Nordic
Smart City Hack

Dryp Data Dreamers

What problem are you trying to solve?

Climate change leads to more extreme rainevents. The most efficient and CO2 efficient way to deal with heavy rainfalls without causing flooding or overflow of sewage to nature is to deal with the water locally. If the water can be delayed for just a few hours by utilizing existing pipe infrastructure, local rainwater retention tanks, and even dedicated flood areas like playgrounds or footballfields - then the local utility will be able to ensure that all resources can be harvested from the sewage waters - also during extreme events.

Today house owners install local flood valves systems that keep the water away from their basement, only to increase the problem for their neighbours.

How do you plan to solve the problem?

We want to enlighten neighbourhoods on their part in the urban water cycle, and through simple IoT measurement devices give them awareness and ownership of their own neighbourhood. By visualising their own role within the greater system, we believe they are encouraged to make smart decissions. They contribute by simple observations of their own neighbourhood and are rewarded with an overview of the whole city, with rainfall amounts, flood risk warning system. This may further be used on a daily basis for making a smart decision to leave the car and take the bike.

How do you plan to make this solution a reality? Do you have an action plan?

a. The first step is to make the local utility and municipality interested in the idea.

b. Data communication and platform is largely available - only minor adaptation is required.

c. Then identify a number of neighbourhoods where that has been issues with basement flooding or who are otherwise suitable for testing this in large scale.

d. On the order of 3-10 hardware units are required depending on the size and variability of the area. These could potentially be funded through insurance companies.

e. The neighbourhood engagement could be achieved through a local water festival - when the senors are installed, give free and open access to the sensor data along with a localised forecast - ideally including measured rainfall from sensors. Invite various providers of house based solutions to sponsor and show solutions under the umbrella of a small contribution from each will make it better for all!

f. Follow-up with interviews and SoMe posts when there is an event ongoing. Driven from municipality and utility.

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Why is your solution innovative?

a. We combine a range of tech that have matured all at once - IoT (wireless sensor), Cloud based systems, Machine-learning for quality control, and open data systems.

b. Directly involving citizens in solving water related flooding and contributing actively to the solution is very rarely seen.

c. Using novel data to ease collaboration across organsational boundaries.

How scalable is your solution?

Fully scalable

a. The hardware required is standard components, and cost efficient.

b. The logic and tools all run in the cloud.

c. We believe people/home owners will buy into this if designed correctly, and that enthusiasm will spread!

How does your solution make an impact?

a. This a set of data that utilities do not have today, but it will fit in directly into both their daily operations and planning.

b. The long-term, large-scale effects of this would be that we can reuse the existing urban infrastructure and not spend uneccessary CO2 on large concrete structures in our climate adaptation, not dig up the city and cause transportation issues - all just by managing water in an informed situation.

c. Contributing to solving a global challenge in a neighborhood brings people together and allows them to feel directly how we can work together across organizational boundaries.

Is your solution built on prototype or is it a conceptual solution?

Prototype

Link to your pitch video (on Youtube, Google Drive or Vimeo)

https://www.youtube.com/watch?v=ICVC9JafBPw&feature=youtu.be