



FLOW

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A close-up photograph of water splashing, with numerous droplets and bubbles visible against a light background.

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.

A close-up, high-speed photograph of water splashing, creating numerous droplets and bubbles against a light background. The water is in motion, with some droplets in sharp focus and others blurred.

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"

A close-up photograph of water splashing, with many small, clear droplets suspended in the air against a light background. The water is in motion, creating a dynamic and refreshing visual.

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

A high-speed, close-up photograph of water splashing, creating a complex pattern of droplets and ripples. The water is captured in a frozen-like state, showing intricate textures and light reflections. The overall color palette is monochromatic, ranging from deep blues to bright whites where the water catches the light.

DEMO

Hardware (Arduino and Water Flow Sensor)



DEMO

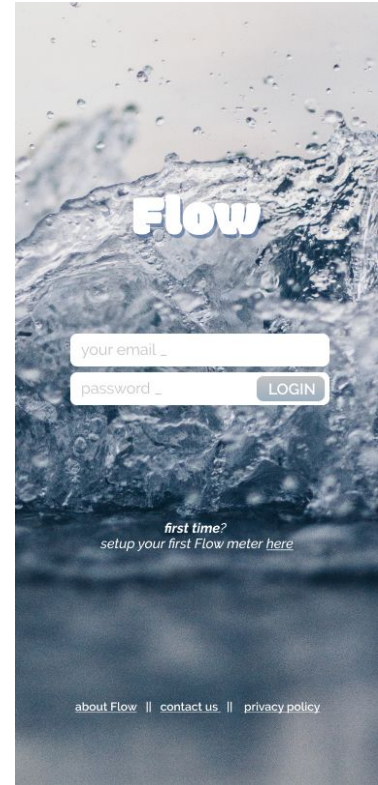
Software (Website and App Prototype)

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



Current Usage Level:



Great Job!

You used less water than usual this morning.
Keep up the good work!

Your Flow Meters:

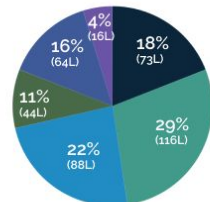
KITCHEN SINK 83L Today >

MASTER BATH 189L Today >



24 Hour Recap:

401
Litres Today



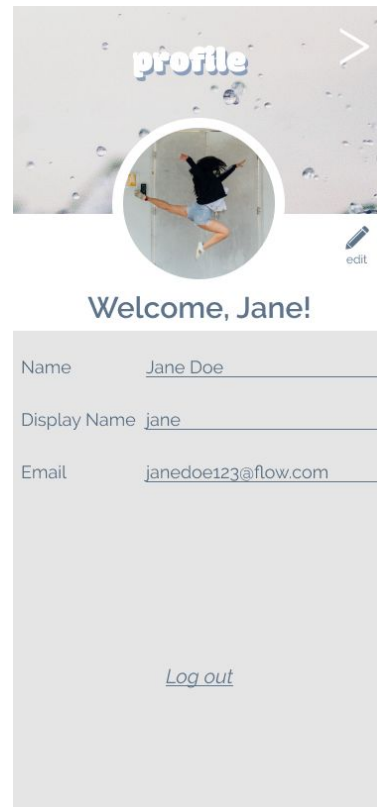
- KITCHEN SINK
- MASTER BATH
- HALL WASHROOM
- GARDEN HOSE
- GUEST BATH
- KIDS' BATH

[+ add another flow meter](#)



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

