How Engaging Content can Aid Rehabilitation and Reduce Pain

Ivan Phelan

@phello
@impactvrlab
SensorHand Speed - DMC Sensorik ein/aus (violett, Prg. 6);
Vierkanalprozessor II - Sicherheitskonzentration (grün, Prg. 3)
“It felt like it was my arm in my kitchen. The kitchen setup was the same as my kitchen. So, once I saw the [virtual] apples I wanted to grab them, so I reached out to the apples in the fruit bowl and picked up one with my [virtual - amputated] arm. It was like I was picking up things with my real arm.”
“I was surprised, it’s the first time I’ve ever done anything like that... Now after seeing what I have seen there I could have operated one. First time I’ve ever done it like, first time I’d had one of these sort of arms.”
“Brilliant, brilliant...it were absolutely brilliant ...I give it 10 out of 10 what you've done”
Virtual reality helps amputees
SensorHand Speed - DMC Sensorik ein/aus (violett, Prg. 6); Vierkanalprozessor II - Sicherheitskokontraktion (grün, Prg. 3)
Patients suffer pain during arm and hand rehab, low engagement and more time in clinic
Develop an effective, engaging and user friendly VR rehab system for adult & paediatric patients
It’s much easier... because it felt like I didn’t have an injury, so it felt like I could just do it......
1. Reduce pain
2. Faster Healing
3. Reduce visits
4. Waiting times
5. Real-time control
6. Adherence
When he’s back from school, every day he’s taking... “Come on mum, I’m ready for the video”.
The range of movements seemed to be a lot more fluent. It was just like, it was a natural reaction to just do that, and the movement was just better than it would be if you hadn't had it [VR headset] on.
You didn't feel like you were doing physio. It just felt like you were playing a game.
Rehab can be painful, uncomfortable, and tedious, reducing compliance.
Use VR as a tool in physiotherapy for children after lower limb or knee surgery.
It made me want to do it more because it was more fun and easier
It made it more accessible, a lot easier. Because it’s when I was trying to walk with it, I was like on my tiptoes. But when I was doing it with VR, I could put my whole foot down and not be scared.
I didn’t realise how I walked in that far until I took it off
progressive muscle weakness

difficulty controlling movement
Children with DMD need to do daily stretching, low adherence, poor long-term prognosis.
MISSION REWARDS!

Level 7 Loot
Questions!

contact:  i.phelan@shu.ac.uk
         @phello   /   @impactvrlab