

Gaming for the Greater Good

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"Games lubricate the body and the mind."
— Benjamin Franklin



"C makes it easy to shoot yourself in the foot; C++ makes it harder, but when you do, it blows away your whole leg."

- Bjarne Stroustrup

A programmer...



Me, feeling good about my programming skills



Wooga, where I work, makes casual games for mobile and Facebook in Berlin, Germany

Problem

Problem

Magic

Problem

Magic

No Problem

the normal steps of an application



<http://imgur.com/NvrcQNI>

A

A →

$A \rightarrow B$



Problem

Problem

Reward, New Problem

Problem

Reward, New Problem

Reward, New Problem

Reward, New Problem

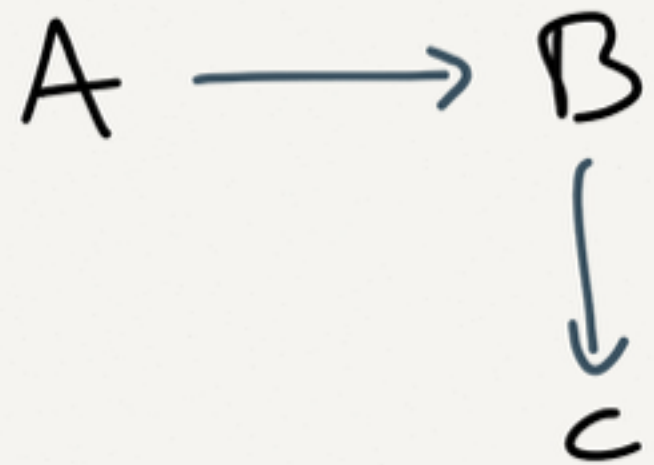
Reward, New Problem

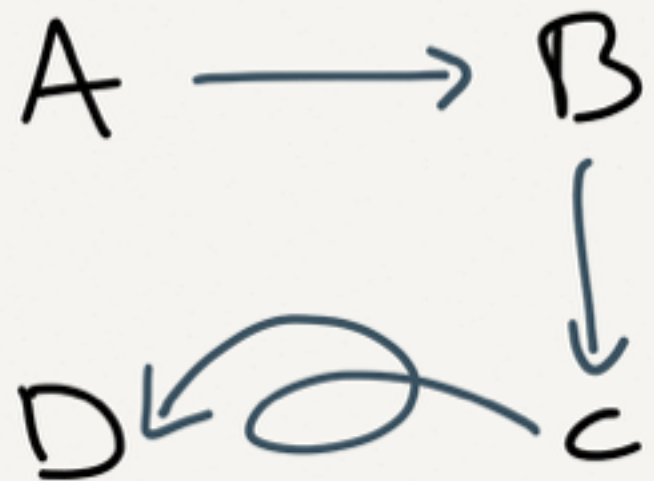
Reward, New Problem

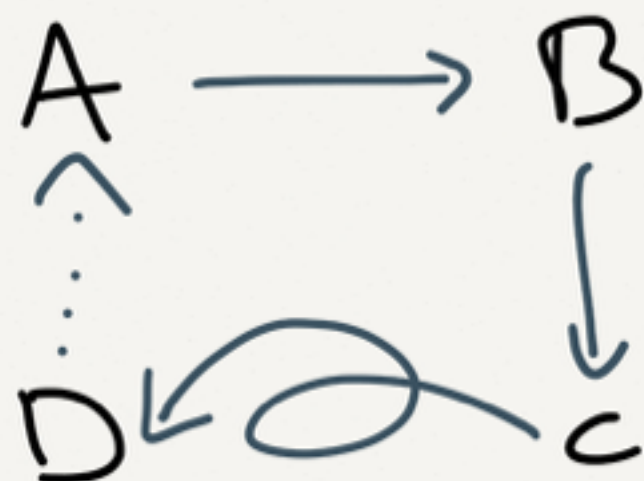
the normal steps in a game

A

$A \longrightarrow B$

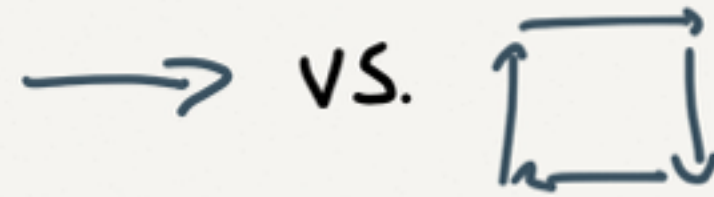












the main difference between flows in apps and games



"If I have seen further than others, it is by standing upon the shoulders of giants."

—Isaac Newton

Read more at <http://izquotes.com/quote/135288>

Game Devs

Game Devs

App Devs

Game Devs

App Devs

Programming Language



Game Devs

App Devs

Programming Language

Hardware



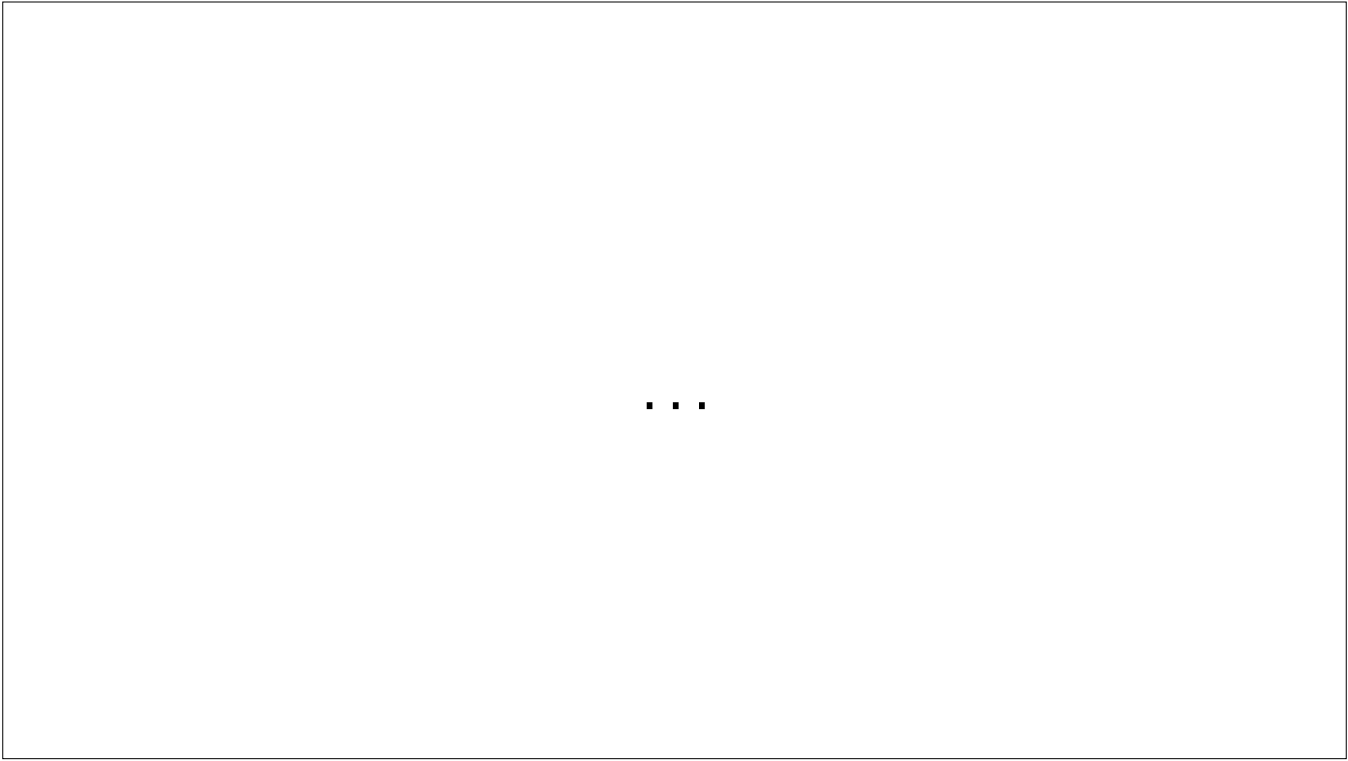
Game Devs

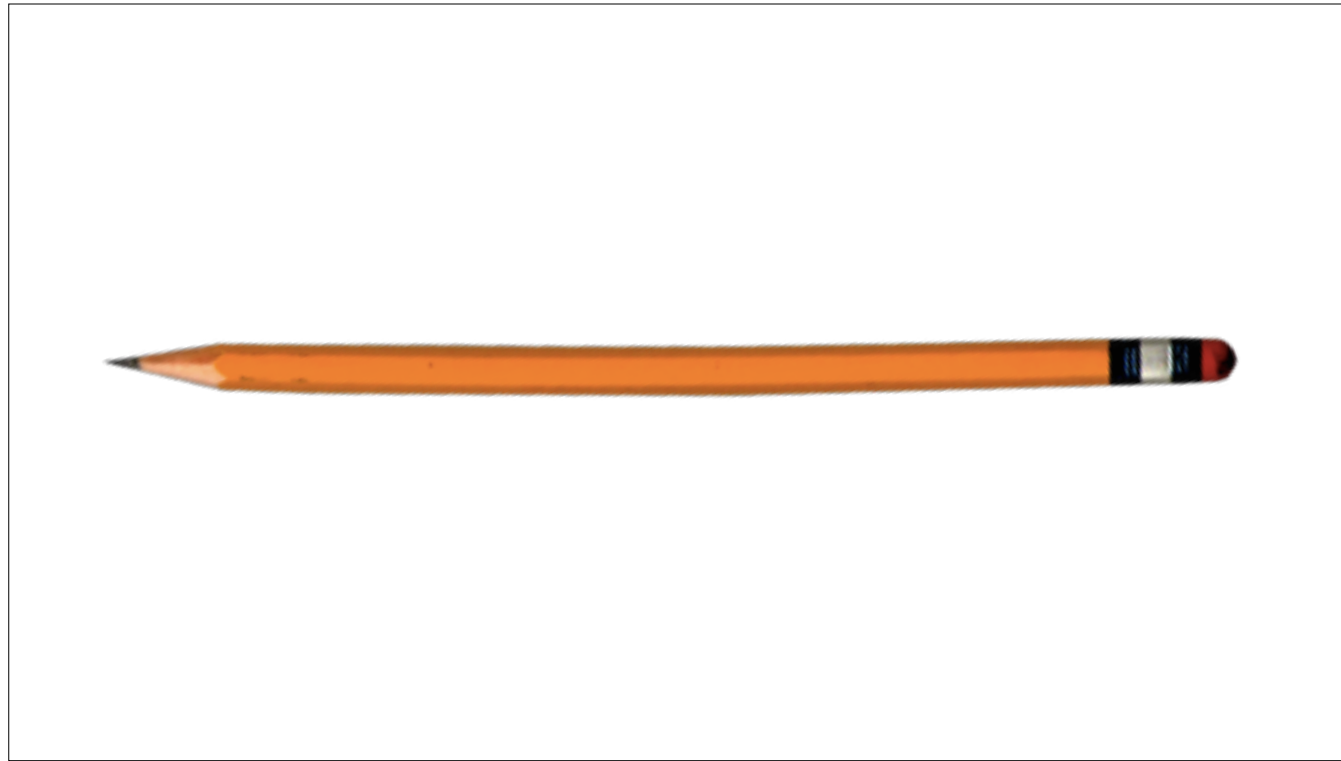
App Devs

Programming Language

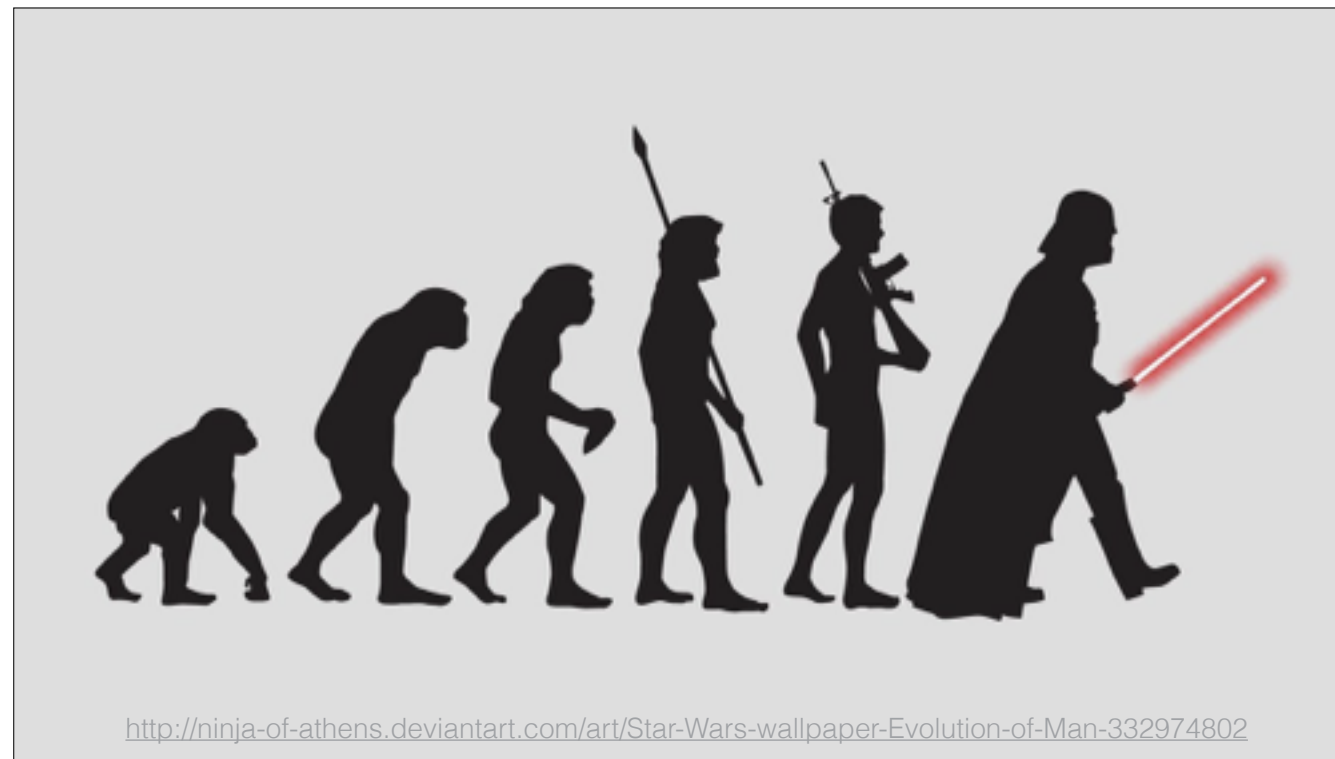
Hardware

Humans





Not one single person in the world knows how to make a pencil



we have always used what's around us as tools.



<http://www.businessinsider.com/smart-crows-perform-aesop-task-video-2014-3>

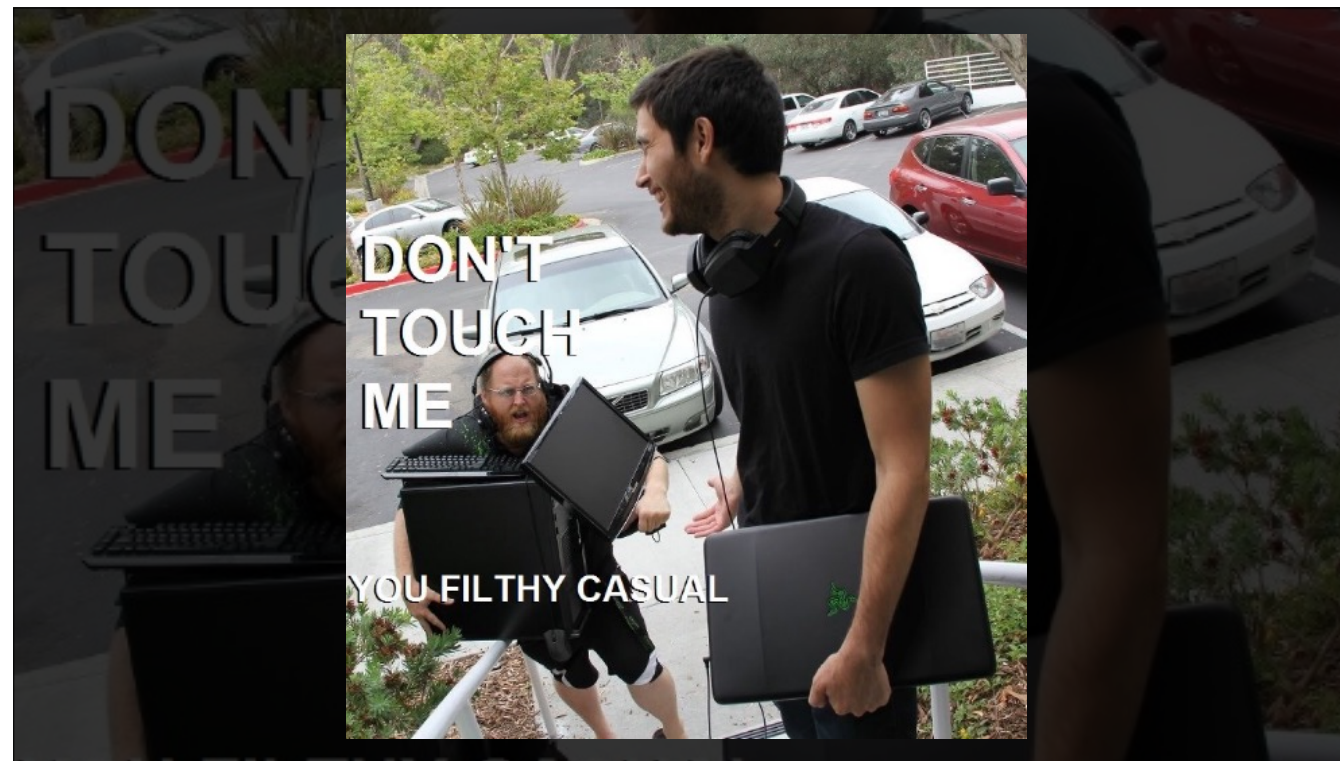
it's everywhere in nature.



"still, no crow programmers"



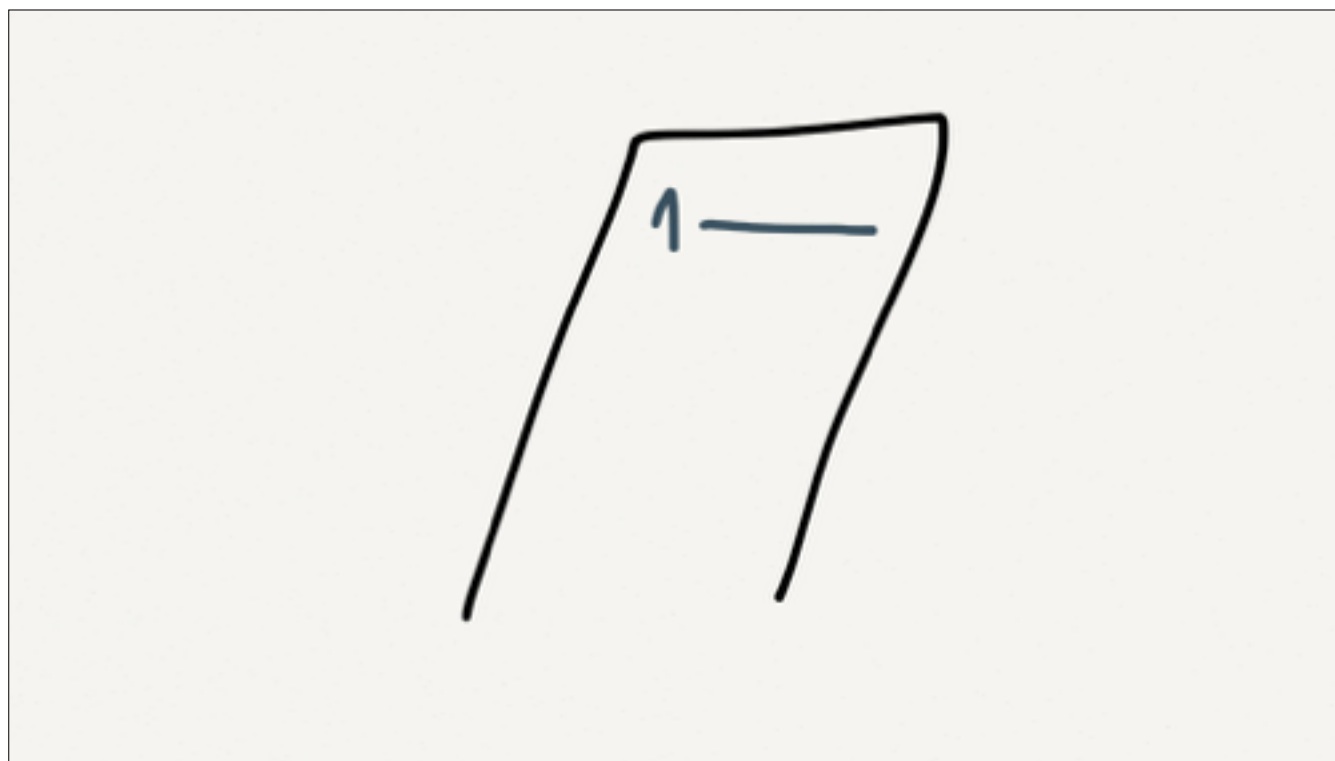
so, yeah, I sucked as a game developer at first



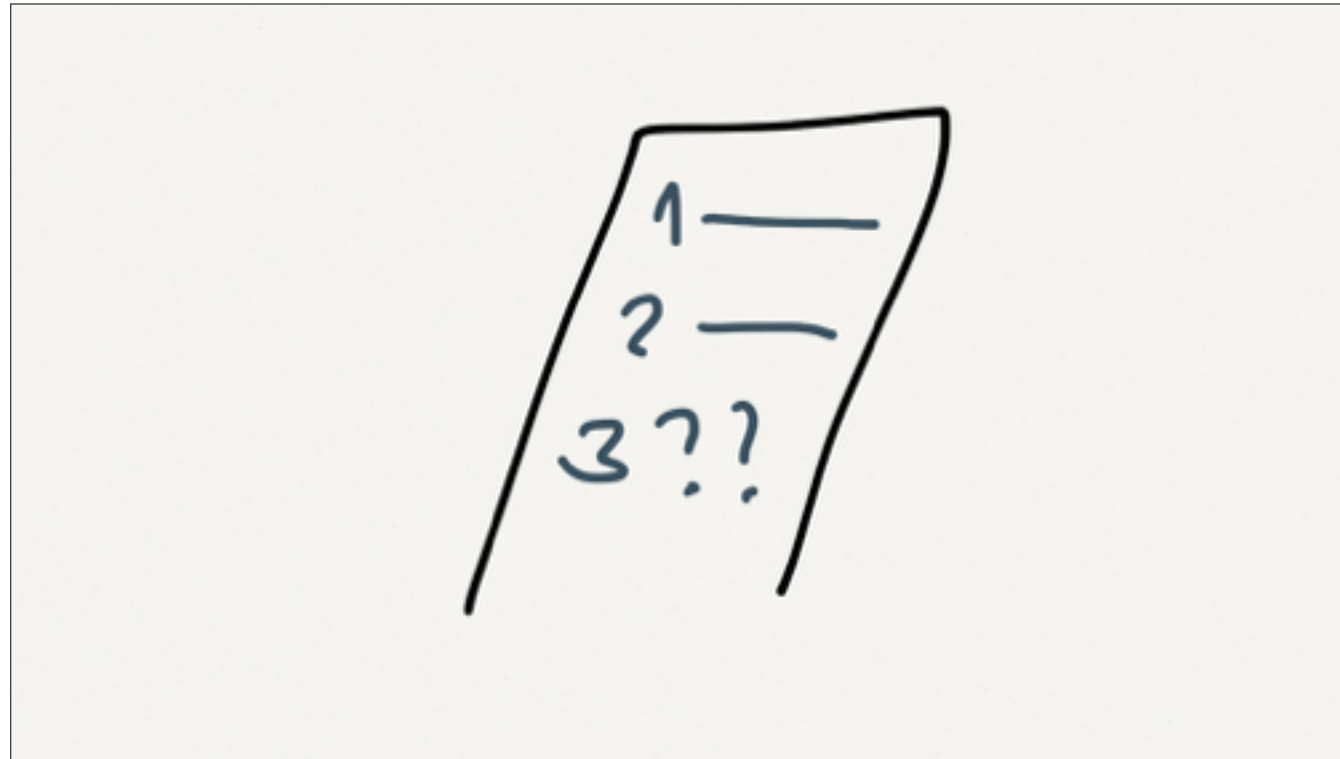
but I got to hang around with some game developers.

Language Agnostic







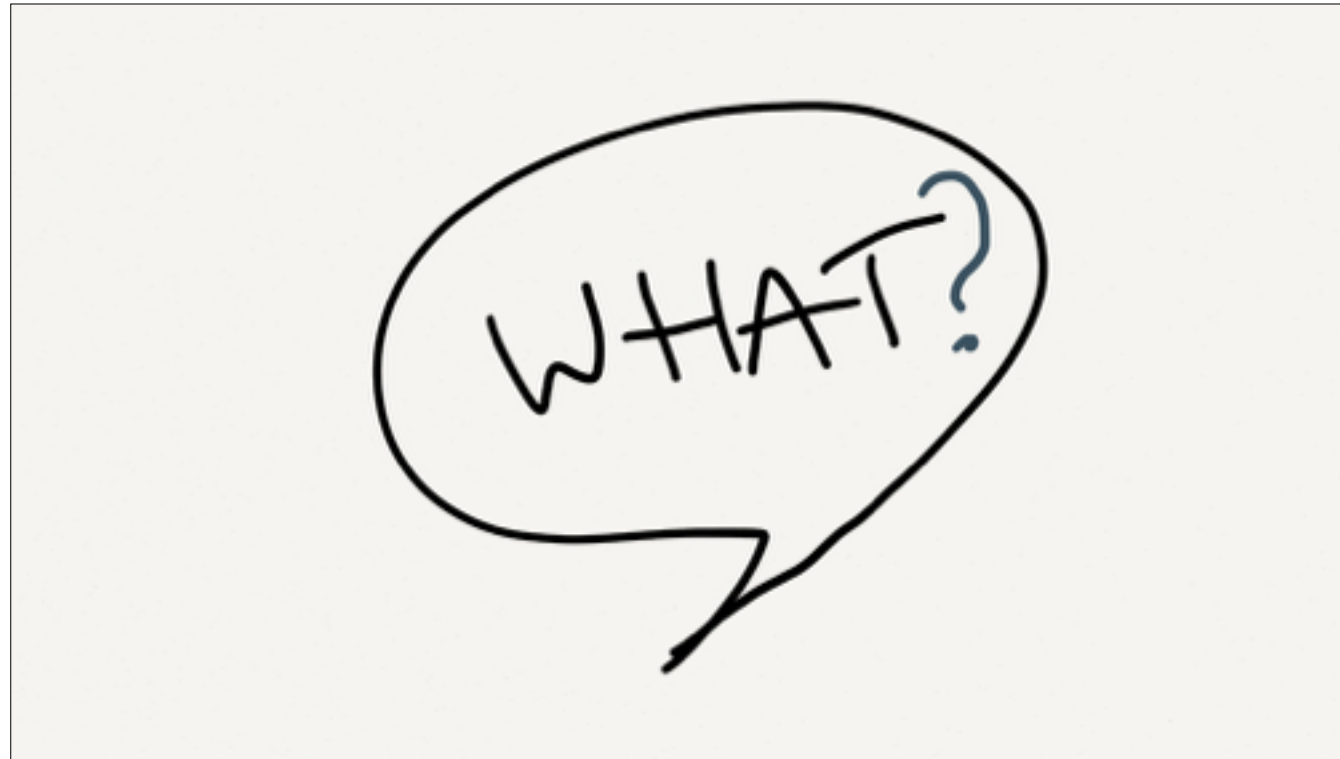


they don't focus a lot on how





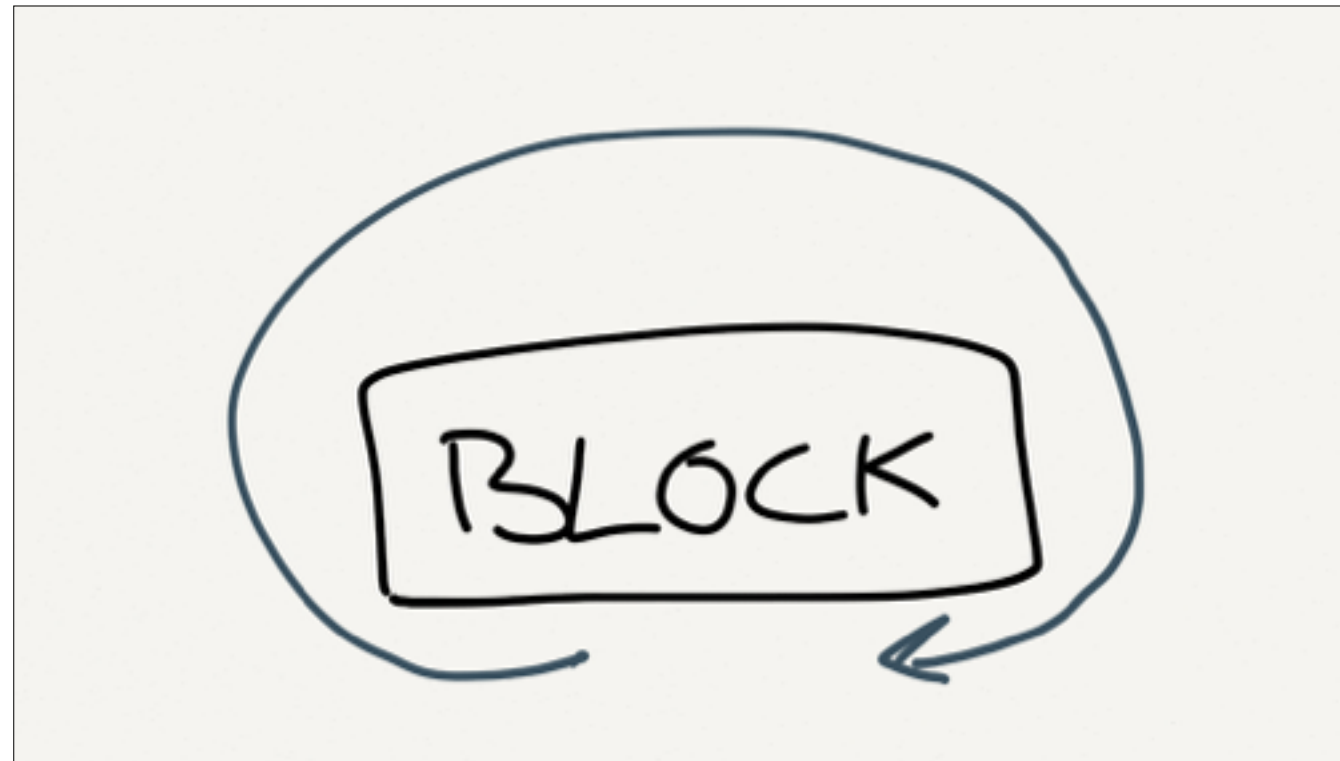
WHAT



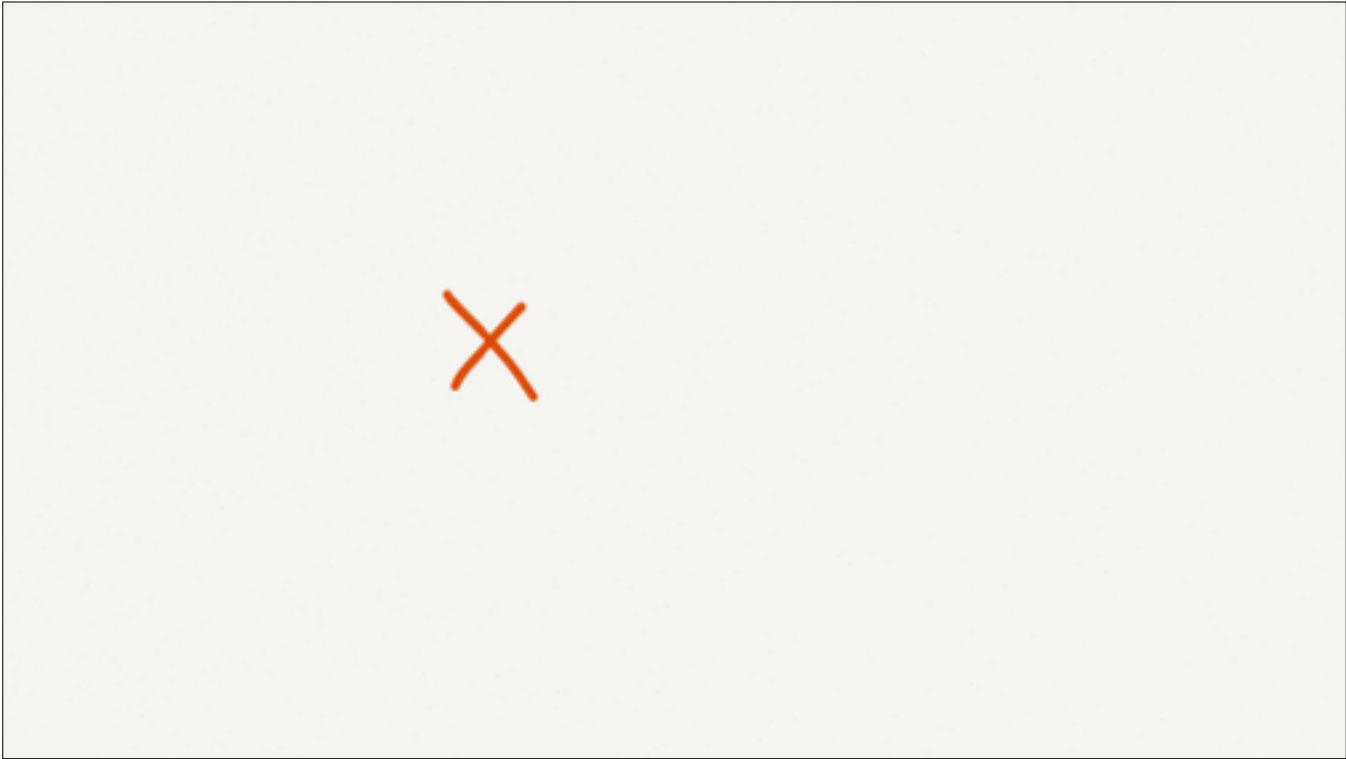
rather on what they are building

BLOCK

BLOCK



as you gain experience, best practices emerge



X 0,0



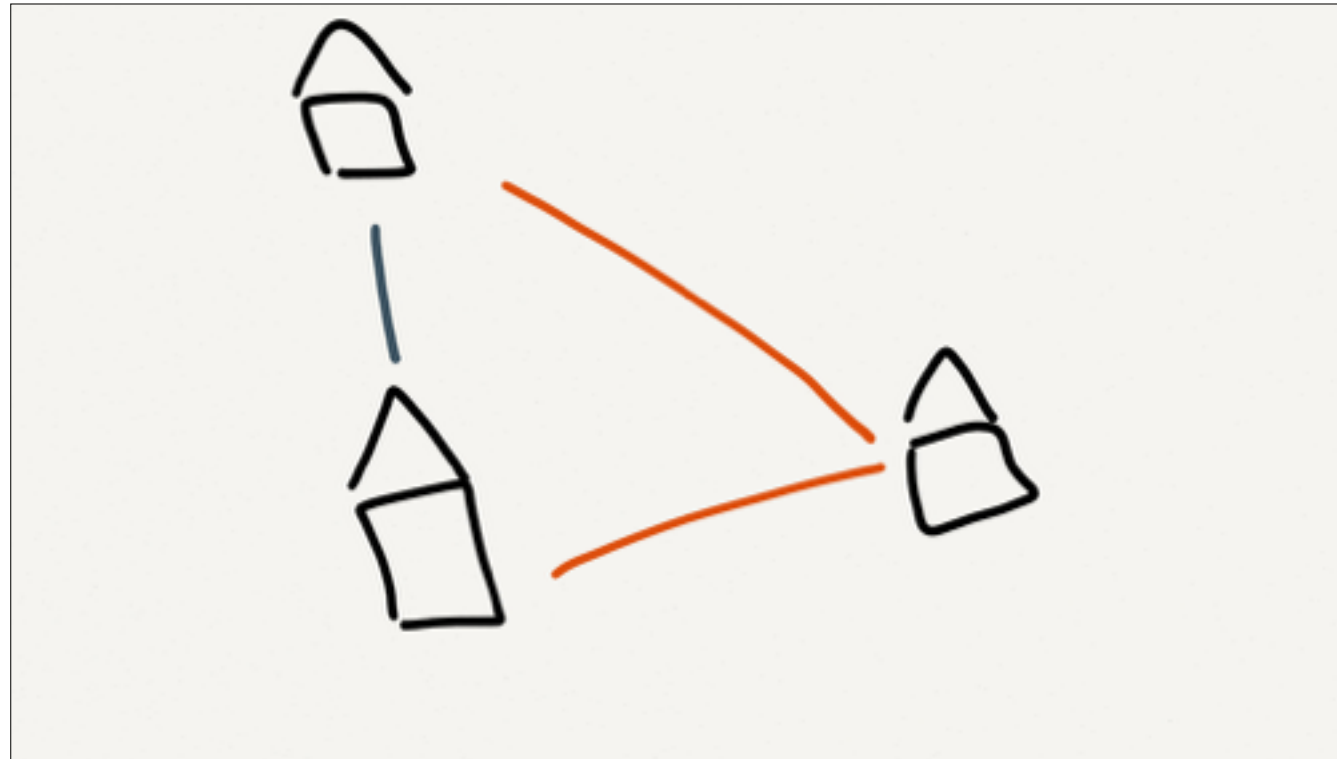
$(0, 0)$

and you start dealing with negative coordinates from the beginning, rather than shoehorning it in later
adding new regions to a map becomes easier

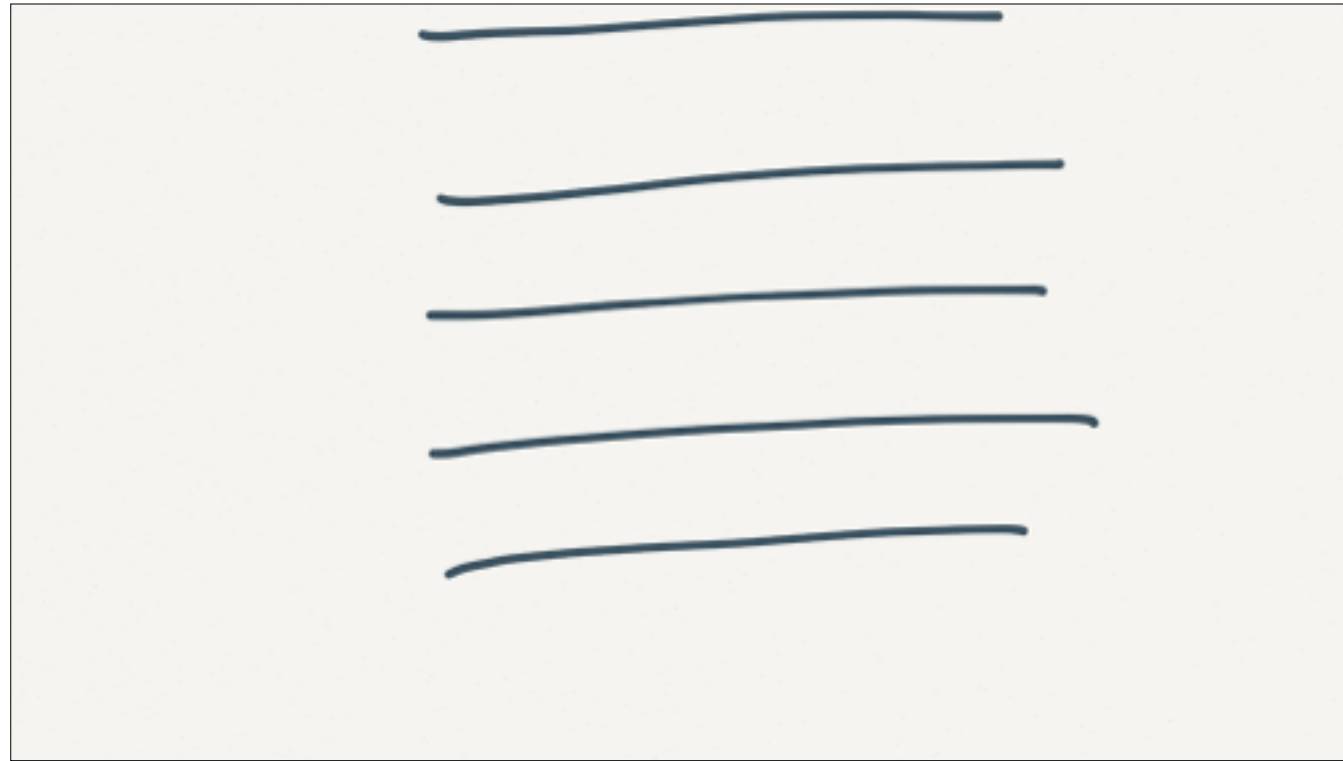




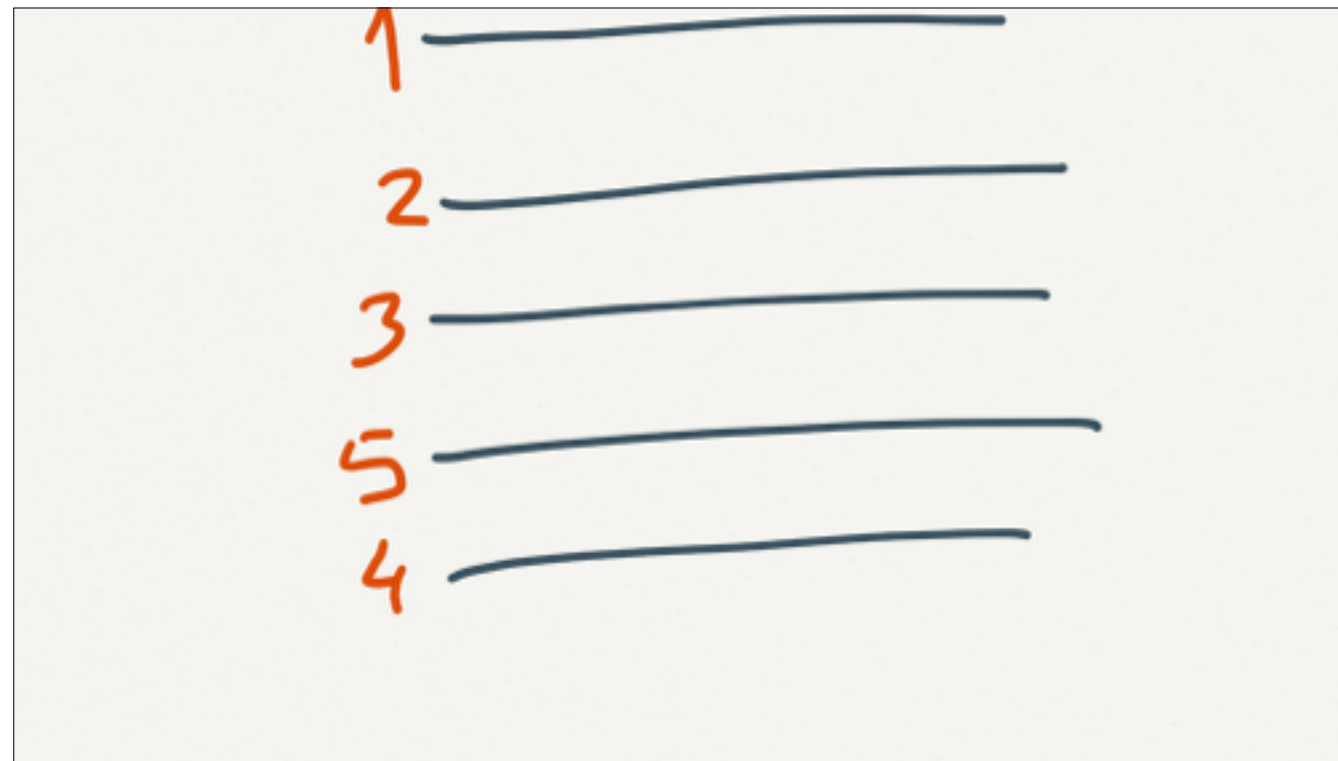




make sure you think of all the key components and their interactions from the get go



no, not todo lists. Logical structures

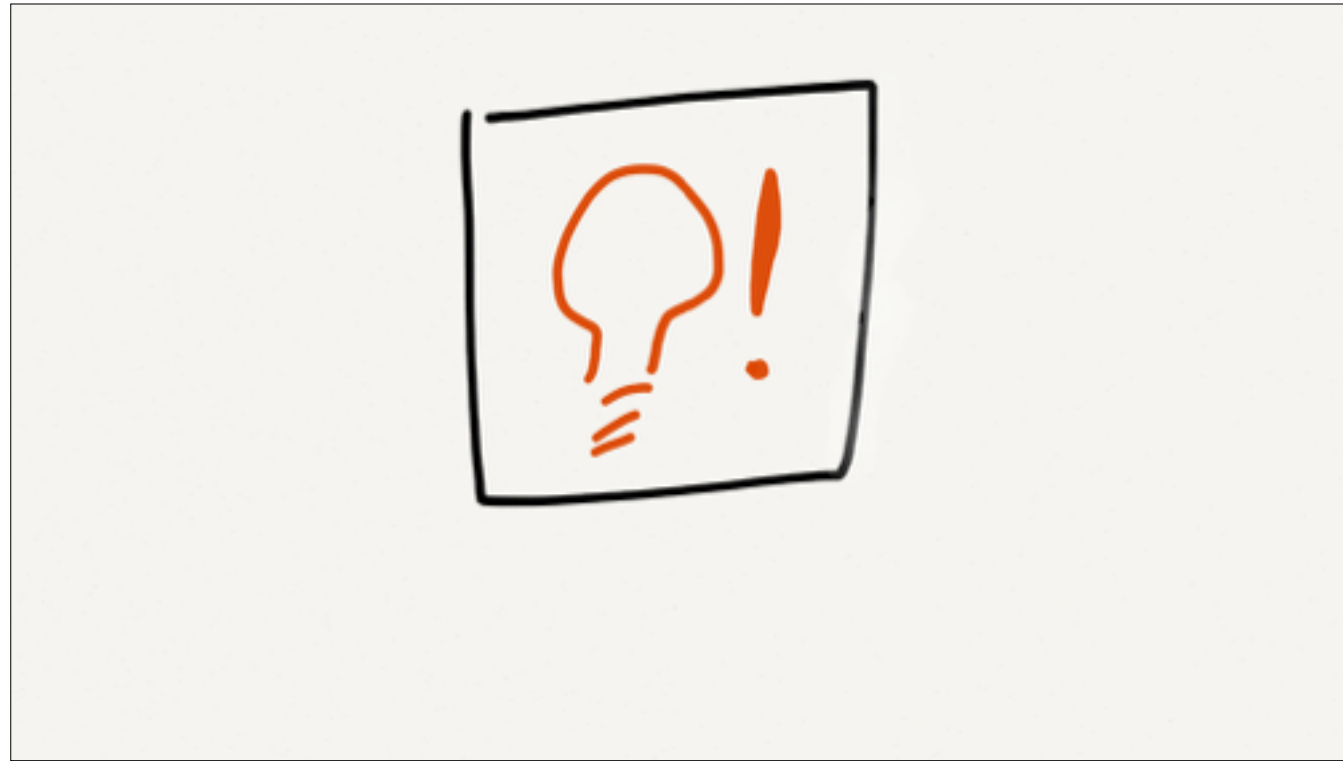


queues empower you to do so many things

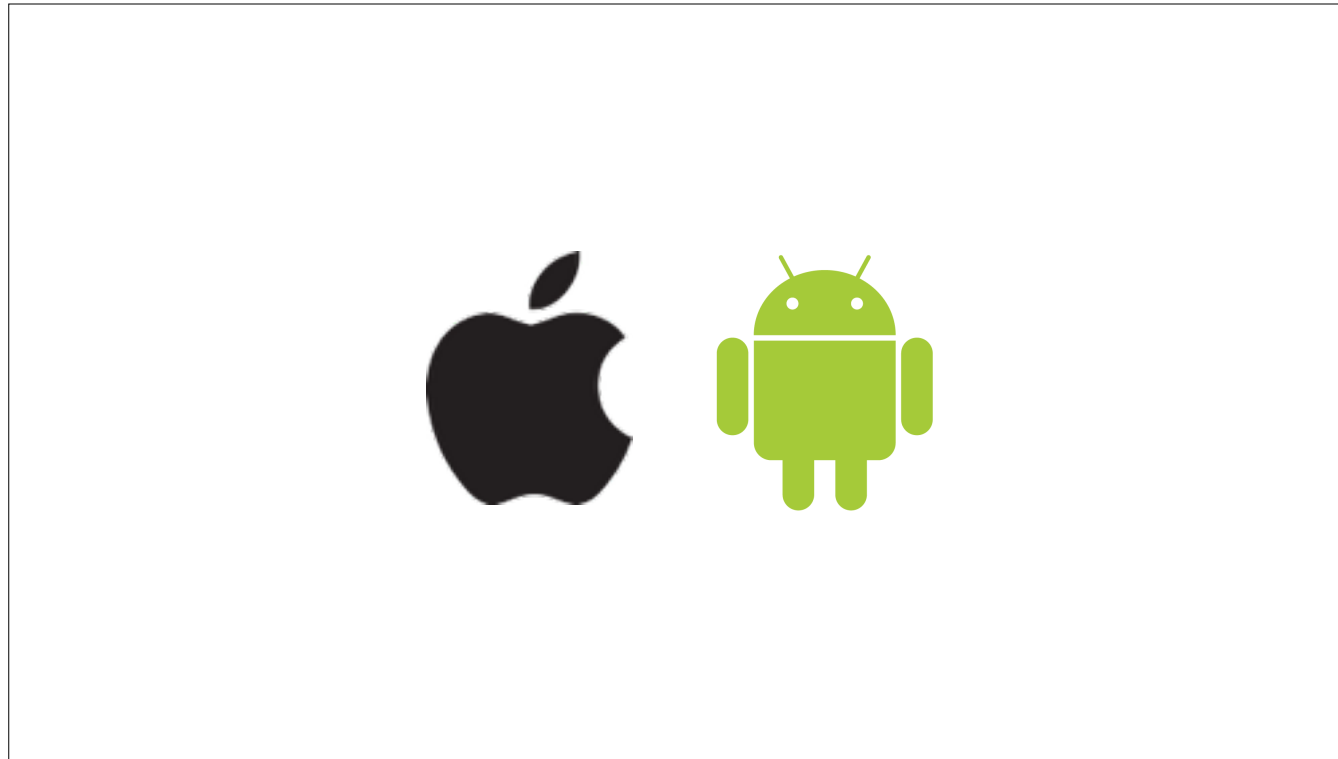
Hardware

all these clever tricks...





... and you'll still be limited



there are so many platforms, each with their own limitation..



[Clever Solutions, for Multi Platform]

over the past few years, we've had many solutions. We've tried many of them at Wooga, but I want to talk about three now



xplatform from the get-go

javascript is a fun language

hardware acceleration, which you use to cheat for better performance



Phone**Gap**

```
will-change: opacity, transform;
```

asm.js



unity supports both c# and JS and is a great ecosystem for making games

obj-c

but the big boys use obj-c



but what about multi-platform?



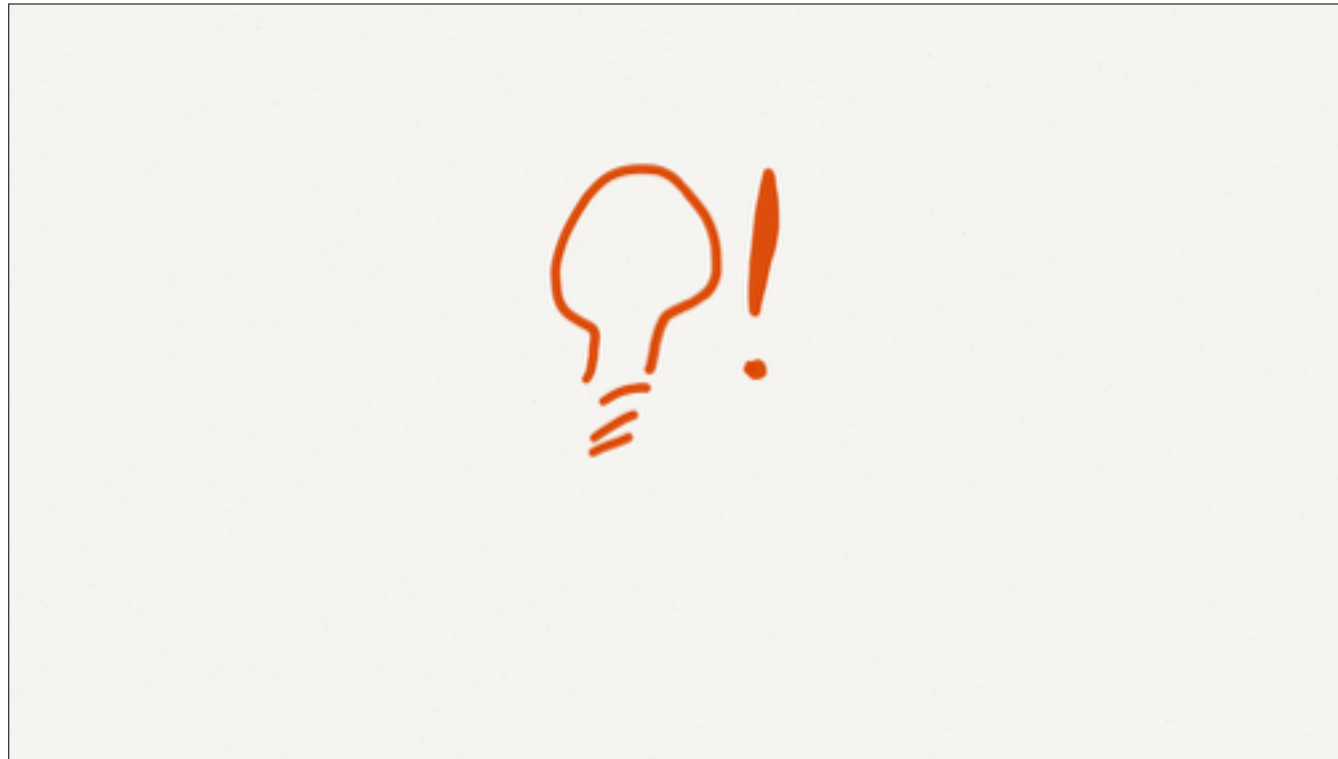
```
#ifdef ANDROID
```



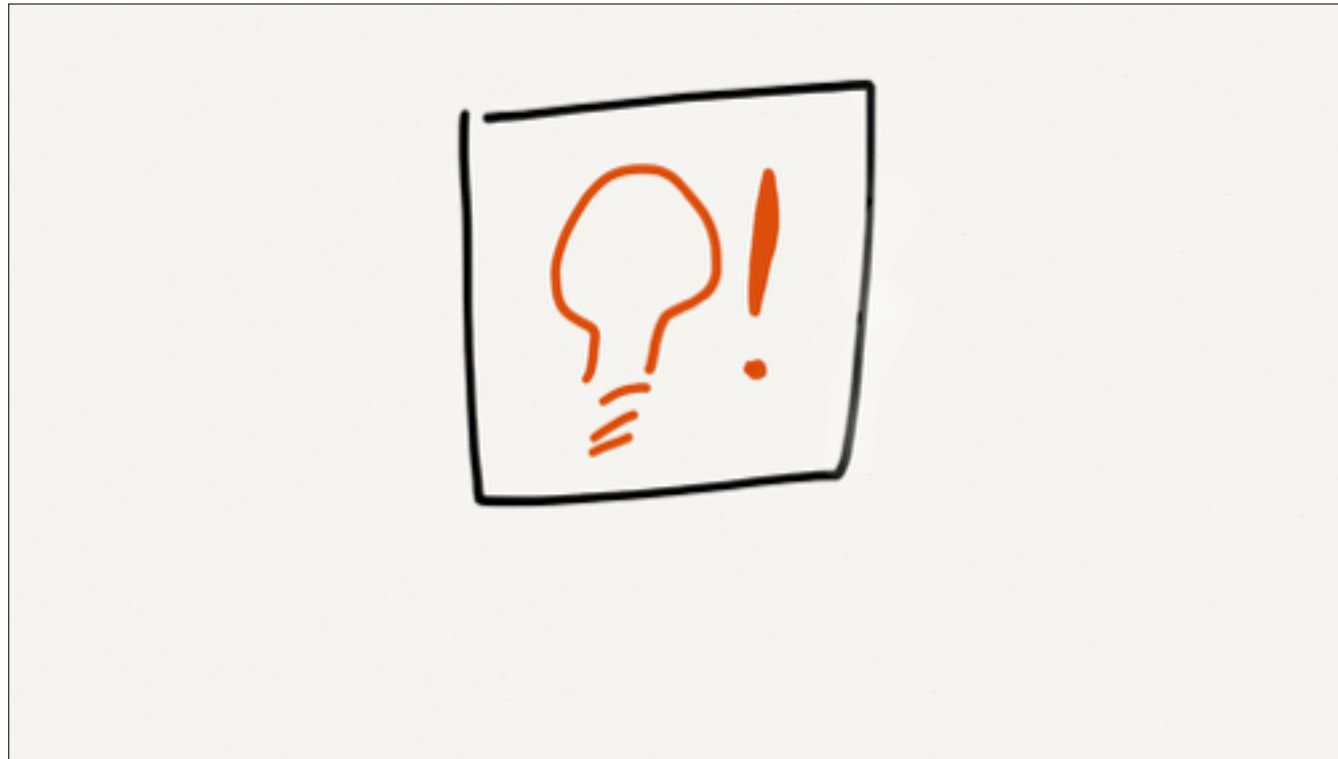
[Prototyping]

The simpler the language, or the more it abstracts, the quicker you are at prototyping in it. HTML5: very easy to lay down the basic mechanics for a game.

OBJ-C feels just very grown up, and Unity is quite in the middle.



all this because of limitations



all this because of limitations

MAGIC!

all this because of limitations

The word "MAGIC!" is written in a dark blue, hand-drawn, slightly irregular font. Below the letter 'I' in "MAGIC!" is a small, hand-drawn orange star with five points. The entire drawing is on a light beige, textured background that resembles a piece of paper.

you want your users and players to feel some magical moments. For that you'll need to perform some magic of your own

OOM

the 2mb story


```
static char buffer[1024*1024*2];
```



<http://www.mine-control.com/zack/winzaq/winzaq.html>

<http://www.mine-control.com/zack/winzaq/winzaq.html>

"Heck, we couldn't even find the collision detection..."

random

random()

```
random () {
```

```
}
```

```
random() {
```

```
    return rand();
```

```
    //easy, lol
```

```
}
```

```
random() {
```

```
  return 0.1 + rand();
```

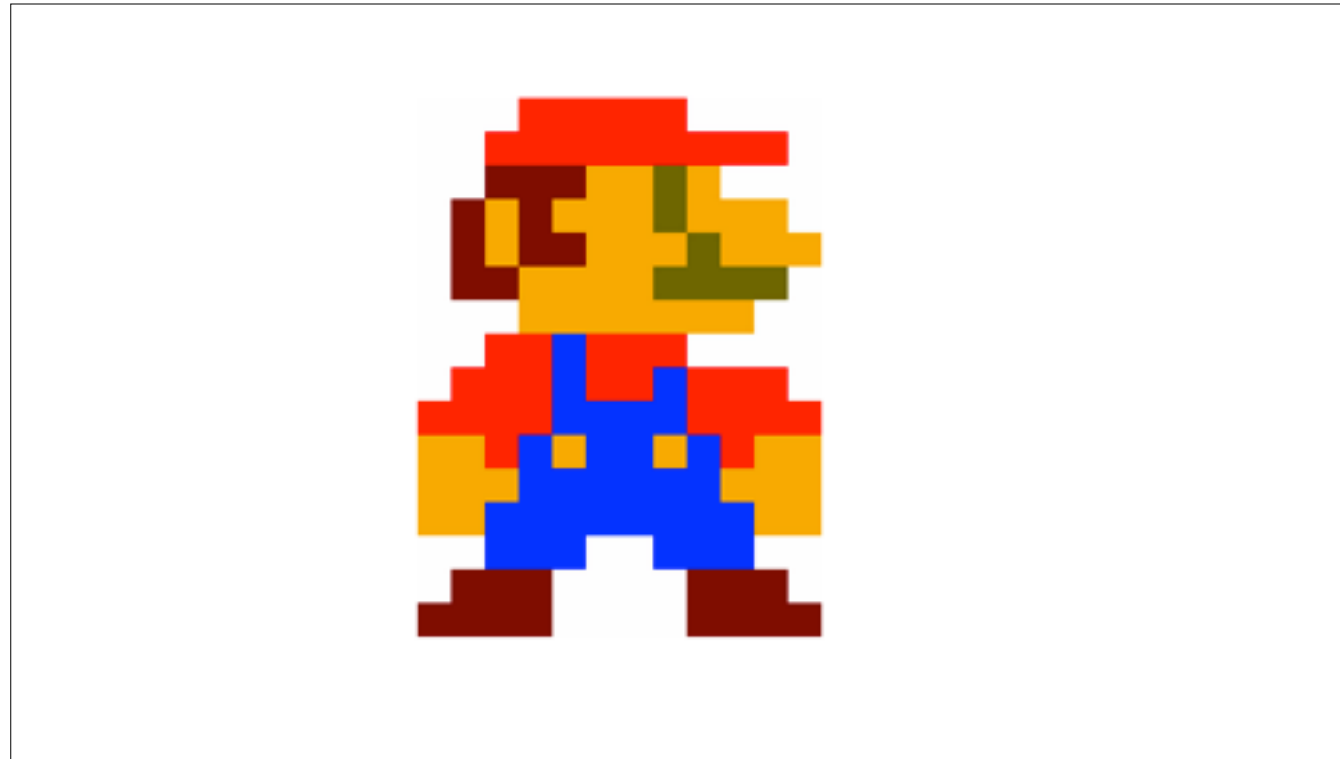
```
  //there, casual!
```

```
}
```

```
random() {
```

```
  return 0.1 + rand()  
         + time;
```

```
  //grind much?  
}
```

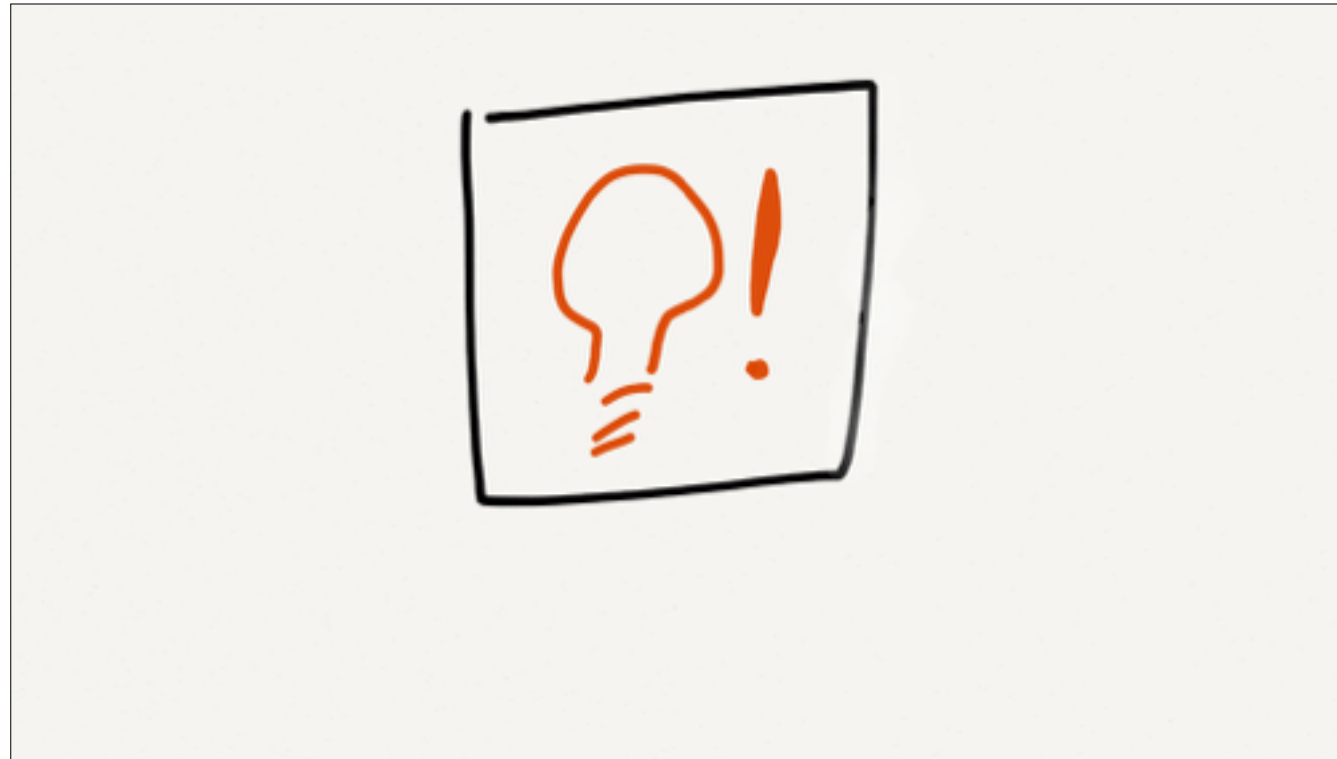



overalls

hat

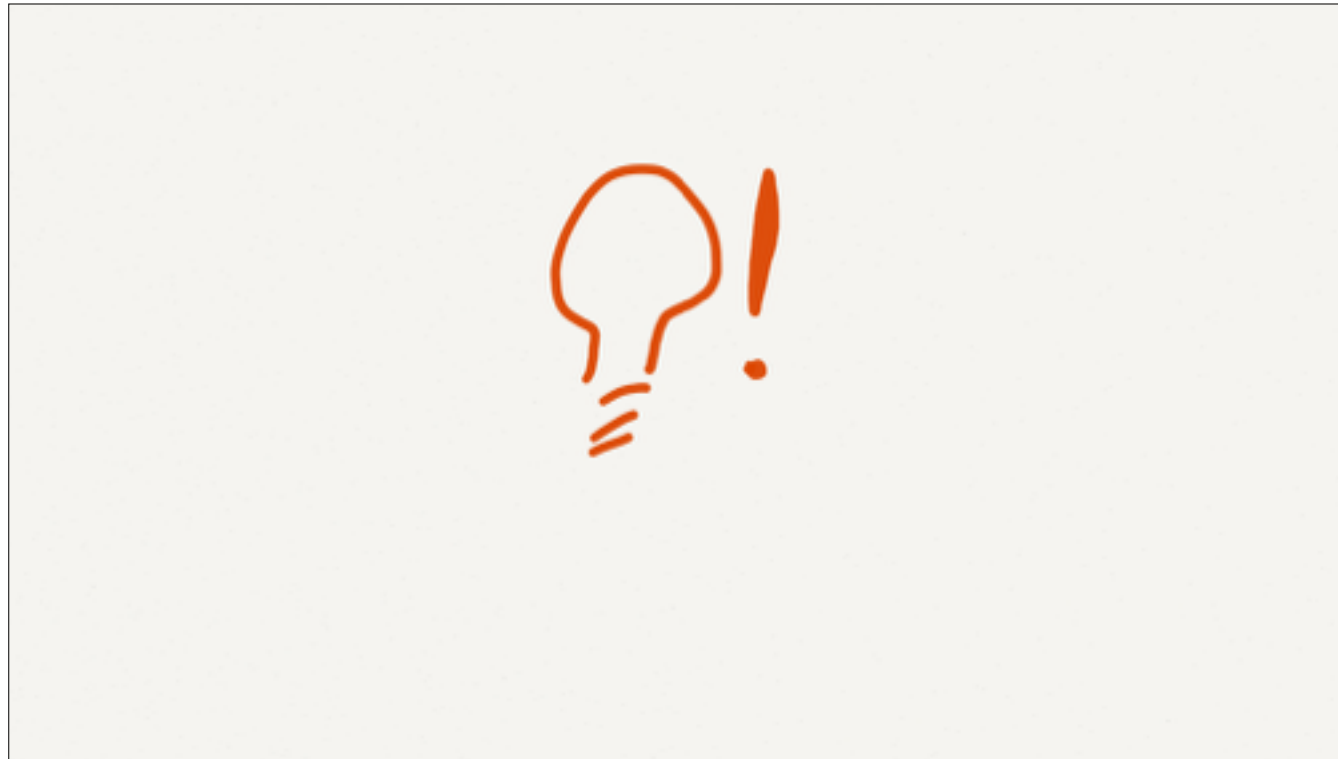
moustache

designed by what can be done



Yes, I say magic a lot

That's how game devs and app devs are the same



Yes, I say magic a lot

That's how game devs and app devs are the same

Smiles and Magic

our legacy, as people who make things

Any sufficiently advanced technology is
indistinguishable from magic.

– Arthur C. Clarke

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this talk via the
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