UNIVERSITY OF Southampton

Rich Applications

info6005

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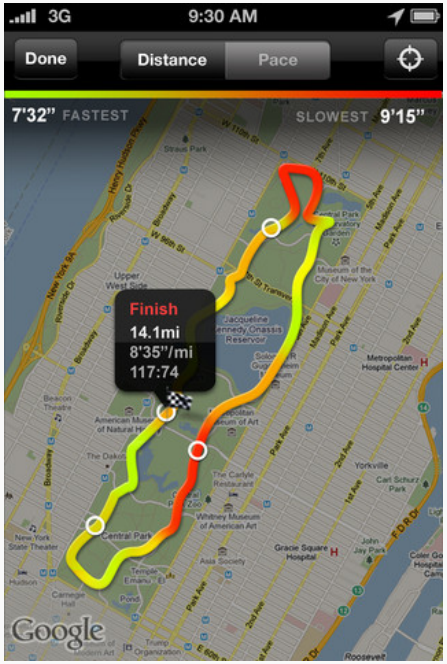
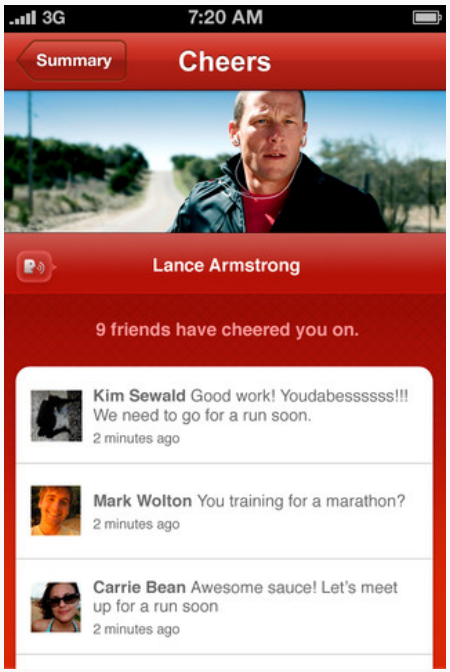
Electronics and Computer Science

Nike+GPS

3G
7:20 AM
Done
Summary
Your Run on 6/19/11 at 12:25pm
25
7.52mi
8'56"/mi
1:02:06
431 cal
Play Nike+ Tag
Share Run
Route Info
How was your run?

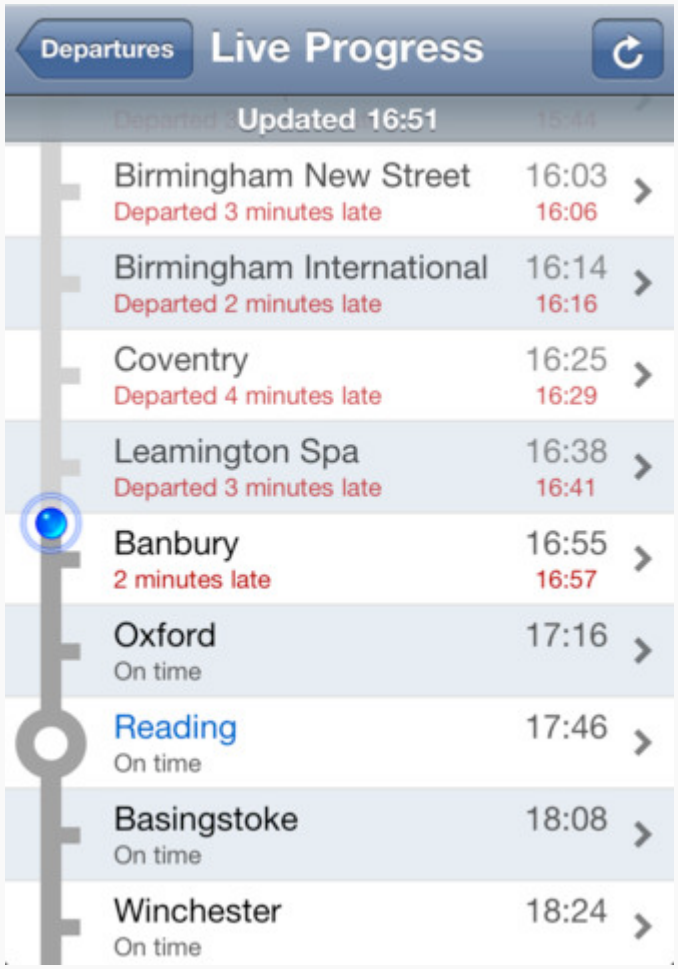

3G
9:30 AM
Done
Distance
Pace
7'32" FASTEST
SLOWEST 9'15"
Finish
14.1mi
8'35"/mi
117:74
Google

3G
7:20 AM
Back
Results
Comments
RunGRL's Distance Game
ChopStyx is IT.
ChopStyx
2.13mi
Trash their screen
Rayarooo
3.25mi
Hoai
7.52mi
Home
History
Settings

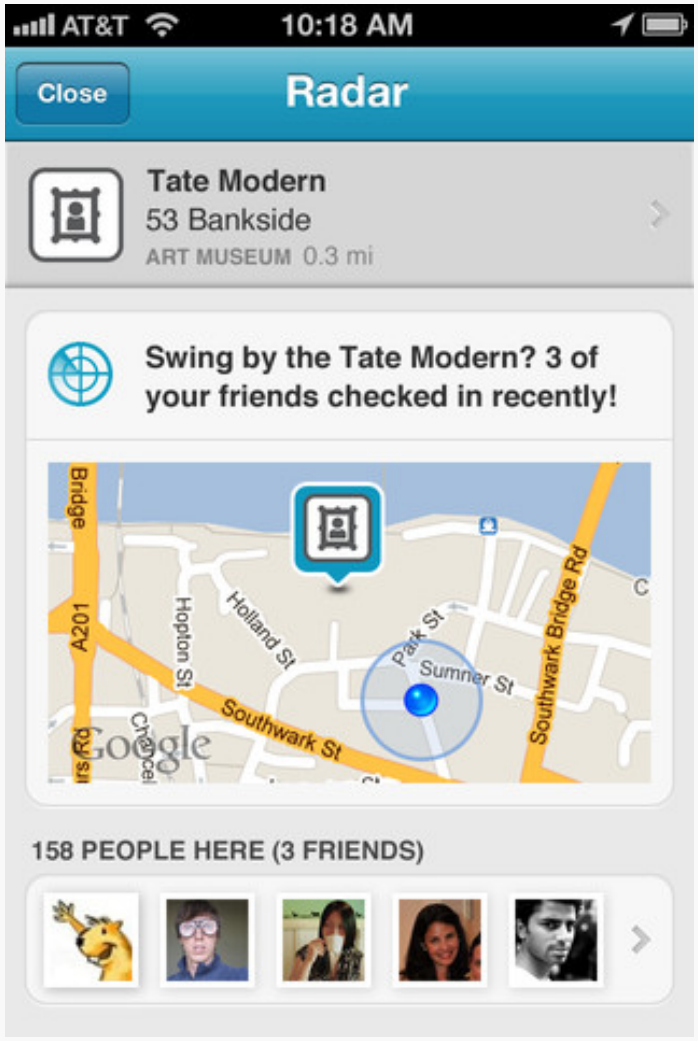

3G
7:20 AM
Summary
Cheers
Lance Armstrong
9 friends have cheered you on.
Kim Sewald Good work! Youdabesssss!!! We need to go for a run soon.
2 minutes ago
Mark Wolton You training for a marathon?
2 minutes ago
Carrie Bean Awesome sauce! Let's meet up for a run soon
2 minutes ago

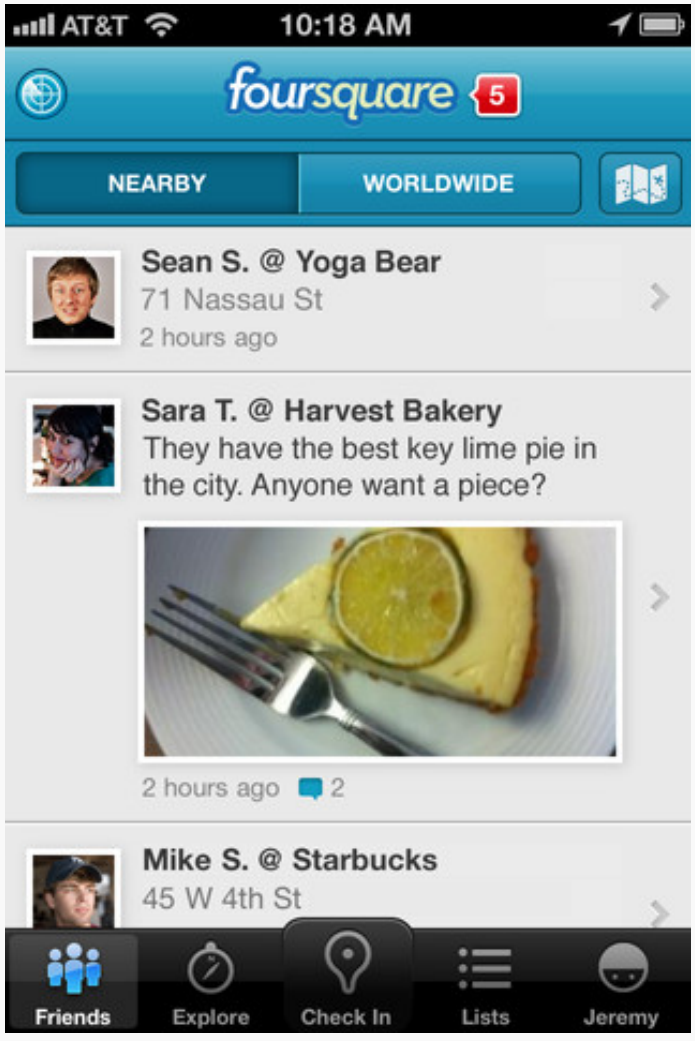
3G
7:20 AM
Edit
History
Monday
Distance
14.7mi
Saturday
Beat Your Best
12.8 mi
12/23/09
Time
5.42 mi
Home
History
Settings

National Rail



Foursquare


AT&T
10:18 AM
Close
Radar
Tate Modern
53 Bankside
ART MUSEUM 0.3 mi
Swing by the Tate Modern? 3 of your friends checked in recently!
Bridge
A201
Hopton St
Holland St
Park St
Sumner St
Southwark Bridge Rd
Southwark St
Google
158 PEOPLE HERE (3 FRIENDS)


AT&T
10:18 AM
foursquare
5
NEARBY
WORLDWIDE
Sean S. @ Yoga Bear
71 Nassau St
2 hours ago
Sara T. @ Harvest Bakery
They have the best key lime pie in the city. Anyone want a piece?
2 hours ago
2
Mike S. @ Starbucks
45 W 4th St
Friends
Explore
Check In
Lists
Jeremy

Applications and data are resources which can be used to build new applications… quickly.

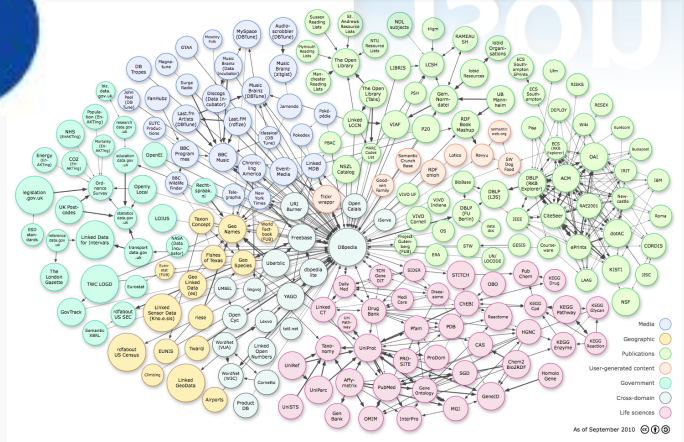
Rich applications source data and services from many places to provide something new.

Presented in the correct way, a simple breakthrough can make a $RICH$ Application.

Technologies

- RDF
- JSON
- jquery
- HTML5
- JAVASCRIPT
- Objective C
- Java
- APIs

…



Not that easy!

- Produce products (not code)
- Market Understanding
- Business Practices
- Packaging
- Distribution
- Cost
- Marketing!

Rich Applications

- Not about avoiding failure
  - Maintaining a level which doesn't get you fired.

- This course is about Winning!
  - No extraterrestrial experiences are needed.

Building a Career

- “just a programmer” doesn’t result in building a career as the is only so many well paid “just a programmer jobs”

- Very hard to get a job if you present yourself as a JAVA Programmer, rather than a multi-skilled business orientated developer.

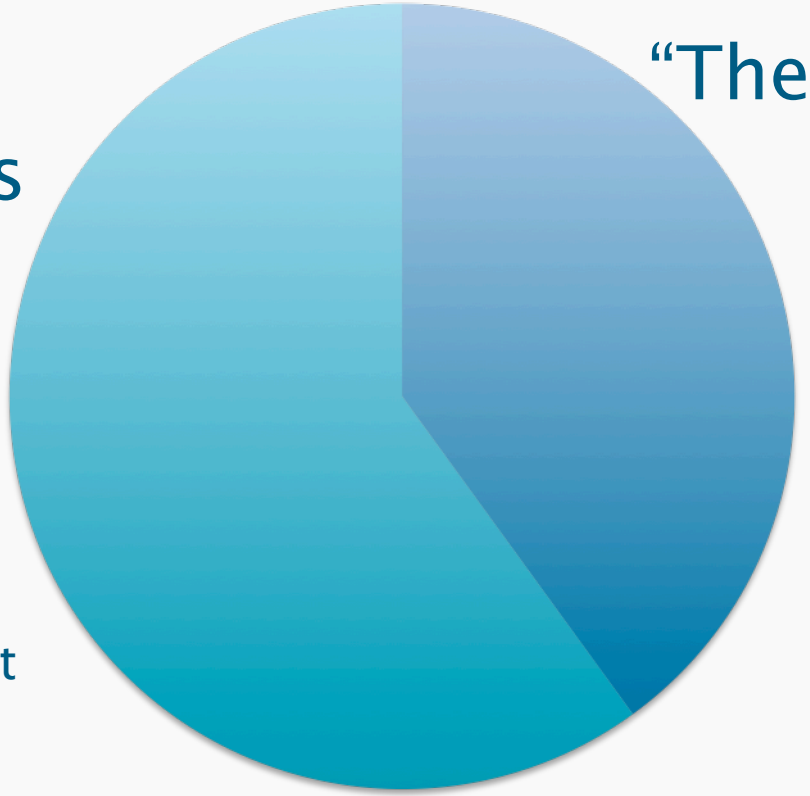
Striking A Balance

- Work / Life
  - You spend more that 50% of your waking life at work! Happiness at work WILL affect happiness at home. No such thing as work/life, it's work AND life. Make sure you are happy!
- Programmer / Architect / Manager
  - Coding don't cut it anymore
  - Un-informed management also not desirable
  - You can't closely manage a team of people who speak a different language (cultural, programming and understanding barriers here)

Course Balance (Teaching)

Technologies

Data
Linked-Data
APIs
Mash-ups
HTML5
jQuery/Javascript
(self taught)



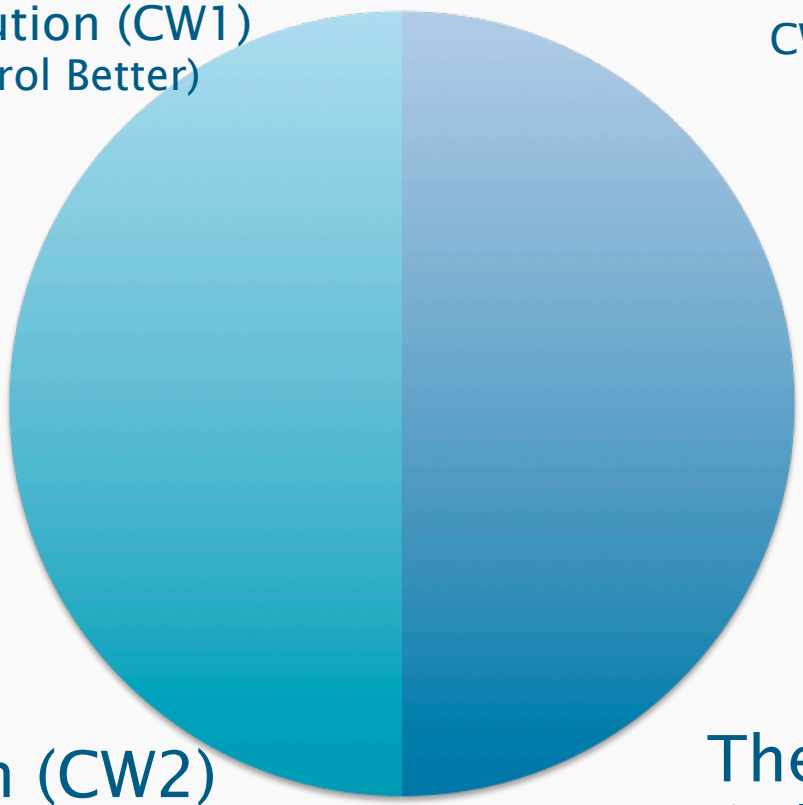
"The Bigger Picture"

Business
Methodologies
Planning
Management
Marketing
Psychology
Games

Course Balance (Assesment)

Packaging and Distribution (CW1)
(Use Source Code Control Better)

CW1 Documentation



Technologies

The Bigger Picture

Rich Application (CW2)
(Using technologies in a novel application)

The Pitch (CW2)
(Selling your Rich Application)

Lectures

- 2 a week until after Easter.
- Guest Lectures
  - Will fit in schedule dependent on guest availability
- Keep an eye on the website and turn up to find out what is happening.

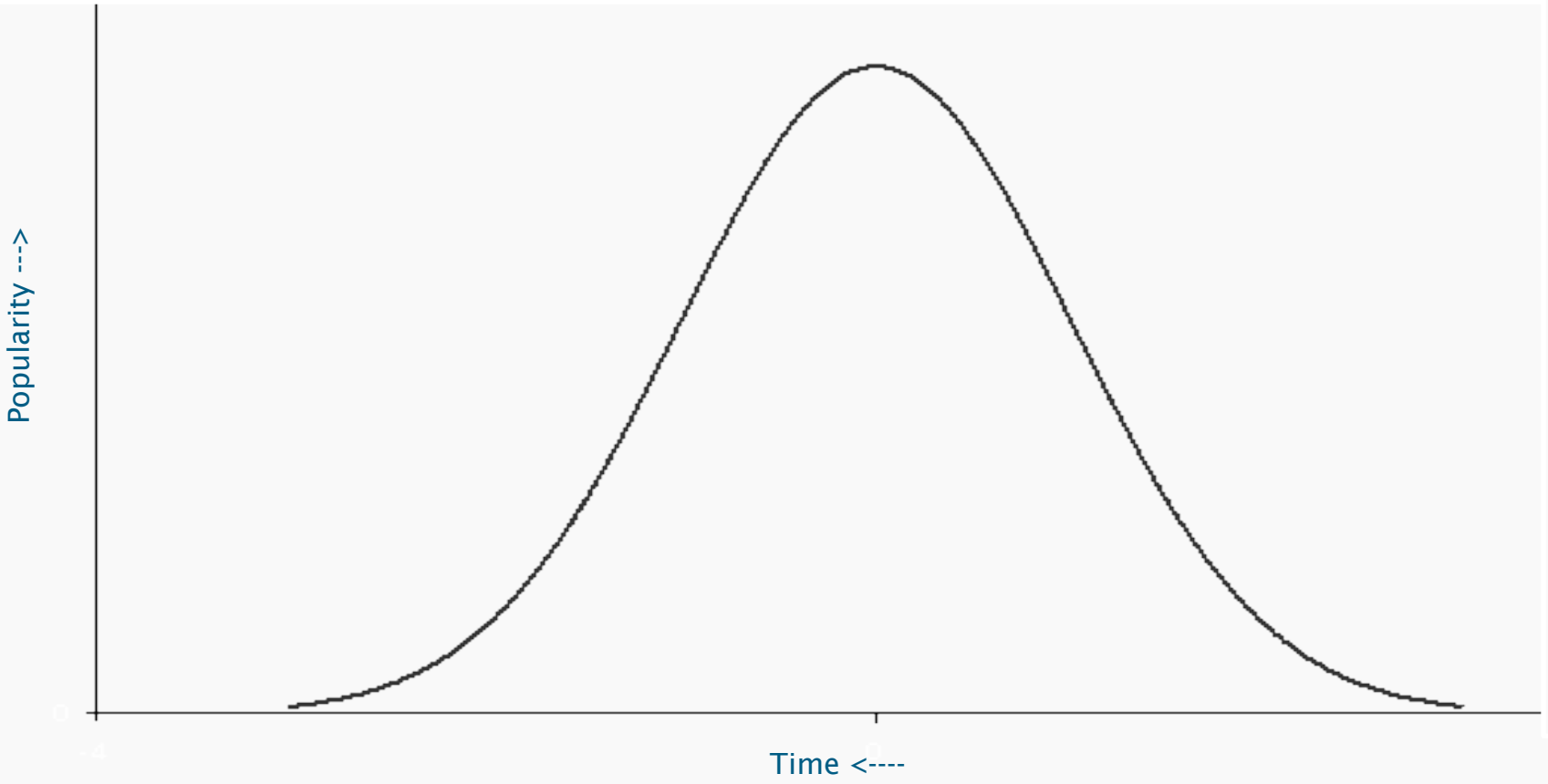
Coursework Schedule

- CW1 – Packaging your software (Individual)
  - Use the reference code to build a Debian/Ubuntu package.
  - If you wish to package your own code, then you need to email davetaz@ecs.soton.ac.uk with details of this (see specification)
  - Final Specification Available Next Week

- CW2 – Develop and Present a Rich Application (Group)
  - This is an open ended coursework, however use of at least one technologies covered in this course is a must.
  - Each application will be pitched to a panel of judges.
  - Form your own groups – update your profile pages as a CV!

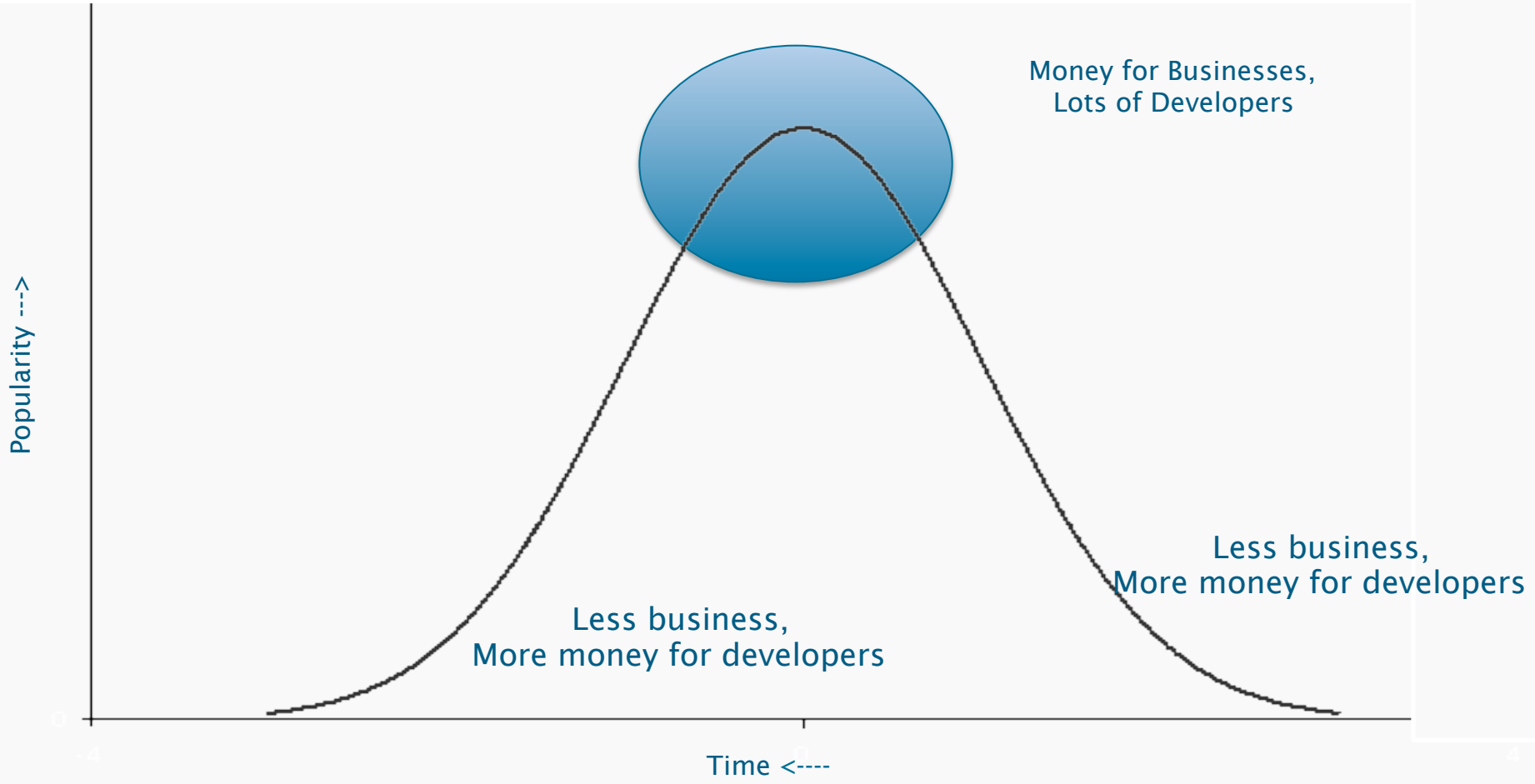
Exercise

On a piece of paper, sketch the curve below and then list technologies on each axis which are “on the rise”, “current hot property” and “on the out”



Where is the Money?

Note that where the money is for business might not be where the money is for developers! So also list your role.



Supply and Demand

- New technologies generate demand which supply can't satisfy. Early web developers got lots of money
- As supply catches up with demand, price goes down.
- Eventually this reverts again as a technology reaches end of life, specialists can make money again.

Coding don't cut it anymore!

- If a company want's a .NET expert they'll employ an offshore code robot.
- Domain knowledge is key to being relevant.

- Learn what the problem is in depth.
- Learn the needs of the business and its customers.
- Learn how your decisions will affect bottom-line.
- How can you make a cool application MORE profitable!

Invest in your Intelligence

- Become an analyst!
  - Follow tech news.
  - Keep your knowledge broad.
  - Invest your skills in new technology.
- Investment vs Risk
  - You might invest in something which doesn't succeed, failure is inevitable.

Future of Cameras and Home TV? - http://www.lytro.com/living-pictures/
3D Printing - http://bits.blogs.nytimes.com/2011/11/13/disruptions-the-3-d-printing-free-for-all/

Position Jan 2012	Position Jan 2011	Delta in Position	Programming Language	Ratings Jan 2012	Delta Jan 2011	Status
1	1	=	Java	17.479%	-0.29%	A
2	2	=	C	16.976%	+1.15%	A
3	6	↑↑↑	C#	8.781%	+2.55%	A
4	3	↓	C++	8.063%	-0.72%	A
5	8	↑↑↑	Objective-C	6.919%	+3.91%	A
6	4	↓↓	PHP	5.710%	-2.13%	A
7	7	=	(Visual) Basic	4.531%	-1.34%	A
8	5	↓↓↓	Python	3.218%	-3.05%	A
9	9	=	Perl	2.773%	-0.08%	A
10	11	↑	JavaScript	2.322%	+0.73%	A
11	12	↑	Delphi/Object Pascal	1.576%	+0.29%	A
12	10	↓↓	Ruby	1.441%	-0.34%	A
13	13	=	Lisp	1.111%	+0.00%	A
14	14	=	Pascal	0.798%	-0.12%	A
15	17	↑↑	Transact-SQL	0.772%	+0.01%	A
16	24	↑↑↑↑↑↑↑↑	PL/SQL	0.709%	+0.15%	A
17	20	↑↑↑	Ada	0.634%	-0.05%	B
18	39	↑↑↑↑↑↑↑↑↑↑	Logo	0.632%	+0.29%	B
19	25	↑↑↑↑↑↑	R	0.609%	+0.07%	B
20	21	↑	Lua	0.559%	-0.08%	B

http://www.tiobe.com/index.php/content/paperinfo/tpci/index.html

Be A Generalist

- Software is soft and can be changed, the manufacturing analogy does not exist.
- How can you fix a bug when it is the surrounding environment (which you don't understand) causing the bug (e.g. the database you are using doesn't scale how you naively expected it too.
- Learn enough about enough to become knowledgeable.
- It's amazing how many developers have no idea how to install the development environment they use (or even operating system)
- Windows vs Linux vs Mac OS X is not an argument you should be having!

Be a Specialist

- Too many of us seem to believe that specializing in something simply means you don't know about other things.
- Lack of technical depth
- When addressing a high level problem, a specialist understands what is going on at the lowest level as well.

Don’t Put All Your Eggs in Someone Else’s Basket

- Your career is a business

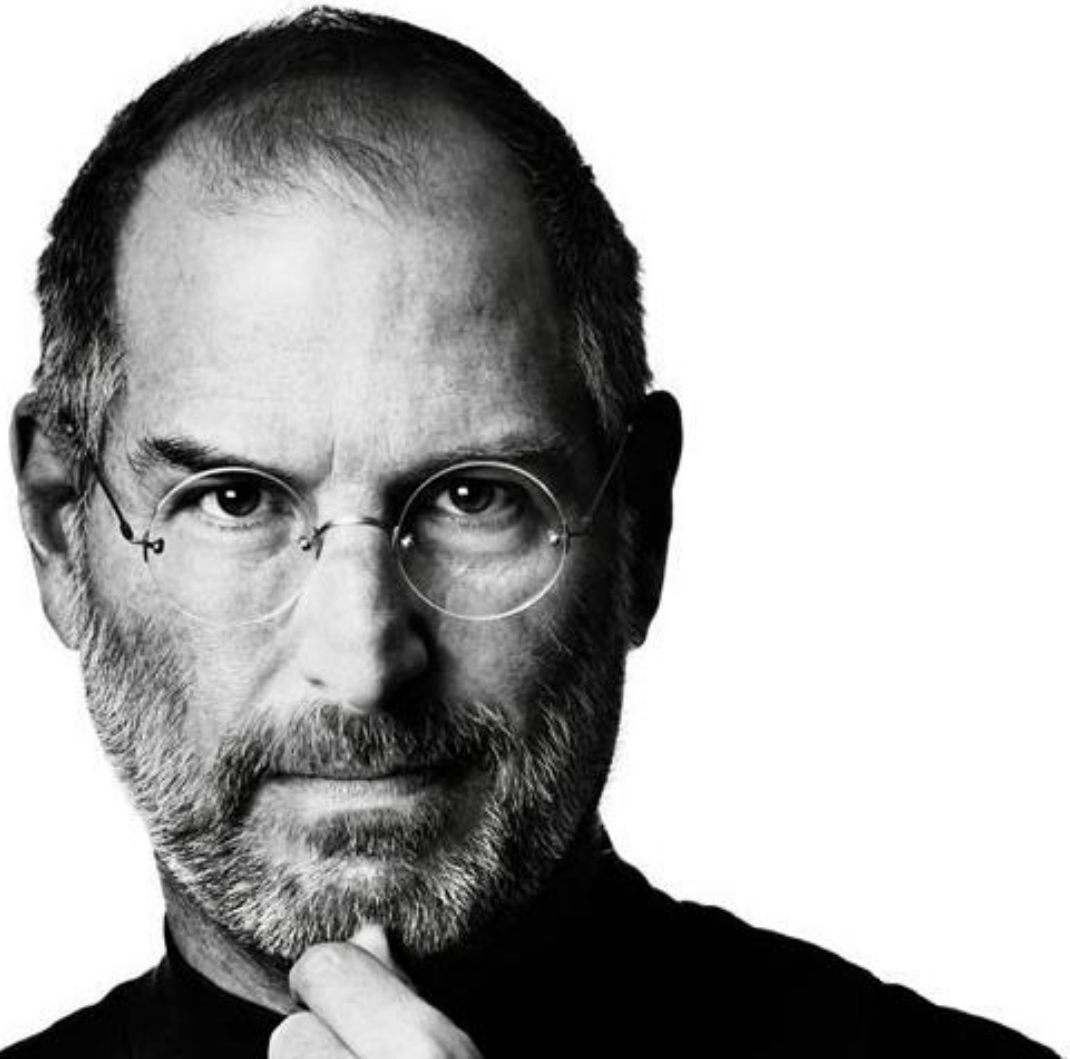
- Don’t put vendor/technologies in your title!

Lab Exercise (optional): Try a small project twice, once in your “home” technology and once in a competing technology. Discuss differences with others.

Love It or Leave It

- If you are not passionate about your work, then it will show, both at work and in work/life balance.
- “Most people must get it?”
- Grass is greener?
- Work because you couldn’t not work

Being the Visionary



“Innovation Distinguishes between a leader and a follower”

"If you are not going to be the best, don't bother"

"Be a yardstick of quality"

Be original, innovate, find a new market, corner it and be the best in it!

Summary

- Technology
  - We shall be looking at the curve of growing technologies.

- Knowledge Broadening
  - Methodologies and Management
  - Presenting a Pitch
  - HCI and User Experiences
  - Psychology / Addiction

Assessment

- First coursework looks at building software so that users can download and install it.

- Second Coursework allows you to apply tech and teaching in developing and pitching your application!

- Must be novel/original idea and focus on user experience.

Good Luck and Have Fun