



Optimizing for Multiplatform Development as a Small Studio

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GAME DEVELOPERS CONFERENCE® NEXT
FEATURING APP DEVELOPERS CONFERENCE™
LOS ANGELES CONVENTION CENTER · LOS ANGELES, CA
NOVEMBER 3-4, 2014



Reducing Risk and Increasing Awesome

with Multiplatform Development



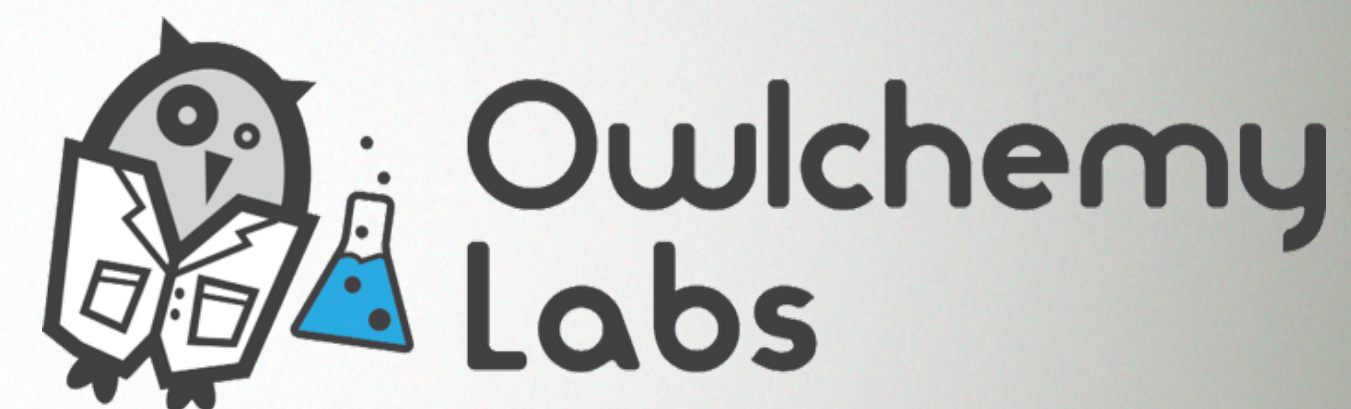
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Introduction



Alex Schwartz



Introduction



Alex Schwartz

- **Chief Scientist**
- **Founder**
- **CEO**



**Owlchemy
Labs**

Introduction



Alex Schwartz

- **Chief Scientist**

- **Founder**

- **CEO**

- **Janitor**



**Owlchemy
Labs**

The Labs

(Actual Photograph)

Original, silly games
Independent, bootstrapped

Snuggle Truck

2010



 **Keep those animals
in the truck!**





V 418





JUMP

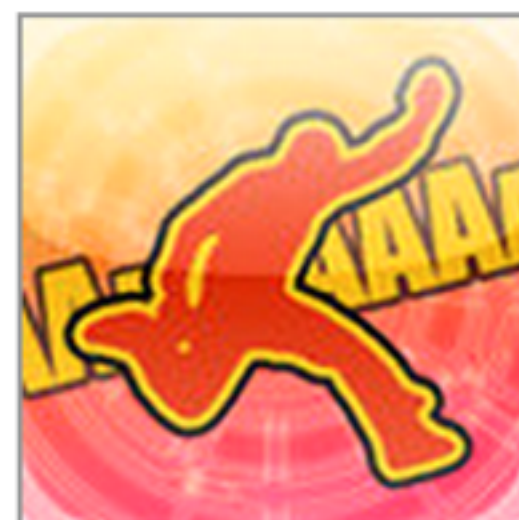
SETUP

AAAAA!
...FOR THE AWESOME!

FLEE

HUGS: 9

KISSES: 1



90
out of 100

Metascore

Universal acclaim
based on **12 Critics**

[What's this?](#)

SPEED


PROXY





DYSCOURAGE





Yeah, well I threw a stapler
across the office at my boss.

Steve

DISCOURSE





Let's **Naïvely!** ask:

Why should YOU do Multi-Platform dev ?



Let's **Naïvely!** ask:

Why should YOU do



?

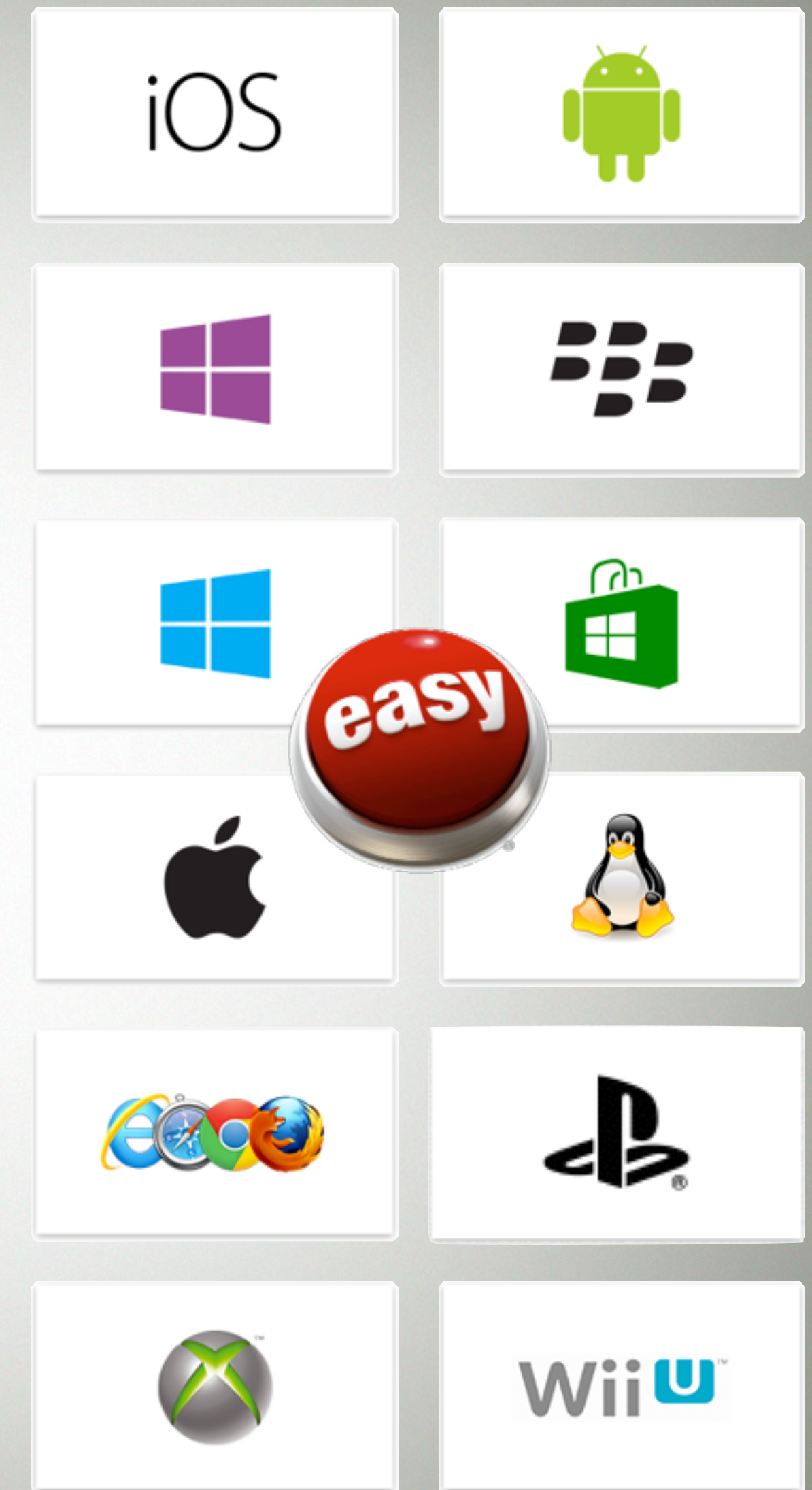
Multi-Platform dev

...If you used Unity



Unity did all* the work!

You'd be throwing money away not to!



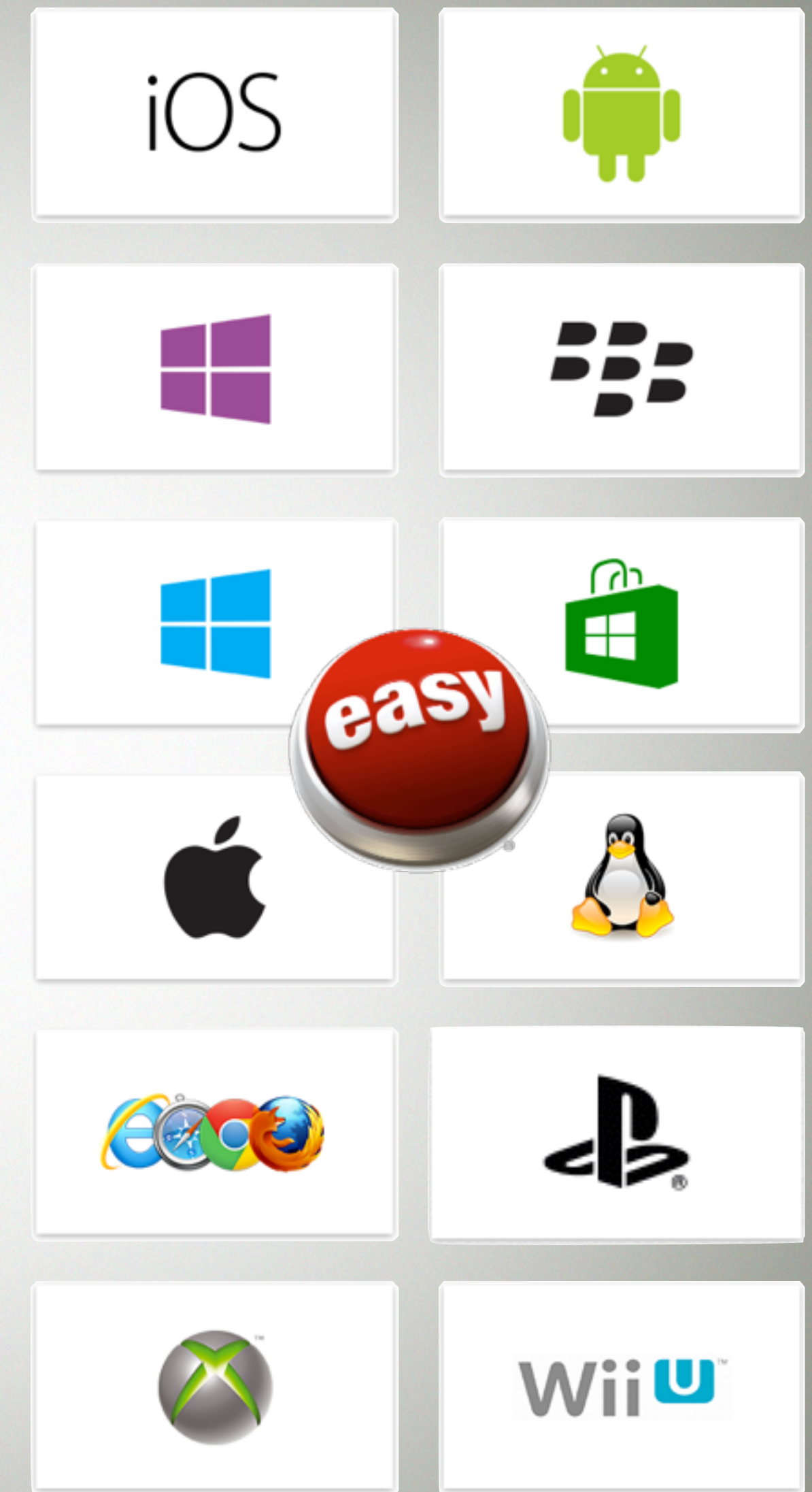
...If you used Unity



Unity did all* the work!

You'd be throwing money away not to!

* okay maybe not all





Huge part of porting:

Deciding where, how, why, and when!



Part 1

Biz

Part 2

Tech



Part 1

Biz

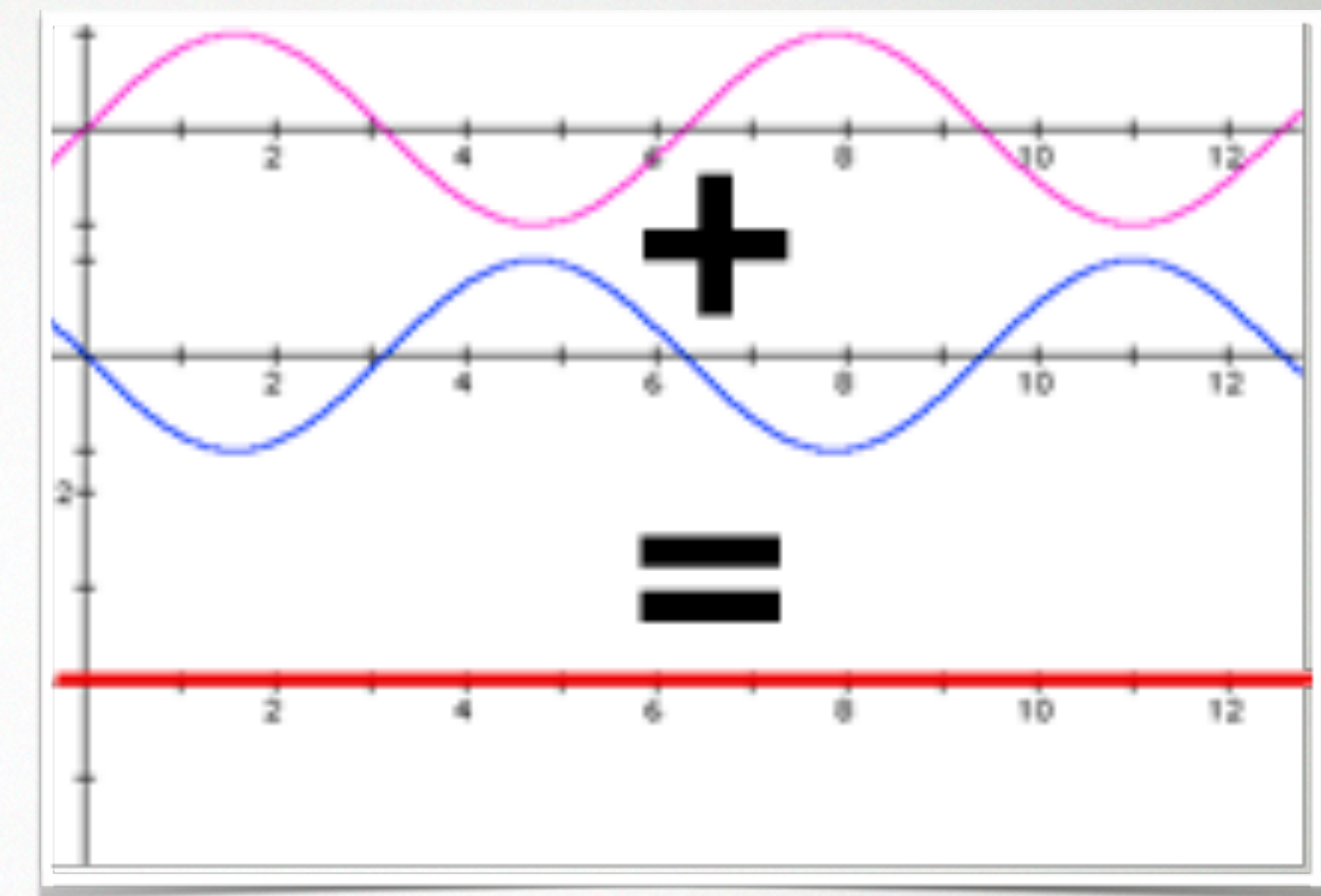
Increasing Stability



Stability

Multiple sales outlets smooths cashflow

One platform's dry spell combines with
bumps in others

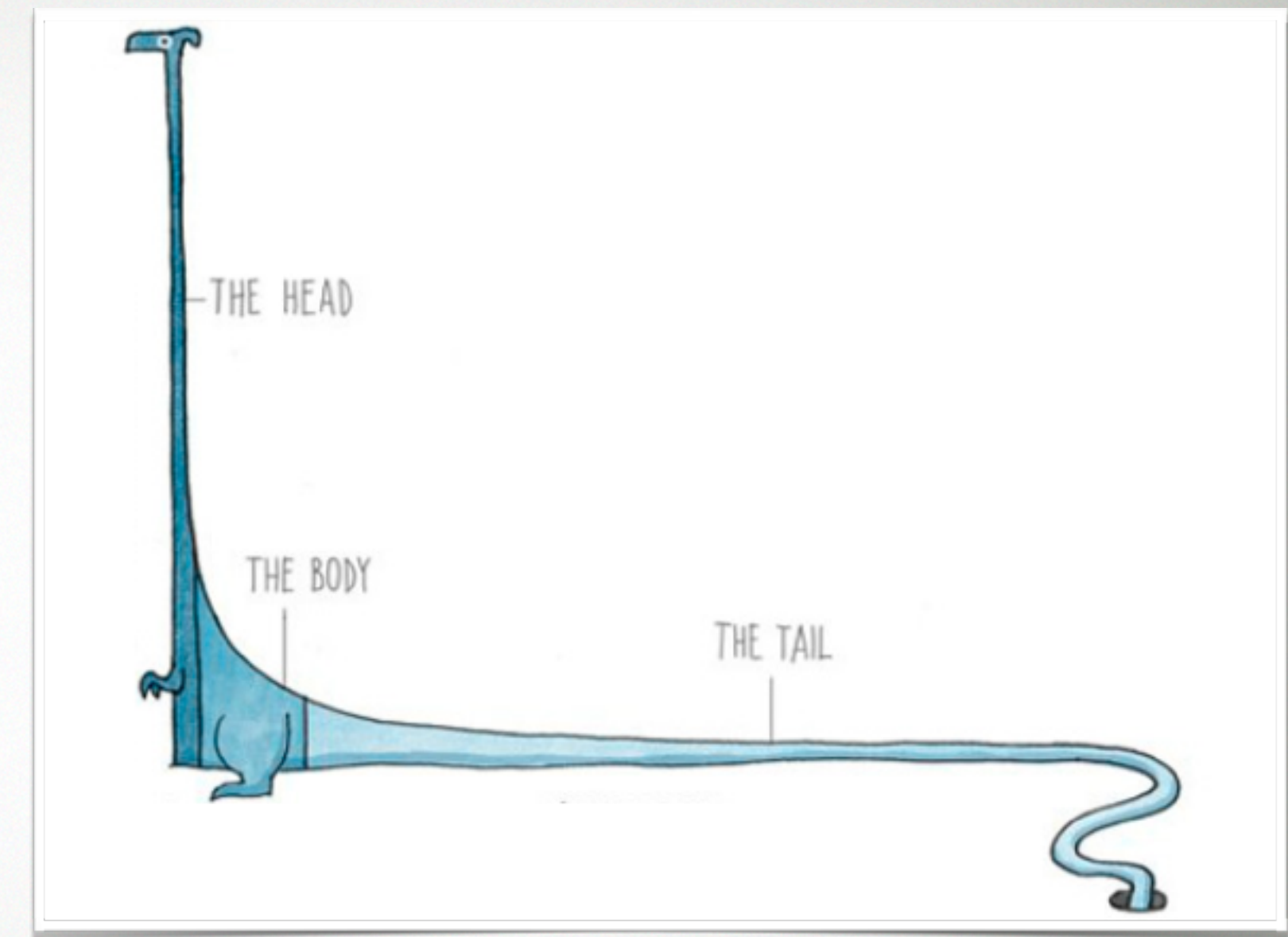


Increasing Stability



Long Tail

Long-tail sales effect is additive



Increasing Stability



Protection

Protects you against platform failure



Increasing Value

Viable Back Catalog

Older titles still have great potential

Portability = value = opportunity



the Humble
Bundle



Increasing Visibility



Press Value

Generate a natural bump in other platforms

Platform release = press event



Increasing Notoriety

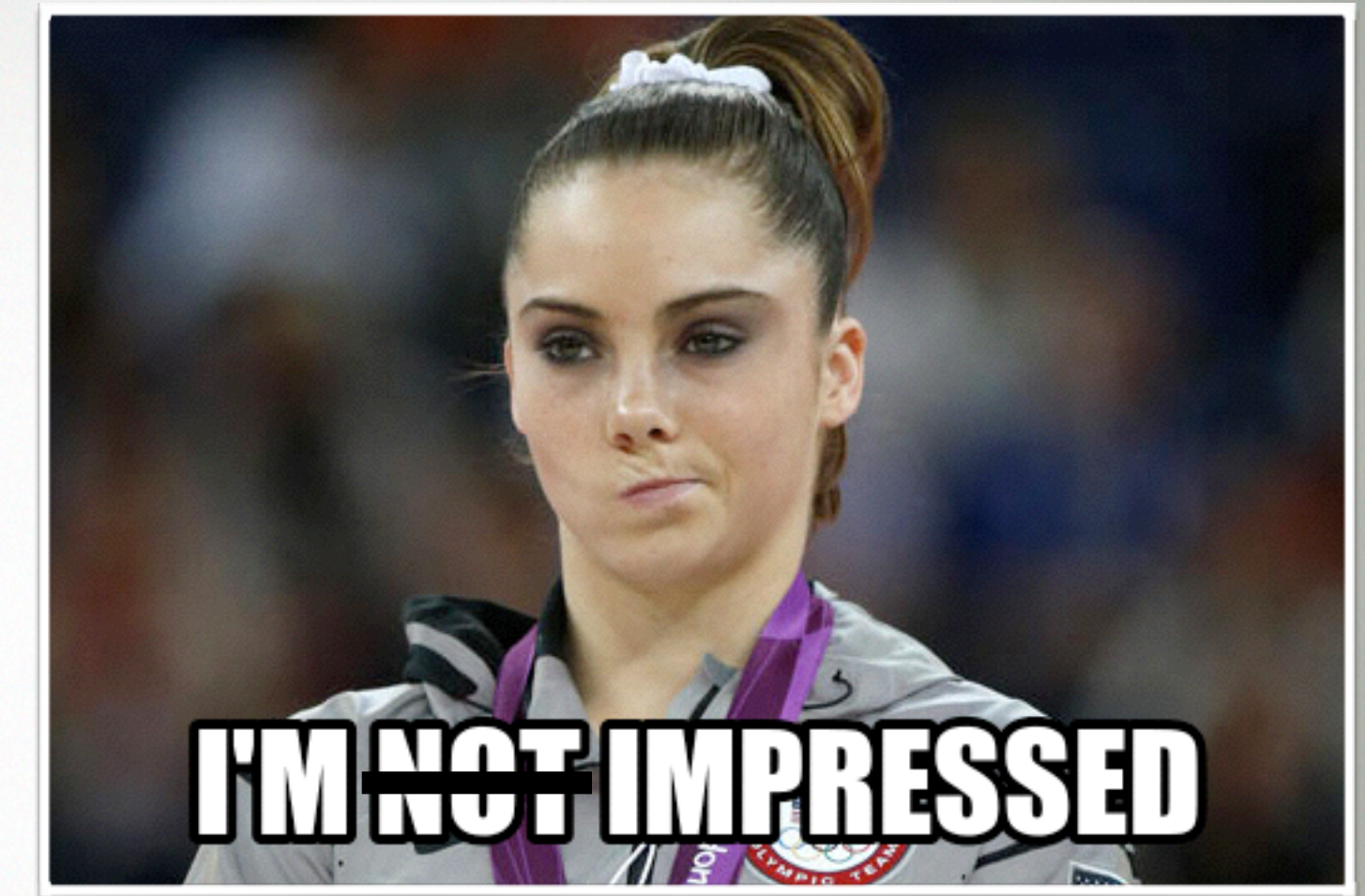


Perception of your Company

Many cross-platform titles

Subtle notoriety boon

Being 'everywhere' can increase reputation





Note:

Many of these pros are “soft gains”

The Long Game



Deferred benefits

Thinking 5+ years in the future



The Long Game



Deferred benefits

Thinking 5+ years in the future

Building goodwill

Goodwill is useful when dealing with publishers, crowdfunding, partnerships



The Long Game



Deferred benefits

Thinking 5+ years in the future

Building goodwill

Goodwill is useful when dealing with publishers, crowdfunding, partnerships

Business 'Domino Effect'

1+ years later, value serendipitously appears

Often in the form of opportunity





Lastly, it worked for us !





We have multiple games
on multiple platforms

Platforms that generate value



Platforms that generate value



Win
Mac
Linux



Win
Mac
Linux



Android Phones
Android Tablets



iPhone
iPad

Platforms that generate value



STEAM

Win
Mac
Linux



Win
Mac
Linux



Android Phones
Android Tablets



iPhone
iPad



BB Playbook
Meego / Nokia N9



WP8 Store



BB10



Oculus Share

Platforms that generate value



STEAM

Win
Mac
Linux



Win
Mac
Linux



Android Phones
Android Tablets



iPhone
iPad



BB Playbook
Meego / Nokia N9



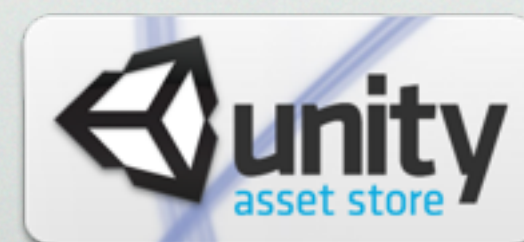
WP8 Store



BB10



Oculus Share



Asset Store



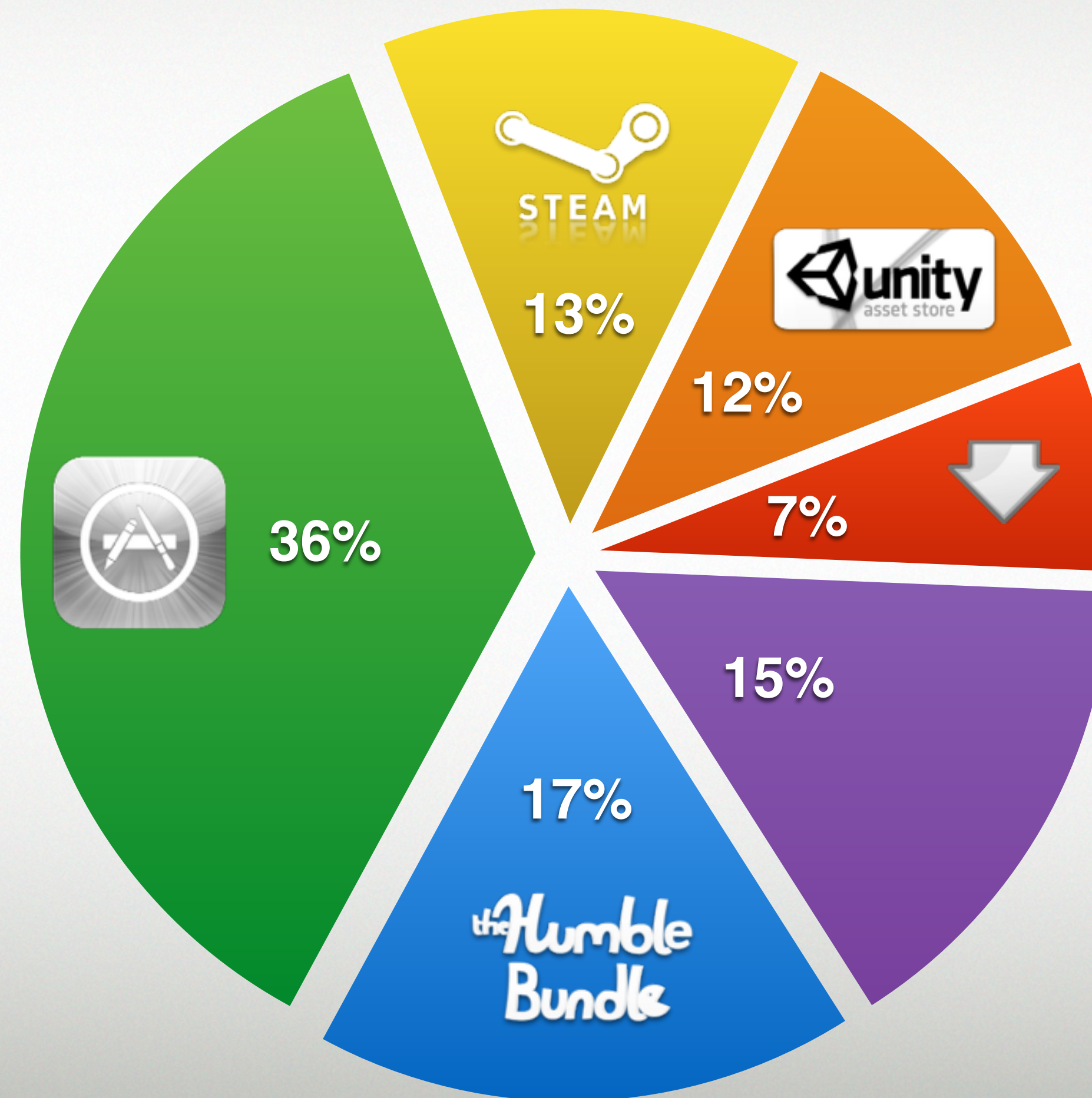
Web



LEAP Motion

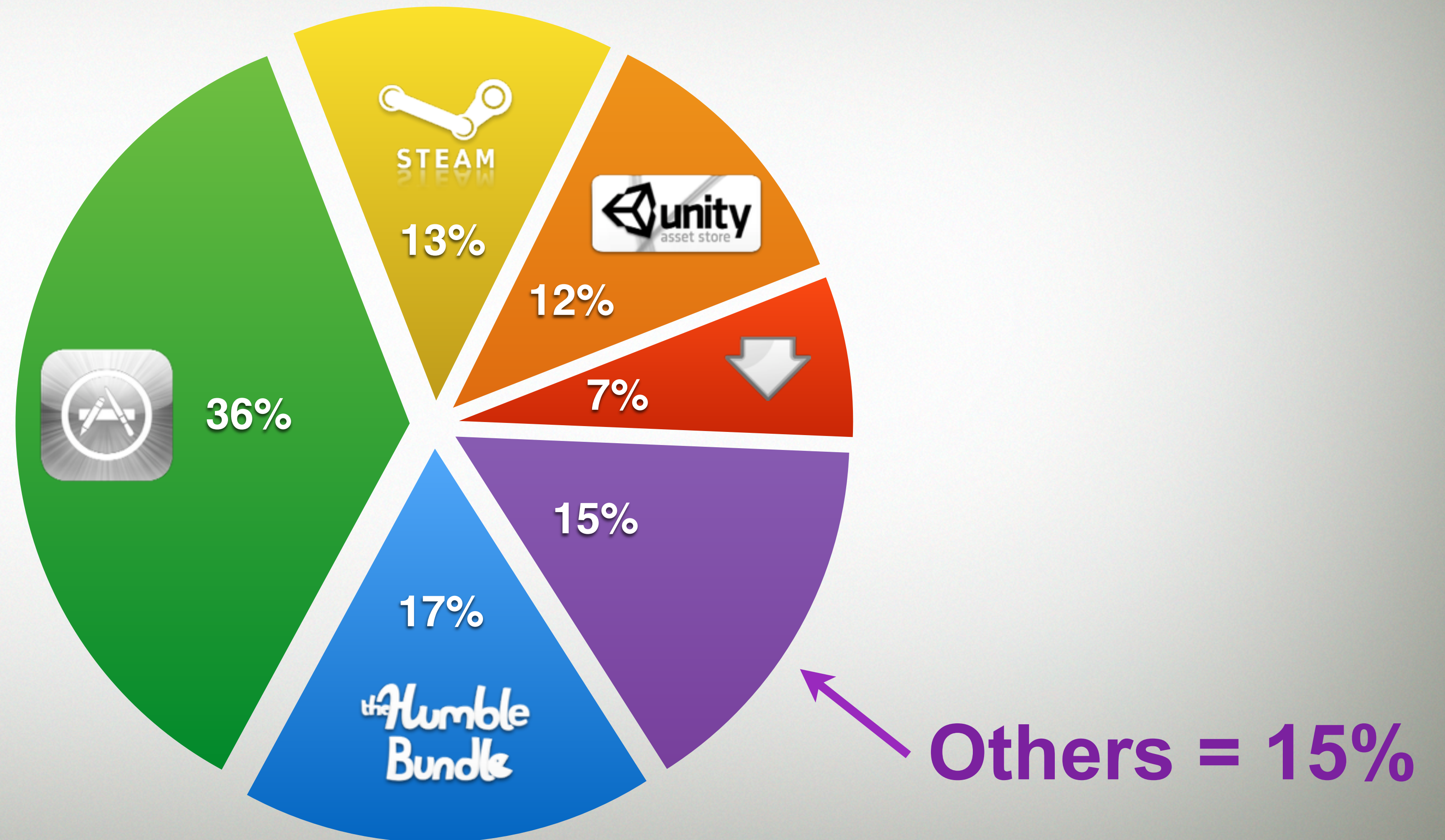
Revenue Breakdown

● Humble ● iOS ● Steam ● Asset Store ● Kickstarter / Direct ● Others



Revenue Breakdown

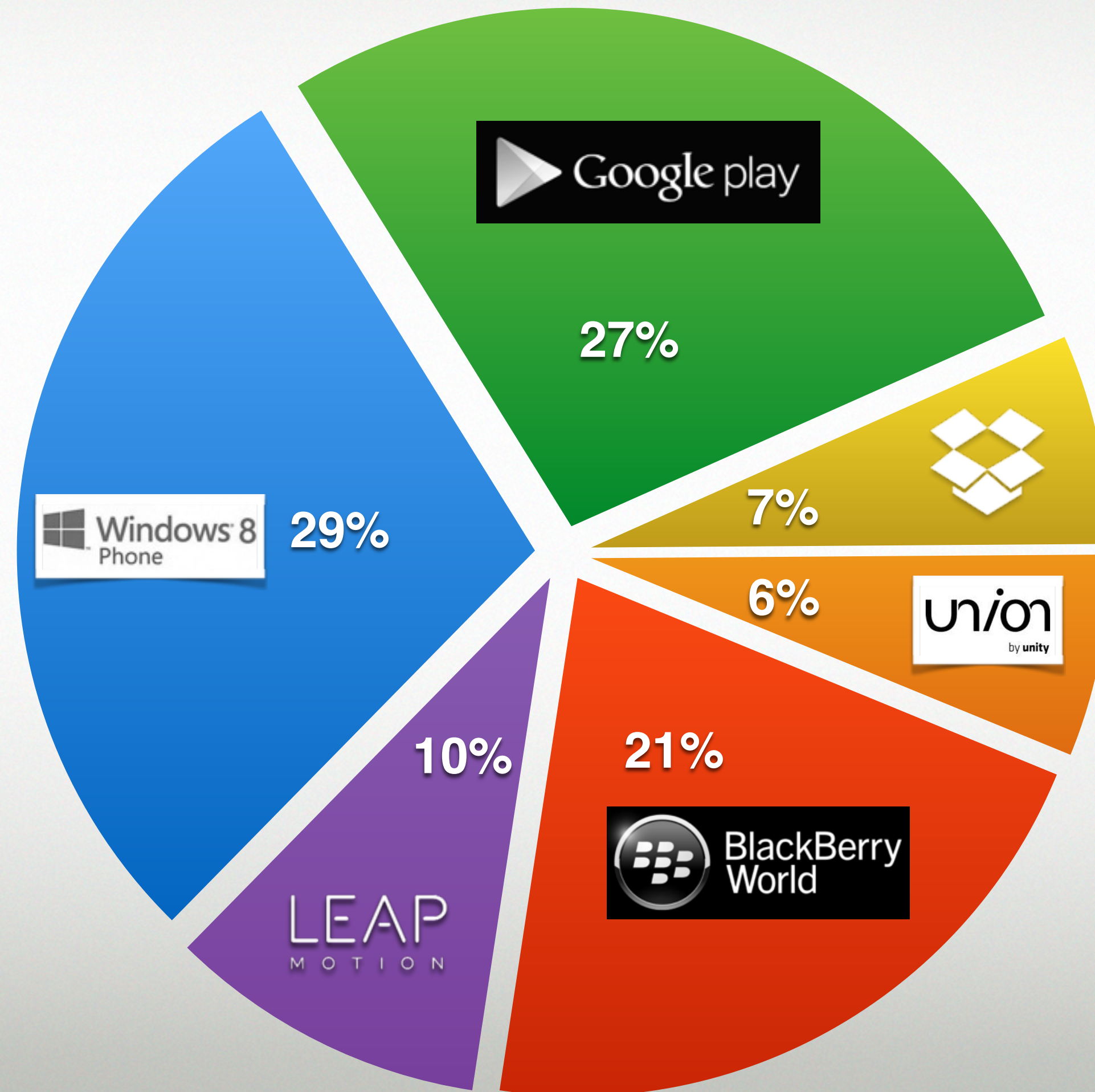
● Humble ● iOS ● Steam ● Asset Store ● Kickstarter / Direct ● Others





Revenue Breakdown

● WP8 ● Android ● Other Bundles ● Union ● BB10 ● LEAP / HP

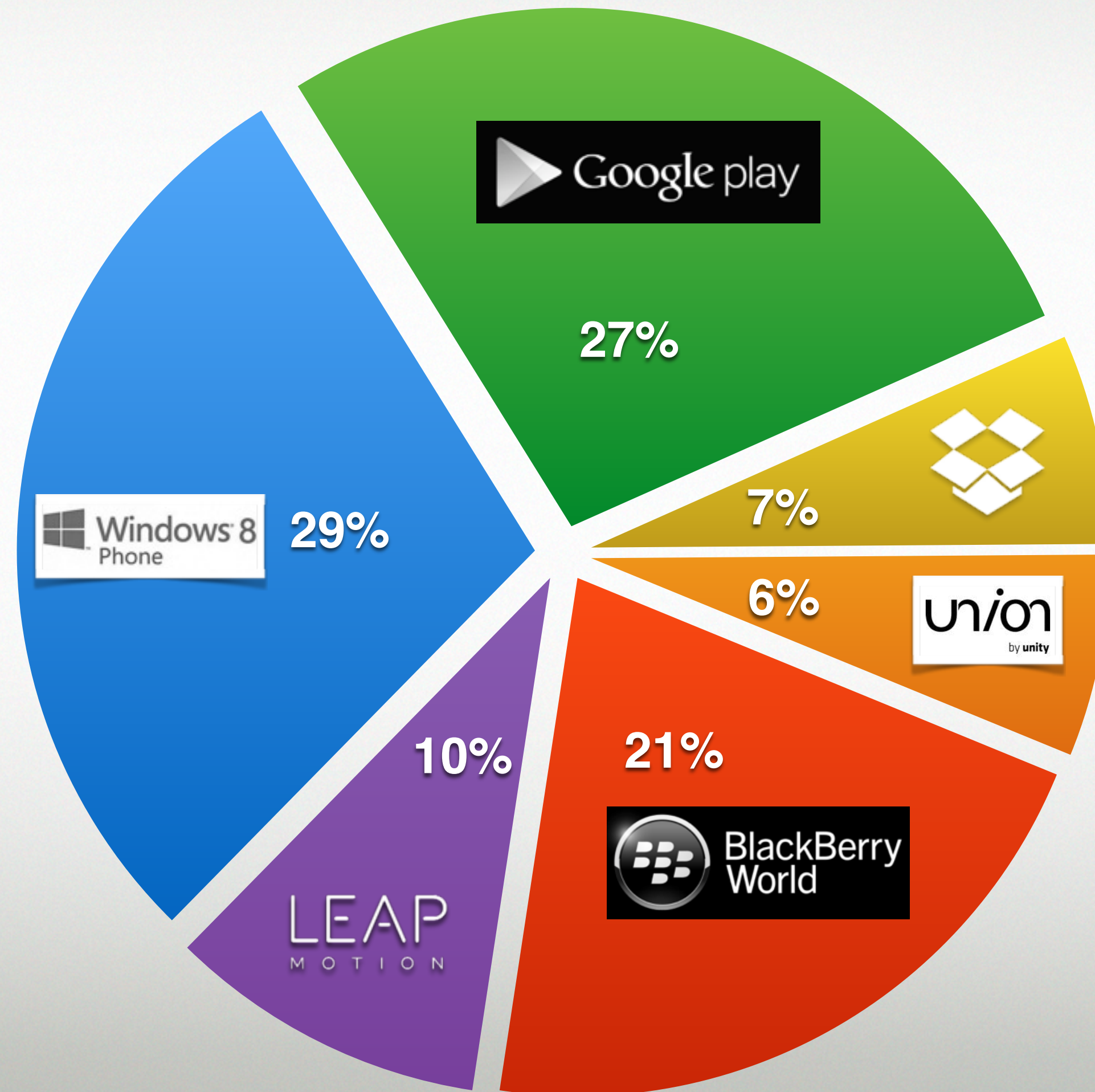




Revenue Breakdown

Others

● WP8 ● Android ● Other Bundles ● Union ● BB10 ● LEAP / HP



You've seen all the pros of



So, you're saying...



It's roses !



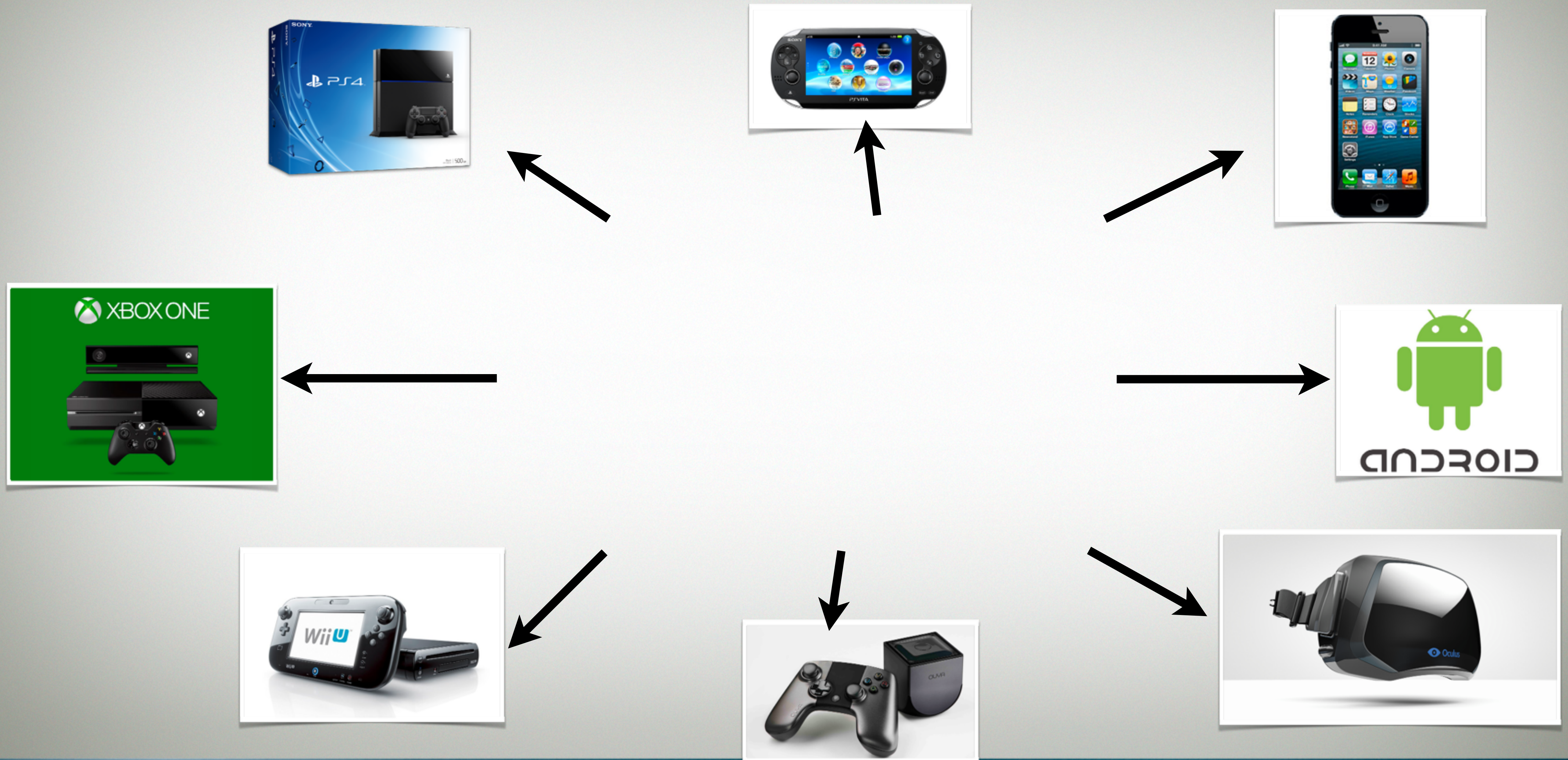
Actually...

Lets talk about how people approach



TOTALLY WRONG!

Overpromising Platforms!



Overpromising Platforms!



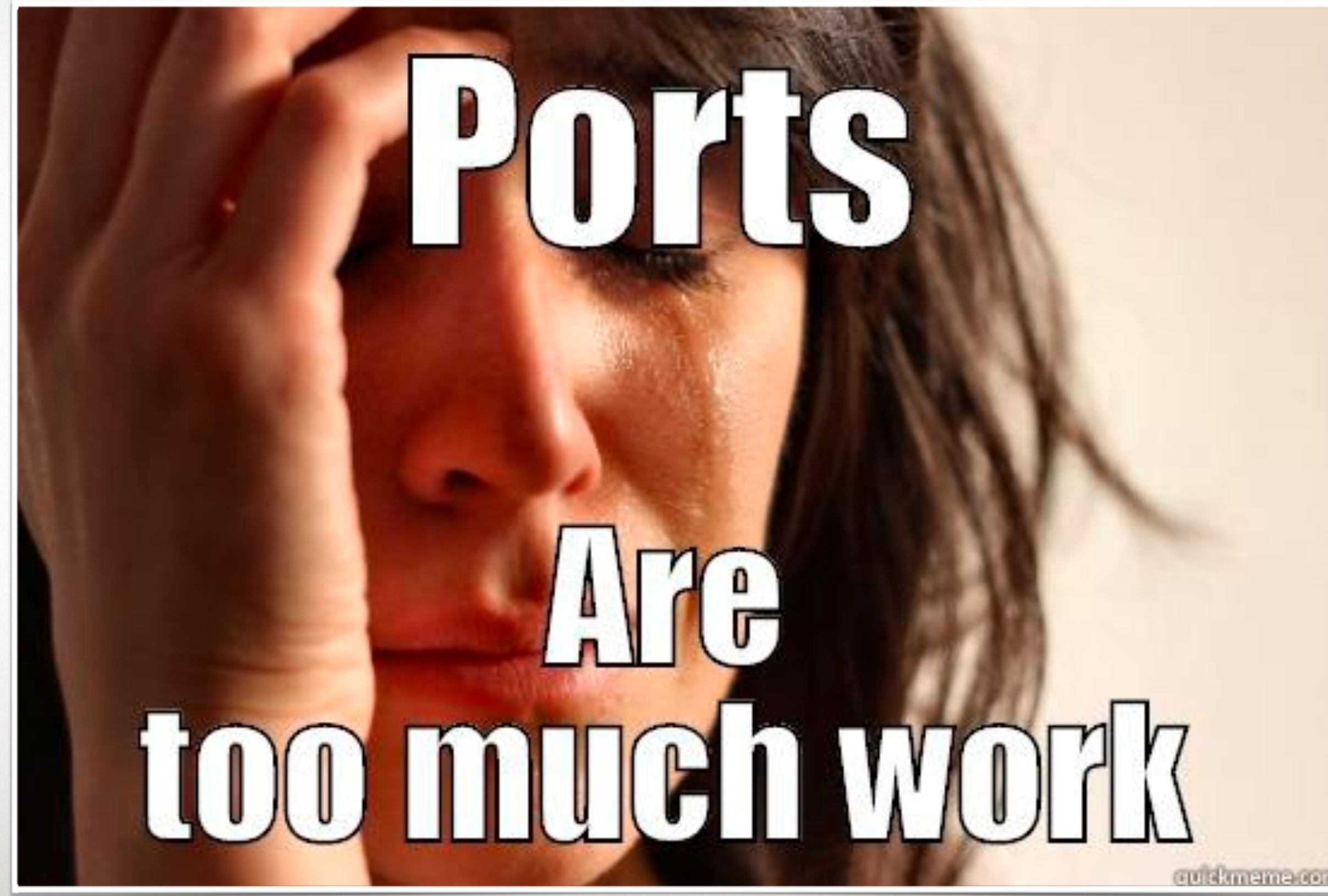
Targeting the WRONG Platforms!



Avoiding



Completely !



Assuming is Effortless !



Not Focusing on the Future!



Only playing the “short game”

Not Planning For Tech Changes!

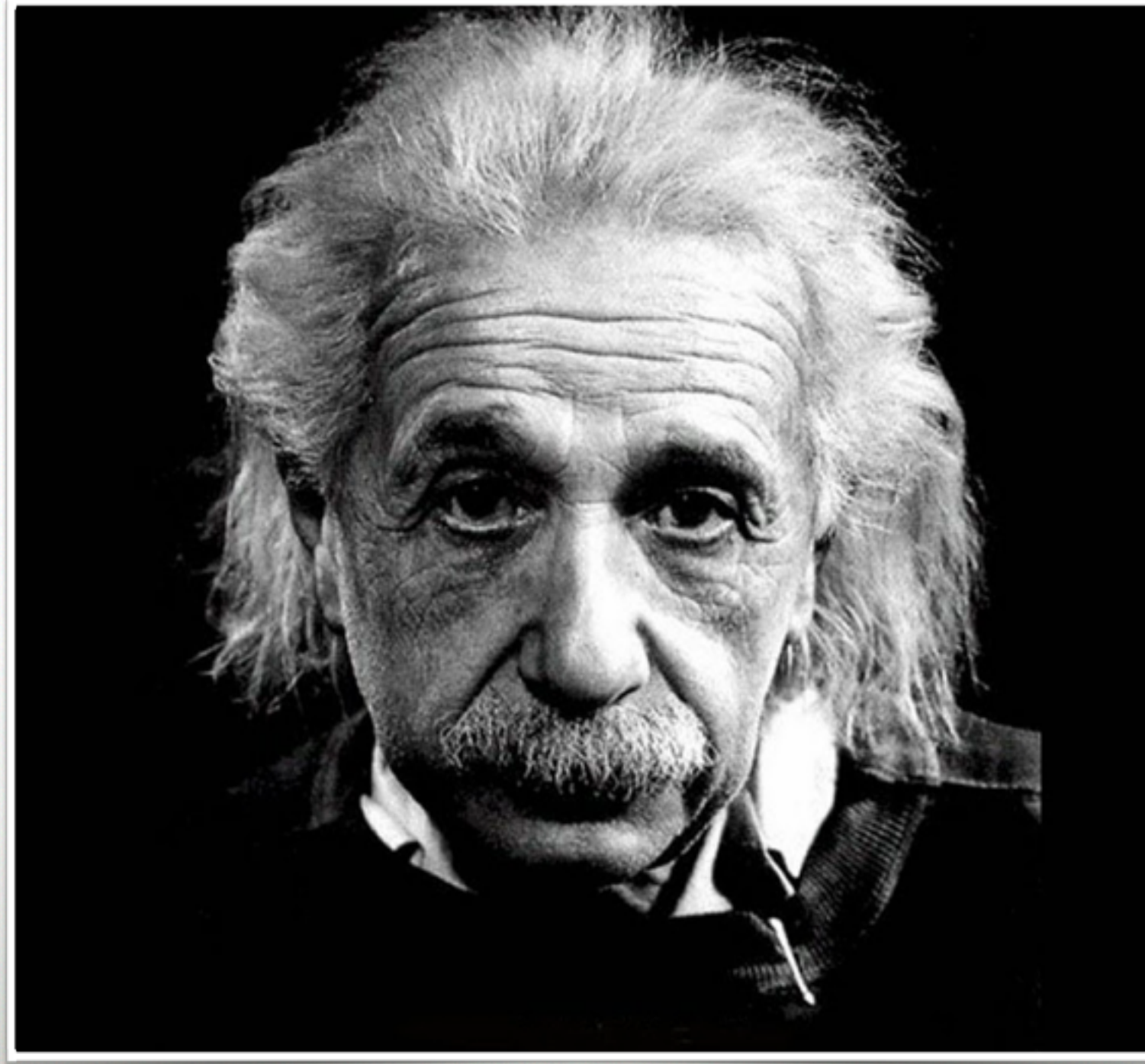


StrangeDangers.com



Okay, if you're so smart...

How do you approach  correctly?





Have you done your Homework on Platforms?





Diving into a platform with ZERO evaluation

Blind platform devotion

“I grew up with Nintendo, I have a Nintendo, lets develop for the WiiU! :D:D”



The Optimistic Indie



Diving into a platform with ZERO evaluation

Blind platform devotion

“I grew up with Nintendo, I have a Nintendo, lets develop for the WiiU! :D:D”

Foolish optimism

“I heard that indies make millions of dollars on iOS! Like those *Candy Crash* guys! :D:D”

Flappy Wings!

Bird Crush!

Angry Temple!



The Optimistic Indie

Why its important to evaluate platforms?



You don't want to be burned!

Time is a premium at a small studio

Ports can be costly

Your game might be crappy on that platform





Current platform value

...

Future value

Predict healthy platforms at time of **LAUNCH**, not now!

Difficulty of Predicting the Future



Stats are inherently out of date!

Backwards looking

Industry moves very quickly

Don't build for the past



Do your research !



Collect as many stats as possible
Extrapolate using prior stats



Non-publicly available data



Platform talk over beers

Devs have gone through the pipe

Warning signs

Platform pros and cons



Do your research !



Stay up to date on industry

Reddit

News sites

Twitter





The signs of a 'Good' platform

'Good' - Discovery



Users can find your game

Quality rises to the top

Low visible volume of releases



'Good' - Discovery



Users can find your game

Quality rises to the top

Low visible volume of releases

Platform features by merit, not \$\$



'Good' - Discovery



Users can find your game

Quality rises to the top

Low visible volume of releases

Platform features by merit, not \$\$

Balanced profit distribution

Top 1% doesn't take the lion's share

User Acquisition isn't the primary driver



'Good' - Potential

Future potential of platform is high

Growth / Momentum

Innovation

Developer Interest = more games

Consumer Interest = more eyeballs



'Good' - Potential

Future potential of platform is high

Growth / Momentum

Innovation

Developer Interest = more games

Consumer Interest = more eyeballs

Early platforms can be great for indies

Able to move quickly

Hopefully high consumer interest





Warning!

Platform hiding sales figures?



Warning!

Platform hiding sales figures?

They're ashamed



'Good' - Timing in platform lifecycle



Early platforms

Higher risk

Higher chance of explosive growth



'Good' - Timing in platform lifecycle



Early platforms

Higher risk

Higher chance of explosive growth

Mature platforms

Lower risk

Better chance of moderate success



'Good' - Platforms actually care



Signs of a great partner

Aligned interests

Solid developer relations

Ability to talk to a human

Dedicated to developer tools

Focused on platform success





No platform is perfect!

How do you deal with the risk?



Ask for Advances?



Advances

- One great way of dealing with risk
- Shows trust in the platform-owners products
- Shows trust in the developer to earn out
- Bridges the gap between risky and worthwhile



Wheel and deal!



Ask about ways to reduce risk

Can't hurt to ask

Some platforms give advances

Some give support or have other programs available



Your evaluations might be 100% wrong



Unexpected disappoint happens (a lot!)

No guarantee to success

Such is life

Unexpected wins do happen

Certain platforms might look grim

Value to being 'first', or novel, or might get lucky





Have you thought about whether your game makes sense on **this** platform?



Controls

**Will your controls
translate to said platform?**



Form Factor / Experience



Does your experience fit
the expected:

Session length

Form factor

Style of play

Screen size



Interface

Interface can be the death of a port

Another brilliant console port!



Demographic

Is your game a fit for this new audience?



Horsepower

Does the platform have
the horsepower to
support your game?





Part 1

Biz

Part 2

Tech



Part 2

Tech



Have you been creating with  in mind?



Abstraction

Abstract away things that might change
per platform

(even when you have **ONE!**)

Write managers!

Ex: LeaderboardManager

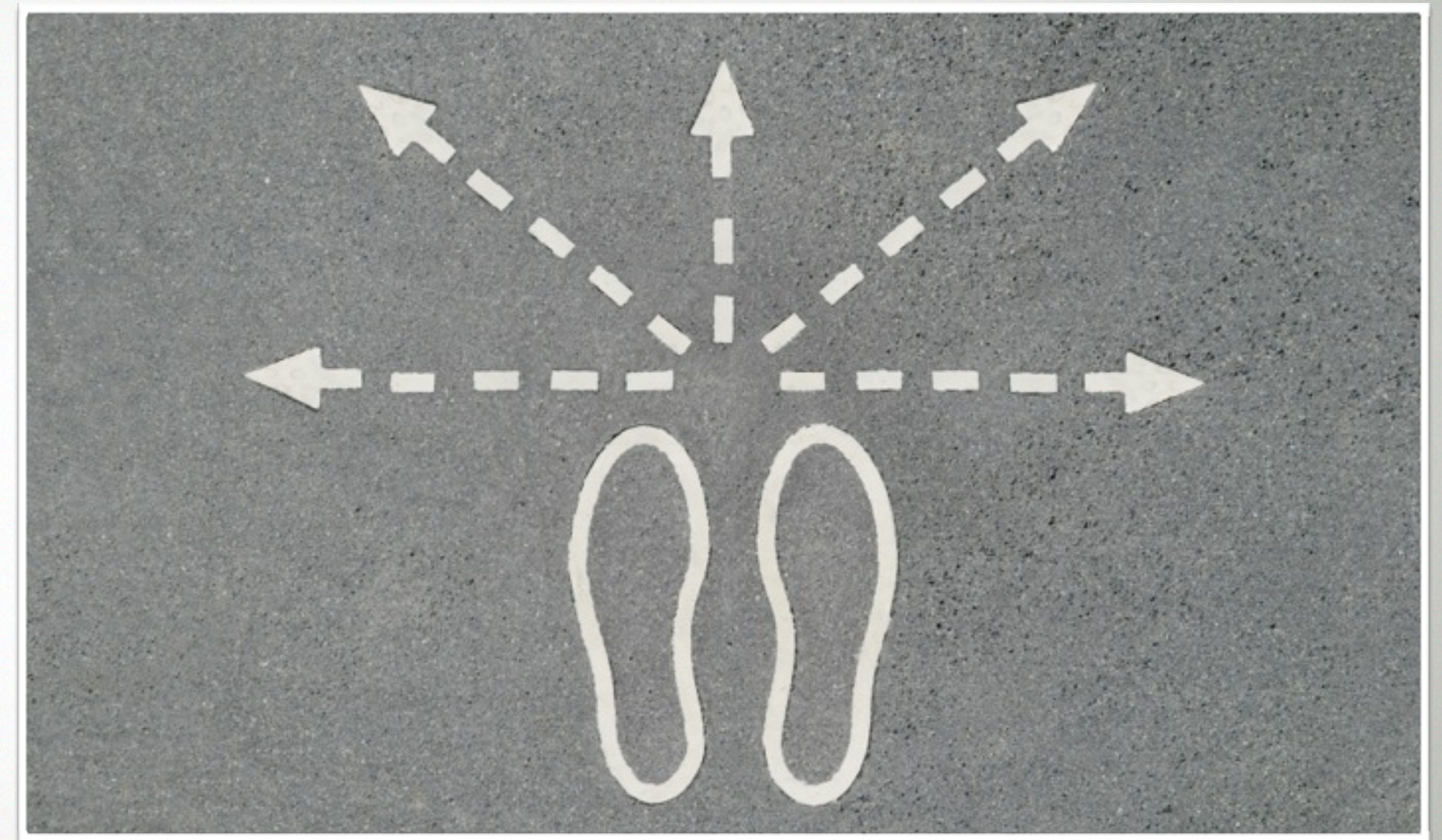
SteamWorks

Google Play Game Services

Game Center

etc...

Ex: InputManager



Beware of platform dependencies



Platform-dependent plugins

Native calls

Leaderboards

iAP

Ads

Analytics



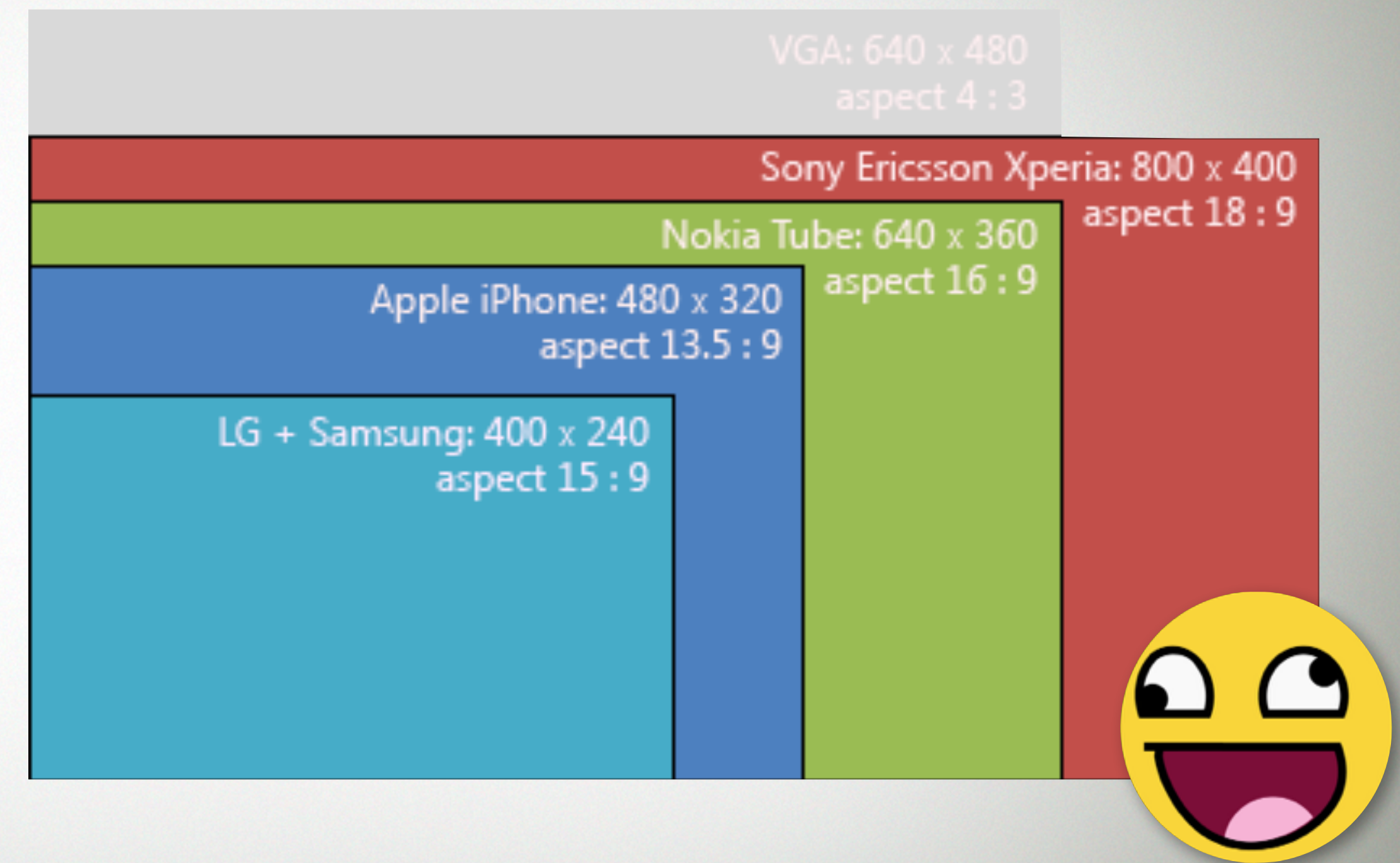
BEWARE

Never box yourself in !



Support for multiple aspect ratios

Never design solely for one size



Prep your art content for



High resolution / vector art

Title art

4k screens in the future

Posters

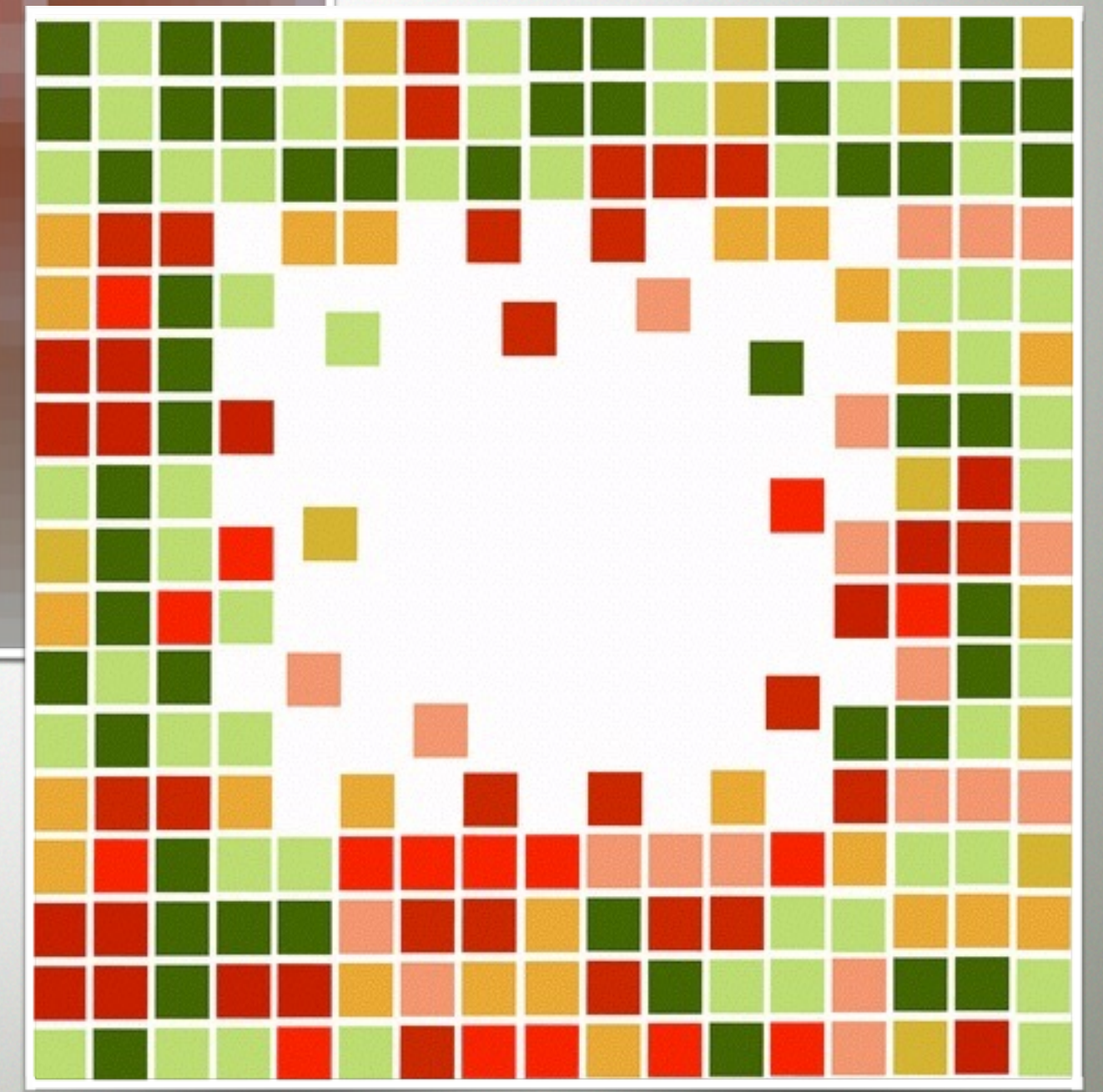
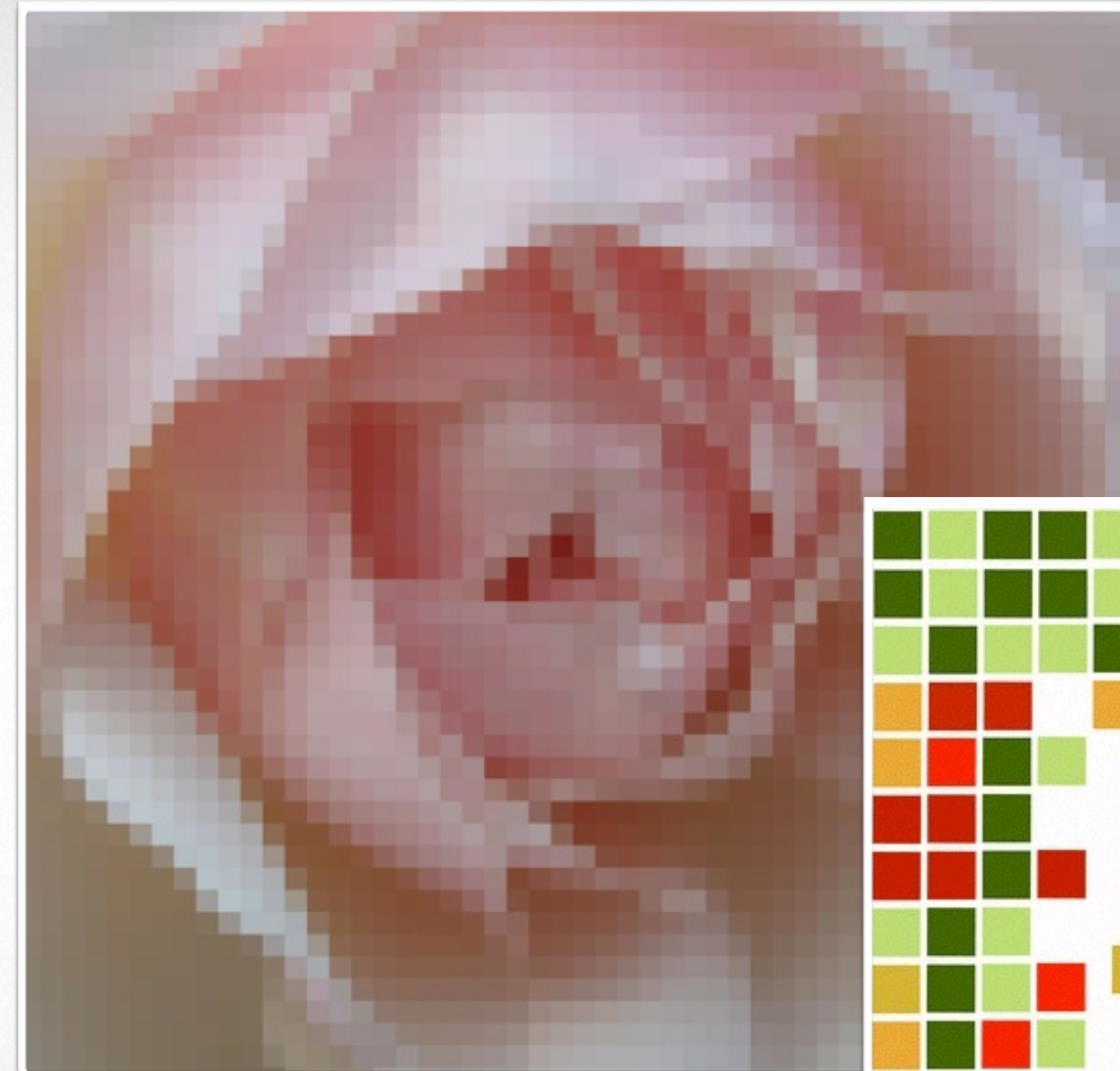
banners

print

promo art

iPad Retina

Should have seen that coming



Decouple your text!



Text in images

No! Not just a problem for localization
Workflow nightmare

Hard-coded text

String literals in your code? UGH
'Click' vs 'Tap' - find and replace

How to Play

Gameplay:

- Click on groups of 2 or more QBeez to remove them
- Clear the board by clicking one group at a time
- Solo QBeez cannot be cleared, so please don't click them!

Scoring:

The bigger the group of QBeez, the higher your score.
Try to get HUGE groups of one color "together".

Special Moves:

   Flip, Rotate or Shuffle the board. You have 3 special moves per level.

Special Items:

 Clear Bombz as a group to remove all QBeez of that color.

 Brushez will vertically duplicate the first item they hit.

TIP: Painting Bombz first can make more Bombz. If a color is hit first the brush will continue upward and change to color of the Bomb.

 Clear Rockz with neighboring Bombz or change them to a color with Brushez.

Timer:

Watch out for that water! When it reaches the top, it's GAME OVER.

DONE

Performance and memory limitations



LODs are cool

Platform-dependent asset spawning is cooler

Low and high particles

Low and high animations

Less memory usage, less draw calls, less CPU

Shader swaps



Performance and memory limitations



LODs are cool

Platform-dependent asset spawning is cooler

Low and high particles

Low and high animations

Less memory usage, less draw calls, less CPU

Shader swaps



Remove superfluous assets



Platform-dependent asset removal

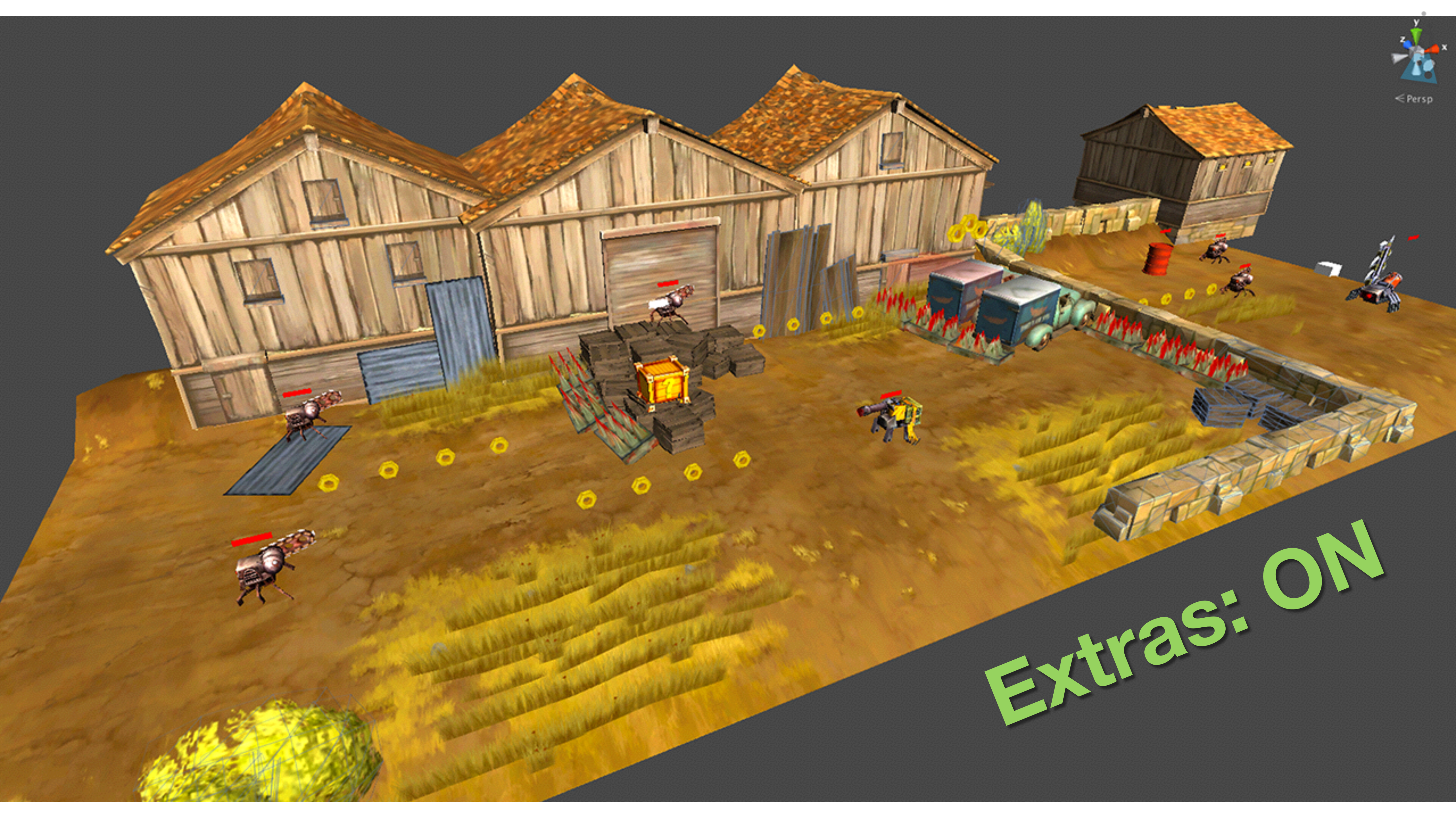
Don't absolutely need it? GONE!

Grass / heavy transparencies

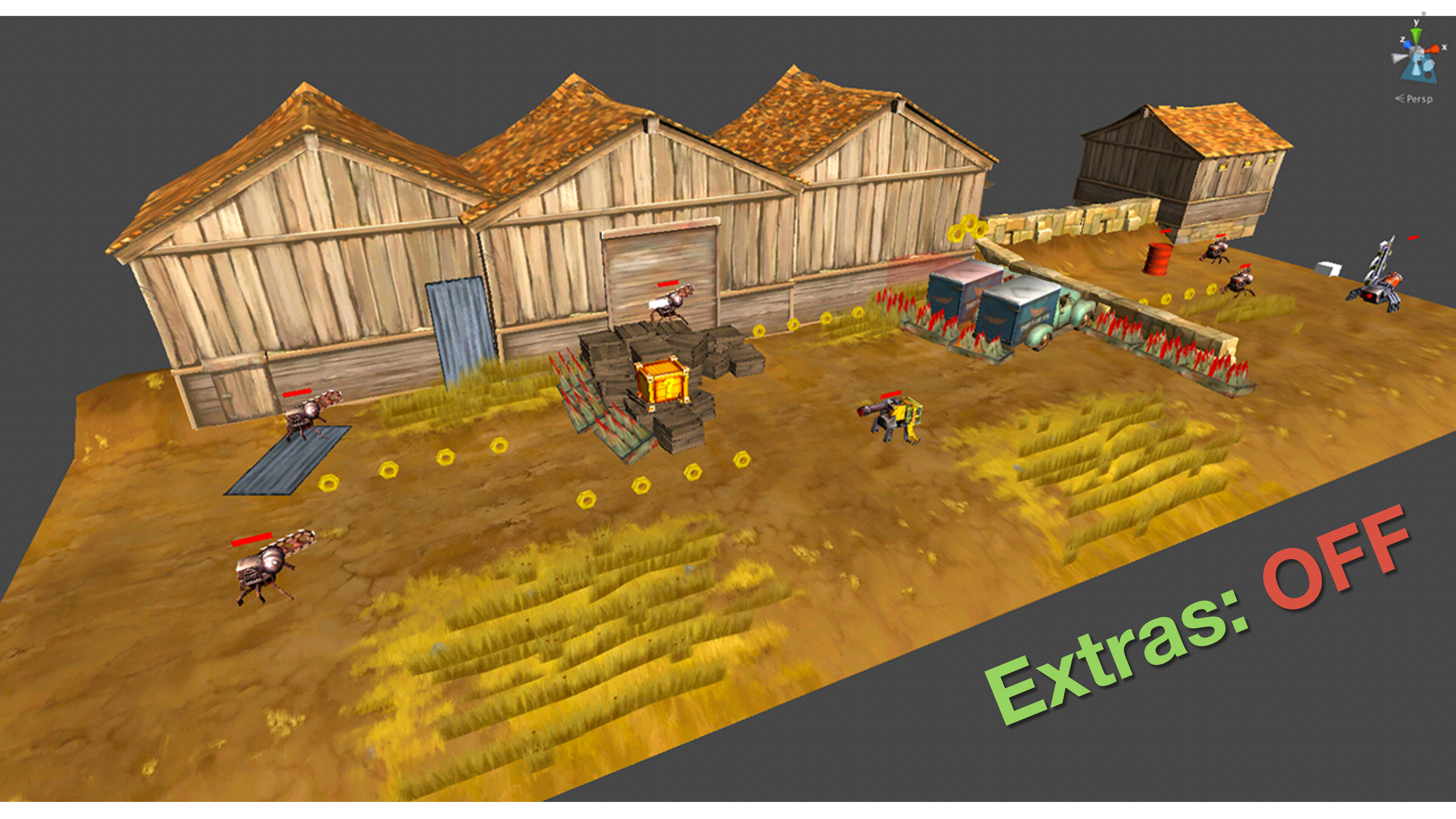
High-poly elements

Purely deco objects





A 3D game scene depicting a farm environment. In the background, there are several wooden barns with brown roofs. In the foreground, a green truck with a blue trailer is parked. Various objects are scattered around, including crates, a red barrel, and a small robot. A large green text overlay in the bottom right corner reads "Extras: ON". In the top right corner, there is a small icon with the text "< Persp".




Extras: OFF

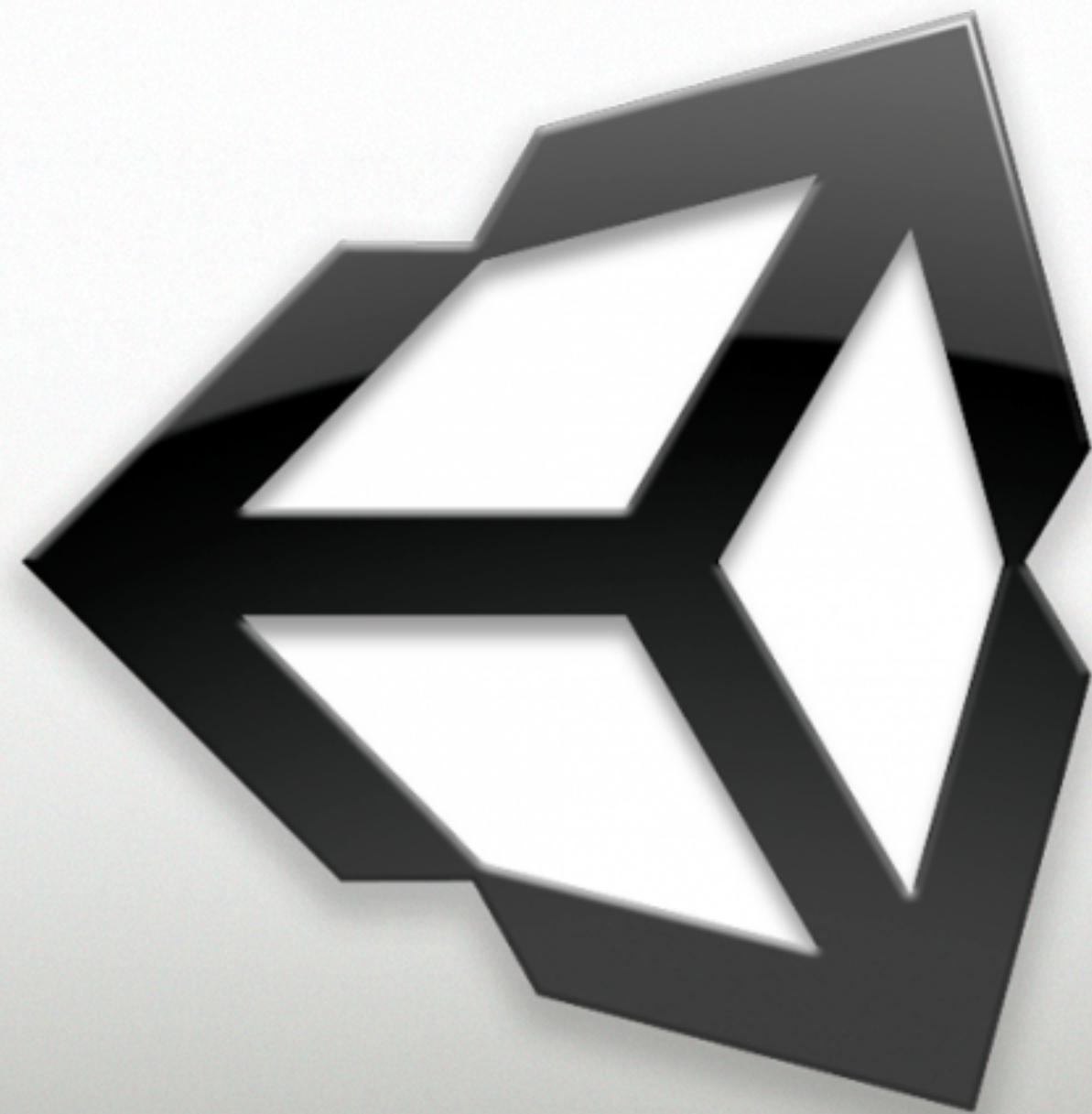


What tools can help with  ?





What tools can help with  ?



TextMesh Pro



Like magic

Handles all text rendering moving forward

Thanks Valve for SDF font rendering

When 8k screens come out - all set!



Stephan B in the house!

InControl



Magic input management

Handles every controller imaginable

Open source

Xbox One? PS4? Someone else puts in
the effort! Woo!



Prime31



Like magic

Plugin for every 3rd party thing, ever.

prime[31]

Unity - MPTK



Multiplatform Toolkit

The little differences between platforms

Maintain a single project

Platform-specific metadata stored on each object

Smaller button on iPad vs Android

Pinning a menu on all aspect ratios

Remove certain items on a platform

“Click here” vs “Tap here” text



Even with a great engine...

And solid tools....

And adequate planning...



Even with a great engine...

And solid tools....

And adequate planning...



can and will go wrong!

Pad your schedules and prepare to hit arcane bugs





Part 1

Biz

Part 2

Tech



Part 1

Part 3

Part 2

Biz

Other junk!

Tech



What are the side effects of  ?



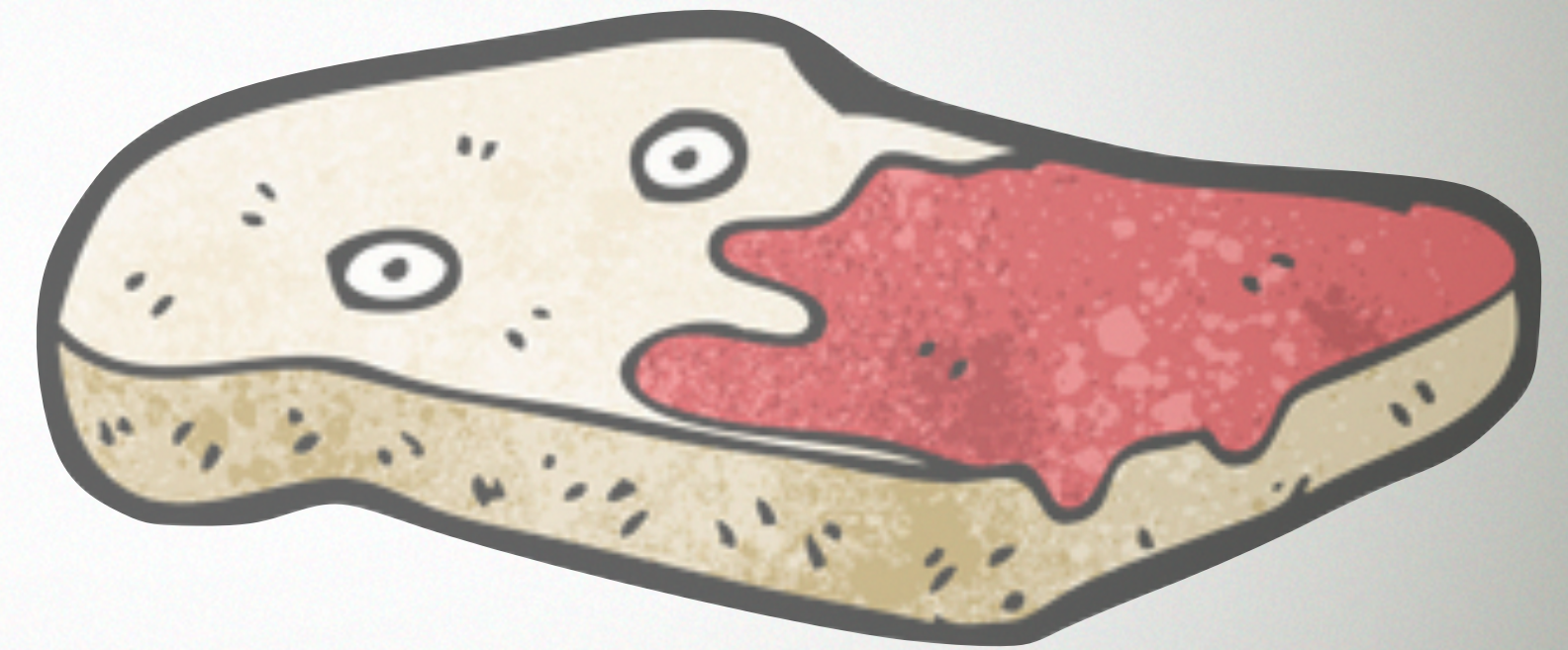
Shifting focus



Focusing on a million things instead of one

Ex: Sim-shipping a game on dissimilar platforms?

Ex: Supporting 8 platforms at launch?



Overloading your brain



Additional 'Mental' Overhead

Designing for future change takes time

Desktop game wasting cycles on future mobile issues



Compromising your design



Modifying your design process

Cut features that don't work on all platforms?

Watch out for lowest common denominator.

Damage the integrity of your game



Process overhead stacks !



Additional 'Update' Overhead

Even small updates can be time consuming

Approval times can be long

Watch for contracts that require synchronicity



Easy to waste time as a developer



Know the platform bottlenecks

Ex: Spending 3 days optimizing your code when the issue was fill-rate

Don't optimize until you lock in platforms

Ex: Spending time supporting iPad 1 and not shipping on iPad 1





Is your company set up for  ?



Teambuilding for



Generalists

Past diverse platform experience

Spot the hazards before they come!



Teambuilding for



Specialists

Strong network of specialists

Never know when you need a _____ expert

Don't necessarily need specialists full-time



Teambuilding for



Dedicated porting engineer

Don't have core team doing 'easy ports'

Knowledge of codebase is important

Familiar with back-catalog

Faster, more agile with new ports

Less Unity project fragmentation



Teambuilding for



Agile enough to seize opportunities

Flash in a Flash porting contest

Aaaaaculus! (top downloaded on Share)





Keep a healthy mix of risk

'Good' Early Platforms

'Good' Mature Platforms

Keeps risk from getting too high

Keep a healthy mix of risk



'Good' Early Platforms



'Good' Mature Platforms



OKAY. ITS OVER NOW.
TL;DR





Game Development is Hard

Porting is relatively easy



Game Development is Hard

Porting is relatively easy

Be Smart

Time is money



Game Development is Hard

Porting is relatively easy

Be Smart

Time is money

Do your research

Talk to those who've been through the pipe



Game Development is Hard

Porting is relatively easy

Be Smart

Time is money

Do your research

Talk to those who've been through the pipe

Leverage your existing games

Your IP has value and attracts new opportunities



Thanks! Surveys!

Alex Schwartz

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