Feature: Litter Map

Feature Developer: Ghabrille Ampo

Date Model Submitted: 2/25/23

Reviewer: David DeGirolamo

Date Review Completed: 3/1/23

Major Positives and Negatives

Your model takes into account that the user is accessing the feature through the frontend and is sending an AJAX request to the services, which is a positive. However, according to your LLD, the location of the pins is currently being stored as a String which would make it very hard to sort pins by location, distance to user, and by zip code. It's not impossible to meet the requirements with a string, but it is suboptimal

Unmet Requirements:

Pre-Conditions of Litter Map Feature per BRD pg 23 states, "1. User must be in an authenticated session. 2. User type is either: Admin, Reputable, Service, or Regular." Your LLD models show an Anonymous User accessing the Litter Map Feature, which is not in the scope of the Feature. You should restrict access to this feature to only authenticated users. Also per BRD pg 24 states, "The system must accept valid zip codes only from California." Your LLD doesn't show zip code being stored at all which means you can't check zip codes or filter by zipcode.

Design Recommendations:

I would recommend changing your Pin table in your database to have a double latitude and longitude, which you could calculate distance to the user by taking their latitude and longitude and using the distance formula on them. You could also add a check if the given latitude and longitude for new pins are within the bounds of California. Second, you should also add a zip code field in the database table which inherits a foreign key from a zip code lookup table that only has the California zipcodes. This would allow you to filter by zip code and restrict which zipcodes are legal. Also try to grab a subset of the pin database instead of the whole thing. It will increase the performance of the feature and it won't grab unnecessary pins as our product expands into different states or countries.

Test Recommendations:

Does a User get rejected when he tries to place a pin outside California? Does placing a pin properly store it in the database? Does filtering pins by zip code group them properly? Does filtering pins by distance to the user order them properly?