차세대 어린이를 위한 백과사전 - "엔시(Ency)"

Ency - A New Generation Encyclopedia for Kids

손정림
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1. Preface

Nowadays the word "ubiquitous" or "pervasive" is not just a concept of future technology, but an everyday reality of developing technology. Stefano Marzano, CEO of Philips Design, said in his book, The New Everyday, that "Our living spaces may soon be filled with a diffuse technology penetrating many new areas of our lives."[1]

Whether we like it or not, this pervasive technology will be used in almost every aspects of our daily lives. The mobile hand-phone, for example, is already a part of our lives, and its functions are converging many areas of interests: telephone, address book, scheduler, game, music box, dictionary, digital camera, internet, to name a few. Home automation is already in a big progress, and we are expecting a computerized home in near future. With truly wireless internet, we will be able to communicate anytime, anywhere with any device.

This thesis is to develop a sustainable educational device that can be used from the 3 years olds to the adults. Its main focus is in the growing of a person. As a child grows physically or intellectually, this device's contents can be updated according to the child. With wireless internet, its contents can be used and updated anytime, anywhere. The objective of this thesis is to open a window of possibilities in educational toy that help the kids to go outside and fulfill their curiosities and creativities with the nature.

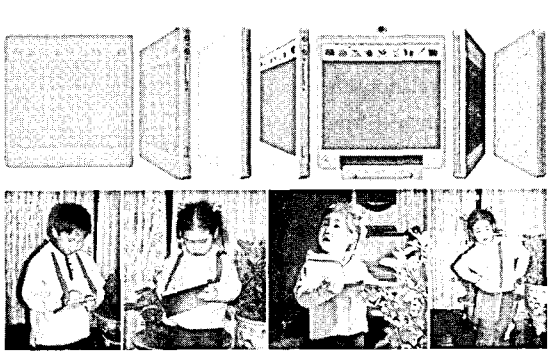
The other main focus is in English. With the internet, English has become a global language that connects different parts of the world. The emphasis on English education is stressed more and more especially in non-English speaking countries. To help kids in learning English, "Ency" has phonics[2] menu and the contents of encyclopedia is in English.

In addition to the English education, "ency" has other entertainment menus: storytelling, game, drawing-pad, walkie-talkie, voice-recording, digital camera. These functions are not only to play but also to develop their creativities. This is a device of edutainment, which is a combination of education and entertainment.

The updating aspect of "ency" can be used in a business profit model. Fees can be charged to the user (or to the parents of a user) when the updating of contents is occurred. This updating of contents (or software) only is to realize the sustainability in today's design issue. To keep the hardware, not only the contents display area but also the menu buttons area of "ency" are software oriented. The hardware design is focused on its usability and not-toy like object. The digital interactive version of "ency" is designed targeting 6 years old non-English speaking children. This prototype of "ency" is to show its possibilities when it is realized fully in real environment. However, for "ency" to be realized, many fields of deeper studies are needed: application programming, networking, database design, mobile technologies, e-business design, and more. Hope this thesis can be a beginning of other studies for kids who are going to live in pervasive computing environment.

2. Hardware Design

Following points are considered: 1)adult-like object design-toys are toys. kids do not use toys for long period of time. 2)serious tool-kids know when the device is just a toy that simulates an adult's world. 3)simple, easy and safe-the device is for kids, and these aspects are fundamental in designing of kids tool. 4)cool to carry around-the device should satisfy emotional aspects of children.



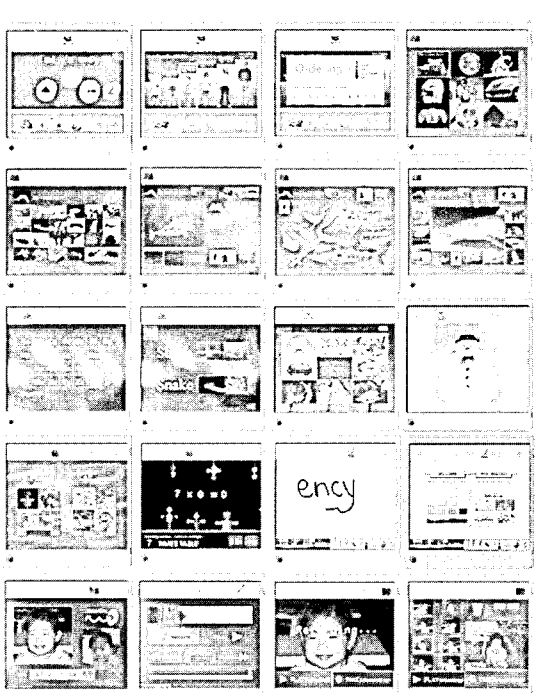
1 Emile Aarts & Stefano Marzano, **The New Everyday - Views on Ambient Intelligence**, 010 Publishers, 2003, p.8

2 A method of teaching people to read based on the sounds that letters represent

3. Software Design

The target age of this prototype design of "ency" is 6 years old; therefore, images are used primarily in design. But texts are shown together to help in explaining its contents. There are 9 functional menus: encyclopedia, phonics, storytelling, game, ency, drawing, voice-recording, walkie-talkie, and digital camera. In the interactive version of "ency," there are limited working menus (or buttons) just enough to show the software design concept of "ency."

Encyclopedia is categorized with images. "Help" menu is available to search with words. In this prototype, only the first menu item is working: "The Living World" and "shark." Phonics is presented in alphabetical order although other combinations of letters are used in phonics reading. Encyclopedia and phonics are interlinked with its contents: user can find encyclopedia pages directly from the phonics page. Storytelling is an interactive and multimedia presentation of a story. When there is no text, a background music is played. This storytelling can help kids to sleep in bedtime. Game is divided into single player games and multiple player games. Multiple player games are networked games since "ency" can communicate with each other. Ency is the main page of this device. When 'ency' is turned on, this Ency-page is displayed. This first page contains today's ency from Ency's internet site, its contents update buttons, and hardware preference settings of Ency. Encyclopedia, Phonics, Storytelling and Game are available for contents updating. Parents or guardians should agree for kids to update the contents. Drawing, Walkie-talkie, Voice-recording, and Camera menus are self-explanatory.



4. Conclusion

"Digital hub" idea of Apple's CEO Steve Jobs is, in a way, a future of most electronic equipments. Our personal computer may be a center of all electronic digital tools. "Ency" is, in a way, a "digital hub" of kids' tools including encyclopedia, digital camera, toys, story-books, drawing-pads, voice-recording and games.

Kids can have their own version of encyclopedia. They can have their story books around with them anytime, anywhere. They can learn English, draw pictures and play games (alone or with friends) anytime, anywhere. They can record their ideas or strange sounds anytime, anywhere. Whenever they see interesting, strange or memorable things, they can take pictures of their own or find out what they are. This "ency" is a pervasive (or ubiquitous) device that can be updated (or upgraded) along with the growth of today's kids.

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