

Distributed GML Management with SVG Tools

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OUTLINE

- Project OneMap
- Gateway
- GML Editor
- Clearinghouse
- Demo
- Remarks



Project OneMap

- Open/free source
- Open/free content
- Open managment
- Open standards/formats



OneMap Objectives

- Provide public access to free-of-charge geodata with global, consistent coverage of high detail by
 - Building a large, global map, rich with feature types and detail
 - Implementing a scalable, redundant and distributed architecture, both for storage and processing
 - Compiling the map incrementally and uncoordinated by many submissions
 - Combining efforts from several contributing parties
- Offer a testbed and focalpoint for further development of methods and tools needed for reaching the primary goal
- Offer an environment for education and training in the construction, maintainance, management and use of the GeoWeb
- Have fun ☺

...piece of cake, eh?



Incremental Map Construction - I

Submissions will be harmonized and accepted/rejected in peer review processes.

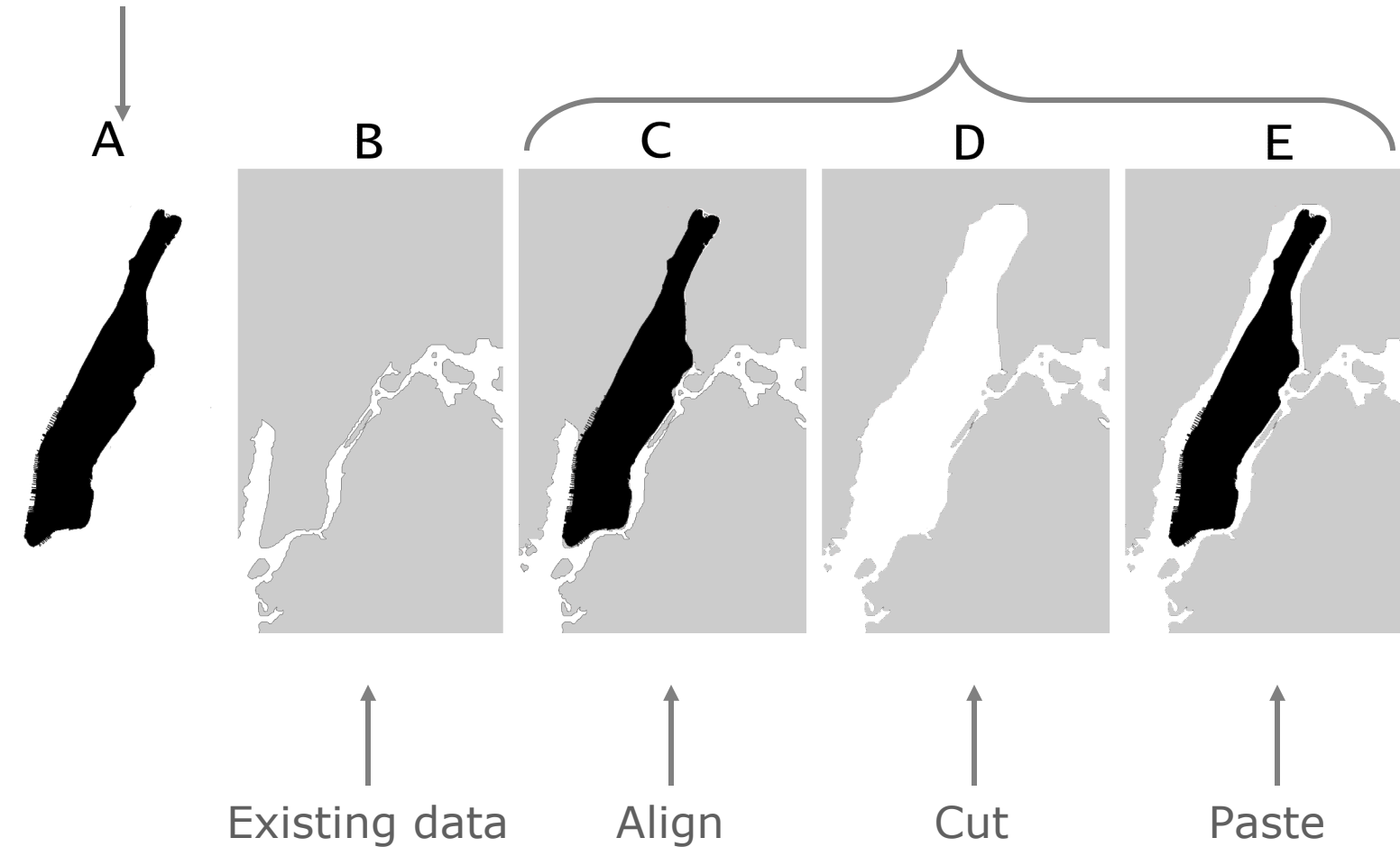


The Feature Catalog will be dynamically constructed and maintained...also by peer review processes.

Incremental Map Construction – II

Contribution

Peer review harmonization



GML

- OpenGIS Consortium (OGC)
- Metastandard
- Need to define your own application specific profiles and/or extensions
- Project OneMap uses GML extensively, from storage level to presentation level



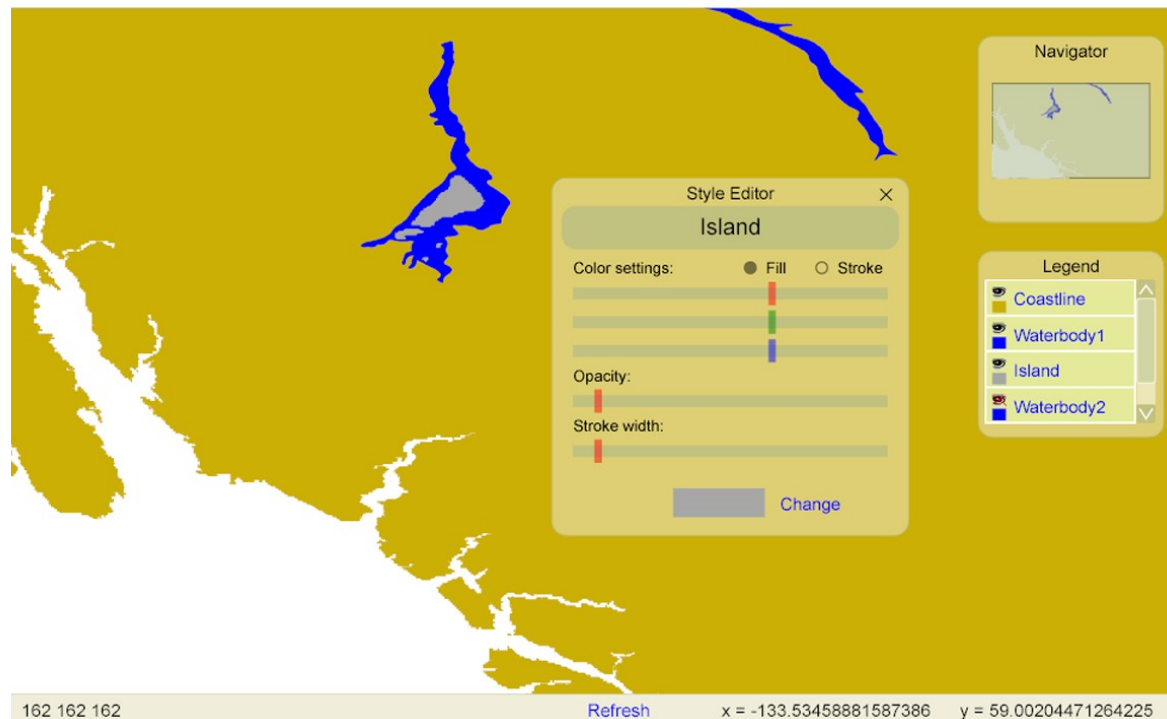
WFS

- OpenGIS Consortium (OGC)
- Web Feature Service
- Web Service protocol for querying and retrieval of geodata
- NOT maps as images, but as vector/attribute data
- Used (or planned to use) as the main interface for querying, retrieval and updating in OneMap



OneMap Gateway

- GML viewer: Browser base SVG client
- XML architecture

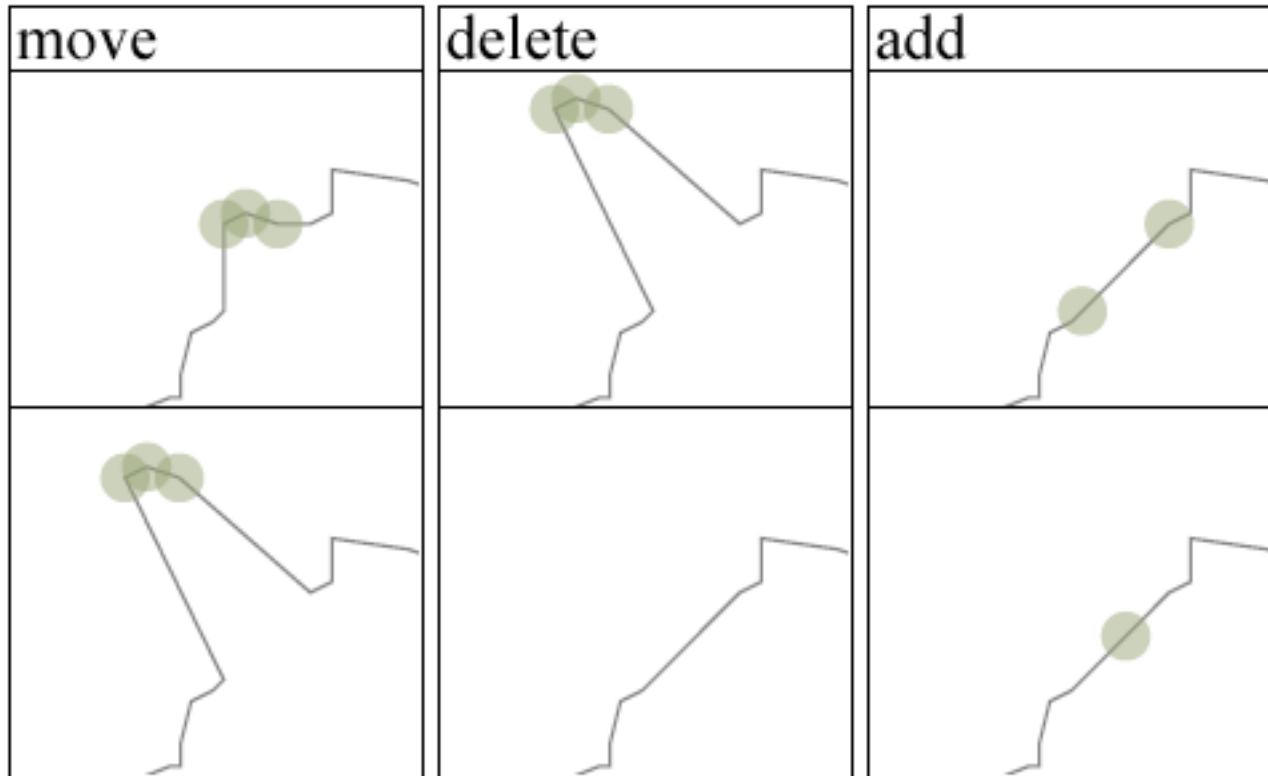


GML Editor

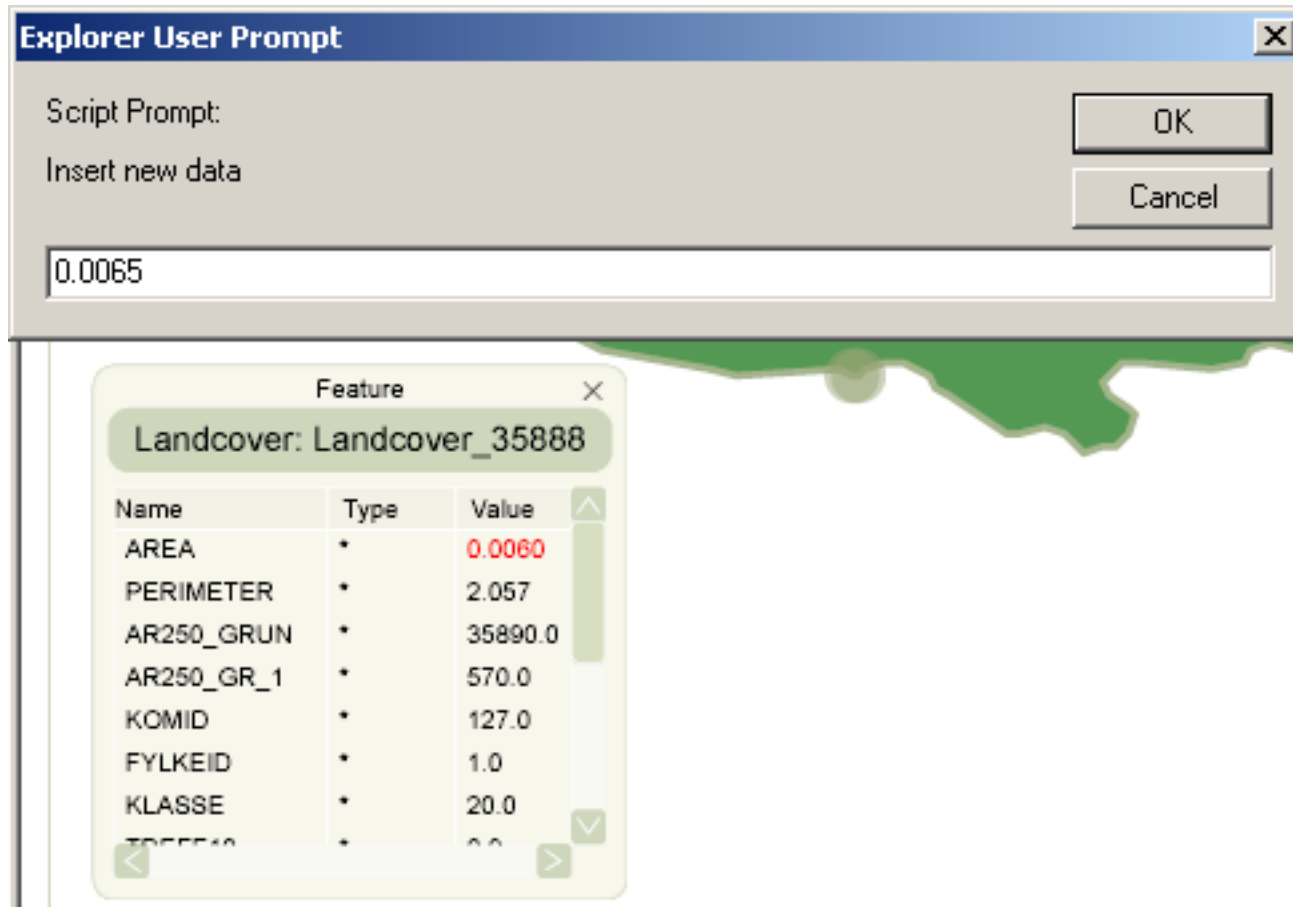
- Architecture
- Move, delete, add point(s)
- Edit properties
- Layer management
- History
- Navigation
- Resizing
- Zoom/pan



Geometry Editing



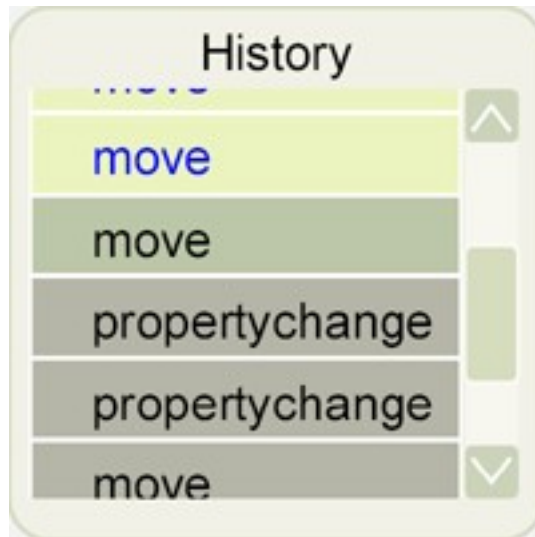
Properties Editing



Layer Management



History and Navigation



Resizing



Window Management

The screenshot illustrates a GIS application interface with several windows and their dimensions:

- Map Area:** Dimensions are $(0, 0)$ at the top-left, $(0, 480)$ at the bottom-left, and $width=100\%$ at the bottom.
- Feature Table:** A window titled "Feature" with dimensions $width=250$ and $height=250$. It displays a table for "Landcover: Landcover_35864".
- Navigator:** A window titled "Navigator" with dimensions $width=130$ and $height=130$, located at $(0, 0)$ to $(130, 130)$.
- History:** A window titled "History" with dimensions $width=130$ and $height=130$, located at $(0, 0)$ to $(130, 130)$. It shows a "Start" button.
- Layer:** A window titled "Layer" with dimensions $width=130$ and $height=130$, located at $(0, 0)$ to $(130, 130)$. It shows "New" and "Old" layers.
- Status Bar:** Located at the bottom, it contains the text "Doubleclick on a point that you have selected to view feature info", coordinates $x = 11.180644320518345$ and $y = 59.44162822$, and a small $(800, 20)$ label.

Name	Type	Value
AR250_GRUN	•	35866.0
AR250_GR_1	•	564.0
KOMID	•	127.0
FYLKEID	•	1.0
KLASSE	•	80.0
TREFF10	•	0.0
TREFF20	•	0.3
TREFF30	•	...

OneMap Clearinghouse

- Submission of new data
- Modifications of existing data
- Peer review based
- Review process by online editing of integration maps
- Demo



Final Remarks

- The development of the GML Editor has proved that lightweight client side browsers and editors may very well be implemented with the combination of SVG plug-ins and scripting.
- The open nature of this programming approach makes it easy to learn, borrow and modify from a wide variety of existing applications.
- An XML based development environment makes it possible to choose from a large number of low cost (or free) and high quality tools.
- The main bulk of the implementation has been carried out by a team of students, in short time, with no or little prior knowledge of SVG, digital mapping or even XML technologies, but with a solid foundation in traditional computer science and programming in general.



DO YOU...

- Have some free geodata?
- Have some free, open software?
- Have some ideas?
- Have some students in need of interesting topics for their projects and theses?
- Have a spare server or two?
- Want to have some fun?



**Then, join the
OneMap community!**

www.onemap.org