Sit to Play- Floor-Level Adaptable Mobility Device for Paraplegic Children

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This work consists on the development of a mobile device which has as an objective to assist children who are wheelchair users to develop their physical, psychological, cognitive and social capacity in a more natural and autonomous way, through accessibility on recreational activities performed on the ground. The device has its movement made via joystick controller by the hands of the user. The device´s complete system encompasses innovative concepts and a differentiated design, attractive for children and open to physiotherapeutic interventions. The support board for the feet is located on the device´s frontal part and seeks to enable different positions for the user´s feet, making it safe for continuous use. The device´s adaptable seat consists in the fabrication of a specific seat for each child, enabling the individual a safe postural development. The equipment´s customization is a relevant aspect of the research, since it´s necessary for the child who is a wheelchair user not to use the device as adaptive equipment and, in that way, creating one more barrier in social inclusion, but to use it because it looks like a fun toy, playful and a disruption in social hierarchy. The technical feasibility was proven through physical tests with the prototype, in which it was ascertained the user´s adaptation facility, the individual´s autonomy in making decisions about the environment and the ease the child had in recreation. The device brings the possibility for children who are wheelchair users to feel just like children when practicing their activities on the ground.

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