

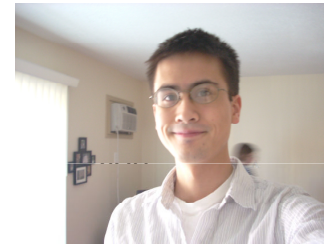
Dominic Hogan

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Mentor: Ramesh Harjani,
Electrical and Computer
Engineering

Portable, Battery-less Power for RFID Blood Monitoring System

Donated blood is one of the most precious and life-saving resources in the world. However, its limited shelf-life and important storage conditions make it one of medicine's most vulnerable tools. Often transported to remote locations in emergency and military situations, risks such as temperature exposure and improper labeling can lead to delivery of inadequate and dangerous blood. A comprehensive tracking and monitoring system is necessary to secure a reliable blood supply. With the ability to identify and monitor the condition of blood on a per-unit basis the quality can be ensured from the source to the point of use. This leads to more reliable storage and supply with less waste. A monitoring system also serves to strengthen existing supply chains as a complete temperature profile can be accessed to pinpoint weaknesses or failures for correction. This project proposes an RFID tag that can be attached to individual blood bags, meeting strict power and size requirements. My work focuses on utilizing supercapacitor technology to enable battery-less operation for a more economical and environmentally sound solution.



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