



State of Vermont

**VT GIS Data Warehouse
Redesign & Rebuild**

Project Charter

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Revision History

Version	Date	Author(s)	Revision Notes
0.1	6/10/2013	Steve Sharp, VCGI	1 st draft
0.2	6/18/2013	Steve Sharp, VCGI	2 nd draft integrating feedback from Warehouse Workgroup
0.3	6/24/2013	EGC	Final version based on EGC feedback
0.4	10/17/2013	Steve Sharp, VCGI	Revised draft to address changes to timeline and other issues related to DII Open Data Pilot
0.5	10/18/2013	Steve Sharp, VCGI	Made additional edits to address VT Digital Records Preservation Project initiated by Secretary of State's Office.
0.6	10/23/2013	Steve Sharp, VCGI with EGC input	Modified Project Scope: Defined Short-Term and Long-Term scope and adjusted plan to align with revised scope.

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Project Overview

The VT Center for Geographic Information (VCGI) currently hosts a geospatial Data Warehouse (herein referred to as Warehouse) which allows users to leverage geospatial information and services. The current Warehouse is over a decade old, and lacks the capabilities and functionality that end users and publishers need and expect. This project endeavors to implement targeted enhancements to the existing Warehouse in the short-term, and long-term to design and build a modern VT Geospatial Data Warehouse (herein referred to as “product”) supporting the needs of users and publishers.

Project Vision Statement: *Connecting publishers and consumers in a user-driven portal that facilitates finding, exploring, contributing, and consuming geospatial information.*

Project Scope

This project includes a Short-Term Scope and a Long-Term Scope.

Short-Term

In Scope:

- Identify and implement targeted enhancements to VT’s existing¹ Geospatial Data Warehouse solution to improve usability for both users and publishers.

Out of Scope:

- Integration with VT’s Open Data Project.
- Integration with VT’s Digital Records Preservation Project.
- Complete redesign/rebuild of VT’s existing Geospatial Data Warehouse.

Long-Term

In Scope:

- Build a new VT Geospatial Data Warehouse solution that meets the needs of users² and publishers³.
- Build a new VT Geospatial Data Warehouse solution that provides access to geospatial data and services⁴ within the public domain.
- Build a new VT’s Geospatial Data Warehouse solution that interoperates with VT’s Open Data Portal and Digital Records Archival/Preservation system.

¹ Hosted by VCGI at <http://vcgi.vermont.gov/warehouse>

² “users” include individuals, businesses, and organizations needing access to geospatial data (*PRELIMINARY DEFINITION*).

³ “publishers” include VT state, regional, local government, academic institutions and others willing to publish data (*PRELIMINARY DEFINITION*).

⁴ “services” includes geospatial web services available through a machine readable API.

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Out of Scope:

- Ability to download/connect-to secure or confidential data services.
- Charging for data products beyond what is allowed under VT Public Record Law (1 V.S.A. § 316⁵).

Project Deliverables (Short and Long-Term):

- **Project Charter** – Craft a document that outlines the scope, objectives, stakeholders, and participants including their roles and responsibilities.
- **User Stories** - User stories are short, simple description of features told from the perspective of the person who desires the new capability, usually a user or customer of the system. These are equivalent to requirements. They will be ranked.
- **Define Stakeholder Community** – Clearly define the stakeholder community which has a vested interest in the outcome of this project, including “users” and “publishers” of geospatial data and services.
- **Competitive Analysis** – Evaluate other geospatial and “open data” portals and document capabilities.
- **Product Backlog** - The Scrum product backlog is a prioritized features list, containing short descriptions of all functionality desired in the product. Combine “user stories” and results of competitive analysis into the product backlog.
- **Evaluate COTS Solutions and Software Platforms** – Evaluate existing Commercial-Off-The-Shelf (COTS) solutions and software platforms⁶ to determine which of the “features” defined in the product backlog they support. Kick the tires and do some testing.
- **Targeted Enhancements to Existing GIS Warehouse** – Identify and implemented targeted enhancements to VT’s existing GIS Data Warehouse. Select a subset of elements from the Product Backlog. Enhancements such as improved search, clip & zip, data preview, etc.

Integration with VT’s Open Data and Digital Records Preservation Projects

- **Open Data Project Team** – Work with DII to establish an Open Data Project TEam with a mission to craft a Open Data Project Charter and implement the VT Open Data Project. EGC representatives (state and non-state) should have representation.
- **Digital Records Preservation Project Team** – Add appropriate representation from EGC membership to the Digital Records Preservation Pilot Team (iSTART).

⁵ <http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=01&Chapter=005&Section=00316>

⁶ “A computing platform includes a hardware architecture and a software framework (including application frameworks), where the combination allows software to run. Typical platforms include a computer architecture, operating system and Runtime libraries. (http://en.wikipedia.org/wiki/Computing_platform)

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- **VT Open Data Project Charter** – Consider integrating requirements (users stories) from the VT GIS Data Warehouse project and Digital Records Preservation into VT’s Open Data Project Charter.
- **VT Digital Records Preservation Project Charter** – Consider requirements (users stories) from the VT GIS Data Warehouse project and Open Data Project into VT’s Digital Records Preservation Project Charter.
- **Product Requirements for an Integrated Solution** – Use the results from the DII Open Data Pilot Project (Socrata pilot) and VSARA Digital Records Preservation Pilot to develop a prioritized list of requirements/features containing short descriptions of all functionality desired from a VT Open Data Portal and Digital Records Repository.
- **Statement of Work and/or RFP** – Craft and release a Statement of Work and/or RFP in alignment with the integrated Product Requirements.
- **Select Contractor** – Select a contractor.

If the new VT GIS Data Warehouse is built independently from VT’s Open Data and VT’s Digital Records Preservation projects

If Outsourced

- **Statement of Work** – If the project is anticipated to cost less than \$150,000 and the requirements (as defined in the Product Backlog) are consistent with the requirements defined in the Department of Information and Innovation’s “Enterprise Geographic Information Service⁷” category, then a Statement of Work could be drafted and distributed to the list of pre-approved vendors⁸.

OR

- **Write and Release RFP** – Craft and release an RFP that encapsulates the requirements defined in the Product Backlog.
- **Select Contractor** – Select a contractor who will work with the Project Team to successfully build and deploy the product.

If done In-house (VCGI)

- **Select COTS Solution and/or Platform** – Select the best option based on the results of the COTS/Platform evaluation.
- **Sprint Backlog (Scrum)** - The sprint backlog is the list of tasks identified by the Scrum team during sprint planning. During sprint planning, the team selects some number of product backlog items, usually in the form of user stories, and identifies the tasks

⁷ <http://dii.vermont.gov/pm/cptemplates/vendor/details#Geographic>

⁸ <http://dii.vermont.gov/pm/cptemplates/vendor#Geographic>

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necessary to complete each user story. Most teams also estimate how many hours each task will take someone on the team to complete.

- **Release BETA** – Release a BETA version of the product to a beta user group. Collect feedback and roll into revised product backlog.
- **Finalize and Release Product** – Use the revised product backlog to make any final changes to the product prior to final release.

Project Estimated Effort/Cost/Duration

Estimated Cost:

- **Short-Term:** To be determined
- **Long-Term:** To be determined

Estimated Effort Hours:

- **Short-Term:** To be determined
- **Long-Term:** To be determined

Estimated Duration:

Milestone	Date
Kickoff Meeting – EGC Data Warehouse Workgroup	5/20/2013
Project Charter	6/11/2013
User Stories (Scrum)	6/25/2013
Define Stakeholder Community	6/25/2013
Competitive Analysis	7/9/2013
Product Backlog (Scrum)	7/9/2013
Evaluate COTS Solutions and Software Platforms. Test top candidates.	12/15/2013
Targeted Enhancements to Existing GIS Warehouse	2/1/2014

Integration with VT's Open Data and Digital Records Preservation Projects

Milestone	Date
Open Data Project Team	1/15/2014?
Digital Records Preservation Project Team	1/15/2014?
VT Open Data Project Charter	?
VT Digital Records Preservation Project Charter	?
Product Requirements for an Integrated Solution	?
Write RFP or Statement of Work	?
Select Contractor	?
Release BETA	?
Finalize and Release Product	?

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If the new VT GIS Data Warehouse is built independently from VT's Open Data and VT's Digital Records Preservation projects

If outsourced

Milestone	Date
Statement of Work	11/1/2014
Write and Release RFP	11/1/2014
Select Contractor	12/1/2014
Release BETA	3/1/2015
Finalize and Release Product	5/1/2015

If done in-house

Milestone	Date
Select COTS Solution and/or Platform	10/1/2014
Release BETA	2/1/2015
Finalize and Release Product	4/1/2015

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Project Assumptions

In order to identify and estimate the required tasks and timing for the project, certain assumptions and premises need to be made. Based on the current knowledge today, the project assumptions are listed below. If an assumption is invalidated at a later date, then the activities and estimates in the project plan will be adjusted accordingly.

- VCGI and the EGC Data Warehouse Workgroup will have the necessary human and financial resources to successfully complete this project.
- VCGI is mandated under its enabling legislation to facilitate access to Vermont's geospatial information.
- VT State Agencies will help support the development and maintenance of a VT Geospatial Data Warehouse solution.
- VT Department of Information and Innovation (DII) will support the development and maintenance of a VT Geospatial Data Warehouse solution.
- Any initiative by the VT Department of Information and Innovation (DII) to implement a VT Open Data Portal will be done in a manner that supports the development and maintenance of a VT Geospatial Data Warehouse solution, and addresses the requirements defined by the State's Enterprise GIS Consortium.

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Project Risks

Project risks are characteristics, circumstances, or features of the project environment that may have an adverse effect on the project or the quality of its deliverables. Known risks identified with this project have been included below. A plan will be put into place to minimize or eliminate the impact of each risk to the project.

Risk Area	Level (H/M/L)	Risk Plan
1. Insufficient human resources and/or financial resources to successfully complete project	M	<p>Make it clear to management ASAP what is needed in terms of human and financial resources once it is clear.</p> <p>Make it clear to management when/if insufficient resources are allocated, and what that means for the project.</p> <p>Re-scope the project to reduce the cost.</p>
2. Project Team isn't able to agree on "required" vs "optional" functional requirements (user stories)	M	Remind project team that they must "prioritize" the product backlog into "required" vs "optional".
3. Project Team isn't able to meet project deadlines	H	Give team members as much heads up as possible so they have time to work on things.
4. Changes at VCGI such as key personnel changes or move into State government	M	<p>Re-scope project</p> <p>Adjust project schedule</p>
5. Bureaucratic and/or legal complications get in the way of progress	M	Keep DII, VCGI Executive Director, and VCGI informed of project.
6. Unforeseen catastrophic event hinders productivity	L	<p>Adjust project schedule</p> <p>Articulate that project will help Emergency Management operations</p>
7. Uncertainty regarding the State's plans for an Open Data initiative and how that might impact this project	H	Encourage the State to clarify its plans with regard to Open Data policies and associated initiatives

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<p>8. Merging the VT GIS Data Warehouse Project with VT's Open Data and Digital Records Preservation Projects will delay delivery of a new GIS Data Warehouse by at least 12-24 months.</p>	<p>H</p>	<p>Encourage DII/VSARA to work with the EGC and with each other on their Open Data and Digital Records Preservation Projects</p>
<p>9. DII and possibly others would not support an independent geodata.vt.gov portal from a data.vt.gov portal</p>	<p>H</p>	<p>Maintain an open dialogue between EGC and DII to address this issue</p> <p><i>Note: This assumes a decision is made NOT to integrate the new GIS Data Warehouse with VT's Open Data Portal.</i></p>
<p>10. VCGI and the EGC are unable to identify and implemented a targeted set of enhancements to the existing VT GIS Data Warehouse</p>	<p>L</p>	<p>Move quickly to identify targeted but limited enhancements that can be implemented fairly easily and quickly.</p> <p>Make this the top priority for VCGI and the EGC Data Warehouse Workgroup.</p>
<p>11. Merging the VT GIS Data Warehouse Project with VT's Open Data and Digital Records Preservation Projects could jeopardize the vision of a "user-driven" portal</p>	<p>M</p>	<p>Make sure that VSARA and DII are aware of this vision.</p> <p>Support development of a community Open Data portal outside of state government</p>

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Project Team (Scrum Team)

This project will utilize an Agile/Scrum project management approach.

Agile / Scrum: “Scrum is an iterative and incremental agile software development framework for managing software projects and product or application development. Its focus is on "a flexible, holistic product development strategy where a development team works as a unit to reach a common goal" as opposed to a "traditional, sequential approach". (Wikipedia.org)

Scrum Team - Roles & Responsibilities: The following are core team roles. *Team members must commit to allocating the necessary time and resources to support their role.*

- **Product Owner:** VCGI (Leslie Pelch). “The Product Owner represents the stakeholders and is the voice of the customer. He or she is accountable for ensuring that the team delivers value to the business.” (Wikipedia.org)
- **Development Team:** VCGI + Partners + Contractors. “The Development Team is responsible for delivering potentially shippable product increments at the end of each Sprint. A Development Team is made up of 3–9 people with cross-functional skills who do the actual work (analyze, design, develop, test, technical communication, document, etc.).” (Wikipedia.org)
- **Scrum Master:** VCGI (Steve Sharp). “Scrum is facilitated by a ScrumMaster, who is accountable for removing impediments to the ability of the team to deliver the sprint goal/deliverables. The ScrumMaster is not the team leader, but acts as a buffer between the team and any distracting influences. The ScrumMaster ensures that the Scrum process is used as intended. The ScrumMaster is the enforcer of rules.” (Wikipedia.org)

Stakeholder Representatives & Members of the EGC’s Data Warehouse Workgroup

NAME	ORGANIZATION
Peter Telep	ANR
Jarlath O’Neil-Dunne	UVM
Jim Duncan	UVM / VMC
Jeremy McMullen	E911
Daniel Currier	CVRPC
Melissa Prindiville	ACCD
Lesley Bean	VTrans
Steve Sharp	VCGI
Leslie Pelch	VCGI
Erik Engstrom	ANR
Ivan Brown	VCGI
Joanna Grossman	AG
Pete Young	VDH
Harry Bell	DII
Scott Reilly	SEC

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Approvals

Role	Name and Org	Signature	Date
Product Owner	Leslie Pelch, VCGI		
Scrum Master	Steve Sharp, VCGI		
VCGI Executive Director	David Brotzman, VCGI		