SMARTPHONE & TABLET GAMES SUMMIT

Squirrels and Gunships Climbing the App Store: A Double Postmortem of *Nuts!* and *Zombie Gunship*

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www.GDCOnline.com

GDC 11 Online

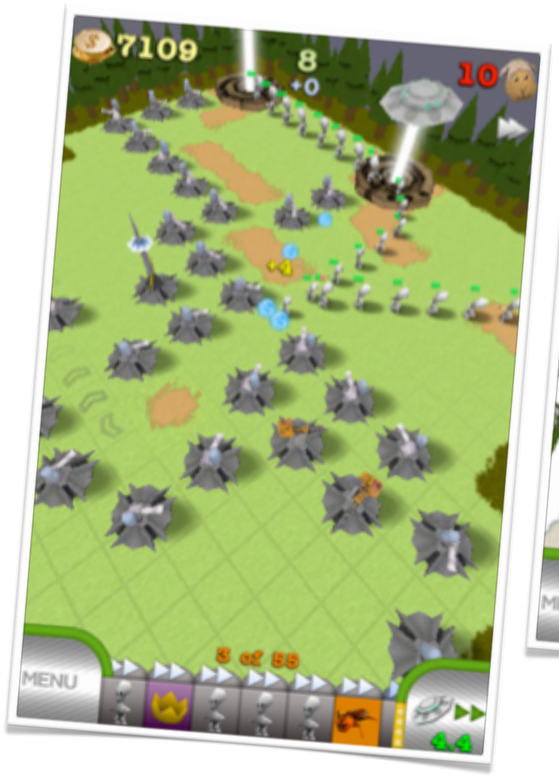
LIMBIC

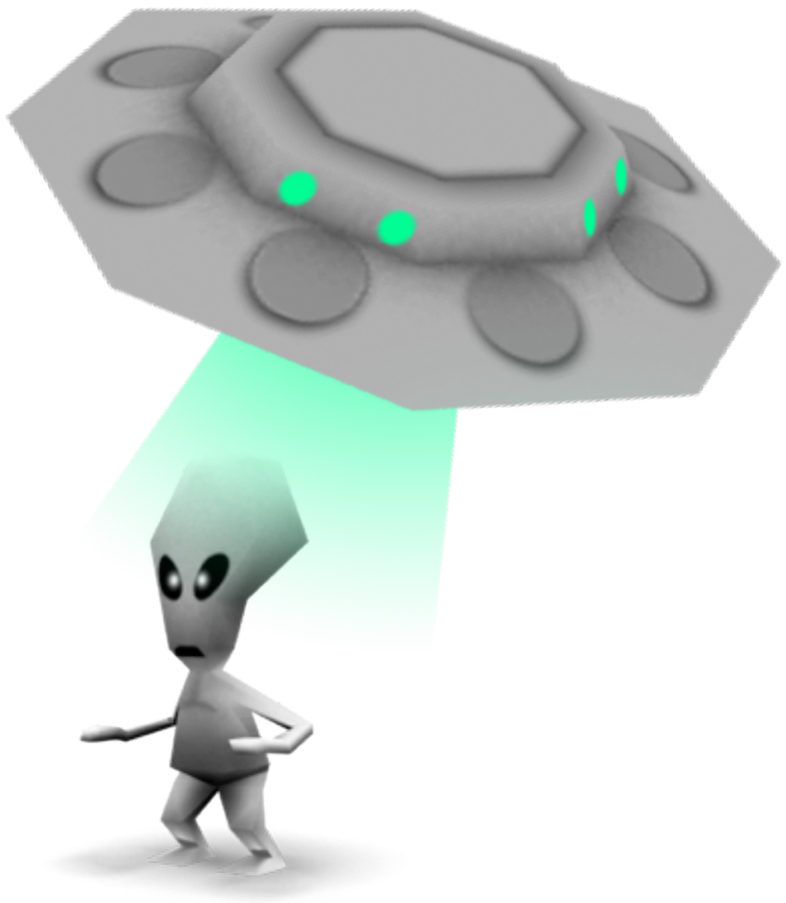
Quick Introduction:
Limbic started end of 2008,
Myself and two grad students at UCSD
Started by messing around with iOS SDK when it came out, decided to make a game

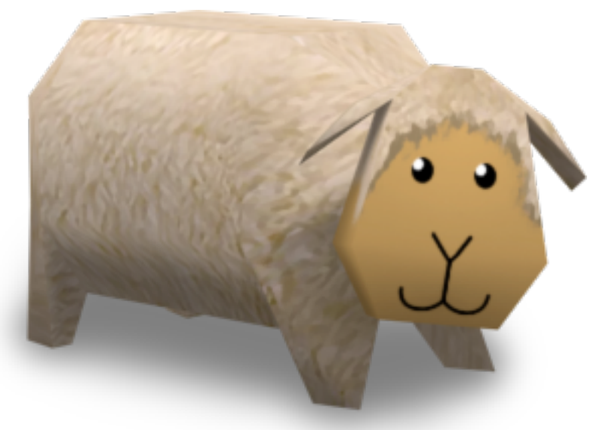
TowerMadness

Thursday, October 13, 11

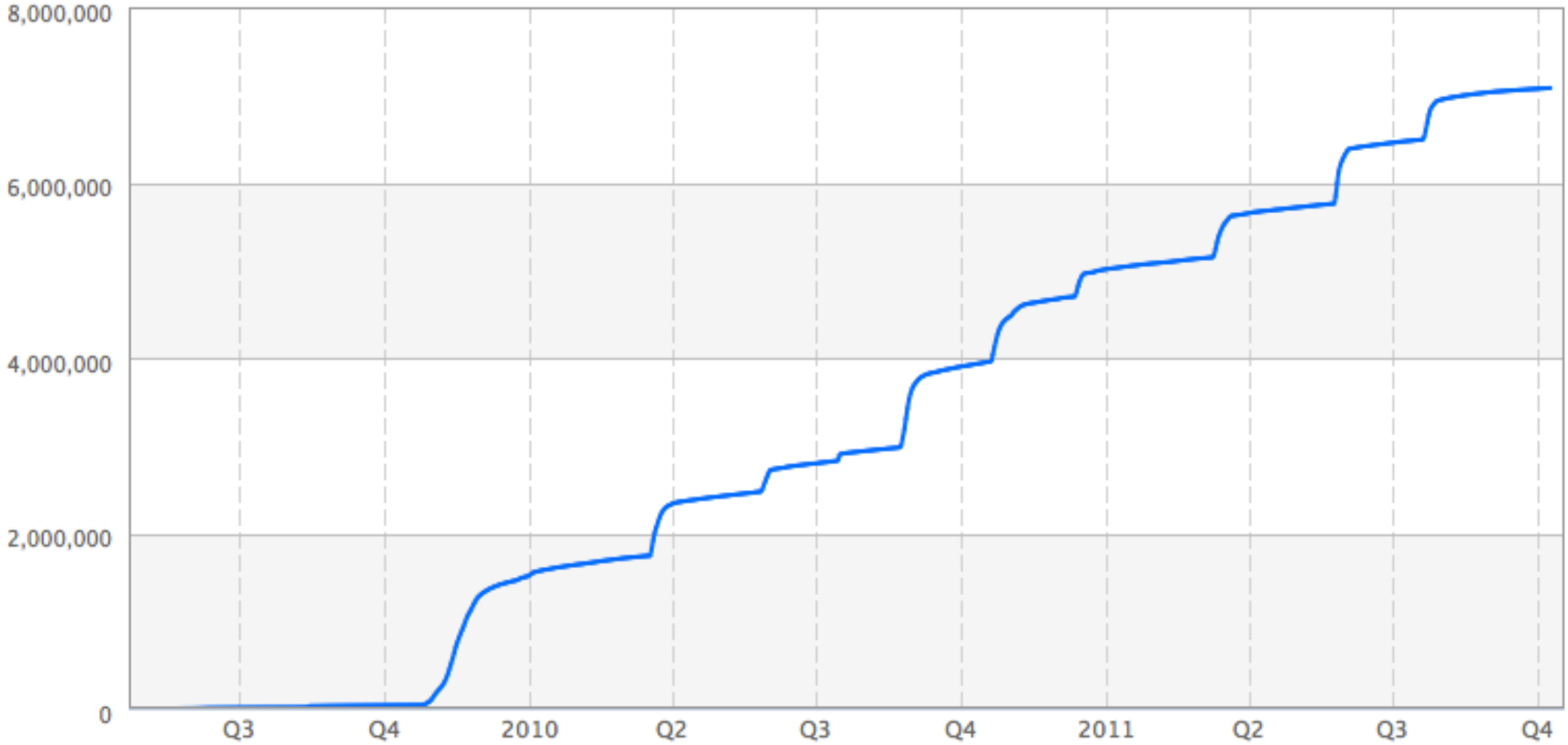
So what game did we build?
We all loved tower defense, and back then there were only two.
Both primitive in graphics and gameplay. Clear opportunity.
We all had serious backgrounds in OpenGL as graphics/rendering students
Two cofounders coding, me half art-half-code.
Produced TowerMadness in six months





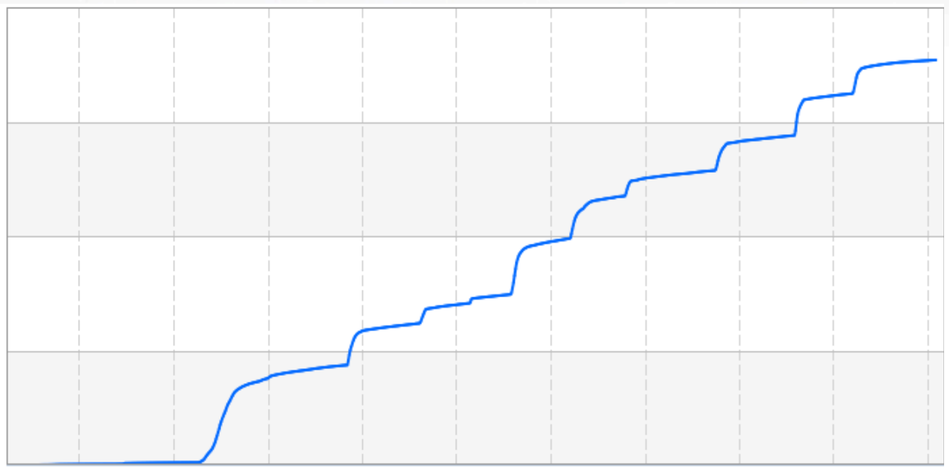


There were extremely few 3D games at the time
Competitive if we made the game 3D.
Build towers to defend your flock of sheep from aliens.
They land at the top of the screen with UFOs, and you need to build a maze of towers to defend.



What kind of a success was TowerMadness?

Launched TM in May 2009
- Started with a feature from Apple and great coverage from sites and blogs
- Had a lull afterwards for a few months
- Really exploded with launch of TowerMadness Zero
- Updates, updates, then In App Purchases
- Also launched TowerMadness HD



We have millions of users.

Let's build a new game!

(or two)

TowerMadness Updates

Nuts!

Zombie Gunship

Development Team

Engineering

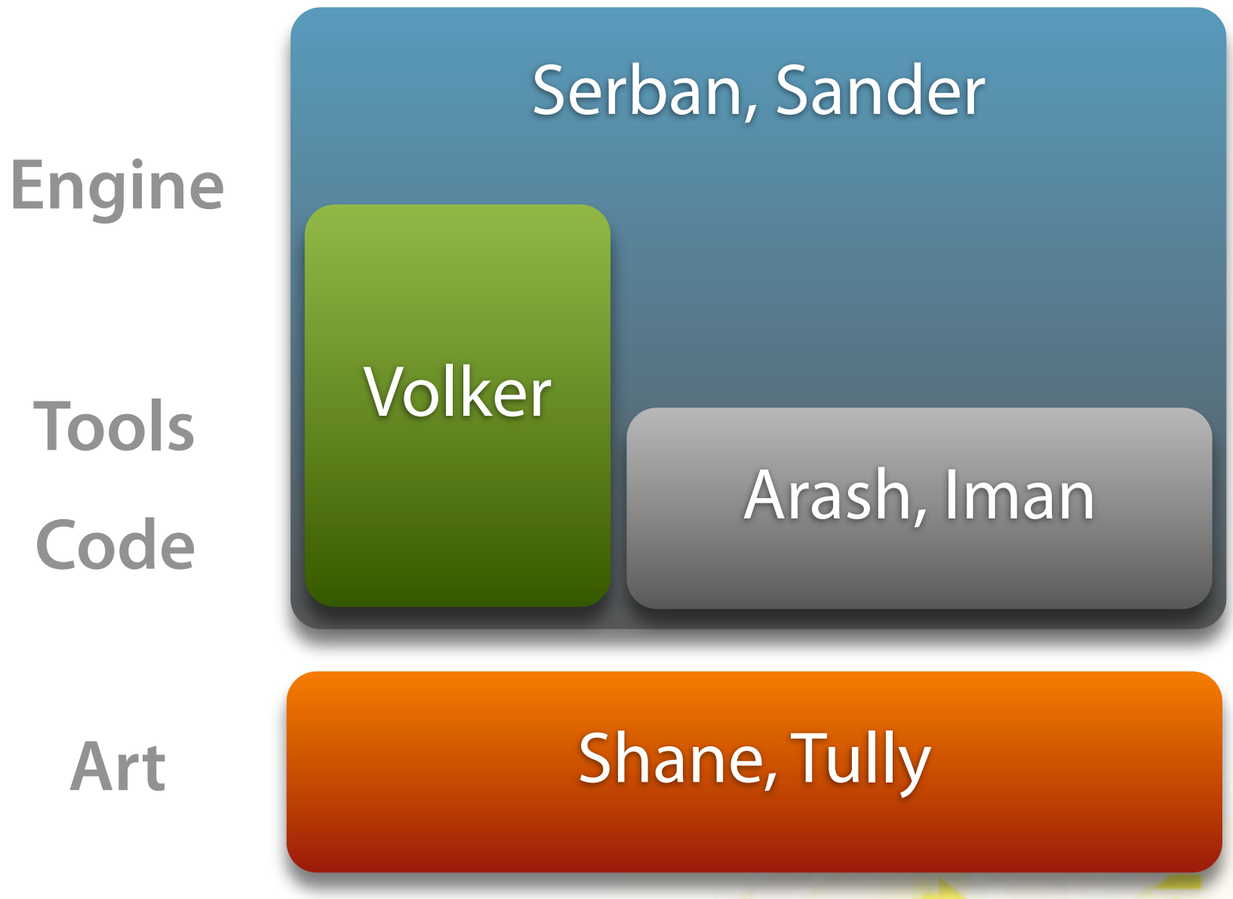
Volker, Iman, Arash, Serban, Sander

Art

Shane, Tully

Nuts!

Zombie Gunshipp



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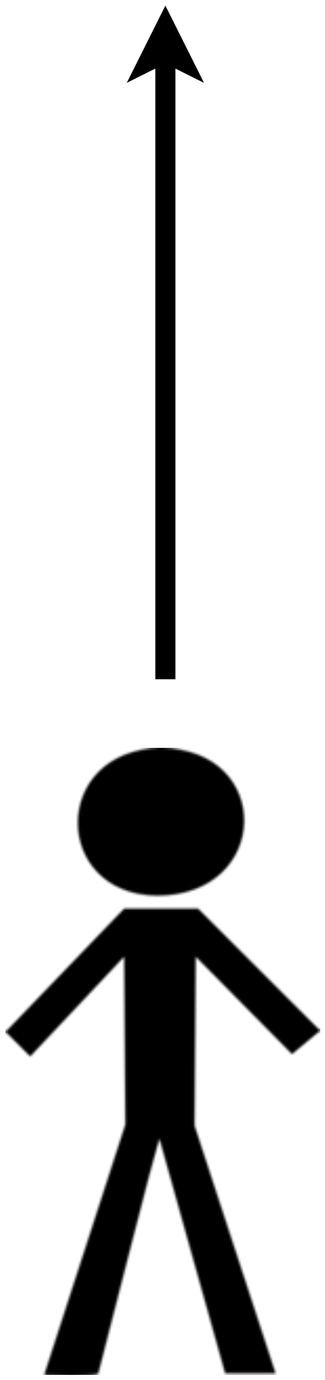
The real question here is how to take multiple people and work on multiple games at the same time
Also did TM updates in this time.

NUTS!™

Thursday, October 13, 11

So, let’s talk about Nuts.



Simple gameplay

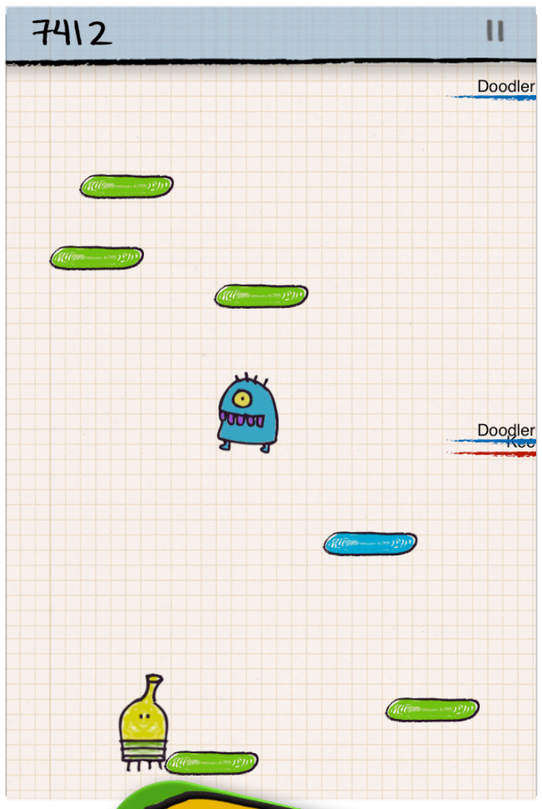
Power-ups

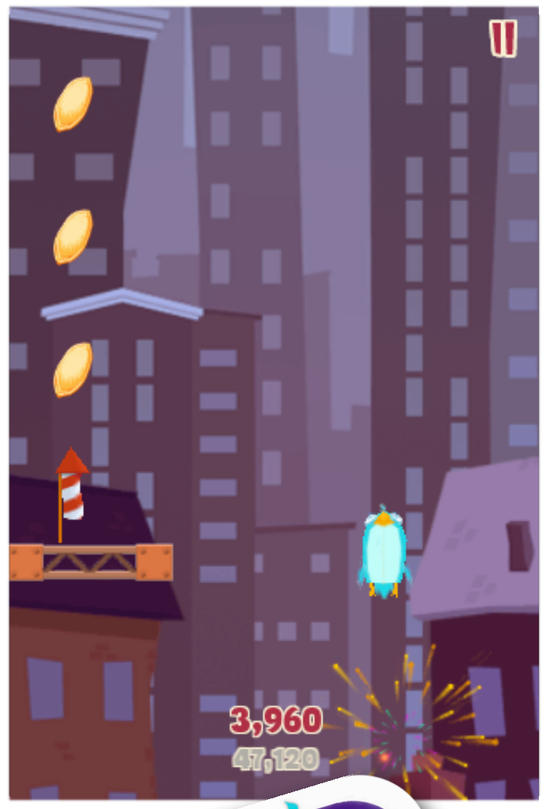
High Scores

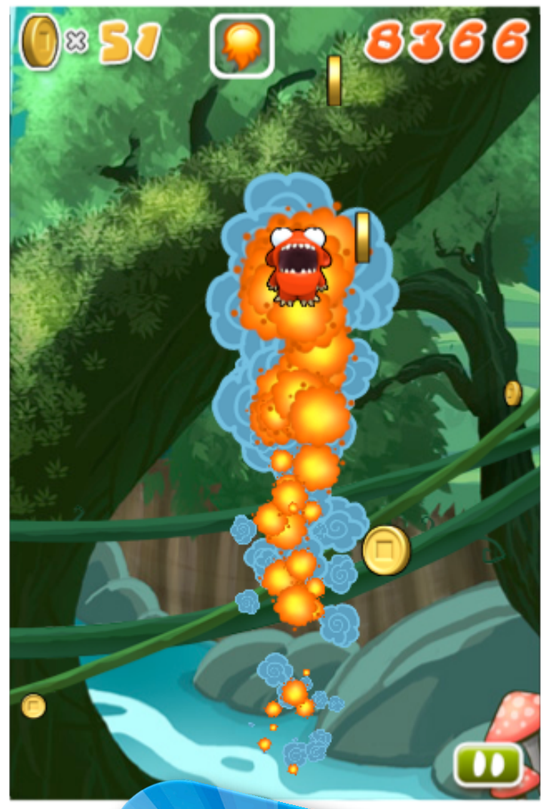
Thursday, October 13, 11

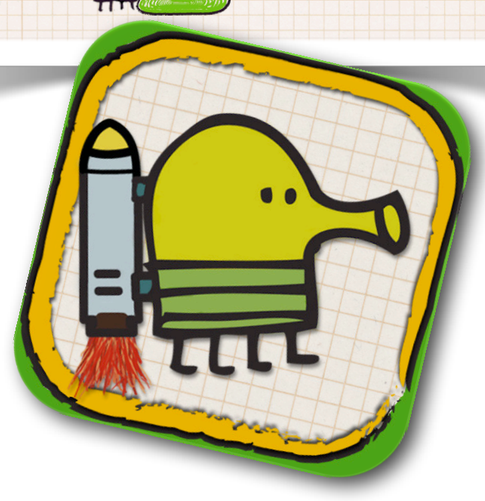
We really liked the climbing genre, and internal competition on Doodle Jump was intense. (I'm still the winner, btw)

Simple Gameplay – Ascend upward, sometimes platforms, sometimes dodging bad things
Power-Ups – Speed, Invulnerability, etc
High Scores – Neverending game, achievement usually based on highest score you can get









GDC Online

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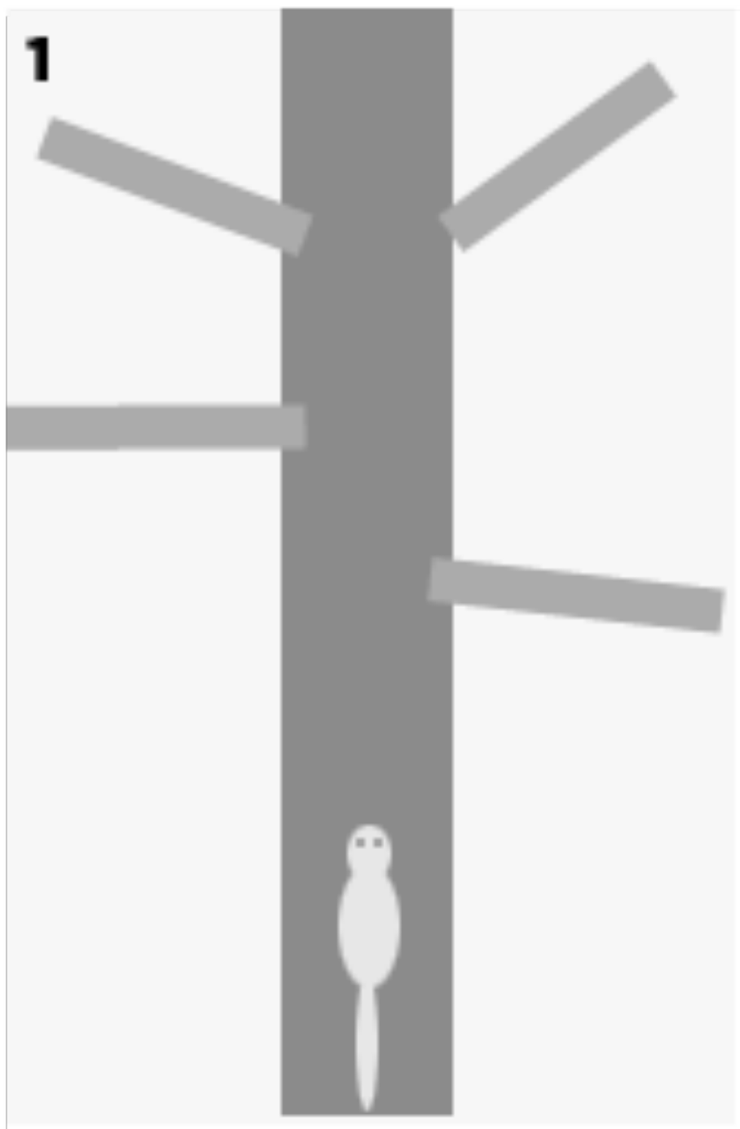
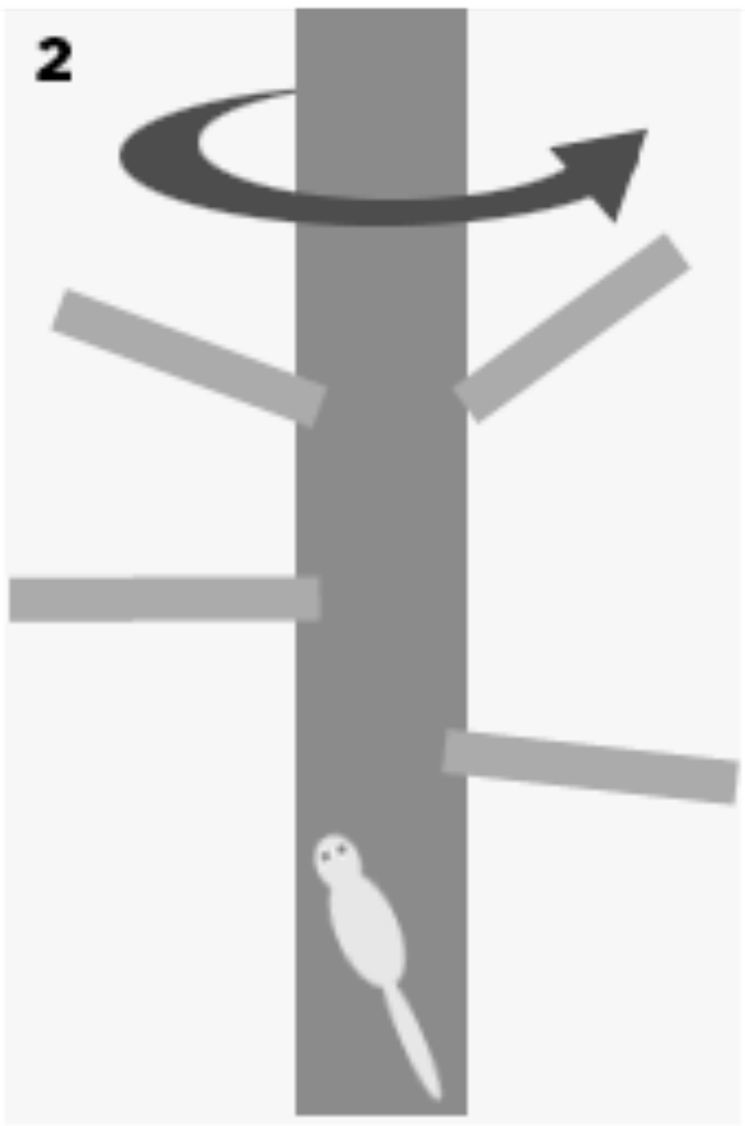
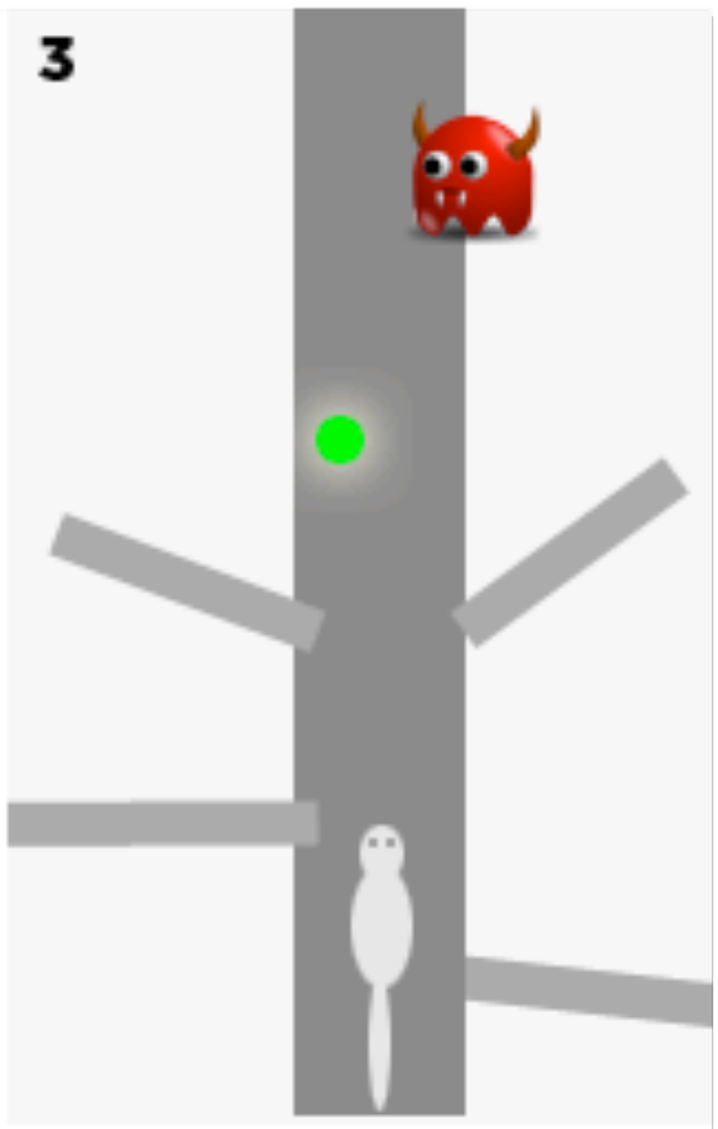
Ninjump - Backflip Studios
Doodle Jump - Lima Sky
Bird Strike - Pik Pok
Mega Jump - Get Set Games



As the squirrel runs upward, the camera pans to follow him. The goal of the game is to get as high as possible without hitting a branch or enemy.

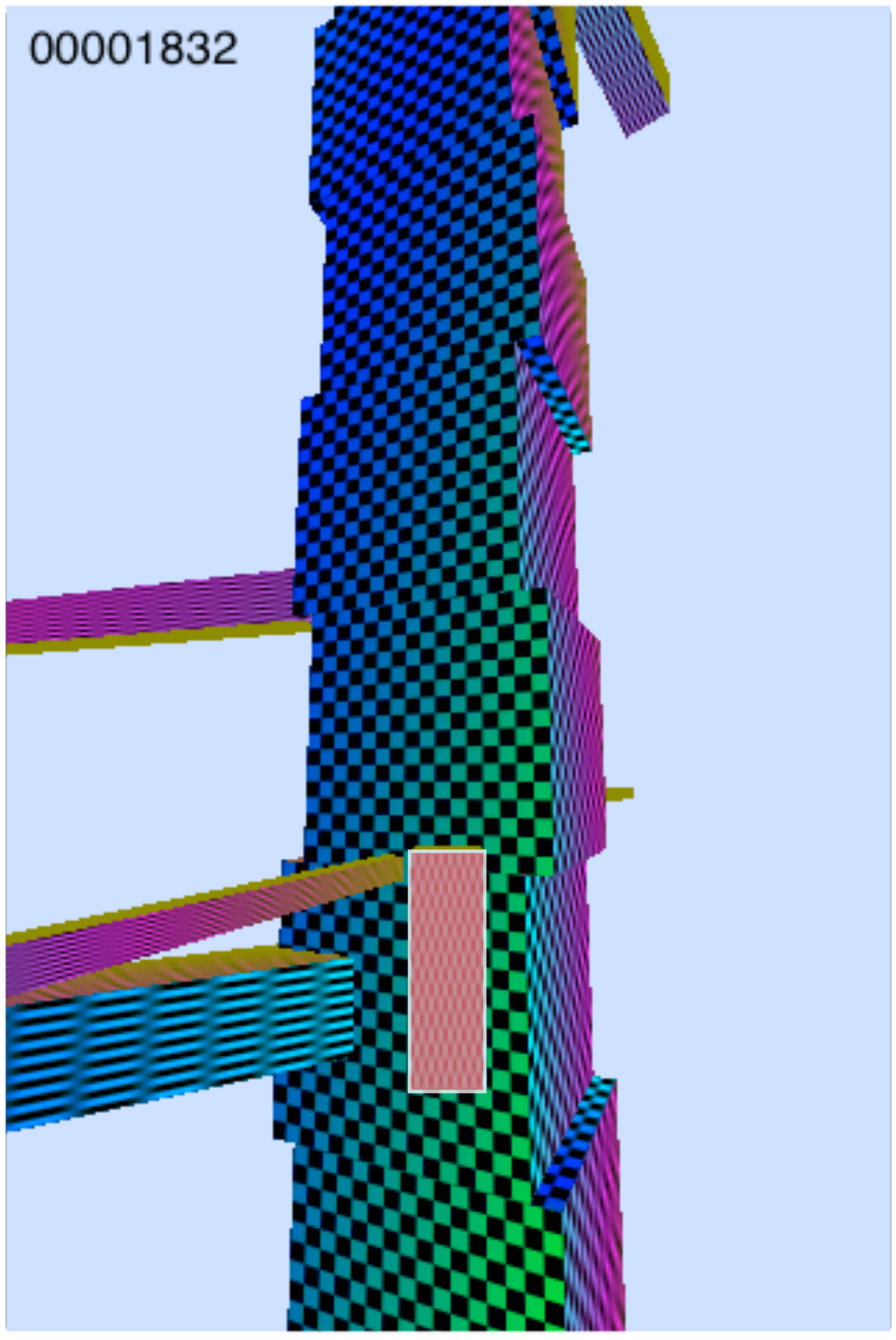


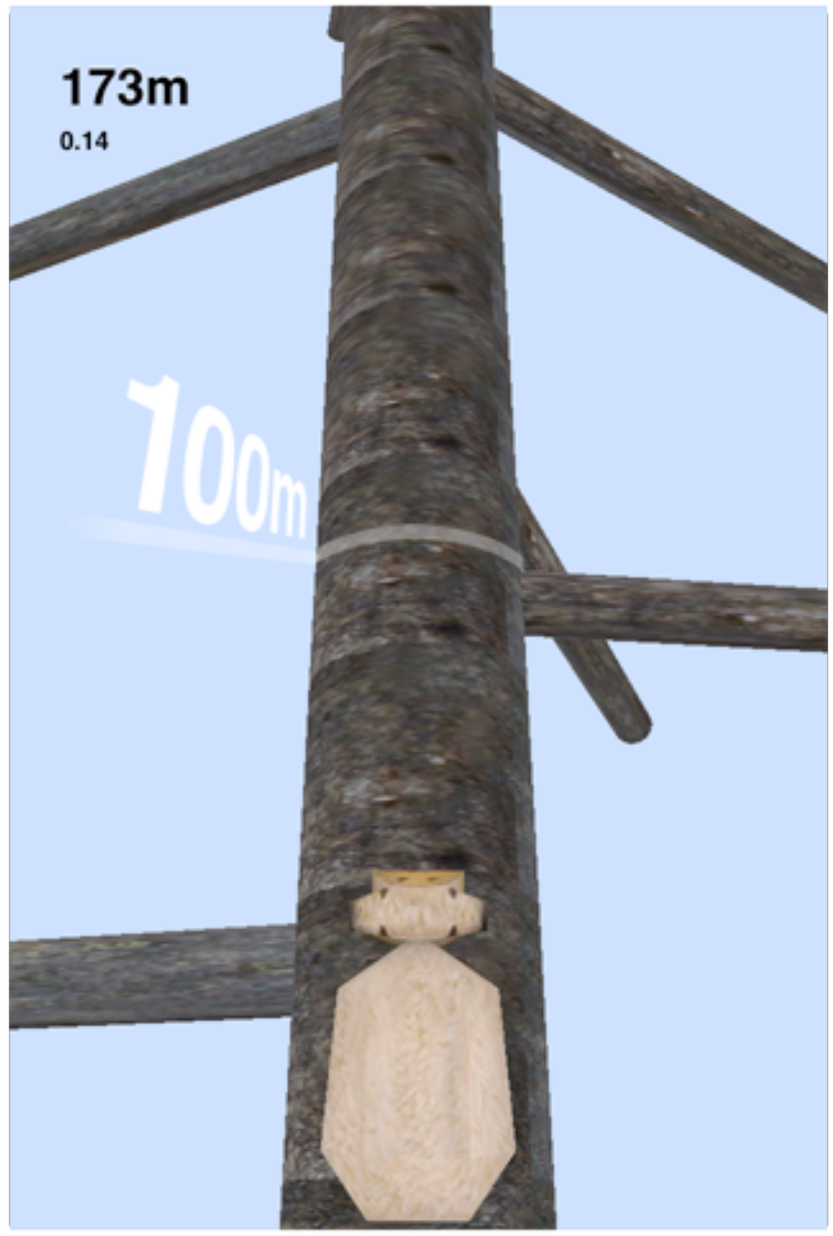
When the player tilts the iphone, the squrrel turns, and the tree rotates in 3d.



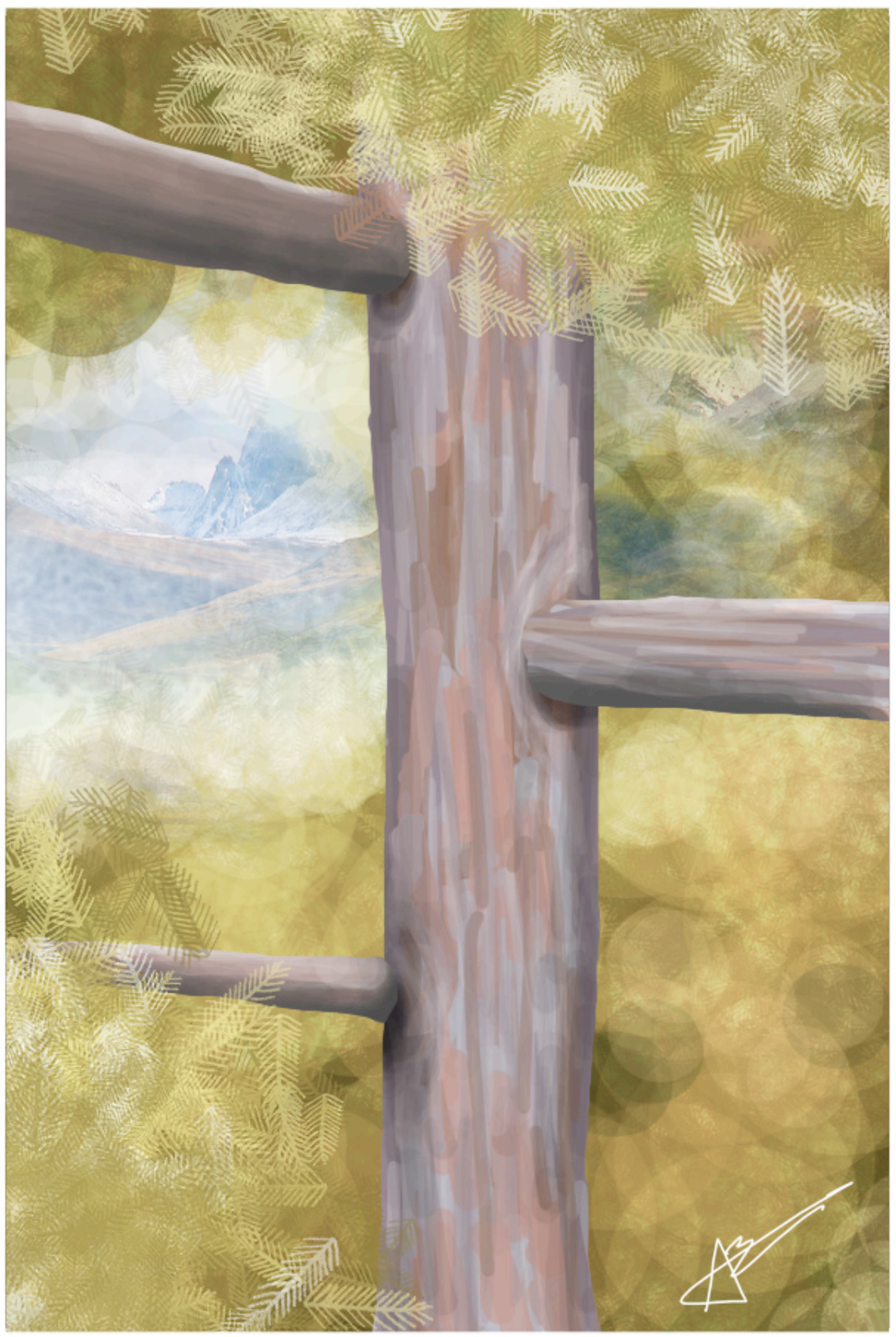
The squirrel can collect various powerups (invulnerability, speedups, rocketpacks, etc) as he dodges the branches. There are also baddies that the squirrel must avoid.

Discussing the very first gameplay concept





Early test prototypes within 1 day

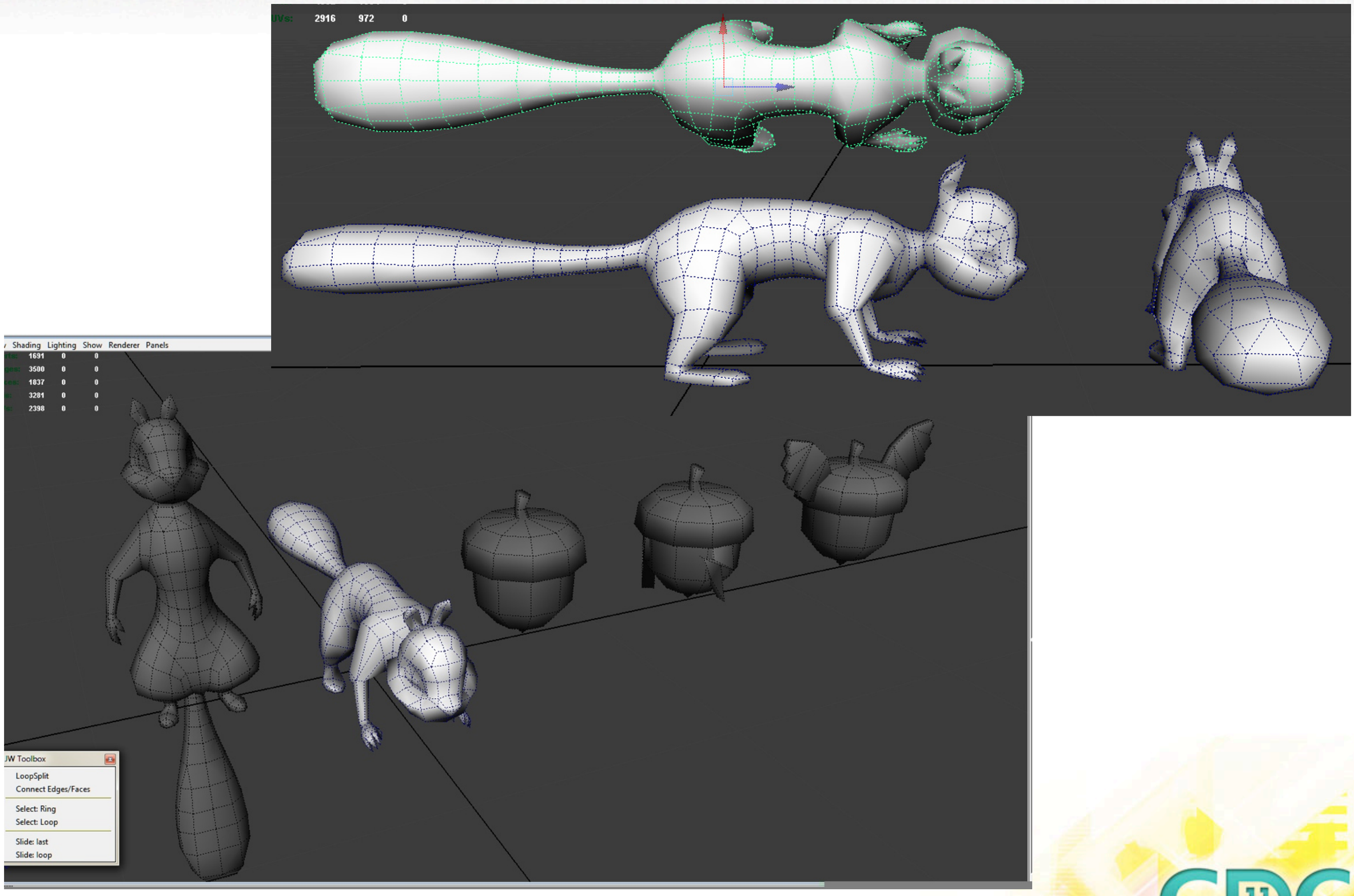


Establishing visuals

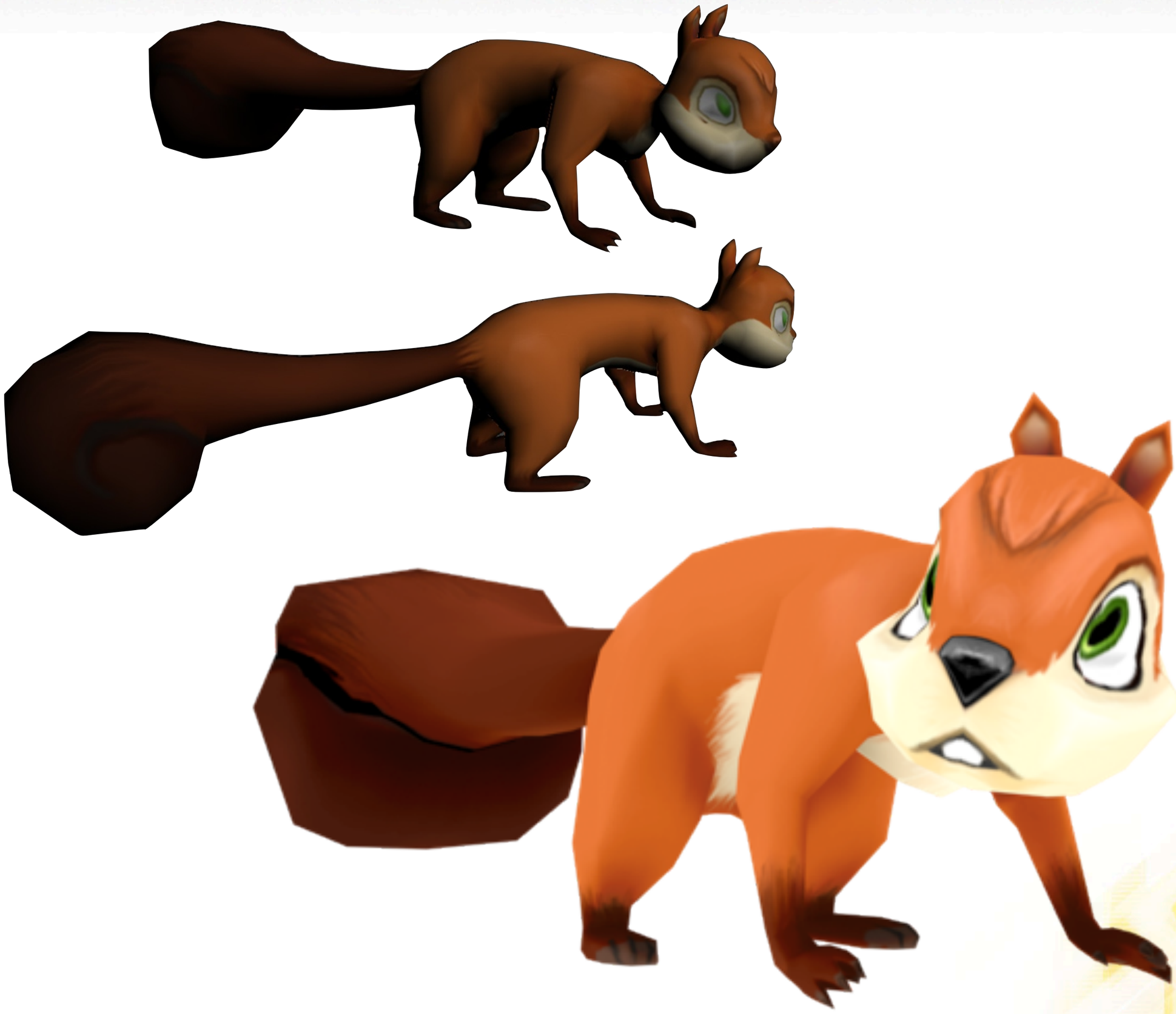
Professional artists get involved, character concepts

Figuring out camera angles, issues we experienced

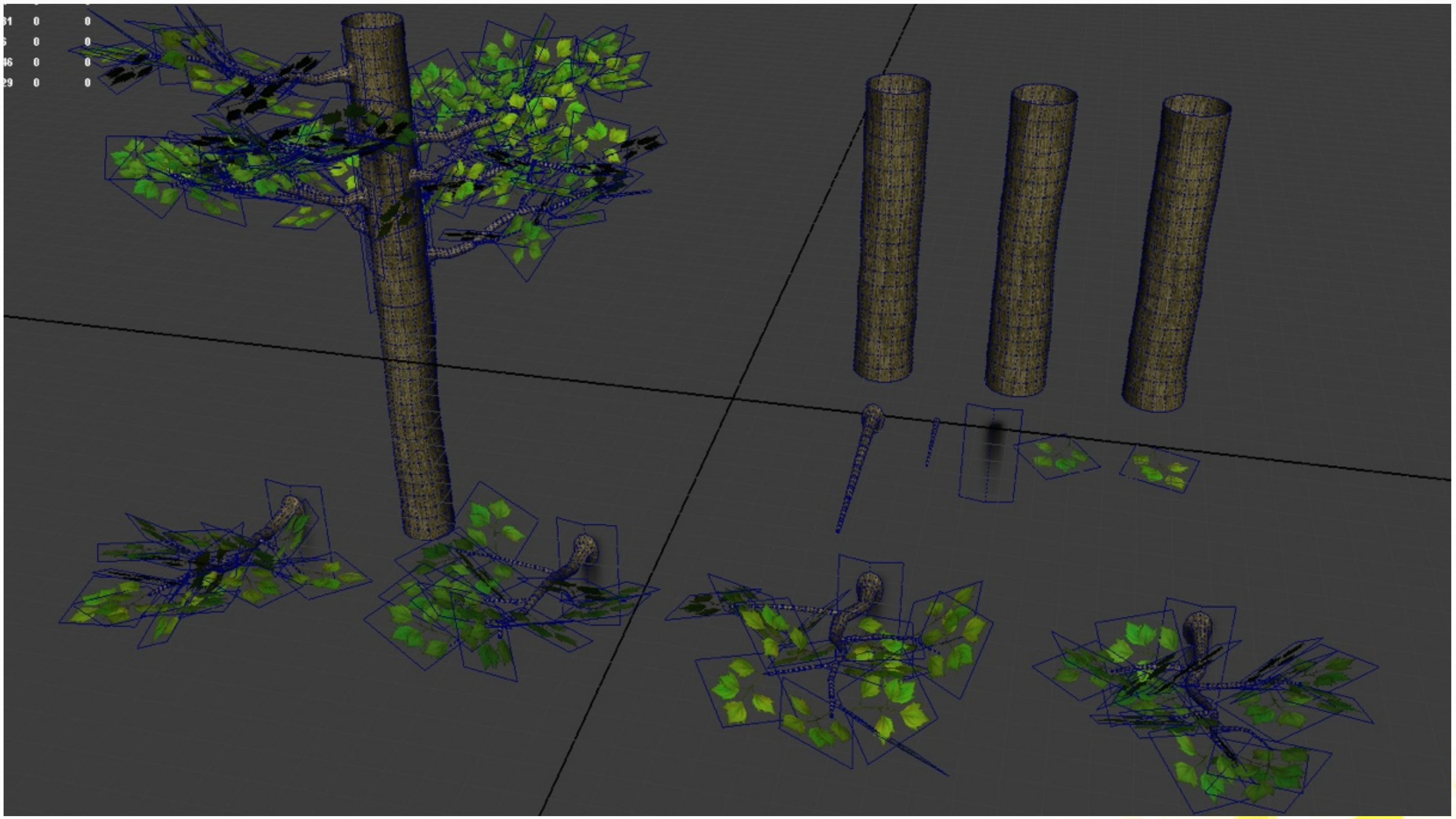
Race camera vs straight-on, performance considerations, gameplay considerations



Modeling the Squirrel, Challenges



Final Squirrel Art, Final Lighting



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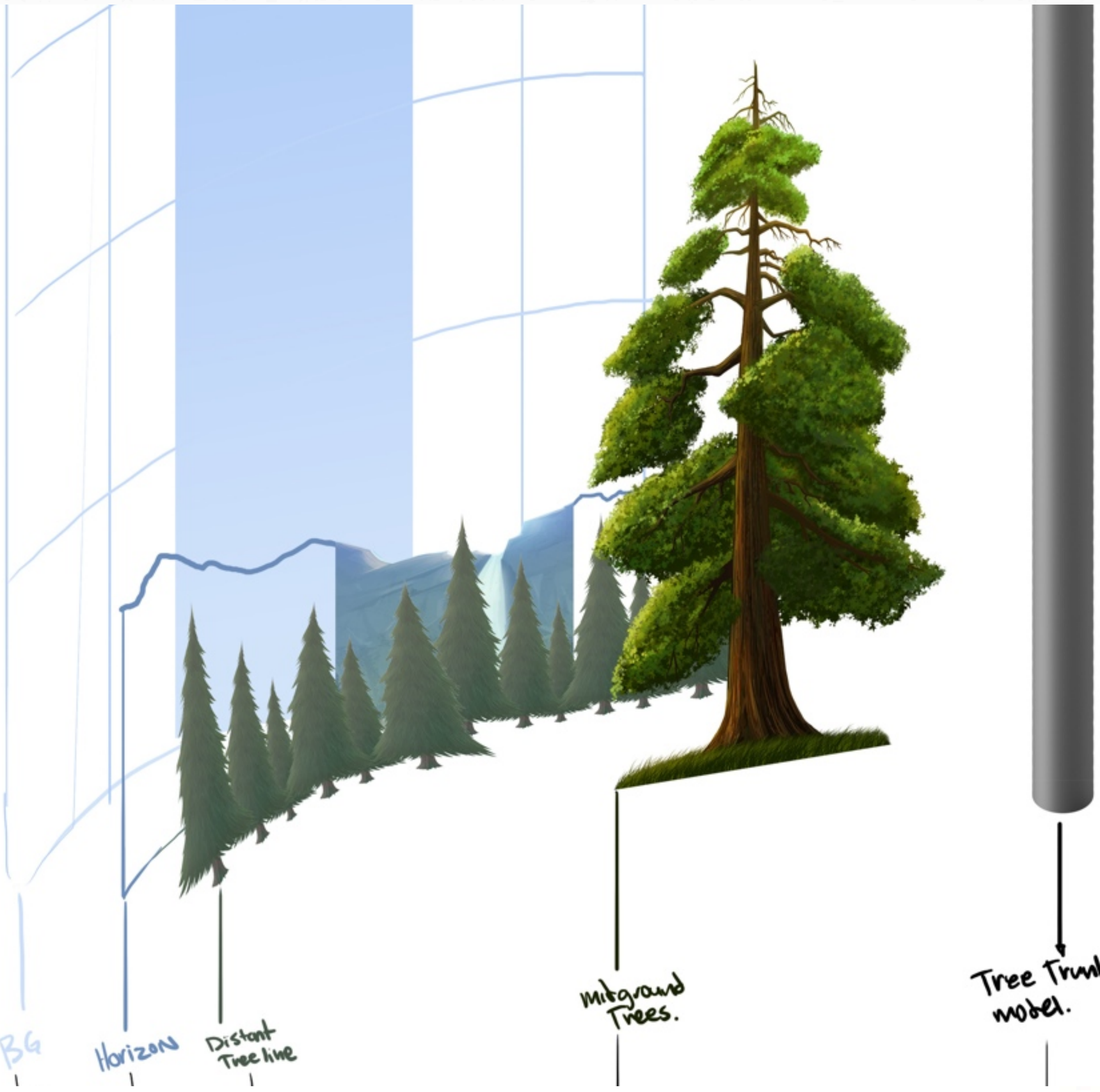
Making environments
Making a “construction set” of parts for our random generator
Challenges, alpha didn’t work, modeled leaves, keeping polycounts low,

Putting it all together

Backgrounds



Putting the environment together
Challenges:
- Camera FOVs, 3d worlds are TOUGH

Final product screenshots

Brief gameplay video

Let’s build a 3d menu!

A different test message that is longer than the first!
Internal link to Yahoo
Tap for more info
PLAY!
Feedback
6
Store
Leaderboard
Logged in
LIMBIC
V0.4

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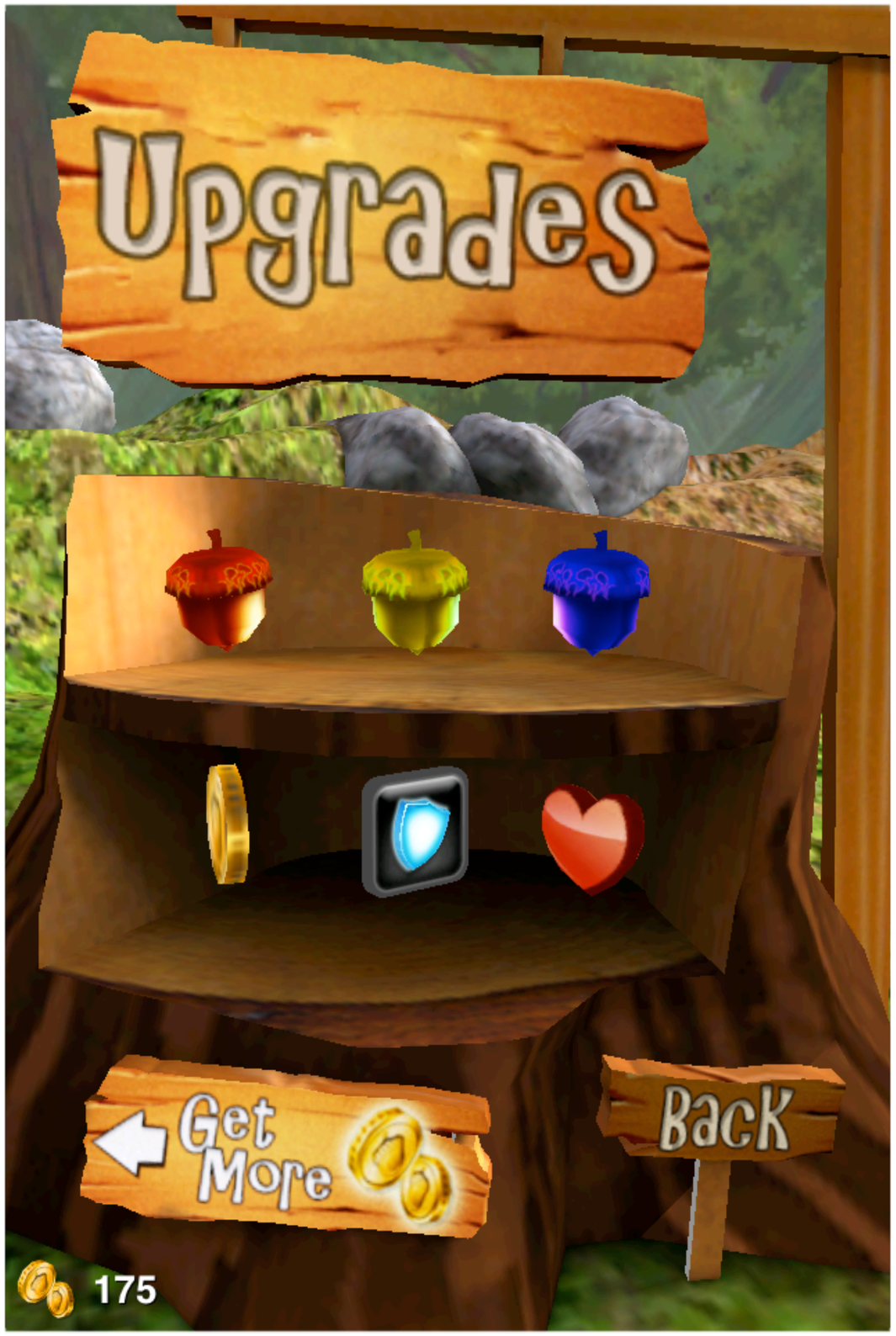
First game where we decided to do Virtual Currency.
Buy items directly previously in TM. Real money -> Flamethrower
Now, Real Money -> Fake Money to buy...



Upgrades! Life, Fireballs, Speed, etc

Talk about TapJoy spot above the Green Mushroom

Kids don't have credit cards, but they'll happily complete offers

Icons are SUPER IMPORTANT

NUTS!

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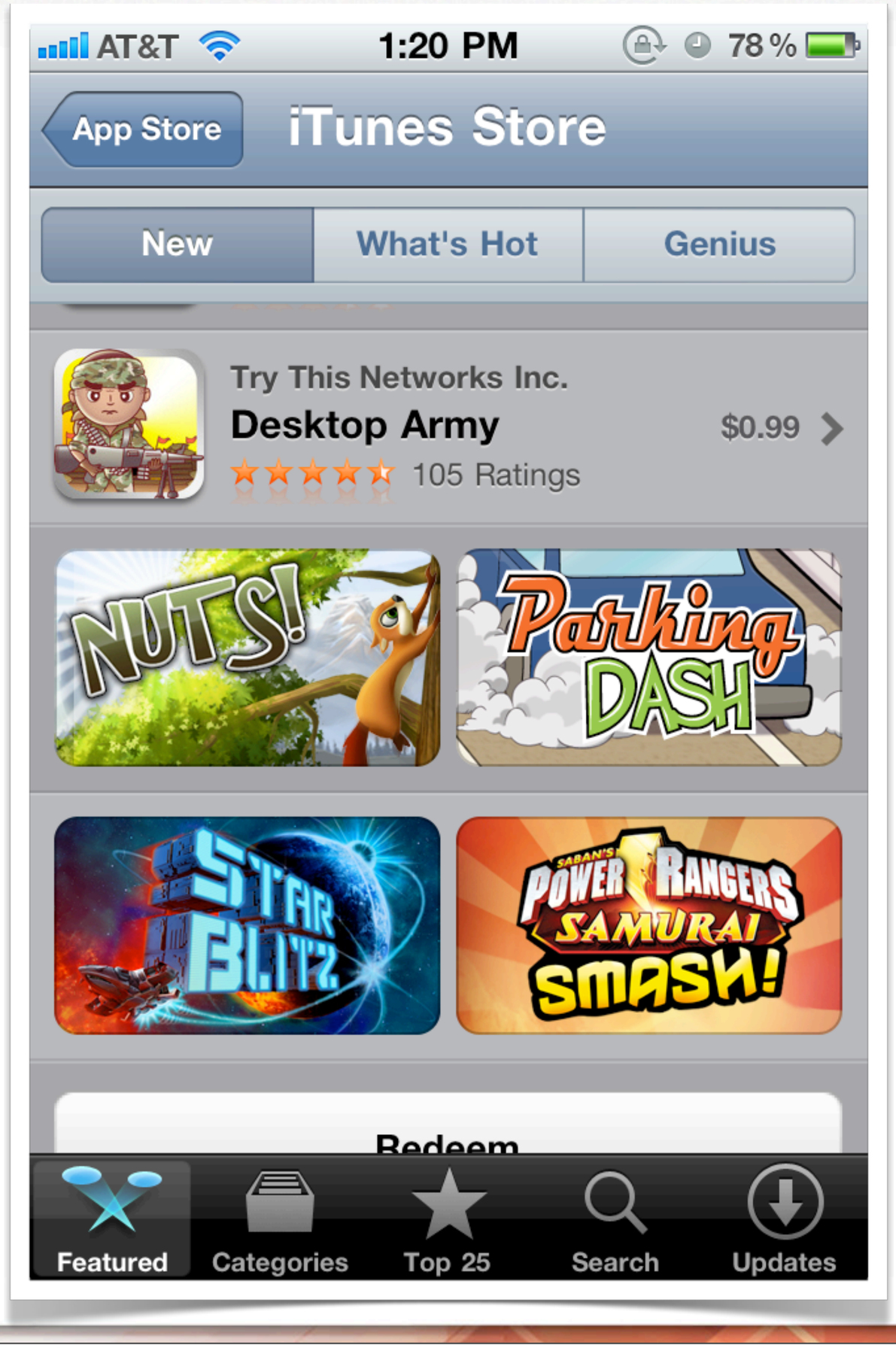
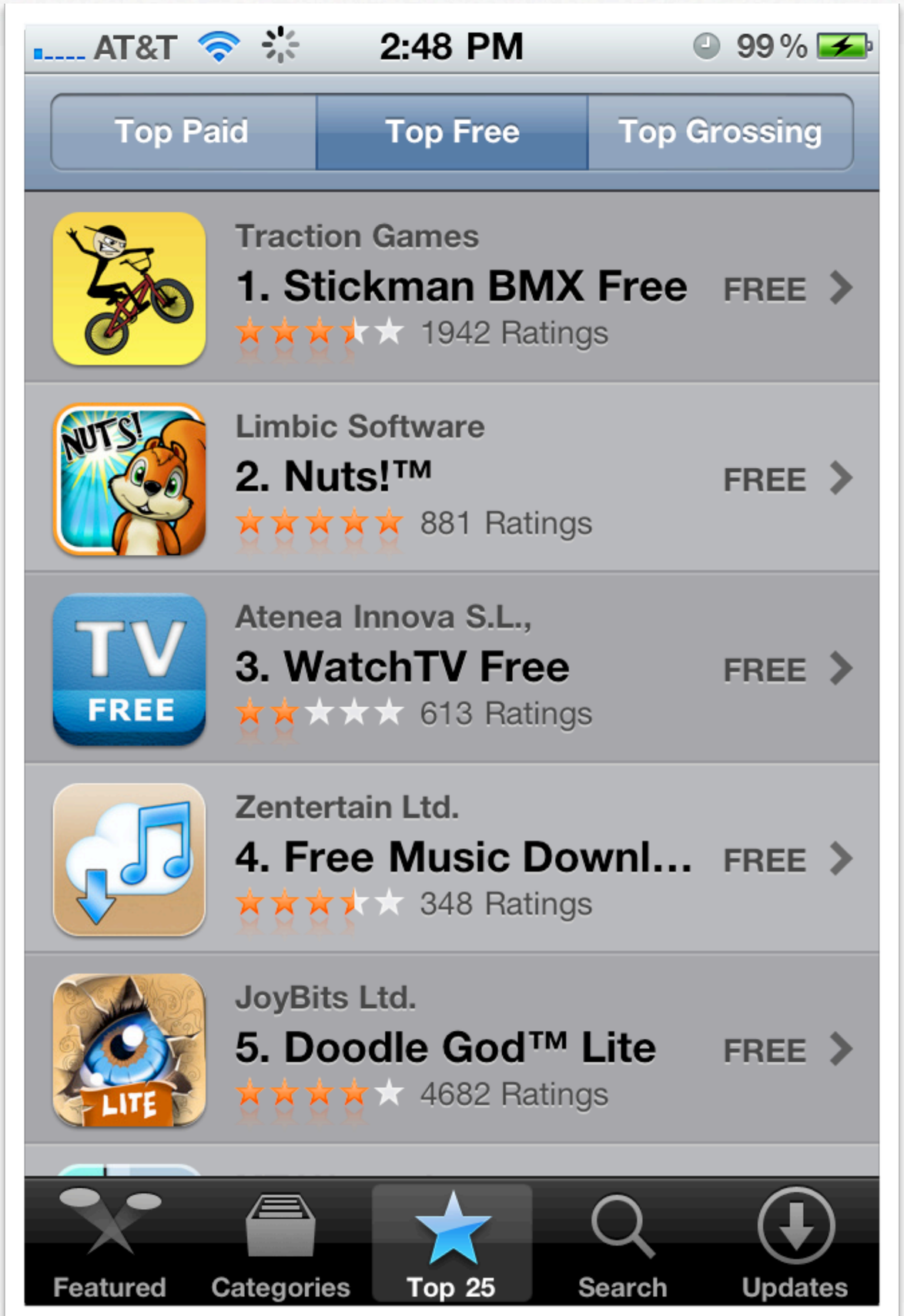
Made some art just in case we got featured / banner ads



Launch promotion, contacts at Apple helped out here, but only because the game stood on its own merit



$0.99 at launch

Free 2 months later

3.5 Million Downloads

Thursday, October 13, 11

Launched Nuts at 99 cents
Rose up to #42. Drove clicks via TowerMadness, and some other apps.
2 months later, went free. #2. 3.5 Million Downloads

What went right?

Simple gameplay

Engaging character, icon

Polished visuals

Powerful promotion

Thursday, October 13, 11

Simple Gameplay – Simple gameplay was accessible to everyone from moms to teenagers to granddads to kids.
–You could pick up the game and learn how to play in just a few seconds.

Engaging Character, Icon – The icon is often what users first see, and putting the name of the game and an engaging character helped our icon stand out from the 500,000 others on the store.

Polished visuals – This made our screenshots stand out, and also got us attention from the press and most importantly, Apple.

Powerful promotion – Getting our developer friends to promote us in their games helped us rise to the top, especially when the games were related to ours

What went wrong?

- Getting Stuck on Iterations
- Asset budgets, Scalability
- Performance Dependency
- Fanbase Backlash
- Offerwall Ban

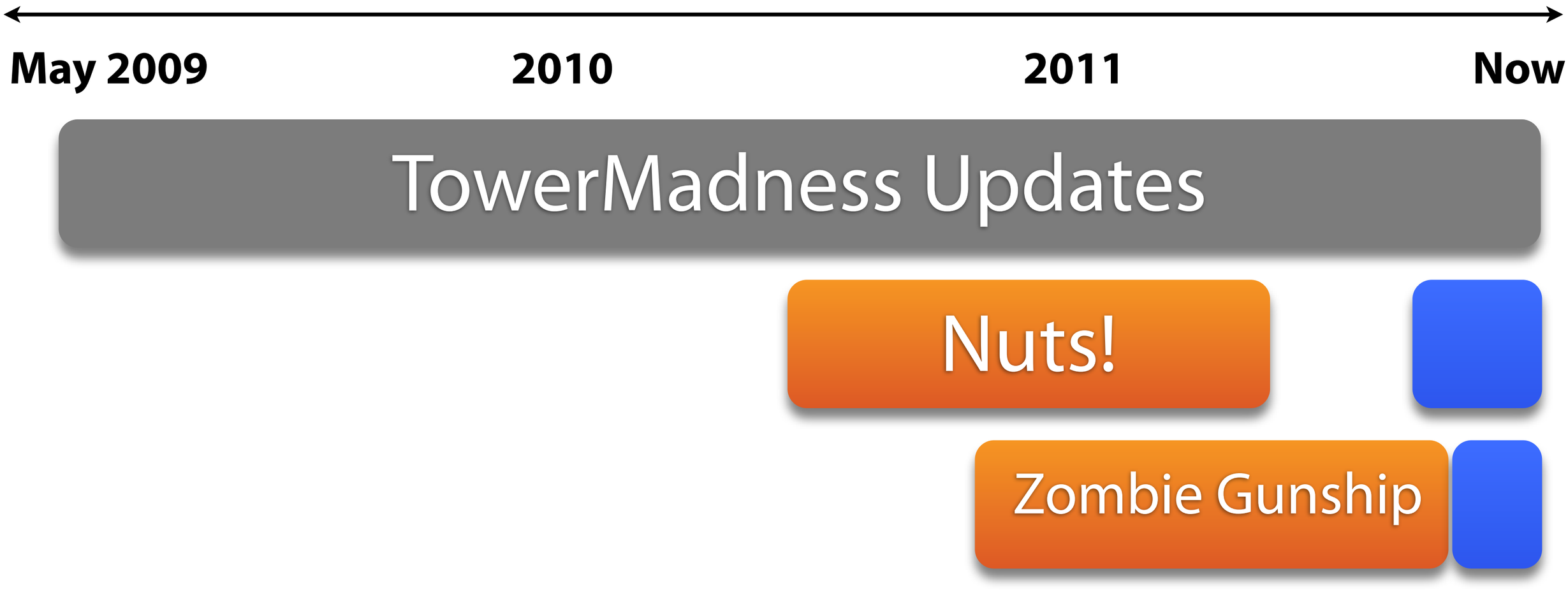
Getting stuck on iterations – went through a multi-month period of tweaking numbers to try to find fun
- went to an analytical approach instead

Asset budgets, scalability – didn't test this beforehand, things got slow
- had to optimize models late-stage and remodel stuff, throw out backgrounds

Performance dependency – anything under 60Hz gave people motion sickness
- had to do a lot of tuning to our random world generators to keep things sane

Fanbase backlash – players being sent to Nuts from TM expected a strategy game, many disappointed
- we had a specific demographic, users are not created equal

Offerwall ban – Originally had planned on monetizing through Tapjoy which would have been a good fit for younger players
- Ban on offerwalls by Apple made us change course on that



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Back to this from the beginning
We didn't finish nuts before zombie gunship, it came about right in the middle
unusual for a small team

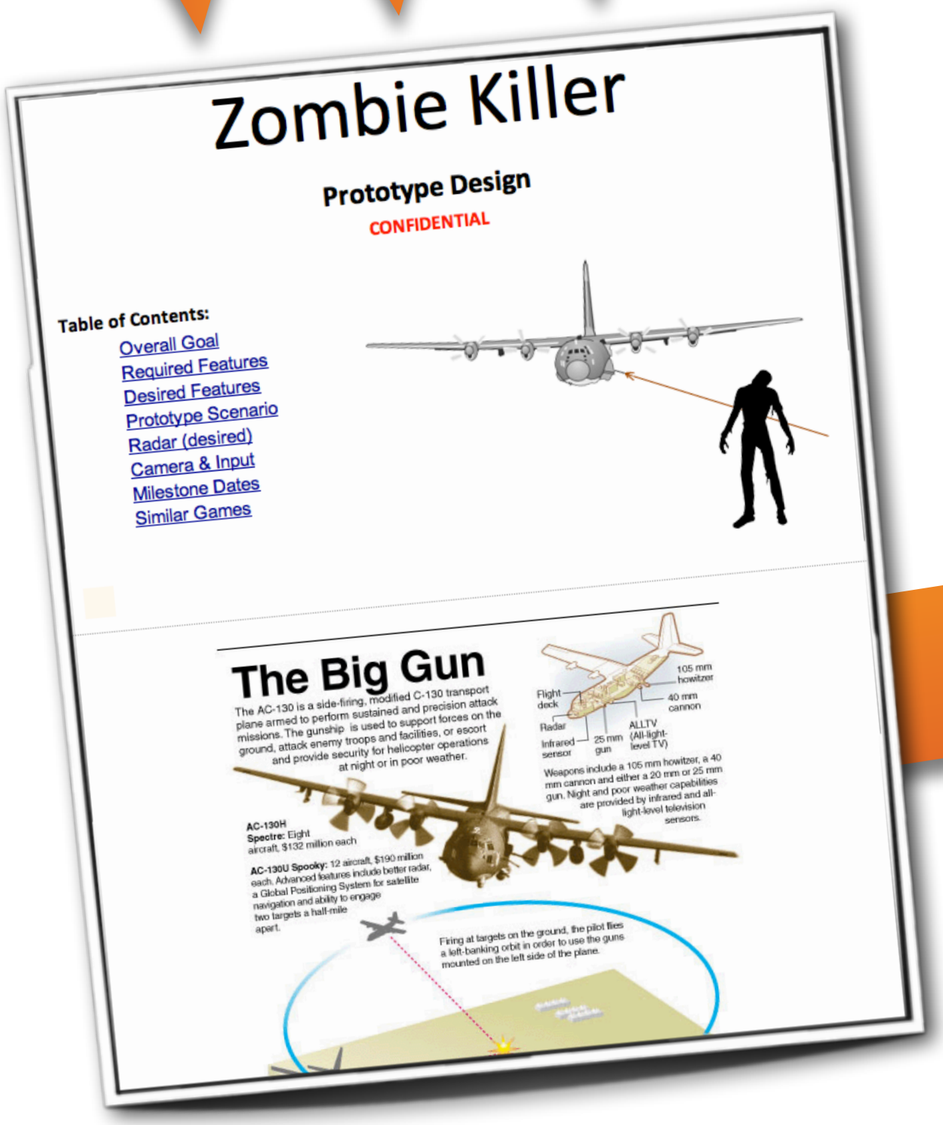
GDC 10 Europe

GDC 11 Online

Thursday, October 13, 11

How'd that happen?
-Went to Cologne for GDC Europe and hung out with Volker our 3rd cofounder and had beers
We also met Sander, an old friend of Volker's.
- We only work with people we know or that people we trust can vouch for, so we were very interested in working with Sander.
- We were tossing around ideas over beers for a game we could work on, and we thought "wow, it would be great to shoot zombies from an AC-130."
- It was as simple as that, and we decided to start this game with Sander, and also added another good friend, Serban to the team.

Everyone



We'll start on the engine stuff!

Serban, Sander, Volker

GDC 11 Online

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- So, we all put our heads together and made a simple design doc to start gathering ideas.
- At this point, Serban, Sander and Volker went off to start initial prototyping.

I'll let Serban take over from here.

Serban:
- our goal was to make a great game in 3 - 6 months -- less time to minimize risk

I'm going to take you through:
- ZG at various stages of development
- We'll discuss the development team
- Why we made this particular game
- What went right / wrong

Gameplay Footage

For those that haven’t seen the game

Thursday, October 13, 11

- You're in an AC130, a real cargo plane equipped with weapons that the US might use in Afghanistan for example

-

Work in Progress Clips

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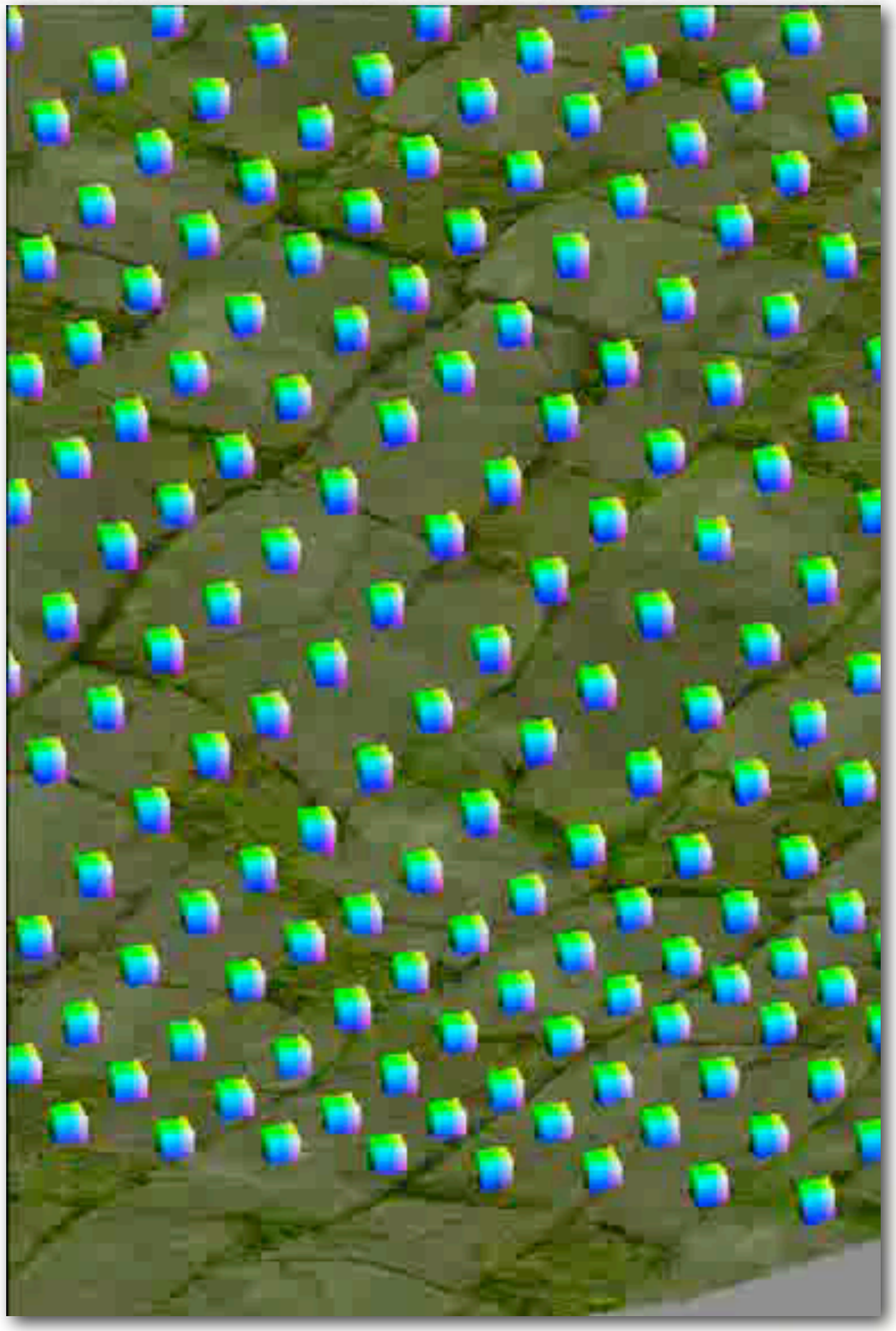
- now that you've seen a bit of the polished game, let's take a look at game during various stages of development.
- I'm showing this to help you see the process that we went through.
- I want these video clips and images to help emphasize the fact that we do A LOT of iteration and that
- the path from project start to shipping product is highly nonlinear

Walk through of game at various stages of the game's development. Stress the fact that the game was playable very early on, allowed us to iterate quickly.

Gameplay



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ac130-2 -- initial terrain and zombie boxes

ac130-3 -- exploding zombie boxes

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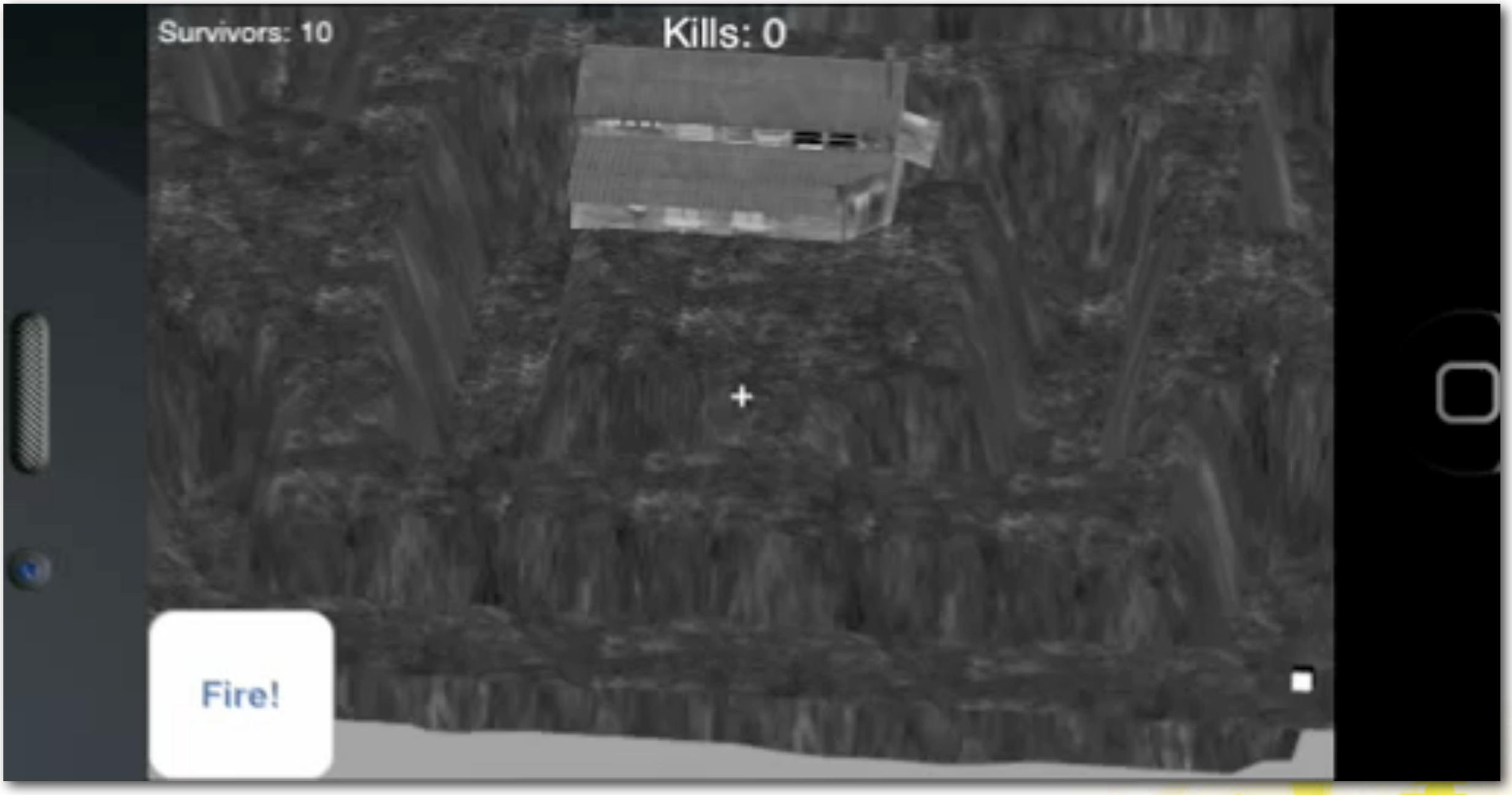
ac130-4 -- boxes walking along paths, shooting



ac130-6 Initial blur and thermal imaging

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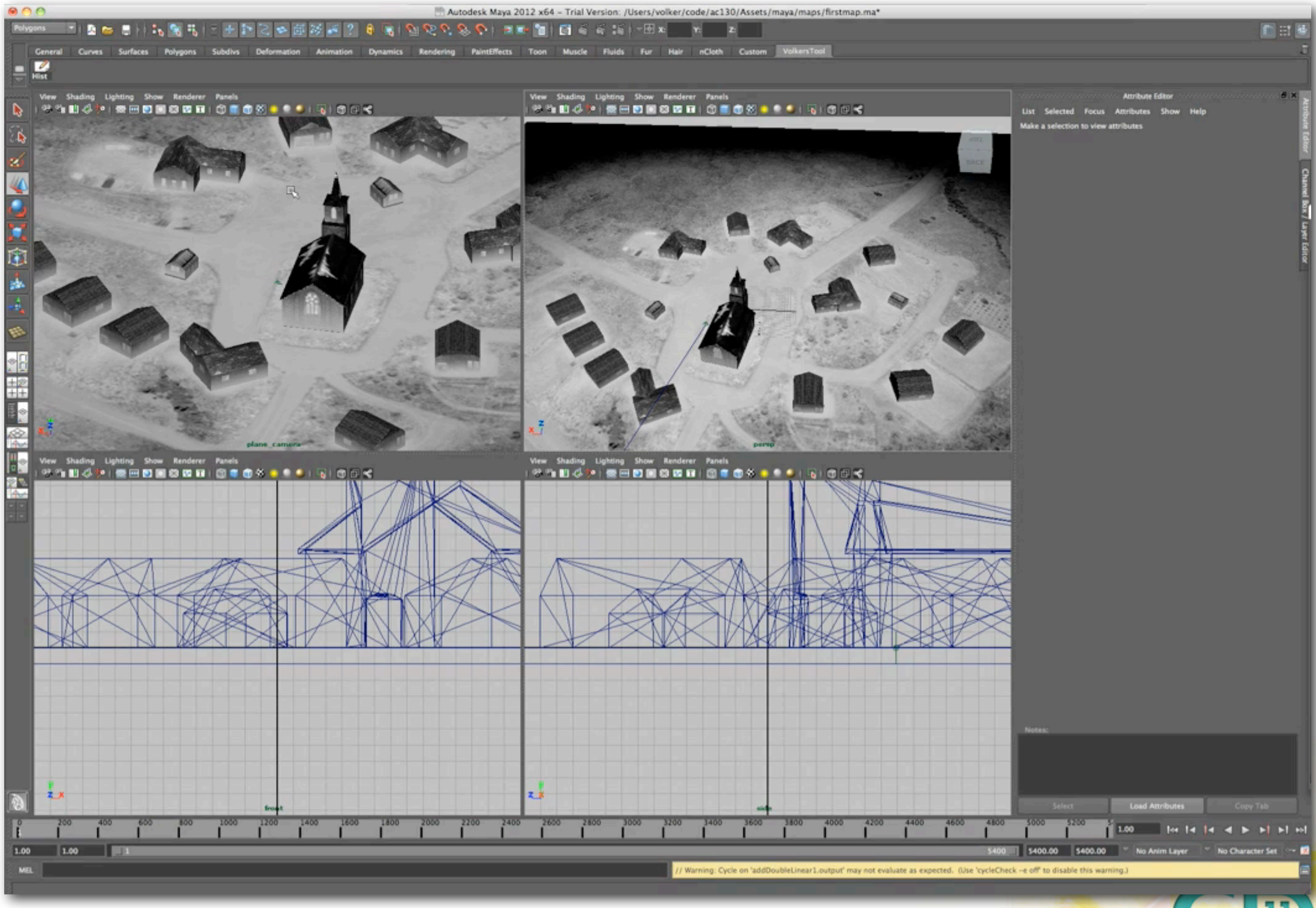
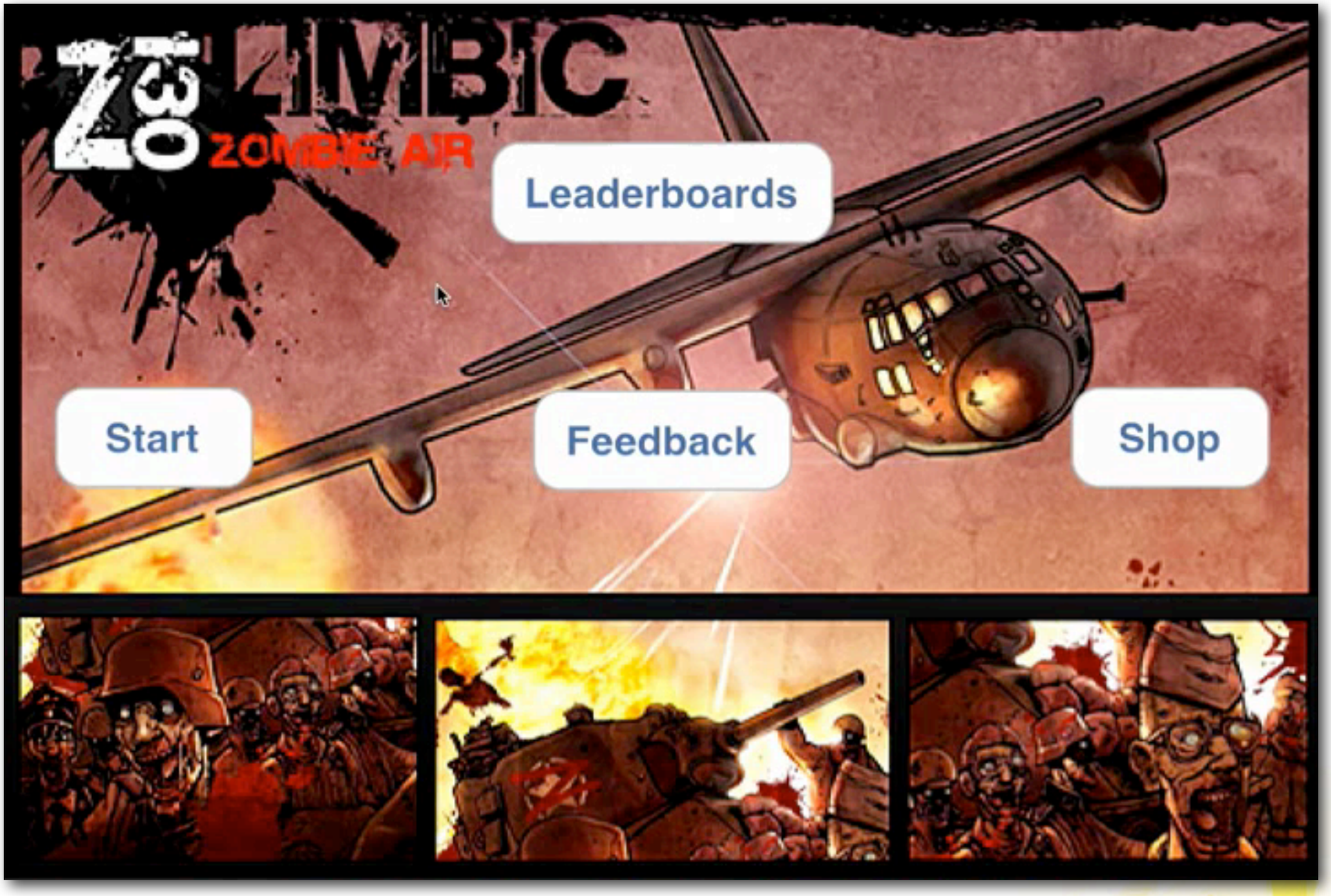
ac130-11 -- full gameplay of church level with noise, blur, exploding boxes
- essentially what was shown at GDC 2011



ac130-12-- Maya level design

ac130-13 -- shooting, exploding doodads



ac130-18 -- 1st bunker playable

Menu System

Discussion of the decisions and iterations when making the menu system

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- Our “Upgrade” screen

◀BACK 25MM GATLING

200,000

FASTER COOLING: 3-FIN HEATSINKS

Advances in cooling systems allow for gatling to fire longer and cool down more quickly.

UPGRADE 400

FASTER FIRING: ELECTROMECH LINKAGE

Significant gains in firing speed are realized with the use of improved ammunition feed mechanisms.

UPGRADE 400

BULLET SPEED: HIGH-POWER ROUNDS

High efficiency gunpowder chemistry leads to shorter time-on-target.

UPGRADE 400

GUARD MINES (YOU HAVE 0)

Greater area damage is achieved through the use of larger, deadlier warheads.

PURCHASE 10 FOR 25000

PLAYER PROFILE
SIGNED IN

AC130 ZOMBIE KILLER

V1.2

FEEDBACK

START

UPGRADE

LEADER BOARD

START

UPGRADE

LEADER BOARD

TODAY WE RELEASED A NEW GAME! IT IS CALLED JOE'S PIZZA PALACE! GO DOWNLOAD IT TODAY AND SPIN PIZZAS IN 3D! YOU'LL BE CRAZY IF YOU DON'T! THIS GAME IS AMAZING! CHECK IT OUT!!!

LIMBIC™

PLAYER PROFILE
SIGNED IN

AC130
ZOMBIE KILLER
V1.2

FEEDBACK

START

UPGRADE

LEADER BOARD

TODAY WE RELEASED A NEW GAME! IT IS CALLED JOE'S PIZZA PALACE! GO DOWNLOAD IT TODAY AND SPIN PIZZAS IN 3D! YOU'LL BE CRAZY IF YOU DON'T! THIS GAME IS AMAZING! CHECK IT OUT!!!

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LEADER BOARDS

SamplePlayer

NEWS

Today we released a new game! It is called Joe's Pizza Palace! Go download it today and spin pizzas in 3D! You'll be crazy if you don't! This game is amazing!

OKAY! I'll check it out!

START

SHOP

LIMBIC™

V1.2

FEEDBACK

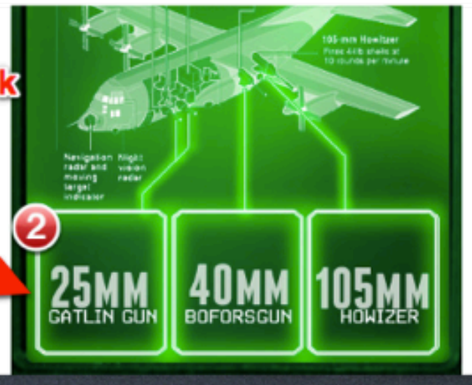
Not crazy about font / color. Seems too hollywood horror

After much debate, we decided the AC130 itself should still be the main background.
Could you paint something like the photo here?
The tilt of the plane balances the left-side buttons too.

Make this box a little taller so we can make the text a bit more legible. also We need more distinction between the "CHECK IT OUT" action text and the body text. (It was more of a button in the original concept)

ZOMBIE GUNSHIP™
FEEDBACK
V1.1
BREAKING NEWS
If you like Zombie Gunship you might enjoy some of our other hit games too!
Tap for more info
RANKING
LEADER BOARD
START
HUNT ZOMBIES NOW
UPGRADE
BIGGER, BADDER, BETTER
7

We like these buttons. New buttons look look much like labels.



Remove buttons on side. Maybe make switches that don't look like you can actualy tap (decoration)

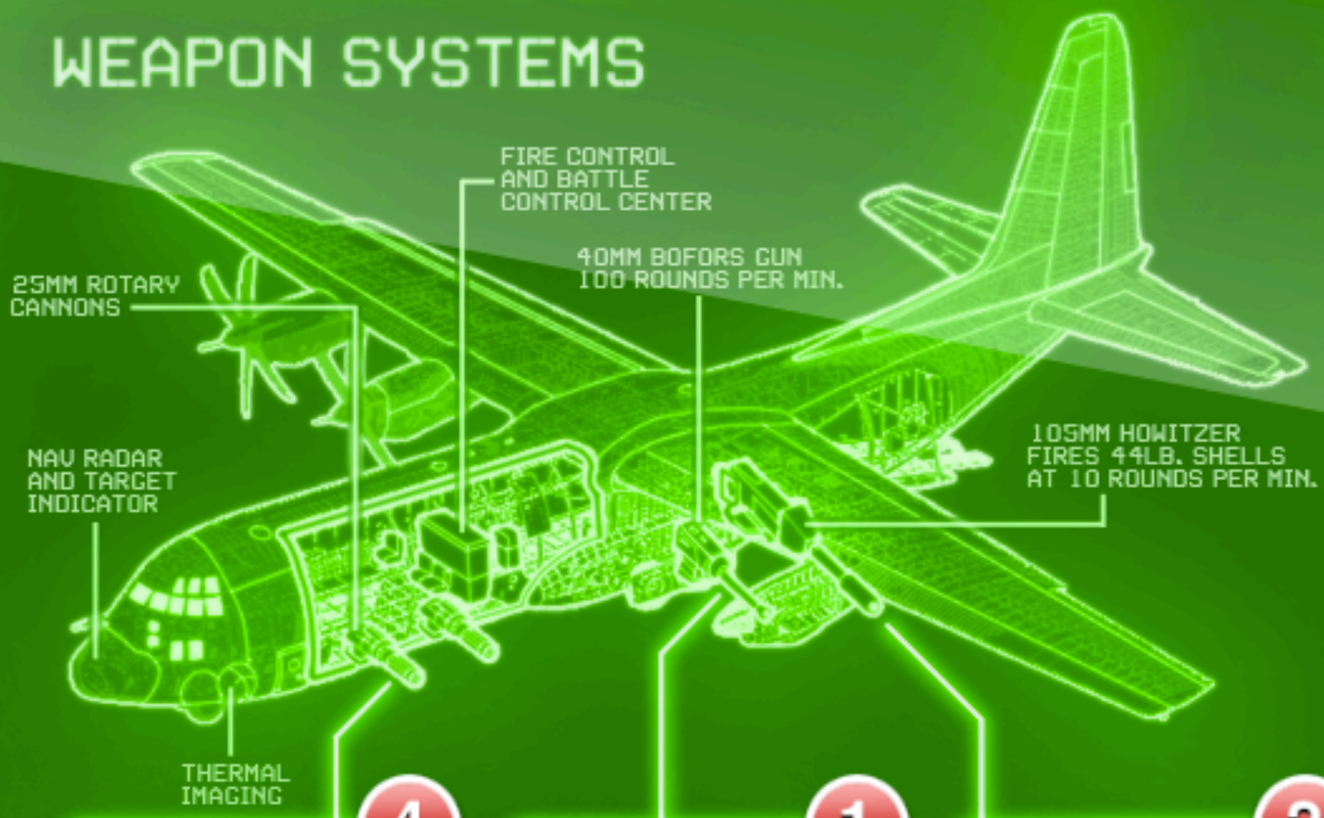
Use upgrade bars instead of %

We're thinking buttons more like the ones seen in 1960s tech and command centers like the ones her

MAIN MENU

UPGRADE CENTER

WEAPON SYSTEMS



159,830
TOTAL COINS

WEAPON UPGRADE STATUS

25MM

40MM

105MM

4 25MM GATLING GUN

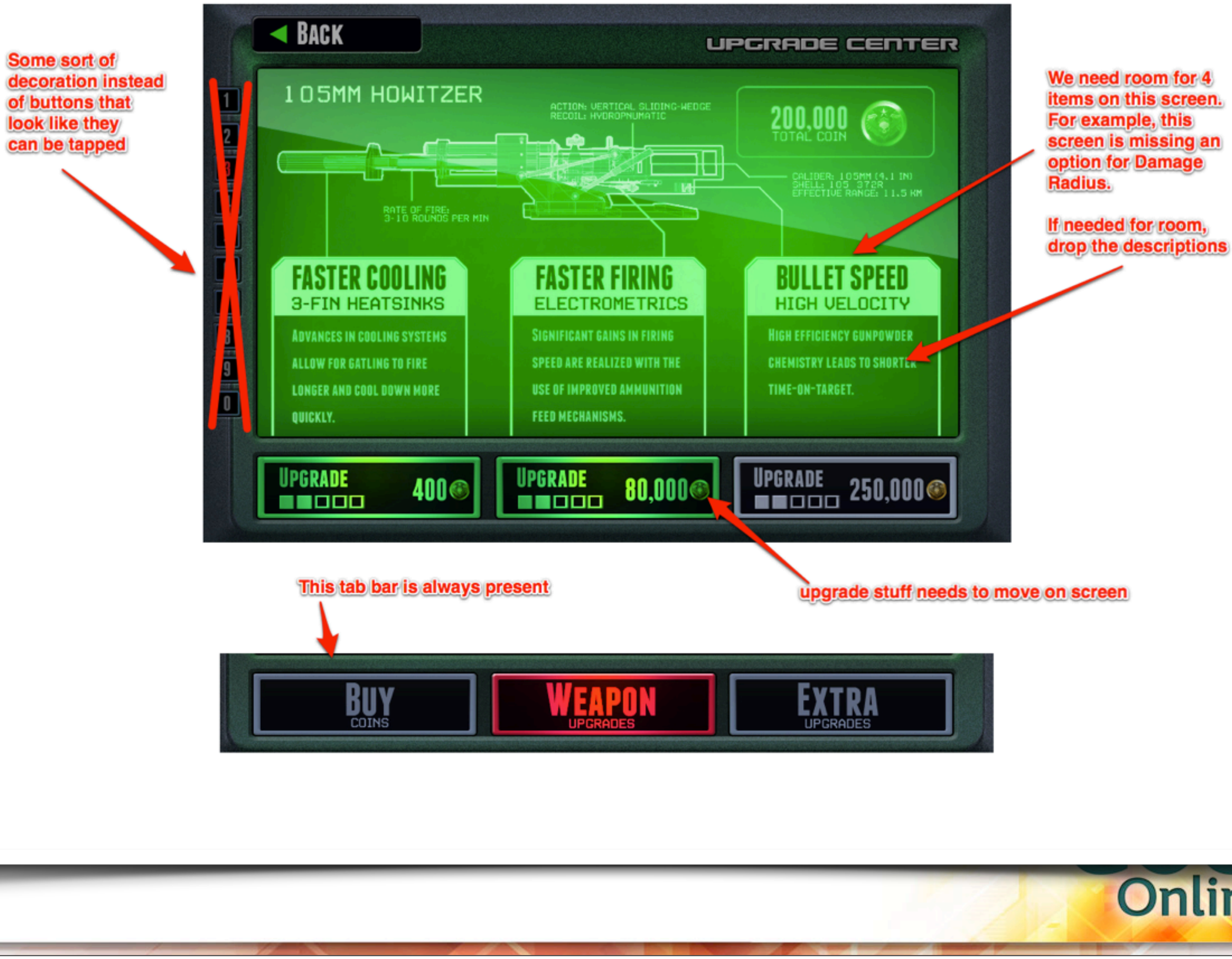
1 40MM BOFORS GUN

2 105MM HOWITZER

BUY COINS

WEAPON UPGRADES

EXTRA UPGRADES



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- Many of these issues arose because we just didn't have enough contact with the artists (SDP, maybe include this slide in the What Went Wrong section)

BACK
UPGRADE CENTER
105MM HOWITZER
ACTION: VERTICAL SLIDING-WEDGE
RECOIL: HYDROPNEUMATIC
159,830
TOTAL COINS
CALIBER: 105MM (4.1 IN)
SHELL: 105 372R
EFFECTIVE RANGE: 11.5 KM
RATE OF FIRE:
3-10 ROUNDS PER MIN
DAMAGE RADIUS
LARGER SPREAD
5,000
UPGRADE
FASTER RELOAD
3-FIN HEATSINKS
MAX
BULLET SPEED
HIGH VELOCITY
5,000
UPGRADE
BUY
COINS
WEAPON
UPGRADES
EXTRA
UPGRADES

The Team

We've seen the game and it's evolution, now let's discuss the team that made the game and how it was structured

Discuss how the team and project was structured:

- 5 engineers
- 2, 3 primary at any one time while others were off working on other things
- 2,3 contract artists -- one primary point of contact

The Team

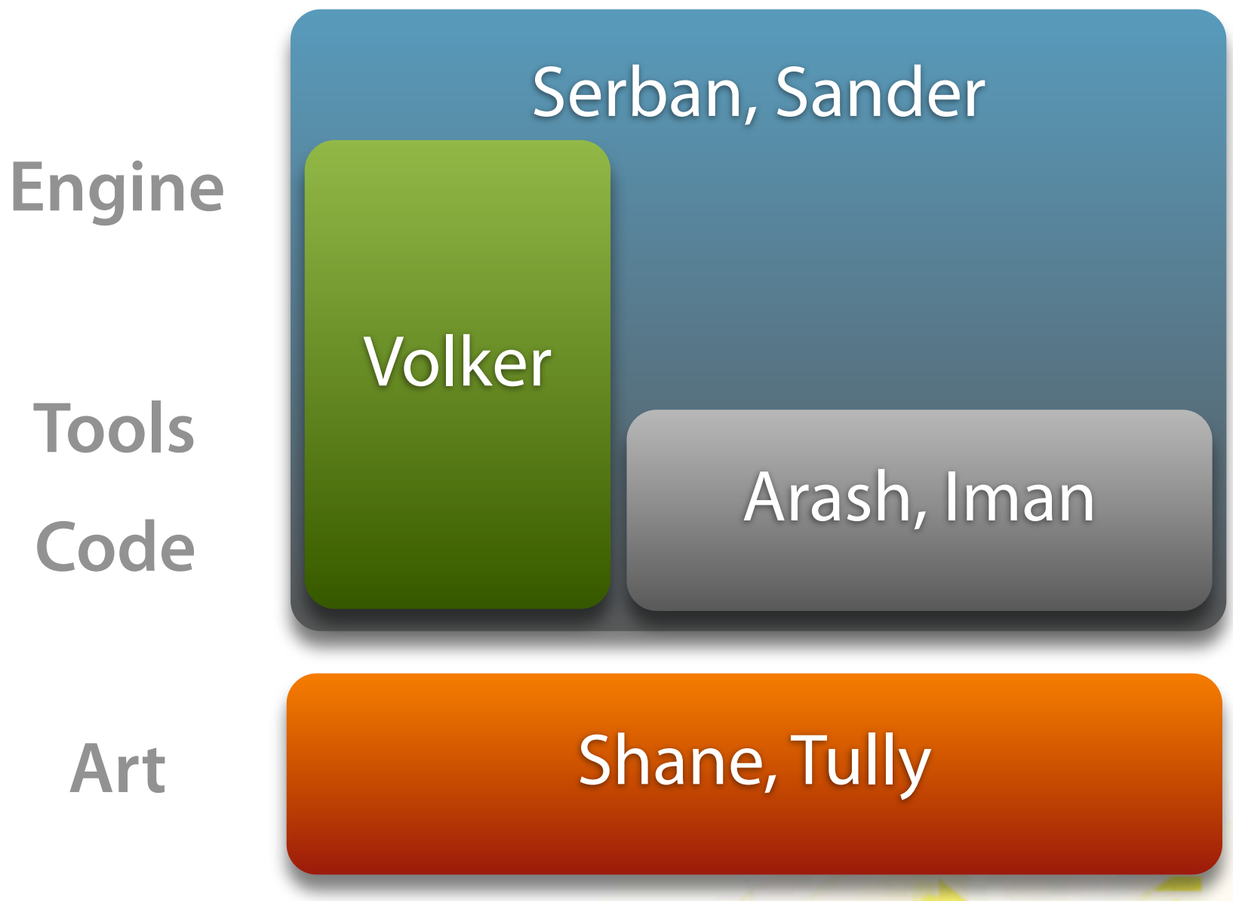
- Very engineering heavy
- Only 2 - 3 engineers really full time
- Highly art bound

Thursday, October 13, 11

- we had 5 engineers
- 2,3 engineers -- others off working on other projects
- we had 2 - 3 part time, contract artists -- our meetings with the artists were usually at 10PM PST
-

Nuts!

Zombie Gunshipp



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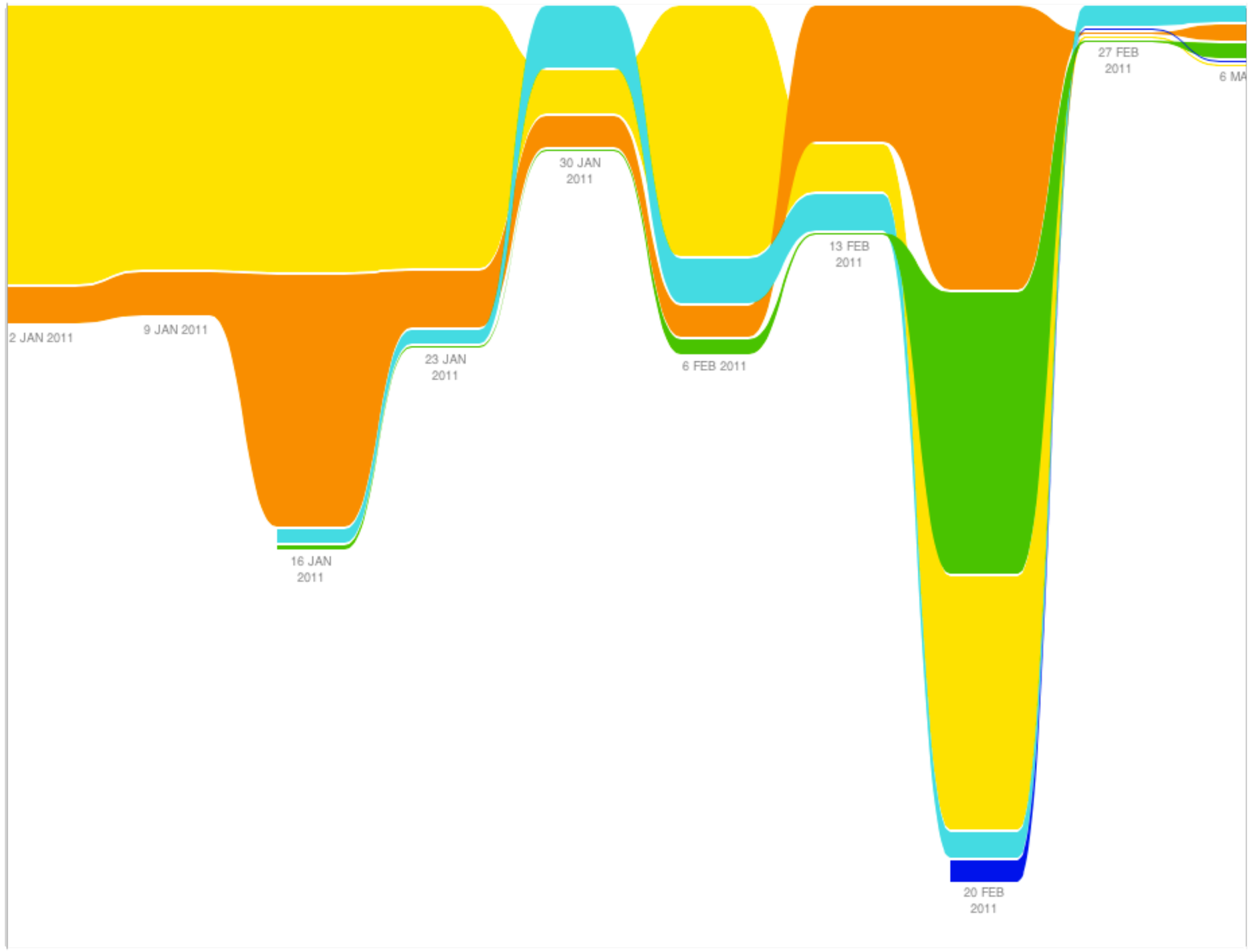
The real question here is how to take multiple people and work on multiple games at the same time
Also did TM updates in this time.

- Sander primarily working on the engine
- Volker providing support for Sander since not an iOS guy, initial gameplay, and tools to export levels from Maya
- I was assisting with random engine bits, initial effects/particles

- 4/5 engineers were around to discuss gameplay and game design issues / game direction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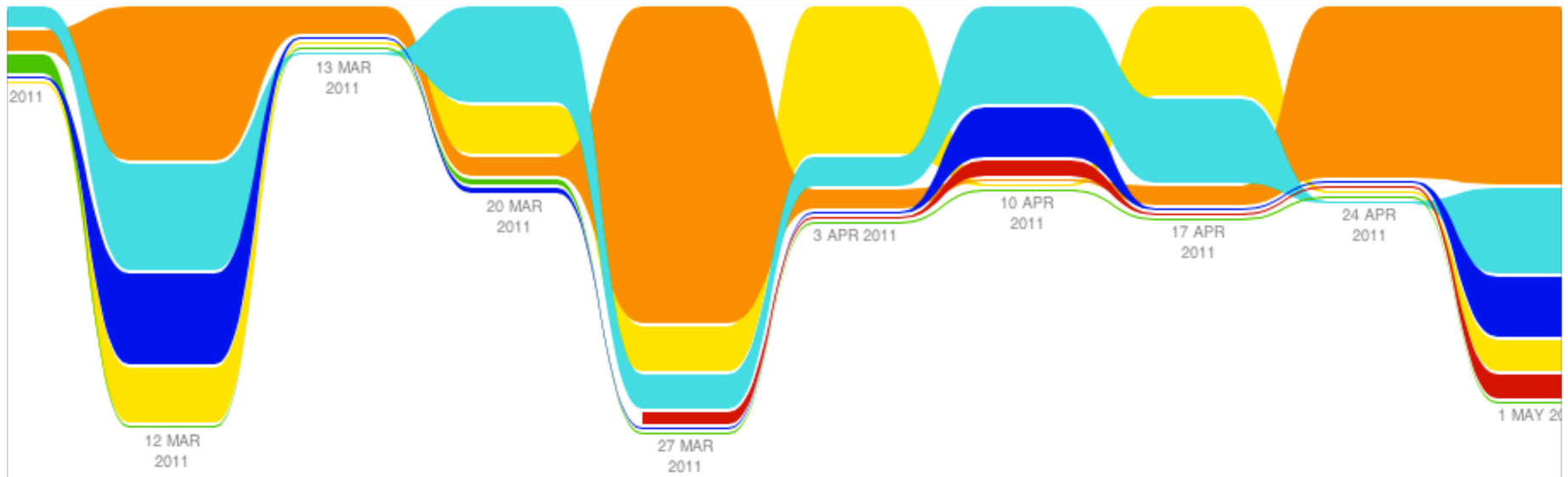
27 FEB 2011
6 MA


2011
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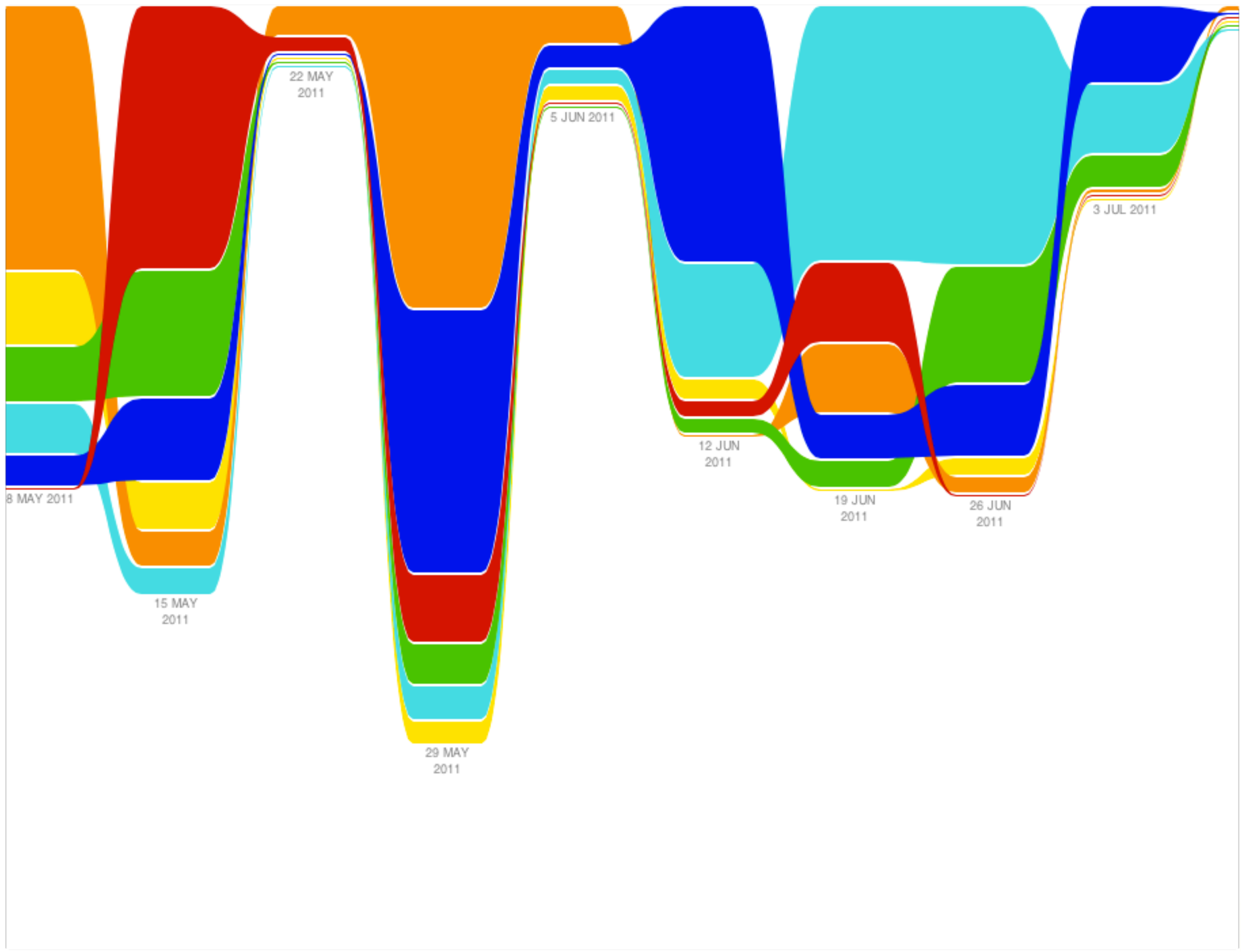
1 MAY 2

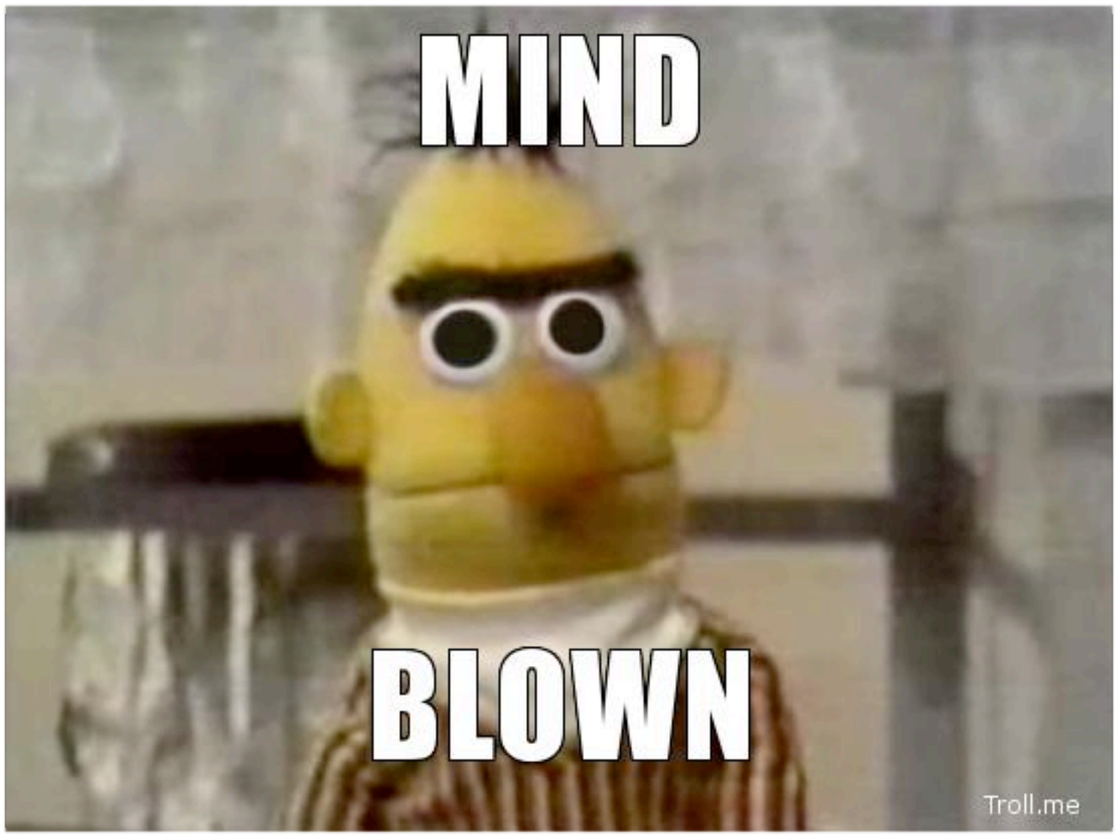

8 MAY 2011
15 MAY 2011
22 MAY 2011
29 MAY 2011
5 JUN 2011
12 JUN 2011
19 JUN 2011
26 JUN 2011
3 JUL 2011

Decision to Make Zombie Gunship

Why and how did this team decide to make ZG?

Decision to Make Zombie Gunship

- Why this particular game?
- It's a wee bit more involved



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- Mention somewhat recent meeting with Large Mega Corp: "what's your process, how do you choose your demographic?" (synergize your paradigms to maximize your ARPU)
-- US: there is no process, we just make games we want to play

- Why any game really? we just make games we want to play

Top Paid iPhone Apps

Sort By: Bestsellers

1. **Where's My Water?** Games Released Sep 22, 2011 Game Center DOWNLOADED	2. **Angry Birds** Games Updated Aug 25, 2011 Game Center DOWNLOADED	3. **Fruit Ninja** Games Updated Jun 25, 2011 Game Center DOWNLOADED	4. **Angry Birds Seasons** Games Updated Sep 01, 2011 Game Center $0.99 BUY
5. **Camera+** Photo & Video Updated Aug 30, 2011 $0.99 BUY	6. **My Secret Folder** Lifestyle Updated Oct 04, 2011 $0.99 BUY	7. **WhatsApp Messenger** Social Networking Updated Sep 28, 2011 $0.99 BUY	8. **Angry Birds Rio** Games Updated Oct 03, 2011 Game Center $0.99 BUY
9. **TuneIn Radio Pro** Music Updated Aug 26, 2011 $0.99 BUY	10. **Cut the Rope** Games Updated Jul 22, 2011 Game Center DOWNLOADED	11. **Zombie Highway** Games Updated Sep 19, 2011 Game Center DOWNLOADED	12. **FIFA SOCCER 12 by EA SP...** Games Released Sep 29, 2011 $4.99 BUY
13. **Tiny Wings** Games Updated Sep 21, 2011 Game Center DOWNLOADED	14. **THE GAME OF LIFE Cla...** Games Updated Dec 09, 2010 $0.99 BUY	15. **Pimp Your Screen - You...** Lifestyle Updated Sep 29, 2011 $0.99 BUY	16. **"Free Music Download Pro"...** Music Updated Sep 19, 2011 $0.99 BUY
17. **Doodle Jump - BE WAR...** Games Updated Sep 23, 2011 Game Center $0.99 BUY	18. **Jelly Defense** Games Released Sep 29, 2011 Game Center $0.99 BUY	19. **Flashlight ®** Utilities Updated Sep 16, 2010 $0.99 BUY	20. **Bejeweled 2 + Blitz** Games Updated Jul 08, 2011 $0.99 BUY
21. **MONOPOLY** Games Updated Sep 02, 2011 $0.99 BUY	22. **The Moron Test** Entertainment Updated Sep 08, 2011 $0.99 BUY	23. **NCAA® Football by EA ...** Games Updated Aug 23, 2010 $0.99 BUY	24. **Asphalt 6: Adrenaline** Games Updated Jul 20, 2011 $0.99 BUY
25. **Plants vs. Zombies** Games Updated Sep 08, 2011 Game Center $2.99 BUY	26. **MLB.com At Bat 11** Sports Updated Oct 01, 2011 $4.99 BUY	27. **Words With Friends** Games Updated Sep 16, 2011 $1.99 BUY	28. **Alarm Clock Pro** Utilities Updated Aug 05, 2011 $0.99 BUY

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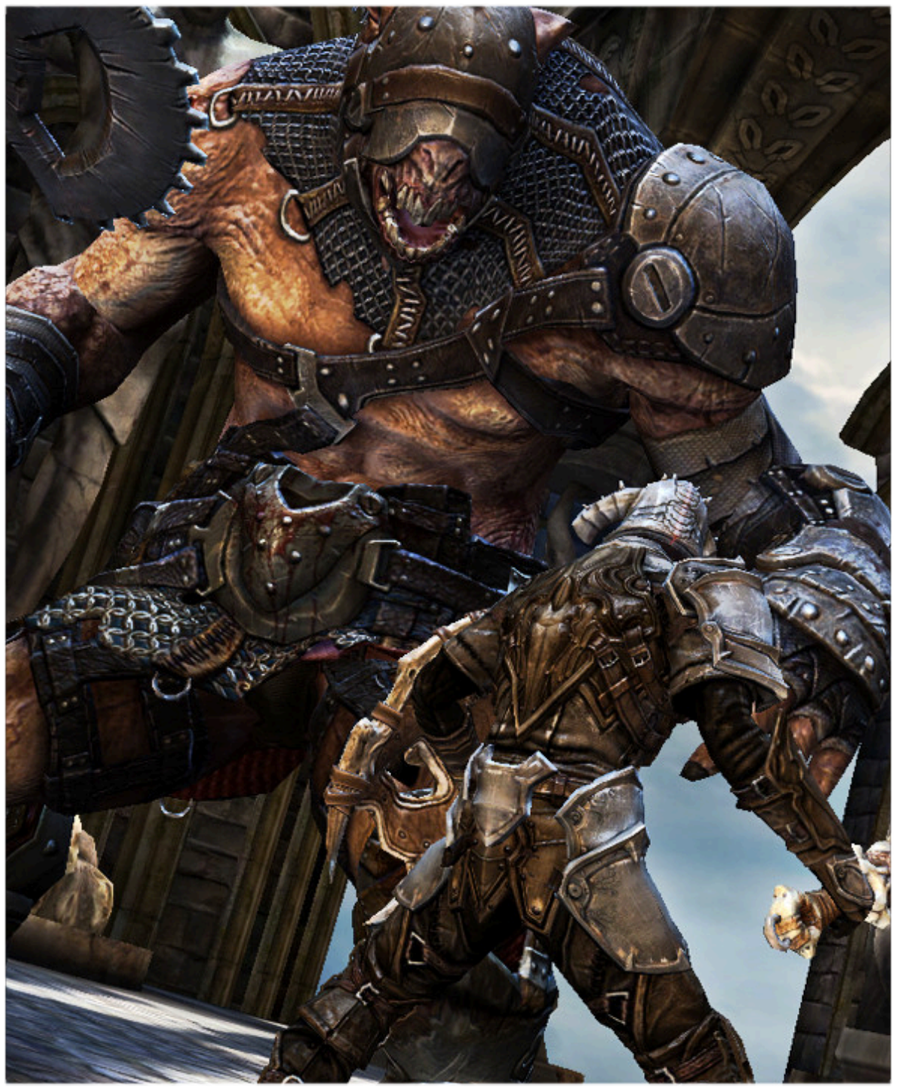
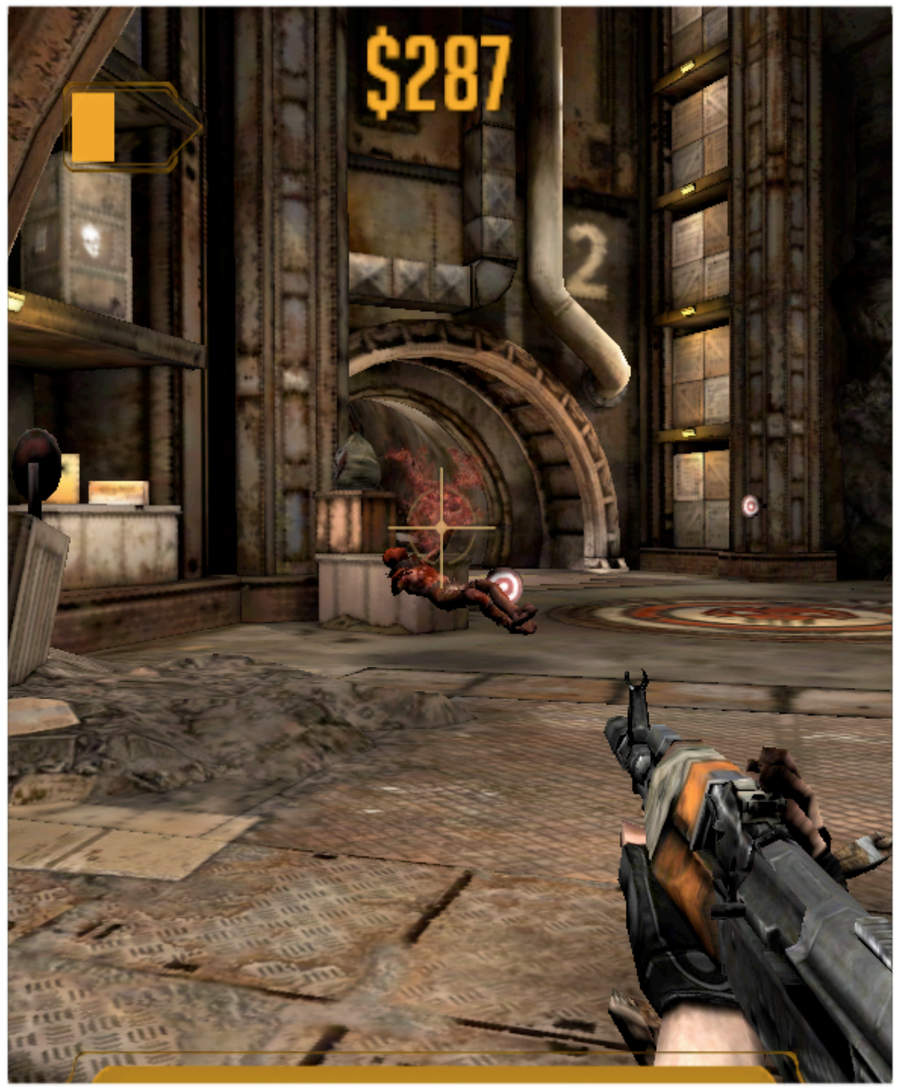
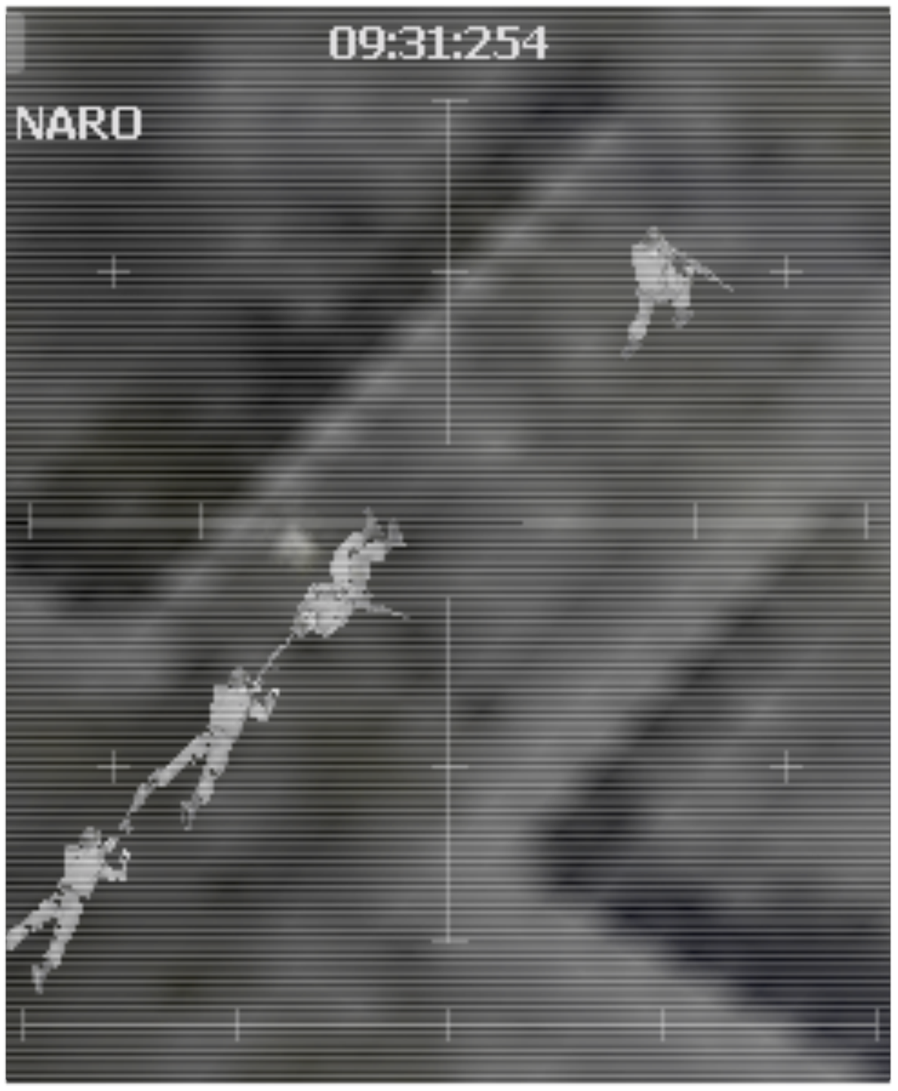
- noticed that a majority of the games sitting in the top 25 - 50 are cute
- felt that a more hardcore crowd was being under represented





GDC 11 Online

- we saw other similar games that had a moderate to great amount of success



-- we tried to lock down the intended audience, we want to make something great for the people that play these games.

What Went Right

What Went Right

- Kept the game simple
- Took advantage of device capabilities
- Targeted for mobile play, not console
- Revenue Sharing

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1. it was hard for a new feature / complexity to be added
-- on occasion we found ourselves in long discussions about very specific features
---- we would inevitably ask ourselves “Does this actually make the game more fun?” (e.g., does having 10 levels make the game more fun?

2. took advantage of device capabilities (took a note from Nintendo here -- they’re generally great at making games that fit the device) in conjunction with the resources available to us

3. this is HUGE!

4. - Revenue sharing -- interest aligned -- make a great game, continue to support it (if game not successful, doesn’t matter)

What Went Right

- Many Iterations
- Contracts
- Limited Scope
- Made the game universal

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1. like we've already seen
2. Made sure the most important legal bits were addressed before shipping
3. Gave ourselves 3 – 6 months (code reuse from Nuts and TM helped)
4. went universal in less than a week, in store two weeks after initial launch

What Went Wrong

What Went Wrong

Too focused on tech

Not enough artist involvement

Working with people that have jobs

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1. Focused too much on tech early on and not enough on gameplay and design -- at the two month mark when we did our GDC demo, we still hadn't locked gameplay down

2. Artists were not involved in our daily scrum meetings and many of the critical design meetings -- led to quite a bit of confusion, having to repeat things previously discussed

3. Working with people that have real day jobs --> potential legal issues as their employer tries to come after YOUR product

What Went Wrong

Revenue Sharing

Image Rights

Contracts

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4. Revenue Sharing -- (thought this was a good thing?) - not so good for the people that got paid on contract. Lead to a desire to renegotiate once they saw the game was successful. Long story short, we don't work together anymore.

5. Make sure you have rights to images -- had to change something really great to something so,so last minute

6. Some aspects of the contracts were not addressed

Conclusions

Game design driven by tech

Know your users

Focus on the mobile experience

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1. This was the case for both Nuts and ZG. Can be good or bad depending on how you look at it. We'd like to think it's good because we can explore the "space" of the game more easily

2. We were surprised by TM players reaction to Nuts. Could be that first followup game was so different. Maybe another cute game wouldn't be as much of a shock the second time around?

3. We almost fell into the trap of a "many missions" console style game experience. One of the primary reasons ZG has been so successful is that you can play it tiny bite size sessions

Thank You!

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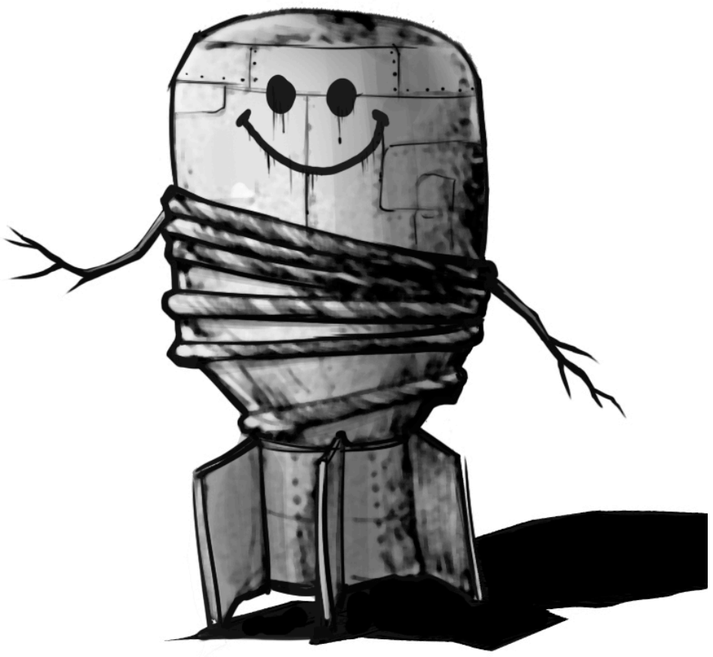

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