Smart Flood Monitoring

September 4, 2015

Chapter 1

System Context

This section shows the context of the system.

1.1 Context

We are the architecture team in a company that specializes in making smart systems for environmental monitoring.

In many parts of Europe, natural disasters cause allot of trouble. These disasters can result in catastrophic events that can take human lives and where it will take a huge amount of money to repair the damage caused.

Floods, for example, of rivers and lakes destroy huge amounts of farmlands and sometimes even causes deaths. Climate change and extreme weather phenomena cause these floods to get worse every year. This makes it hard to timely anticipate on these upcoming floods in order to control the damage it will do. There's a huge need for a system that will help the people during natural disasters like these, which is what this system aims to do.

The goal of our first product is to reduce the damage and problems caused by floods by trying to predict upcoming floods as correctly as possible. By using various kinds of sensors, vehicles and control units, this system monitors the areas and gives warnings about upcoming floods. It then also provides guidance to the people in the (about to be) flooded area to reduce the nuisance the flood causes.

When this flood monitoring system works as planned and shows that it can indeed reduce the damage of floods, new products will be made by our company that will focus on reducing the damage of other kinds of natural disasters.

Over time, the system will try to reduce the amounts of human lives that are lost by natural disasters, starting with floods, and will try to reduce the social and financial consequences. This will revolutionize the way we think about natural disasters. Though the market around environmental monitoring is very competitive, this system aims at being a core part of future monitoring systems by being as dynamic and flexible as possible. Thereby allowing new features to be added easily, allowing the system to grow over time, including new upcoming user needs.

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