



## **VIDEO TRANSCRIPT**

# **VIRTUAL BIONICS**

A project in the "Clinics Hospital" in Sao Paulo will help in a new way the rehabilitation of people who lost their body movements.

It was a child's birthday party, but when the challenge of an engineer and physical therapist become one...No napkins are enough!

"For this Hackathon, I had 5 days to come up with a health solution," Roberto Frossard. "So I talked to my brother-in-law, who brought me an inspiration and we had to ideate about it during his daughter's birthday."

And then it was born a draft for an outstanding project, and low-cost to help in the rehab process of injured and persons with disabilities. The rehab process involving physical therapy and occupational therapy requires the patient to continuously exercise.

After one year and a half from the birthday party, the solution is a reality here in the Clinics Hospital's Institute of Orthopedics in São Paulo. Virtual Reality is affecting the lives of real people who lost their movements.

Francisco was a surgeon. He is now paraplegic after a martial arts practice. For over a year, he's been doing rehab therapy. Necessary but tiresome. It's OK. You have to do it. But after a while, it becomes very dull. What about doing your exercises like this? Playing...

"It helped me a lot! I am much more independent now. I can move by myself brush my teeth, my hair. All of this is possible because of the physical therapy and occupational therapy sessions being reinforced by the Virtual Reality."

These VR goggles are made of cardboard with lenses that cost RS10. But they could be recycled from plastic bottles.

A low-cost version of the armband that captures the electrical impulses from the patient is being developed by the labs (Hospital and Liquid Studio) that is currently 3D printing prosthetic arms. The team working in these labs will make the solution accessible and donate it so it can be downloaded in different platforms.

The product still under development is already getting attention in technology events like this one in Dubai. The effort now is to finalize the project and spread the news. Take this technology to SUS (Public Health Program).

"This means that even remotely, a patient who is in a different region, the patient should have access to it, and exercise by playing games with remote support from professionals to support the rehab process." Candida Luzo