

Android App for Context-Aware Interaction in Ambient Assisted Livings

Supervisors

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Presentation of the project

Making use of the transition towards ubiquitous environments where embedded computing devices seamlessly integrate and cooperate to serve human needs, we can design systems specially fitted to provide context-aware digital services. At IPAL, the UbiSmart framework is being developed to help the elderly lead an independent and purposeful life, through ambient assistive technologies. Therefore, we build smart homes, connected cars and smart cities, where sensors are deployed and reasoning algorithms implemented to gather knowledge about users' context. This knowledge can then be used to provide real-time services, as well as lifestyle assessment and coaching. Our next step is to provide a direct mean of interaction to the users, leveraging their usage of smart devices; and to study this interaction in order to evaluate the impact of our system on the quality of life of the users. The proposed project consists in building a Android mobile app able to adapt to the preferences of the user, as well as his context, by reshaping itself based on context information provided by our cloud-based framework.

Expected deliverables

This internship will lead to the design and development of a mobile app in Android. The app will instantiate a 2-way communication with our cloud-based framework, in order to initiate interactions to the user according to his profile and context. It may also send sensor information from the mobile device, to be consumed in the cloud backend. Heavy reliance on REST APIs, sockets and push notifications is considered.

Keywords

Ambient Assisted Living, Smart Home, Web App, Mobile App, REST, Android.

Applicant profile

- Master Degree or Engineer Student (last year of studies).
- Skills in Android development and ease with programming in general.
- Strong motivation towards this challenging project.
- Availability for 5 to 6 months starting in the first semester of 2016.



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