Educational Card Games

Overview

Humans learn about the world and its properties by interacting within it. Particularly for children in the sensorimotor stage of development, **physical interaction** in the world facilities cognitive development. Hence, the key assumption is that they should be allowed to interact with technology as they are used to interact with the real world in everyday life.

As technology has already permeate education in many ways, **Ambient Intelligence** has a significant potential to impact the domain of education by enriching the learning environment, allowing students' active learning and collaboration, and enhancing their motivation to learn.

The Educational Card Games support **learning by playing** using physical cards on a tabletop setup, where a simple webcam identifies the thrown cards, monitors their position and translates this information into system input.

"Find the correct position" card game

Subset of cards used for a card game for the island of Crete

Target Domains

Educational card games can be used in educational setups that aim to promote learning by playing. Potential application domains range from formal educational institutions (e.g., public and private schools, learning centers, etc.) to informal setups (e.g., museums, exhibition spaces, etc.), where a digitally augmented board game can facilitate exploration through active participation.

All games can be installed either in a portable or an ambient setup.

- The **portable setup** consists of a laptop and a portable webcam.

- The **ambient setup**, following the concept of "disappearing computing", uses a wall-mounted large TV screen and a custom construction to hide the camera inside the wall.

A portable setup

An ambient setup

Description

The card games collection features three types of games:

1. **Find the correct position:** the player's objective is to identify and correctly place a number of items at their correct location on a printed board (e.g., animals on a farm, sights on a town, etc.).

2. **Learning Quizzes:** the learner is asked a series of questions, and for each one he can choose the preferred answer by throwing the appropriate card (e.g., Yes – No, True – False, A – B – C – D, Dog – Cat – Horse, etc.).

3. *Place items into order:* the player's objective is to recognize the given cards in a way that they form a meaningful sequence (e.g., letters of a word for a spelling exercise, steps of an activity, etc.).

The board of a "Find the correct position" game about farm animals

Set of cards for a "Find the correct position" about farm animals
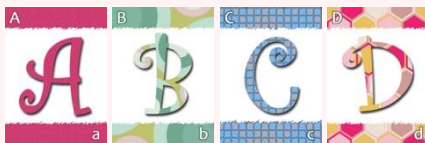
Set of cards used for a "Place items into order" game for a spelling exercise

Set of cards for a "Place items into order" game for the activity of tooth brushing

Additional Information

Related video:
http://www.youtube.com/watch?v=bW2TJUoe66o

Educational card games web page
www.ics.forth.gr/ami/project/educational-card-games/

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