

PHYSIOPLAY

ABSTRACT

Cerebral palsy is the most common motor disability in childhood. It is caused by abnormal brain development or damage to the developing brain that affects a person's ability to control his or her muscles. Hence, physiotherapy is a necessity for empowering the overall health of children with cerebral palsy and similar conditions of autism. We are proposing an immersive technology-based approach for improving the head and eye movements and fine motor activities with cognitive skills.

The application features four different games: Flappy Bird, Fruit Collection, Popping Balloons and Shooter. The motion of the user avatar is controlled by face points obtained through a camera and converted to coordinates using Google ML Kit. Three sensitivity levels of low, medium and high are provided that controls the intensity level of the exercise.

The scores of a player in all four games are captured, along with the range of motion of the head and the number of times the player's head moved left, right, top and bottom. The scores and game statistics of a patient are stored in a database for future reference by the medical practitioner.

The games are designed to help individuals recover from physical injuries, disabilities, or conditions in a fun and interactive way that simulates physical therapy exercises. The app aims to increase engagement and adherence to prescribed physical therapy programs by making the exercises more enjoyable and accessible to patients.

Keywords: Google ML Kit, Flutter, cerebral palsy, physiotherapy.

TEAM MEMBERS:

1. AJAY DEV
2. ANN MARY JOSE
3. MARIYAM SIDHANA
4. RONY THOMAS