CSC431

Download of Public-facing Data

Software Requirements Specification

Team #3

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Version History

Version	Date	Author(s)	Change Comments
1	February 24, 2018	xxx	xxx

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1 System Requirements

1.1 Functional Requirements

1.1.1 Download of Public-facing Data

Table 1: Download of Public-facing Data

Title	Download of Public-facing Data
Description	User can choose an output format for queried data and download locally to computer.
Source Scenario	FR1
Priority	Mandatory: 0
Precondition(s)	List of layers consisting of cadastral, multimedia, and workshop data is passed to the server. Output format is given: one of `GeoJSON`, esri `shapefile`, `kml`, or `CSV`
Postcondition(s)	Data is packaged into a zip file and sent back to the browser for local download.
Use Case Diagram	

1.2 Non-Functional Requirements

1.2.1 Minimum Simultaneous Downloads

Table 2: Minimum Simultaneous Downloads

Title	Minimum Simultaneous Downloads
Description	The download server must handle up to 3 simultaneous download requests.
Source Scenario	NFR1
Priority	High: 1
Applicable FR(s)	FR1

2 System Constraints

2.1 Tool Constraints

2.1.1 Web Application Framework Constraint

References:

- `https://nodejs.org`
- `https://expressjs.com/`

Table 3: Web Application Framework Constraint

Title	Web Application Framework Constraint
Description	We will be using Express/Node.js as the framework for the backend. This will allow for greater ease of deployment on the server-side.
Priority	Mandatory: 0

Table 4: Table title

Title	INSERT CONVERSION PACKAGE
Description	A one or two sentence description
Priority	Priority from 0 (highest) - 5 (lowest)

Table 5: Table title

Title	INSERT PACKAGING TOOL
Description	A one or two sentence description
Priority	Priority from 0 (highest) - 5 (lowest)

2.2 Language Constraints

2.2.1 Backend REST Framework

Table 6: Backend REST Framework

Title	Backend REST Framework
Description	Because we are using the Express framework, Javascript is a requirement. Therefore, the backend will be written in Javascript.
Priority	Mandatory: 0

2.3 Platform Constraints

2.3.1 Web Service Platform

Table 7: Web Service Platform

Title	Web Service Platform
Description	Express/Node.js is, fortunately, platform independent. Further, a platform constraint has not been set by the client for this team.
Priority	Lowest: 5

2.4 Hardware Constraints

As we are using Amazon EC2 for deployment, our hardware constraints are set by the free-tier package Amazon provides.

References:

- `https://aws.amazon.com/ec2/`

2.4.1 Storage Constraints

Table 8: Storage Constraints

Title	Storage Constraints
Description	Our storage constraint is set by Amazon EC2. However, storage constraints are of minimal priority for this team as there will be nothing stored on disk.
Priority	Lowest: 5

2.4.2 Computation Constraints

Table 9: Computation Constraints

Title	Computation Constraints
Description	Our computation constraint is also set by Amazon EC2. Its free-tier service is ample for this team as our service primarily converts and packages data.
Priority	Low: 4

2.5 Network Constraints

2.5.1 Access Database

Table 10: Access Database

Title	Access Database
Description	Our service must be able to query a PostGRES database over the network in order to fetch geospatial and multimedia data.
Priority	Mandatory: 0

2.5.2 Download Response

Table 11: Download Response

Title	Download Response
Description	Our service must be able to package and send back data to the browser over HTTP protocol for local download.
Priority	Mandatory: 0

2.6 Deployment Constraints

2.6.1 AWS EC2 Deployment

Table 12: AWS EC2 Deployment

Title	AWS EC2 Deployment
Description	The web service will be deployed on Amazon EC2. Amazon provides a free-tier service for 12 months that will last the duration of the semester.
Priority	Medium: 3

2.7 Transition & Support Constraints

2.7.1 Requirement Title

Table 13: Table title

Title	Insert title
Description	A one or two sentence description
Priority	Priority from 0 (highest) - 5 (lowest)

2.8 Budget & Schedule Constraints

2.8.1 Requirement Title

Table 14: Table title

Title	Insert title
Description	A one or two sentence description
Priority	Priority from 0 (highest) - 5 (lowest)

2.9 Miscellaneous Constraints

2.9.1 Requirement Title

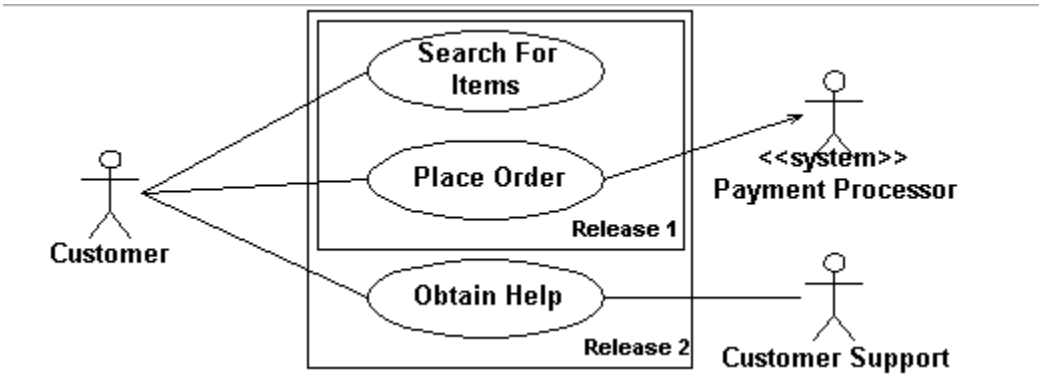
Table 15: Table title

Title	Insert title
Description	A one or two sentence description
Priority	Priority from 0 (highest) - 5 (lowest)

3 Requirements Modeling

3.1 Requirement Title

Figure 1: Sample Use Case



4 Evolutionary Requirements

4.1 Functional Requirements

4.1.1 Requirement Title

Table 16: Table title

Title	Insert title
Description	A one or two sentence description
Priority	Priority from 0 (highest) - 5 (lowest)
Precondition(s)	What needs to happen before
Postcondition(s)	What happens as a result
Use Case Diagram	Link or number, if present

4.2 Functional Requirements

4.2.1 Requirement Title

Table 17: Table title

Title	Insert title
Description	A one or two sentence description
Priority	Priority from 0 (highest) - 5 (lowest)
Applicable FR(s)	What functional requirement(s) is this applicable to?