

ANIMA: Interactive Learning System to Teach English Words

Angelo Rega*, Massimiliano Caretti**

E-mail: angelo.rega@unina.it

* University Federico II (Italy)

** ISTC Istituto di Scienze e Tecnologie della Cognizione (Italy)

Abstract

AnimA is an authoring system that, through the use of pervasive technologies, aim to encourage the development of new leisure scenarios where the user refines simultaneously cognitive, motor and social skills. AnimA is an authoring system that allows the creation of hypertext between objects. The player can touch an object through a glove or a wand and when a player touches an object the environment reacts emitting a sound, reproducing a video or enabling electronics devices (lamps, furniture, toys etc.). Anima is an interactive system to convey educational content through games that can bring together cognitive, motor and social. With AnimA is possible to create different kind of games, one of this is called "Wandbot". Wandbot game is based on a unusual robot's race, because the winner robot is declared by the actions that the player performs in the real world. The setting of the game consists of 3 lanes, in each lane there is a Lego NXT and the head of each lane is located a computer's screen. All around environment there are various objects. The gameplay is as follows: on the computer's monitor appear a word in English, a player must understand the meaning and then have to tap with a wand the corresponding object. If he choose the right object, the robot run away for some seconds. If Player collects a lot of items, his robot moves toward the finish line and win the race. The formula is based on the game fun and competitive factor determined by the race between robots, the educational component in based on user's skill to understand the words in English.

The key element in technological apparatus is made up of a software authoring system that aims to help and facilitate the user in the design of interactive scenario. Through the software, user can define what changes / action should take place in the environment when the player touches a particular object (e.g. robot run forward). On the hardware side player have a wand to touch objects, and a finite number of passive sensors, called tags, that are placed inside the objects. Each tag has a unique code, so they can be identified by the software. The work cycle of the system is detailed as follows: through the wand is identified sensor RFID tags placed inside the object. At this point the software interprets The RFID, compares tag code with the rules previously planned by user in authoring software, and reacts by activating or not the robot or any other connected device.