Team 3 - Green StormWater

Cognitive Walkthrough

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2/13/2024

Description of Users and Environment

Description of Users and Environment

Environment: Mobile first system that aims to track, inform and educate users about Green Stormwater Infrastructures.

Primary Users

- High School Students
  - *Description:*
    - Teenagers with some experience with technology
  - *Main Activities:*
    - Upload information and photos of green areas
    - View other green areas on the map
    - Lean about GSI's
- High School Teachers
  - *Description:*
    - Teachers who use the app with their students
  - *Main Activities:*
    - Teach students how to use the app
    - Educate students about GSI's
    - Create accounts for students

Secondary Users

- Jessica Alger
  - *Description*:
    - Adult with moderate technology experience
  - *Main Activities:*
    - Add and remove content
    - Act as a moderator of GSI submissions
- General Public
  - *Description:*
    - Individuals of any age and technology experience
  - *Main Activities:*
    - View GSI's on map
    - Learn more about GSI's

Use Scenarios

Use Scenario: Personas

Persona 1: Mrs. Sue

38 year old, high school science teacher

Mrs.Sue is a favorite teacher of junior and senior High School students, and is the only teacher of AP Environmental Science (APES) at her school. The class averages about 40 students per semester. She is looking for a way to more effectively communicate concepts about green stormwater as well as give students real world examples. As there are many topics that are covered in her course, she does not have a lot of time to spend on the topic.

Persona 2: Tom Lake

17 year old High School senior taking AP Environmental Science

Tom is a smart kid who has taken several high school AP courses. He is rather experienced with the subject matter our project is focused on presenting, and also fairly experienced with website use. Tom is one of our ideal users since he has a desire to go out and search for locations and information to add to the map.

Persona 3: Jessica Alger

PhD Students in Civil Engineering at Michigan Technological University

Jessica is our scientist and administrator for the app. Her goals are to broaden the horizons of high school students and get them interested in documenting and advocating for Green Space in Urban Areas. She wants minimal oversight so as to not limit students from submitting posts so she is the only user with admin access. She will have the power to remove posts that are not relevant to the app's purpose.

Use Scenario 1 Description: Searching for a GSI

- Tom, curious about the GSI near his home, traverses to the website and clicks on the map view.
- On the map view he is presented a map and a list of locations.
- He drags and scrolls over to his home.
- He see markers for the locations nearby.
- Interested in one of the marks he clicks on it.
- He is presented with a pop up containing information about the location.
  - Type of infrastructure
  - Photos of the location/infrastructure
  - A text box with a written description of GSI
  - Date installed
  - Size of infrastructure

Use Scenario 2 Description: Adding a GSI Location

- Tom finds a new GSI
- He logs into their account with a username and password
- Tom clicks on the "Add Location" button
  - He is then prompted to enter the following information
    - Type of infrastructure
    - Date installed
    - Size of infrastructure
    - Photos
    - A written description of the GSI
- A help popup opens to provide assistance entering information in specific fields
- He is able to hit submit if required fields are filled in
- The location and information is added to the map after submission

Use Scenario 3 Description: Removing a GSI location

- Jessica Alger wants to review the new locations
- She logs in with her username and password.
- She goes to the list view of new locations and sorts by new.
- She notices that one of the new locations is incorrectly identified.
  - One of the students had posted information unrelated to GSI
- Since she is logged in with her admin account she is able to remove or hide the location from the list view.
- Since the information is not relevant she decides to remove the post.
- A confirmation asks her if she is sure she wants to remove the post. She clicks yes and it is removed.

Use Scenario 4 Description: Error While Adding GSI

- Tom does not add anything to a required fields while adding a GSI location
  - Form is not correctly filled out, but the "Submit" button is still clickable
- Before sending to the database, form validation occurs
  - The client side catches that the forms required fields are not filled out.
  - The page informs Tom that he has skipped required fields
- Once the form is valid, the system inserts it into the database
- The page gives Tom a success/error response
  - In case of errors in the database (such as a shutdown or disconnection), corrupted or incomplete data is removed from the website via error handling.
- Once there is a success, Tom's submission appears on the map.

Paper Prototype Desktop

Green Stormwater Infrastructure

GSI Description

Example Picture

Importance of GSI, Goals of this site

Green Stormwater Infrastructure

GSI Description

Example Picture

Importance of GSI, Goals of this site

Green Stormwater Infrastructure

Interactive Map

Add GSI

Instructions for using the map

The map view, scalable, shows pins for existing GSI locations, ability to drop a new pin to go to the "Add GSI" page
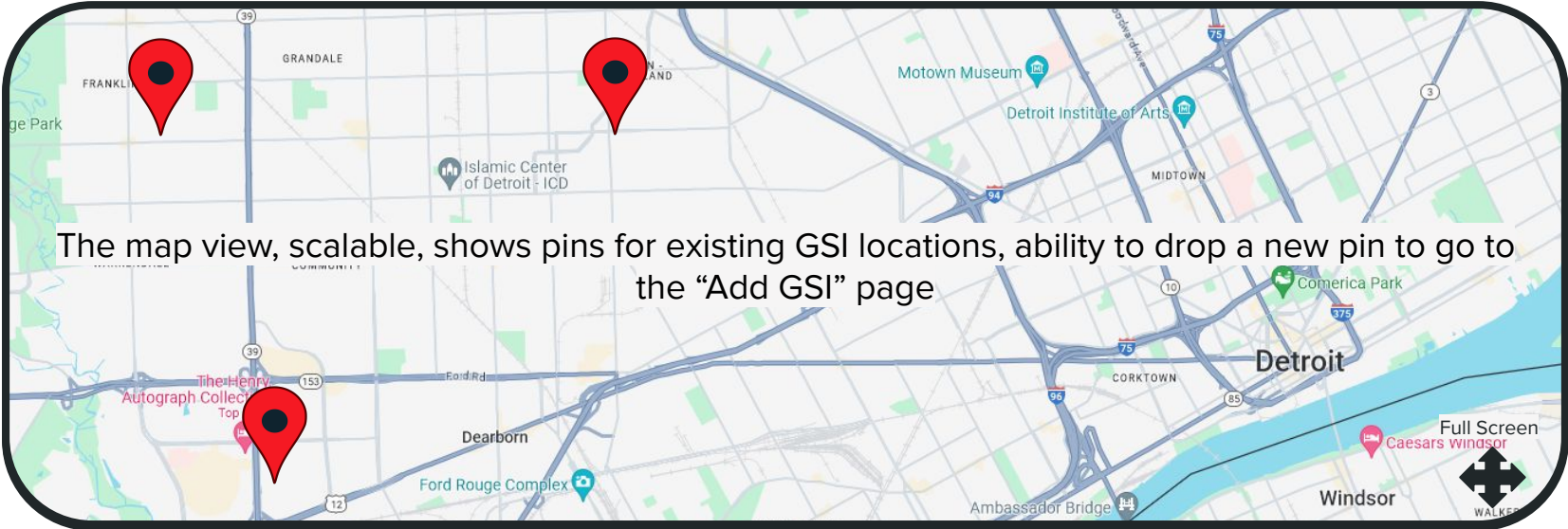
Green Stormwater Infrastructure

Interactive Map

Add GS[I]

Information about this specific GSI location

Edit

e map

The map view, scalable, shows pins for existing GSI locations, ability to drop a new pin to go to the "Add GSI" page

Green Stormwater Infrastructure

Add a New GSI

Location coordinates (auto-filled if coming from a dropped pin)

Description of Space

Size: square feet - link to site that can estimate using satellite

Upload any pictures

Submit

Cancel

Green Stormwater Infrastructure

Edit an Existing GSI

Location coordinates (auto-filled if coming from a dropped pin)

Description of Space

Size: square feet - link to site that can estimate using satellite

Upload any pictures

Submit

Cancel

Green Stormwater Infrastructure

Login

Username:

Password:

Login   **Change Password**

Green Stormwater Infrastructure

Add an Instructor Account

Username:

E-mail:

School:

Submit

Green Stormwater Infrastructure

Add a Student Account

Username:

E-mail:

Submit

Green Stormwater Infrastructure

Current App Members

| Jessica Alger | **Moderator**
Email: jlalger@mtu.edu | **Reset Password** | **Send Invite** | **Remove** |

| Tom Lake | **Student**
School: Springport High
Email: 0414A@mischools.org | **Reset Password** | **Send Invite** | **Remove** |

| Kevin Bak | **Teacher**
School: Springport High
Email: kabak@mischools.org | **Reset Password** | **Send Invite** | **Remove** |

| Caden Kienitz | **Student**
School: Munising High School
Email: cdkienit@mtu.edu | **Reset Password** | **Send Invite** | **Remove** |

Green Stormwater Infrastructure

GSI Description

Example Picture

Importance of GSI, Goals of this site

Green Stormwater Infrastructure

Download CSV   **Logout**   **Menu**

View Posts

| Description | By: Tom Lake | **View Map** | **View Image** | **Remove** |

| Description | By: Kevin Bak | **View Map** | **View Image** | **Remove** |

| Description | By: Tom Lake | **View Map** | **View Image** | **Remove** |

| Description | By: Caden Kienitz | **View Map** | **View Image** | **Remove** |

Green Stormwater Infrastructure

Menu

View Posts

| Description | | By: Tom Lake | | **View Image** | **Remove** |

Are you sure?

Remove   **Cancel**

| Description | By: Tom Lake | **View Map** | **View Image** | **Remove** |

| Description | By: Tom Lake | **View Map** | **View Image** | **Remove** |

| Description | By: Tom Lake | **View Map** | **View Image** | **Remove** |

Paper Prototype Mobile

Screen 1 (collapsed menu)

GSI ☰

Example Picture

Green Stormwater Description

Importance of Green Stormwater Infrastructure

Screen 2 (expanded menu)

GSI ✖

Login
Home
Map
Add GSI
View Posts

Moderator

Add Instructor
Add Student
View Members

Description

Importance of Green Stormwater Infrastructure
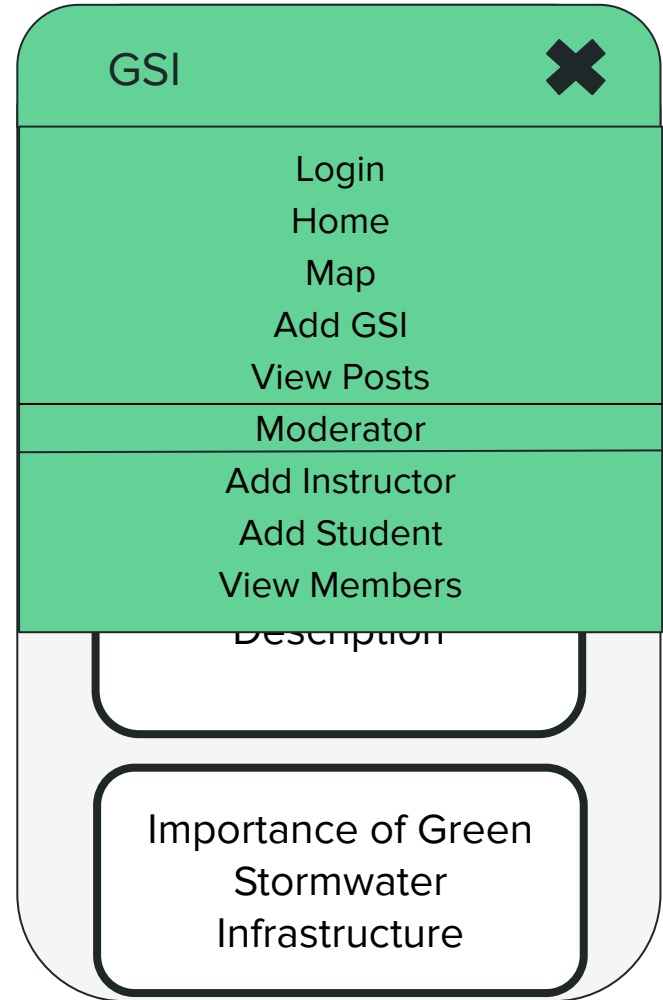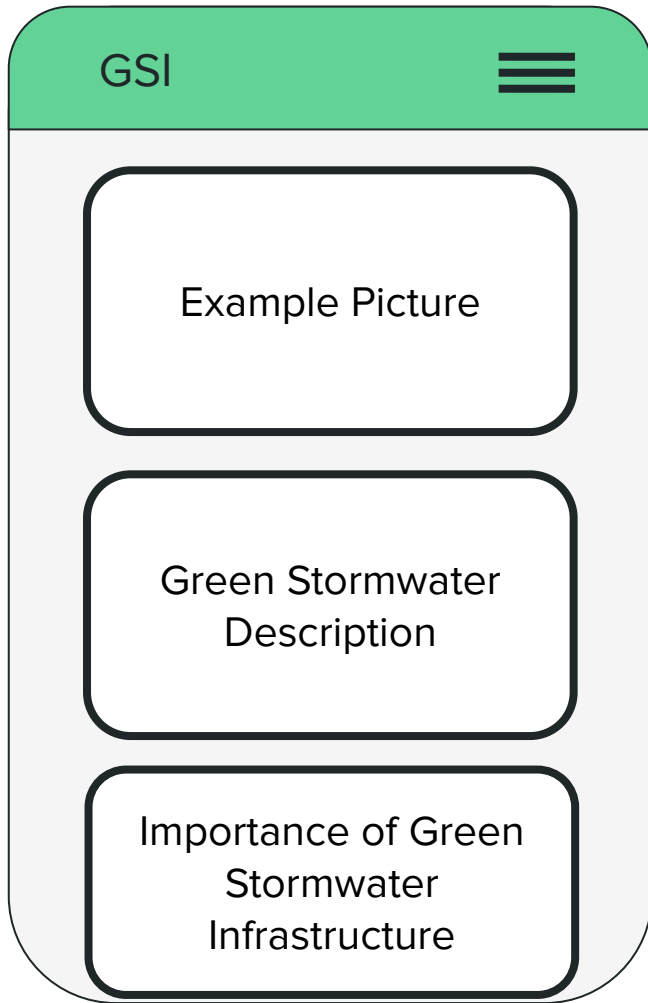
GSI

≡

Login

Username

Password

Login

Change Password

GSI

Add an Instructor

Username

Email

School

Submit

GSI

Add a Student

Username

Email

Submit

GSI ☰

Current App Members

Jessica Alger [Moderator]
jlalger@mtu.edu
›

Tom Lake [Student]
0414A@mischools.org
Springport High
›

Kevin Bak [Teacher]
kabak@mischools.org
Springport High
›

Caden Kienitz [Student]
cdkienit@mtu.edu
Munising High School
›

GSI ☰

‹ Jessica Alger

Account: Moderator
Email: jlalger@mtu.edu

Reset Password

Send Invite

Remove
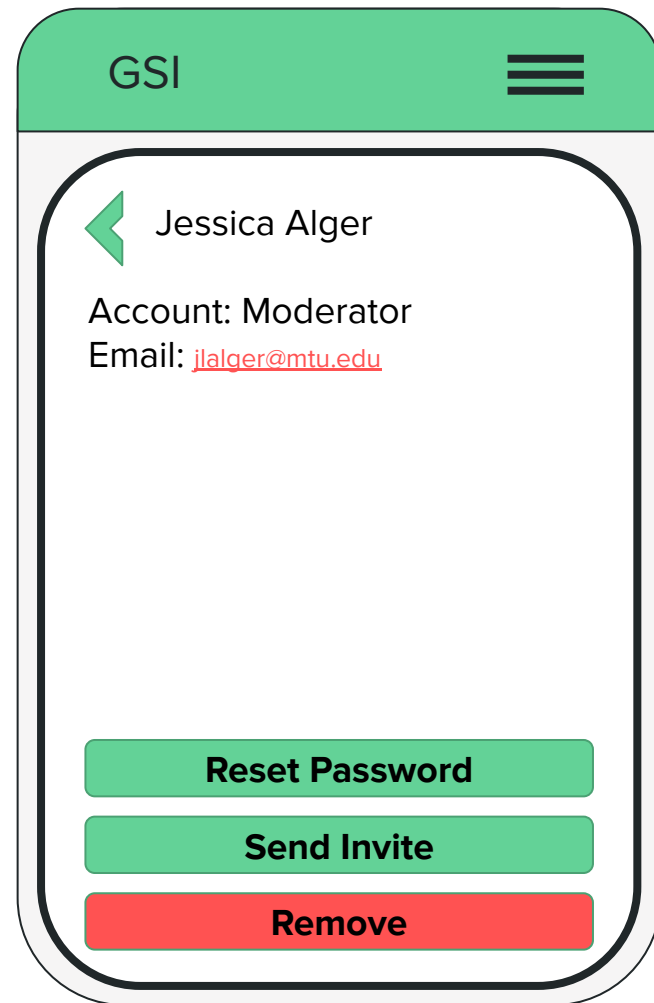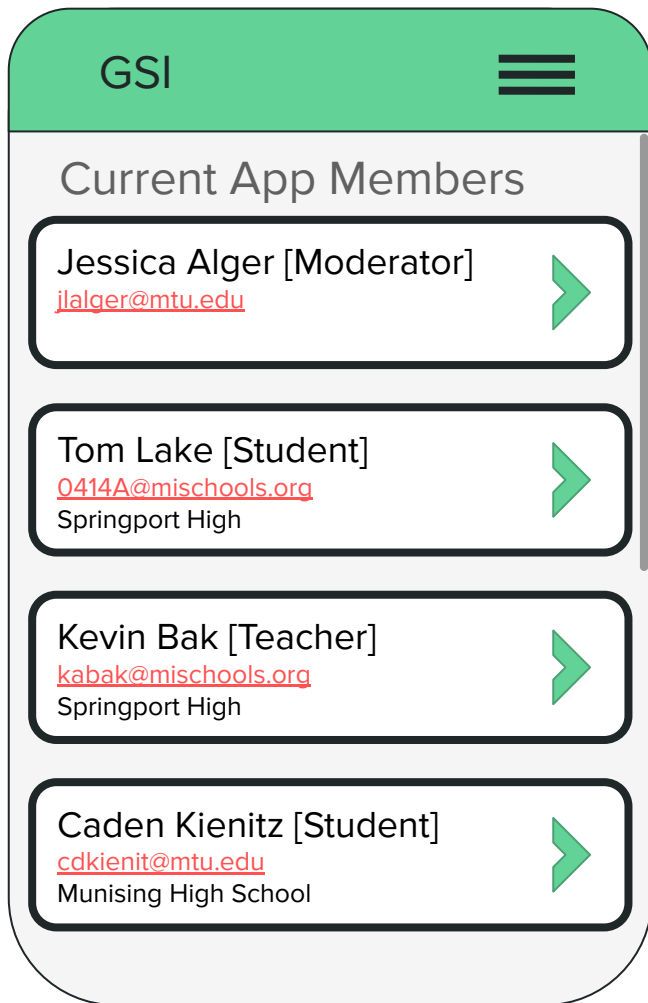
GSI ≡

Add a New GSI

Location coordinates (auto-filled if coming from a dropped pin)

Description of Space

Size: sq/ft - link to site with estimate using satellite

Upload any picture

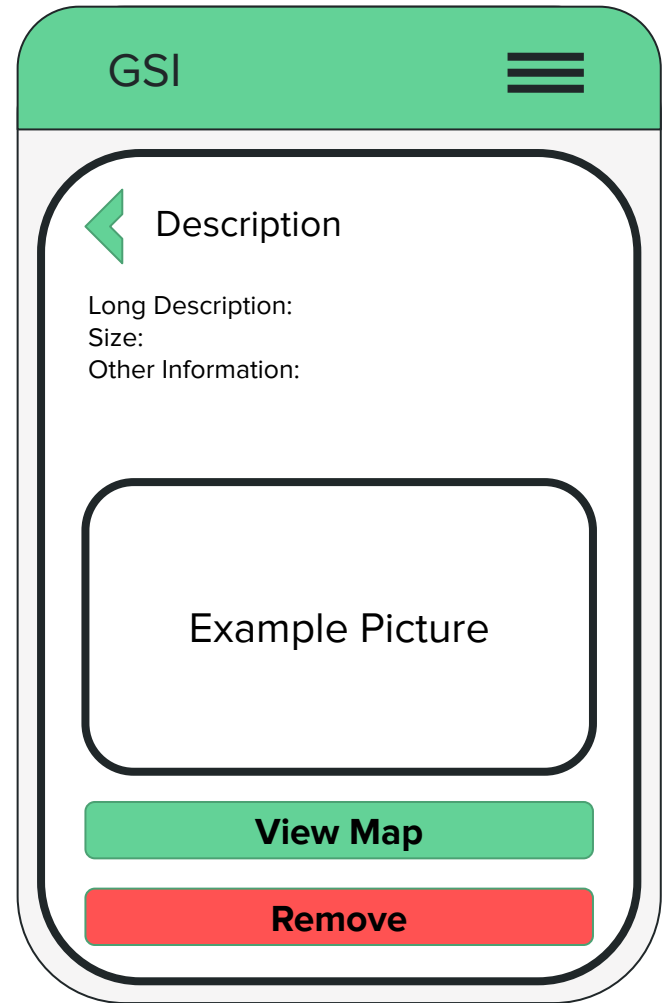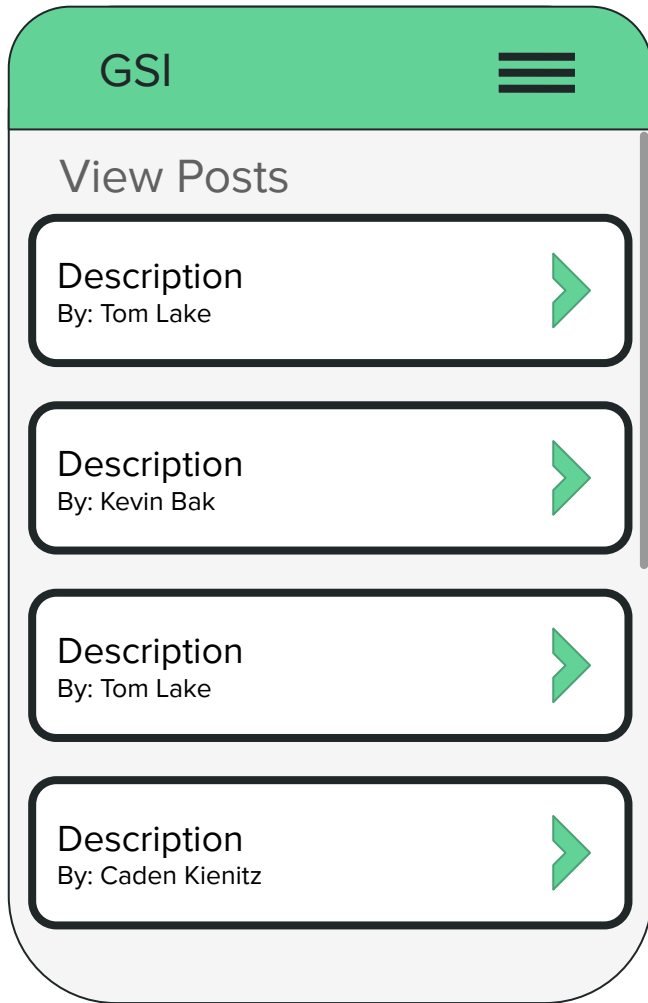**Submit**   **Cancel**

GSI ≡

Edit an Existing GSI

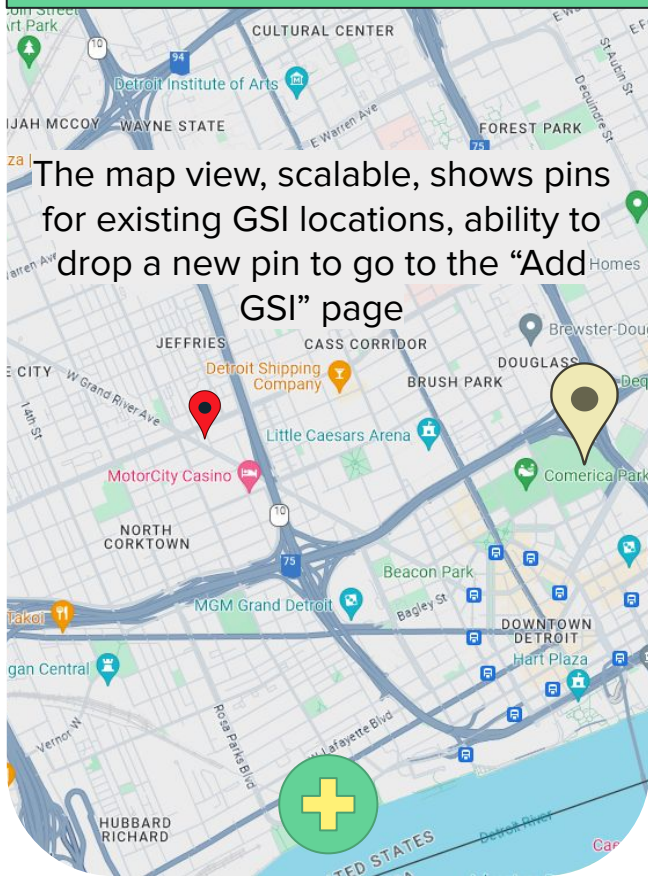Location coordinates (auto-filled if coming from a dropped pin)

Description of Space

Size: sq/ft - link to site with estimate using satellite

Upload any picture

Submit   **Cancel**

Screen 1 (View Posts):

GSI ☰

View Posts

Description
By: Tom Lake →

Description
By: Kevin Bak →

Description
By: Tom Lake →

Description
By: Caden Kienitz →

Screen 2 (Description detail):

GSI ☰

← Description

Long Description:
Size:
Other Information:

Example Picture

View Map

Remove

GSI

The map view, scalable, shows pins for existing GSI locations, ability to drop a new pin to go to the "Add GSI" page

GSI

Information about this specific GSI location

Edit
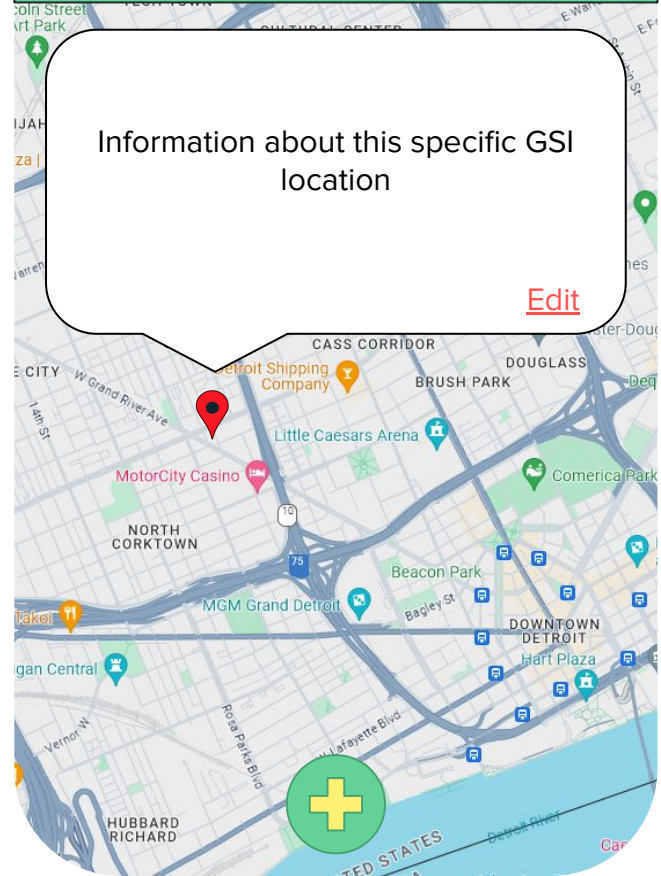
Usability Goals and Concerns Lists

Usability Goals and Concerns

Goals:

- Useable on mobile devices

- Creating a design that is intuitive to users

- Allow for easy exploration of the GSI locations on a map

- Explain Green Stormwater Infrastructures in an understandable way

- Allow for collection of relevant data about local GSI

- Aesthetic and minimalist design

Concerns:

- User control and freedom

- Constancy and standards

- Bugs and error handling

- Troubleshooting: We want to help users recognise, diagnose, and recover from errors

Any Questions?