Researchers at the University of South Florida have invented a novel smart phone 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 get people involved and provide a more cost effective and easier option for physical therapy, USF inventor’s have developed a novel smartphone application that allows physical therapy users to complete necessary exercises using sensors available inside their mobile phones. The application guides users 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. Using the phone’s notifications users can be reminded to accomplish the days exercises. Achievement tracking and goal sharing within the application allow the exercises to become more like a game 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 Top of the Foot
Running the Smart Phone Application

Tech ID #16A065