Title: Conception and implementation of a single window harmonization system for acquisition and provision of waste-water treatment plant data.

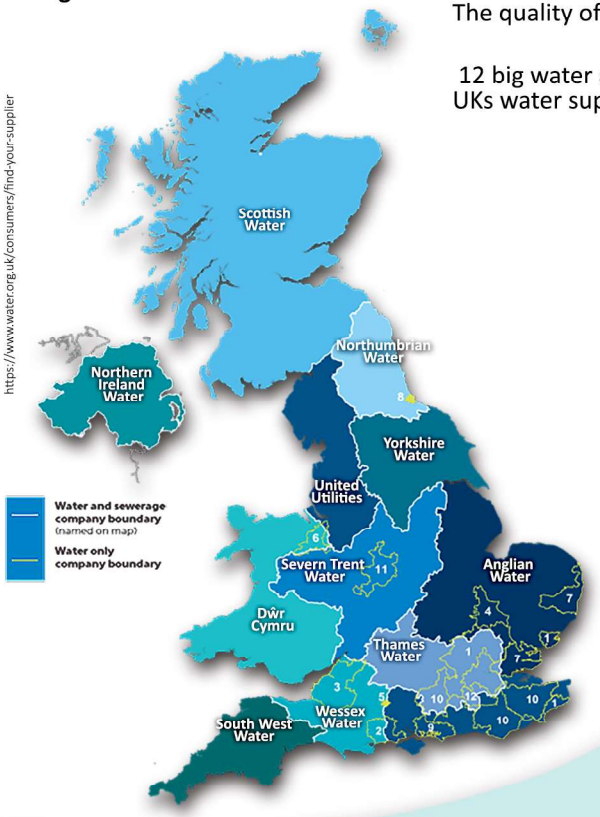
Course: Distributed Computing Systems Engineering

Name of student: Wojciech Lesnianski **No.:** 1644612 **Name of supervisor:** Alireza Mousavi

Background:

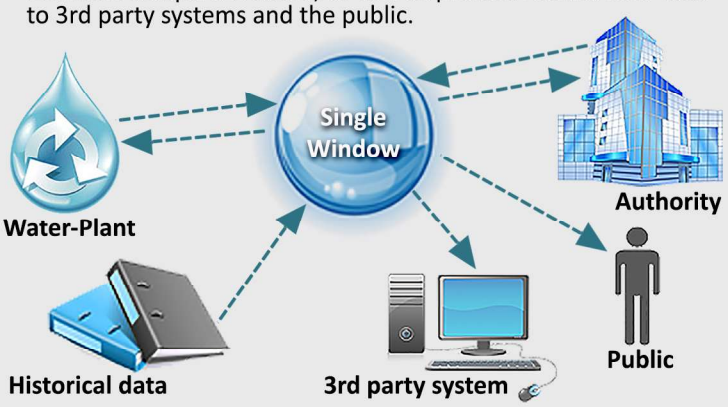
Access to clean water is the most basic and fundamental type of the human infrastructure. The quality of life highly depends on the accessibility to clean water.

12 big water and sewerage companies plus several water-only companies cover most of UKs water supply.



Aims and Objectives:

Creation of a single window system to make cooperative work between companies easier, as well as provide harmonized data to 3rd party systems and the public.



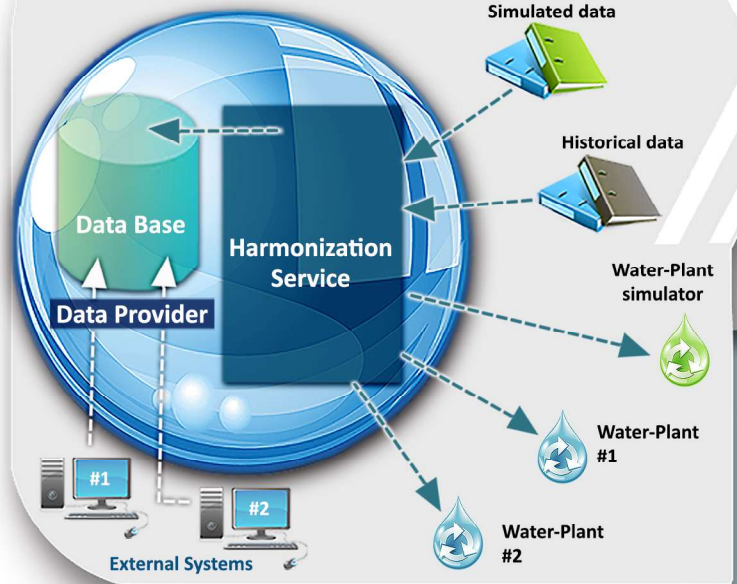
Experimental work:

Even though a data format is recommended, we expect the worst case and thus need a way to deal with different data formats. How do we get the data into our harmonized system?

1. Removing all data which is recognized as unnecessary data. **2.** Harmonize the remaining data into the predefined data-schema. **3.** Remove the data still unrecognized after the harmonization. **4.** Standardize the harmonized data for further analyses.

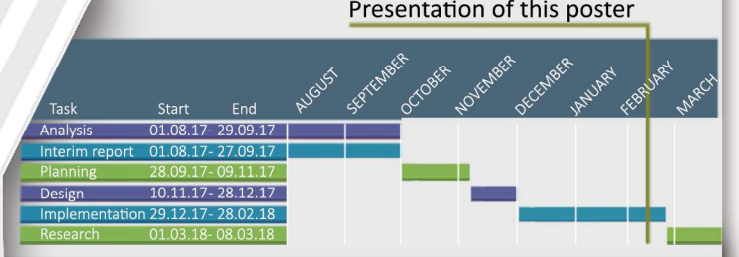
System Architecture

The architecture is split into components to make iterative development easier. The components are integrated into the system one by one.



Development

The development is done in a combination of the top-down and the spiral model. Each iteration of the development includes designing, implementing and integrating one of the system components. The finished system is tested with the water-plant simulator.



Future Work:

- Investigate on the behavior of the system with a simulator.
- Define what is needed to make the system work with real water-plants.
- Define the problems of this solution
- Describe the major problems which need to be solved to provide a better solution.