

# The Amulet Wearable Platform

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Amulet is an open wearable platform enabling long-term studies in health and sensing.

The **Amulet** is a smartwatch with months-long battery life...

...which communicates with body-area sensors like our EDA sensor...

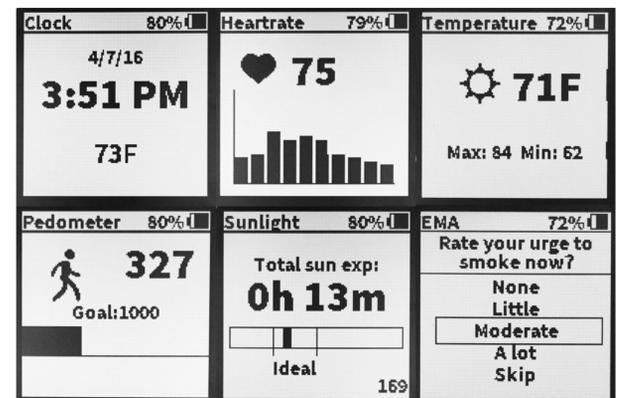
...enabling a diverse set of applications and interactions.



*Open-hardware, open-software wristband with support for multiple apps, inbuilt sensors, BLE*



*Wearable electro-dermal activity (EDA) sensor*



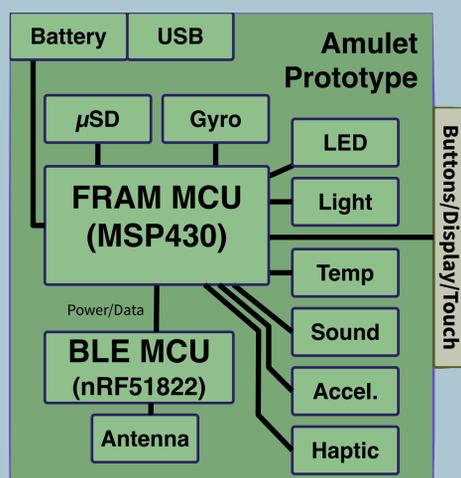
*App screenshots*

The Amulet Wearable Platform is an open-hardware, open-software research platform, currently deployed in two health-related research studies, monitoring stress and geriatric physical activity.

## Amulet platform

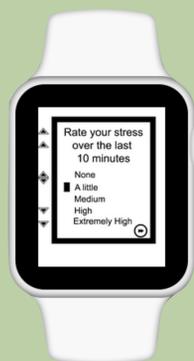
Isolates applications and generates final firmware for upload to Amulet.

**AmuletOS** provides an interface for the programmer to sense, communicate over BLE, and interact with the user through buttons, the screen, and the buzzer.



## Stress monitoring

Assessing the reliability and validity of using the Amulet to measure stress.



The Amulet can collect sensor data such as EDA and heart rate and use these data to generate an event-based ecological momentary assessment delivered to the user via the Amulet UI. Participants can then respond about how stressed they feel in the moment.

## Activity Monitoring

Amulet applications for engaging older adults in physical activity.



Activity type (sedentary, moderate, vigorous), upper and lower extremity strength (using a Bluetooth-enabled resistance band and a simple sit-to-stand chair test), and a pedometer will support remote sensing and health behavior change by providing real-time, self-monitored feedback.

### Students, staff, and collaborators

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Summer Cook	Alexandra Dalton	Kevin Freeman	Bhargav Golla	Emily Greene
David Harmon	Steven Hearndon	Josiah Hester	Micah Johnson	Stephanie Lewia
Byron Lowens	Varun Mishra	Andrés Molina-Markham	Vivian Motti	Emma Oberstein
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