

Abstract

This master thesis proposes an Agent based framework for managing electricity within a tenant community. Tenant community comprises of residential building with multiple tenants living inside, and locally generated electricity, for example from a Photovoltaic (PV). In Tenant community there are different participants who have different goals and behaviour.

Agent technology is opted because agents are capable of independently representing and acting on behalf of its users or owners with different goals. Furthermore, agents cooperate and coordinate with other agents to achieve a community shared goals while satisfying the individuals goals.

One of the main technical challenges is to develop an Agent Framework in a way that “by design” avoids a “single point of failure”. And therefore, it should be completely decentralized without any central authority. Hence, a framework is designed and implemented during this master thesis that fulfil this requirement.