Smart Irrigation

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Given the global warming effects making water resources scarce, but also intensifying raining, the agricultural sector faces new challenges.

# Aim

The aim of this project is to prepare a prototype of a smart irrigation system that could be used in very large crops.

# Requirements

* The system should be composed of rainwater harvesting tanks with water level meters, pumps + valve + AC-AC transformer (x2), soil humidity and temperature sensors, UV light sensors.
* The system should distribute the harvested rain to crops, but only when needed.
* Crops may need water if they have low humidity and there is no forecasted rain in the upcoming hours.
* The smart irrigation system should be able of monitoring the water level of each tank individually
* Moreover, the smart irrigation system should be able to pump in the water tanks fresh water, if needed (no rainwater harvested, but need of watering crops)
* The smart irrigation system should avoid watering crops if the crops will be exposed to direct sunlight for long hours