

Toupee – a prototype

An Interactive Television Application developed for Children

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Abstract

Toupee is a prototype to be implemented on digital television that combines an electronic programme guide with a navigation helper, an electronic agenda and a virtual pet. The expected users for the prototype being developed are children between two and seven years old. Although they spend a great deal of time watching television, they might experience some difficulties to navigate through the channels and interact with the programmes without an adult help.

The prototype helps children to choose a programme to watch, interact with interactive programmes and games, reminds user of his/hers duties and also acts as a virtual companion.

2. Toupee - an application in progress

The digitalization had the potential to transform broadcasting, bringing characteristics like better quality of image and sound, new interactive services and big improvement in spectrum efficiency to the television. Along with the digitalization there was a proliferation of children's channels, the audience has fragmented and the competition for viewers has intensified, the channels are now targeted at specific segments of the children's market and are offering to the young viewers interactive services such as games, quizzes and also new forms of storytelling and new content more than standard content through digital media.

As the channels occupies less space on the spectrum and number of channels are higher each day, children, specially the ones that do not know how to read, may have trouble to find what they want to watch among so many options and may never enjoy the interactive services provided for them, unless there is a specific application that takes into account their characteristics and enable them to submerge in this sea of content and achieve their task easily.

According with Jonathan Duffy (2004) a third of children under the age of four have a TV in their bedroom and spend, on average, two-and-a-half hours a day watching television. As the number of

young children that have a TV in their bedroom is increasing the average time they watch TV without adult supervision also increases, this important social factor has to be analyze to develop an application that enable children to have a great user experience while watching TV on their own and to assure that the parents may have some level of control on what their children are watching.

Besides allowing the user to choose which programme he/she wants to watch, the application helps him/her to navigate easily through the channels and interact with programmes, reminds the child of the tasks he/she is supposed to do along the day, and also acts as a Virtual Pet to promote a belief on the reality in the user's mind, thus creating an emotional bond with him.

"Having become used to usable products, it seems inevitable that people will soon want something more: products that offer something extra; products that are not merely tools, but 'living objects' that people can relate to; products that bring not only functional benefits but also emotional ones." (Jordan, 2000, p.6)

Toupee intends to be a 'living object' that may be activated when the TV is tuned on a children's channel.

The interface is composed by audicons, defined by Scott Weiss (2002) as sounds equivalent of icons that can add usability and enjoyment to the application. The audicons enable a dialogue between the user and the character helping the user, if necessary, to achieve his/hers goal.

The character may help the user to interact with games and interactive programmes, especially those with textual interface. If the child does not know how to read and want to play a game in the TV, he/she may ask for the character help, he reads the instructions for the user and helps him/her to interact with the application. So he/she may play without a need of adult help.

Besides helping the children to achieve easily their task goal by themselves, the application allows the adult to select what the children can watch. The character already works as censor, because, even when is not programmed by the adult, just shows in the menu children programmes and games. But, if

the adult wants he/she may protect by password adult channels, interaction that involves any kind of charges, and even some children driven channel they don't see fit for their child. This censure may also be applied to the volume, to prevent further hearing disorders.

Another function of the application allows the parents to set an agenda up with the regular schedule of the children. The character is not going to tell the user what to do, but he suggests with a reminder, he acts like a friend that has the same routine the user has. If at a specific time the user did not have done what he/she was supposed to do he/she is reminded, and if the user had already done it, is good to show that the character has his own routine, giving even more sense of reality to him.

The parents may also compliment their children, typing the children achievement and the character at a certain time compliments the user. The same happens with the user's birthday, when the parents complete the details of the child they have to fill the date of birth, this way the character may sing "Happy Birthday" to the child and commemorate the date with him/her. All these functions are extra functions being developed to give to the application particular characteristics and make the character a friend and not just a digital television application.

Because the mental model the user is expected to have is essentially a friend that may help him/her, which knows exactly what is going on the TV and also knows how to read and may help him/her reading the instructions of interactive programmes and games. The interface is designed to reflect this mental model, the character has specific characteristics as calling the user by his/hers name, knowing the date of his/hers birthday, and what he/she have accomplished that make him a "real" friend.

To intensify the user mental model of a helper friend the character designed is a mole. A friendly animal that lives underground, so he is comfortable on the TV tube, his ears are usually not visible, giving the impression that he is not be able to listen the user, and he also has small or covered eyes that gives the impression that he is not able to see the user. He can't see or hear the user but he stills "real".

So, the "look" of interface is the character, mole, the audio interface is moles' friendly voice, short sentences with an easy vocabulary spoken slowly. The "feel" of the interface consists in question and answer, the character ask a question and the user answer it by pressing the appropriate button.

The application is basic, intuitive and transparent, but there are instructions available thought the help button of the remote control, a short explanation about how to communicate with the character.

The style decisions were difficult to be made, but it was decided to keep it an audiovisual interface with no text, consistent and as simple as possible.

An interface metaphor of the conceptual model has been developed so the character is similar, in some way, to aspects of a physical entity, a 'living' mole, but also has its own behaviours and properties.

It was decided to involve the users, children, in the research in progress since the early stage. Druin (2002), defines, four main roles that children can play in the technology design process: user, tester, informant and design partner. On this prototype the children are informants, playing a part on the design process at various stages, they were asked for input and once the prototype is being developed they are testing it and giving their feedback. As informants the children have an impact on the prototype from the very beginning of the design process, they are involved when direction and support are needed, and have an impact on what directions are taken and how the prototype is shaped. As they said on the first questionnaire in the beginning of the design process, they do not like text on TV; it was decided to eliminate all text and give life to the character.

Certainly, the children's influence in the development of the prototype is one of the reasons they are enjoying it, children are extremely honest in their comments so their positive feedback is sign that this research may be on the right path.

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