Team Name: Aqua

Project Name: Aqua

Challenge : Digitising your drinking water

Data: Unitywater – Digital Water Meter Data

Problem Description:

Fresh water is a limited resource, as a society it is important to conserve water and use water responsibly. In Australia, the average rainfall is dropping recently. The low availability of water has continued to push distributed prices upwards. Households paid an average of $3.46 per kilolitre in 2019-2020 which has been rising since 2017. It is expected that it will rise even higher due to inflation.

Currently, due to the infrastructure limitations, the water meter and water billings do not represent the full picture of the household’s usage. It is difficult for households to implement their water saving strategy.

Solution:

Our team aims to provide incentives for households to reduce their water consumption by providing digital solutions.

1. Setup

With the concept of Iot, Wi-Fi enabled water flow sensors can be used. By providing smart water flow sensor for every room (kitchen/bathroom/laundry), water usage data can be collected for each area. The water data consumption will be collected through WI-Fi connection to an integrated data network , it can be further analysed.

1. Phone Application (feature)

With the help of phone application, the breakdown of the water consumption can be displayed.

Along with alerts for unusual usages and suspected leaks.

Further information can also be displayed with up-to-date profiles for comparison with similar profiles.

1. Comparing

The data can be used to provide period to period comparison such as daily, weekly and so on.

This can be used to identify opportunities for water saving such as replacing high water use appliances with more efficient variants.

Our project has been inspired by the Unity water smart meter initiative. It seeks to build upon this and create even more usability and by leveraging the use of IOT water sensors for better data driven decision making at utility level and also with the individual household.

We believe that by minimising the waste of water and using what is already available to the most efficient level is of great importance, as each drop saved means less cost at both the individual and utility level. This can also be the start of a building of a more sustainable water conscious movement that can be led by the utility but also has a strong individual engagement amongst its customers.

A fully integrated data and analytics solution has the possibility of identifying specific trends pain or pressure points where water is being misused. Furthermore, we envision the ability of identifying non-essential uses of water such as that of filling swimming pools or watering lawns or ornamental gardens. By being able to specifically identify this use and how much is used the utility can provide a disincentive by charging a penalty rate and providing impetus for the user to find a more sustainable solution or to turn to rainfed grey water systems which are a viable alternative method.

Following along with this pathway the app can provide an eco-score for water use which can be linked to real world gifts or discounts for efficient water use providing a positive a driver for the individual customer.

As the customer explores and can physically see a representation of their water use and with comparison with their peers, the potential for better uptake and engagement and also self-driven initiatives to save water is more likely.

Conclusion

With the help of this solution, household are empowered to make data driven decisions to save water both financially and environmentally friendly perspective.