WT**AWARD**2014

Categorie Premio	Accessibilità	Sostenibilità	Qualità della vita

Product Name	Emmo
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Description of innovation social values - product category - formal and functional features - problems solved by innovation - user - field of application	Emmo is a ludic and interactive artifact for visually impaired children (age 4-6 y.), based on RFID technology, that helps them in their growth and well-being. It is meant to be used expecially in rehabilitation centers and has both a rehabilitative and ludic function. Most of the traditional rehabilitation products are meant for tactile, acoustic and visual stimulation, there is a lack of products that motivate motor activities. Emmo's most important characteristic is that it is meant for motivating spatial exploration. The toy includes luminous and sounding elements for a kind of treasure hunt similar to a memory game displaced in the real space. This kind of activity also improve attentive and acoustic capabilities. The aim is to detect, with the help of a "magic wand" (finder), each of the 7 round luminous elements(goals) according to the sound the "base" ask for. Emmo's main colours are black and white for an high chromatic contrast; lights are a further visual aid and also mark, with the help of sounds, different game phases, giving important feedbacks to the child. The shape of the main piece, the base, looks like a soft-edged windrose for better understanding the space (left and right, forward and back). The goals have interesting tactile qualities.The command interface is pretty simple and visible. Buttons can be distinguished by colour and shape.
Description of technical features - operations - technology	Electronic components:Microcontrollers (n.2); RFID readers (n. 2); Audio modules (n. 2); Spakers (n.2); Rfid tags (n. 7); Batteries. (Emmo functions could be also improved with a wifi module). Emmo prototype components: Arduino UNO (n. 2), Adafruit Wave Shield (n.2), RFID Module SL030 (n.2), RFID Labels Mifare 1K (n. 7). Each of the 7 little balls (goals) contains a rfid tag that correspond to a specific sound. These goals are arranged (scattered) in the room. When the child presses the play button the "base" emits a sound. The child looks for this sound thanks to his magic wand (finder). The "finder" contains a rfid reader and a audio module so that can reproduce the sounds that are assigned to the goals. When the child detects the right goal, puts it into the base. The base verifies the result thanks to another rfid reader and give a feedback to the child. The game ends when all the 7 goals are correctly brought back to the base.
Dimensions	340x340x116 mm (base) 315x 65x30 mm (finder) 70Ø 40 h mm (goals, n. 7)
Materials	Black and White Translucent ABS (base and finder) fabric (white, black, red, orange, yellow, green, blue, indigo, violet)
Certifications	
Benefits for environment	
Benefits for human being	Visual disability in children, actually, has different kinds of concequences, including spatial orientation difficulties and lack of interest in exploring space, so that also learning possibilities are limited . Emmo is meant to motivate spatial exploration and helping children to develop the capability of creating mental topological maps.