Games Courses Suck!

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Why *do* games courses suck?

What one thing should games courses teach that they don't do (well enough)?

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It used to be so much better…

"The knowledge with which programmers come out of college and university is so different to what it was 10 years ago.

"Back then, programmers knew all the low level stuff: assembler, bit twiddling, fixed point vs. floating point arithmetic, memory cache usage, branch prediction, sorting… to name a few. I can't ask these questions anymore as I always get blank looks (try it!).

"So I started to ask more language related questions such as those that anyone who knows C++ should get. What are the 5 ways in which the keyword 'const' can be used? What is the difference between a struct and a class? What class can access a 'protected' variable?   The blank looks disappeared thankfully, for a while, but not for long.
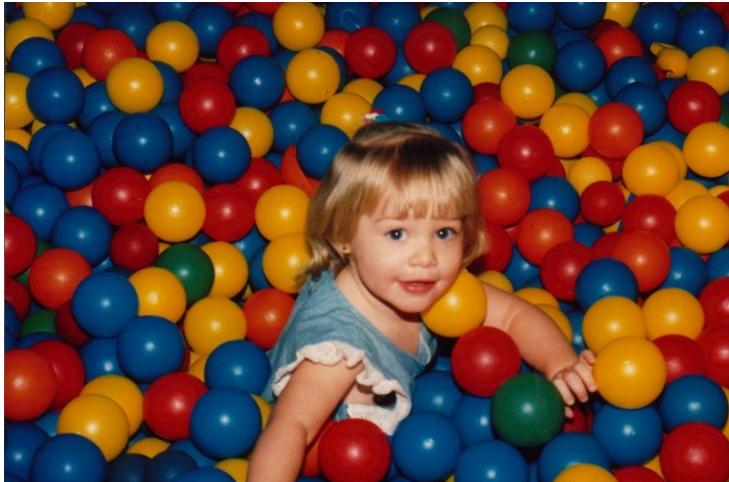
- Andrew Hague, Blitz,
  http://www.altdevblogaday.com/2011/10/12/computer-education-in-great-britain/

(Mis)Conceptions

Parents see

Prospective students see

Traditional academics see

But industry wants to get

Things Graduates Say

"I learned so much more in my first year in industry than I did in my degree"

- *Why didn't you teach me all this great stuff?*

"At my company we use *X*. You really need to teach folk *X*."

- Really how can anyone graduating expect to get a job if they don't know X?

Things we should do better – according to some of our graduates

- We should have more
  - audio programming
  - networking/concurrent programming
  - high level OO design
  - debugging, profiling and coding standards
  - cross-platform development
  - code reviews
  - game design
  - HCI
- But we might have too much
  - graphics

Teach Yourself Programming in Ten Years

Peter Norvig

Why is everyone in such a rush?

Walk into any bookstore, and you'll see how to *Teach Yourself Java in 7 Days* alongside endless variations offering to teach Visual Basic, Windows, the Internet, and so on in a few days or hours. I did the following power search at Amazon.com:

```
pubdate: after 1992 and title: days and
    (title: learn or title: teach yourself)
```

and got back 248 hits. The first 78 were computer books (number 79 was *Learn Bengali in 30 days*). I replaced "days" with "hours" and got remarkably similar results: 253 more books, with 77 computer books followed by *Teach Yourself Grammar and Style in 24 Hours* at number 78. Out of the top 200 total, 96% were computer books.

The conclusion is that either people are in a big rush to learn about computers, or that computers are somehow fabulously easier to learn than anything else. There are no books on how to learn Beethoven, or Quantum Physics, or even Dog Grooming in a few days. Felleisen *et al.* give a nod to this trend in their book *How to Design Programs*, when they say "Bad programming is easy. *Idiots* can learn it in *21 days*, even if they are *dummies*.

Let's analyze what a title like *Learn C++ in Three Days* could mean:

- **Learn:** In 3 days you won't have time to write several significant programs, and learn from your successes and failures with them. You won't have time to work with an

How much can you learn in a four year degree?

4 years

minus 3 long summer holidays   = 3 years

minus other vacations, exam periods,
   'non-contact' periods   = 2 years

up to 16 contact hours per week   = 1 year

A four year degree has one year of teaching

Squeezing More In

40%

UNversity is back!

Posted on June 10, 2012

Yes, it's true! UNversity is back for the summer season 2012! A summer of setting our own learning goals, working independently or with others, and sharing what we learn and achieve.

Follow @UNversity on Twitter and on Facebook here.

Dive into the twitter feed and/or join us on Facebook, or just check back here for weekly updates… over 20 sign ups already – join us!

Posted in Uncategorized | Leave a reply

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The Finished Product?

- A programmer who knows how to do everything?
  - Clearly not
  - So why even try to teach 'everything'?
  - Instead, we need to help students to become better learners and develop adaptive expertise: the ability to apply existing knowledge in new contexts
- The finished product is a better learner, equipped with core skills, knowledge and expertise
  - Good programmers are always learning

Even John Carmack is Still Learning

Fabien Sanglard - So far only .map files were text-based but with idTech4 everything is text-based: Binary seems to have been abandoned. It slows down loading significantly since you have to idLexer everything....and in return I am not sure what you got. Was it to make it easier to the mod community ?

John Carmack - In hindsight, this was a mistake.

A reply to graduate comments

G: "At my company we use *X*. You really need to teach folk *X*."

Me: Can you guarantee that X will be required by most graduates, and that X will still be required 5 years from now?

G: "I learned so much more in my first year in industry than I did in my degree"

Me: So you should. That is a great start to your career as a professional learner

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- …if students limit themselves to learning what is explicitly taught
- …if employers confuse gaps in knowledge with inability to learn or lack of ability
- …if they don't encourage students to look beyond the university walls, to engage with and learn from the wider game development community

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