The *Cocooning* project and the *familibrary* services

An Open Home Services Platform

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The familibrary services: Media Library, Home ambiance, TV, Video Library, Audio Library, Web cam and Camcorder services...

Next steps
Objectives of the Cocooning project

- **Contracting authority: FT’s Directorate for innovation**
  - to put technological breakthroughs and new uses into perspective, and to set up demonstrations for business units
  - Cocooning demonstrator: to provide users with facilities to manage and enjoy entertainment and information content at any time and anywhere

- **France Telecom R&D’s project to develop a demonstrator**
  - an Open Home Services platform on ADSL access network with a digital broadcast TV network, an OSGi residential services gateway and an heterogeneous home local network (IEEE 1394, Ethernet LAN, WIFI...)
  - and the familibrary services to manage the family’s multimedia data

- **A research and development partnership with Thomson**
Architecture of the Cocooning Home Services Platform

- Gateway Operator (the Concierge)
- Services & Content Providers
  - Application bundles
  - Content servers
- Internet
- xDSL
- OSGi gateway
- IP/UPnP network
- IEEE1394/HAVi network
- Webcam
- Camcorder
- Scent
- Digital frame
- Digital TV
- Hifi
- MP3 reader
- Camera
- Webcontent

Application bundles connected to Home Media Server, Digital TV, and Internet.
An Open Home Services Platform

- An Open Residential Service Gateway
  - where Service bundles are downloaded and managed
  - which federates different technologies, standards and middlewares (HAVi, UPnP…) on the local network
  - based on Prosyst OSGi framework
- Terminals access to the OSGi services from a web browser
- The concierge, the gateway operator
  - manages the residential gateways and the services
  - provides a complete services offer through a portal
  - guarantees user authentication, allows access to my home through a web browser or a mobile phone
  - personalization functions, billing
  - links with service providers offering value added services
  - two platforms have been used: Prosyst mPRM V 3.1.2 and OpenSugar manager
Services bundles in the OSGi residential gateway
UPnP and HAVi middlewares

- Hot plug&Play of devices on the local network, no driver and no complicated installation by the end-user
- UPnP
  - in the framework of Cocooning, use and development of several devices:
    - webcams, digital frames for pictures, video viewers, a scent device …
- HAVi (Home AudioVideo interoperability)
  - standard allowing interoperability of audiovisual equipment on broadband IEEE1394 local network, with asynchronous streams and synchronous streams (real QOS)
  - a OSGi/HAVi bundle developed in cooperation with Thomson to control the audiovisual devices through the gateway
The Cocooning portal
The Cocooning portal

- The portal is an OSGi service bundle which is used to access all the services on the gateway

- Adding, modifying and deleting OSGi services is dynamic. A new service may correspond:
  - to a dedicated application which has just been automatically installed after connecting a device on the local network,
  - to a new service installed by the gateway operator (PUSH)
  - to an online service subscription by the end-user

- The portal is notified when a service is added, modified or deleted, the HTML pages are updated and the browsers consulting the portal are prompted to reload the page
The dynamic downloading of applications

1- Detected
2- Look for an application to control the device
3- Ask for the application
4- Download
5- Install and start the application
6- Access to the portal and then control of the device
The familibrary services

- A set of services to manage the family’s multimedia data
  - a user-friendly interface on the TV
  - complementary functions on the PC
    - « Drag&Drop application » on the PC to add contents to your familibrary
  - storage on the concierge, the gateway or the Home Media Server
- Media Library (audio, photo, video) service
  - a database with several indexing and search criteria
  - automatic indexation for different types of media, date…
- Home Ambiance service
- TV service
- Video Library and Audio Library services
- Camcorder service
- Webcam service
The Media Library service: indexation screen
The Media Library service: seek screen
The Media Library service: result screen
The Home Ambiance service

- A home ambiance service bundle to create an ambiance for your home
  - with your own contents from your media library
  - with contents from content servers
  - a possibility to associate a scent with the ambiance

- Predefined ambiance may be offered by service providers

- Rendering devices are Plug&Play
  - UPnP picture frame, UPnP video and sound decoder, UPnP scent diffuser (Olfacom diffusers with 4 fragrances)
  - digital TV (HAVi Display)
The Home Ambiance service

- **Ambiance**: Soirée
- **Thème**: Anniversaire
- **Créateur**: Laurent
- **Notes**: 12 ans de Sophie
The TV service

- The TV service for broadcast TV
  - zapping between programs received on the tuner

- Enhanced Personal Video Record (PVR) functions thanks to the Home Media Server:
  - direct recording of a TV program
    - automatically added as a new content to the media library and indexed
  - time-shifting
  - follow-me function to move a program from one TV to another

- This service may be connected to an Electronic Programme Guide located on an external server
The TV service
The Video Library service

- The Video Library service allows the user to manage video contents
- The user can review contents coming from various sources
  - a recorded TV program
  - a video coming from a personal camcorder
  - a video coming from the Internet
- This service relates to an external content provider
  - to get more information about films, actors, …
  - to download trailers, film music…
  - to access a VOD service
- A specific software module in the residential gateway to extract MPEG2 stream carried over IP and to send it on the IEEE1394 bus as a synchronous stream
The Video Library service

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Go!
The Audio Library service

- The Audio Library service allows the user to manage audio contents
  - add audio files by the « Drag&Drop application » on the PC
  - create or modify playlists
  - play audio files or playlists on the HiFi system
  - export audio files from the Audio Library to a pocket mp3 player connected to a PC

- Audio equipment connected on the local network is detected by the Audio Library service
  - Hifi system on the IEEE1394/HAVi network
  - MP3 player
The Audio Library service
The Webcam service

- The Webcam service is accessible from inside and outside the house
- Take some photos or video with the webcam and add them to the Media Library
The Camcorder service

- The Camcorder service is used to display personal video on your Digital TVs and to record them on the Home Media Server.
Next steps of Cocooning project

- Now working closely with business units on a Service platform which may be deployed
  - set up of Cocooning houses with real equipment (OSGi gateway and terminals)
  - link of the concierge with FT back end system for user management and billing
  - familibrary services: integration of content protections

- Security is a main concern for France Telecom
  - Protection of private life, fair billing of services
  - Protection against intrusions
  - Protection of assets stored in home
  - ...
A first demo at Net@Home 2001 exhibition…
the next one at Net@Home 2003
Questions?