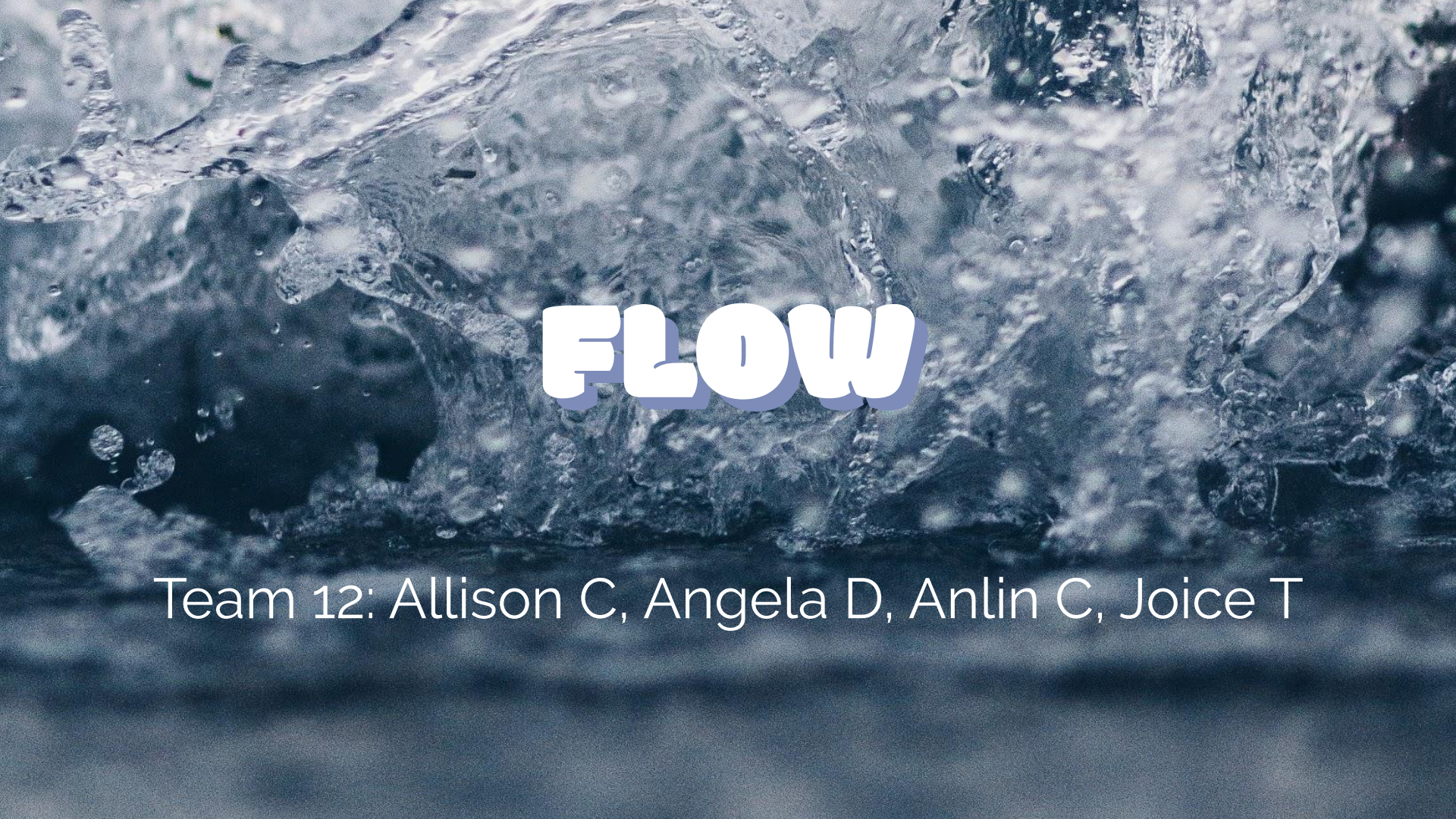


Team 12: Allison C, Angela D, Anlin C, Joice T

Introduction

Water crisis:

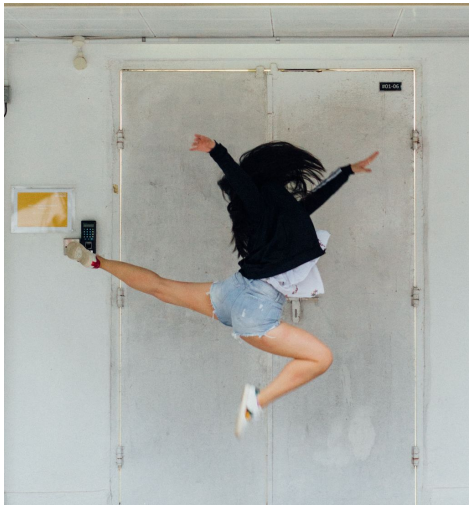
- **1 in 9** people have no clean water
- BC encounters hundreds of **wildfires** a year and we need freshwater to fight them!

2nd largest water footprint

90% of water used is **not** for drinking

The Problem

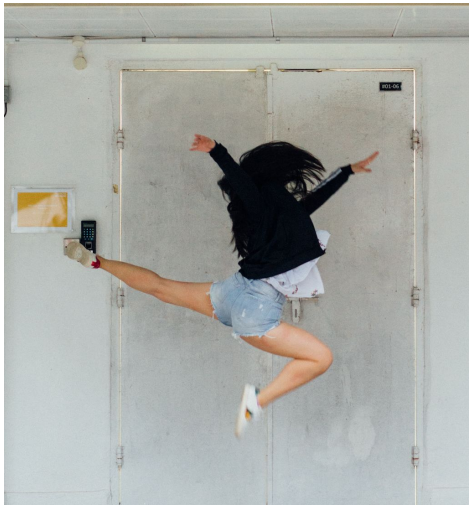
Jane



1. **Awareness**
   - Water meter is underground
2. **Affordability**
   - Water meters are currently available for garden hoses, but at a cost of ~$100
3. **Accessibility**
   - Data is not contextualized

The Problem

Jane



(Scenario 1)
How can we empower Jane and her family to reduce their water usage?

The Solution

Flow

An affordable analytics system to encourage lower water usage by making water tracking fun and accessible!

The Solution

1. Awareness
   - Water usage @ fingertips
2. Affordability
   - Costs $30 to install
3. Accessibility
   - Explains her water usage

We empower Jane by giving her usage information and friendly competition at her fingertips.

Technologies Used

- Arduino with Water Flow Meter
- Next.js
- React
- HTML/CSS
- Designed in Figma

Further Extensions

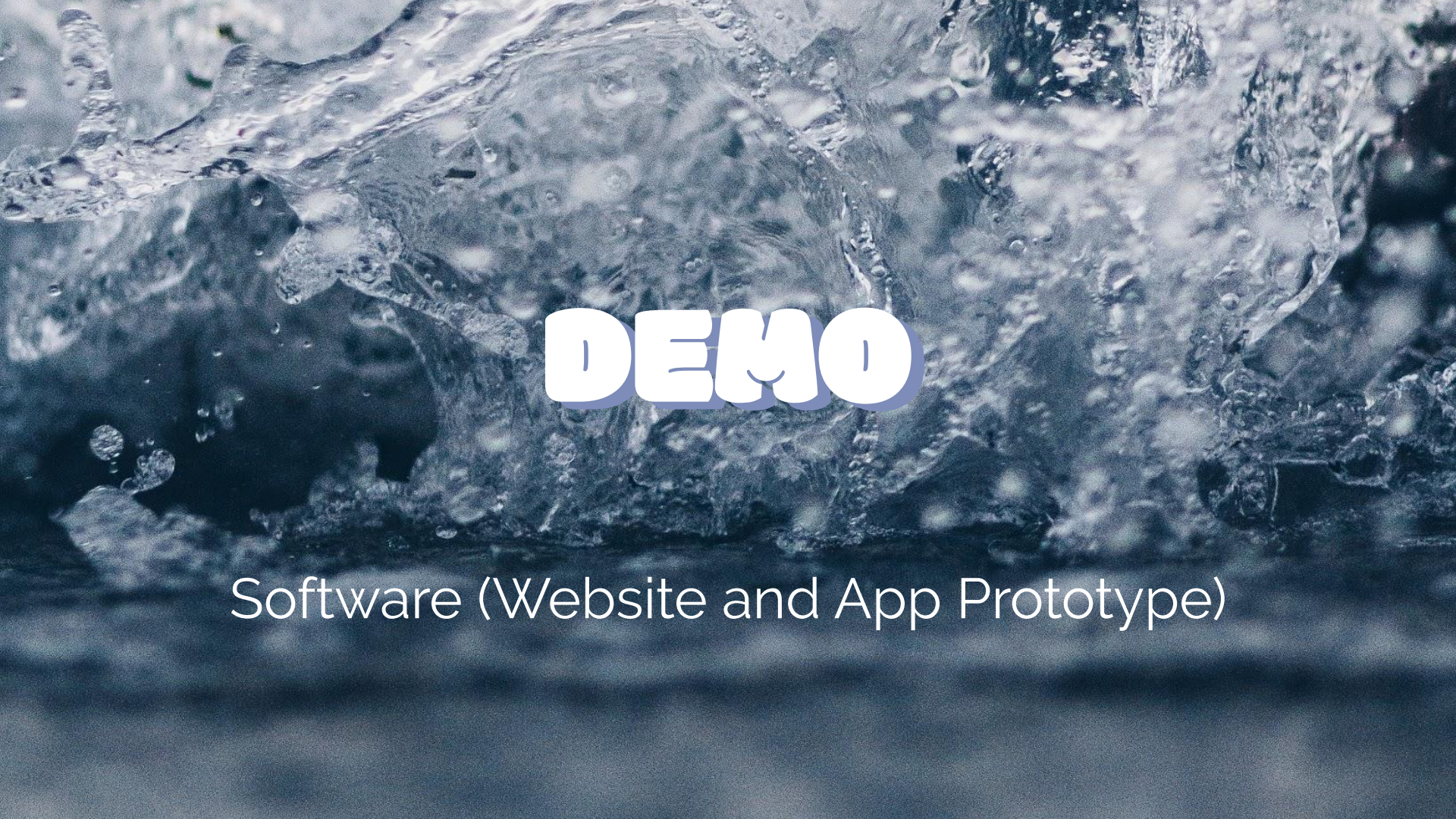
- **Learning algorithm** to detect and report abnormal usages of water through the usage of notifications
    - e.g. “You’ve spent more time brushing your teeth than normal today”, “We may have detected a leaky faucet”
- **Vacation mode:** No water is expected to be used this period of time, notify the user of water usage
- **Hardware extensions** to automatically limit the flow of water when excessive usage is detected
- **External incentivization** (Money, Prizes) to have high scores on the “scoreboard”

Conclusion

- We want to encourage the next generation to be more aware of green initiatives

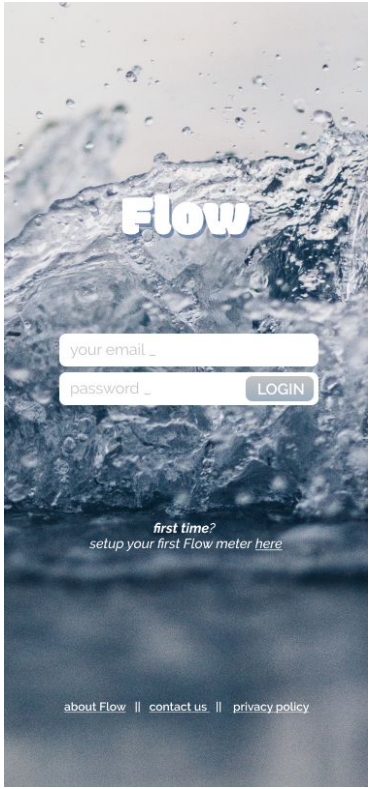
- FLOW is a lower-cost, analytical, fun solution to reduce our household's water footprint

DEMO
Hardware (Arduino and Water Flow Sensor)


DEMO
Software (Website and App Prototype)

Walkthrough

1. Install meter on her tap
2. Install app/visit website
3. Sign up/ Log in



Features

Flow

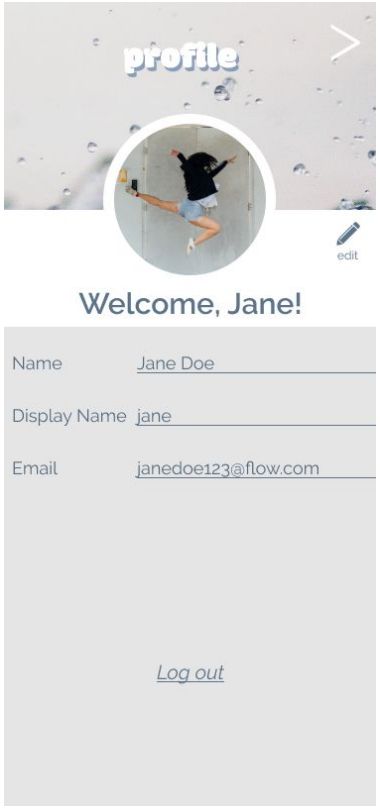
1. Usage tracking
2. Scoreboards
3. Smart notifications to stay on track

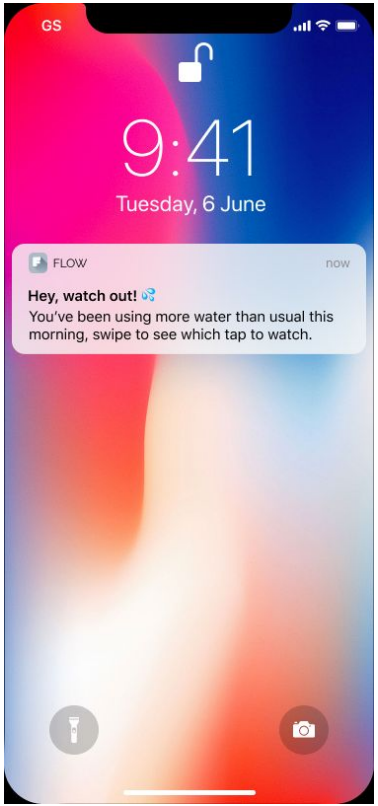
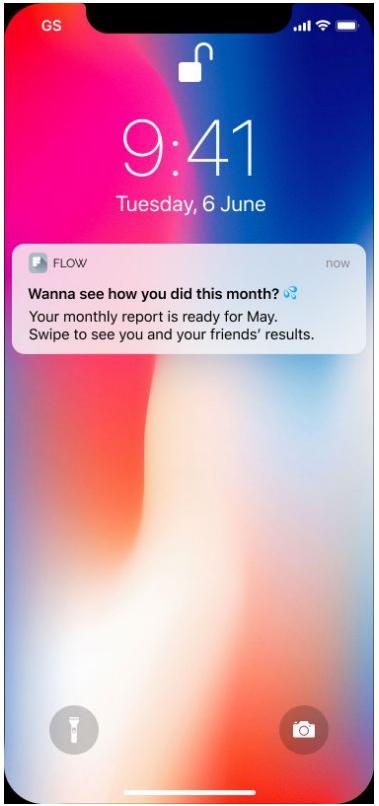
Features - Usage Tracking

- Usage per tap
- Data and Scoreboards shown by the:
  - Hour
  - Day
  - Month

Features - Scoreboards

- Each user has a profile
- Friendly competition to see who is more efficient
- Encourages kids to make smart water habits



Features - Smart Notifications

- Notifications for excessive/more than average usage of water
- Notifications for Leaderboard changes