



Brief description of objective

Manage Day Zero queues! Develop a software app that can help manage Day Zero queues if they become unmanageable.

Challenge and problem statement

Although the possibility of Day Zero happening grows less likely, the City of Cape Town still must prepare for it. They cannot let their guard down, in case the rains do not come as expected this year. Alderman Smith of the City of Cape Town issued a request to our community during the Hackathon talks, to help them develop a solution in case Day Zero hits, and the 200 collection points become overwhelmed. If there are too many people, (ie. 15,000 at one collection point), how does the city manage this without becoming overwhelmed?

Background

The city is employing the “Light Touch” system to manage the queues for Day Zero, which is essentially an honor system for collecting water. The choice was made to do this because Cape Town has a large informal community, many without proper ID. Military and police are planned to be positioned at each distribution point but they want to prevent violence from breaking out by all means. If there are huge numbers of people at a queue, what kind of chaos might ensue? How might this be managed? In some communities, the Light Touch system may not be appropriate. What are backup plans that can be developed to handle situations that may emerge?

Goals

The goal is a software app that can help manage the queue. How do we handle:

- members queuing who are authentically queuing for other family and friends who cannot make it to the queue?
- members who are taking more than their fair share of water, - who may be lying about the number of people in their family
- people who have queued but cannot physically carry a lot of water- could there be a taxi service?
- manage the queue in case they wait for hours and then have to leave. How do we remember their position?
- people threatening other people in line

End user

Anyone queuing for water. This could be anyone except for the super wealthy.

Future plans

The city of Cape Town has funding available for technology solutions for the crisis. This app may be fundable.

Extra

It may have to be both smartphone and SMS capable, as many people do not have smartphones. Also, Irvan, of local Johannesburg company Eldo Energy, [@water_boy](#), would like to also collaborate with anyone else developing the app and has an idea for using QR Codes.



Brief description of objective

Locate Vulnerable People! Develop a software app that can help locate vulnerable people who may not be able to access water on Day Zero.

Challenge and problem statement

Alderman Smith of the City of Cape Town requested our community to develop new tools that can make it easy to identify vulnerable water users throughout the city. These would be sick, isolated, elderly or infirm people who have no easy way to get to the water distribution points.

Background

During Day Zero, citizens will need to travel to one of 200 water distribution points to pick up their allotted 25 Litres of water a day. But there is a large population of marginalized, sick infirm, isolated, elderly people who simply may not have the ability to fetch their allotment every day. The city does not want to create risk for these people and wants a way to find out who constitutes the vulnerable population and take measures to assist them during Day Zero.

Goals

The goal is to develop a software app that can help manage the identification, management and support of vulnerable people unable to fetch water for themselves during Day Zero.

Could drivers of groups such as Uber drivers work in collaboration with this app to deliver water to vulnerable members of society? The app might follow a logical sequence like this:

input data from neighborhood groups inform the city display city water distribution / pickup point network develop communication protocol with city distribution point officials to notify them of drivers who will pick up water for the identified vulnerable develop communication protocol to notify Uber or other trusted driver networks to pickup and dropoff water to vulnerable members of society.

End user

- Neighborhood watch
- community activist
- city workers
- NGOs
- vulnerable people
- schools and students
- emergency crew
- drivers and taxis

Future plans

The city of Cape Town has funding available for technology solutions for the crisis. This app may be fundable. The City of Cape Town has reached out to community groups for support to identify the vulnerable. So it may be that the neighborhood groups are potentially the most important group to use this app. This suggests one approach is to interview community groups to see what features they will find useful for the app. @RicardoRug and his university network is interested to contribute to this solution and would like to create a solution for other cities as well.



Brief description of objective

The 25 Litre Challenge. Develop a software app that helps water users to try different options and share results to stay under 25 Litres of water usage per day (this is the target of water rationing on Day Zero).

Challenge and problem statement

Should Day Zero arrive, water will be rationed at 200 distribution points across the city with 25 Litres of water allocated to each citizen of Cape Town. There may be a large number of people who may not know how live on 25 Litres/ day. This software app is a recording and educational tool that helps record, share and gamify staying under 25 Litres/day.

Main part of the document

Background

During Day Zero, citizens will need to travel to one of 200 water distribution points to pick up their allotted 25 Litres of water a day. But many people may not yet know how to live on 25 Litres/day yet. There are many different permutations of families:

- single
- couple
- couple with child
- couple with children
- couple with inlaws
- couple with children and inlaws

In addition, categories like class, geographic location, etc can affect water use habits. Hence there may be many different possible permutations and there may not be a one size fits all solution.

Goals

The goal is to develop a software app that can help water users collectively achieve a 25 L/day consumption target.

- The app can have major categories of water use that may be common amongst specific demographics of users.
- The app can crowdsource solutions and classify each into demographics, to develop the major classes of participants.
- The app can encourage users to share tips and find their most suitable demographic category
- The app can gamify and drive engagement by offering prizes to 25 L challenge champions
- It can be synchronized to real, touring physical displays
- Users can easily share their demographic profile with others

End user

All citizens of Cape Town with mobile app can be used globally in other water stressed cities.

Future plans

The app can be extended to other water stressed cities. Couple it with a real, physical touring interactive demonstration.

Optional

Investigate optional funding for development from the City of Cape Town (ask [@lanpat](#) for email for Sara's tech funding program)