

## Personalization in Ubicomp Systems

MULTIMODAL SYSTEMS / IMG team



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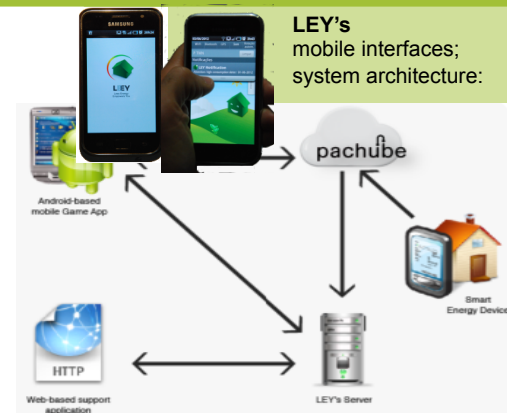
M.Sc. in Computer Science Engineering;  
Lecturer at ESTSetúbal/IPS;  
Interested in HCI and Ubicomp, with focus on personalized interfaces and smart objects.  
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## Objectives

Research's focus on studying the application of personalization to ubicomp systems to provide the best HCI experience.

The process of obtaining and choosing content and interfaces tailored to each user interaction in ubicomp systems is still a critical challenge, due to various issues: user interests; heterogeneous environments and devices; ubiquitous data capture; and dynamic user behavior; among others.

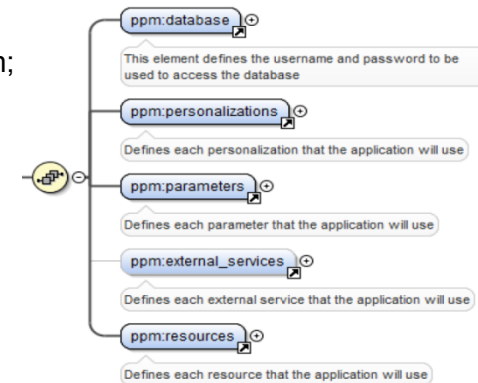
A personalization model is needed to help obtain the right interfaces for ubicomp systems, which are considered smart by so many in literature.



## Methodology

- Study of related work;
- Define a personalization model integrating user, context and interactions stream;
- Define a personalization's configuration: parameters, resources, ... →→→
- Tests with machine learning algorithms (initially k-means ) and (Context-aware) Recommender Systems to chose a profiling engine module.
- Development of two prototypes for personalization studies:
  - » LEY - a persuasive energy-awareness system for the household;
  - » a pervasive healthcare assistive system for patients on "smart wheelchairs".
- Study how Ubicomp systems personalization can be evaluated.

Elements to configure a system's personalization:



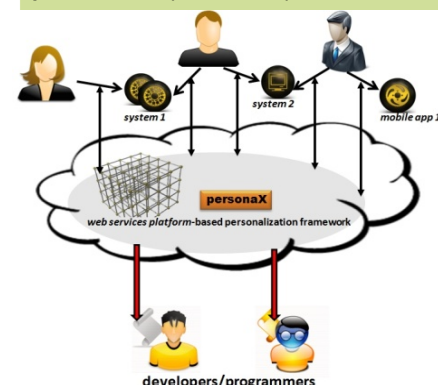
## Expected Results

Main expected contribution: **generic personalization model** to be applied to different systems, even from different domains. Advantages for:

**developers:** a standard model available as a framework, a web services platform to provide orientation and services/tools for their implementations.

**end-users:** will be less bothered when starting to use a new system/app as it might know something about s/he. Previous user interactions within others systems might be useful to personalize the new system interactions.

personaX – a platform for personalization:



Funding: