

## UserManual.md - Grip

# Functional Software Requirements Application

## Project Submission for SENG 350 - Fall 2018

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The web application described in this manual was designed and built as a project for SENG 350 in the fall of 2018. The objective of this application was to create a project management tool to enable architects to define and manage functional requirements in the form of use cases.

The requirements of the application included the following:

- The app must be web-based and built using TypeScript, Node, Express, MongoDB, and Angular.
- The app must support different user IDs and each user should be able to create, update and delete multiple projects.
- There must be an "admin" user, which cannot be deleted, that has the ability to create or delete other regular user IDs.
- Users can invite other users to view or edit projects, however only the project owner can delete a project.
- Users can surrender project ownership to another user.
- Projects consist of a title, a description, and a set of use cases.
- Each use case is defined in a structure according to the "Cockburn Template".
- The app must provide an overview page that lists all use cases accessible by a user and allows the user to search for use cases.

## Set Up

The application source files for this project can be found [here](#)

To be able to run the application, the following software dependencies must be installed

- TypeScript (v2.9.2)
- Node (v8.10.0)
- NPM (v3.5.2)
- Express (v4.16.4)
- MongoDB (v3.1.7)
- Python (v2.7.15rc1)

After the installation of these dependencies, the application itself can be installed. First, we must start the database. Open a terminal in the Mongo installation directory and type

```
sudo ./mongod
```

This will start the database and enable us to send and retrieve data.

Next, we build the application. Open a terminal in the application installation directory and type:

```
npm install --save
```

This will install all node dependencies and will also run a full build of the Angular modules.

Next, we fill the database with startup data. In the same terminal as before, enter the command

```
python scripts/dbinit.py
```

followed by

```
python scripts/dbpopulate.py
```

which will initialize our database to work with our application. (NOTE: We are using Python 2 for these scripts, if any errors arise from uninstalled python dependencies, running a pip install should resolve any issues)

Once the database is set up, and we have built the application, we can start the application:

- Start the database by typing

```
sudo ./mongod
```

in the Mongo installation directory

- Launch the application by typing

```
node server
```

in the application installation directory.

The application will now be running on [localhost:3000](http://localhost:3000)

## Logging in

After starting the application and navigating to the above link, the user will be prompted to login as a user. To log in as a user, select the user from the list and click the "log in" button, as shown in the below image.

Please sign in below.

## SENG350Project - login

Admin

Tristan

Matt

Amrit

Geena

Dr Jens Weber - UML Master

**TRISTAN Selected**

Log in

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After logging in, the user will be redirected to an overview page. On this page will be all use cases that the current user has any access rights to (read/write/owner).

## Logging Out

Once logged in, a user can log out at any time by simply selecting the "log out" button in the upper right hand corner, pictured below.

## Admin Panel

When logged in as the "Admin" account, the user has access to administrator functionality. This can be accessed by clicking the "Account Management" button in the navigation bar. The admin panel is shown below.

## System Users

Tristan

Matt

Amrit

Geena

Dr Jens Weber - UML Master

Create a New User

### Selected

Edit User

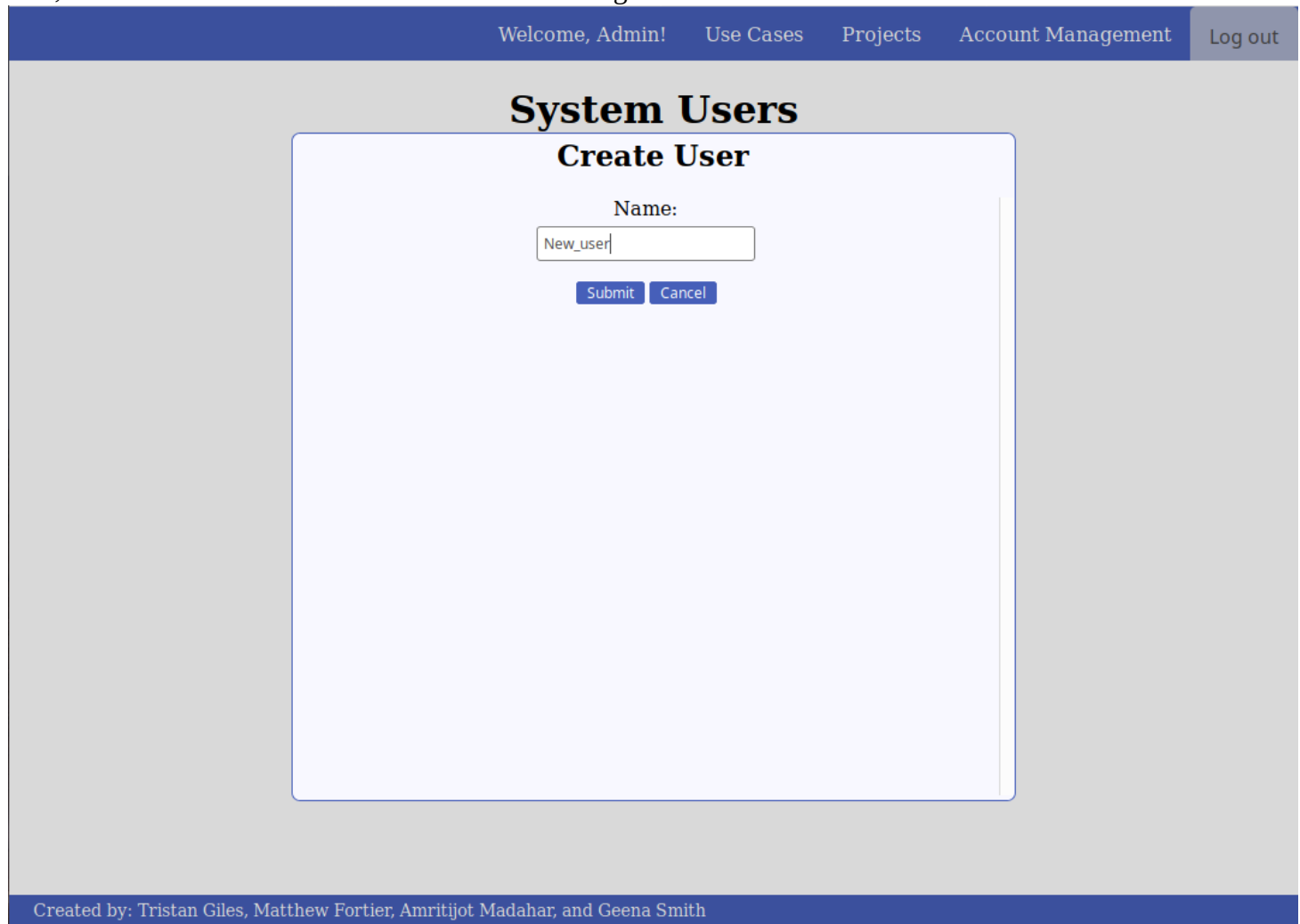
Delete User

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## Creating a User

To create a new user, the user must first be on the admin panel. Selecting "Create a New User" will cause a modal to appear. The admin will be prompted to give the new user a name. Submitting this will create the new

user, and enable new users to select this account at login.

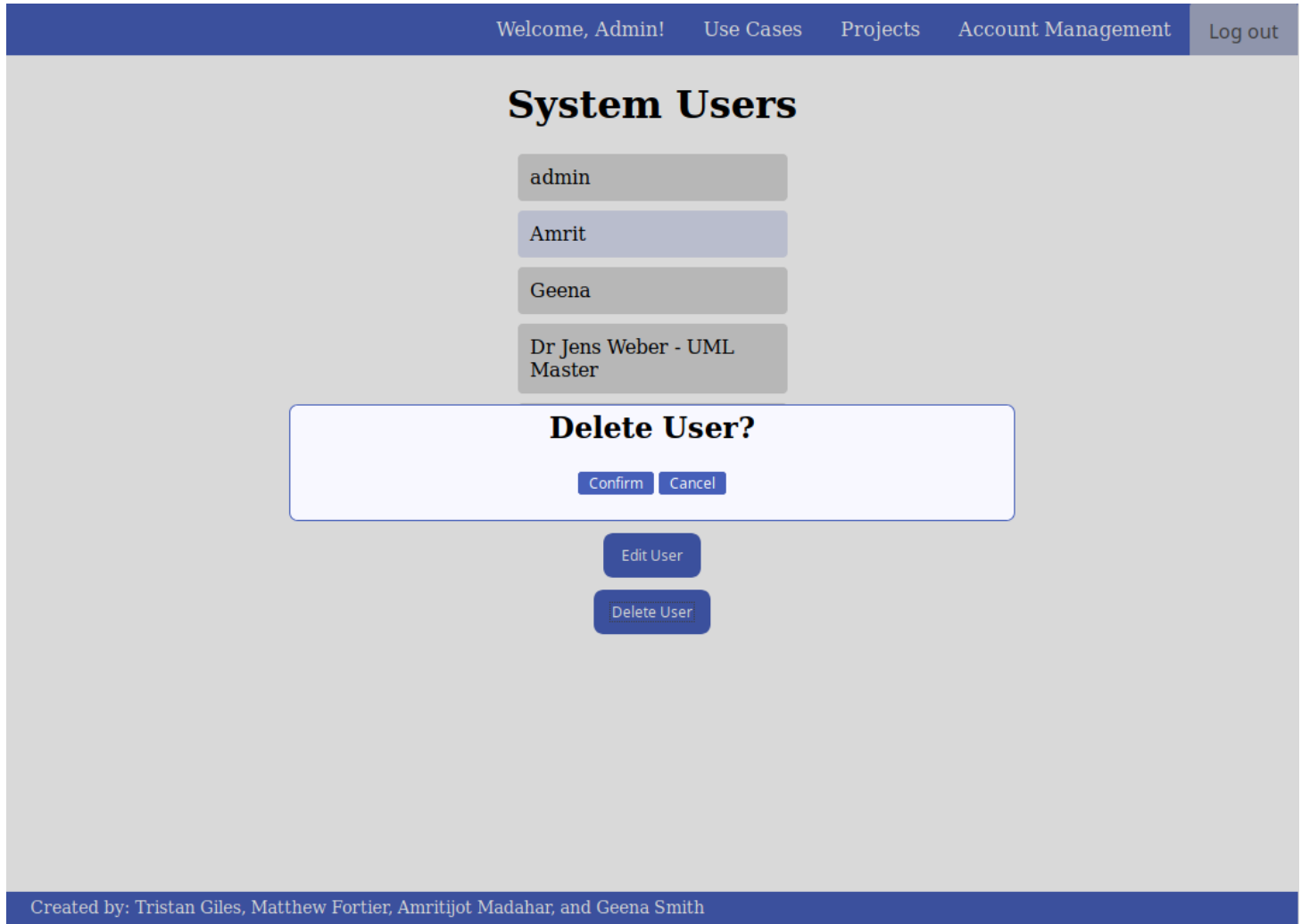


The screenshot shows a web application interface for managing system users. At the top, a dark blue navigation bar contains the text 'Welcome, Admin!' followed by links for 'Use Cases', 'Projects', 'Account Management', and a 'Log out' button. The main content area has a light gray background with the title 'System Users' in large, bold, black font. Below this title is a white rectangular form titled 'Create User'. Inside the form, there is a label 'Name:' followed by a text input field containing the text 'New\_user'. Below the input field are two buttons: 'Submit' and 'Cancel'. At the bottom of the page, a dark blue footer bar contains the text 'Created by: Tristan Giles, Matthew Fortier, Amritijot Madahar, and Geena Smith'.

## Deleting a User

The process for deleting a user is similar to creating a user. From the admin panel, select a user to delete. After clicking the delete button, a confirmation modal will appear, and will allow the user to either confirm or cancel the deletion. The former will remove the user and all owned projects, and the latter will cancel the action and

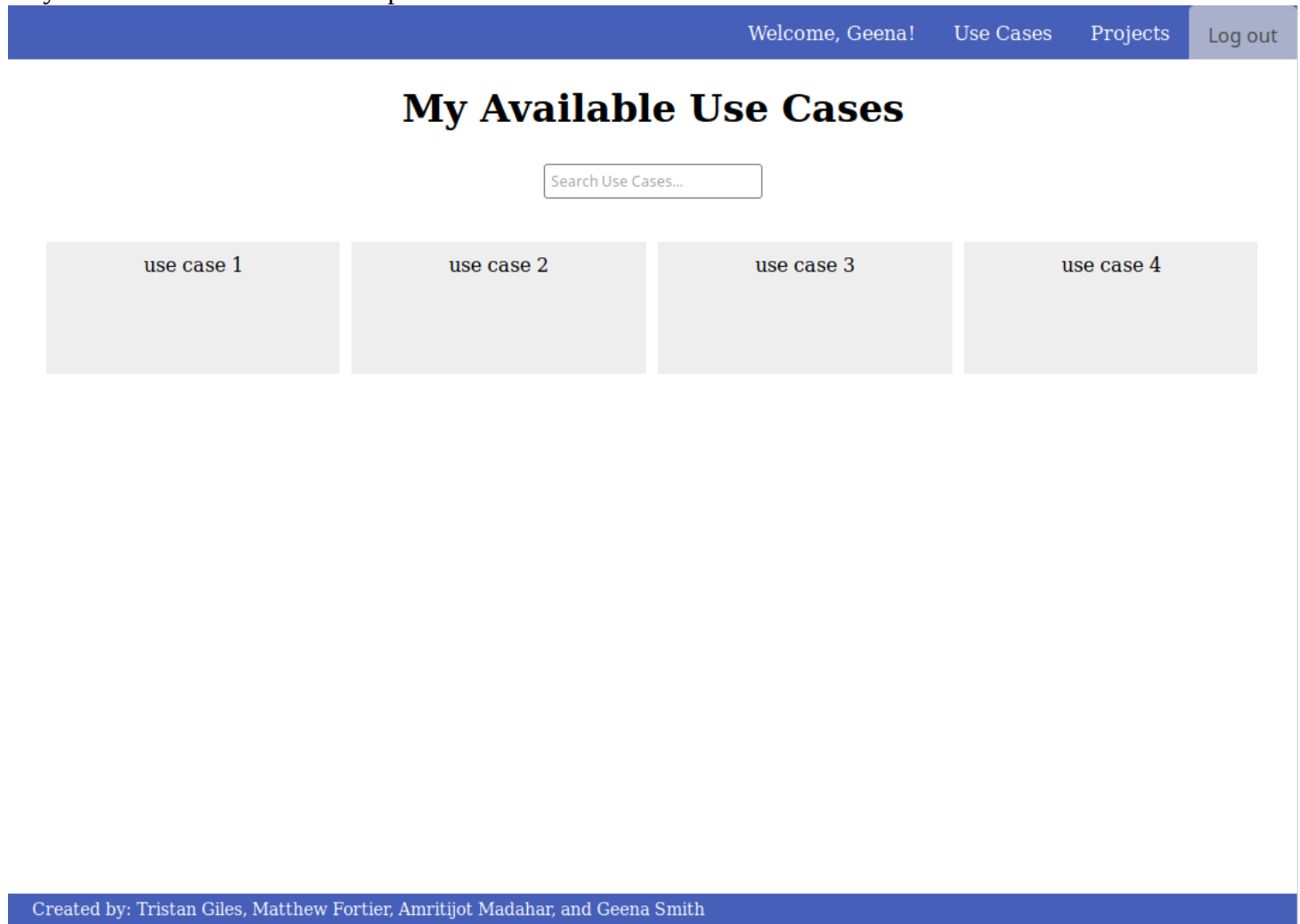
close the modal. This is shown below.



## Use Case Home View

To access the use case home view, the user must first be logged in. The user then selects the "Use Cases" button from the top navigation bar. This will bring the user to the page where they can view all use cases for all projects

they have access to. This view is pictured below.



## Viewing a Use Case

Viewing a use case can be done in two ways. The first way is to navigate to the use case home. All available use cases will be displayed to the user. The user selects the use case they wish to view, then selects "View Usecase". A modal will appear displaying the use case information to the user. This modal is pictured below.

## My Available Use Cases

### View UseCase

Title:

use case 2



Goal:

Scope:

Level:

Preconditions:

Success End Condition:

use case 1

use case 4

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The second way to view a use case is covered under "Editing a Use Case" below.

## Searching for a Use Case

To search for a use case, the user must be on the use case home view. Located at the top of the page is a search bar. As the user types a title into the search bar, all use cases not matching the text are filtered out. This functionality is pictured below. The search bar is currently case-sensitive, though this is subject to change in



future versions.

# My Available Use Cases

1b

use case 1b

## Project Home View

To access the project home view, the user must first be logged in. The user then selects the "Projects" button from the top navigation bar. This will bring the user to the page where they can view all projects for which they

have read, write, or owner privileges. This view is picture below.

[Welcome, Geena!](#)[Use Cases](#)[Projects](#)[Log out](#)

## My Available Projects

[Test Project](#)[Test Project 2](#)[Create a New Project](#)

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## Creating a Project

To create a project, the user must be on the project home page. The user then selects "Create a new project". This will display a modal with a form to enter the information for a new project. Fill in the title of the project, a project description, and select the project permissions for other users (read/write). Once this information is entered, select the "submit" button at the bottom of the modal.

Welcome, Geena! Use Cases Projects Log out

# My Available Projects

project 3

## Create Project

Fill in Related Use Case Information

Title:

Description:

User	Read	Write
admin	<input type="checkbox"/>	<input type="checkbox"/>
Admin	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Amrit	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Dr Jens Weber - 777 87	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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This will create the new project, and will now be visible in the projects overview page for all those with permissions to either view or edit.

## Editing a Project / Changing Project Permissions

To edit a project, the user must be on the project home page. Select the desired project, then select the "edit project" button. A modal will open on the current page with the project information. From this modal, the user can update the project name, description, and, if the user is the project owner, change permissions. This modal is

pictured below.

Welcome, Geena!Use CasesProjectsLog out

Test Project

## My Available Projects

### Update Project

Fill in Related Project Information

Title:

Test Project

Description:

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis

User	Read	Write
admin	<input type="checkbox"/>	<input type="checkbox"/>
Admin	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Amrit	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dr Jens Weber -	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Project View

To view the details of a particular project, start from the Project Home View as discussed above. Select a project in the home view, then select "View Project". This will bring the user to the specific page for that project, where

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various functionality takes place. This view is pictured below.

Welcome, Geena!Use CasesProjectsLog out

TEST PROJECT

Owner: GEENA

Description: Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Delete Project

Transfer Ownership

use case 1

use case 2

use case 3

use case 4

Create a New Use Case

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## Deleting a Project

From the project view, if the user is the owner, there will be a button labeled "Delete Project". To delete a project, select this button. A modal will appear asking the user to confirm the project deletion. Select "confirm"

http://localhost:6419/13/18

to delete the project.

The screenshot displays a web application interface for a project named 'TEST PROJECT'. The header is dark blue with white text for 'Welcome, Geena!', 'Use Cases', 'Projects', and 'Log out'. The main content area has a light gray background. At the top, the project title 'TEST PROJECT' is in large, bold, black letters, followed by 'Owner: GEENA' in bold black. Below this is a paragraph of Lorem Ipsum text. A modal dialog is centered on the screen with the title 'Delete Test Project?' in bold black. Above the modal is a small blue button labeled 'Delete Project'. Below the modal are two buttons: 'Confirm' and 'Cancel'. In the background, there are four gray boxes labeled 'use case 1', 'use case 2', 'use case 3', and 'use case 4'. At the bottom left, there is a blue button labeled 'Create a New Use Case'. The footer is dark blue with white text stating 'Created by: Tristan Giles, Matthew Fortier, Amritijot Madahar, and Geena Smith'.

## Changing Project Ownership

From the project view, if the user is the owner, there will be a button labelled "Transfer Ownership". To change a project's owner, select this button. A modal will be displayed on the current page to select the new owner. Select

the new owner from the list of users who currently have read or write permissions, and click confirm.

The screenshot shows a web application interface. At the top, a dark blue navigation bar contains the text "Welcome, Geena!" followed by links for "Use Cases", "Projects", and "Log out". The main content area has a light gray background. In the center, a white modal dialog box with a blue border is open, titled "TEST PROJECT" and "Transfer Test Project?". Inside the modal, there is a list of users: "admin", "Admin" (highlighted in blue), "Amrit", "Dr Jens Weber - UML Master", and "Geena". At the bottom of the modal are two buttons: "Confirm" and "Cancel". The background of the page shows a "Description: Lorem ipsum" section on the left and a "use case 1" section below it. On the right, there is a "use case 2" section. At the bottom of the page, a dark blue footer bar contains the text "Created by: Tristan Giles, Matthew Fortier, Amritijot Madahar, and Geena Smith".

## Creating a Use Case

To create a use case, first log in and navigate to the project view. If the user has "write" permission on the project, there will be a large blue button labelled "Create a New Use Case". Select this button. This will open a modal with a form to enter information for the new use case. Once the information is filled in, select "submit" at

the bottom of the modal. This modal is pictured below.

The screenshot shows a web application interface with a modal titled "Create UseCase". The modal is centered on a light gray background. At the top of the modal, it says "Owner: GEENA". Below this, there is a description field containing Lorem Ipsum text. The modal contains several input fields: "Title:", "Goal:", "Scope:", "Level:", "Preconditions:", and "Success End Condition:". Each field has a corresponding text input box. At the bottom of the modal, there is a "Delete UseCase" button. The background of the application shows a list of use cases, including "use case 1" and "use case 2". A blue button labeled "Create a New Use Case" is visible on the left side of the background. At the bottom of the screen, there is a footer that reads "Created by: Tristan Giles, Matthew Fortier, Amritijot Madahar, and Geena Smith".

**Owner: GEENA**

**Description:** Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

**Create UseCase**

Title:

Goal:

Scope:

Level:

Preconditions:

Success End Condition:

Delete UseCase

use case 2

use case 1

Create a New Use Case

Created by: Tristan Giles, Matthew Fortier, Amritijot Madahar, and Geena Smith

## Editing a Use Case

To edit a use case, first log in and navigate to the project view. Select the use case you wish to edit, and select the "View Use Case" button at the bottom of the screen. This will present a modal with all the use case information. Edit the information as desired and select the "submit" button. Note that the "submit" button will



only be visible and the use case will only be updated if the user has write permissions for the project.

**Owner: GEENA**

**Description:** Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

use case 2

Create a New Use Case

use case 1

**View UseCase**

Trigger:

Description:

Extensions:

Sub Variations:

Submit

Cancel

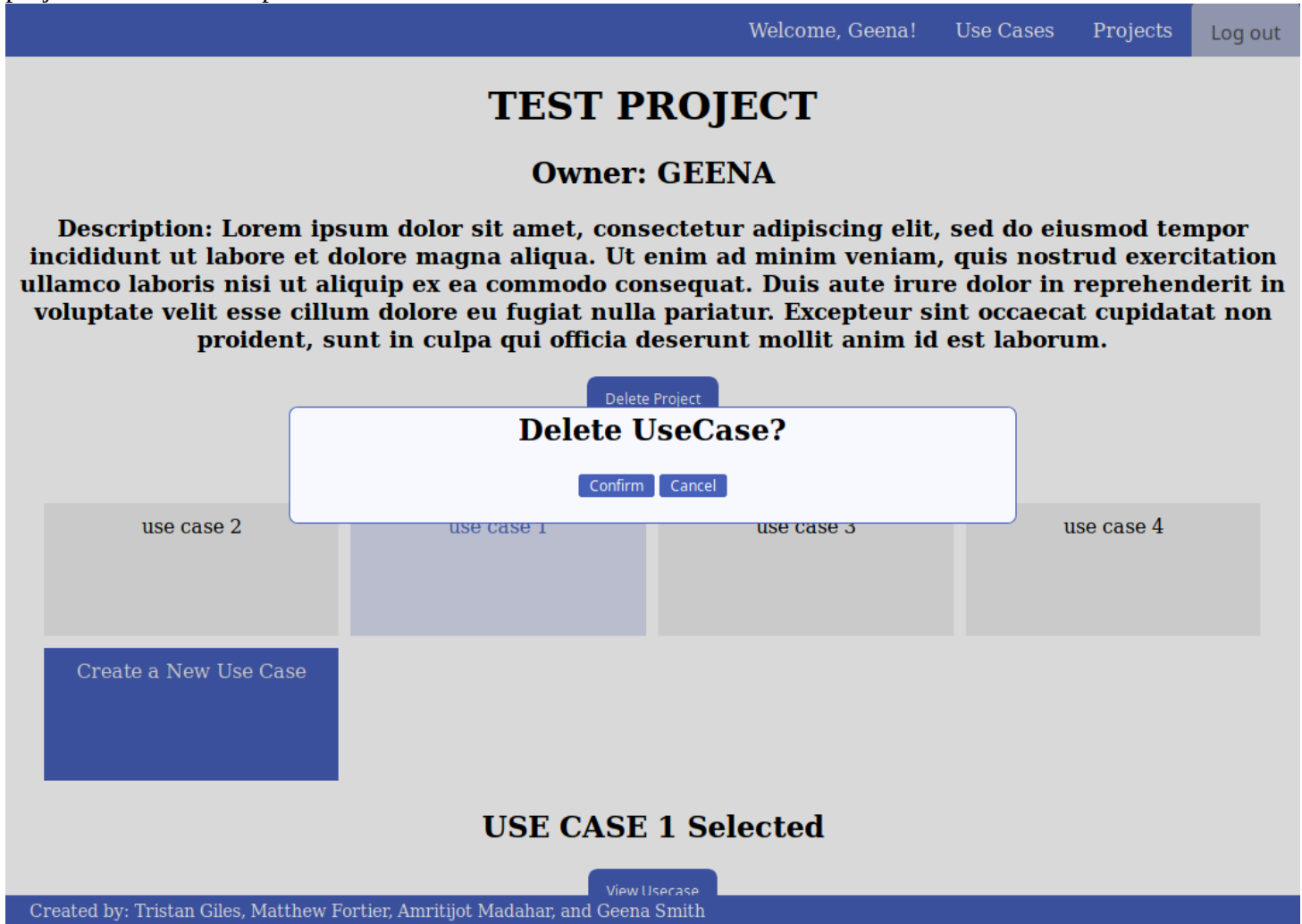
Delete UseCase

Created by: Tristan Giles, Matthew Fortier, Amritjot Madahar, and Geena Smith

## Deleting a Use Case

To delete a use case, first log in and navigate to the project view. Select the use case you wish to delete. If the user has "write" permission on the project, there will be a "Delete Usecase" button at the bottom of the screen. Selecting this button will present a delete confirmation modal. Select "confirm" to delete the usecase from the

project. This modal is pictured below.



## Known Problems and Limitations

After developing the application, we have noted the following problems and limitations:

- Use case structure used in project may not be comprehensive enough for all users. The form for creating a new use case does not allow the users to add their own custom additional information (aside from the fields in the form) and makes the use of the application somewhat limited to what we've determined to be enough.
- Duplicate naming. Currently, the application allows users with duplicate names, and projects with duplicate names. Calls to the API use the object ID to distinguish between objects rather than the name. To remedy this, we would either add a unique identifier to duplicate names, or prevent users from even creating an account whose name already exists in the system.
- The application is not scalable with its current structure. The application uses client side rendering and processing which means the data displayed on the page is only visible once it has completely been received. This makes the application appear slow at times, since the data can arrive slower than the browser takes to reload the page.
- When creating users/projects/use cases the new object does not always appear on the page instantly. This is because of how asynchronous calls are handled in the API. The response is often sent before the database call is fully resolved; therefore, new information is not always immediately available.