ProgGen

Members:

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Problem Statement:

Stroke is a recurrent malady that affects approximately 15 million people each year, of which it leaves 5 million patients permanently disabled. The most common cases of stroke occur in patients between the age groups 65 or older, however, recent statistics from local hospitals and journals regarding the occurrence of stroke are showing a much more concerning trend and that is it is becoming a common issue affecting people of much less age.

Some of the reported challenges post-stroke patients face include, but are not limited to, difficulties in continuing to do their job, basic activities of daily living and regaining previous ability. Loss in locomotor functions prevents them from being as useful to themselves & their families and prevents them from healing to their previous level of ability. So our solution will focus on trying to improve a patient's locomotor functions through muscle memory; repeating certain movements may help increase the locomotor functions of a patient, helping them heal in the process.

The "easiest" solution for post-stroke patients obtainable in Botswana is public physiotherapy of which there are not many physiotherapists available and there is a limited exposure time for each patient to a physiotherapist and existing software solutions are proprietary and have to be purchased at a marginal fee. Our approach will be different as it will be easy to use, self-driven, accessible, repetitive and progressive, in comparison to consulting public physiotherapists. We feel the issue has not been solved due to an apparent lack of local investors, fundraisers and a lack of local coding firms.

The objective we seek to accomplish with our software solution is to accelerate locomotor ability regeneration in post-stroke patients using self-administered, computer aided video games tailored to suit them. The game will be tailored to help them get used to moving their arms and in doing so repeatedly, they may get some flexibility of sorts and this may help in accelerating the regeneration process. The game is designed for the stroke patients that have little to no movements in their hands. The levels get harder as they progress, thereby requiring more use in their hand movements; however they have the option to replay a certain level until they are confident that they can move freely enough to advance to the next level.