CS65/165 Smartphone Programming

Born on 23rd September 2008

what beauty

Born on 9 January 2007

my first love

some factoids
What's in a smartphone - the hardware inside?
And, why is it such a revolutionary device?
What software runs on phones?
How do I code apps and distribute them to the masses?
Oh, and do I get rich... quickly.
Where does the vision lead? End of smartphone era!!

what's under the hood?
The naked iPhone 3GS
Things you can do

what's your favorite app?

Learning to program phones
Six thematic labs (MyRuns)
Group continuous Sensing app
MyRuns app

Built the UI

Database (SQLite) and adapters
Maps, location (GPS) and services
Motion sensors and exercising stats
Cloud side using AppEngine

accelerometer

emotion

air quality

near-field

proximity

light

microphone

location

front/back cameras

activity

sitting

standing

walking

running

accelerometer

gyroscope, barometer, compass

gyroscope
Group Project

Groups of 5 students -- last 2 weeks of class hopefully

Common thematic project: develop a continuous sensing application using activity, sleep, sociability, others -- e.g., colocation, places visited, application usage.

Come up with the concept -- has to use sensor streams -- develop the app, and demo it.
Dartmouth Biorhythms Project

The sprint and the marathon (a view form two Ivyies)

Goal: to study one dartmouth class across one term -- first time this has been done - anywhere.

Question: understanding the lives of the typical dartmouth undergraduate student; issues such as workload, stress, sleep, activity, health, social support, burnout across one term

Surveys, sensor streams and self-report -- you have to carry you Nexus-4 with you answer some questions.

Sensing is automatic and unobtrusive.

Reasons to opt in

Be part of an exciting project, make history at Dartmouth, in this class.

Giving 10 Nexus-4 phones and Jawbones (for top users) away and Dartmouth Biorhythm T-Shirts to all people that complete.

Use your own live streams in the group projects.

Dartmouth Biorhythm study is approved by Dartmouth Committee Protection of Human Subjects and all data is stored securely, protects privacy.
Let's take a look at our little green friend's software

android architecture