Psychology of Play

Readings
PENS Model

- Competence
- Autonomy
- Relatedness

- Get in a group of 2s
- Choose a game that you both played
- Analyze it in terms of the model
Motivations: Emotions

- **Hard Fun**
  - Playing to see how good I really am
  - Playing to beat the game
  - Having multiple objectives
  - Requiring strategy rather than luck

- **Easy Fun**
  - Exploring new worlds with intriguing people
  - Excitement and adventure
  - Wanting to figure it out
  - Seeing what happens in the story, even if I have to use a walk through
  - Feeling like me and my character are one
  - Liking the sound of cards shuffling
Motivations: Emotions

• Altered States
  – Clearing my mind by clearing a level
  – Feeling better about myself
  – Avoiding boredom
  – Being better at something that matters

• People Fun
  – It’s the people that are addictive not the game.
  – I want an excuse to invite my friends over.
  – I don’t like playing games, but it’s a fun way to spend time with my friends.
  – I don’t play, but it’s fun to watch.
Psychology behind games

• Motivation
Game Experiences

Roger Caillios’s types of experiences:

• Competition
• Chance
• Vertigo
• Make-Believe
Game Experiences

• An activity that we feel we can perform – a challenge that requires skill (competence)
• Concentration
• Have clear goals
• Feedback
• Immersion
• Control (Autonomy)
• Less self absorbed
• Altered perception of time
Psychology of Play

Some more work
Discussion Points: Why theory !?

• To be a good designer  (from my discussions with Will Wright)
  – Open minded
  – Learn about anything and everything
  – Be patient and persistent

• Building without knowing your tools is like writing without knowing grammar

• I don’t want to play bad or ok games, I want to play really GOOD games!!
Understanding Players

Play Styles, Motivations and Emotions
Motivations

• Why would you pick up?
  – Wii-Fit?
  – Warcraft
  – Fable III
  – Need for Speed
  – Need for Speed World
Defining your target market

• Do your own market research
• Hire someone who knows the market
• Companies and reports exist:
  – e.g. Nielson, ComScore, NPD, etc.
  – Demographic data on habits within their own samples (2+ Million)
  – Specific consumer behavior of 25,000 or more
Best-Selling Video Game Super Genres by Units Sold in 2009 [ESA 2010]
Some Statistics

U.S. Digital Game Dollar (in billions) Sales Growth [ESA 2010]
Some Statistics

**Age** of Game Players
- 25% under 18 years
- 49% 18-49 years
- 26% 50+ years

**Gender** of Game Players
- 60% male
- 40% female

Age and Gender of Game Players [ESA 2010]
Some Statistics

According to The NPD Group:

• 20% of the U.S. population ages 6+ (i.e. 56.8 million) reports having played a game on a social network in the past three months

• 35% of social network gamers are new to gaming

• 47% male, and 53% female

• 10% of social network gamers have spent real money playing these games
Target Market Identification

• Gender
• Age
• Gamer: Casual, Non-gamer, Core Gamer
Activity: Target Market Identification

• In groups of 4-5
• Take a number for your group
• Identify the target market of the following using the 3 categories (Gender, Age, Gamer type) – 20 minutes:
  – Odd Number groups:
    • NBA
    • Brutal Legend
  – Even Number groups:
    • Prototype
    • Fable II

Use your laptop to see the reviews of the games.
Making a Game!

• **Step 1:** Pick up a Game
• **Step 2:** First Impression (first minutes of gameplay)
• **Step 3:** Addiction (retention of players)
First Impression

People will not play after the first few minutes if:

• Expectations are not matched
• Breakdown issues
• Learned patterns don’t work
• Controller issues
• Visual understanding or processing problems
Retention

People will not play after the first few hours if:

• No variety in game play

• For different styles, there are specific strategies to keep them, e.g.:
  – Socializers: new cooperative or social activities
  – Achievers: reward systems, more complex obstacles
  – Explorers: more environments, more stories
Making FPS easier for Non-gamers

Adaptive Lighting (using visual attention theories)

Work by Joseph Zupko, Chinmay Rao, Su Yan at RAEL in Penn State in 2006
Lighting Design + Visual Attention

- **Problem:** non-gamers die too quickly…
- Visual Attention Process
  - Bottom Up
  - Top Down
- Can we design a system for dynamic visual attention?
Hypothesis

• A Dynamic Lighting System can be used to dynamically channel visual attention
• Non-gamers’ do not spot enemies fast enough to respond
• Dynamic Lighting system will enable non-gamers to respond faster – better gameplay
Adaptive Lighting for Visual Attention

- Lighting on top of Unreal Game Engine

Game State information: objects, characters, camera, players’ mission and goal

Authored Rules: identifying focus & importance

- Identify foci
- Allocate areas
- Allocate lights
- Select angles
- Select colors

Mathematically encoded rules

Visual Attention rules

Revise colors based on foci & importance
Without the lighting system  with the lighting system
Experiment

- Participants:
  - 26 students 300-level course
  - Only 16 were usable
    - 3 Novice gamers
    - 10 casual gamers
    - 3 core gamers
Experiment – Method

• Using ISCN ETL-500 head-mounted eye tracker
• Recorded video with superimposed cursor
• Analyzed video manually
• Variables measured:
  – time to spot
  – time of player death
Experiment – Method

• Step 1: Participants Play *Soul Caliber II*
• Step 2: Configure eye tracker
• Step 3: 2 Play sessions (10 min. each)
  – Using UT2003
  – Using UT2003 with ALVA
• Step 4: DVD signal => AVI file
• Step 5: analyze AVI file
Results

• Difference in spotting times between FPS gamers, Casual gamers, and Non-gamers.

95% statistically significant for casual and non-gamers
Results

• Difference in deaths times between FPS gamers, Casual gamers, and Non-gamers. 

95% statistically significant for casual and non-gamers
Conclusions

• Evidence of bottom-up process

• For casual & novice gamers:
  – significantly faster spotting time with ALVA
  – Players didn’t die as quickly with ALVA
  – Less reported frustration

• For gamers: no significant difference
  – In fact they said “the game was too easy”
How did Façade do with gamers?

Work by David Milam and me at EMIIE SIAT, SFU in 2007-9
Incarnations of Interactive Narrative

Linear/ Non Digital

Interactive / Hypertext

Graphical Adventure (MMORPG)

Online Games
Façade

• Façade uses a keyboard text interface to allow players to type *whatever they want*

• One of the most prominent published Interactive Narrative “games” to date
How do players understand and internalize their interactive narrative experiences?
Participants

• 11 participants were recruited
• Age: ~24
• Gender: 4 females, 7 males
• Diverse cultural backgrounds
• Diverse gaming preferences
Games that Participants Play
## Participants

<table>
<thead>
<tr>
<th>ID</th>
<th>Sex</th>
<th>Age</th>
<th>Cultural background</th>
<th>Gamer type</th>
<th>Development Background</th>
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<td>artist/designer</td>
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</tbody>
</table>
Procedure

• **Phase 1:** What do you think are qualities of an interactive narrative?

• **Phase 2:** After reading the authors public description, what do you think about the qualities of this interactive narrative game?

• **Phase 3:** Play Façade

• **Phase 4:** Open ended discussion reactions that reveal characteristics of interactive narrative.
  • Re-play Façade if the first session ends prematurely
  • Repeat open ended discussion
Procedure

- Audio recording of all conversation
- Researcher field notes & observations
- Façade game–log transcripts
- This was then given to a psycho-analyst to analyze the transcripts
- His analysis was reviewed by another psychologist for validation
Results

Misconceptions – based on previous gaming experience

• Boundary
• Goals
• Feedback
• Control
Results

Negative Energy – not positive result more dramatic and tension

• “you feel like you’re really trapped in between those two people in a real life situation. It’s like these two friends are like arguing and yelling at each other. And you’re trapped in between, and you don’t know what to do.”

• “usually the games I play are positive. [...] I was like, no, I don’t want to be involved in this because whatever my action was it pushed Trip out the door, and I already knew that the end was coming, so I was just trying to see if I take myself out.”

• Instinct to flee
Results

Fear

• Fear of judgment: “it is not like the game is going to be judging you, or is it?”

• Taking the driver seat (Sheri Graner Ray)

• Fear of doing the wrong thing:
  “That’s too cruel, that would conflict and break their relationship.”
Results

**Strategy & puzzle style Gamers**

- Sit back and think of how to solve this puzzle
- “when I was typing, I was thinking how to solve a puzzle. (laugh). I was like ok, this puzzle doesn’t listen to me. (laugh).”

**FPS and Action Gamers**

- Need more control
- “I was limited to knock the door, hug comfort, pick up rocks, sit on couch.”
Results

Sandbox Gamers

• Jump in and try different things
• They would do things like, hug, kiss, interact with different objects, say things that are out of the norm, like “can I take my shoes off”
• “I was just hoping something funnier would happen.”

Improv Gamers

• Text matters
• “The input I felt was broken, so it was limiting my voice. It was limiting my ability to say something and actually get into the game.”
Results

Real Life

• Mediator was happy
• Problems with strategies that didn’t work, i.e. tea tactic
Results

Self Confidence Issues
• English as a second language

Cultural issues
• Didn’t want to interrupt
Conclusions

- Difference between artistic product vs. entertainment product
- Taking users’ styles and previous experience into account can expand the market of the design
- Some users expect
  - Control
  - Goals
  - Rules
- Cultural issues also came up
- Interesting emotional issues came up
To be a good designer

You need to understand who you are designing for