A location-based fog computing optimization of energy management in smart buildings: DEVS modeling and design of connected objects

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Problems & Ideas

- **Problems** of optimizing energy management in smart buildings
  - Holistic and intelligent **design**,
  - A right **environment** for the application,
  - **Modeling & simulation** of resulting systems ,
  - **Validation** and comparison with the most similar works .
- **Ideas:** fog computing location-based Framework for automatic energy control of smart buildings
  - Adopt a **holistic Framework** for an Environment consisting of two buildings: home and office, and a user for both,
  - **Fog computing to locate the user**,
  - 03 **modes of consumption** to rationalize energy use: **luxury**, **ordinary** and **economic**.

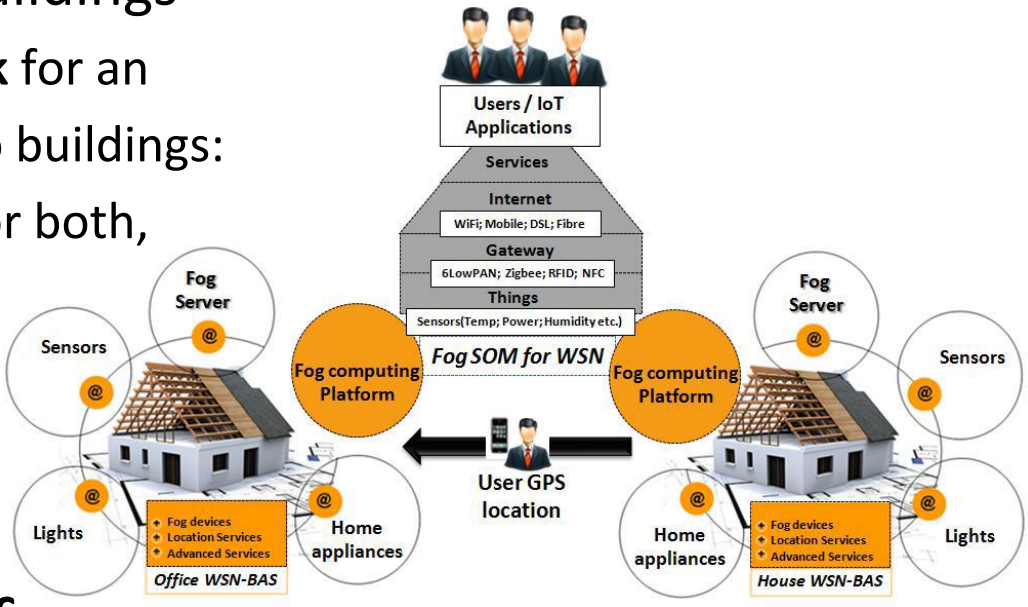

Fig1. Fog location-based Framework

Main Contributions

- *By applying our approach, general users of smart buildings will enjoy a **luxurious lifestyle** and will pay only what **economy mode** users pay.*

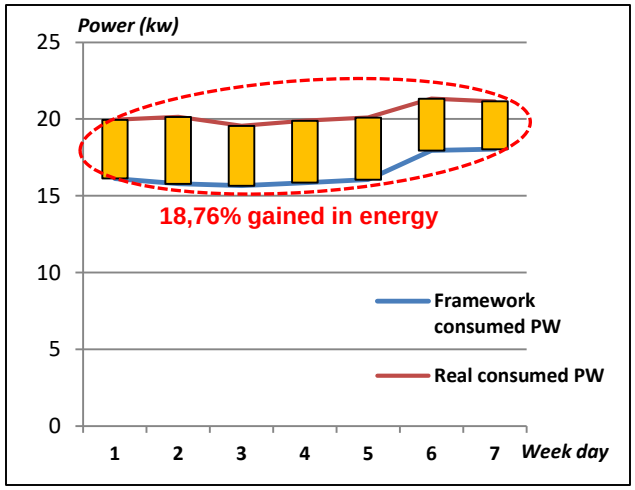

Fig.2 Weekly house energy gain

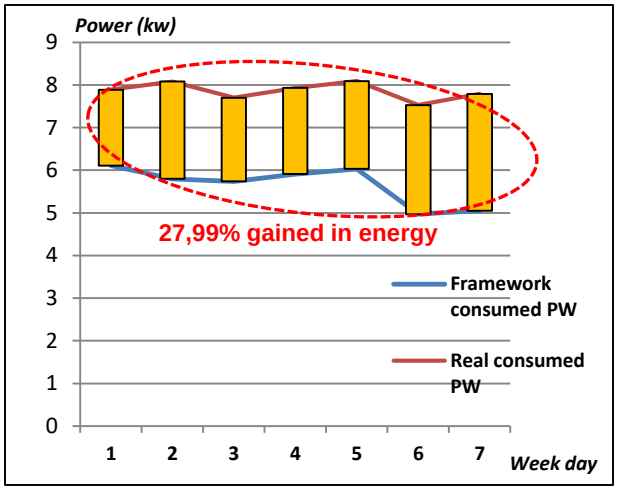

Fig.3 Weekly office energy gain