Development of a Smartwatch User Interface to Improve Usability for Asthma Management
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User-Friendly Apps Enable Self-Treatment of Asthma

Asthma is the most prevalent chronic disease among pediatrics, affecting nearly 6 million children in the United States. Mobile applications monitor asthma symptoms and medication use in the absence of medical professionals. A simple, eye-catching user interface (UI) can improve user compliance and adherence, ultimately reducing the risk of asthma attacks.

System Overview of the Asthma App

Dust Sensor
Processed Dust Data (no. large particles > 2.5 microns)

Time (min)
0 10 20 30
0 200 400 600 800 1000

1) Create UI Graphics
2) Implement Code
3) Debug
4) Simulate

Developing the User Interface

UI Improves Usability

With a new UI, children may be able to comprehend their asthma risk better. Attractive graphics can encourage children to use the application more, thus providing frequent feedback and ultimately preventing potentially deadly attacks. Future development of this UI includes gamifying the app to reward the patient with points and levels to further improve compliance and adherence.

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