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Project Name: Drop In The Bucket

Something that is a challenge for humans and our earth's environment is the Tragedy of the Commons. "*The tragedy of the commons refers to a situation in which individuals with access to a public resource—also called a common—act in their own interest and, in doing so, ultimately deplete the resource.*" Source: Harvard Business School Online, [Tragedy of the Commons: Examples & Solutions | HBS Online](#) accessed on 2/1/2025

How to face this phenomenon as humans is very difficult and requires individual action. It is not something that really can be regulated from the outside in the majority of cases and also it is not a situation that humans would probably accept. However, we know that as a species that we are using up the resources on the planet. Perhaps this is inevitable but there are ways to slow this down. As years have gone on I have thought of this so much in my own life and about this human issue. What in the world would actually change individual habits enough in a way to make a difference and faster? That is why I am calling the project "Drop in the Bucket". What we think is nothing, on our part, can add up, negatively or positively.

This project will focus on individuals taking note of a new action or new habits they repeat or randomly do during their day that are a small change on their part to help the environment and new. It is low pressure. It is optional. Often when someone does something small such as "I walked to the store" or "I took a five minute shower, instead of 15" they don't track it or may not keep it up. There are hundreds and thousands of actions a person could take during the day to help the environment. Many of these ideas people would not think up on their own. Do the benefits of a 5 minute shower outweigh the benefits of a 25 minute shower? Maybe not, for the individual. But, for the planet, most likely yes. We want things to be easy, convenient and feel great. We may want to buy new clothing to attract a partner, land a job. Get another watch. Buy, buy and buy some more new things. It may be easy for some. Impress the friends with the new car. Save every photo in the Cloud since 2015. It's not much, just *my* own (50,000) photos, *my* food I throw away isn't that much.

Drop in the Bucket is a project to confront and approach the Tragedy of the Commons. It is based on individual choices and habits. Users will remain anonymous in their actions. but add changes or do new actions in their day to add a "Drop in the Bucket". They can also see others take these or other actions, get other ideas and see overall actions add up in the real world to make an impact. With Drop in the Bucket users can feel less isolated in their worries about the environment and take on what is in their own hands. They can see how small actions add up. They can make a difference, and faster, with Drop in the Bucket. They can come together, but in private as individuals. This is an application that is based on changing and developing individual habits. It aims to build an awareness that our contributions matter, create change.

Here is how it will work: There will be a simple web page someone goes to with a blank line at the top. The web page right now will be extremely simple. All you will enter is your action you did today and how many times. You can type in any word, any phrase, but it will need to be just a short phrase of less than 25 characters to keep things easier to categorize later.

Examples:

“I biked to campus”, “I turned off the lights in the kitchen when I left the room”, “I did a full load of laundry”, “I finished the leftovers”, “I bought vegetables at the farmers market”, “I used cooler water in the shower”.

How it will Work:

This web site will allow other individuals from any location to visit the site and type in their action(s). When anyone goes to the site they see the same thing, the blank line. When the action is typed in it will be saved in a database. The first part will be gathering this information and then storing it. The person may not want to keep opening the program to type the same thing in 10 times. There will be an optional field to type in the number of times you remember doing this action that day or since you last visited the site (if more than once!). It will only be able to take a number up to 10. It will have 1 in it by default. Once a button to submit is hit, then the fields will become blank. Then, another entry can be input if desired.

Note: the Front End of this is very simple. It just has 2 fields and one is optional. There is another button “View Drops in the Bucket”. This will be implemented later on to display interesting features.

What will happen once a user enters a phrase:

The information will be stored in the program on the backend and this will take place using a database or data structure that can be used with RUST or appropriate data structure storage with RUST. The actions will be stored in a data structure that will hold a counter. Each time an action is entered a match will be searched for in the system and placed into a data structure or a new entry is started. The structure will also keep track of how many times that same phrase has been entered.

The user location (IP address that would possibly lead to a state and city) would be put into a database or data structure that can be used with RUST. It will want to store the entry made by a user which is the action they entered, the count of times done and the IP address.

This data could sometimes duplicate in that a person could keep entering “walked to work”. The data storage will need a way to search for a phrase and if it exists already, just add the count to its current count.

The last functionality that this will have is that when the user clicks on “View Drops in the Bucket” the web page will populate a box that will show the 50 top actions in the list with the

action with the highest count at the top, 25 randomly picked actions from entries (not including any of the top 50 actions and count does not matter) and top 10 new actions of the week. This is something that will be stored on the back end daily (just at the end of the day). This is a chart that could just be accessed and displayed with that button. The query would only happen once a day on the data set to make this a bit more simple (midnight PST). It would be accessible once complete or if it takes too long and not updated it would post "New information not available yet for yesterday's data- please check back later"

Some likely concerns and issues with this project:

I do not know how many users this server could allow to access this. This would need to be researched or else limited as in if too many hit it at once say "the server is overloaded, please come back later"

If there are multiple calls all day long from one user (a bot?) it would need to have a way to shut that down such as limiting the amount of entries or visits from that bot.

There are issues with the results being dishonest as people can lie, or bots can make this app uselessly inaccurate. Eventually having a login page for the app makes sense if one wants to actually add something. This is probably beyond the scope of this project to add a secure login with a "verify you are human" puzzle.

If there are too many variations of the entry phrases in the database I will need to move them to a different type of data structure that can hold more data.

Entries could be nonsensical (howjfwqiefnwqkfweqoihfj). There could be some basic checks to eliminate certain patterns. (it would not catch all but some or most ideally) or there may be something out there to already detect if a sentence is English. (a function or AI plugin).

Users with a VPN may not have a location or locations can be inaccurate

Entries WILL say the same thing but with different wording. How to deal with this is a challenge especially when so many entries will come in. "Rode bike 30 minutes" "I went for a bike ride" "I went for a 30 minute bike ride"