

FINAL PROJECT

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## **SOFA-tv**

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## In the beginning

Norway is in a broadband boom. And as the number of suppliers increase, the focus on content moves exponentially up the same road. In a year or so, when this (by then) ancient technology finally have evolved into the new thing of 2004, providing only a cable and a crushing level of global input/output will be the equality of certain doom. The customer is always right, and the customer always wants more. And what kind of innovative new technology do we give them?

television

1. a system of capturing images and sounds, broadcasting these via a combined electronic audio and video signal, and reproducing them to be viewed and listened to. Also called TV

Everyone has a TV-box, maybe a home cinema with pulsating speakers and a DVD player as well. When every family and house in Norway is connected to a pipe capable of providing 0's and 1's in blazing speed, what stops us from merging the two main types of display in the common household?

Why walk to the rental office to rent the latest movie or record your favourite program when a broadband connection to your television can do all for you. And most importantly, at the time you want to do it. It's the pull terminology's warmest dream.

Pause. Rewind. Play.

The nice and cunning people at Orgdot had for some time been involved in talks with Bluecom, a Norwegian broadband provider, involving digital television. Not in terms of lcd displays and satellite dishes, but in terms of merging the television and home computer. Making it the entertainment hub of the living room.

The idea is to provide a service, an interface to let the user choose a TV channel of his or hers liking, perhaps a movie, a game or just some music. Sound familiar? Yes. It's already there. Been there for some years now. But in the best sense as an alternative channel serving one movie in a loop at predetermined times. Serving the usual channels at their regular schedules.

Enter what they call the "TV-top box". A little machine connected to the net and your television. In the future, this machine is supposed to let you rent a movie without standing up, play some music without standing up, watch TV without standing up and playback earlier programs without standing up. And all this at your own chosen time.

But how do you present this kind of information to a lazy person sitting comfy in the chair zapping away with the remote? How do you display this wealth of information when the distance from the user to the display is an unknown variable and when the interaction is based on a remote control, and not a mouse or a keyboard?

## **Bigger minds, larger steps**

Orgdot, a small company promoting itself as an internet lab. Received numerous awards for originality and invention in a mostly one-way genre. Started by two persons Stein and Olav. Stein as an old painter, and Olav as an ex-mathematician / ex-writer. Both getting kids at roughly the same time and therefore needed to feed them, decided to start a firm.

Now there are two more working at Orgdot; Gunnar and Marcus. They also have other persons involved on a project basis.

Hopefully I made an impression during my internship, and they asked if I would like to do this project with them. As I saw something different from what I've used to do and as I enjoyed myself during my internship, I couldn't refuse.

My mentors and supervisors during this project have been Stein and Olav, and with their understanding and vision, just trying to listen can be exhausting sometimes. And if I don't learn a lot now, I'll probably never learn anything.

## **An evil plot was entangled**

The concept we developed is divided in two.

The grid and the history.

The grid is the main idea. A way of "zapping" that hopefully makes you forget that you're interacting with a machine and an interface. We want it to be as natural and easy as possible. No multiple ways of navigate or several types of visual interface. One navigation, one identity.

Take the remote control. How do you use it? If you're like us you probably only use 0-9, the up/down/left/right and ok buttons. Take the number buttons. How are they placed on the remote? In a 3x3 grid. Look at the phone, 3x3. Two of the most used interactiontypes have their buttons placed in a 3x3 grid.

So we made a 3x3 grid to display the information.

Each "box" representing one number from 1 to 9. And also reachable by pressing the corresponding number. So what we have is a way of navigate that corresponds with the layout of not only the device you use to interact with the television, but also correspond to the most commonly used device today, the phone.

With this way of navigating we hope to achieve the lazy "zapp" feeling in the way you interact with it. You can ofcourse use the arrowkeys to navigate as well, but if we make the the grid stand out we hope that the "zapp" way will be the only way.

But still you have a relative small area to display the information. (720x576 PAL)  
A movie, channel, review, picture, etc... so a way of enhancing this view was needed.  
This resulted in Stein getting a flashback and digging up some old stuff. And the  
expanding grid was born. The idea is that the box you choose scales up, while the rest  
scales down accordingly to the size of the chosen box. So you still have the grid, but the  
selected grid is always bigger.

To sum up the grid idea. It's about representing the information in a layout and structure  
that is similar to the way they interact with it. Take the ipod, its way of navigate is  
similar to the way you interact with it. It feels natural, and a little if any time is used to  
understand it.

9 boxes on the screen, 9 buttons on the remote. The rest is luxury.

Then we have the memory. Or what I like to call "semi-fractal navigation". The idea here  
is to use the three leftmost boxes and provide the user with a representation of the  
previous screen. So that you always have 4 level of availability. The one you are  
watching at the moment, and the 3 previous. Integrated with the grid concept we hope  
that it makes the user unaware of the "browsing" and going back/forward. We hope the  
feeling will be a natural in/out. You dive deeper and deeper into the system and with the  
historyboxes you are able to go up some levels, eventually all the way up to the start.

Since the idea behind the grid is to make an interface that is similar all the time, it feels  
like going deeper and deeper into a similar pattern, Kinda like a fractal. Hence my  
nickname on it.

Demos of the concept and a insight on the progress is available as flash files included  
with this report. Please refer to the file "demo.html" for information about each movie.

### **Now we see the violence inherited in the system**

We started work early april. Stein as the designer and supervisor, Olaf as thinktank and  
me as main programmer and a bit of everything else.

The first month and so we developed the mail grid concept, and I made some small  
proof-of-concept prototypes. After a good easter we started harder on putting stuff  
together. I made two versions of the system, One good and the second better... The  
system uses basic xml to populate the boxes and some code to manage the grid and  
history. After some time, I was satisfied with the basic engine, and we started putting in  
features and tweaking the concept. We entered (timeconsuming like a London rush-hour)  
lots and lots of dummydata and tested with various interfaces. Then came the simple  
pop-over thing, and the expanding grid. But we still lacked functional hardware and a  
backend to support us. Then came the summer and things progressed somewhat slowly.

## **Just a fleshwound**

I developing this concept we tried to look at some available solutions in the same category. The problem was that there wasn't much available in Norway, or Scandinavia as we learned. USA had some available solutions, but nothing really working, as the bandwidth required is too expensive for Mr. Smith to afford.

I looked at the system in the satellite decoder back at my place, but that was too messy, slow and uninformative to be used as anything else than a warning. So in real life, we didn't take other solutions and competitors into account when developing, as there was none in this particular area at that time.

We heard that a Norwegian publishing company made a test version, but we never got to see it.

Research in this project was just sitting down and thinking what we would like in this solution. A lot of talking and discussing DVD menus, game interfaces, stupid cable menus and cartoons. So... no formal research was done. It's kinda a new thing, and we just listed the things we like and things we don't like.. and made a concept that reflected that and made it as easy to browse and understand as possible.

By looking online during the summer I've encountered some opensource, freeware applications reminding me of this project. And I've also made an installation of one of them, and am very happy with it as it allows me to hook the PC to a TV and browse/record TV-programs, watch movies from my harddrive (with information downloaded from the net), play music (with information downloaded from the net), and watch demos by using the API to make menus of runnable files in a folder.

Links:

MythTV - <http://www.mythtv.org>  
XMLTV - <http://mabled.com/work/apps/xmltv>  
Freevo - <http://freevo.sourceforge.net>  
Showshifter - <http://www.showshifter.com>  
MyHTPC - <http://www.myhtpc.net> (I use this)

## **And there was much rejoice**

This hasn't been a project without problems. The biggest one is that we still haven't been able to test the navigation and concept in a television with a remote control. So far we have tested with mouse and keyboard on a TV connected to my laptop.

It's been a bumpy road, with hardware that never came, when it finally came it didn't work. When we got it working it didn't support flash. And we still haven't received the developer version with a beta version that supports flash.

Trouble with Bluecom has also been an issue. Some differences and almost contract breaks. Hard telephone arguing/shouting. Me working mostly on my own and starting the project with a wrong, too technical, view. So the background stuff have been thought through, but I've been too slow to get a proof of concept up and running.

Since the backend part of this project is someone else than us, and they are far from finish. I've also had to fake a database to create dummycontent.

This also, for me, feels like a neverending story. With a ultra persistent and enthusiastic employer that talks about version 2 and 3 and stuff he wants as if it's supposed to be ready tomorrow. I can't see when this is going to be done and he's pleased with the result. It's a fun project and another way of doing things, but not forever. Me seeing the finishline moving further and further away as we've getting closer to the summer have been a bit of a energy depleter.

But all in all I feel the concept is something fresh and "other". And that's what's dragging me up at mornings.

**ERRATTA:**

As of June, 2003, the project is put on ice by Bluecom as they felt progress was to slow and to many bumps was in the road, both regarding backend and hardware.