



## Finding balance with a new mobile app

A new way to measure balance is right in your pocket.

Together with his colleagues, Nirtal Shah, a master's student and physiotherapist at the David L. MacIntosh Sport Medicine Clinic, has created the myAnkle application (app). Using a smartphone's accelerometer – the feature that detects when a user tips or turns a device – myAnkle is able to detect the stability of a user's leg by simply tucking a smartphone into a sock.

The app is the result of a course Shah enrolled in three years ago, offered by the Department of Electrical and Computer Engineering. Focused on mobile app creation, the course (ECE1778) paired master's students with computer-programming skills with those from non-programming disciplines. The goal was to create an app that would enhance the non-programming student's field of study.


Shah's focus was clear: create an easy way to track the rehabilitation of patients with lower-body injuries.

"I wanted to make health care accessible," said Shah, "to be able to pass on information in a normal, relatable way and let people measure their own progress."

The app is free and all users have the option of participating in valuable research. It's also a useful tool for clinicians who typically rely on visual assessments.

"Newer phones measure 100 times per second through the accelerometer," said Shah. "Using that measurement over 30 seconds gives a much better assessment of a client's balance than I can."

The app is quite an achievement for Shah, who thanks his colleagues for their dedication to the project. Engineers Ivan So and Lyndon Carvalho, Professor Jonathan Rose and his PhD student Braiden Brousseau, and undergraduate student Vivian Liu were instrumental in the creation of this tool.

To download the free app, visit the Google Play store. **–SR** 

Nirtal Shah's new mobile app measures balance with a smartphone's accelerometer.