

Augmenting Remote Control Devices Experience with Mobile Cloud Computing

Context

Smartphones have become essential for our day life. They are normally equipped with a rich set of sensors, including GPS, microphone, camera, accelerometer and gyroscope among the others. Accelerometer and gyroscope enable human hand gestures to become control commands for other devices such as drones or robots. Despite other control devices, smartphones are very popular and have a much simpler interface, the touch screen.



Being battery equipped, smartphones have constrained computing, battery and storage resources, which requires offloading the execution of heavy tasks to the cloud to enrich quality of experience and prolong battery lifetime.

Objectives

Because of the need of synchronization, controlling devices impose severe constraints to the network, being latency the most crucial factor. For such a reason, applications developed so far for remote control are very simple. Mobile cloud computing can enrich user Quality of Experience (QoE). For example, it can enable object detection and recognition, that are typically heavy computational applications.

The objective of the project is to verify experimentally how to enrich control applications through mobile cloud computing. Experiments will be carried on real devices.

Description

- Contribute to the scientific research in the area of mobile cloud computing
- Conduct experiments and measurements with real devices (drones)
- 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
- Good programming skills (C++, Java, Javascript)
- Good command of English language is essential
- Ability to work independently as well as in a team

Contact

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