The Book of Ellie

Overview

The "Book of Ellie" is the augmented version of a classic schoolbook for teaching the Greek alphabet to primary school children, based on Ambient Intelligence technologies. The application comprises two main functionalities – the **reading book mode** and the **educational game mode** functionality. The user may easily switch between these functionalities during interaction.

The short stories for each letter are structured around dialogues and activities of a Greek family, with the protagonist being Ellie, one of the four children. In the augmented version of the book, "Ellie" is an animated character, constantly available to assist the young learner by reading phrases from the book, asking questions or providing advice in case the child-user appears to have any difficulties.

The Book of Ellie supports alphabet learning

Cards that represent letters are part of the game "Form the word"

Description

The application supports:

A) Reading book functionality

The system recognizes the currently open book page and displays its electronic version. Each time the young learner browses the pages of the physical book, the digital version of it is displayed accordingly. Ellie, the virtual assistant of children during their interaction, anticipates the user to touch a phrase of the physical book with his finger. While that occurs, the specific phrase is highlighted on the display and Ellie reads it out loud. In that way, the child can interact with the physical book by pointing at any letter or text passage of interest and listen to its pronunciation by a native speaker audio recording, making the application suitable for someone to learn the alphabet.

B) Educational game functionality

The child is introduced to an educational card game that acts as a recapitulation of the letters that have been taught and a teaching tool for the spelling of some basic words. During the game, Ellie asks the child 24 questions while visual feedback is provided on the screen. There are two types of questions which are randomly chosen:

1. **Find the picture starting with a specific letter**

   The young user is asked to find the picture that begins with a given letter; feedback is provided by Ellie both through speech and text to assist the learner by suggesting to place another card on the table, or to place just one card. The user has to select one of 24 different cards with images and place it on the surface of the desk in front of the display.

2. **Form the word of a specific picture**

   The child is called to spell the word of a given picture, using letters from a pack of letter-cards. The child has to select from 44 different letter-cards (some letters exist more than once) and each question can be answered by placing the letters on the desk in the correct order. The letters appear accordingly in the display and in case the system detects spelling mistakes or letters are missing, Ellie gives helpful advices in order for the user to retry, such as: "A letter is probably missing!" or "Let's see, are the letters placed in the proper position;" etc. In case the following activity of the user is correct, Ellie congratulates the player and proceeds to the next question. After 24 different questions (one for each letter of the alphabet), the game ends and the score of the player (A, B or C) will appear on the display.

Educational game

Installation setup

Additional Information

Permanent public installations:

Zappeion School for Girls, Istanbul

Video: *http://www.youtube.com/watch?v=QZ8-iM9zZiY*

"The Book of Ellie" web page
www.ics.forth.gr/ami/project/the-book-of-ellie/

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