



EVERY DROPS COUNT!

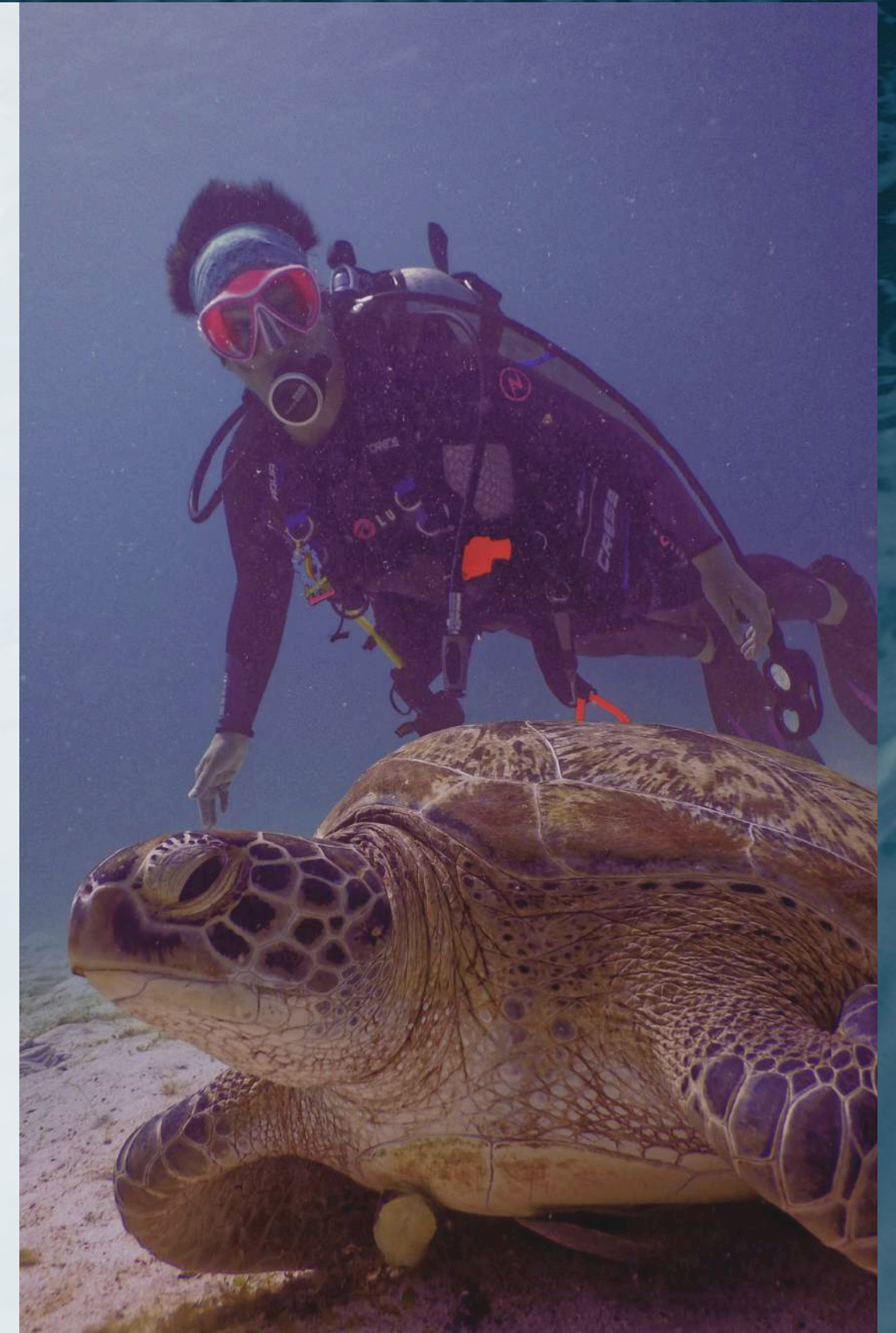
HYDRO HEALTH

Water Track Application

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Issues To Tackle

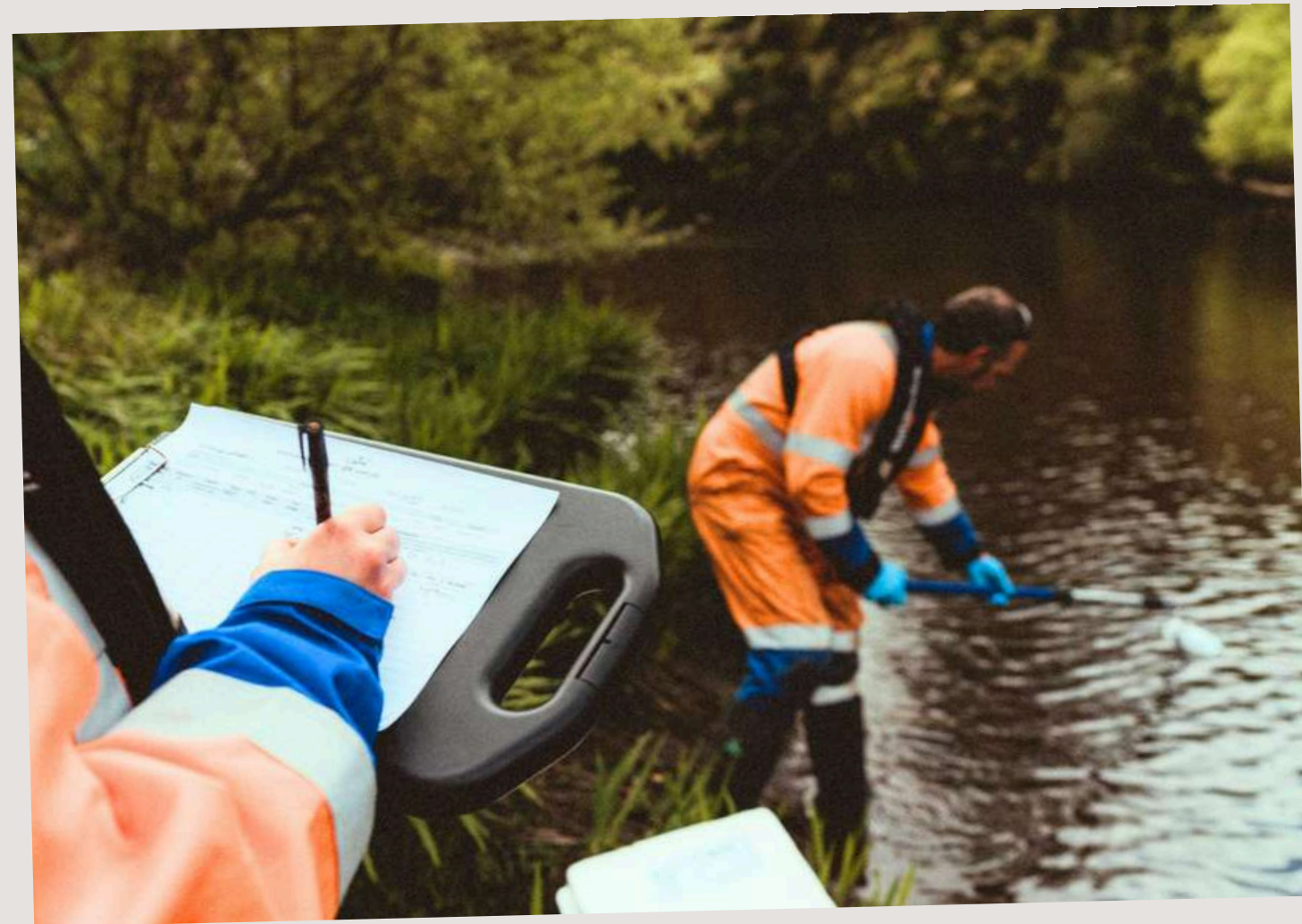
Water waste and sanitation present significant global challenges, aligning with the Sustainable Development Goal focused on clean water and sanitation. Various factors contribute to water waste, including inefficient irrigation practices, leaky pipes, and excessive domestic usage. **Governments and NGOs endeavor to address these issues independently or through collaboration,** but due to their smaller scale, some NGOs often face multiple issues



NGOS SIGNIFICANT ISSUES

NGOs often face **significant resource constraints** that can make it difficult **to invest** in tools or analysis to solve the problems. Even with the availability of free and open-source data analysis tools, organizations **must allocate time and resources to use them effectively**. Sometimes, the issues themselves are **different** in every specific area which **has to be differently solved**.

source : <https://www.linkedin.com/pulse/data-analysis-challenges-ngos-michael-k-wuta/>

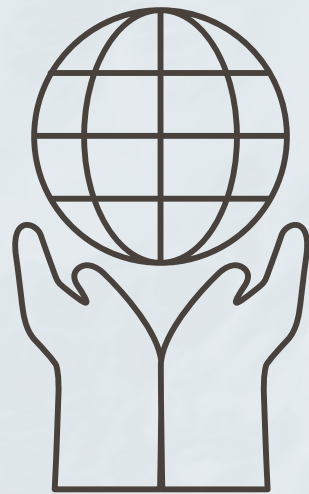


Water Investigation by BTW Company

MY SOLUTIONS

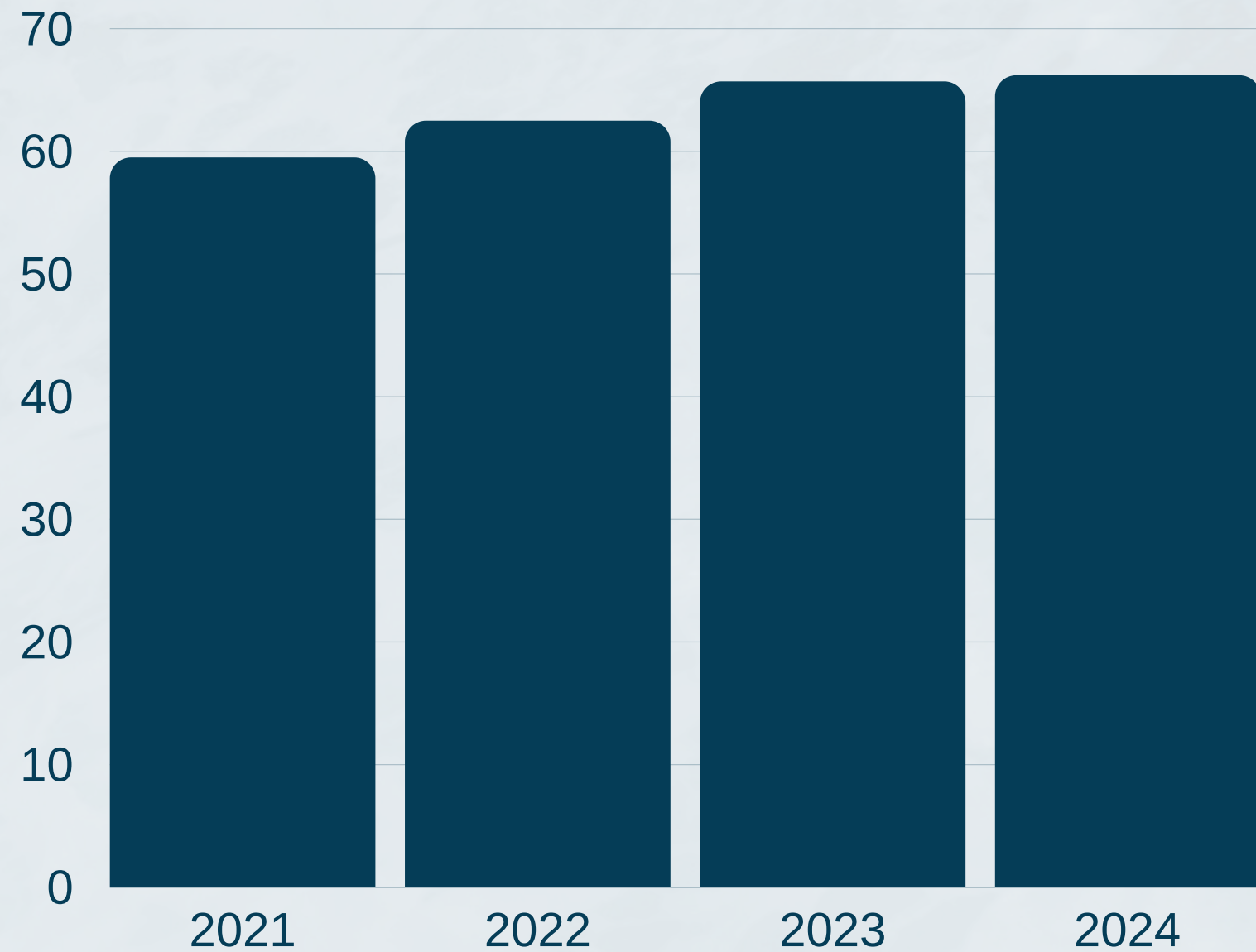
Creating an Hydro Health to address the lack of data on water conditions in various regions can be a valuable initiative to support NGOs and other organizations in tracking the main problems related to water.

Why This Application?



Almost **10 million** NGO worldwide. **Information** is one of the crucial issues for **NGOs** especially in water sustainability

source : <https://www.theglobaljournal.net/>



In the past 4 years, internet user active has significantly increased and it reaches almost 70%.

<https://www.statista.com/statistics/325706/global-internet-user-penetration/>

HOW IT WORKS?



APP BUILDING PROCESS

Retrieve the data using **text mining**.



INTEGRATE TO THE APP

The data will be integrated and using for **water information** in every country.



TARGETTING AND CAMPAIGN

Once the app is set, we will make a cooperation with **NGOs** and also have a campaign to **user**.



USER EXPERIENCE

Both user and NGOs will have **benefit** and much information about water condition.

TEXT MINING RESULT

This is a perfect example of how our HydroHealth app is working, We scrap people opinion about water in **Indonesia**. So we have informations about the **water conditions** there based on **frequently mentioned words**. The best part of this application is we can actually use many source of data such as **News, X, Instagram, Facebook, and any other social media**.



Code in Python

Using GoogleColab Notebook

Install the Packages

```
!pip install pandas
!sudo apt-get update
!sudo apt-get install -y ca-certificates curl gnupg
!sudo mkdir -p /etc/apt/keyrings
!curl -fsSL https://deb.nodesource.com/gpgkey/nodesource-
repo.gpg.key | sudo gpg --dearmor -o
/etc/apt/keyrings/nodesource.gpg

!NODE_MAJOR=20 && echo "deb [signed-
by=/etc/apt/keyrings/nodesource.gpg]
https://deb.nodesource.com/node_${NODE_MAJOR}.x nodistro
main" | sudo tee /etc/apt/sources.list.d/nodesource.list

!sudo apt-get update
!sudo apt-get install nodejs -y

!node -v
```

Data Crawling

```
# Crawl Data

filename = 'HydroHealth.csv'
search_keyword = 'air until:2024-03-30 since:2010-01-01'
limit = 300

!npx --yes tweet-harvest@latest -o "{filename}" -s "
{search_keyword}" -l {limit}
```


Code in Python

Using GoogleColab Notebook

Preprocess Part 1

```
import pandas as pd
from collections import Counter
import re

# Load the CSV file into a pandas DataFrame
df = pd.read_csv("https://docs.google.com/spreadsheets/d/e/2PACX-
1vSgugast9sCDPIfHc2voOaMibNQeyRpZ5biDAqS0dBwrVe1SOs0PZtuJJlxLrv24w/pub?output=csv")

# Handle NaN values in the tweets column if any
df['tweets'].fillna("", inplace=True)

# Extract the tweet column
tweets = df["tweets"]

# Preprocessing function to clean the text data
def preprocess_text(text):
    # Remove URLs
    text = re.sub(r"http\S+|www\S+|https\S+", "", str(text)) # Convert to string before processing
    # Remove special characters and punctuation
    text = re.sub(r"[^A-Za-z0-9]+", "", text)
    # Convert text to lowercase
    text = text.lower()
    return text
```

Preprocess Part 2

```
# Apply preprocessing to each tweet
cleaned_tweets = tweets.apply(preprocess_text)

# Combine all tweets into a single string
all_tweets = " ".join(cleaned_tweets)

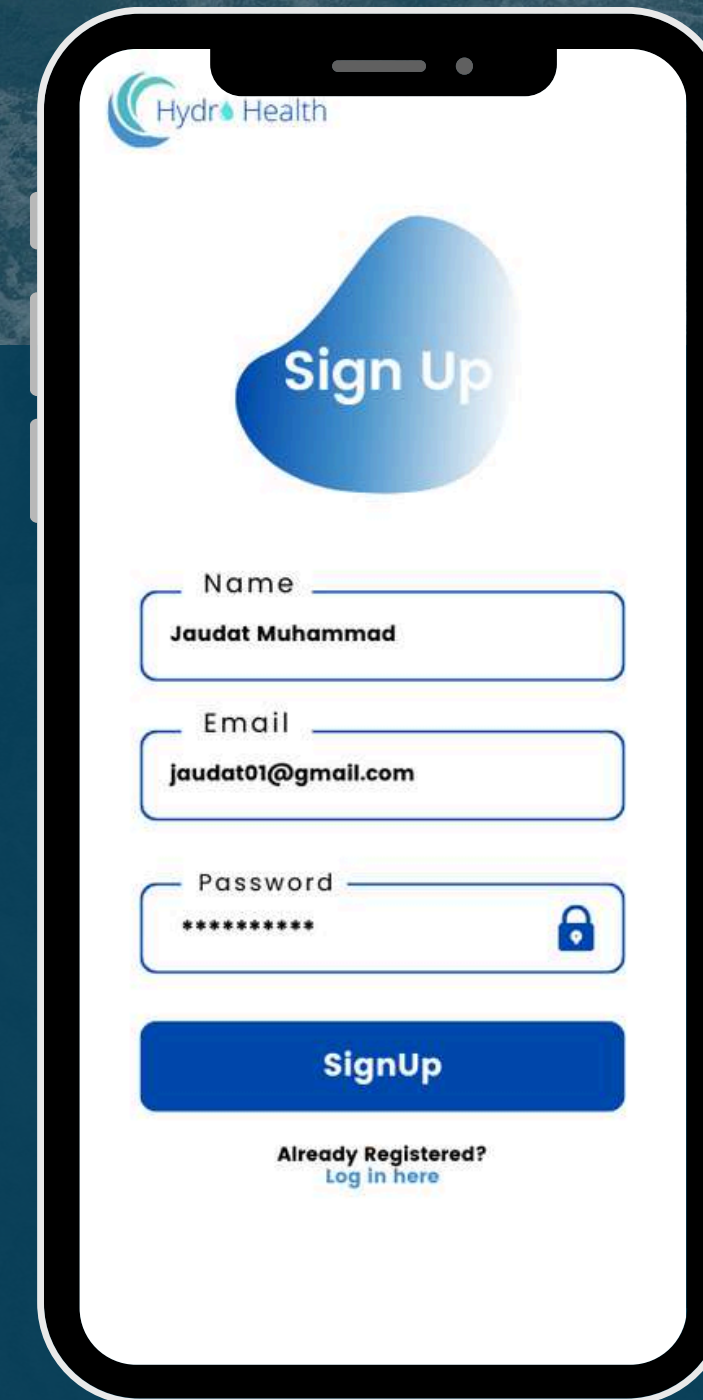
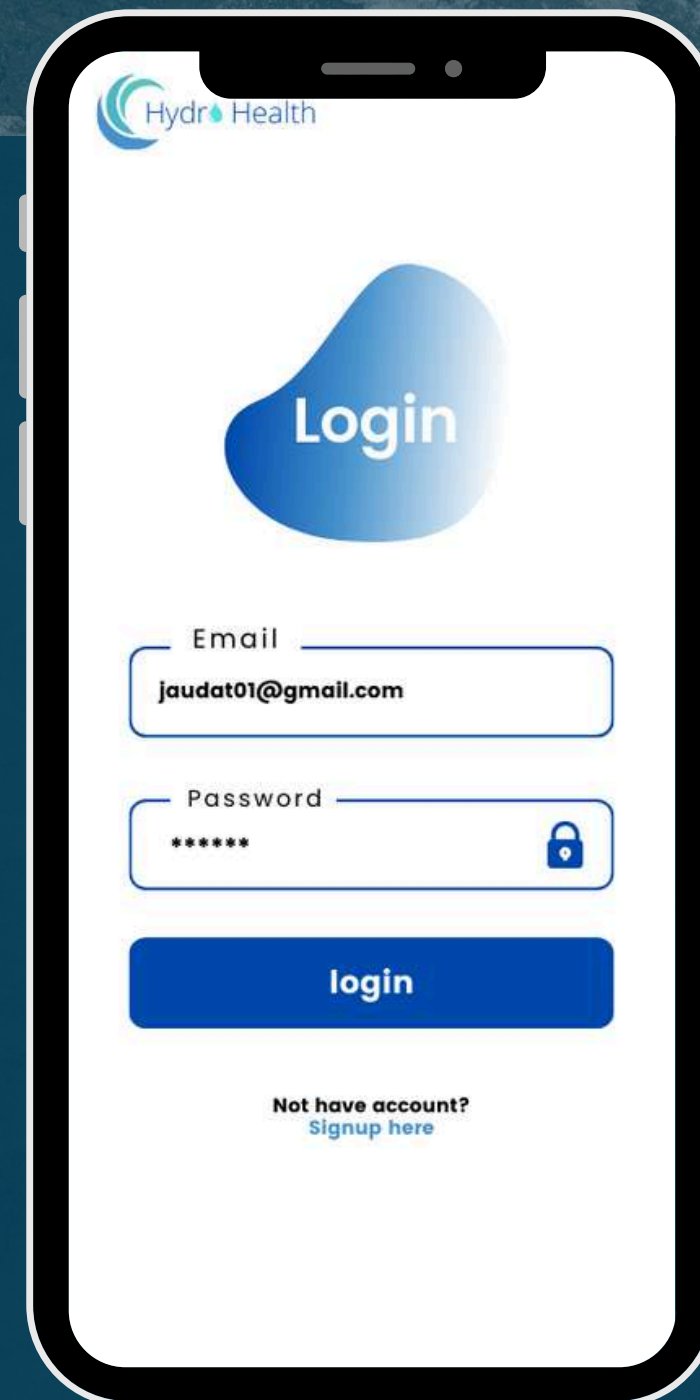
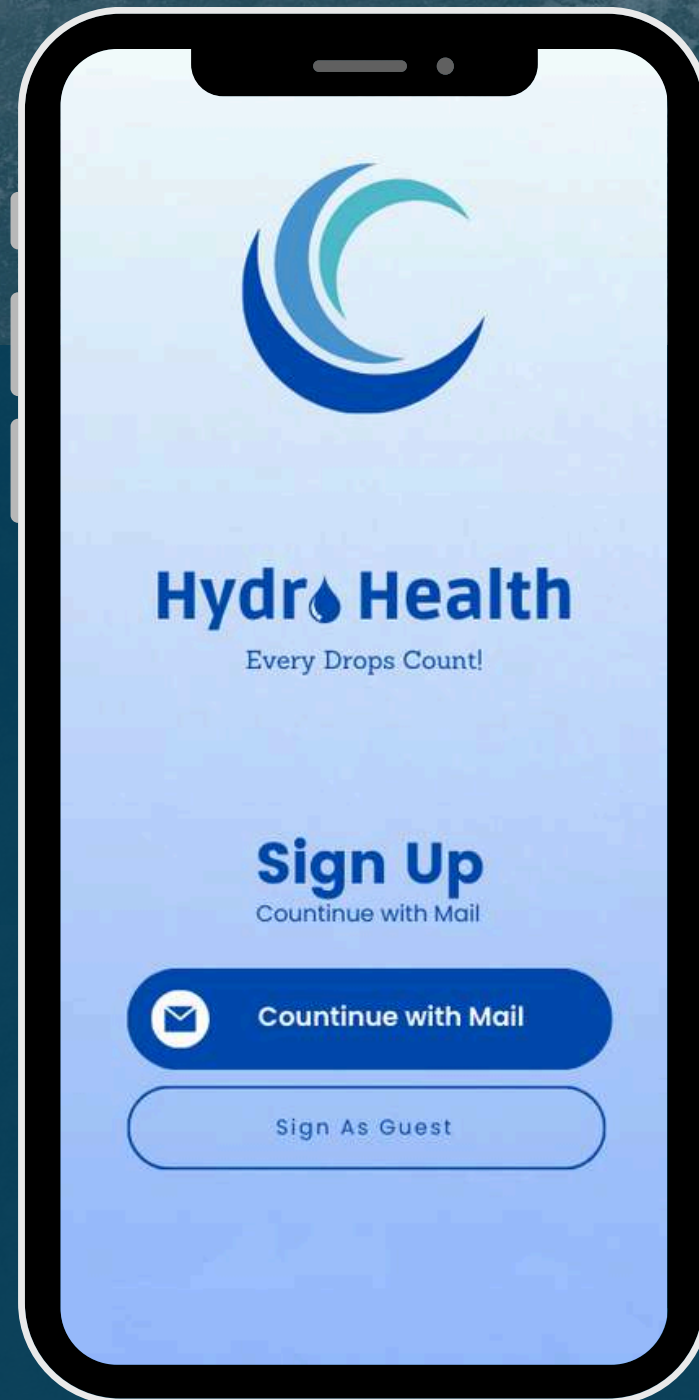
# Tokenize the text into words
words = all_tweets.split()

# Count the frequency of each word
word_counts = Counter(words)

# Get the total number of words
total_words = len(words)

# Calculate and display the top 5 words with frequencies and percentages
print("Top 5 most frequent words:")
for word, count in word_counts.most_common(5):
    percentage = (count / total_words) * 100
    print(f"{word}: {count} times ({percentage:.2f}%)")
```

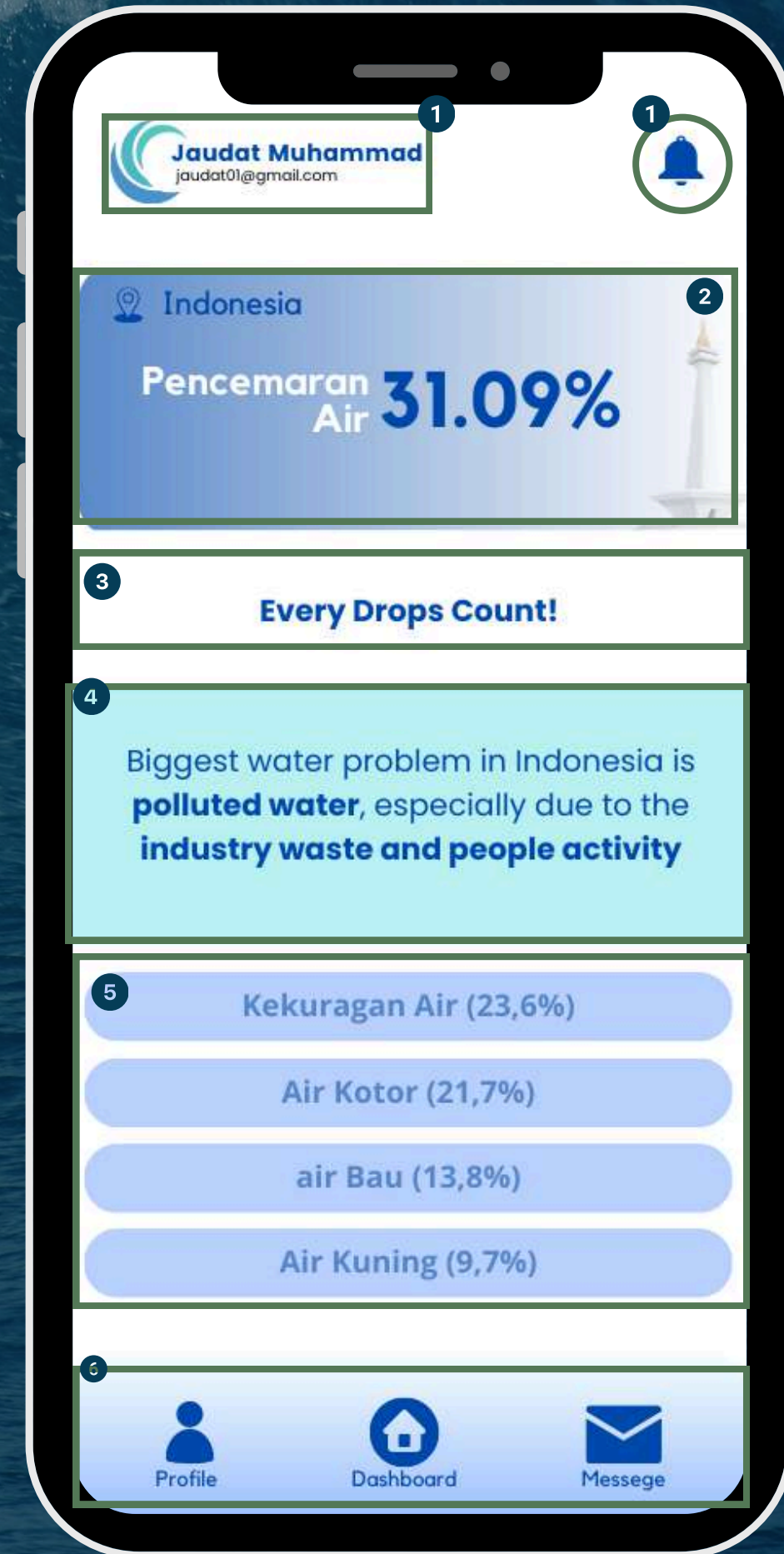
APPLICATION PROTOTYPE

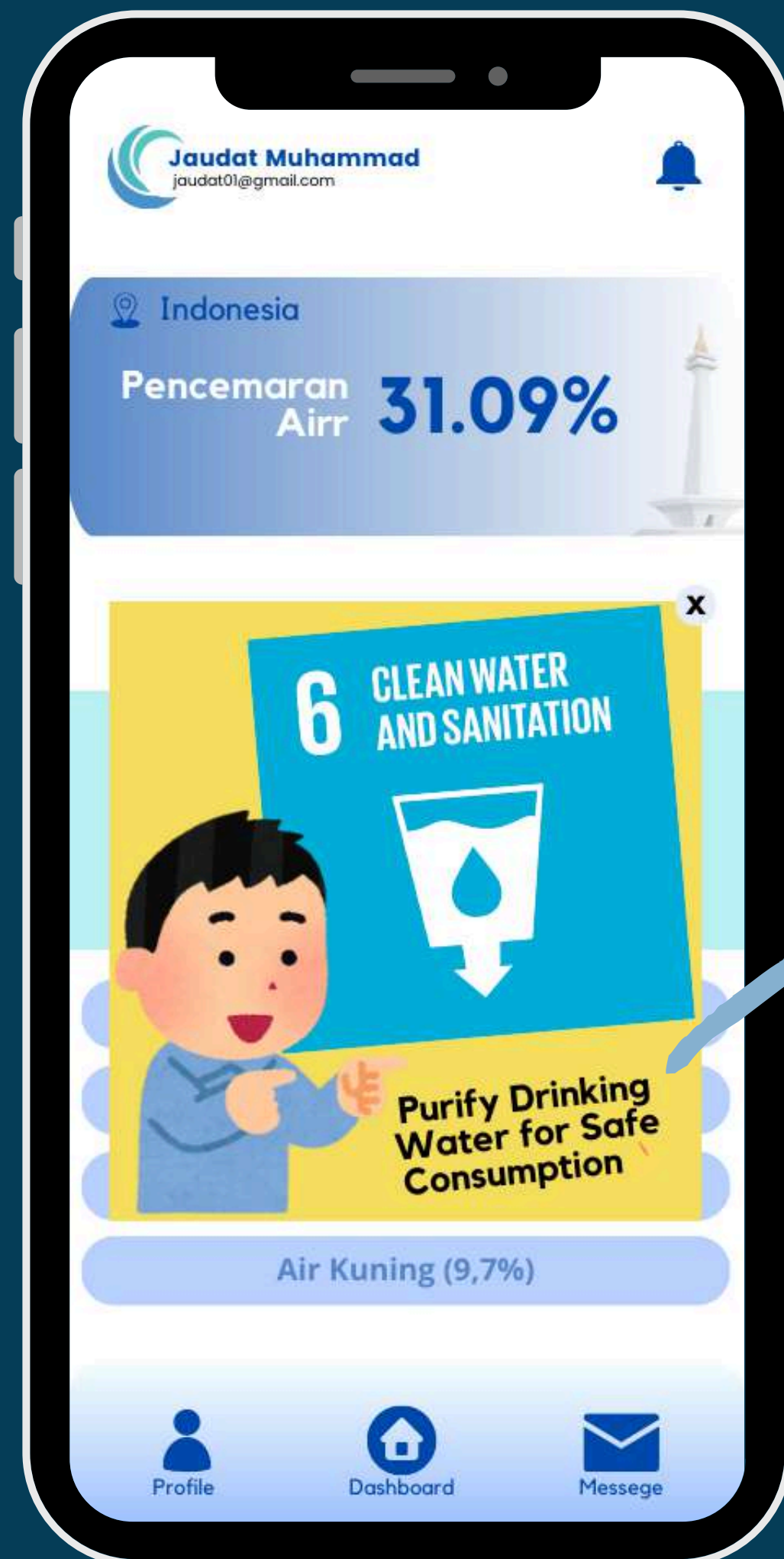


APPS HOME

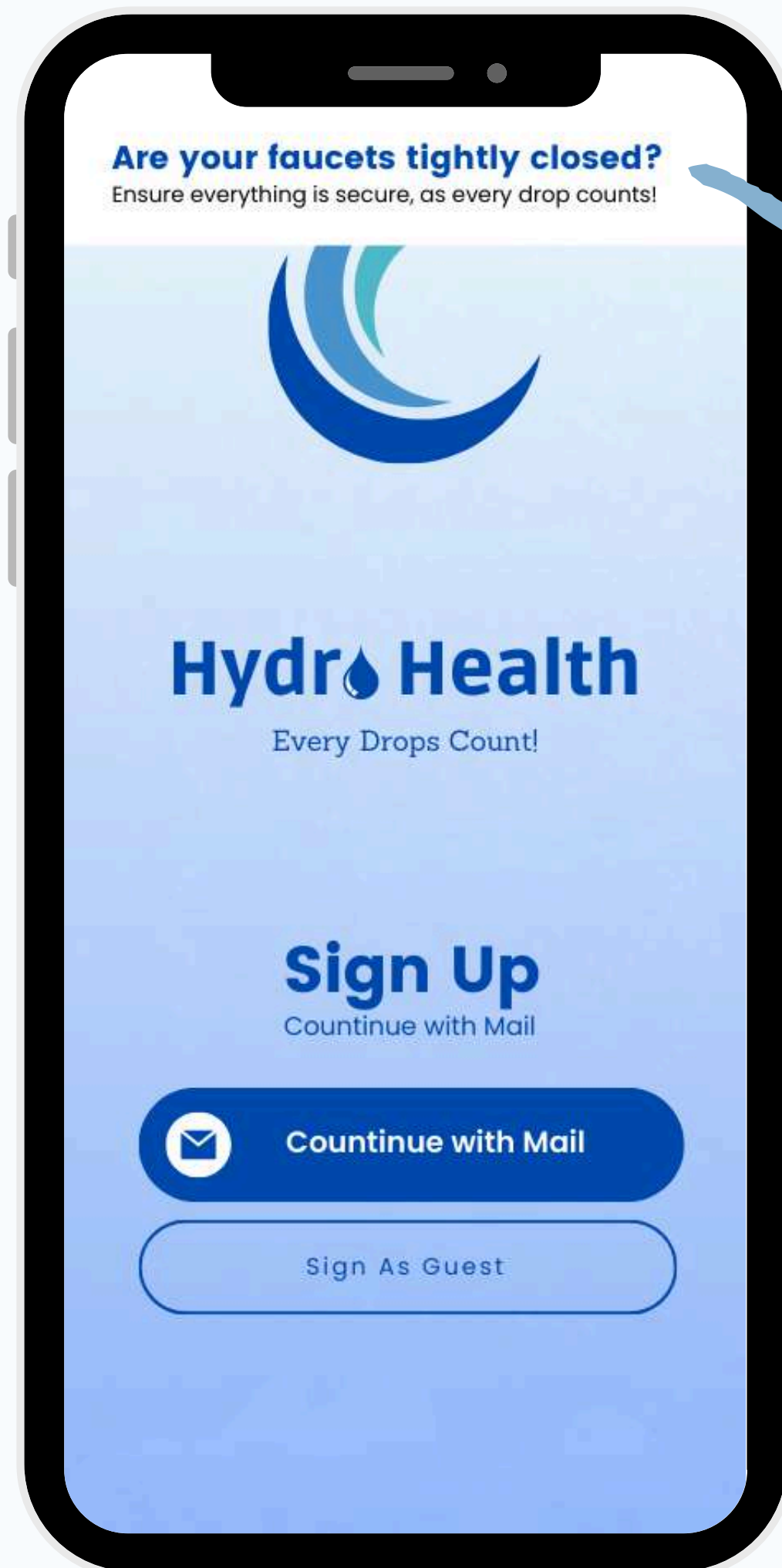
This is our app interface:

1. In the top left is user account information, and in the right there is notification push icon.
2. In the upper area there is information about water condition in the country (Indonesia) and it emphasizes the biggest water problem in Indonesia as example 31,08% problem is caused by polluted water.
3. There are also slogan for our application.
4. There is also the brief explanation about water condition.
5. Followed by the next Top #2, #3, #4, #5 biggest issues.
6. In the very bottom, there are Profile icon to see user info, Dashboard Icon to see the Home app, and Message to chat or make a request.





The image adjacent is called a **popup** that will appear when the application is first opened on that day. **The popup is designed to provide education regarding water sanitation**, emphasizing that users of the application should always ensure that the water they consume is safe for drinking



THIS IS REFERRED TO AS A
PUSH NOTIFICATION
Push Notifications are
designed to remind application
users to always ensure that all
their water taps are tightly
closed after use. This is because
every wasted drop of water
constitutes an act of water
wastage that is detrimental to
the planet, as even a single drop
of water is precious

Push notifications and popups will contain different awareness messages each day. Here's an example schedule for a week of blast awareness


Pop Up

Blast Time	Popup Message
Day 1	Purify Drinking Water for Safe Consumption💧
Day 2	Always Ensure Your Water is Safe to Drink👉
Day 3	Confirm Your Water is Safe for Drinking!
Day 5	Prioritize Water Safety!
Day 6	Make Sure Your Water is Safe Before Drinking!
Day 7	Check Your Water Supply for Clean Water!

it will be blasted using CleverTap

Push Notification

Blast Time	Title	Push Notification Message
Day 1	Secure your faucets tightly😞	Every drop saved counts towards a sustainable future!
Day 2	Reminder: Tighten those faucets!	Each drop conserved contributes to water preservation
Day 3	Act Now: Confirm faucets are tightly closed!	Your efforts in water conservation make a significant difference
Day 5	Attention: Ensure faucets are tightly closed!	Every drop saved today safeguards our tomorrow
Day 6	Are your faucets tightly sealed?	Act now to save water, drop by drop, for a greener planet!
Day 7	Small actions, big impact!	Secure your faucets tightly and join the movement to conserve water, one drop at a time



This application has the potential to reach a large market because internet users are currently experiencing rapid growth, with a plethora of news being disseminated through social media channels, ensuring access to the latest and most up-to-date information. Additionally, the popup and push notification features in the application help raise awareness about water sanitation and minimize water wastage. **The application is designed to facilitate both NGOs and the general public** in viewing water conditions in a particular area, not limited to Indonesia, which can make its solutions more targeted and effective.

Here, I'm just using Indonesia as an example, but the application can be implemented globally

