Software and Methods for Accurately Estimating the Power Draw of OLED Displays

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Categories:
- Computer Technology
- Electrical Engineering

Keywords:
- Batteries
- Computer Technology
- Displays
- Electrical Engineering
- Mobile Application
- Mobile Apps
- Power Management
- Smartphones
- Software

Researchers at Purdue University have developed a novel method and software for accurate power draw estimation of OLED displays of mobile devices. Current systems use linear regression of all RGB values which has power modeling error up to 22%. This novel method can more accurately model power draw and reduce the modeling error to below 4%. This technology has applications as both a background app running on the user's device to generate more accurate per-app battery life estimates as well as during app development to help app developers ensure power efficiency in their app designs.

Technology Validation:
This technology has been integrated into the open-source version of Android Battery and tested on various modern smartphones.

Advantages
-Compatible with software capable of running on millions of mobile devices
-Accurately displays power draw estimation, within 4%

Applications :
-App UI Development (e.g. dark mode design)
-Built-in per-app battery drain monitoring and accounting in mobile platforms (e.g. Android, iOS)
-Mobile Device battery management

People:

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Intellectual Property:

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