02220 Distributed systems F17

Danmarks Tekniske Universitet



Project Idea

A real-time map of air pollution of popular areas in Copenhagen

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**The problem in general:**

* Air pollution is getting a bigger problem in big cities.
* People, especially people with a certain medical condition and people with young kids cannot go out any more to enjoy the fresh air.
* If they had a map of places marked safe for being outside they could go out more.
* If the pollution then rises an alarm would tell them they need to go home.

**What is already implemented in Copenhagen**

* [www.dmi.dk](http://www.dmi.dk) is the Danish Meteorological Institute. There is nothing that we could find about air pollution on their website
* Looking at many other websites about the Danish weather none of them included any info or map about the pollution level
* If you google “air pollution map of Copenhagen” one of the solution shows an old map with two sensors and there is no information about what those sensors are showing. *http://aqicn.org/map/copenhagen/m/*
* Another solution gives you a map of Denmark showing calculated pollution based on mathematical models. *The Danish Centre for Environment and Energy (DCE) has released a new interactive map that shows the air quality across Denmark as part of its new ‘Air on your street’ project.* <http://lpdv.spatialsuite.dk/spatialmap>*?* The problem with this solution is that it is not real-time, it´s based on calculated data, statistics and probability. It cannot give you real time feedback, warnings etc.

**Brain storming about possible solutions**

* Use the IoT (internet of things) or not
* Set up sensors in parks and popular places
* Display the information in a user-friendly way
* Display warnings
* Display warnings for people with special medical condition
* Web based application
* Mobile application
* Air quality sensors, one master sensor or all of them stand alone
* All mobiles will have an air quality sensor so people can see pollution globally in real time