



## Fer<sub>2</sub>O

### **SHAD 2021 theme:**

How might we help Canadians treat our freshwater with more respect?

### **Rundle design team problem question:**

How might we change consumer behaviour to decrease the demand for water?

Water scarcity is a significant issue that is often overlooked in Canada. Due to water overuse, lack of water literacy, high demand and water pollution, this problem is growing. In detail, due to a lack of respect and water literacy, Canadians are unaware of their water usage, and as a result, overuse this precious resource. Overuse leads to high demand, resulting in stress on water systems. Aside from the pressure on water systems, Canadians tend to leave water in a worse condition, compared to when they got it. For example, after one fertilizes their lawn and waters it, the clean water, then gets contaminated, which then contaminates the water system, causing disruptions in not only bodies of water but also eco-systems.

Fer<sub>2</sub>O includes both [a physical sensor component](#) and [an app](#) (click blue underlined text to open links to the prototypes). By allowing users to view their water and fertilizer usage, they will likely be more mindful of their consumption and reduce unnecessary uses. Specifically, the app also includes loading screens with little fun facts that may help increase water literacy among our users. We aim to provoke true respect for water among our users and we believe a willingness to change consumption patterns is the best way to demonstrate this. We wish to provoke consumer behaviour change to decrease unnecessary water usage that can lead to more harm than good.

When we thought of the problem “How might we help Canadians treat fresh water with more respect?”, we broke down the issues surrounding fresh water into 3 main categories, water scarcity, water pollution and climate change. After brainstorming and discussing, we came to the conclusion that water scarcity would be the best topic to focus on. Subsequently, we broke down this topic into subcategories and decided that we wanted to focus on the rise in demand for water, as this is most relevant to Canadians. From there, we started brainstorming for solutions and we chose Fer<sub>2</sub>O as the best solution.

Fer<sub>2</sub>O has several potential impacts, ranging from individually impacting and community-wide. Overall, it would make the irrigation process easier, more efficient, and less wasteful, leading to a relatively quick change in our water use and a long term behaviour change among our users. Furthermore, the water literacy that our app and sensor would influence would help combat water scarcity, water over-consumption, and pollution. Lastly, to impact the community, Fer<sub>2</sub>O would help minimize pollution from fertilizers in our freshwater sources.

For individuals, our product would make irrigation more efficient and effective. Moreover, with a more open and flexible mind, our product will help Canadians understand their water usage and help them acknowledge if they are overusing water or not. With this, they can potentially decrease their water consumption, increase their water literacy and thereby, respect for water.