Researchers at the University of South Florida have invented a novel smartphone application that monitors, assists, and provides feedback to a user working through physical therapy exercises on screen using the phone’s built in accelerometer and gyroscope while the phone is attached to the limb that requires therapy.

Over 32.4 million people having conditions like arthritis, sciatica, etc., that require physical therapy. The many benefits of physical therapy only apply to patients that continue physical therapy without supervision. Many people don’t properly engage in physical therapy due to issues like difficulty in transportation, limited mobility of patients and lack of proper insurance coverages.

In order to make people get involved and provide a more cost effective and easier option for physical therapy USF inventor’s have invented a novel smartphone application allowing physical therapy users to complete exercises using common sensors available inside modern mobile phones and guiding them through the exercises with on-screen images that advance based on correct user movement. With instant user feedback the smartphone application creates an environment where the user becomes engaged and completes exercises properly.

The addition of goal and achievement tracking is a way to increase user activity in applications, and notifications on the phone’s lock screen will remind the user they should be doing the exercises. Achievement tracking and goal sharing within the application allow the exercises to become more like a game and feel more entertaining thus increasing patient compliance of the physical therapy routine and improving the overall health of the patient.

ADVANTAGES:
- More cost effective and easier than traditional options
- Improve patient compliance
- Improve mobility and enhance overall health

Guided and Goal Oriented Physical Therapy Using a Smartphone

Phone attached to the top of the foot running the smartphone application

Tech ID #16A065