

ABSTRACT

The IoT-based urine pH monitoring tool uses an Arduino Module with NodeMCU which has been integrated with the ESP8266 as a microcontroller that will communicate serially so that it is more practical to use. It is designed to detect diabetes by monitoring the urine pH periodically. High sugar levels in urine can be a signal that something is wrong in the body's way of managing glucose, so it is important to monitor the pH of urine to find out the level of sugar in the urine. Currently, most urine testing systems still use the conventional method, namely using litmus paper and the tools used are also simple, namely using a pH meter. Therefore, a urine testing system application was created that is able to store data automatically and can be used to detect. This IoT-based urine pH observation system has the ability to transfer data over a network and can connect to a smartphone or personal computer. This tool can provide information about the results of early detection of diabetes and the results of system testing indicate that this tool can be used as a tool to help monitor the pH of urine on a regular basis. With this tool, it is hoped that it can help detect diabetes early and facilitate the process of monitoring the pH of urine.

Keywords: Diabetes, IoT, Observation of urine pH.