Applications of Machine Learning and Service Oriented Architectures for the New Era of Smart Living

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Abstract

In this paper we present a the application of advanced pattern matching algorithms and the utilization of a cloud-based Service Oriented Architecture (SOA) to offer a number of rich personalized applications for Ambient Living, through a novel Building Management System (BMS). The novelty presented in this paper is deriving from the evolution of a proprietary BMS product, namely Ecosystem, which is enhanced with the features presented in this paper, to address high demand for personalization and service adaptation in the new era of Information and Communication Technologies.

Keywords: Ecosystem; CBR; machine learning; SOA; service elements.

1 Introduction

BMS platforms in the market today are strongly linked with industrial control hardware, meant for machinery with tight schedules, requirements, and specific operating parameters. However, people in homes and businesses have constantly varying schedules and requirements, their equipment and wiring

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