

COS 397: Computer Science Capstone I

System Requirements Specification Template
(Adapted from Susan Mitchell and Michael Grasso)



Geospatial Data Portal
System Requirements Specification

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1. Introduction

The goal of this project is to provide a dynamic hostable web application for Blue Marble Geographics. This web portal will provide Blue Marble Geographics with a way to supply its clients with a web-based database that will allow its users or groups of users to manage, analyze, organize, characterize, render and visualize their geospatial data. Additionally, this web portal will enable Blue Marble Geographics system administrators to monitor each individual or group of users' data usage to charge their customers for using their service correctly. Lastly, this is a capstone project for Blue Marble Geographics, in partial fulfillment of the Computer Science BS degree for the University of Maine.

1.1 Purpose of This Document

The purpose of this document is to provide a detailed description of a dynamic web portal. This document will give an overall description of the web portal. Additionally, It will detail the purpose as well as the various features of the system to include the interfaces, what the system will do, and assumptions that are needed for the web portal.

The intended readership of this document is the project manager, the quality assurance manager, system developers, and system owner. Furthermore, this document is meant for all stakeholders to analyze the web portal prior to deployment to further their understanding of the system's functionalities.

1.2 References

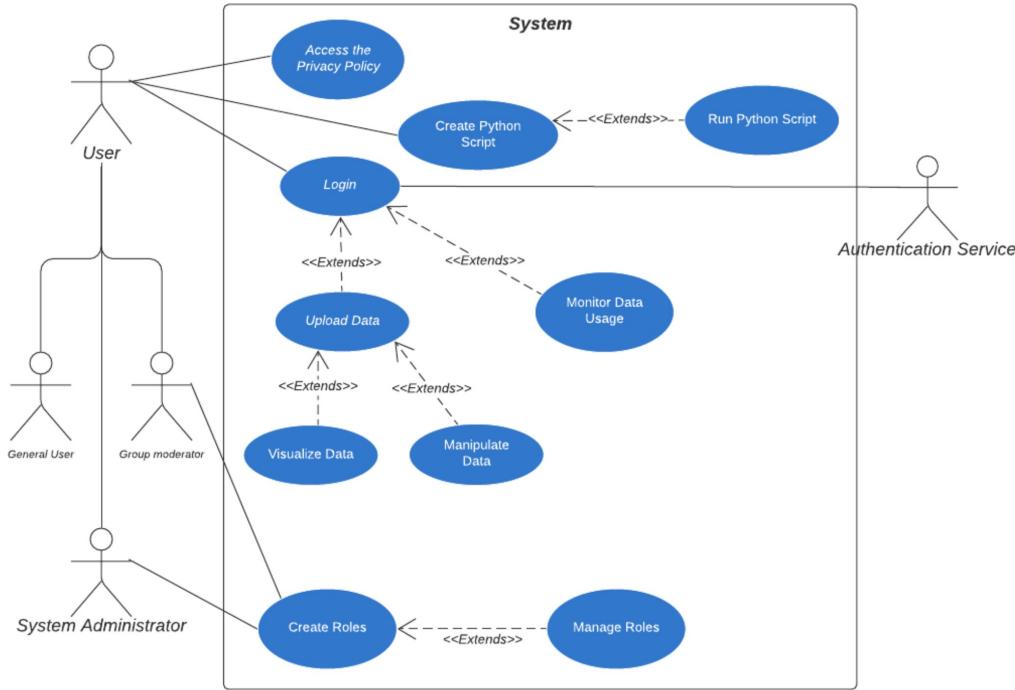
1. Blue Marble Geographics. (2021). Global Mapper Pro (23.0) [Desktop application]. Blue Marble Geographics.
<https://www.bluemarblegeo.com/global-mapper-pro/>
2. Lucid (2021). Lucid Visual Collaboration Suite [Online app]. Online.
<https://lucid.app/>

1.3 Purpose of the Product

The dynamic web portal will allow its users to upload their geospatial data to an online database. Once in the database, they will have the ability to share, manipulate and visualize their data with others. Additionally, users will be able to automate this process by using python scripts through a built-in python script editor. Blue Marble Geographics does have a desktop application but does not currently have an online platform to be able

to do this for their customer base, and there is currently space in the marketplace for this type of online tool to succeed.

1.4 Product Scope



This section identifies the boundary between the system under development and the outside world. That is, it identifies what is included in the system and what is not. Typically, a context diagram best describes the boundary. However, because the systems in this class are small, we will use a combination top-level use case and context diagram. In addition to referring the reader to the diagram, give a brief summary of how it illustrates the system's scope. Make sure to number the use cases in the diagram.

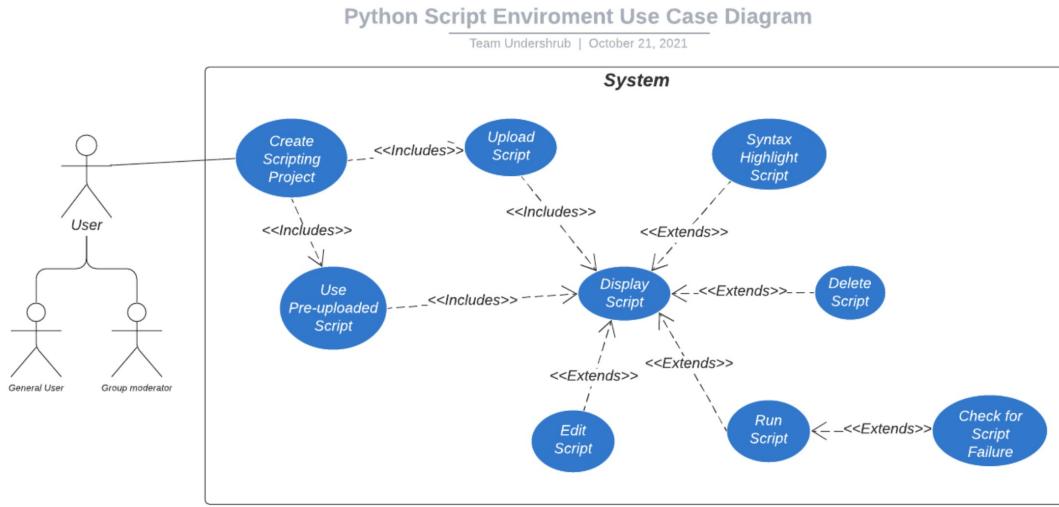
The dynamic web portal will be able to store, manipulate and provide an online medium for users. It will not be used as a form of social interaction between users outside of a group or between the Blue Marble Geographics company.

Use *The Unified Modeling Language(UML)*: A reference is *UML Distilled*, by Martin Fowler.

2. Functional Requirements

2.1 Use Case Specification

The Use Case diagram table template was derived from Alistair Cockburn.



Number	1								
Name	Create Scripting Project								
Summary	A user creates a python script								
Priority	4								
Preconditions	A user needs to be authenticated								
Postconditions	A user creates a scripting project								
Primary Actor	Users with an account								
Secondary Actors	None								
Trigger	User clicks the create Python script button								
Main Scenario	<table border="1"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>User is authenticated</td> </tr> <tr> <td>2</td> <td>User clicks on create python script</td> </tr> <tr> <td>3</td> <td>Python editor appears on screen</td> </tr> </tbody> </table>	Step	Action	1	User is authenticated	2	User clicks on create python script	3	Python editor appears on screen
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2	User clicks on create python script								
3	Python editor appears on screen								
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Step	Branching Action								
2a	User is prompted to upload or use pre-uploaded script : 2a1. User clicks an option								
Open Issues									

Number	2	
Name	Use Pre-uploaded Script	
Summary	This option allows a user to load an already existing script	
Priority	4	
Preconditions	A python script must already exists	
Postconditions	The python script is loaded and displayed	
Primary Actor	A paid user	
Secondary Actors	Python Scripting Environment	
Trigger	The user selects use Pre-uploaded script	
Main Scenario	Step	Action
	1	The user selects the use pre-loaded script option
	2	The user selects the script they want to use
	3	The system loads the script
	4	The system displays the script
Extensions	Step	Branching Action
	1a	The user selects the script they want to use : 1a1. The user selects the script they want to use from a list
Open Issues		

Number	3	
Name	Upload Script	
Summary	The user uploads a script they wrote	
Priority	4	
Preconditions	The user clicks the upload script button after writing a script	
Postconditions	The users script is uploaded and save to the system	
Primary Actor	A paid user	
Secondary Actors	Python script environment	
Trigger	A user clicks the upload script button	
Main Scenario	Step	Action
	1	A user writes a script in the python script editor
	2	The user navigates to the upload script button
	3	The user clicks the upload script button
	4	The system uploads and saves the script to the database
Extensions	Step	Branching Action
Open Issues		

Number	4								
Name	Display Script								
Summary	This brings up all scripts owned by the user								
Priority	4								
Preconditions	A python script must be already created								
Postconditions	All scripts owned by the user will be displayed on screen								
Primary Actor	A paid user								
Secondary Actors	Python script environment								
Trigger	The user opens the Python script editor								
Main Scenario	<table border="1"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>The user navigates to the python script editor</td> </tr> <tr> <td>2</td> <td>the user clicks the python script editor button or menu option</td> </tr> <tr> <td>3</td> <td>The python script editor window appears on screen</td> </tr> </tbody> </table>	Step	Action	1	The user navigates to the python script editor	2	the user clicks the python script editor button or menu option	3	The python script editor window appears on screen
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Step	Branching Action								
Open Issues									

Number	5								
Name	Syntax Highlight Script								
Summary	Specific portions of code written by the user is highlighted such as keywords								
Priority	5								
Preconditions	Text must be present in the python script editor								
Postconditions	Text will be highlighted								
Primary Actor	Paid user								
Secondary Actors	The user must be inside the python script editor environment and script editor								
Trigger	The user starts to type text								
Main Scenario	<table border="1"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>The user creates or edits a script</td> </tr> <tr> <td>2</td> <td>The user types in the script editor window</td> </tr> <tr> <td>3</td> <td>The script editor syntax highlighter highlights pre-specified text</td> </tr> </tbody> </table>	Step	Action	1	The user creates or edits a script	2	The user types in the script editor window	3	The script editor syntax highlighter highlights pre-specified text
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Step	Branching Action								
1a	The user creates or edits a script : 1a1. Create Scripting Project 1a2. Edit Script								
Open Issues									

Number	6	
Name	Edit Script	
Summary	Allows a user to be able to edit a script	
Priority	4	
Preconditions	An existing script is already present	
Postconditions	The selected script has been edited	
Primary Actor	A paid user	
Secondary Actors	Python script environment	
Trigger	A user selects a script and clicks the edit button	
Main Scenario	Step	Action
	1	The user selects an already available script from their list
	2	The user navigates to the edit script button
	3	The user clicks the edit script button
Extensions	Step	Branching Action
Open Issues		

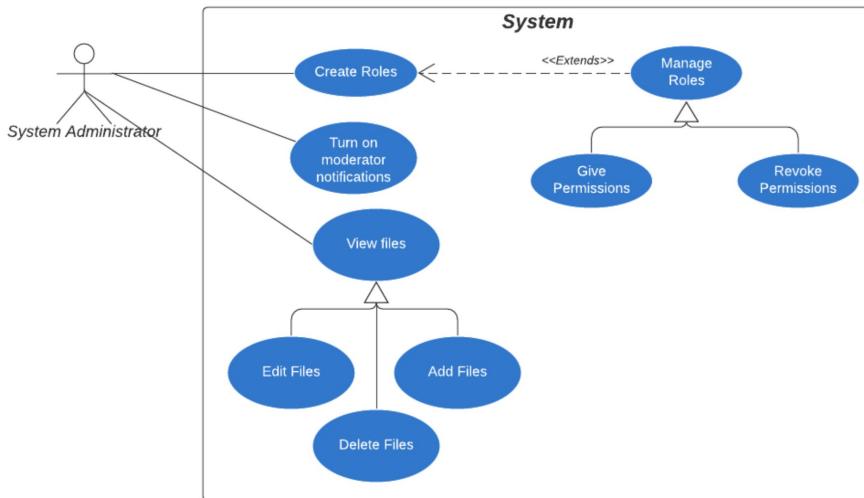
Number	7	
Name	Delete Script	
Summary	The user deletes their script	
Priority	3	
Preconditions	The user is in the python editor environment and clicks the delete script button	
Postconditions	The users script is deleted	
Primary Actor	A paid user	
Secondary Actors	Python Script Editor	
Trigger	A user clicks the delete script button	
Main Scenario	Step	Action
	1	The user selects a python script
	2	The user clicks the delete script button
	3	The user receives confirmation that the script was deleted
Extensions	Step	Branching Action
Open Issues		

Number	8	
Name	Run Script	
Summary	Allows a user to run a python script	
Priority	4	
Preconditions	A user is in the python script environment	
Postconditions	A users script will have been run	
Primary Actor	Paid user	
Secondary Actors	Python Script environment	
Trigger	A user clicks the run script button	
Main Scenario	Step	Action
	1	A user creates a python script
	2	The user clicks on the run script button
	3	The user receives a result
Extensions	Step	Branching Action
	3a	The user receives a result : 3a1. Check for Script Failure
Open Issues		

Number	9	
Name	Check for Script Failure	
Summary	The system checks for the failure of a script due to syntax or other errors	
Priority	4	
Preconditions	The run script button is clicked	
Postconditions	Returns a result upon success or failure upon an error	
Primary Actor	Paid user	
Secondary Actors	Python Script environment	
Trigger	A user clicks the run script button	
Main Scenario	Step	Action
	1	A user clicks the run script button
	2	The python parser attempts to parse the code
	3	The result is returned
Extensions	Step	Branching Action
	3a	The result is returned: 3a1. The parser returns the result if no errors 3a2. The parser returns an exception and description if there is an error
Open Issues		

Site Administrator Use Case Diagram

Team Undershrub | October 21, 2021



Number	10	
Name	Create Roles	
Summary	System Administrator creates one or more new roles.	
Priority	5	
Preconditions	System Administrator logs in.	
Postconditions	Successful creation of a role.	
Primary Actor	System Administrator.	
Secondary Actors	N/A	
Trigger	System Administrator attempts to create a new role.	
Main Scenario	Step	Action
	1	Attempt to create a new role.
	2	Assign title and permissions for the role.
	3	Assign role to individuals.
Extensions	Step	Branching Action
	2a	< Using Pre-Existing Role > : Assign preset permissions.
Open Issues		

Number	11	
Name	Turn on Moderator notifications	
Summary	Notifications turned on to give notifications regarding moderation/administrative actions.	
Priority	2	
Preconditions	System Administrator logged in.	
Postconditions	System Administrator will be alerted to actions taken by other roles with administrative/moderation permissions.	
Primary Actor	System Administrator	
Secondary Actors	All roles with unique moderation/administrative permissions.	
Trigger	System Administrator attempts to turn on notifications for administrative actions.	
Main Scenario	Step	Action
	1	System Administrator attempts to turn on notifications for administrative actions.
	2	System Administrator selects types of actions to have notifications for.
	3	System Administrator selects groups to have notifications for.
Extensions	Step	Branching Action
	3a	< System Administrator Accepts All Notifications > : System Admin enables all notifications.
Open Issues		

Number	12	
Name	View Files	
Summary	System Administrator views files uploaded by other users.	
Priority	4	
Preconditions	Some amount of uploaded files exist.	
Postconditions	All files become viewable to the System Admin.	
Primary Actor	System Administrator	
Secondary Actors	General users & database.	
Trigger	System Admin attempts to check what files have been stored by other users.	
Main Scenario	Step	Action
	1	System Admin attempts to check the list of stored files.
	2	System retrieves a running list of files.
	3	View window displays all files to the System Admin.
Extensions	Step	Branching Action
	3a	< Narrow Search > : System Admin views a subsection of available files rather than the whole list.
Open Issues		

Number	13	
Name	Edit Files	
Summary	System Admin edits files previously uploaded.	
Priority	4	
Preconditions	Some amount of files have been previously uploaded, and the System Admin is currently viewing a list of files.	
Postconditions	System Admin successfully edits a file.	
Primary Actor	System Administrator	
Secondary Actors	General users & database.	
Trigger	System Admin attempts to alter existing files.	
Main Scenario	Step	Action
	1	System Admin selects a specific file from the view window for uploaded files.
	2	System Admin selects to see the contents of the file.
	3	System retrieves the specific information, and contents, of the selected file.
	4	Contents of the file are displayed to System Admin in a view window.
	5	Using the view window the System Admin makes alterations to the file.
Extensions	Step	Branching Action
	5a	Content Additions : System admin adds/uploads contents to the file.
Open Issues		

Number	14	
Name	Delete Files	
Summary	System Admin deletes a previously uploaded file.	
Priority	4	
Preconditions	Some amount of files have been previously uploaded, and the System Admin is currently viewing a list of files.	
Postconditions	System Admin successfully deletes an existing file.	
Primary Actor	System Administrator	
Secondary Actors	General users & database.	
Trigger	System Admin attempts to delete an existing file.	
Main Scenario	Step	Action
	1	System Admin selects a specific file from the view window for uploaded files.
	2	System Admin selects to delete the file.
	3	System responds to the request for deletion with a confirmation request.
	4	System Admin confirms the request for file deletion.
	5	File is deleted from the system.
	6	System alerts the System Admin of a successful file deletion.
Extensions	Step	Branching Action
	1a	< Multi Selection > : The System Admin selects multiple files for deletion.
	1a2	< Multi Deletion > : System Admin goes through the same process for deleting a single file, but in this situation deletes multiple files.
	4a	< Deletion Cancellation > : The System Admin decides to cancel the request for deleting the selected file.
	4a2	< Cancellation Response > : The System alerts the System Admin that the file deletion was cancelled.
Open Issues		

Number	15	
Name	Add Files	
Summary	System Admin uploads a brand new file to the database.	
Priority	5	
Preconditions	System Admin has a file to upload.	
Postconditions	New file uploaded successfully.	
Primary Actor	System Administrator	
Secondary Actors	Database	
Trigger	System Admin attempts a file upload.	
Main Scenario	Step	Action
	1	The System Administrator chooses to upload a file.
	2	System prompts System Admin for the file they wish to upload.
	3	System Admin responds to the prompt by choosing a file.
	4	File upload occurs following Admin submission.
	5	System notifies the System Admin of a successful upload.
Extensions	Step	Branching Action
	3a	< Multiple Uploads > : System Admin chooses to upload multiple files at once.
	5a	< Failed Upload > : System notifies System Administrator that their upload failed.
Open Issues		

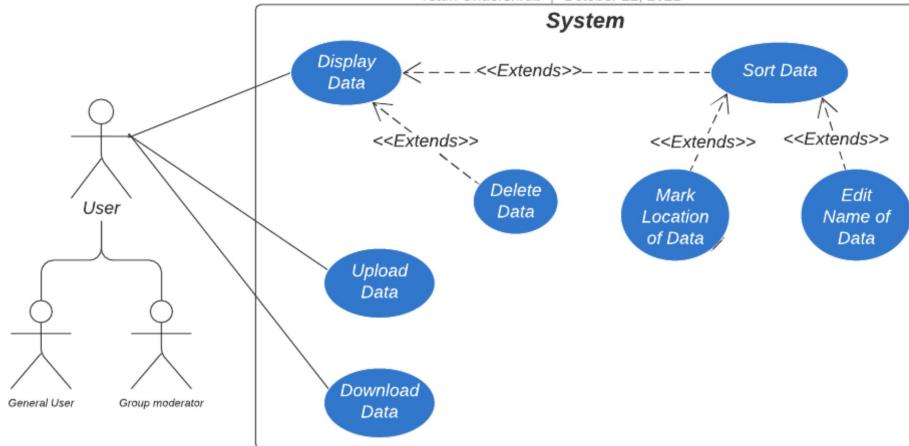
Number	16	
Name	Manage Roles	
Summary	System Administrator adjusts the state of other roles.	
Priority	5	
Preconditions	System Admin has already created a list of roles.	
Postconditions	Existing role is updated with new changes.	
Primary Actor	System Admin	
Secondary Actors		
Trigger	System Admin views the list of roles with intent to adjust one or more of the roles.	
Main Scenario	Step	Action
	1	System Administrator attempts to view the list of existing roles.
	2	System displays a running list of roles.
	3	System Administrator selects one or more roles to change.
	4	System displays the list of permissions that the selected role(s) has access to.
	5	The System Admin makes either an addition or removal of permissions.
	6	The System makes a request for confirmation on the change.
	7	The System Admin confirms the change.
	8	The role is updated with whatever change that was submitted.
Extensions	Step	Branching Action
	5a	< Multi-Changes > : System Admin makes changes to a number of selected roles all at once.
	7a	< Change Cancellation > : The System Admin decides to cancel the request for altering an existing role.
	7a2	< Cancellation Response > : The System alerts the System Admin that the role changes were cancelled.
Open Issues		

Number	17	
Name	Add Permissions	
Summary	System Administrator adjusts the permissions of other users.	
Priority	5	
Preconditions	System Administrator has already defined the permissions which can be toggled for a user.	
Postconditions	The System Administrator has successfully added permission to the user.	
Primary Actor	System Administrator	
Secondary Actors		
Trigger	The System Administrator views the permissions of the user with the intent to add one of the permissions.	
Main Scenario	Step	Action
	1	System Administrator attempts to view user permissions from the editing panel for users settings.
	2	System Admin selects one or more of the current permissions afforded to the user.
	3	System Admin selects the permission(s) to add to the user.
	4	System Admin adds to the selected permission to the users afforded permissions.
Extensions	Step	Branching Action
Open Issues		

Number	18	
Name	Revoke Permissions	
Summary	System Administrator adjusts the permissions of other users.	
Priority	5	
Preconditions	System Administrator has already defined the permissions which can be toggled for a user.	
Postconditions	The System Administrator has successfully removed permission to the user.	
Primary Actor	System Administrator	
Secondary Actors		
Trigger	The System Administrator views the permissions of the user with the intent to remove one of the permissions.	
Main Scenario	Step	Action
	1	System Admin attempts to view user permissions from the editing panel for users settings.
	2	System Admin selects one or more of the current permissions afforded to the user.
	3	System Admin selects the permission(s) to remove from the user.
	4	System Admin removed to the selected permission from the users afforded permissions.
Extensions	Step	
Open Issues		

Data Management Use Case Diagram

Team Undershrub | October 21, 2021



Number	19										
Name	Display Data										
Summary	This Displays the data to the user										
Priority	5										
Preconditions	The user must have data loaded or saved to the database										
Postconditions	The users data will be loaded										
Primary Actor	User										
Secondary Actors	Database										
Trigger	The user selects the data they want to display										
Main Scenario	<table border="1"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>After successful login, the user selects from a list of stored data</td> </tr> <tr> <td>2</td> <td>The system retrieves the data from the database</td> </tr> <tr> <td>3</td> <td>The system displays the data to the user</td> </tr> <tr> <td>5</td> <td>The user begins to perform actions on the data</td> </tr> </tbody> </table>	Step	Action	1	After successful login, the user selects from a list of stored data	2	The system retrieves the data from the database	3	The system displays the data to the user	5	The user begins to perform actions on the data
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Step	Branching Action										
5a	The user begins to perform actions on the data : 5a1. Sort Data 5a2. Edit Data 5s3. Delete Data										
Open Issues											

Number	20	
Name	Upload Data	
Summary	This menu option will allow a user	
Priority	5	
Preconditions	The user must be logged in and in good standing (paid)	
Postconditions	The users data is saved to the database successfully	
Primary Actor	Paid User	
Secondary Actors	Data Database	
Trigger	The user selects the upload data option	
Main Scenario	Step	Action
	1	The user selects the upload data option
	2	The system displays a new window displaying the users options of upload
	3	The user selects the data they want to upload
	4	The user hits the ok/upload button
	5	The system uploads the data to the database
	6	The system adds the data to the users data list
	7	The system closes the upload data window
Extensions	Step	Branching Action
	4a	The user hits the ok/upload button : 4a1. The user selects the upload button 4a2. The user selects the cancel button
Open Issues		

Number	21	
Name	Download Data	
Summary	This allows user to be able to download their saved data	
Priority	5	
Preconditions	The user must be logged in and pre-existing data belonging to the user must exist	
Postconditions	The users data is downloaded successfully	
Primary Actor	Paid User	
Secondary Actors	Data Database	
Trigger	The user selects the Download Data option	
Main Scenario	Step	Action
	1	The user selects from a list the data they want to download
	2	The user selects the download data option
	3	The system opens a new window display download locations on the users system
	4	The user selects the preferred download location and hits confirm button
	5	The system queries the database for the requested data
	6	The system begins the download process
	7	The system displays a download complete message
Extensions	Step	Branching Action
Open Issues		

Number	22	
Name	Delete Data	
Summary	This option allows a user to delete their own data on the database	
Priority	5	
Preconditions	The user must be logged in and be the owner of the data	
Postconditions	The data is removed from the database	
Primary Actor	User	
Secondary Actors	Data Database	
Trigger	The user selects the delete data option	
Main Scenario	Step	Action
	1	The user selects the data they wish to delete
	2	The user selects the delete data button
	3	The system prompts the user with a “Are you sure?” warning
	4	The user selects their option
	5	The system performs the action requested by the user
Extensions	Step	Branching Action
	1a	The system performs the action requested by the user : 5a1. The data is deleted from the database 5a2. The data is not deleted from the database
Open Issues		

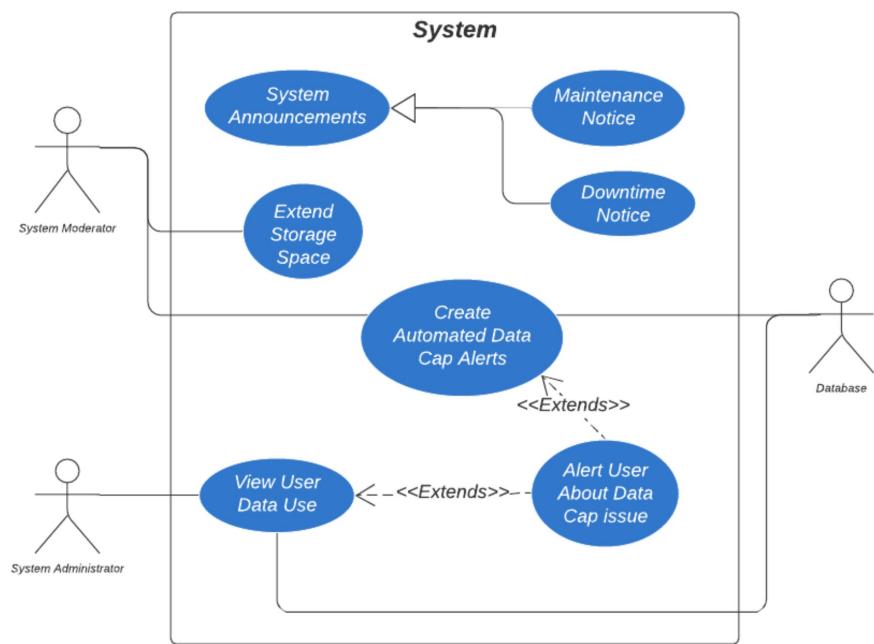
Number	23	
Name	Sort Data	
Summary	The option will allow a user to sort their data	
Priority	3	
Preconditions	A user must be logged in, in good standing and have pre-existing data	
Postconditions	The data is sorted according to users needs	
Primary Actor	User	
Secondary Actors	Data Database	
Trigger	The user selects the sort data option	
Main Scenario	Step	Action
	1	The user selects the sort data option
	2	The user selects how they want their data sorted
	3	The system sorts the data according to the users request
	4	The system saves the data according to the requested sort
	5	The system refreshes the data in the list
Extensions	Step	Branching Action
Open Issues		

Number	24	
Name	Mark Location of Data	
Summary	This allows a user to be able to mark locations in their data so that they can show it to other members and plan out development	
Priority	4	
Preconditions	A user must be authenticated, in good standing, and have pre-existing data	
Postconditions	The data will have the users designated marks	
Primary Actor	User	
Secondary Actors	Data Database	
Trigger	The user selects the Mark Location option	
Main Scenario	Step	Action
	1	The user selects the Mark Location option
	2	The user selects the point in which they want to mark
	3	The system saves the location mark to the database
Extensions	Step	Branching Action
Open Issues		

Number	25	
Name	Edit Name of Data	
Summary	This will allow a user to be able to edit the name of their data set	
Priority	4	
Preconditions	A user must be logged in, in good standing, and have pre-existing data	
Postconditions	The name of the data or data set is changed successfully	
Primary Actor	User	
Secondary Actors	Data database	
Trigger	The user selects the edit data name option	
Main Scenario	Step	Action
	1	The user selects the edit data name option
	2	The system brings up an editable text box/window
	3	The system prompts the user with a flashing line to indicate they can type
	4	The user enters the desired name and hits the ok button
	5	The system saves the name change to the database
	6	The system updates the users data list
Extensions	Step	Branching Action
Open Issues		

Data Management Use Case Diagram

Team Undershrub | October 21, 2021



Number	26	
Name	System Announcements	
Summary	System Announcement occurs either naturally or by System Admin constructing a specific announcement.	
Priority	3	
Preconditions	An event occurs such that a system announcement is necessary.	
Postconditions	An announcement is posted that is visible for all users.	
Primary Actor	System.	
Secondary Actors	System Administrator.	
Trigger	An event occurs triggering the need for a system announcement.	
Main Scenario	Step	Action
	1	An technical problem or event occurs, or is set to occur, and the system prepares a notice.
	2	The system displays an announcement to all users.
	3	User(s) view the announcement.
	4	System displays specific information regarding the announcement.
Extensions	Step	Branching Action
	1a	< Custom Announcement > : System Administrator creates a custom announcement.
	1a2	< Display New Announcement > : System displays the custom announcement.
	2a	< Detailed Announcement > : System creates a unique announcement with additional information regarding the reason/details behind the announcement.
	2a2	< Administrator Notice > : System sends a unique announcement to the System Administrator.
Open Issues		

Number	27	
Name	Maintenance Notice	
Summary	System creates/displays a maintenance notice.	
Priority	3	
Preconditions	Maintenance is planned to occur, information regarding the maintenance exists.	
Postconditions	Maintenance notice displays to all users.	
Primary Actor	System	
Secondary Actors	System Administrator	
Trigger	System Administrator gives the system information regarding future maintenance downtime.	
Main Scenario	Step	Action
	1	The System Administrator puts together information regarding future maintenance.
	2	System Administrator provides the System with information regarding future maintenance.
	3	System stores maintenance information.
	4	Upon reaching a predefined point of time away from the maintenance date, the System attempts to create a maintenance notice.
	5	System pulls previously provided information on the maintenance period.
	6	System compiles information into the notice, including an estimate on the length of server downtime.
	7	System puts out a general user announcement regarding server maintenance.
Extensions	Step	Branching Action
	4a	< Unregistered Maintenance > : If a maintenance is scheduled on short notice, and limited information is provided, pull the information and attempt to create a basic maintenance announcement.
	7a	< Administrator Announcement > : Create a unique, and more detailed, announcement specific to System Administrators.
	7a2	< Receiving Announcement > : System sends out the uniquely generated notice to only System Administrators.
Open Issues	< list of issues awaiting decisions that affect the use case >	

Number	28	
Name	Downtime Notice	
Summary	System sends out a notice that services are down.	
Priority	5	
Preconditions	Unforeseen downtime occurs.	
Postconditions	All users and administrators are alerted about services being unavailable.	
Primary Actor	System	
Secondary Actors	General users, System Administrators.	
Trigger	Services become unavailable.	
Main Scenario	Step	Action
	1	System detects that services have become unavailable
	2	System compiles an announcement regarding a lack of service.
	3	System compiles a second notification meant for System Admins, offering greater details on the nature of the current downtime.
	4	System puts out the announcements for both general users and System Administrators.
Extensions	Step	Branching Action
	1a	< Lack of Notice > : System does not detect a lack of available services.
	1a2	< Manual Notice > : System Administrator files a manual notice of downtime to the system, allowing for an announcement to be created for all general users.
	3a	< Lack of Details > : System does not have the information needed to properly break down the situation for System Administrators.
	3a1	< Basic Response > : System provides a basic notification for System Administrators with notice for what information is missing.
Open Issues		

Number	29	
Name	Extend Storage Space	
Summary	System Administrator extends the data storage of a general user without the need for the user to pay.	
Priority	5	
Preconditions	System Administrator logged in.	
Postconditions	System Administrator extends the storage space for every selected user.	
Primary Actor	System Administrator	
Secondary Actors		
Trigger	System Administrator sees a need to extend storage space for one or more users.	
Main Scenario	Step	Action
	1	System Administrator chooses to view the data usage of all users.
	2	System Administrator selects a particular user.
	3	System Administrator chooses to increase the storage space of the selected user.
	4	System prompts System Administrator for confirmation.
	5	System Administrator confirms their request to increase user storage space.
	6	System brings System Administrator to a view window with options for increasing storage space.
	7	System Administrator chooses the amount of space extension as well as duration of extension.
Extensions	Step	Branching Action
	2a	< Multi-Selection > : System Administrator chooses to select multiple users for storage space expansion.
	5a	< Confirmation Denial > : System Administrator decides against increasing the user's storage space.
	5a2	< System Response > : System displays a confirmation that the attempt to increase user storage space was cancelled.
Open Issues		

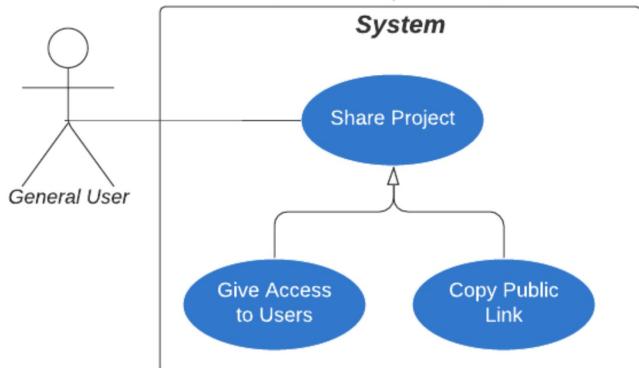
Number	30	
Name	View User Data Use	
Summary	System Moderator views the data usage of a particular user or users.	
Priority	4	
Preconditions	Some amount of general users exist and are using the provided services.	
Postconditions	System Moderator successfully views the data use of one or more users.	
Primary Actor	System Moderator, System Administrator (has access to the same permissions)	
Secondary Actors	System, general users.	
Trigger	System Moderator attempts to retrieve information regarding user data use.	
Main Scenario	Step	Action
	1	System Moderator chooses to view the data use of all current users.
	2	System retrieves and displays a running list of all users and their data use.
	3	System Moderator chooses to narrow the search results to either a particular user, group of users, or users that have used a specific amount of storage space.
	4	System refines the list of users as specified, and displays the result.
Extensions	Step	Branching Action
	3a	< Invalid Search > : If a search comes up with no users to view the data of, the system displays a special notice in place of the user list.
Open Issues		

Number	31	
Name	Alert User of Data Cap Issue	
Summary	System Moderator alerts the user regarding an issue with their data cap or data usage.	
Priority	3	
Preconditions	Some amount of general users are using the provided service, some of those users have uploaded data and have potentially drawn close to the data limit.	
Postconditions	Some general user (or multiple users) receive an alert regarding an issue with their data cap.	
Primary Actor	System Moderator, System Administrator (has access to the same permissions)	
Secondary Actors	General users	
Trigger	System Moderator sees a visible issue with a user's data cap.	
Main Scenario	Step	Action
	1	System Moderator views a user's data use.
	2	System retrieves information regarding the data use, and displays it.
	3	System Moderator sees that the individual is close to reaching their data cap.
	4	System Moderator uses the data use interface to make a notice specifically for that user.
	5	System Moderator submits the data use notice.
	6	System alerts the particular user using the given notice.
Extensions	Step	Branching Action
	1a	< Multi-Selection > : System Moderator selects to view the data use of multiple users at once.
	4a	< Multi-Notice > : System Moderator writes a notice that can be sent to any number of users experiencing data cap issues.
Open Issues		

Number	32	
Name	Create Automated Data Cap Alerts	
Summary	System Administrator creates automated alerts that alert users to data cap issues.	
Priority	3	
Preconditions	System Administrator is logged in.	
Postconditions	System Administrator creates a custom alert that goes off under defined conditions.	
Primary Actor	System Administrator	
Secondary Actors	System	
Trigger	System Administrator views the current list of automated data cap alerts.	
Main Scenario	Step	Action
	1	System Administrator attempts to add a new data cap alert.
	2	System prompts System Administrator with a view window that contains conditions, contents, and options for the alert.
	3	System Administrator picks conditions for when, and how often, the alert will be given to a user.
	4	System Administrator fills out the contents of the alert.
	5	System Administrator submits the new alert to the system.
	6	System receives the new alert, and begins sending the alert to users which it applies to.
Extensions	Step	Branching Action
	5a	< Alert Delay > : The System Administrator chooses to put a delay on the alert, making the alert inactive for the specified period of time.
Open Issues		

General User Use Case Diagram

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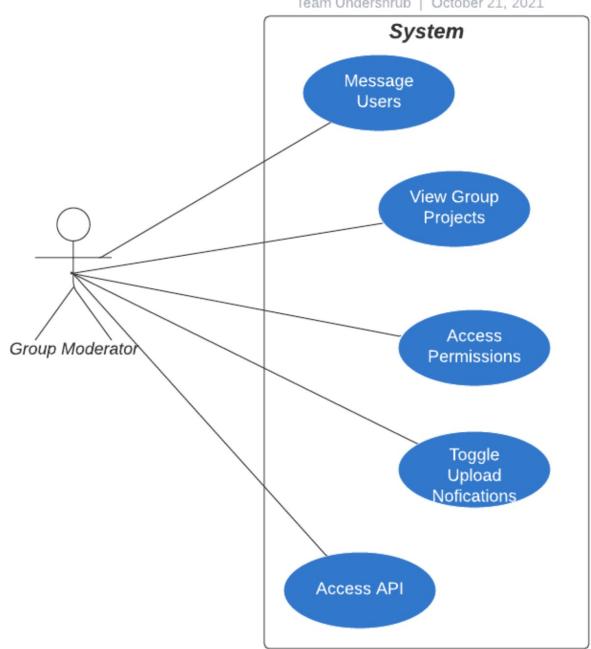
Number	33
Name	Share Project
Summary	This will allow a user to share access to any project they have the right to.
Priority	4
Preconditions	General User has permissions to share project.
Postconditions	Project is available to other users.
Primary Actor	General User
Secondary Actors	System
Trigger	General User clicks a "share project" button.
Main Scenario	Step Action
	1 General User clicks a "share project" button.
	2 System prompts General User to select a method of sharing.
	3 General User gives access to one or more users via the selected method.
	4 General User confirms choice(s).
	5 System grants access to other users.
Extensions	Step Branching Action
	3a General User instead cancels action : General User closes the prompt, canceling the action.
Open Issues	Define "access".

Number	34	
Name	Give Access to Users	
Summary	This will allow a user to share access to any project to specific accounts.	
Priority	4	
Preconditions	General User has permissions to share project.	
Postconditions	Project is available to specific accounts.	
Primary Actor	General User	
Secondary Actors	System	
Trigger	General User clicks a "share project" button.	
Main Scenario	Step	Action
	1	General User clicks a "share project" button.
	2	System prompts General User to select a method of sharing.
	3	General User selects one or more user accounts to share access with.
	4	General User confirms selection.
	5	System grants access to selected users.
Extensions	Step	Branching Action
	3a	General User instead cancels action : General User closes the prompt, canceling the action.
Open Issues	Define "access".	

Number	35	
Name	Copy Public Link	
Summary	This will allow a user to share access to any project to specific accounts.	
Priority	4	
Preconditions	General User has permissions to share project.	
Postconditions	Project is available to specific accounts.	
Primary Actor	General User	
Secondary Actors	System	
Trigger	General User clicks a "share project" button.	
Main Scenario	Step	Action
	1	General User clicks a "share project" button.
	2	System prompts General User to select a method of sharing.
	3	General User clicks a "generate link" button.
	4	System generates a usable link.
	5	System copies generated link to General User's clipboard.
	6	System grants access to users through generated link.
Extensions	Step	Branching Action
	3a	General User instead cancels action : General User closes the prompt, canceling the action.
Open Issues	Define "access".	

Group Moderator Moderation Use Case Diagram

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Number	36	
Name	Message Users	
Summary	Group Moderator sends a message to all users in the group.	
Priority	3	
Preconditions	Group Moderator has permissions to do this action.	
Postconditions	< conditions that will be true after the use case completes >	
Primary Actor	Group Moderator	
Secondary Actors	System	
Trigger	Group Moderator clicks a "message users" button.	
Main Scenario	Step	Action
	1	Group Moderator clicks a "message users" button.
	2	System prompts Group Moderator to make message contents.
	3	Group Moderator types/uploads message contents.
	4	Group Moderator confirms contents.
	5	System prompts Group Moderator to confirm again, showing a message preview.
	6	Group Moderator confirms message.
	7	System sends message to all users in group.
Extensions	Step	Branching Action
	3a	Group Moderator cancels action : System closes the prompt, canceling the action.
	6a	Group Moderator instead cancels message : System reverts the action to step 2.
Open Issues		

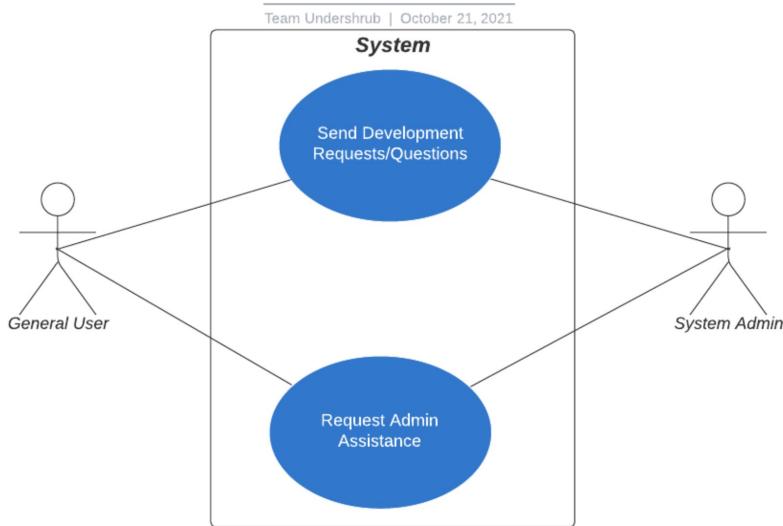
Number	37	
Name	View Group Project	
Summary	The System displays information about a project to the General User.	
Priority	5	
Preconditions	General User has permissions to view the project.	
Postconditions	Project is displayed.	
Primary Actor	General User	
Secondary Actors	System	
Trigger	General User prompts System to display the project.	
Main Scenario	Step	Action
	1	General User prompts the System to display a project.
	2	System displays the project.
Extensions	Step	Branching Action
Open Issues		

Number	38
Name	Access Permissions
Summary	Group Moderators can access permissions.
Priority	4
Preconditions	
Postconditions	< conditions that will be true after the use case completes >
Primary Actor	Group Moderator
Secondary Actors	System
Trigger	Group Moderator decides to access group permissions.
Main Scenario	Step Action
	1 Group Moderator decides to access group permissions.
	2 System displays group permissions to the Group Moderator.
Extensions	Step Branching Action
	2a Group Moderator decides to edit permissions : System waits to confirm changes and applies them.
Open Issues	

Number	39
Name	Toggle Upload Notifications
Summary	Group Moderator can choose to receive a notification whenever content is uploaded to the project.
Priority	3
Preconditions	System displays status of toggle.
Postconditions	System displays status of toggle.
Primary Actor	Group Moderator
Secondary Actors	System
Trigger	Group Moderator triggers toggle.
Main Scenario	Step Action
	2 Group Moderator triggers toggle.
	3 System saves new toggle status in the database.
Extensions	Step Branching Action
Open Issues	

Number	40						
Name	Access API						
Summary	API to allow Group Moderators to automate tasks.						
Priority	2						
Preconditions	Group Moderator determines a need to automate a task.						
Postconditions	System performs an action determined by the Group Moderator.						
Primary Actor	Group Moderator						
Secondary Actors	System API						
Trigger	Group Moderator interacts with System API						
Main Scenario	<table border="1"> <thead> <tr> <th>Step</th><th>Action</th></tr> </thead> <tbody> <tr> <td>1</td><td>Group Moderator interacts with System API</td></tr> <tr> <td>2</td><td>System API takes action.</td></tr> </tbody> </table>	Step	Action	1	Group Moderator interacts with System API	2	System API takes action.
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Step	Branching Action						
Open Issues	<p>API documentation is probably needed. Scope of API should be determined.</p>						

General User Request Use Case Diagram

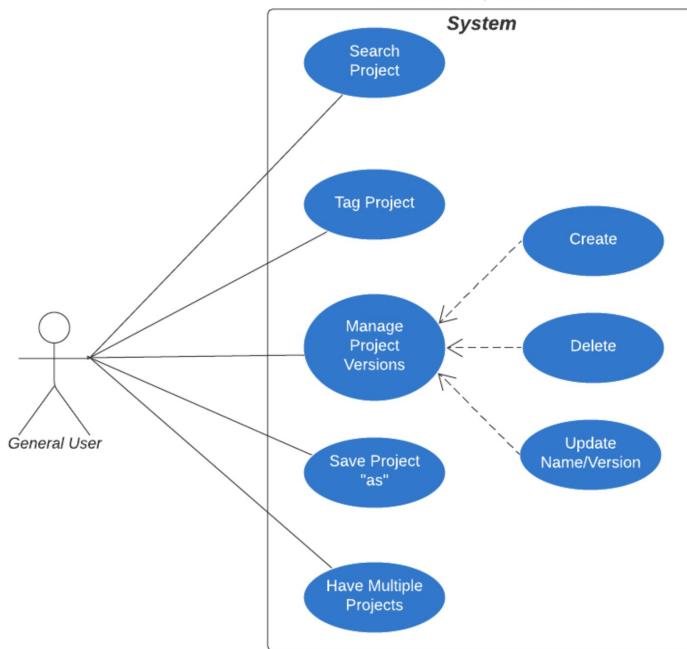


Number	41												
Name	Send Development Requests/Questions												
Summary	This allows a non-paid user to be able to contact Blue Marble system admin so that they can ask questions and tailor the software to their personal needs.												
Priority	3												
Preconditions	The general user clicks the Contact Us button on the homepage												
Postconditions	The question will be sent to the system admin												
Primary Actor	General User												
Secondary Actors													
Trigger	The general user clicks the Contact Us button												
Main Scenario	<table border="1"> <thead> <tr> <th>Step</th> <th>Action</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>The user navigates to the homepage of the web portal</td> </tr> <tr> <td>2</td> <td>The user clicks on the Contact Us button</td> </tr> <tr> <td>3</td> <td>The system navigates to the contact form subpage</td> </tr> <tr> <td>4</td> <td>The system displays the contact form to the user</td> </tr> <tr> <td>5</td> <td>The user selects the Ask a Question radio button</td> </tr> </tbody> </table>	Step	Action	1	The user navigates to the homepage of the web portal	2	The user clicks on the Contact Us button	3	The system navigates to the contact form subpage	4	The system displays the contact form to the user	5	The user selects the Ask a Question radio button
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Open Issues													

Number	42	
Name	Request Admin Assistance	
Summary	This allows a non-paid user to be able to contact Blue Marble system admin so that they can request assistance	
Priority	3	
Preconditions	The general user clicks the Contact Us button on the homepage	
Postconditions	The question/request will be sent to the system admin	
Primary Actor	General User	
Secondary Actors		
Trigger	The general user clicks the Contact Us button	
Main Scenario	Step	Action
	1	The user navigates to the homepage of the web portal
	2	The user clicks on the Contact Us button
	3	The system navigates to the contact form subpage
	4	The system displays the contact form to the user
	5	The user chooses the Request Assistance radio button
Extensions	Step	Branching Action
	4a	The system displays the contact form to the user: 4a1. The user can select Ask a Question or Request assistance
Open Issues		

Project Management Use Case Diagram

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Number	43
Name	Search Project
Summary	General User searches for matching content in a project.
Priority	3
Preconditions	General User has access to view the project.
Postconditions	System displays references to matching content in the project to the user.
Primary Actor	General User
Secondary Actors	System
Trigger	General User triggers System to search project.
Main Scenario	Step Action
	1 General User triggers System to search project.
	2 System prompts General User to specify content to match.
	3 General User enters content to match.
	4 System searches for matching content in the entire project.
	5 System displays references to matching content in the project.
Extensions	Step Branching Action
	3a General User instead cancels operation : The action is canceled.
Open Issues	What content can be matched?