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Project Name: Drop in the Bucket

<https://github.com/sonesky1/drop-in-the-bucket>

Something that is a challenge for humans and our earth's environment can be explained by 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

Do the benefits of a 5 minute shower outweigh the benefits of a 25 minute shower? Maybe not, depending on a person's water bills, economic situation and other factors. But, for the planet, probably yes. Humans often want things to be easy, convenient and feel great. We may want to buy new items we don't need. Take 3 napkins and only use 1. Get another watch. Impress the friends with the new car. Not delete (50,000) photos stored on the Cloud. Bring home another plastic to-go container. Use another plastic water bottle. We may know these things happen a bit too often but lose track.

How to face this phenomenon as humans is very difficult and requires individual action but may need a community effort to make this more effective and positive. Personal choices and daily habits are an aspect of helping the environment that individuals can choose to do and manage on their own. However, we know that as a species we are using up the resources on the planet without thinking or acting fast enough about how to live sustainably. It may feel hard to do something but not feel it makes enough of a difference and sometimes feel like it is not worth bothering as a result. We may not see others taking that action too. We may not always feel that we have a place to share these goals and work on them together since many are just small things involving personal habits. We may lack awareness, stick-to-it attitude and ideas

What will change individual habits enough in a way to make environmental goals change faster, feel positive and potentially make it a bit more "cool" or "fun" to make these individual changes in the world? That is why I am calling the project "Drop in the Bucket". While people may get discouraged and think their own little action will not do much or enough, this app will help users see that small actions can add up quickly by the numbers. Hopefully it will also make it seem more fun, too as people will feel more connected in this.

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. It is low pressure and optional. Often when someone does something small such as "I walked to the store" or "I took a five minute shower" they may not track or remember it, keep it up or share their accomplishment with others. There may be no group or anyone who may care to hear our

update or it may sound like it is judgy. It may seem a little taboo to talk about these actions to people as everyone has different beliefs or maybe minimal interest in doing the same actions. That is fine.

There are hundreds and thousands of small actions a person could take during the day to help the environment. Many of these ideas people may not think up on their own but someone else has or an approach elsewhere in the world may be different.

Drop in the Bucket is a project to confront and approach the Tragedy of the Commons related to the environment. It is based on individual choices and habits. Users can 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. Users can feel less isolated or hopeless about a difference they make sort of "all alone" to help the environment. They can see how small actions add up.

The Project:

There will be a simple web page someone goes to with a blank line at the top. All you will type is an 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 typing the same thing 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 5. 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.

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 10 top actions in the list with the action with the highest count at the top as well as 10 randomly picked actions from entries (not including any of the top 10 actions and count does not matter). 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) and only display the previous day’s list. 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.

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).

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”. This could be approached later on if time.

I will need to make sure the words are English only (for now)

There could be many ways to spam this web site or add negative comments instead of any goals

Eventually this site would need to probably have some kind of moderation or a login