Image: Social Media DNA

Prototyping an Open Source Connected E-Bike for Remote Study

Context

Biking is a dynamic and experiential process, and while we, as designers, would love to be next to our users to experience what they do, it's tough while on the move. However, recent advances in IoT, sensors and other technologies could enable designers to "ride-along" with their users at a distance and thus foster insights and empathy. To do this, we want to develop a prototype e-bike that captures information about the ride and the user's experience. In other words, we want a bike that helps inform our design processes for bike product service systems based on a user's experience captured by a collection of sensors.

Project

The primary goal of this project is to develop, assemble and test a modular, open-source e-bike kit that captures live sensor signals. This design platform should allow designers to experience better the bike ride of their users towards novel insights and empathy.

In line with your interests, your research question could focus on one of the following: What are the necessary sensors to capture an e-bike user's experience? How can AI guide how the designers select these experiences? Or, how can designers experience these captured experiences?

The Smart Connected Ebike consortium -- cooperation with the Accell Group -- will help you conduct this project. It also includes financial support for equipment.

Student Profile

The technical nature of this project fits best IPD master students. Additionally, you're going to be working on a decent amount of programming, electronics, and enclosure design, so a passion for prototyping is ideal!

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