International Institute of Information Technology, Bangalore

Smart Water Networks - Project Scope

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1 Sensor Data Simulator

1. Fill database with psuedo sensor data.

2 Web Application

2.1 Supervisor Console

1. Creating a representation of the water network for the system.
2. Getting Notifications
   a) When there are leaks...
   b) When to water the garden...
   c) When quality of water goes down below a certain level...
   d) When level of water goes below a certain level in storage or sources...
   e) When water consumption increases beyond a certain in level...
3. Subscribing field staff to relevent alerts and notifications.
4. Tracking of notification/alert resolution by field staff.

2.2 Dashboard

1. Reports
    a) Water consumption pattern with options to drill down w.r.t to buildings(Academic, Cafeteria, Hostels etc) and activities(Cooking, gardening, cleaning etc).
    b) Water consumption vs time vs number of students.
2. Predictions
    a) Water tanker requirement prediction.

2.3 Geospatial representation of water network

Graphical representation of the whole water network. Relevent details for each network asset like the below with options to drill down w.r.t. time.

1. Quality of water
2. Storage levels
3. Consumption of water
4. Status information of pumps, i.e., whether they are switched on or switched off.
5. Electricity consumed to pump water.

3 Android Application

3.1 For the supervisor

1. Supervisor console and Dashboard like that in the web application

3.2 For field staff

1. Customized notifications and options to update status of resolution.

3.3 For general populace

1. Report leaks and individual water usage pattern.
   This is planned for the case where there aren't extensive usage collection sensors throughout the network. This will be a mobile interface through which actors are going to be submitting data about their normal usage. The submission of data need not be done on a daily basis. The actors can submit data detailing their regular activities and the typical water consumption for each activity, say, 2 buckets for bath daily and 5 buckets for washing clothes once in three days. They will be able to link their usage behaviour to specific time intervals(typically days, weeks or months)