**A REVIEW OF INTERNET OF THINGS (IOT) FOR THE DESIGN OF SMART SYRINGE PUMP IN BIOMEDICAL APPLICATION**

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ABSTRACT

Syringe pumps are vastly used in biomedical application to deliver a small amount of fluids or medications at specific periods of time to the patients. One of the significant features in the development of a syringe pump is to control the movement of the piston of a syringe for delivery of fluids into the intravenous line tubing. This feature is essential to avoid functional failure and errors while administering the fluids. Therefore, it is important to be able to detect and minimise such error by integrating syringe pump with the application of the Internet of Things (IoT) which allows human interaction through mobile application. This paper discusses the current research, methods, and open issues of future research related to the implementation of IoT for potential development of a smart syringe pump in biomedical and healthcare applications. The main aim of the proposed project is to design a system that can be used to detect line occlusion and end alarm for syringe pump application. The proposed system could potentially be used to notify the users or clinicians for the occurrence of occlusion flow or whether the fluids is completely infused to the patient. The findings of this study would be beneficial for our proposed project which is to design a system that can be used to detect line occlusion and end alarm for syringe pump application. The proposed system integrates a KY-037 sound sensor device which is driven by a NodeMCU ESP 8266 using a blynk application interface. The proposed system could potentially be used to notify the users or clinicians for the occurrence of occlusion flow or whether the fluids is completely infused to the patient.

*Keywords: syringe pump, internet of things, KY-037, end alarm, mobile application*