	963	51	3291	
7	00CXFL	Heaton	6051	492	0	115	666	38	3611	
8	00CXFM	Idle	8179	659	6	148	780	65	5192	
9	00CXFS	Little Horton	4352	283	6	81	878	11	1692	
10	00CXFT	Odsal	6807	402	3	50	1180	31	3652	
11	00CXFW	Rombalds	7871	761	24	734	315	39	5015	
12	00CXFX	Shipley East	5907	420	0	278	805	54	2953	
13	00CXFY	Shipley West	6774	556	6	522	739	53	3574	
14	00CXGB	Tong	5165	361	6	35	715	51	2619	
15	00CXGC	Undercliffe	5315	411	3	92	873	33	2546	

Search

- Smart search
- Autotype – instant results
- Analysis and Datasets show
- Starred entries
- Verified results
- Search for "trend" "LSOA" "schools"

Search

Good, context aware search is hard to do correctly, but if done well looks seamless. This component shows how the new datasets and analyses created by people are discovered by others. It shows how datasets can be marked as "verified". It's envisaged that good analytics of user usage would be surfaced here.

This feature on its own is not suitable for a prototype but would be essential for a full application.

Search

Correlation

	Leeds Primary School Provision
Dataset	Dataset showing primary schools in Leeds
	⭐ 23 ✅ Verified dataset
	Added by LCC Education, 12 March 2015

	Indices of Multiple Deprivation
Dataset	Indices of Multiple Deprivation 2012
	⭐ 420 ✅ Verified dataset

	Correlation of Gambling Establishments and Deprivation
Analyses	Gambling and Indices of Deprivated showing correlation
	⭐ 2
	Added by Joe Bloggs, 1 May 2014

	Trend Analysis of Deprivation and Crime
Analyses	Trend analysis exploring deprivation and crime
	⭐
	Added by Mr. Smith, 11 June 2010

	Leeds Wards Crime Statistics 2015 (Burglary)
Dataset	Burglary Statistics by Ward, 2015
	⭐ 12 ✅ Verified dataset
	Added by LCC Intelligence Lab, 12 April 2016

Analyses

- Choose 1 or 2 datasets
    - Correlation
    - Trend analysis
    - Buffer
    - Aggregation
    - Sum, Count
    - Intersection

This feature allows people to create new data via performing new operations, or analyses on existing datasets. New analyses should be shared with other users helping to find interesting uses of data and new understandings and relationships.

This feature is the most stand alone out of the three components, is the most innovative of the components and is unique for most online applications.

This slide shows a mock up of a cross dataset correlation. In this example, assuming that both datasets have the same base geography, the user would choose the datasets and the fields to be correlated with each other.

This would create a new analysis dataset.

Summary
Smallest Step

All three components are designed to work with each other in a final applications. With regards to "the smallest step" or prototype - these are optimistic. It is estimated that only one of the components would be suitable to take to prototype. I recommend the analysis component to be piloted.

Search – A way to find and explore new analyses and data. This would be an improvement to current Observatory and/or Datamill search feature.

Map – this would be an improvement to current Observatory and Datamill features. Essential for a final application, it needs good search and analysis functions to perform.

Analysis – this would be a new feature for existing services. I believe it best answers the question of the lab.
This would be the creation of analyses to share internally and externally. In my opinion this is the most innovative of the three ideas and is best suited for prototype.