A Research Using Remote Monitoring Technology for Pump Output Monitoring in Distributed Fuel Stations in Nigeria

Authors : Ofoegbu Ositadinma Edward

Abstract : This research paper discusses a web based monitoring system that enables effective monitoring of fuel pump output and sales volume from distributed fuel stations under the domain of a single company/organization. The traditional method of operation by these organizations in Nigeria is non-automated and accounting for dispensed product is usually approximated and manual as there is little or no technology implemented to presently provide information relating to the state of affairs in the station both to on-ground staff and to supervisory staff that are not physically present in the station. This results in unaccountable losses in product and revenue as well as slow decision making. Remote monitoring technology as a vast research field with numerous application areas incorporating various data collation techniques and sensor networks can be applied to provide information relating to fuel pump status in distributed fuel stations reliably. Thus, the proposed system relies upon a microcontroller, keypad and pump to demonstrate the traditional fuel dispenser. A web-enabled PC with an accompanying graphic user interface (GUI) was designed using virtual basic which is connected to the microcontroller via the serial port which is to provide the web implementation.