# “Water Saving Ablution Automated Machine”

Water is a precious element all over the world, and especially in the GCC region where the main water source for domestic use is desalination. And usually water source here is a byproduct of electricity generation, where the water in cooling system of the electricity generator is evaporated and condensed again to finally be used in domestic supply.

Water and Electricity generation in the GCC is considered one of the main contributors for Greenhouse gas emission, and this has been proven by many research studies. Therefore reducing the consumption of water and electricity will have a positive impact of the environment in the region.

## Project Idea:

Everyday Muslims need to prepare for their 5 daily prayers by washing some parts of their bodies; this is called “Wudu” or Ablution, this process usually consumes average 2 to 3 liters of the purified tap water if not practiced appropriately, and considering the billions of Muslim population worldwide, it is expected to have billions of liters of water consumed in this process daily.

The project idea is to design an automated ablution machine that can be used to limit the amount of water consumed to the minimum (expected to be 0.5 liters only). And then to produce a modular control cards, along with water supply housing and solenoid valves, which can be sold an a complete unit, this control unit then can be marketed to all Mosques, shopping centers, and public places all over the world, to eventually use this module and with easy installation instructions that any licensed plumber can install.

A prototype project is under construction by the group of students below, which showed potential results, yet more study required in the aspect of increasing the used water presser while reducing the water spay time, to have a moist spray of water that significantly reduce the amount of water consumed.

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