Docket #: S12-260

System for Analyzing Mobile Browser Energy Consumption

To significantly reduce the energy consumed by mobile web browsers, a system was developed for precise measurement of power consumption by browsers of mobile devices when rendering web pages. The tools are sufficiently precise to measure the energy needed to render individual web elements, such as cascade style sheets (CSS), Javascript, images, and plug-in objects. The invention enables concrete recommendations for web site design to minimize energy requirements for rendering pages. In one example, it was determined that by modifying scripts on a Wikipedia mobile site, the energy needed to download and render Wikipedia pages on mobile devices was reduced by 30% with no change to the user experience.

Applications

- Designing websites to reduce their power consumption on mobile browsers.

Advantages

- The invention measures the energy required for specific web page elements to provide a roadmap for energy optimization of the web page. The tools enable a significant decrease in web browser power consumption. As an example, modifying scripts on a Wikipedia website resulted in a 30% decrease in the power required to download and render the webpages on mobile devices.

Patents

- Published Application: 20120322387
- Issued: 8,971,819 (USA)

Innovators

- Dan Boneh
- Gaurav Aggarwal
- Narendran Thiagarajan
- Angela Nicoara

Licensing Contact

Imelda Oropeza

Senior Licensing Manager, Physical Sciences

Email