

# ecoHero

## Milestone 1

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### History Table

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# 1. Executive Summary

In our everyday life we don't think too much about environmental hazards and who has to deal with them. However, when they do come up, most people would like for them to be dealt with. In these instances, it's not always clear who to report these problems to and where. On top of that it's also unclear if anyone what kind of attention is being given or planned currently for any ongoing issue. What **ecoHero** would provide would be a clear place for people to turn to report hazards in their local area and keep up to date with their clean up progress.

Currently an individual can report to their local government, EPA, or non-governmental organizations. What **ecoHero** would like to do would be to streamline the process for the people in the community that would like to make reports. With one place for common citizens to view and post hazards so that the appropriate authority can view and address these issues. What we want in essence is to make the process easier for both the people dealing with the issues in their environment and the people responsible for cleaning them up.

Our team is composed of Computer Science students from San Francisco State University. We want to use the knowledge we've acquired to contribute to our community. It is important for us to make a positive impact and we believe that this can our website can do this. We are motivated to further our own development experience and provide a service for the public at the same time if possible.

## 2. Use Cases

### 1. Guest Users - Citizens Who Want to View Environmental Hazards:

Karen is a mom who takes pride in her town. She loves when it is tidy, safe and hazard-free. She is using **ecoHero** to keep up-to-date on what places are hazard free and what places in her city are clean. She browses the hazard posts. She clicks the filter icon and then clicks “location” to sort them by location. She sees a gallery of hazards that are closest to her location. Each hazard has a title, location, description, and date. Karen is not technologically savvy and therefore wants a program that is intuitive to navigate and quick to use. She prefers not to share personal information or remember account credentials and would rather view hazards as a guest user.

### 2. Registered Users - Citizens Who Want to Browse Posted Hazards:

Mark is a young man who likes to volunteer. He is always looking for opportunities to give back to the community in any way he can. Throughout his week, he noticed a huge trash pile in a public area that has never been taken care of. When Mark arrives home, he goes to his computer and goes to the home page of **ecoHero**. He logs into his account and clicks the post icon to submit a hazard. He gives a title, description, and location of what he saw and uploads an image he took earlier. Mark submits the hazard to be reviewed by an administrator before the post is public.

### 3. Site Admin - Employee who Maintains Website:

Bozo is the website administrator. He has unique permissions that allows him to moderate the incoming posts to be sure they are real hazards and not inappropriate content. Admins can approve or deny pending hazards as well as delete hazards that somehow got through their detection. Admins can also temporarily or permanently ban users. If necessary, Admin can delete users' accounts. The admin can **NOT** edit posts. Only responsible for website related issues.

### 4. Environmental Service Agent/City Official - Special Users Who Update Hazard

#### Progress:

Chloe is the head of an Environmental Service Company that actively browses **ecoHero** looking for new hazards that she can deploy her team out to fix. Chloe uses **ecoHero** to find incidents to fix. She shares a hazard with her team. A hazard's status by default is marked as "PENDING". Chloe can update the hazard as "IN PROGRESS" or "FINISHED". She updates the hazard's status as "IN PROGRESS" by her team specifically. Chloe uses our site to turn the hazards posted into data she can use for monthly reports. She is interested in things like whether the amount of hazards has increased or decreased, where are hazards most frequently reported, when are the most hazards reported, etc. All of which, our site logs and displays for her.

# 3. Data Definitions

## **[Guest]:**

Unregistered user, can only browse the website, cannot post, reply and edit.

## **[Registered Member]:**

Registered user, can browse, post and reply. Can only edit and delete their own post if their member status is normal.

## **[Administrator]:**

Appointed by the website owner. Can post announcement and regular post. May be able to delete edit every posts for reasons. Every post need to be checked by Admin before being shown on the website. Able to ban user.

## **[Environmental Agents]:**

Special User, Environmental company user. They can watch the post posted by Registered User in a special term. Every post have a check box after the title. Agents are able to mark the post as “**IN PROGRESS**”, “**FINISHED**”. Before this, the post will be seen as “**PENDING**”.

## **[Post]:**

Contains Title, images from user's upload, locations that user indicates (Google Map), replies, and comments. Post date & time, last edited date. User's record (Poster and Replier's username, registered dates)

# 4. Functional Requirements

**Unregistered users** shall be able to...

1. Navigate and view approved environmental hazard posts
2. Sort or filter the posts by date, title, or area
3. Search for posts by title or description
4. Log in or create a registered account

**Registered users** shall be able to...

5. Do all the above
6. Post environmental hazards with a title, description, location, date, and image  
Must be approved by an administrator
7. Edit or delete their previous posts  
Must be approved by an administrator

**Administrators** shall be able to..

8. Do all of the above
9. Approve or reject a pending registered user's post
10. Approve or reject a pending edit or deletion of a registered user's post
11. Post an announcement
12. Delete a post with reason
13. Ban a user temporarily or permanently with reason

**Environmental Agents** shall be able to..

14. Do all what a registered member can do
15. Confirm an environmental post
16. Mark posts as “in progress” or “solved”

## 5. Non-Functional Requirements

The non-functional requirements for our web application shall be as follows -

1. Application shall be developed, tested and deployed using tools and servers approved by Class CTO and as agreed in M0 (some may be provided in the class, some may be chosen by the student team but all tools and servers have to be approved by class CTO).
2. Application shall be optimized for standard desktop/laptop browsers e.g. must render correctly on the two latest versions of all major browsers: Mozilla, Safari, Chrome.
3. Application shall have responsive UI code so it can be adequately rendered on mobile devices but no mobile native app is to be developed
4. Data shall be stored in the team's chosen database technology on the team's deployment server.
5. Application shall be media rich (at minimum contain images and maps)
6. No more than 50 concurrent users shall be accessing the application at any time
7. Privacy of users shall be protected and all privacy policies will be appropriately communicated to the users.



8. The language used shall be English.
9. Application shall be very easy to use and intuitive.
10. Google analytics shall be added
11. No e-mail clients shall be allowed
12. Pay functionality, if any (e.g. paying for goods and services) shall not be implemented nor simulated.
13. Site security: basic best practices shall be applied (as covered in the class)
14. Modern SE processes and practices shall be used as specified in the class, including collaborative and continuous SW development
15. The website shall prominently display the following exact text on all pages *"SFSU Software Engineering Project, Spring 2018. For Demonstration Only"* at the top of the WWW page.

## 6. Competitive Analysis

	Competitor 1	Competitor 2	Competitor 3	ecoHero
Cost	\$99	\$99	\$49	FREE
Report Response Time	Non-Instant	Instant	Non-Instant	Instant
Archive of Reports	Yes	No	No	Yes

# 7. High-Level System Architecture

## **Server Host:**

Amazon Web Services EC2 service. Instance structured as follows:

Operating System - Amazon Linux AMI 2017.09.1 (HVM), 1CPU 1GB RAM

Web Server - Apache Webserver 2.4.28

Database - MySQL Community Edition V 5.7

Server-Side Language - Python 3.5.4

Web Framework - Django 2.0.2

## **Additional Technologies:**

Front-End Library - Bootstrap V 4.0.0

IDE - Atom 1.24

Web Analytics - Google Analytics

API - Google Maps, Google Places

FTP - Putty (Windows Users), FileZilla

## **Supported Browsers:**

Google Chrome, Firefox

## 8. Team

**Andrew Wong**

Team Lead

**Connor Aguilera**

Front-End Lead

**Marcelo Coronado**

Back-End Lead

**Patrick Shi**

Back-End Developer

**Preston Segura**

Front-End Developer

**Emilio Quiambao**

Front-End Developer

**Sahas Arora**

Front-End Developer

# 9. Checklist

1. **[DONE]** Team found a time slot to meet outside of class
2. **[DONE]** GitHub master chosen
3. **[DONE]** Team decided and agreed together on using the listed software tools and deployment

server:

**Server Host:** Amazon Web Services

**Operating System:** Amazon Linux AMI 2017.09.1 (HVM), SSD Volume Type

**Database:** MySQL

**Web Server:** Apache (whichever version is available on the AWS services)

**Server-Side Language:** Python

Additional Technologies:

**Web Framework:** Bootstrap

**IDE:** PyCharm, Atom

**Web Analytics:** Google Analytics

**SSL Cert:** AWS Certificate Manager

4. **[ON TRACK]** Team is ready and able to use the chosen back and front-end frameworks and those who need to learn are working on it
5. **[DONE]** Team lead ensured that all team members read the final Milestone 1 and agree/understand it before submission