

2D Game Design

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Admin

- Lets go over the syllabus
 - after previous semesters have to be a hard-case
- and find out whose here.

Welcome

- To 2d game design
 - Somewhat new course since I'm changing everything since last time.
 - Still a bit experimental
 - I have agenda,
 - If you have anything you are dying to do I'll try to squeeze it in – if you let me know now.

Why 2D

- 3D games get big press so why 2D
 - 2d simpler technically to implement
 - can focus on gameplay aspects
 - not
 - lighting
 - physics
 - 3d math.
 - Most game design lessons are similar from 2d->3d
 - A few big 2d successes in last few years
 - Plants vs. zombies series
 - Angry birds series
 - Clash of clans (pre-rendered to 2d sprites)
 - Still a lot of money in 2D games.

Why Games?

- Why should we study game design?
 - US game software sales in 1995: \$3.2 billion
 - US game software sales in 2008: \$9.5 billion (ESA)
 - US game Software sales in 2013:\$15.4 billion (NPD)
 - US game Software sales in 2015: \$23.5 billion(ESA)
 - 2008 and before don't include digital download sales
 - Of course digital downloads didn't account for as much then
 - In 2013 \$6.34B in new physical sales, used: \$1.83B digital downloads: \$7.22 B
 - **US movie box office total 2015: \$11 billion (per boxofficemojo.com)**
 - Game software clearly ahead of movies for last 3 years.

Digital download

- Back in August 2011
 - Digital downloads accounted for 37% of game software revenue
 - Today it is well over half
- These numbers Don't seem to be counting the largest new source of gaming growth in the last few years
 - which is?

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 - which is?
 - 'free' to play with micro-transactions

Top micro transaction games

- Anyone want to take a guess on top micro transaction games for last year?

2015 Top Grossing Apps

- Numbers are in millions of dollars Source: CNBC.com
- 1. "Clash of Clans" (Supercell, \$1,345)
- 2. "Game of War: Fire Age" (Machine Zone, \$799)
- 3. "Puzzle & Dragons" (Gungaho Online Ent. Inc, \$729)
- 4. "Candy Crush Saga" (King Digital, \$682)
- 5. "MonsterStrike" (Mixi, \$674)
- 6. "Candy Crush Soda Saga" (King Digital, \$518)
- 7. "Fantasy Westward Journey" (NetEase, \$451)
- 8. "Colopl Rune Story" (COLOPL NI Inc, \$356)
- 9. "Disney Tsum Tsum" (LINE Corp, \$326)
- 10. "Boom Beach" (Supercell, \$297)

Best Selling recent games

- Anyone have a feel for which non-mobile games sold best last year? (world wide)

Best Selling recent games

- Anyone have a feel for which non-mobile games sold best last year? (world wide)
 - Some muddle between digital and physical sales
 - Different games are top
 - Lets start with digital purchases on consoles.

Best Selling on consoles 2015

- Anyone have a feel for which console games sold best last year as digital? (CNBC)
 - 1. "Call of Duty: Advanced Warfare" (Activision, \$355)
 - 2. "FIFA 15" (Electronic Arts, \$332)
 - 3. "Grand Theft Auto V" (Take-Two Interactive, \$322)
 - 4. "Destiny" (Activision, \$291)
 - 5. "Call of Duty: Black Ops III" ()
 - 6. "FIFA 16" (Electronic Arts, \$212)
 - 7. "Fallout 4" (Bethesda Softworks, \$108)
 - 8. "Star Wars Battlefront" (Electronic Arts, \$106)
 - 9. "Madden NFL 16" (Electronic Arts, \$76)
 - 10. "Madden NFL 15" (Electronic Arts, \$73)
- Of course consoles are the last refuge of physical media.

Best Selling on PCs 2015

- Anyone have a feel for which PC games sold best last year as digital sales?

Best Selling on PCs 2015

- Anyone have a feel for which PC games sold best last year as digital sales? (CNBC)
 - 1. "League of Legends" (Tencent/Riot Games, \$1,628)
 - 2. "Crossfire" (SmileGate, \$1,110)
 - 3. "Dungeon Fighter Online" (Neople, \$1,052)
 - 4. "World of Warcraft" (Activision, \$814)
 - 5. "World of Tanks" (Wargaming.net, \$446)
 - 6. "Lineage I" (NCSOFT Corporation, \$339)
 - 7. "Maplestory" (Nexon, \$253)
 - 8. "DOTA 2" (Valve Corporation, \$238)
 - 9. "Counter-Strike: Global Offensive" (Valve Corporation, \$221)
 - 10. "Grand Theft Auto V" (Take-Two Interactive, \$205)

How about all time

- What are the best selling games of all time?

Now how about all time?

- top 5 games (all time) as of 2015 (source whatculture.com)
 - 1) Tetris (estimated 170 Million copies)
 - 2) Wii Sports (82.69 million copies)
 - 3) Minecraft (70 million copies)
 - 4) Grand Theft Auto V (52 million)
 - Keeps going and going
 - 5) Super Mario Bros (40.2 million copies)
 - 6) Mario Kart Wii (36.38 million copies)
 - (these are games sales, not add ons or DLC)
 - How do the all time and the 2015 games compare?

What are people playing on Steam?

Current	peak	game
• 755,691	941,936	Dota 2
• 496,183	551,365	Counter-Strike: Global Off
• 60,866	62,696	ARK: Survival Evolved
• 59,314	65,215	Team Fortress 2
• 55,950	59,217	Garry's Mod
• 54,660	58,853	Grand Theft Auto V
• 53,811	59,595	Football Manager 2016
• 53,070	57,385	Sid Meier's Civilization V
• 45,934	54,075	Rocket League

analyzing this data

- Any surprises?
- any trends?
 - See any trends comparing a single year like 2015 and all time?
 - How about pc/console vs mobile?

My take: Overall vs recent

- Overall,
 - friendly/casual games sell better than 'hardcore' challenging/time consuming ones
 - challenging both system requirements and players sensibilities
 - Grand Theft auto V first title to really break trend.
- recently
 - lots of more 'hardcore' titles done well
 - hardcore titles tend to cost a lot
 - and either be real money makers or horrid failures
 - any recent failures?

Casual Games

- In 1997 walmart started selling a 2d game with iffy graphics
 - widely panned by gaming critics
 - “While <name removed> may be fun and charming the first few times you play the game, it doesn't go much beyond that.”
 - cost just over \$110,000 to make
 - aimed at a new non-gaming demographic on low end machines
 - it and its successors have sold 10 million+ copies
 - what was it?

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 - Deer Hunter

More of the trend

- What was the biggest flash in the pan game that everyone played for for a couple of weeks earlier this year?

More of the trend

- What was the biggest mobile game of earlier this year?
 - slither.io right?
 - And before that there was angry birds
 - Words with friends
 - Fruit ninja
 - Candy crush
 - Clash of clans
 - 2d games making a lot of money these days.

Back to the computer

- One company has done very well selling nothing but 2d games for computers
 - 'casual' games.
 - 3 employees in their homes to 180 in 5 locations in the world then finally sold for \$750+ million in cash and stock
 - 50+ million copies of various versions of their flagship games sold.
 - pioneers of “try before you buy” in the video game market.
 - who?

Back to the computer

- One company has done very well selling nothing but 2d games for computers
 - 'casual' games.
 - 3 employees in their homes to 180 in 5 locations in the world in 9 years.
 - 25 million copies of various versions of their flagship games sold in the last few years.
 - pioneers of “try before you buy” in the video game market.
- PopCap games
 - bejeweled, chuzzle, peggles vs. zombies and more

The newest trend

- phone/tablet apps
 - many/most best selling ones are 2d games.
 - angry birds, fruit ninja, flappy birds, candy crush, clash of clans
- Before that:
 - facebook games
 - zynga made/makes millions.
 - again all 2d.

Structure of this class.

- We will look at three things
 - general game design
 - common implementation techniques for common game functionality
 - implementing our games using html5/javascript
 - We'll interleave the first topic with the other two.

HTML5

- HTML5 is
 - Current standard for web markup
 - Theoretically allows multimedia in web and kills flash
 - In practice what is called html5 is usually a mess of html/css and javascript.

End of conceptual stuff for now

- get your books, first reading assignments coming in next class.
- Now lets look a bit at HTML5