# CS 160 Software Engineering Sec 4

# Professor Dominic Abucejo

# TrashTalker: Sprint 1 Report

# Green Team (Team 4)

**Apple Ko, Jaewon Kim, Katherine Yee, Riley Short, Vu Ai Van Trinh**

## Introduction

Waste classification is one of the most essential mechanisms needed to encourage recycling and minimize negative environmental impact caused by improper handling of hazardous waste. Despite being waste producers, most people often fail to classify their own waste before throwing them into the trash, due to difficulty differentiating types of waste or lack of incentive to comply with waste management rules. In order to help remove this barrier to effective waste management, TrashTalker is a web app designed to help users quickly classify the waste they produce by leveraging image detection technology. Our goal is for our application to encourage users to be more conscious about where their trash ends up and to help guide users to the proper disposal methods for the waste they produce.

## Statistics

~How many scrum meetings occurred during sprint 1:

During sprint one our team had 6 scrum meetings that ranged between five and fifteen minutes in length.

~Shortest task duration time and longest task duration time:

The shortest task duration time was setting up the GitHub repository. This took only a couple of minutes.

The longest task duration was for the initial React application setup. This took over the course of one day to complete.

~Completion Rate:

Our team had a 100% completion rate during Sprint 1. All members were able to complete and deliver all the tasks on the Product Backlog that were assigned to them on time.

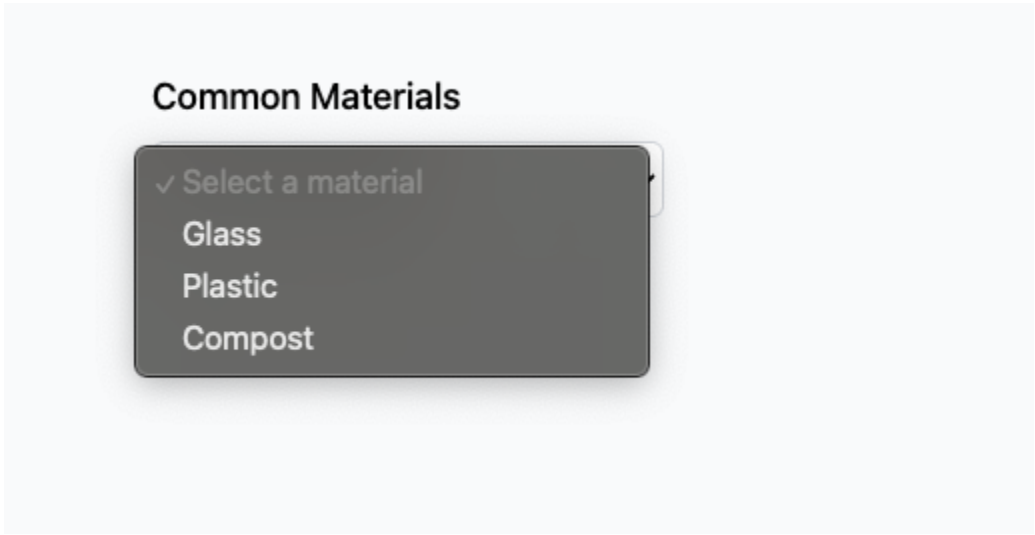
~Team Velocity:

There were nine items on the Product Backlog Inventory that added up to 25 story points. This took us a week to complete all the items.

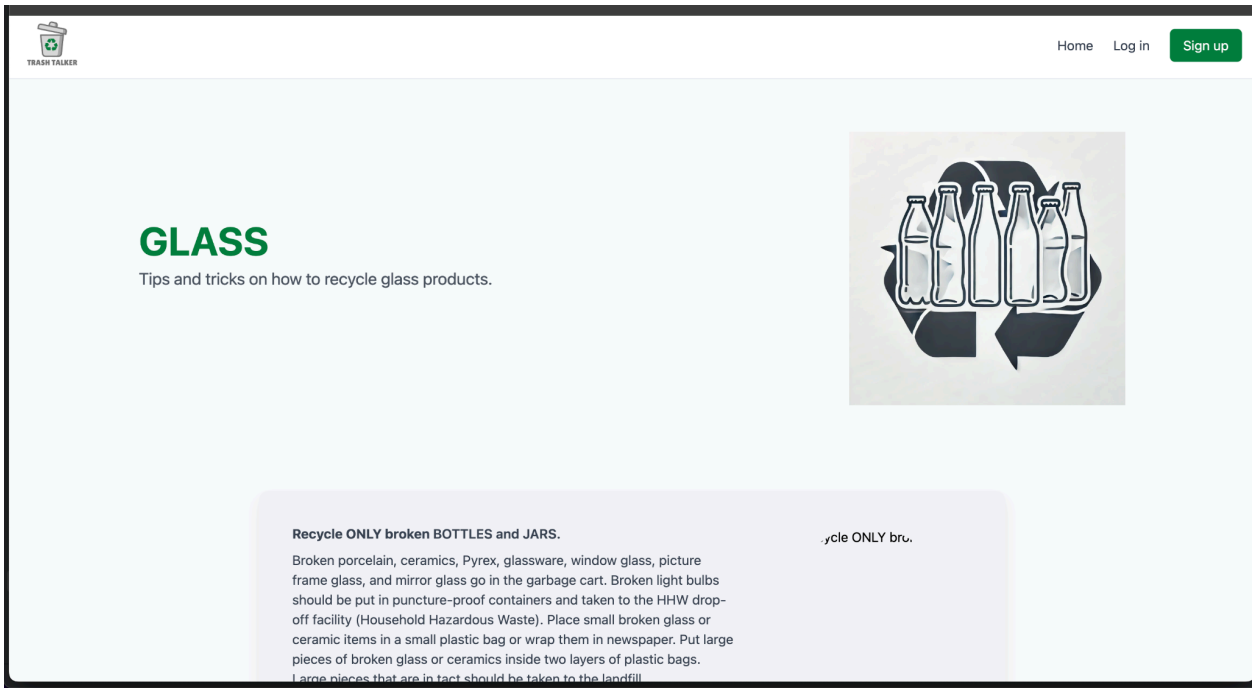
**Functionality**

The functionality of our application can be broken down into the four pages that were implemented. On the home page, users can click on a sign-up/sign-in button that provides them the option to sign-up/sign in with Google. This was implemented with Google authentication using Firebase. At present, nothing is done with the user authentication object that is generated, but the fundamental functionality was achieved. Additionalty on the home page, users can click on a drop down menu that reveals three categories of waste. These categories are glass, plastic, and compost. Users can click any of these drop down items to navigate to the respective informational page about the waste category. On each of the glass, plastic, and compost pages, users are greeted with an illustration of the category as well as an informative description on how the items can be properly disposed of. To navigate back to the home page, users can click either the home button on the menu bar at the top of the page, or click on the TrashTalker application logo.


*(Above screenshot shows the homepage with login/signup and drop down menu)*



*(Above screenshot shows dropdown menu with categories of waste)*




*(Above screenshot shows the glass page with image and description of proper disposal)*

Our application successfully implemented user authentication using Firebase Authentication with Google accounts. When users click the Google login button on the homepage, they are redirected to the official Google authentication page. Here, users log in with their Google accounts and authorize access to our application, after which they are automatically redirected back to TrashTalker's homepage.

Upon successful login, the application receives a user object generated by Firebase. At this stage, we have not yet implemented displaying or storing detailed user information in the UI or database, but we have verified that the basic authentication process and login state management functions perfectly.

**Assessment of Sprint 1**

Sprint one of TrashTalker application development went well. Our team achieved a solid foundation for the application, having the React web page setup with three categories of trash, a well designed and modern user interface, and setting up the framework for user account creation and authentication with Firebase. Some of the challenges faced by our team during the sprint were dividing up the work. All of our team members have a diverse set of skills and experiences with varying technologies. This makes it difficult to appropriately divide the tasks among the team members whilst ensuring each task will not overburden the team member assigned to it. Despite this, our team was able to appropriately divide the work to reasonably suit the skills and experience level of each team member. Something that will be improved upon in the next sprint will be this division of work. Sprint one laid the foundation for the application, its basic functionality, and its user interface design theme. With this in place, it will be easier to come up with backlog items and divide work among team members. At this point our team has developed a solid communication strategy that will allow us to work more efficiently and effectively in sprint two. An additional element to improve will be the number of scrum meetings our team engages in. We would like to achieve daily communication and updates on progress from all team members. This will allow us to more efficiently track our timeline and progress towards our backlog items.

Key technical goals we aim to achieve in the next sprint include:

- Implementing image-based real-time object detection functionality and integrating it with a Flask server
- Creating a user profile page using Firebase authentication information and developing a system for managing individual user information

These clearly defined objectives will help the team distribute tasks more effectively, promote better communication, and ensure clearer progress assessment and performance evaluation in upcoming sprints.