

VISION OF THE FUTURE NGN@HOME WORKSHOP

The possibility for an end-user to create a
new or personalized service.

How could we support this in the future ?

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Service creation can be...

- The obtention of features or behaviours not provided by installed equipments when used out of the box.
- The enhancement of an existing service

Service personalization is...

- Tailoring the installation to its specificities (topology, space usage,...)
 - Associate devices and controls
- Adapting the system behaviour to the user
 - Define « control laws », usage scenarios,...
- Making the system evolve to follow the user's needs
 - Adapt both previous items to changes

What's on the market today

- InOne (Legrand), Tebis (Hager), Gamma (Siemens), TYDOM (Delta Dore),...
- Varuna 2 (Hestia),...

Which level of personalization ?

- Configuration

- Static patterns of connections between devices (ex: lamps and switches) stored in evolved switches

- « Scenarios »

- Grouping individual actions into «macro-actions» (closing blinds and switching off all the lights with a single action)

How is it proposed ?

- Configuration at device level
 - Ex: addressing setting, association between controllers and controlled devices,...
- Definition of actions at control device level
 - Ex: the scenario associated to a switch action is defined by a specific manipulation on the switch itself
- Configuration of the supervisor application
 - Ex: Varuna

Paramétrage des utilisateurs (code et badge)

Utilisateur : [...] Nom :

Modif. nom : Sur tous les groupes Individuellement

Affectation sur groupes :

Validation du code et du badge sur présence d'alarme (pour les utilisateurs 13 à 16)

Secteur : Détresse : Seuil Temp. : Tech. : Gr 1 : Gr 2 : Gr 3 : Gr 4 :

Code accès du Menu

Menu utilisateur :

Codes d'accès suivi de :

0 : Hors surv. sans gâche
1 : Mise En surveillance
2 : Hors surv avec gâche
3 : Alarme contrainte

Fonction carillon

À partir des claviers déportés la frappe des touches 0 et A énonce le mot "bienvenue"

Badges

Badge valide

Badge non enregistré

En confirmation du code d'accès en :

Gr 1 : Gr 2 : Gr 3 : Gr 4 :

Numéro du dernier badge présenté : 00

Actions du badge sur lecteurs principaux 1 à 4 **sauf en confirmation de code**

Mise Hors surveillance + gâche Scénario :
 Gâche
 Uniquement scénario

Action du badge sur lecteurs secondaires 11 à 25

Scénario (1 à 15) associé au lecteur de badge secondaire (11 à 25)

Programmation de l'invalidité des utilisateurs.

Attention, les utilisateurs peuvent-être également invalidés par les commandes dans le calendrier

Programmes utilisés

Prog. 1 Prog. 5
 Prog. 2 Prog. 6
 Prog. 3 Prog. 7
 Prog. 4 Prog. 8

Réglages du Programme d'invalidation sélectionné

Sélection du programme (Visualisation et/ou correction de sa configuration) :

Tranche horaire

De à

Jours

Lundi
 Mardi
 Mercredi
 Jeudi
 Vendredi
 Samedi
 Dimanche

Code(s) et Badge(s) à invalider

1 à 10 :

11 à 16 :

Visualisation d'un utilisateur à invalider :

Lundi

Mardi

Mercredi

Jeudi

Vendredi

Samedi

Dimanche

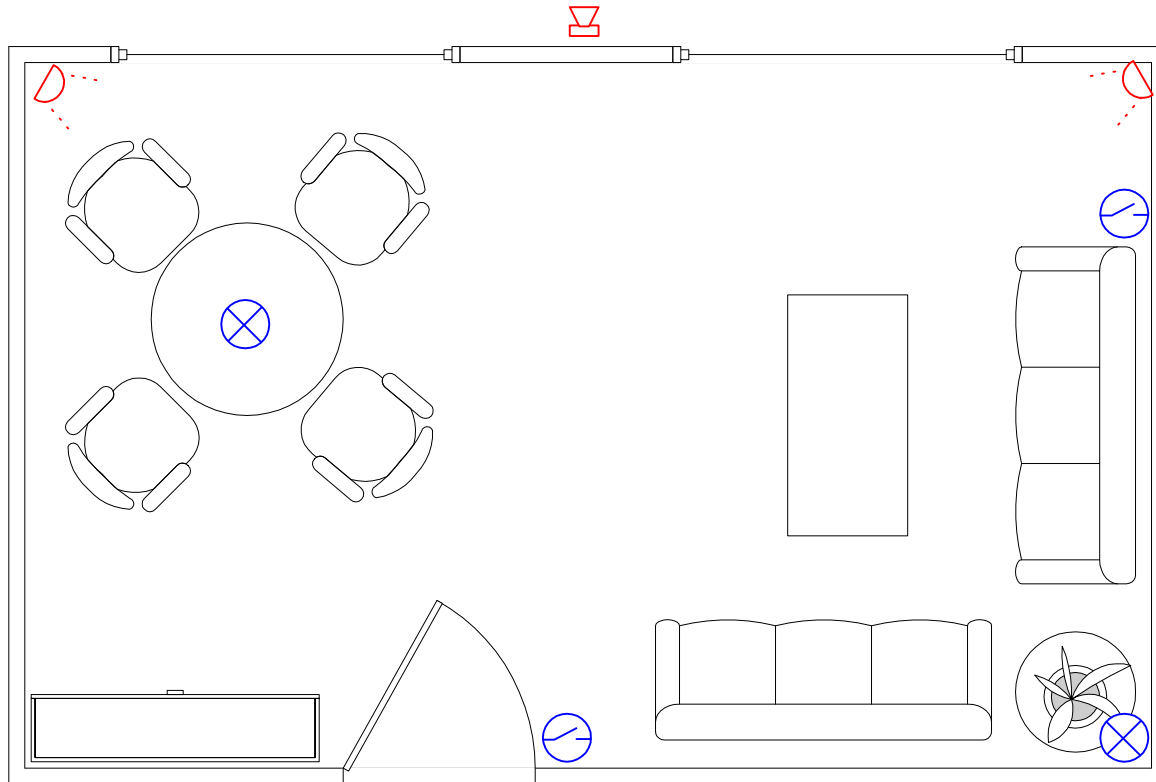
Weaknesses and limitations

- System centric personalization
 - user profile is not taken into account
- Limited to the bounds defined by the provided services
 - Ex : no possibility to define coupling between light management and blinds control (apart from a basic grouping of respective actions)

What would be nice

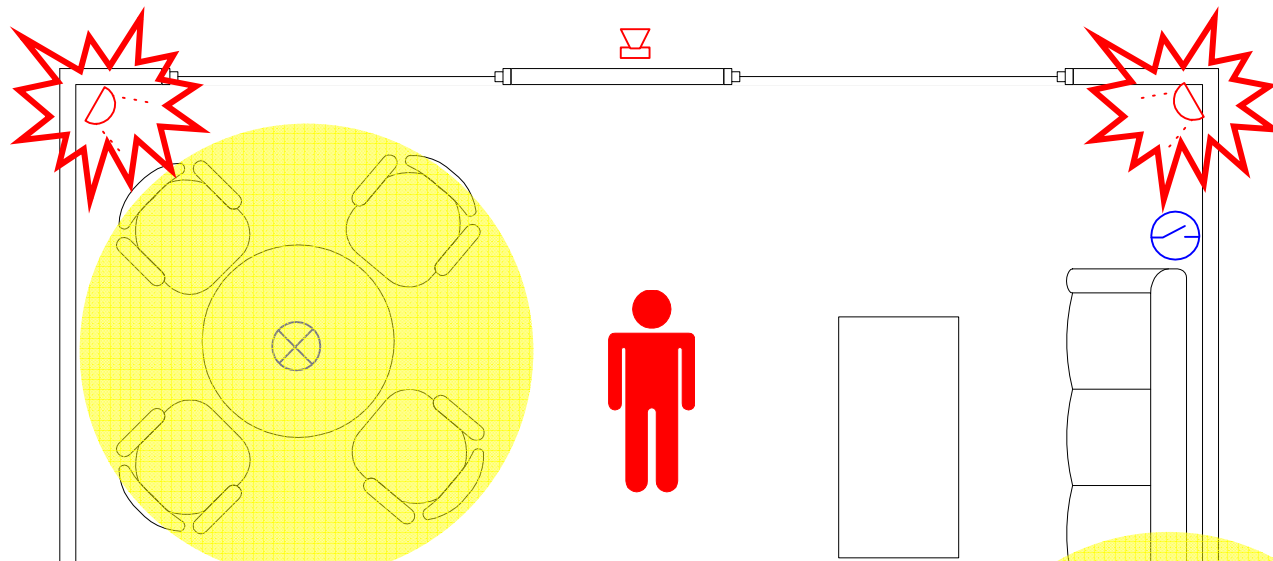
- Being able to build services not available out of the box
 - using blinds embedded luminosity sensors to optimize room lights usage,
 - using alarm presence detectors to automatically switch off lights in empty rooms,
 - ...
- Integrating of individual user specificities
 - preferences, handicap,...
- Configuring and controlling the system in the most natural way as possible
 - Aimed at general users (ie not technically skilled ones)

Some scenarios



- The alarm system uses its presence sensors as expected

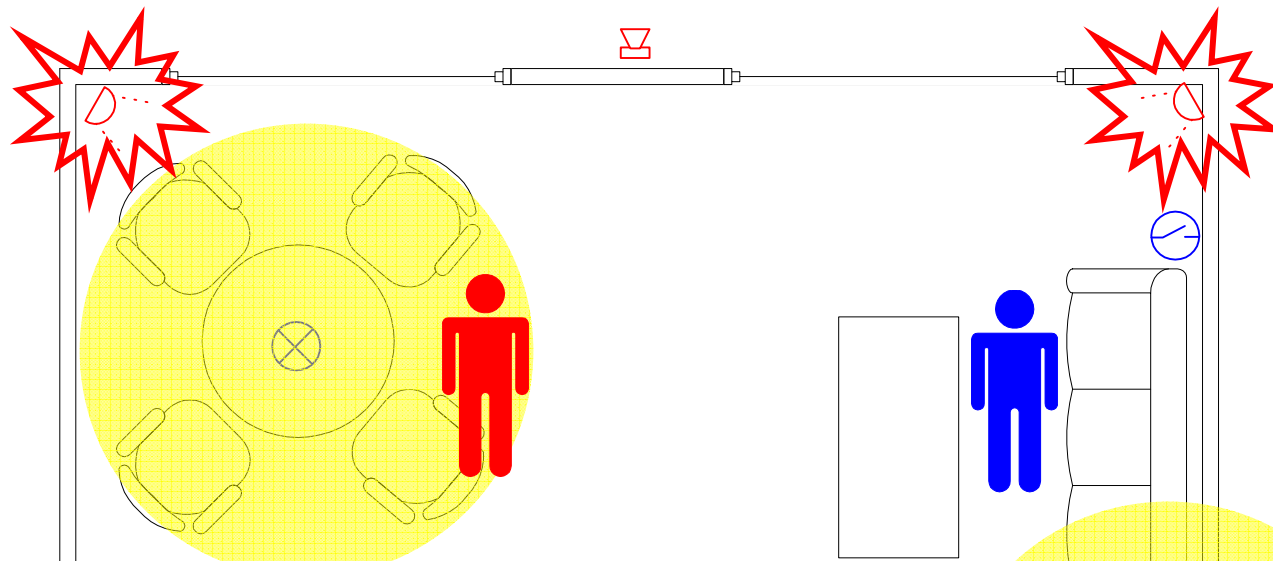
Some scenarios



- The light management service **takes advantage** of information returned by the presence sensors to enhance its service level
 - *already offered by existing products (ex: Varuna)*
- This behaviour upgrade is **automatic** and happens as soon as **relevant new devices appear**
 - *here: the presence sensors*

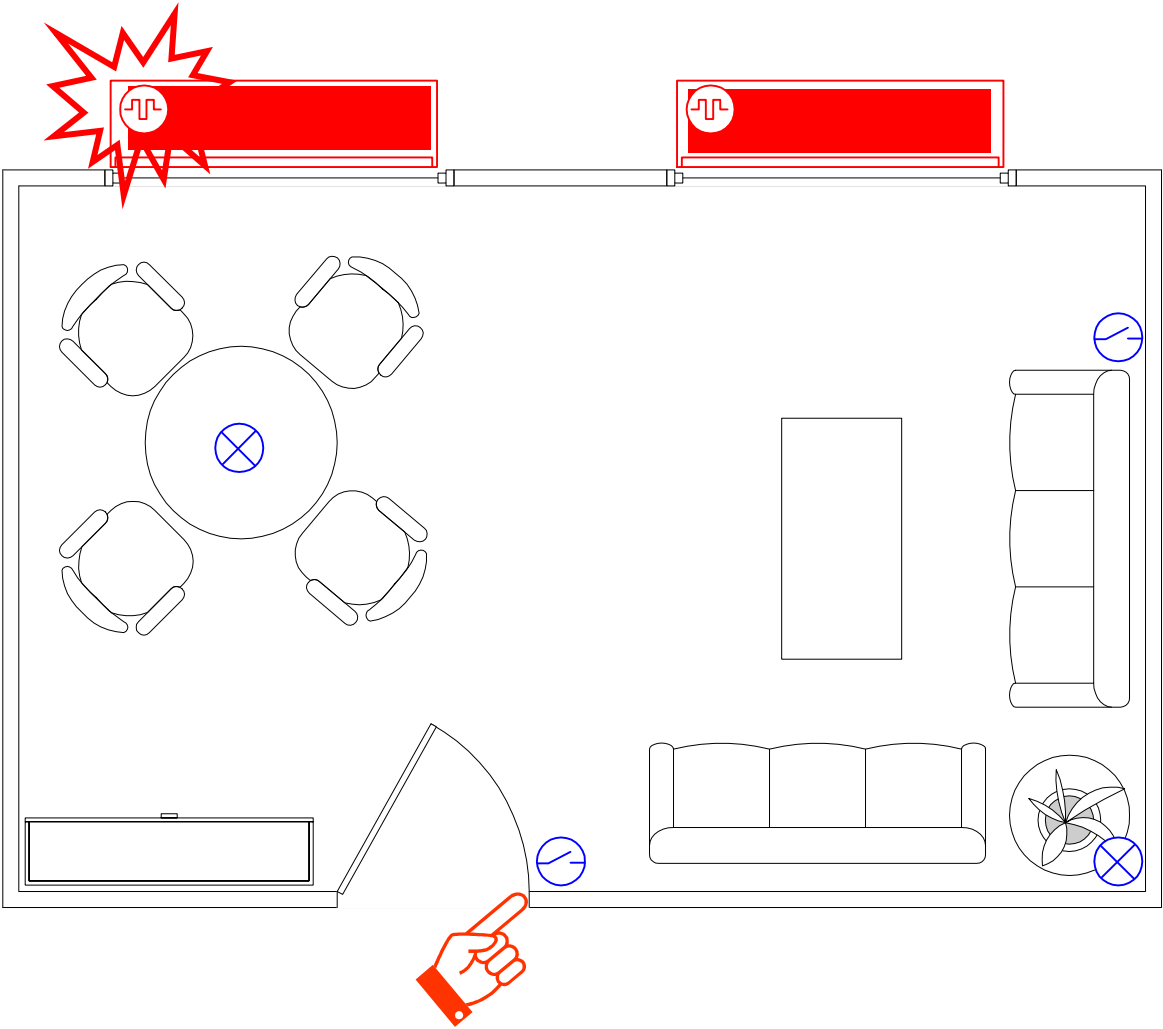
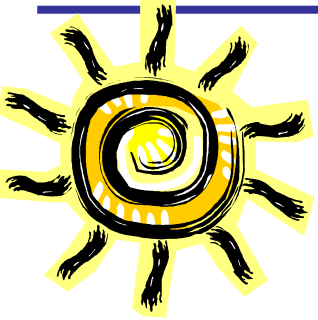
NEW

Some scenarios

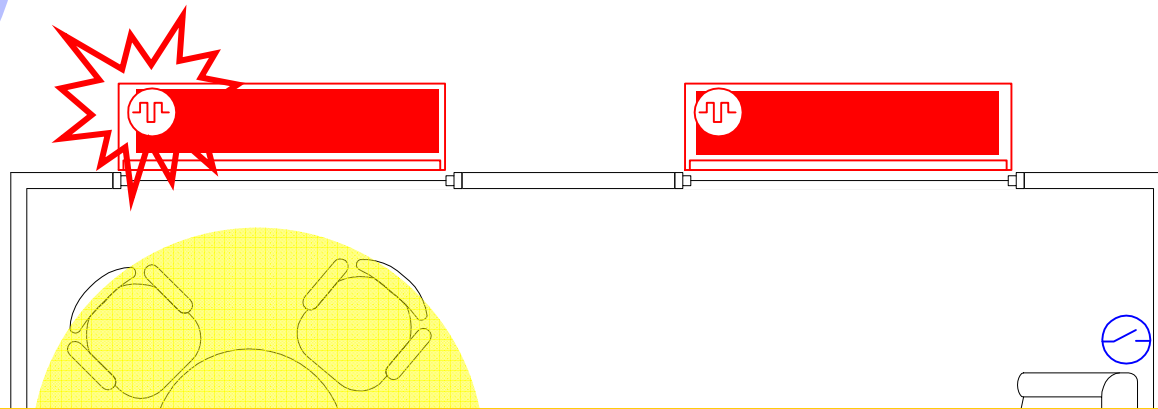
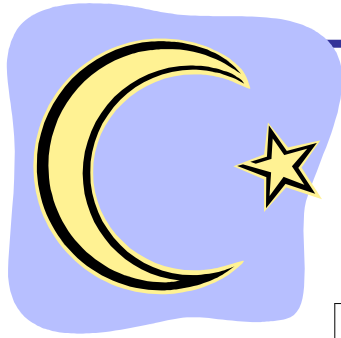


- The behaviour of the light control service is **dynamically modified** by the occupancy status of the room, thanks to alarm system presence sensors exploitation.
- As before, this behaviour upgrade is **automatic** and happens as soon as **relevant new devices appear**

Some scenarios

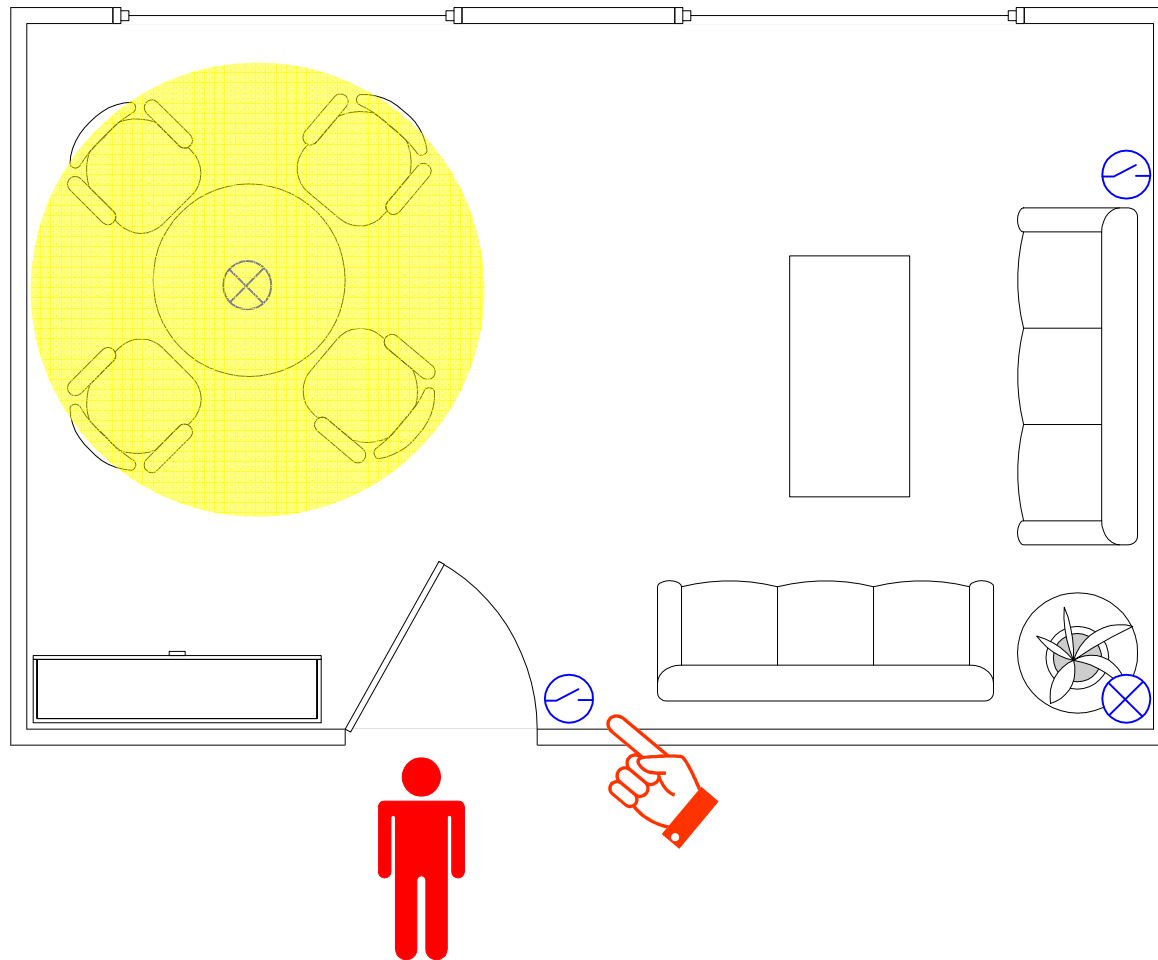


Some scenarios

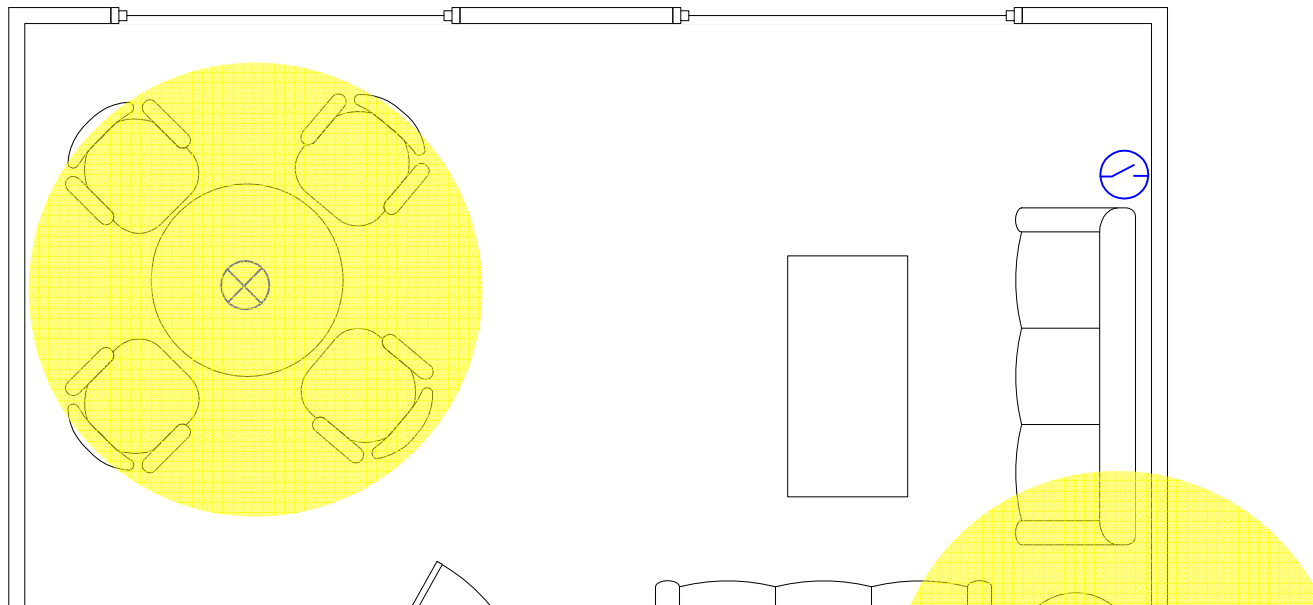


- The behaviour enhancement is based on using **embedded resources**
- This upgrade is **automatic** and happens as soon as **relevant new devices appear**
 - *here : luminosity level sensors embeded into blinds*
- The action on the switch does no more mean « **switch lights on** », but « **give me more light** »
 - We are no more at **device control** level, but at **service control** level

Adaptation to the user



Adaptation to the user



- The service is automatically adapted to the user
- How user's specificities can be defined ?
 - We'll see later
- How users are recognized ?
 - We'll see later too ;-)

What would be nice

- Being able to build services not available out of the box
- Integrating individual user specificities
- Configuring and controlling the system in the most natural way as possible

What is needed for...

- Being able to build services not available out of the box
 - A standardized way for devices to declare their technical and functional profile (capabilities and inner resources)
 - UPnP seems to be a valuable base for this
 - A software architecture to model the whole system and allow dynamic assembly of basic features
 - I3S (Rainbow project) and CSTB are currently working on such an architecture (WComp)

What is needed for...

- **Integrating of individual user specificities**
 - Introducing the user profile as a first class level data
 - the same way devices specifications and features are defined in UPnP
 - Being able to identify users
 - RFIDs tags, GSM,...
 - Video analysis, voice recognition,...

What is needed for...

- A natural way of configuring and controlling the system
 - Auto-adaptative mechanisms, able to integrate new resources as they appear and enhance the level of services accordingly
 - Self-learning systems, able to adapt their behaviours based on user reactions (analysis of overridings,...)
 - User-friendly and non-techies oriented user interfaces
 - Mobile or wearable control devices
 - Voice based
 - **Developed in collaboration with sociologists and psychologists**

The bottom line

- A great part of the required technical and technological backgrounds is already available
- But we currently miss a real collaborative model between services
- We need to create systems which learn how to serve humans, not systems who force humans to learn how to use them

And the final words

Thank you for your attention

