Student/Intern project

Context-Aware Social Activity Recommendation for Active Aging in Smart Cities

Smart Cities are augmented environments capable of utilizing the Internet of Things (IoT) and multimodal sensors, in which computational intelligence is ubiquitous to provide contextual, proactive and personalized services to people. IoT is an emerging technology that provides diverse capacities to incorporate everyday objects into computational support for user activities. These IoT objects are "smart" components interact and provide information that complements artificial intelligence algorithms in order to better address user requirements.

Active lifestyle in smart cities promotes healthy aging, and participation in social and physical activities improves aging people well-being. IoT diverse and Media sources can advertise large number of activities and for all age categories. This media, however, are not adapted to the aging population.

QueFaire is an IoT based system developed in AMI-Lab to help seniors lead an independent and purposeful life, through ambient assistive technologies. QueFaire is a context-aware in-person social activity recommendation system for seniors. QueFaire interprets natural language descriptions of activities in social media and proposes suitable activities to aging people, taking in consideration user-profile and contextual information. Moreover, the system is intended to provide support to help reach the location of a social activity (*More details in the AMI-Lab publications*).

Keywords

Smart City, Internet of Things, Dynamic and adaptable systems, Context aware services, REST API.

Required skills/background

- Strong motivation towards this challenging project
- Ease in programming (mainly C++, Python, Java, etc.)
- Ease in programming in Android and/or Swift
- Skills in Linux, embedded systems (Raspberry PI, Arduino, etc.)
- Skills in Web services

Role of the student/Intern

Students/Interns will be involved in the following tasks:

- Design and develop new components that enable better management of IoT and User data.
- Design and develop advanced interaction mediums
- Design and develop an algorithm to analyze activities description in social media networks.
- Design and develop a reasoning engine to recommend activities for an aging person according to his preferences and profile.

Application

Interested applicants email a detailed CV, transcripts and motivation letter to the lab director. The successful candidate will be contacted shortly after processing the received applications.

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