



IYRO

interactive digital home network



CONVERGENCE
media

graduate symposium at UC Irvine
Life by Design: Everyday Digital Culture
panel: Translation

MFA student . Adriana Tavares
Academy of Art College, San Francisco
MFA . Computer Arts . New Media



project proposal

This thesis explores **CONVERGENCE MEDIA** and **HOME NETWORK**. How will people be interacting with technology in their day-to-day live in the future? How will the products and services available on the market today – television sets, PDAs, cell phones, sound systems, digital cameras, DVDs – change and offer a better quality of life?

The project is a **PERSONALIZED INTERACTIVE DIGITAL HOME NETWORK APPLICATION PROGRAM** called IYRO, a fictitious product. Application program, or app, is a self-contained program that performs a specific function to accomplish a task via a graphical user interface.

IYRO makes **PEOPLE'S EVERYDAY TASKS** easier and more pleasure by integrating quality information, entertainment and customized services. The user can access content (ideally received by cable or satellite connection) provided from TV channels and Internet to television set, computer, PDA and mobile phone.

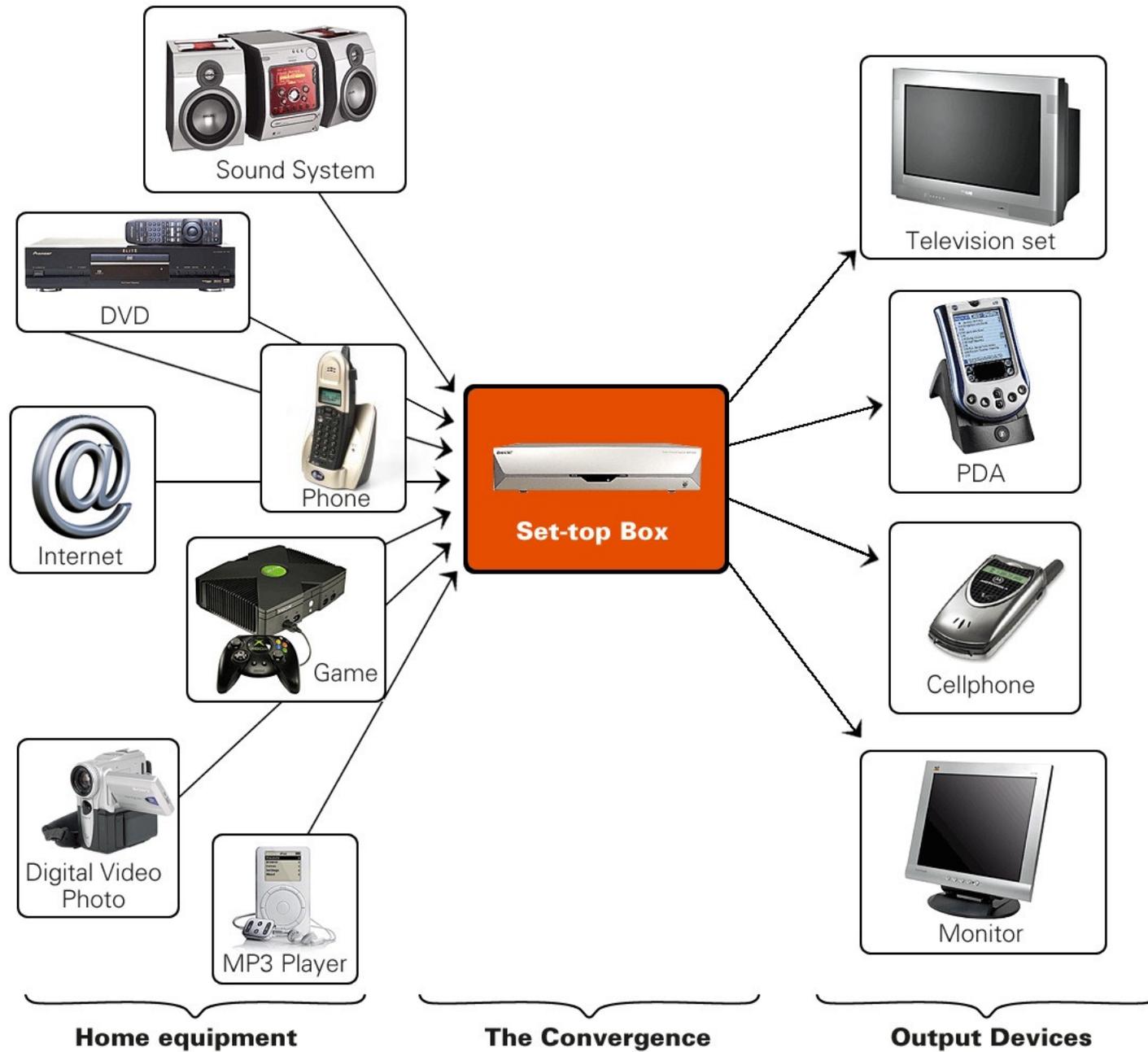
The project's **GOAL** is to improve my understanding about the relationship between people and technology. How can interface design enhance the **QUALITY** of **PEOPLE'S LIVES**? What are the communication desires, expectations and necessities on the future? As well as **SOCIAL** and **ECONOMICAL** aspects of this relationship.

The **AREAS** of study that I have been exploring are: usability (user-test, focus group and task analysis); information architecture; storytelling (use cases and descriptive scenarios); advertisement (interactive commercial); input/output devices (keyboard, blue tooth, gloves, voice recognition); interactive installation; and TV set and wireless specifications.

The industry target is **TECHNOLOGY** and **COMMUNICATION** companies i.e., application program companies, TV stations and interactive agencies.



The graphic below demonstrates the **CORE IDEA** of the product.





target description

The YRO is targeted for the year 2015. It is aimed at those who: like to stay at home; like to have fun; want comfort; want to accomplish everyday tasks easily and fast; want practicality, are concerned about quality entertainment, education and information, and have an average income.

The **PRIMARY LEVEL TARGET** is MALES and FEMALES between the ages of 25 to 54 years old, with a focus on **35 TO 44 YEAR OLDS**.

People from 35 to 44 years old are in the highest career success period, or working hard to get there. Most of them are married with one or two kids. They are busy and don't have time to spend on things that aren't interesting to them. When they stop to fulfill their needs they want to them right away and with an easy and pleasurable experience. Most of them are concerned about shape and body. They clearly care about health, nutrition and sports practice.

Inside the 35-44 group there is a specific group called "early adoptors". These people have the same characteristics of that group but with some differences; the most important one is that they are extremely technologically oriented.

They know what the latest high-end technology product on the market is. They enjoy modern life and products that can make their lives easier and more pleasurable.

The **SECONDARY LEVEL TARGET** is defined to support the main target. There are two distinct and equally important groups that compose this group.

The first group is male and female, mostly male, between the ages of **6 TO 11 YEARS OLD**. They are children that belong to a medium-high class level. They are used to technology, learn easily and fast, are multitaskers, like to play and have fun with friends, love TV, are extremely curious, get influenced by trends easily and have time to spend. And because of all these characteristics, they often teach adult how to use new technology products. They are the "experts" at home. It makes them an excellent and essential target in this project. Teenagers are very important too but they live in a period where they are discovering the world. They want to be out there. It means that they don't care too much about family, family identity, but rather, they want to find their own identity.

The other group is male and female **SENIOR PEOPLE**, mostly female, between the ages of **64 TO 75 AND PLUS**. Different from the young target they are not familiar with technology and they don't learn easily. But both groups have a intersection point; they get free time. Most of them are retired and have money to spend. In general, people in this second level target are children, students, senior people and retired people that have time to spend. In this group some feature won't be available.



Feature's list

IYRO's features are available on the set-top box and can be controlled through TV set and computer offered by a friendly and personalized user interface under a unique universal password. However the features available on PDA and mobile phone are focused on its device user needs.

TV SET AND COMPUTER FEATURES

PERSONALIZATION*

Personalization is the key of IYRO. It allows the user to receive information target in their demography, and the household manager to customize features for each family's member. All functionalities are accessed by using a universal password.

- **INTERFACE MODES** - the feature' options are presented through two different modes, the default and the "expert" mode, which represent different levels of interaction. The default mode has the standard functionalities with the lean back approach. The "expert" mode, or the personal mode, has the option of customizing the features with lean

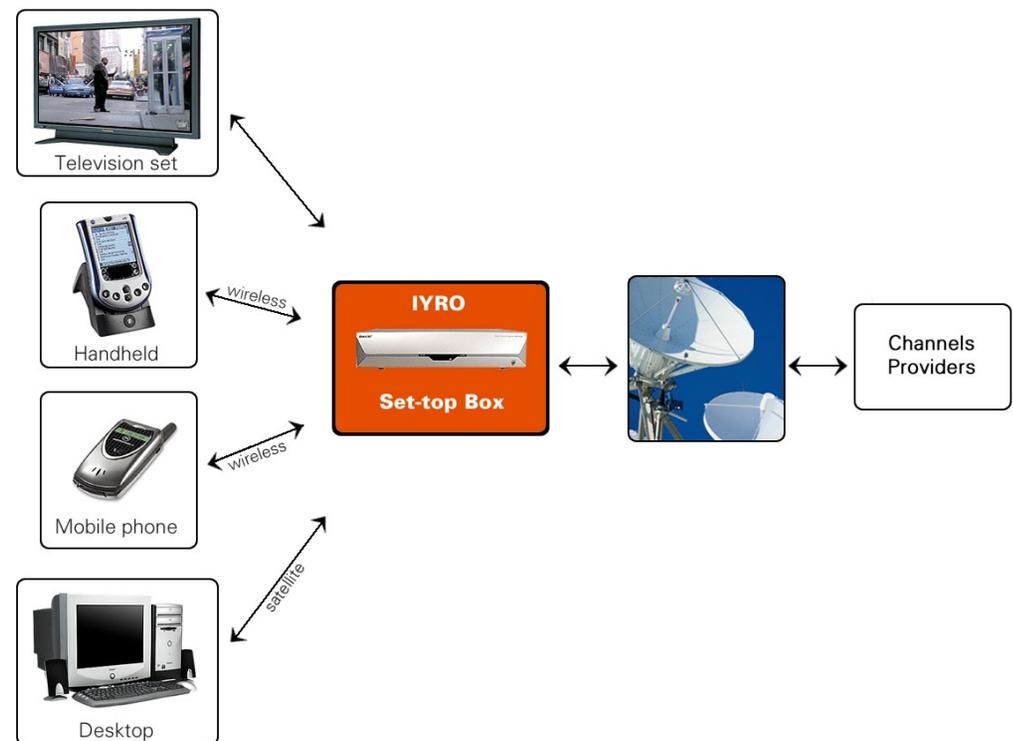


Diagram flow of IYRO's interaction through out the different platforms.



forward approach; with this option the manager can personalize IYRO for each family's member.

- **UNIVERSAL PASSWORD/PIN NUMBER** - a digital passport created the first time when the user accesses IYRO and fill out his profile. It gives to the user control features such as VOD, shopping, interactive programs, among others.
- **PERSONALIZED ELECTRONIC PROGRAM GUIDE/ PERSONAL VIDEO RECORDER** - offered with a customizable and non customizable mode.
- **DEMOGRAPHY** - created on the user account it provides personalized commercials, offers in interactive programs, among others personalized functionalities.
- **PERSONALIZE SEARCH**

There are three ways to have personalized search.

- o *MACRO CONCEPT*, stores the most used steps - by recording and saving the path that the user gets when accomplish a task. This feature allows him to remember a past task and not spend time searching for the same goal over and over. One of the ways to access these steps is through shortcuts on the input device. This functionality is most used on search task such as EPG, PVR and VOD channels.
- o *URL FILL IN CONCEPT* - when typing a search, the most recently and similar words are displayed. For example, if the user starts with the letter "B", all "B" options recently searched are presented in a list aside. This functionality has the same goal of the previous one, search for tasks such as EPG, PVR and VOD channels.
- o *HISTORY OF RECENT STEPS* (ICQ concept) - the user can access an old path that he created to accomplish a task. This functionality is most used on chat, instant messaging, videophone and recorded programs.

PROGRAM GUIDE)

The PVR and the EPG have overlapping functionalities.

- **EPG** - Electronic (or interactive - IPG) Program Guide is a list of current and scheduled programs that are or will be available on each live TV broadcast. And the interface can be customizable by user account.
 - o *LIST OF PROGRAMS* - list of programs scheduled for the next few hours up to 14 days categorized by theme, title, channel, favorites and chronological order. It also has PVR search features.
 - o *SEARCH* - It is categorized by time/channel (numeric channel order), favorites (channels, titles), theme (action, adult, sport, biography, talk shows, variety, history, game shows, movies, music, sci-fi, romance, religious, soap operas, cartoons, documentary, drama, food, etc) and title (in alphabetical order). The time/channel option is a list of the names and numbers of the channels associated with a list of what is currently playing on other channels. It can also be accessed by hours where the user can see what will be airing the whole day as well as the next 14 days. After selecting one program, three options are presented: i) set a reminder, ii) set to record and iii) turn to the channel immediately. At the same time as a program is selected information about the program (title, hour, summary, channel) appears on another area of the screen.
 - o *INFO* - information about the program currently playing such as program's name, program summary, current hour, hour that the program started and will finish, channel name and number, record option, channel surfing (by title, channel name and hour) and start over (if the program is recorded). This info is displayed on a layer over the screen. Two or three other favorite programs can also be presented at the same time.
 - o *DISPLAY MODE OR CUSTOMIZABLE INTERFACE* - first option: picture-in-picture, instead of a program's title list, it is an image/video list. Second option: banner channel, the following show list of the current channel and other channel is displayed on the bottom third of the screen which can also have a simple search tool. Third option: have three or

PVR (PERSONAL VIDEO RECORD)* and EPG (ELECTRONIC



more level of transparency on the EPG background, this function allows the user to navigate through the EPG and watch the channel at the same time.

o *PICTURE-IN-PICTURE* - two or more programs played at the same time. It can also be presented in a quarter of the interface.

o *LIVE TV* - it allows the user to watch live television feeds from various sources (e.g. satellite, cable, antenna, etc).

• **PVR - PERSONAL VIDEO RECORDER**. Personal Video Recorder. It offers to the user the option to record any program, show, concert or movie he wants to watch anytime.

o *LIST OF RECORDED PROGRAMS* - list of programs recorded categorized by theme, title, channel, favorites and chronological order.

o *SEARCH PROGRAM* - the same function as the EPG.

o *INFO* - the same function as the EPG.

o Display mode or customizable options - the same function as the EPG.

o Picture-in-picture - the same function as the EPG.

o *TO DO LIST* - it's a list of programs scheduled to be recorded. It's available with a search engineering: organized by title, reminder list, channel, day and time, theme, actor, director, keyword and manual selection. The user has control and can add or delete items on this list.

o *TRICK MODE* - pause (2 minutes), play, stop, rewind (send to first frame and stop, start over), fast forward (send to last frame and stop), step backward (back one frame), step forward (forward one frame), loop, replay (replay the last 1 minute), advance (advance 20 seconds) and skip commercials (30 seconds).

o *CONFLICT MANAGER* - it records two programs at the same time and prioritizes any remaining.

o *REMIND RECORDED PROGRAMS* - each time the user turns on his TV set a message appears indicating the last five recorded programs. Or 5 or 10 days after a seasons past program or a favorite program

has been recorded a message says "You have 5 of this specific show recorded, hurry up and get updated".

VOD (VIDEO ON DEMAND AND PAY-PER-VIEW PROGRAMMING)*

Video on Demand brings a list of movies and programs available to be rented, purchased or watched. Instead of renting from a video store, the user can order what he wants at any time. With this feature the user is able to search a specific theme in channels such as Discovery, and access all the programs available. Every single channel provider can offer this function; good examples of channel that can offer this functionality are Food, Education, News, and so forth.

• **VOD MOVIE CHANNEL (SEARCH)** - it is a search channel with access to all VOD features. The search categories are: theme (sport, history, game shows, movies, music, sci-fi, romance, religious, soap operas, talk shows, adult, cartoons, biography, food, etc), channel (numeric broadcast order), title (in alphabetical order) and description (name, word, phrase or whatever).

• **VOD BROADCAST CHANNEL (SEARCH)** - on this channel the user can search all database on channel at once or select only the ones he wants. On this channel the user can create personalized areas, such as News or Sports, search and save specific categories in each of these sections. For example in the News section they can save criteria such as the World news always presented by CNN, the Business news comes from ABC and CNN, and so forth.

• **SVOD (SUBSCRIPTION VOD)** - it has the same goals as VOD but with this the user has a subscription and no hassles about price or payment method. Under during a subscription period the user can access a certain numbers of movies, instead of ordering and paying by each request.

• **ORDER AND PRE-ORDER** movies from the VOD movies channel.



- **ORDER AND PRE-ORDER MOVIES FOR OTHER FAMILY MEMBERS** - this function is available only to the manager.
- **PAYMENT METHOD** - each VOD requested is paid separately, each time the user places an order a screen appears presenting the price, asking for his password and payment method option, the payment can be by credit card (e.g. a slice area on the set-top box) or by IYRO's billing. The user can also personalize payment on his account and set one option permanently.
- **HELP** - how to order a title, PVR controls, Parental Control, General Errors, General Play Error, etc.

ENHANCED TV

- **INTERACTIVE ADVERTISING**
 - *DETAILED PRODUCT INFORMATION* - the commercial provides user options of more information about a product such as price, retail store (search by zip code) or specification. The user can stop a scene and get more information about the product.
 - *PERSONALIZATION BY DEMOGRAPHY* - it happens when before the spot commercial starts, the provider recognizes the account and personalizes the commercial with demographic elements. For example, if it's a BMW commercial the provider recognizes that the user is 25 years old male and presents a sport BMW car. The commercial can also present personalized titles with the user's name etc.
 - *PERSONALIZATION BY ACCOUNT PROFILE* - it gives to the user the option of selecting only the kinds of commercials he wants. This way if someone doesn't like Sports he can deselect the sports option from the list commercial category.
 - *RANDOM* - on each 10 commercials presented three are random, these random commercials don't belong either to the demography or account.
 - *WATCH WHEN THE USER NEEDS* - when the user has a specific need

such as buy a "watch", he can watch only the commercials available related to a particular subject. Either he can watch all of them at once or have them presented during a period of time. Once he finds the product he wants he can get more information about it such as technology used, price, trends, company info, etc.

- **INDIVIDUALIZED TV** [this won't be developed] - it allows the user to choose camera angle, guide the plot in dramas, and have the TV host respond in game shows.

INTERACTIVE CHANNELS

Interactive channels are personalized IYRO channels that have an unique content provided by partnerships. Some of these channels might no be developed in depth.

- **WEATHER** - local and national weather.
- **HOROSCOPE** - daily and weekly horoscope.
- **STOCK QUOTES** - updated the main stock quotes (DOW, NASDAQ, S&P 500) and option to view international stock quotes.
- **MOVIES ON THEATERS** - search for movies on theaters by title, new movies, top movies and theater location. Each movie has information such as summary, theater name, hour session, location, price and purchase.
- **MUSIC** - with similar function as movies, it offers upcoming gigs by city, by group's name and music style. The user can also purchase tickets and get location address.
- **VOD CHANNEL FOR MOVIES*** - channel to order movies.
- **VOD CHANNEL FOR BROADCASTS*** - channel to search for broadcast programs.
- **SHOPPING**
 - *BY ZIP CODE* - buy deliverables such as food, medications, etc.
 - *BASKET SHOPPING* - products purchased from interactive advertising. The user can add products to his basket, check out later, or schedule



the check out to be done automatically in a specific day. He can also see previous month basket purchases, and if he is the household manager, he can access the other family member' baskets.

- **DATING** [this might not be developed] -it is a community channel which is oriented for lovers. Meet new friends, find your partner or schedule parties.
- **INTERACTIVE GAME** [this won't be developed]
 - o Games' library.
 - o Purchase and rent games.
 - o Play single and multiplayer games. Challenge people anywhere around the world.
 - o Select different perspectives angle in scene.
 - o Store games for unlimited periods of time, this way people could start to play today with someone else, and keep playing for how long they want.
 - o Game friends list.
 - o Create characters such as those in Everquest or SnowCrash. Create virtual life characters whom have virtual live, identity, friends, job, house, etc.

VIRTUAL COMMUNITY

It is a branded aggregation of services designed to fulfill users' needs such as entertainment and communication. It also can include interactive channels such as Dating, Movies, Music and Shopping.

- **CHAT ROOM** - a small area displayed over the channel where the user can chat and comment on shows, movies or any other program with friends that are watching at the same time.
- **GREETING CARDS*** - send instant messages with personalized greeting cards.
- **INSTANT MESSAGING*** - send instant messaging like "hey, check out channels 4".

- **FRIENDS LIST** - it allows the user to invite friends to chat, make a video-phone call, send greeting cards, send instant messaging, send the IYRO's index or send a song, a photo or a video from his personal digital library.
- **INDEX** - it is the index list of all recorded programs, VOD available and personal section (digital video, photo and music) stored in the set-top box.

VIDEO PHONE*

If the phone rings while the user watches TV or does any other task on IYRO, an icon with the person's name (if from the address book) and/or a sound (or not) appears on the screen. To answer this call the user needs to press a button on the input device, get the handset phone or select speaker. It shows the persons face in a quarter of the screen (the size of the display can be personalized).

- Answer regular phone line with or without videoconference.
- Answer cell phone line.
- Caller ID - person's name and/or sound from the friend list.

PERSONAL

Store digital photos, digital videos and music in a personal library. It can also be streamed from Internet third-party providers. This area isn't accessed from EPG.

- **DIGITAL VIDEO**
 - o Transfer personal digital video files from CD, DVD or computer.
 - o Store and create a personalized video library.
 - o Watch videos.
- **DIGITAL PHOTO**
 - o Transfer personal digital photo files from CD, DVD or computer.
 - o Store and create a personalized photo library.
 - o Watch a slide show.



- **MUSIC ***
 - o Transfer songs files from CD, computer or MP3 player.
 - o Store and create a play list, a personalized music library organized by genre (blues, rock, hip-hop, jazz, R&B, techno, etc), by artist and favorites.
 - o Play songs and video-clips at the same time from the play lists or from the radio, organized by theme (blues, rock, hip-hop, jazz, R&B, etc), by artist and by favorites.
 - o Search for radio stations.
 - o Get upcoming concerts (in a area of the screen) while hearing or watching video clips. Link to interactive music channel.
 - o Transfer the play list to a MP3 player.
 - o Stream and purchase for a limited period of time online music.
 - o Get song's information such as track details, album info, discography and help.
 - o Present the title of the song played while the user navigates though the guide.

- **PARENTAL CONTROL** - restricted access to programs, channels and VOD.
- **TROUBLESHOOT**
- **FAQ**

INTERFACE DESIGN

Designed for the year of 2015 IYRO targets big screen displays and a more experimental interface approach. One of the main design aspects is the multiple sections presented simultaneously to the user where he has an overall control of the main sections. For example, one screen is displayed as the first level and it the one currently accessed, and all others are opened aside.

SETTINGS

The settings can be accessed from both TV set and computer.

- **CREATE AND PERSONALIZE MANAGER ACCOUNT.** The manager has entire control and full access to all other accounts. But other accounts don't have full access, they can only borrow recorded programs and access limited features.
- **EPG** - personalized the EPG interface.
- **INPUT DEVICE** - different options for input data such as the regular input device (main target), voice recognition, toy device (kids target) and senior device (seniors target). Note: this section will be more defined later on the project.
- **SCREEN & AUDIO** - adjust screen and audio settings.



interactive installation

In order to create a realistic environment and to demonstrate true feelings of people's interaction with technology, an interactive installation will be built to support the project and to allow people to get a **FULL IMMERSED EXPERIENCE**.

With three different modes aimed on the main IYRO's targets the interactive installation will represent rooms of three people in a house.

THE EXPERIENCE DESCRIPTION

A person selects one of the three modes from a display available at the entrance of the room. This action downloads a personalized digital environment with an appropriated device, IYRO's mode, and room's environment (light, decoration on the walls, etc). For example, if a person selects the 11 years old mode the system will load a kid's room environment with coach, device and IYRO's application personalized for this target. The other two modes will target a 35 years old and a 58 years old person.