

HMM-based decision model for smart home environment

ABSTRACT

The smart home environment typically includes various systems with high level of heterogeneity characteristics. Smart home environment are configured in such a way that it comfort driven as well as achieving optimized security and task-oriented without human intervention inside the home. Smart home environment contain diversified systems ranging from entertainment to automation like devices that is heterogeneous in nature. For the reason that of systems heterogeneity, it is frequently challenging to execute interoperation around them and realize desired services preferred by the home occupants. The interoperation complexity stands at the bottleneck in ensuring various tasks executed jointly among diversified systems in smart home environment. In this paper, we present a Hidden-Markov Model (HMM) based decision model for smart home environment by providing decision support ability. The implementation has been carried out in such a way that quality information is acquired among the systems to demonstrate the effectiveness of interoperability among them. This proposed decision model is tested and proven that there is an elevated amount of reliability on this decision model in the smart home setting.

Keyword: Smart home; HMM; Interoperability; Feature selection