Design Portfolio
Natalie (Ebenreuter) Lehoux

Web Portfolio: http://ne.portfolio.free.fr/
One Million Conversations

Alcatel-Lucent Bell Labs France
September - December 2010

Project Description
The following work illustrates the design and development process of The Conversation Viewer, a multi-modal data driven prototype software application. Designed to visually represent the evolution of a conversation through a dynamic touch-based graphical interface, The Conversation Viewer illustrates varied multi-modal elements of participants’ email, text and voice messages as they seek to reach a mutual agreement on an appropriate meeting date.

Design Situation & Role
The prototype’s collaborative development took place between researchers in France, India and the United States with expertise in computer engineering, semantics, social communication, hybrid communications and interaction design. My role was as the lead interaction and interface designer, accompanied by two interaction design interns Arjan Helmer and David Arenou at different stages in the project.
User Experience Design Model

1. Person to Tool
Person to tool communication looks at preferences, controls, semantic understanding and the accessibility of tools that enable individuals to communicate.

2. Person to Person
Person to person communication is concerned with interpersonal communication that enables individuals to converse with another.

3. Person to Environment
Person to environment (or context) considers an individual, their physical location, their communication tools and the changing situation of the user experience.

4. Person to Whole
Person to whole encompasses the whole user experience taking into account the perspective, interpretation and understanding of many individuals conversing through a variety of communication tools.

Concept, sketch & model by N. Lehoux

Idea Sketching by N. Lehoux
Use Case Scenario

1. A conference call begins between two participants in a meeting room. One of the participants (participant A) wants to find information on a whiteboard, from a previous meeting, to share with the person (participant B) they are currently talking to.

2. Participant A picks up a mobile handset that is a part of the conference call system and proceeds to walk to another meeting room.

3. While participant A walks around the corridors of the office building a lot of background noise competes with participant B’s attention and ability to hear participant A’s voice.

Because of this contextual situation the communication system delivers participants A’s voice as text to participant B to ensure the unhampered delivery of the current conversation.

Levels of communication from UXD model

*Levels of communication from UXD model*
Simple Interactions and System Relationships

1MC System / New Interactions /

User / Participate /

User Experience / Simple Interactions / via the system to classical tools quality: one way communication

* ‘I am available on this day’

01.01.11

1MC System / Facilitator /

User / Participate /

User Experience / Simple Relationships / via the system to classical tools quality: linked communication

* Participant C adds a new agreement point within his classical tools using the 1MC plugin.

* The 1MC system visualizes each participant’s goals via the data captured in their classical communication tools.

03.01.11

01.01.11

01.01.11

01.01.11

* Notifications are sent via the 1MC system to all participants’ classical communication tools.

* ‘I am available on this day’

01.01.11

01.01.11

01.01.11

01.01.11

* Participant C adds a new meeting date within his classical tools using the 1MC plugin.

01.01.11

03.01.11

01.01.11

* Can we change the meeting to Jan 3rd?

01.01.11

SEND

Concept by N. Lehoux & D. Arneou
Graphics by N. Lehoux
Establishing Visual Systems of Communication

**Appearance**
- default
- with first name: Natalie, E
- with surname: N. Ebenreuter

**Positioning**
- neutral
- happy
- sad
- apologetic
- confused

**Feelings**
- happy
- sad
- neutral
- angry

**Size**
- default/deselected
- selected: slightly enlarges

**Relations**
- no response
- response
- Jan 18, 3.45pm
- agreement finalized
- disagreement
- in agreement
- closer to agreement
- of the same opinion

*by N. Lehoux*
I'll be at Villarceaux in about 15 minutes.

I will be late.

I am only available to come to Villarceaux on Thursday.
Let's say we meet at Villarceaux on Jan 17th, 2pm.

Available next week
Great

I'll be at Villarceaux on Jan 18th, 3:45pm
I will be late.

by N. Lehoux
I'm traveling in France for project Y on week 03.

On vacation Jan 5-12th. I'm at Villarceaux week 3.

Any alternatives?

I am only available to come to Villarceaux on Thursday.

Let's say we meet at Villarceaux on Jan 17th, 2pm.

I have other meetings at Velizy on week 03.

Available next week

Jan 18, 3pm

Jan 18, 3.45pm
1MC Design Outcomes

Prototype

Developed by P. Jabaud

Ebenreuter (Lehoux), N. 2011, ‘Designing a way to visualize the invisible through the dynamic illustration of conversations’ in the Proceedings of The 17th International Symposium on Electronic Art (ISEA 2011) Sabanci University, Istanbul, Turkey, September 14-21st.

The sBook

Alcatel-Lucent Bell Labs France
March 2010 - Present

Project Description
This work illustrates the creation of a social-based software system called the sBook. It is designed to support the reading and learning activities of students in an educational setting. The approach taken to develop this tool involves the participation of project stakeholders and potential end-users of the system. Knowledge garnered from user-centered experiments that examined students’ readings styles and strategies led the iterative development of the interactive tool.

Design Situation & Role
The creation of the sBook evolved from a partnership between Abilene Christian University (ACU) in the US, Cambridge University Press in London and Alcatel-Lucent Bell Labs France. Within Bell Labs, I worked as the sole interaction and interface designer with members of the Social Communications Team. I was also accompanied by an interaction design intern David Arenou during the first version of the sBook (V1 of 3). The project also involved user testing experiments undertaken at ACU.
Rationale Instance

1.4 Component: Visual indicators of contextual annotations

Problem: Address the contextual placement and direction of different symbols. See image top left.

Design Artifact: Contextually positioned symbols.

Functional Explanation: The placement of markups will be dependent on the side of the page that the selected text for markup or annotations starts on. For example both left and right arrows will need to be offered to the end user. The direction of the arrows could therefore change due to the starting position of the annotation, which is taken from the center of the screen.

Visual Design Concept: Illustrated lower left.
Rationale Instances Publication

Corrupt business practices remain rampant in Russia, impeding economic, political, and societal advancement (Transparency International, 2005; Expert Analytical Centre, 2004; INDEM Foundation, 2005). Youth appear to have few tools for sorting out the flood of conflicting values from the media, business practice, and the Russian Orthodox Church (Kliucharev & Muckle, 2005), and limited resources exist to equip faculty in ethical pedagogy (Jarvis, Kondrashova, Efendiev & Tukhfatullin, 2003). Using literature to engage ethics in Russian business education preserves Russian culture, sharpens value identification and ethical reasoning among youth, and eventually, enhances ethical and socially responsible business practices—goals desired by many in Russia.

Literature immerses readers into rich ethical scenarios. By detailing the moral themes, and for concerted attention to youth character development (vospitanie)—albeit politically motivated—during the Soviet era. Russia is renowned for rich literary and spiritual works marbled with ethical and spiritual values and reasoning of characters over time, literature can help students examine and consider the rapidly changing ethical norms.

Why Use Literature?

The purpose of this (text) is not to review contemporary research on Russian Business Ethics: A Literary Approach, but to suggest the benefits of using literature to explore business ethics in Russia (cf. Jaffe & Tsimerman, 2005; Sommer, Welsh & Gubman, 2000), but to suggest the benefits of using literature to explore business ethics in Russia (cf. Jaffe & Tsimerman, 2005; Sommer, Welsh & Gubman, 2000). One study concluded that Russian managers are more confident they can be both ethical and successful in business, than are MBA students (Jaffe & Tsimerman, 2005).

Interaction Design

by N. Lehoux
Corrupt business practices remain rampant in Russia, impeding economic, political, and societal development. Although the educational reforms of the 1990’s borrowed heavily from the West, Russians have their own deep wells to draw from in the area of business ethics and workplace spirituality. Russia is renowned for rich literary and spiritual works marbled with ethical and moral themes, and for concerted attention to youth character development (vospitanie)-albeit politically motivated-during the Soviet era.

Despite these resources, Russian educators face a crisis in ethics education. Corrupt business practices remain rampant in Russia, impeding economic, political, and societal development. One study concluded that Russian managers are more confident they can be both ethical and efficient (Mechitov & Moshkovich, 2006). Although the educational reforms of the 1990’s borrowed heavily from the West, Russians have their own deep wells to draw from in the area of business ethics and workplace spirituality. Russia is renowned for rich literary and spiritual works marbled with ethical and moral themes, and for concerted attention to youth character development (vospitanie)-albeit politically motivated-during the Soviet era.

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sBook Version 1 User Testing

- 18 students from Abilene Christian University
- 2 weeks of user testing
- Social and non-social network studies
- Talk Aloud protocol
- 4 objectives:
  - 2 paper prototype studies
  - 2 iPad studies
- Aims:
  - understand active reading and sharing tasks
  - understand annotation preferences and use
  - understand use and meaning of symbols

User Testing Details

User Testing Organisation

Experimental protocol - D. Decotter
End user survey - D. Decotter
iPad prototype - V. Hirbarren
Paper and iPad prototype design - N. Lehoux
User testing facilitator - N. Lehoux
Wizard of Oz and Talk Aloud procedures - N. Lehoux
Test Questionnaires - N. Lehoux

User testing performed by N. Lehoux & D. Decotter
Since perestroika, Russian business schools have revolutionized their curricula to prepare students for competitive markets (Mechitov & Moshkovich, 2006). Although the educational reforms of the 1990’s borrowed heavily from the West, Russians have their own deep wells to draw from in the area of business ethics and workplace spirituality. Russia is renowned for rich literary and spiritual works marbled with ethical and moral themes, and for concerted attention to youth character development (vospitanie)—albeit politically motivated—during the Soviet era.

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Rough Ideas

Presence: Select Social Networks

Why Use Literature?

Three main reasons for choosing literature for teaching business ethics:

1. **Revealing Ethical Themes**: Literature can reveal ethical themes that are relevant to today's business world. By using literary works, educators can draw parallels between the characters' experiences and students' own lives, making the material more relatable.

2. **Incorporating Ethics Education**: Literature provides a rich and diverse context for teaching ethics. By presenting ethical dilemmas through fictional characters, educators can engage students in discussions about moral and ethical decisions in a way that is both informative and thought-provoking.

3. **Cultural and Historical Context**: Literature offers a unique perspective on cultural and historical contexts, which can be valuable in teaching business ethics. By examining how different cultures and historical periods influence ethical decision-making, students can gain a broader understanding of the complexities involved in ethical decision-making.

Why Use Literature in Business Ethics Education?

Using literature in teaching business ethics can be effective for several reasons:

- **Enhanced Learning Experience**: Literature can enhance the learning experience by providing a rich and engaging context for students to explore ethical dilemmas. It can also help students develop critical thinking skills by encouraging them to analyze and evaluate the ethical implications of the characters' actions.

- **Richness of Material**: Literature provides a wealth of material for exploring business ethics. It can be used to illustrate ethical principles, provide examples of ethical behavior, and highlight complex ethical issues.

- **Cultural and Historical Insights**: Literature offers insights into cultural and historical contexts, which can be valuable in teaching business ethics. By examining how different cultures and historical periods influence ethical decision-making, students can gain a broader understanding of the complexities involved in ethical decision-making.

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sBook Design Outcomes

Prototype

Developed by O. Durecu & B. Legat

Design Publication

Patent
Robinson, J & Ebenreuter (Lehoux), N. EP 1030542.5: Group reading progression monitoring by display analysis.

Publication by N. Lehoux
Patent by J. Robinson & N. Lehoux
**Scribee**

Alcatel-Lucent Bell Labs France  
December 2009 - September 2010

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**Project Description**

The following work illustrates the design and development process of Scribee, a web-based collaborative software application. Designed as a general communication tool to manage emails, Scribee has three key roles: 1) Scribee as a Manager and a Guide: seeks to ease and make collaboration more efficient, 2) Scribee as an Insider: helps you to learn from previous interactions, and 3) Scribee as a Doorman: helps you to recognize peoples’ competencies or to be recognized.

**Design Situation & Role**

The prototype’s collaborative development took place between researchers in Bell Labs France with expertise in computer engineering, design, usability and marketing. My role was as the lead interaction and interface designer. Taking an Agile development approach we worked in two week sprint cycles where I also held the position of Product Owner.
Persona

A Professional Persona to Situate Our Thinking

Target Audience

“...I want to be able to catch up easily on the development of various projects that I am not directly

Persona Details

Name Charles Dupont
Age 41
Education PhD in Computer Science
Occupation Head of Applications Domain ALBF
Attitudes Busy, results oriented, social
Marital status Married
Children 2

Communication Tools

Email Clients Outlook & Gmail, with mobile access
Text Editors Word & Outlook
Daily Number of Emails 200
Daily Number of Read Emails 90%
Daily Number of Unread Emails 10%
Daily Number of Email Replies 30%
Email Frustrations
It is difficult to follow email discussions.

Technology Usage

Computer PC
Cell Phone Android HTC
PDA Blackberry
Other Network attached storage (NAS)
Primary Device Laptop
Web Use Daily
Computer proficiency Skilled
Applications Word, PowerPoint, Excel, Mozilla, Outlook
Technical frustrations
Feels uncomfortable creating video’s and finds it difficult to run conversations via emails.

by N. Lehoux
### Identifying different roles and needs to envisage potential product features

<table>
<thead>
<tr>
<th>need</th>
<th>ROLE: PRIMARY USER AUDIENCE</th>
<th>ROLE: FACILITATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Executives</td>
<td>1 2 3 4 5 6</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>Project Managers</td>
<td>1 2 3 4 5 6</td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>‘Catch up’: reentry into missed emails</td>
<td>✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>‘Recap’: who has said what</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>‘Conclusion’: discussion outcomes (actions)</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>‘Snapshot’: a timeline of different project summaries</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Hold/Run Conversations</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Identify the start of a conversation</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
</tr>
</tbody>
</table>

**Needs & Functions**

*by N. Lehoux*
Design Concepts

Collaborative Space Messages

Low-level Wireframes

Mid-level Wireframes

by N. Lehoux
Product Design

Concept Sketch

Conversation Space

Interface Design

Conversation & Workspace

Interaction Design

by N. Lehoux
## Project goals, end-user needs, product features and their implementation

<table>
<thead>
<tr>
<th>Role</th>
<th>Identified User Needs</th>
<th>Feature(s)</th>
<th>Functionality</th>
<th>Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Development</td>
</tr>
<tr>
<td></td>
<td><em>Catch up</em>: reentry into missed emails</td>
<td>Conversation Space (expanded &amp; minimized), Various Styles, Scribee Profiles, Workspace</td>
<td>A connected email history to summaries made, will help end-users of Scribee to visually see all parts of a conversation (person, date, time, source data) and identify what emails were not included in associated summaries.</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Different summary types defined as visually formatted templates/styles can be used in any one summary. The template styles that deliver important information via summaries are linked to a system perspective in which you can view this information. For example ‘Programmer Profile’ will allow a programmer to view information that is more relevant to his situation. Alternatively, a ‘Manager Profile’ can be customised to suit what is most important for you to understand. It can be displayed in isolation or in reference to something else. For example all current issues that are found in a project’s workflow provide certain issues in reference to a particular project.</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><em>Recap</em>: who has said what</td>
<td>Workspace, Conversation space minimized, Name Style</td>
<td>Identify origin of email data (including date and time) and who created an email summary that used existing information from existing conversations.</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><em>Outcomes</em>: end result of workspace discussions</td>
<td>Outcomes Style, Actions Style (Aligns with), Issues Style (Aligns with)</td>
<td>Create the possibility for end-users of Scribee to highlight the key outcomes of a discussion. Once an outcome has been identified the applied widget/style may become an established outcome if the status of the outcome has not been changed. Once an outcome is formally established, by lack of change, the functionality of the outcome style that leaves it open to scrutiny will be disabled after a set amount of time. Email notifications will also accompany the changing status of the outcome in question (the functionality of this style requires further development).</td>
<td>50%</td>
</tr>
</tbody>
</table>

**Project Management**

by N. Lehoux
Hello All,

Let’s keep the conversation alive and logged into Sumbot ;o)

To sum-up some discussion during the last call, it seems that “Immersive Collaboration” is more related to “intensive collaboration” to my mind. All concepts that illustrate the collaboration do not increase the notion of immersion; we are “classical” (i.e not disruptive) concepts to increase meeting efficiency by sharing information.

The good news is that we have lots of ongoing projects that match with the different concept proposition:

- Participant ID Pane: Meeting Room assistant (MRA), Grand
- Participant background: People & project (P&P), BLTV
- Participate via devices: CODEX, MRA, SumBot
- Facilitation Tools: MRA
- Digital Scribe: MRA, Sumbot, Harmony
- 3D audio: myTeamwork ?, GC ?
- Interactive Wall: MRA extension ?
- Collaboration Tools: MRA, Cloud, Sumbot, P&P
- Real Time Collaboration: MRA, P&P-extension
- Idea Analysis: Harmony ?
- Idea Capture: Harmony

How this could help?

Regards,

Yann
Interaction that Values Co-Creation in the Design of Services

Natalie Lehoux

One of the challenges of designing technology-based services is devising an appropriate system of communication, capable of supporting end user goals in an engaging and sustainable way. An increase in the complexity of technology-based services and customer interaction has fueled the development of innovative services that improve the quality of service offerings. This research looks at the design of a technology-based service that may provide users of enterprise communication tools with a satisfying customer experience. A new conceptual model for the design of co-creative services, which combines cybernetic concepts with interaction design methods, is illustrated by way of example through the design of an email service called Scribee. In doing so, the proposed model presents a way of conceiving service systems that have the potential to move beyond the simple creation and sharing of knowledge to assist end user involvement and collaborative interaction.

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Snowflake
NDS Technologies / Cisco Video Technologies
June 2012 - June 2014

Project Description
The following work illustrates the research and development process of Snowflake, an interactive TV content navigation service. Snowflake is a specially designed user interface that enables endusers to access and interact with a range of broadcast, on demand, OTT content, social networking services and interactive applications.

Design Situation & Role
Each year a new Snowflake demo is developed as a product by designers, producers and engineers in the Design Studio at Cisco Video Technologies. My role as R&D Manager was to 1) define the product design principles, 2) create system guidelines to orient product development, and 3) specify product requirements to direct the iterative product development of Snowflake to a variety of international broadcast operators.
Snowflake Design Principles

1. Simplicity

Engaging experiences should involve the least possible elements. Snowflake’s consistent use of simple terms and the logical relationships between objects and actions unify the experience of viewing content from multiple sources.

2. Intuitive

Interaction seems effortless when everything appears to be exactly where it should be. Navigation in Snowflake should feel surprisingly familiar and comfortable so that you can focus on what you would like to watch rather than on what you are doing.

3. Discovery

Discovering new content and revisiting your all-time favorites should feel simple and natural. Snowflake delivers content across a number of devices to suit your browsing preferences, so that you can find almost anything the way you like.

4. Recognition

Identifying and communicating added value services is an important part of building strong brands. Snowflake is designed to showcase the unique vision of a company’s brand across different touchpoints of the service experience.

by N. Lehoux
With Pandora Radio you can create a station from the current song or artist, tap the album art for more info, buy tracks, email the station to a friend, bookmark songs and artists. Features: no ads, desktop and web accounts, and custom skins.

iAmBeatBox reached #1 in 34 countries. Its features include: export songs as MP4's, share songs on Facebook, create custom ringtones, discover new grooves with the Randomizer and unlock Free Dub Step loops through Facebook.

TuneIn Radio has over 70,000 radio stations and 2 million on-demand programs. Search for a song, artist or show to find stations around the world playing it live. Pause/rewind stations, add stations, songs, and shows to your presets and more.

Access unlimited free music on your iPhone, stream music from millions of songs and artists. Listen to over 100 radio stations or create your own custom station with Slacker Radio.
Snowflake System Map

Library

TV

Program Data

Workflow

Workflow

Full Screen

Filter Layer

Categorised Options

Various Apps

Various Actions

Applications

Methods (condensed)

Chapters

Trick Mode

Mode

back

back

by N. Lehoux

Information Architecture
Mid-Level System Map

Interactive Navigation

Start Up

Profile 1
Hub
Profile 2

TV
Filter Layer

Live
Premiere
Recommended
Hit Audience
Grid

Yesterday
Tomorrow
Today

Catch Up
Live
Next
Tonight
Today (detail)

Now
Before
Next
After
Tonight
Tomorrow
Genres

Assets Mosaic

Full Screen

Filter Layer
Program Data
Store
TV
Library
Methods

by N. Lehoux
iPad Interactions

Gestural Interaction

by N. Lehoux
Interaction Concepts

The Post Timeline

1. FULL SCREEN CONTENT

2. TAP A POST TO WATCH IN REAL-TIME (POSTS ANIMATE ACROSS THE SCREEN IN SYNC WITH THE TV)

3. FULL SCREEN CONTENT

4. A SELECTED POST STOPS CENTER SCREEN FOR VIEWING. PINCH TO MINIMIZE POST

Timeline Interaction

1. FULL SCREEN CONTENT

2. SWIPE THE VIDEO MESSAGES TO MOVE THE ENTIRE TIMELINE

3. FULL SCREEN CONTENT

4. SWIPE THE TIMELINE ELEMENTS TO MOVE THE ENTIRE TIMELINE

Low-level Wireframes

by N. Lehoux
Fast zapping occurs when people perform a two-finger swipe up/down on the surface of full screen content, or from the channel timeline or the channel bar to access the channel list. Then browse the channel list by swiping up/down with a single finger.

Examples:

1a Fast Zapping - A
Two finger swipe up/down from full screen video, channel timeline or the channel bar to access the channel list.

1b Fast Zapping - B
Two finger swipe up/down from the channel timeline to access the channel list.

1c Fast Zapping - C
Two finger swipe up/down from the channel bar to access the channel list.
The iPad companion device does not show centrally focused navigation items in the UI. However, the TV requires a central focus in the UI so that people can visually see the items they are interacting with. This includes using the iPad as a remote control that is connected to the TV.

Examples

1a

iPad Companion
No central navigation focus.

1b

TV Display
The TV gives focus to centralized content. The library navigation area and center thumbnail are focused.
Defining Different Use Cases

FIRST TIME USE
DIRECT TO LIVE

CONTENT LAYOUT
The hub provides people with links to live and recommended content. When a particular content item is selected at the hub level, by performing an 'ok' key press, it is presented to the viewer as FSC. The central item that is focused by default when Snowflake is first launched allows people to access live content directly. The default content item is also displayed as FSC in the background of the hub interface. Note that this functionality is only offered during Snowflake's first time use.

Example

OK Keypress

Default Content Item
The focused center content item is a direct link to live FSC during Snowflake’s first time use.
3.1. Screen #02.00.10 TV.Filter

This screen relies on a standard component: Filter. Refer to GENERAL NAVIGATION GIS for details about this component.

TV filter screen offers a variety of filters or links to access programs that are coming from live sources (including OTT) and user generated content, but also VOD or Library contents in order to promote them.

Filter list is project dependent but this document describes a list of mandatory and optional filters.

Mandatory filters
* Channels: lists all linear channels available to the current user profile
* Grid: offers a number of direct access to different part of the grid
* Search: search TV related content (this can include VoD and catchup content)

Optional filters
* User channels: lists all user channels available to the current user profile
* OTT channels: lists all OTT channels available to the current user profile
* Additional filters: any other filter. For example, some dynamic filters, giving access to the content that the user commonly looks for can be added here.

Suggested order of filters
* Channels
* User Channels
* OTT Channels
* Others filters
* Grid
* Search

Technical Specifications
6.12. TV: Refined

This screen appears after content has been refined using the refine tool. Filtered TV programs and 'all results' are displayed accordingly in the interface when results are displayed.

### Interaction Specifications

<table>
<thead>
<tr>
<th>ACTION</th>
<th>SCREEN ITEM</th>
<th>BEHAVIOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>REFINED ITEMS</td>
<td>Items selected in the refine tool appear at the top of the screen when refined results are displayed. Each item can be deleted individually without the need to open the refine tool.</td>
</tr>
<tr>
<td>2</td>
<td>FILTERED TV PROGRAMS</td>
<td>Filtered TV programs reduce to a single line of recommendations when refined results are displayed. Click the line titles to access hidden content.</td>
</tr>
<tr>
<td>3</td>
<td>ALL RESULTS</td>
<td>All results appear on screen when refined results are displayed.</td>
</tr>
</tbody>
</table>
Product Development: Interactive Prototype

While on a trip in Paris with his fiancée's family, a not-so-famous screenwriter finds himself mysteriously going back to the 1920s every day at midnight.

Interactive Prototype

Development managed by N. Lehoux & C. Chevalier
Position Paper: Challenging The Control Of Evolving TV Services

Abstract

Position paper combines insights from graphic user interfaces (GUI) to tangible user interfaces (TUI), which enables the presentation of contextual, unique ways. The fundamental concept for this work is that a new paradigm that is designed to align with emergent technologies. The conceptual metaphor available control of evolving TV service systems that make use of GUI and TUI paradigms. Drawing on the understanding of Laki and Johnson’s work 

Author Keywords:

Image schemas, conceptual metaphors, interaction design, user interfaces, tangible user interfaces. 

ACM Classification Keywords:

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Position Paper: Challenging The Design; Theory.

Exploring & Enhancing the User Experience for TV


Image Schemas Research

Lehoux, N. 2013, 'Learning from concrete phenomenon to envision interactive television services that capture the human experience' in the Proceedings of the IBC Technical Papers, Amsterdam, Netherlands, August 12th-17th.

by N. Lehoux