GAME DEVELOPMENT

CSC 3150
Instructor: Dr. Edward Kim
Challenge - Theory of Flow

- http://www.youtube.com/watch?v=fXleFJCqsPs
Deaths by Flow (or Addiction?)

- Korean Killed by Starcraft (2005)
Deaths by Flow (or Addiction?)

- 18-Year-Old Killed by an Arcade
Deaths by Flow (or Addiction?)

• 40 Hours of Diablo III Proves Fatal
Deaths by Flow (or Addiction?)

- 12 hour halo session
Deaths by Flow (or Addiction?)

- 650 Hour continuous gamming marathon
Deaths by Flow (or Addiction?)

Three-Day Gaming Binge Kills Taiwanese Man
What is play?

- “It’s non-directed.”
- “It’s spontaneous.”
- “It’s not scripted.”
- “Play is loud.”
- “Not work.”
- “It’s physical.”
- “It’s fun.”

Dr. Stuart Brown
- Director of the National Institute of Play
Why Do We Play?

It's deeper than gender, seriously. (Sometimes dangerously) fun and a sandbox for ideas about evolution and human development. By Robin Marantz Henig
Children’s games – Pieter Bruegel
Charles Whitman
• Mother –

Let there be no doubt in your mind that I loved this woman with all my heart.

Wife –

I imagine it appears that I brutally killed both of my loved ones. I was only trying to do a quick thorough job [...] If my life insurance policy is valid please pay off my debts [...] donate the rest anonymously to a mental health foundation. Maybe research can prevent further tragedies of this type.
As a kid, I’d wonder why Charles couldn’t come over and play with us. Other kids and me, we’d climb the mulberry and mango trees in back of the house and in the woods, but not Charles. Charles never played with us. He wasn’t allowed to have friends; he couldn’t have friends over to his house.

A neighbor, who grew up next door to Charles Whitman © 2006, The Palm Beach Post.
“By age 23, more than one third of kids who had gone to play-free preschools had been arrested for a felony, as compared with fewer than one tenth of play-oriented preschool alums.”

- Educational Research Foundation in Ypsilanti, Michigan
Rat study on play
## Types of play

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<th>Free-form play (<em>paida</em>)</th>
<th>Rule-based play (<em>ludus</em>)</th>
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<td><strong>Competitive play</strong></td>
<td>Unregulated athletics (foot racing, wrestling)</td>
<td>Boxing, billiards, fencing, checkers, football, chess</td>
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<td><strong>Chance-based play</strong></td>
<td>Counting-out rhymes</td>
<td>Betting, roulette, lotteries</td>
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<td><strong>Make-believe play</strong></td>
<td>Children’s initiations, masks, disguises</td>
<td>Theater, spectacles in general</td>
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<td><strong>Vertigo play</strong></td>
<td>Children “whirling,” horseback riding, waltzing</td>
<td>Skiing, mountain climbing, tightrope walking</td>
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Body Play

• Participate in some form of active movement that has no time pressures or expected outcome (if you are exercising just to burn fat, that is not play!).
Object Play

- Use your hands to create something you enjoy (it can be anything; again, there doesn’t have to be a specific goal).

- Social Play –
Join other people in seemingly purposeless social activities, “from small talk to verbal jousting”
• Rough and tumble play
Dramatic Elements

- **Story**
  - Unfolds as the game progresses
Pixar’s 22 elements of storytelling

• You admire a character for trying more than for their successes.
• You gotta keep in mind what’s interesting to you as an audience, not what’s fun to do as a writer. They can be very different.
• Trying for theme is important, but you won’t see what the story is actually about til you’re at the end of it. Now rewrite.
• Once upon a time there was ___. Every day, ___. One day ___. Because of that, ___. Because of that, ___. Until finally ___.
• Simplify. Focus. Combine characters. Hop over detours. You’ll feel like you’re losing valuable stuff but it sets you free.
• What is your character good at, comfortable with? Throw the polar opposite at them. Challenge them. How do they deal?
• Come up with your ending before you figure out your middle. Seriously. Endings are hard, get yours working up front.
• Finish your story, let go even if it’s not perfect. In an ideal world you have both, but move on. Do better next time.
• When you’re stuck, make a list of what WOULDN’T happen next. Lots of times the material to get you unstuck will show up.
• Pull apart the stories you like. What you like in them is a part of you; you’ve got to recognize it before you can use it.
• Putting it on paper lets you start fixing it. If it stays in your head, a perfect idea, you’ll never share it with anyone.
• Discount the 1st thing that comes to mind. And the 2nd, 3rd, 4th, 5th – get the obvious out of the way. Surprise yourself.
• Give your characters opinions. Passive/malleable might seem likable to you as you write, but it’s poison to the audience.
• Why must you tell THIS story? What’s the belief burning within you that your story feeds off of? That’s the heart of it.
• If you were your character, in this situation, how would you feel? Honesty lends credibility to unbelievable situations.
• What are the stakes? Give us reason to root for the character. What happens if they don’t succeed? Stack the odds against.
• No work is ever wasted. If it’s not working, let go and move on – it’ll come back around to be useful later.
• You have to know yourself: the difference between doing your best & fussing. Story is testing, not refining.
• Coincidences to get characters into trouble are great; coincidences to get them out of it are cheating.
• Exercise: take the building blocks of a movie you dislike. How d’you rearrange them into what you DO like?
• You gotta identify with your situation/characters, can’t just write ‘cool’. What would make YOU act that way?
• What’s the essence of your story? Most economical telling of it? If you know that, you can build out from there.
Rule 2 - You gotta keep in mind what’s interesting to you as an audience, not what’s fun to do as a writer. They can be very different.

- Know your audience
- Make them happy
Rule 4 - Once upon a time there was ____. Every day, _____. One day ____. Because of that, _____. Because of that, _____. Until finally _____.

One Valentine’s ____________________ noun.

I was ____________________, when I looked

-ing verb

in my ____________________ and saw a

noun

adjective ____________________ noun

It said, ”Will you be my ____________________?“

noun

I was so ____________________ emotion.
Rule 5 - Simplify. Focus. Combine characters. Hop over detours. You’ll feel like you’re losing valuable stuff but it sets you free.

- William Faulkner – “Kill your darlings”

- Anton Chekhov
- One must not put a loaded rifle on the stage if no one is thinking of firing it
Rule 7 - Come up with your ending before you figure out your middle. Seriously. Endings are hard, get yours working up front.

- “Breadcrumming”
11 Video Game Survival Commandments

• We’re In the Entertainment Business, Not the Game Business. We look at the content we create as entertainment. Our platform for distributing that entertainment experience is games.

• Build Your Design and Story to Break. Every game design and story will be subject to multiple technical and production realities that will stress them to the breaking point. Inevitably cuts will happen, so get out in front them.
11 Video Game Survival Commandments

• Somebody Always Knows Something You Don’t. Just when you think you know it all, someone proves you wrong. Instead, learn from everybody you work with.

• Dialogue Is the Tip of the Dramatic Iceberg. Throwing dialogue at a broken story never fixes the problem. Good dialogue and stories come from well-conceived characters in exciting dramatic situations.
11 Video Game Survival Commandments

• You Are Only as Good as Your Relationship with Your Team. All the great ideas in the world are meaningless if no one wants to listen to them or implement them in the game.

• Be Willing to Kill Your Babies. Don’t be precious with your ideas, or fall in love with one in particular, because it will, almost without fail, be the one on the chopping block. But ...
11 Video Game Survival Commandments

• Protect Your Vision. This is the flip side of killing your babies. If you lose your vision for a project, or lose what was meaningful about it that inspired you in the first place, then what’s the point in doing it?

• Make Your Deliverables. You are only as good as what you contribute.

“A delayed game is eventually good, but a rushed game is forever bad.” - Shigeru Miyamoto
11 Video Game Survival Commandments

• Don’t Shine a Spotlight on a Turd. Every game will have its shortcomings. Don’t go out of your way to highlight them.

• Choose Collaboration Over Compromise. Collaborating gets you to the same place as compromise, but without the negativity.
11 Video Game Survival Commandments

• Making Fun Should be Fun. We’re not digging ditches or performing brain surgery here, we’re making games.
System Dynamics

- **Objects**
  - Building blocks of your system

- **Properties**
  - Define your objects or aspects of an object

- **Behaviors**
  - Actions that one might perform in a given state

- **Relationships**
  - How do you interact with other objects
  - Deterministic / Random

- **Economies**
  - Barter
  - Markets
  - Metaeconomy
System Dynamic Example

- The object...

Properties?
Behaviors?
Relationships?
System Dynamic Example

- Mario

Properties? Behaviors? Relationships?
Information Structure

• Open or Hidden?
  • What do you want your game to involve (knowledge/calculation or deceit)?

• Control
  • How will you physically manipulate the game state? Game state could also be abstractly manipulated..

• Feedback
  • Positive or balancing
Feedback

5.16 Positive and negative feedback loops

5.17 Reinforcing and balancing relationships over time
Tuning the system

• Fairness
• Balance
• Challenge
• Fun?
Game design is a highly iterative process

- Playcentric designing
- Highly iterative
- Highly iterative
- Highly iterative
BioShock 2's Big Sister Was a Disaster

RUSS PITTS | 11 MARCH 2010 4:27 PM

According to 2K Marin's Kent Hudson, there are a few core qualities an enemy character should embody in order for playing a game to be fun. Most important among these is predictability. An enemy can be difficult to beat, but the player needs to be able to learn its movements and adapt to its strategies. Otherwise, attacks are coming out of nowhere and there's no way for the player to anticipate and adapt.

Makes sense. If only the team at 2K Marin had realized this before creating the Big Sister.

"We painted ourselves into a corner," says Hudson. "We made an error of innocence."
The Big Sister
Traditional PROCESS
In Hindsight ...
Revised PROCESS
Find the Fun

Concept

Prototype

Docs

Production
Put Simply ...

- Don’t over-concept and over-document
  - Prototype early and be rigorous
  - Prove features before entering production
  - Work iteratively as a group
The Lucky Winner
... Proxy ...

... REALLY, REALLY PROXY
Proxy Object Throw
Final Object Throw
Brute - Bioshock

• https://www.youtube.com/watch?v=J6zyJSgraT8