Mobile Cloud Computing and Wearables

Context

Mobile cloud computing enables delivery of a large variety of cloud application to billions of smartphones and wearable devices. Many of these devices have constrained computing, battery and storage resources, which requires offloading the execution of heavy tasks to the cloud. Mobile cloud computing in turn enabled mobile devices to run applications providing rich user experience, including commerce, healthcare, social networks and gaming among the others. As a result, the mobile devices market is continuously growing. In the context of wearable devices, sales are expected to grow from \$ 5 billion in 2013 up to around \$ 30 billion in 2018.

Objectives

Traditionally, offloading task execution to the cloud focused on the impact of tasks on energy consumption of the devices. However, in mobile cloud computing environment communications play an important role. Despite of this, few works jointly investigated the impact of computing and communication on battery drain.

The objective of the project is to verify experimentally whether it is convenient for wearable devices to offload task execution on the cloud taking into account computing, networking and storage resources. Experiments will be carried on a rich set of wearable devices, including Google Glasses, smart watches and smart rings.

Tasks

- Contribute to the scientific research in the area of mobile cloud computing

- Conduct experiments using a rich set of available wearable devices (Google Glasses, smart watches and smart rings)

- Participate in writing of scientific articles that will be presented in international conferences and published in major scientific journals

Requirements

- Background in the area of communications and optimization

- Measurement skills

- Good programming skills (C++)

- Good command of English language is essential

- Ability to work independently as well as in a team

Contact

For inquiries please contact Dr. Dzmitry Kliazovich (dzmitry.kliazovich@uni.lu) or Prof. Pascal Bouvry (pascal.bouvry@uni.lu).