Wireless Networks for Mobile Applications

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Project Examples

• The following examples represent projects developed for this class in past years
Several approaches have been presented enabling D2D interaction


Objective: Provide a comprehensive survey of state-of-the-art approaches
Several approaches have been proposed depending on mission objective and goal:


Objective: Provide a comprehensive survey of state-of-the-art approaches.
Survey Project 3 [SP3] – Body Area Networks

- The goal of this topic project is to provide a study regarding state-of-the-art proposals employing predictive / behavioral algorithms
- Starting material
Vehicular communications will become a reality in the near future. A research topic spanning from Phy/MAC (propagation) to data dissemination aspects.

Message forwarding in 1D, platoon scenario is well-understood and optimal schemes have been proposed. However, in the general case, the road topology is 2D ...

Starting material

Julio et. al, “RTAD: A real-time adaptive dissemination system for VANETs”. Computer Communications 60(1), 2015

Drones and other mobile/static devices (IoT devices) with communication capabilities are becoming popular.

Objective 1: Provide a comprehensive survey of possible applications and challenges related to 2D/3D Drone networks.

Objective 1b: Provide a survey of mobility models for the mentioned applications.

Starting material:
With seamless communication is meant no user interaction is required.

Pairing process between wireless enabled devices requires initial setup (user intervention). Solutions have been proposed for seamless data transfer. These proposals exploit advertisement frames to exchange data, hence avoid pairing, making the solution user-transparent.

Starting material


Objective: Survey similar proposals
Many interesting topics

- Information-Centric Networks (ICN) (e.g., general? Specific for smartphones or vehicular?)

- Green Computing

- QoS/QoE in multimedia (e.g., specific for smartphones…)

- Activity Recognition (e.g., from smartwatches… even used for side channel attacks)

- …