

Initiation and Planning: Prototyping the Copper River Knowledge System



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Origin of CRKS

- CRKS initiated in 2003 by Ecotrust Copper River Program located in Cordova, Alaska
- Need identified for data, information, and resource sharing amongst disparate stakeholders in the Copper River

Watershed

- native groups
- ecological managers
- scientists
- commercial/sport fishermen



CRKS Version 1.0

- Compilation of biological, physical and human-use GIS data on Copper River Watershed
- Final products of initial effort
 - CD of data layers (shapefiles) and ArcReader maps
 - web pages for online access to data layers
- CRKS Version 1.0 published in 2005



Origin of CRKS data portal

- Ecotrust Copper River Staff wanted a functional and interactive gateway for CRKS data
- Technological landscape had changed since 2004
 - Geospatial interoperability protocols had matured (WFS, WMS)
 - Open Source GIS data and visualization servers had matured (Geoserver and Mapserver)
 - Fast, cheap hardware
 - Cost effective to develop a system with a high level of functionality
- Exploratory prototype data portal built as first step
 - bottom up vs. top down approach

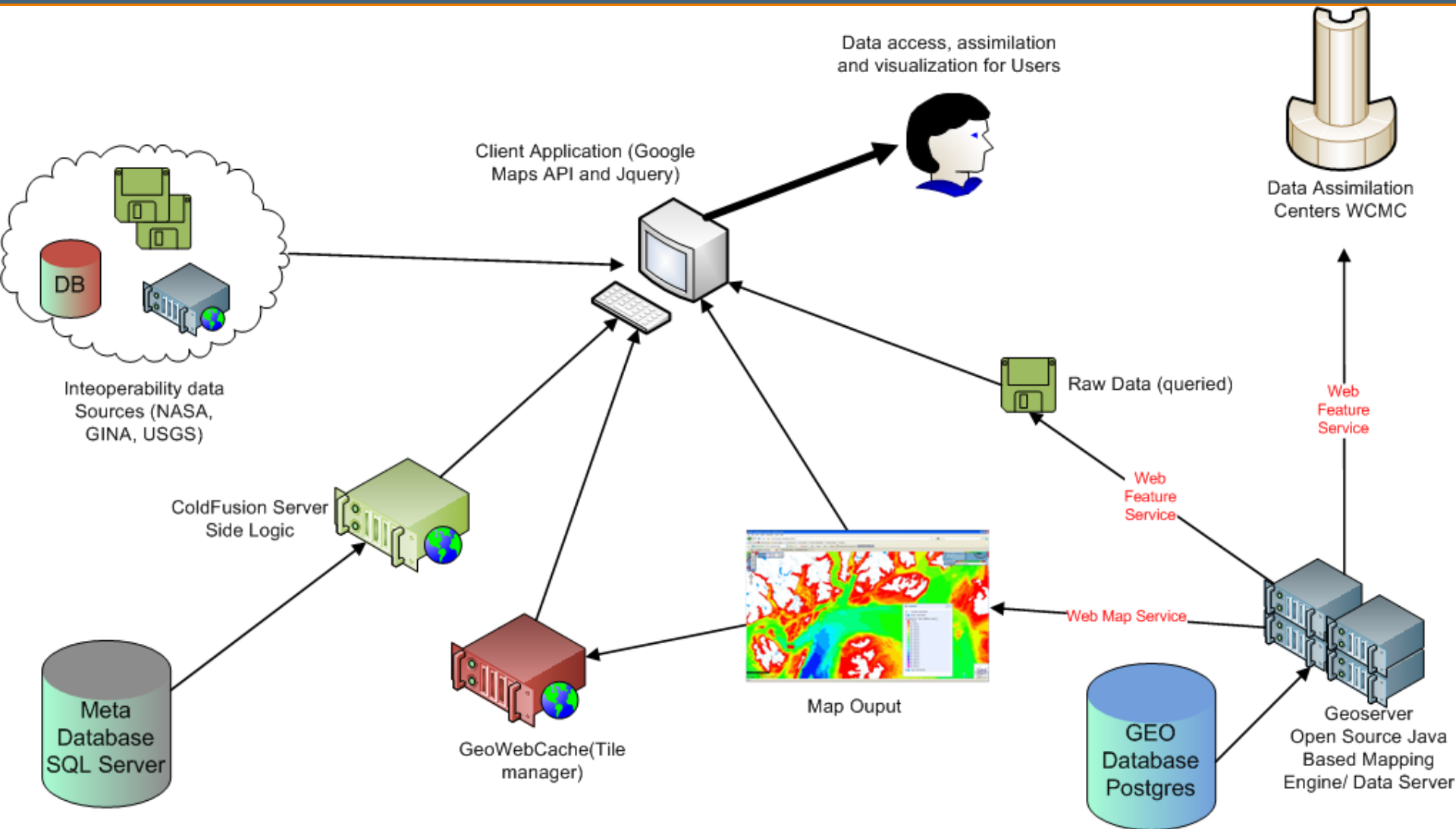
Strategy: Prototype as first step in portal development process

- Prototype greatly assists with project initiation
 - Provides staff with opportunity to explore technology and plan for production system
 - Allows for accurate long term cost estimates
 - Provides a rough draft to be revised, rather than monolithic approach
 - Informs user assessment and formal requirements analysis
 - Give users and stakeholders a glimpse of what is possible and stimulates feedback
 - Useful for partnership building, securing funding sources and guiding business plan development
 - Based on actual functioning system, not vaporware
 - Program “sells itself”

Prototype Functional Requirements

- Provide access to potentially large and complex GIS datasets
 - Need rapid visualization and comparison
 - Data must be filterable/queryable by space and time
 - Users need access to raw dataset (or filtered subsets) in a variety of accessible formats (Excel, shapefiles, csv)
- Provide intuitive navigation and simple interface for users of varying degrees of technological expertise
- Connect to remote data sources via interoperability protocols
- Allow remote systems to access internally stored data via interoperability protocols

Technology and Data Flow Schematic



Anticipated Future Development

- Functional improvements
- Data products
- Provide useful access to metadata
- Streamline user interface
 - Better data browsing and searching
- Add more raw data download formats
- Allow for user controlled symbology
- Generate print quality maps

Next Planning Steps - 2010

- Formal user survey
 - Feedback on prototype functionality, usability
 - Additional datasets
- Formal business plan
 - Long term funding – aim low
 - Remote, collector managed datasets
- Cultivate remotely accessible datasets
 - Preach interoperability, openness
 - Help agencies set up data management frameworks with interoperability protocols baked in