

Automated Tablet Dispenser and Liquid Measuring System for Medicines

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06 Nov.

ET13

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Proper management of medication is essential for a safe and effective healing process. Due to busy lifestyle, majority of people completely forget to take medication or take it properly at the recommended time of the day. This has proven to be fatal in several occasions. Although there are different types of pharmaceutical tablet dispensers in the market, it is extremely difficult to find a reliable and an affordable system. As a solution, an automated pharmaceutical tablet dispenser was built to remind the relevant time and the dosage for the patient by sending a message via global system for mobile communications (GSM) module. It was based on the ATmega328 microcontroller. The time is calculated using a real time clock (RTC) module and the relevant time is reminded to the patients to take medicines by ringing an alarm. The correct doses of tablets are automatically released to the patient. In addition, it sends a message to the patient or the caretaker to refill the tablets when the numbers of tablets are running low. The system is compatible with any type of mobile phone and does not require information and communication skills to utilize it. In addition to the tablet dispenser, a liquid measuring system was designed and built especially for paracetamol, salbutamol, piriton and domperidone medicines. The proper dose of medication is released by the system once the caretaker enters the illness, age and the weight of the patient into the system. The results were tested with above medications several times and the accuracy was confirmed to be above 0.1 ml. This project can be further improved by connecting RTC module and a GSM module to remind the patient or caretaker to attend to the task of taking medicines.

Keywords: Microcontroller, liquid measuring, global system for mobile communication module, real time clock module, tablet dispenser

