PSU Hershey Sports Therapy: Physical Therapy iPad App

Overview
Physical therapy patients currently use paper documents to remember their rehabilitation exercises. The generic drawings often confuse patients, and as a result, patients may fail to comply with the exercises as prescribed. We created “PT @ Home,” an iPad app that uses video to more clearly demonstrate the proper exercise and hopefully improve patient compliance with their at-home exercise programs.

Objectives
- Provide a way for a physical therapist to record a patient’s exercise routine and create a custom at-home exercise regimen
- Transfer the video securely to the patient for home use
- Design an interface that is easy for both the physical therapist and the patient to use
- Decrease patient confusion and improve patient compliance

Approach
- Currently, no apps exist on the market with a similar purpose or function
- Customer needs and the user interface concept were well-defined by the sponsor
- The team revised the interface and generated multiple concepts
- The final concept was selected based on its satisfaction of the customer needs, including Physician Ease of Use and Patient Privacy
- The team designed the app’s user interface using a combination of Photoshop and Xcode
- Programming was done in Xcode
- The team obtained an Apple Developer Certificate and loaded the PT @ Home app prototypes onto iPads for testing
- The app software was tested on Apple’s iOS Simulator and on iPads running iOS 5.1
- The app was tested by the sponsor and other medical professionals and evaluated based on its intuitiveness and overall ease of use
- The team conducted branch and boundary tests on the app to validate functionality of its various features

Outcomes
Compared to the current procedure, physical therapists found the app quicker and easier to use. This app is a unique product that allows physical therapists to maximize therapist-patient interaction. Instead of cutting back therapy time to construct the patient’s at-home regimen, the therapist is able to simultaneously create and customize the patient’s exercise regimen while still providing therapy to the patient. In May, the app will be used in a clinical study to measure the effectiveness of the app in improving patient compliance.