

GPRS Based Water Tele Control System

Eman Awad, Abdlatif Al-Karaka, Mahmoud Malkawi, & Walaa Shawar

Supervisor: Dr. Murad Abusubaih

Palestine Polytechnic University, College of Engineering and Technology, Electrical and Computer Engineering Department, Palestine- Hebron, iman8992@hotmail.com

The water network in the cities extends vastly, and that makes the process of managing the network hard and tiring. In addition, the field monitoring of this network is an exhausting process and takes long hours. It is on such grounds that the project team has come up with the idea of creating a system that controls the work of water networks, and whose approach is inspired by the advantages of the current, rapid development occurring in the wireless communication. To be specific, the team plans on building a tele-control system that facilitates the managing and monitoring of the water network from the main office, and whose work will be based on a well- prepared schedule by either a responsible person at the central office or by the system itself.

The system is a type of SCADA system , that used to fully supervise and control the water network; by gathering the information from the sensor distributed over the remote nodes and sending them to a central computer system , which allow the network administrator to monitor and manage all the aspects related to the water network through his computer screen. That eliminates the need for the continuously field visits and save the time and effort.

The transmission of the data performed through the GSM network using GPRS wireless technology, which distinguished by high data rate, low delay and low cost. On the other side, GSM is featured by providing better mobility, coverage and it is almost reach all the areas.

The System can perform the following Tasks:

- ❖ Control the water distribution operation over the city; by measuring the amount of water in the tanks and distribute the suitable amount of water to each area, either manually by the administrator or automatically based on a pre defined schedule .
- ❖ Inform the central office by amount of water that each consumer consumes, the system also give an expectation for the users who may steal water.
- ❖ Allow the administrator to get different kinds of information from the network like the status of every valve in the network, the instantaneous reading of any counter in the network, the level of water in the tank, the amount flow to each area.
- ❖ The system also give different types of alarms, such as: theft and leakage alarms

Not only does this project offer an effective facilitation of the work of water networks, but it also promises to be a modernization of a rather traditional, time-consuming process for the sake of a creative one supported by current and fast-going technology and very much staged and carried by young, active and highly innovative minds.