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RESEARCH PLATFORM FOR STUDIES USING SENSORS

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ABSTRACT:

Purpose: This SPUR project focused on software to automate a manual process that assists researchers in monitoring sensors when they are used with study participants.

Background: Sensor-based monitoring has been emerging as a tool for health-related research. Tiny sensors can continuously record aspects of a person's behavior, as well as their environment and social context. Sensors in consumer electronic devices and "wearables" like fitness trackers, can provide important information for research; however, including sensor information in research is a complex task. One challenge is for researchers to monitor whether a sensor is working properly and transmitting data.

The Parent Study: The Utah PRISMS Informatics center was funded by NIH to create an infrastructure to support using sensors as part of pediatric asthma research. Software engineering was an integral part of the overarching study research aims. This project was part of one key component of that infrastructure.

Research Activities: I participated in learning and research opportunities specific to software engineering, human-computer interaction, and health and informatics related research. Additionally, I refined programming skills and learned new aspects of software engineering.

Results/Conclusion: In order to assist the PRISMS project with researcher workflows, we automated a manual process. This included the addition of new user interface components and modification of other components such as the ability to efficiently and easily enter data on deployments from any remote location that has access to the Internet. Next steps will include testing by research coordinators and investigators.

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