Foundations of Interactive Game Design (80K)

week ten, lecture two
I’ve seen all the games
Give yourselves a hand!
Today

- Final exam review
- Final quiz
- Finally, *Minecraft*
Quiz #5

10 minutes, use both sides of paper as needed, closed book, no notes, no collaboration, etc.

For Bartle question, explain difference between any two world types — Alice, Dorothy, or Wendy
Final exam review

Game project (w/ textbook) is its own final.
Final exam focuses on lecture content.
What we’ll talk about

- Games as technologies
- Games as formal systems
- Games as meaningful media
- Games as play experiences
- Games as social experiences
- Understanding games and making games
When the clown collides with a wall, this is an “event”

When a player clicks the clown, this is an “event”
Event-based programming

- A simple idea: Wait for a specific event, then do something
- Learning to decompose problems this way will improve your Game Maker ability
- Games update everything as fast as they can (calculating physics, rendering reflections, updating AI, etc) and monitor for events based on ongoing action and player input
What does this mean?

Something ran into something
How does collision detection mean?

- Visually: A ball runs into a paddle, then something happens (it bounces off). Like how meaning happens in a movie.

- Experientially: As we play, an experience unfolds. Balls keep running into paddles, from different angles, and keep bouncing off — we get a feel for how the world works.
The foundation of game meaning

- The experience of collision detection is only made possible by an underlying process.

- There are many specific collision detection algorithms, but all support an abstract process wedded to a communicative goal: when two virtual objects touch, something happens.

- Such combinations are operational logics.
Graphical logics

- Graphical logics are the abstract operations and communicative goals associated with movement, collision detection, and physics.
  - Movement – objects move in space
  - Collision – object overlap triggers events
  - Physics – movement governed by laws
Fiction logics

• *Quest flag* logic for quests / missions (milestone-based progression).

• *Dialogue tree* logic for NPC interactions — discussion, provocation, quest acceptance/completion, etc (directed graph).

• The interfaces change, the underlying logics remain.
Resource management

• As Michael Mateas observes, resource management logics are the abstract operations associated with acquiring, using, and transforming resources (e.g. food, money).

• Allocation – selecting sources, sinks, and transformations to apply to a resource.

• Random events – events within the fictional world that modify quantities or rate constants.
Game mechanics

• Some game genres are named in ways that hint at their core mechanics

• Can people here think of examples?

• First-person and third-person *shooters*

• More obscurely: jumping for *platformers*, finding/selecting for *hidden object* games

• Both jumping and shooting are supported by collision detection
Core mechanics of Super Mario Bros.

- Walking
- Running
- Jumping!
- ... across gaps, onto enemies, for coins, to activate surprises, to destroy blocks, to kill enemies on blocks, into pipes...
- Rules: touching an enemy (without landing on them) or falling past floor is death
Platformer genre

Precise walking, running, jumping are still core mechanics today
Changing the platform space

• Changing space’s connections (*Portal*)
• Changing space’s presence (*Closure*)
• Changing space’s objects (*Spelunky*)
• Moving objects non-traditionally (*Snapshot*)
• Moving player character non-traditionally (*Super Meat Boy, Bit.Trip Runner*)
• If you’re thinking of making a platformer, *places* to start brainstorming...
What’s missing?

“Rules”  “Fun”
The causal link...

"Rules" → "Play" → "Fun"

This is what sets games apart...
Games As Software

“Rules” → “Play” → “Fun”

Code → Process → Requirements
The MDA Framework

- Mechanics
- Dynamics
- Aesthetics
Definitions

**Mechanics**: The rules and concepts that formally specify the game-as-system.

**Dynamics**: The run-time behavior of the game-as-system + players.

**Aesthetics**: The emotional responses evoked by the game dynamics.
Player centric design

• You are creating an aesthetic experience for the player – all design considerations must flow from the questions:
  • What does the player do? (mechanics)
  • What experience (dynamics) does this create for the player (why do they do it)?
  • You are not your own typical player
  • The player is not your opponent
Iterative design

- Rapid iteration, with something working all along the way, is a widespread design idea.

- Fullerton calls the designer “an advocate for the player” — but it’s easy to lose sight of new player’s perspective.

- Her approach: rapid iteration, with input from playtesters at every possible step.
Playcentric design

- Start with player experience goals — aesthetics — e.g., need to trust and distrust other players (strategic), always almost out of control movement (feel), etc
- Generate ideas, formalize ideas, test ideas, evaluate results
- Eject, repeat cycle, or accept current ideas
- Brainstorming, prototyping, design, production, testing
Why prototyping?

- You want to experiment with ways to turn your game concept into a system
- You want to involve your full team — and make sure you’re all on the same page
- You want rapid iteration
- You want to make sure the game works before you start writing code, making art, etc — so start with most important parts and biggest risks
Defining “game”

A “rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable.”

— Jesper Juul
Rules

- Well-defined rules — unambiguous
- Affinity between games and computers
- Game rules and world rules
- Rules as software that require hardware
Variable, Quantifiable Outcome

- Not only in theory, but at this level of player skill
- Beyond discussion — a win, a score
- Making something a game — turning the creativity and grace of dance into a score for competitions
Valorization of Outcome

• Some outcomes are better
• Unwinnable games — but high score is better
• Positive outcomes are harder to reach — challenge
Player Effort

- People work — intellectually, physically
- Doesn’t work in pure chance, but people act like it does
- Reinforces attachment to outcome
Player Attached to Outcome

- Wanting to win, and not wanting to lose
- Violating this is playing wrong — spoilsport — usually
- If play among unequals (e.g., against small child) different story — but still a game for all players?
Negotiable Consequences

• There can be consequences, but not built into the game

• Poker can be for things of value, or not

• Not: stock market, traffic, russian roulette

• But their systems could be used for a game, w/o non-negotiable consequences
Game definitions

• Are often presented as “consensus” definitions based on surveys of previous game scholarship

• Can be interesting to think about, intellectually

• Can be a good source of game ideas: think about what to violate in the definition!

• But: consistently marginalize things that should be central. For example...
This is not a game
For this course

• We will consider the idea of computer games something *broader* than the output of the industries, not narrower

• All software that “invites and structures play” — that is *playable*

• We will be much more interested in “how is this played?” than “is this a game?”
What is play?

• *Play* is clearly fundamental to games — so what is it?

• Fullerton: has many faces: learning, socializing, problem solving, seeing anew...

• For Salen and Zimmerman: “Play is free movement within a more rigid structure.” From the “play” of a steering wheel to the “play” of language to the “play” of a game
Transformative play

• While S&Z see play as free movement within a more rigid system, play is also more — which they call “transformative”

• Play can change the structure — slang becomes part of the language, new strategies motivate new game rules, etc

• Play can use the structure to other ends: machinima, game art, etc

• And play changes players...
Theorists of play

• Roger Caillois a very influential theorist of games/play (not differentiated in French)

• Many discuss ideas from: *Man, Play, and Games*, Roger Caillois, 1958

• In some ways a response to: *Homo Ludens: A Study of the Play Element in Culture*, Johan Huizinga, 1938
Huizinga vs Caillois

[Play is] a free activity standing quite consciously outside “ordinary” life as being “not serious” but at the same time absorbing the player intensely and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules... [and promotes social groups]

- Free (not obligatory)
- Separate (in limits of space & time)
- Uncertain (outcome unknown, player innovation)
- Unproductive (creates nothing)
- Governed by rules
- Make-believe (not real life)
Caillois’s “fundamental categories” of play

• Agôn: Competitive play (most game play)
• Alea: Chance-based play (gambling)
• Mimicry: Role-playing and make believe (from theatre games to tabletop RPGs)
• Ilinx: Vertigo and physical sensation play (from “ring around the rosie” to skiing)
• Padia & Ludus: Improvisation and joy vs. gratuitous difficulty
## Caillois’s play matrix

<table>
<thead>
<tr>
<th></th>
<th>Paida</th>
<th>Ludus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agôn</strong> (competition)</td>
<td>Unregulated athletics</td>
<td>Boxing, Chess, <em>Starcraft</em></td>
</tr>
<tr>
<td><strong>Alea</strong> (chance)</td>
<td>Counting-out rhymes</td>
<td>Betting, lotteries</td>
</tr>
<tr>
<td><strong>Mimicry</strong> (simulation)</td>
<td>Masks, disguises</td>
<td>Theatre, ritual</td>
</tr>
<tr>
<td><strong>Ilinx</strong> (vertigo)</td>
<td>Horseback, waltzing</td>
<td>Skiing, tightrope walking</td>
</tr>
</tbody>
</table>
Games and pleasure

• Gameplay is *autotelic* (its own reward)
• Gameplay is intrinsically motivating (that’s why people try to harness it...)
• But this is only when it’s well designed — need to establish in the first few minutes
• We might think of Caillois’s categories of play as a matrix of play’s pleasures
What’s fun is exercising your brain
Games are puzzles
they are about cognition,
and learning to analyze patterns
When you’re playing a game,
you’ll only play it
until you master the pattern
once you’ve mastered it
The game becomes boring.
Basically, all games are edutainment.
Koster’s fun

• Learning is central to game fun
• Not necessarily learning rules — we keep being challenged to learn from Chess long after knowing the rules
• Intellectual, physical, interpersonal, etc
• Engages contemporary cognitive science
• But is all learning fun?
• And is all fun learning?
Eight kinds of fun

1. **Sensation**
   Game as sense-pleasure

2. **Fantasy**
   Game as make-believe

3. **Narrative**
   Game as drama

4. **Challenge**
   Game as obstacle course

5. **Fellowship**
   Game as social framework

6. **Discovery**
   Game as uncharted territory

7. **Expression**
   Game as self-discovery

8. **Submission**
   Game as pastime
Games combine them

• Charades: Fellowship, Expression, Challenge
• Quake: Challenge, Sensation, Competition, Fantasy
• Final Fantasy: Fantasy, Narrative, Expression, Discovery, Challenge
These types of fun are the “aesthetics” LeBlanc proposed...

... in the mechanics, dynamics, aesthetics framework we discussed week one.
### Table 6.1 Factor Analysis Framework for MMO Play Motivations

<table>
<thead>
<tr>
<th>Achievement</th>
<th>Social</th>
<th>Immersion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advancement</strong></td>
<td><strong>Socializing</strong></td>
<td><strong>Discovery</strong></td>
</tr>
<tr>
<td>progress, power,</td>
<td>casual chat, helping others,</td>
<td>exploration, lore, finding hidden things</td>
</tr>
<tr>
<td>accumulation, status</td>
<td>making friends</td>
<td></td>
</tr>
<tr>
<td><strong>Mechanics</strong></td>
<td><strong>Relationship</strong></td>
<td><strong>Role-Playing</strong></td>
</tr>
<tr>
<td>numbers, optimization</td>
<td>personal, self-disclosure,</td>
<td>story line, character history, roles, fantasy</td>
</tr>
<tr>
<td>templating, analysis</td>
<td>find and give support</td>
<td></td>
</tr>
<tr>
<td><strong>Competition</strong></td>
<td><strong>Teamwork</strong></td>
<td><strong>Customization</strong></td>
</tr>
<tr>
<td>challenging others,</td>
<td>collaboration, groups,</td>
<td>appearances, accessories, style, color schemes</td>
</tr>
<tr>
<td>provocation, domination</td>
<td>group achievements</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Escapism</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>relax, escape from real life, avoiding real-life problems</td>
</tr>
</tbody>
</table>

**Gender Differences:**
- Females higher: Relationship and Customization
- Males higher: Advancement, Mechanics, and Competition
Nicole Lazzaro
Are Boys Games Even Necessary?

“highly gendered design ignores what makes games fun”
“look at game play styles not demographics”

Four Fun Keys

• Hard fun: achieve, challenge strategize (raiding an enemy base or running a restaurant)
• Easy fun: experiment, explore fantasy, role play (soldier or archaeologist)
• Serious fun: change thoughts, feelings, behaviors
• People fun: socialize, spend time with friends

www.xeodesign.com/whyweplaygames.html
Mihaly Csikszentmihalyi’s description of the pleasure (and problems) in challenges
Flow’s characteristics

First, the experience usually occurs when we confront tasks we have a chance of completing.

Second, we must be able to concentrate on what we are doing.

Third and fourth, the concentration is usually possible because the task undertaken has clear goals and provides immediate feedback.

Fifth, one acts with a deep but effortless involvement...

Sixth, enjoyable experiences allow people to exercise a sense of control over their actions.

Seventh, concern for the self disappears, yet... the sense of self emerges stronger...

Finally, the sense of the duration of time is altered...
Other psychological pleasures

• Emotional activation — optimistic focus on what we’re good at

• More satisfying work — clear goals, actionable next steps

• Better hope of success — a task we know we can succeed at

• Being part of something bigger — epic!

• For more see *Reality is Broken*
Difficulty in games

• Many games with broad audiences — *Rock Band* to *Angry Birds* — support a range of difficulties and session lengths

• Jesper Juul’s *Casual Revolution* describes how hardcore many players of casual games are — want challenge and play long sessions

• We’re also seeing the rise of games without strategic or dexterity difficulty...

• But as Jim Whitehead described, one way that old genres evolve is toward hardcore
Agency and Intention

• Murray’s *agency* is “the satisfying power to take meaningful action and see the results of our decisions and choices” with actions that are chosen and related to the players’ intentions.

• Church’s *intention* and *perceived consequence* encourage a “process of accumulating goals, understanding the world, making a plan and then acting on it” with “a clear reaction from the game world to the action of the player”.

• Let’s talk about them together...
Integrated view of agency

• We can see agency as a phenomenon involving both game and player

• Agency occurs when the actions players desire are among those they can take as supported by an underlying computational model

• Designing for agency is balancing the dramatic probabilities of the world with the actions it supports — enticing players to desires the game can satisfy
Summarizing agency

• Supporting agency requires employing or crafting a computational model of the play domain suggested by the work’s dramatic probabilities, for intention and consequence.

• Can be a simple model, but game must transition audience from initial expectation to (implicit) model understanding.

• Interface is key to expectation — and more “natural” interfaces (AR, voice) set it wrong.

• Action more improvisational than assumed.
Agency and design innovation

- Agency discussion has been driven by those interested in innovation
- But agency’s importance may actually explain design’s conservative tendencies
- Well-developed computational models exist for movement, combat, and resource management — not story, interpersonal dynamics, or political ideology (for example)
- What would a game be like that is about what E.T. the movie is about?
Bartle’s player typology

- Achievers, explorers, socialisers and killers
- Memory device: “achievers are Diamonds (they're always seeking treasure); explorers are Spades (they dig around for information); socialisers are Hearts (they empathise with other players); killers are Clubs (they hit people with them)”
Machinima

• Amazing play — of the game or parallel to the game
• Using the game world to make a movie — exploring or ignoring the world
• Often commenting/connecting to game culture
• Just one form of game creativity
Player creativity

- Machinima is "out of game" creativity
- Amazing play is another form of creativity (Henry Lowood)
- Creating with in-game tools is another form (Little Big Planet, Spore, Minecraft)
- Creating mods is another (Counterstrike)
Stories are inherently linear.... Indeed, this is a strength; the author chose precisely those characters, those events, those decisions, and that outcome, because it made for the strongest story....

Games are inherently non-linear. They depend on decision making.... To the degree that you make a game more like a story — more linear, fewer real options — you make it less like a game.

— Greg Costikian, 2000
Great-looking graphics: aka movies

Not enough movies for dynamic gameplay or story
Tells an “action movie” story

With gameplay challenges: running, jumping, climbing, shooting, using cover
Setting up character tensions
Setting some tensions aside
Can’t run, jump, or climb; only pistol
Hard-won victory made meaningless
Does bad things in a separate world

Does bad things in a world impelled by my gameplay
Role-Playing Games (RPGs)
Microscenese

• What are microscenese?
• In my opinion microscenese can be quantified as in-game actions conveyed in a fashion more like a movie than a game.
• We are able to interact with anything in the environment, but only as much as it applies to the overarching story of the game
• Sure this contributes to the unity of gameplay & story, but we need something else
Doing things with game fictions

• Accomplishment, emotional interpellation
• Unraveling mysteries with active engagement
• Interrogating our responsibilities
• Making play material of fiction’s language
• Play enacting fictional themes metaphorically
• Creating new social connections via fictions
• Physically enacting fictional roles
• Experiencing choice in a possibility landscape
Limits of today’s game fictions

• Our game structures are largely about physical actions and resource management

• This is a powerful palette, useful both directly and metaphorically

• But we want something more — game systems that engage how we think about the world, relate to each other, and craft fictions

• As projects from Mass Effect to “The Beast” show, we now do this “ad hoc” — with no robust game system
Michael Mateas (UC Santa Cruz) and Andrew Stern (ngmoco)
Only possible by building rules, rather than graphs
To get a good story out of a game, you have to constrain gameplay in a way that ensures that a story is told through play.... yet any game is a system of constraints. Players have free action only within those constraints; there are always limitations on behavior, and indeed, gameplay often emerges precisely because of those limitations.

— Greg Costikian, 2007
September 12th

Not an animation, but an interaction...
Procedural Rhetoric

- “Procedurality refers to a way of creating, explaining, or understanding processes.”
- “Rhetoric refers to effective and persuasive expression.”
- “Procedural rhetoric, then, is a practice of using processes persuasively.... persuading through processes in general and computational processes in particular.”
September 12th

- Fictional world: Village of civilians and terrorists, bomb targeting
- Rules: People move continually, bombs take time to fall, dead civilians inspire mourning, mourning inspires terrorism
September 12th

• Gameplay:
  • Targetted bombing hits civilians, sprouts as many new terrorists as it kills
  • Indiscriminate bombing creates a wasteland w/ more terrorists than others
  • Procedural rhetoric: Bombing is a poor tool for addressing terrorism
Darfur is Dying

• Fictional worlds: Water foraging & village, individuals (not “lives”)
• Water rules: Can run & hide, confrontation is death
• Water gameplay: Being slow, fearful works
• Water rhetoric: Just basic living harrowing
Serious games

- Political games
- Advertising and promotion games
- Education and training games
- Even job interview games
- All, of course, can be viewed politically (military investment in promo and education games, and latter as former)
Historian

Congrats from History Channel on unlocking America one check-in at a time. Thomas Jefferson would be proud.

Unlocked by Al B. on Sat Apr 24, 2010 at 5:13 PM @ Faneuil Hall in Boston.

School Night

Checking in after 3am on a school night? Well done!

Unlocked by Nicolas N. on Mon Jul 12, 2010 at 5:32 AM @ Gare de Cornavin in Geneva, Switzerland.
Why teach children to program games?

- To increase diversity in game content and play style
- So they can shape the future of games
- To develop thinking and problem solving skills
What kinds of games do they make?

<table>
<thead>
<tr>
<th>Categories</th>
<th>% games by girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address social issues</td>
<td>99%</td>
</tr>
<tr>
<td>Real-world settings</td>
<td>71%</td>
</tr>
<tr>
<td>Defy authority</td>
<td>64%</td>
</tr>
<tr>
<td>Teaches a prosocial lesson</td>
<td>53%</td>
</tr>
<tr>
<td>Personal triumph</td>
<td>51%</td>
</tr>
<tr>
<td>Humor</td>
<td>35%</td>
</tr>
<tr>
<td>Violent feedback</td>
<td>24%</td>
</tr>
</tbody>
</table>
What do they learn? (surveys)

- Computer skills
- Confidence with computers
- Problem solving skills
- Intention to study computing
- Parent support
Particles!
A point in space.
X and Y
(and sometimes Z)
The math:

Velocity = Acceleration \times Time

Position = Velocity \times Time
Why do you care?

- Particle effects are fun
- Particle effects are an easy way to make and improve games
- Particle effects are a great way to get a job
Data visualization

SMS Data visualization from Haiti
Health Simulations

Simulated disease spread through Italy
Art!

Onskebronn: interactive sidewalk
Games!
The Three Layers of the Human Brain
Games do love as

- Plot point (e.g., Mario)
- Spreadsheet (dating sims)
- Mouseclicks (Flash games)
- Screenshots (visual novels)
- Simulation (e.g., The Sims)
- Narrative (e.g., Final Fantasy)
- Discovery (e.g., Knights of the Old Republic)
- Achievement (e.g., Dragon Age)
First date tips

• Have a sense of humor
• Make use of adrenaline-filled moments
• Let the player express herself
• Allow for vulnerability
• The object of my affection is unique
Game history
Output from: OXO

9 8 7        HOGHTS AND CROSSES
6 5 4       BY
3 2 1       A S DOUGLAS, C.1952

LOADING PLEASE WAIT...

EDSAC USER FIRST (DIAL 8/1) IT
DIAL MOVE:

Clear    Reset
Start    Stop

Single E.P.
Spacewar! demo

Keyboard controls:

a s d f
k l ;‘
Remember *Pong*?
Atari VCS
(aka “2600”)

• 1977, the first cartridge-based console
• Moved games out of public and into home
• Created a standard platform targeted by many games — at first, all by Atari
Symmetrical playfield
Stored in registers

PF0  PF1  PF2
Two sprites
Missiles (note color)
Scores (note color)
Combat

Missile: high rez
Sprite: high rez
Playfield: low rez
Entire game on one screen

Only other element is *Pong*-style ball
Pitfall!

How is this possible?

255 screens!
Pitfall!

• A founder of the “platformer” genre, 1982
• VCS required drawing each line — so moved high-resolution sprites during every frame (two sprites are tree details and Harry, etc)
• Also moved ball graphic during drawing to create vines that are on same line
• Technical and game design tour de force, created by one person: David Crane
River Raid

• It scrolls — like tutorial! (One of the first vertical scrollers for any platform, big challenge on VCS)

• Fuel gauge (or points)

• Carol Shaw one of the first women in computer game design
First generation games tend to show off what the platform can do by default, then...
PS2

Unreal Tournament (launch title, 2000)

God of War II (late title, 2007)
Shmups and the 3D crisis

- Shmups adapted to the 3D crisis in several ways

- Integrating 3D graphics
  - Games started experimenting with the addition of 3D graphics

- Stay the course
  - Continued production of standard 2D shmups

- Gameplay innovation
  - Trying different gameplay innovations to create novelty

- Appeal to niche players
  - Brutally difficult games for hardcore players

Einhande – 3D graphics innovation

Shienryu – steady as she goes
Lessons from Shmups

- Shmups are an example of a genre that went from the peak of popularity to niche status

- How do game designers react to the changing fortunes of a genre?
  - What are design moves that pay off, or lead to long term problems?

- Shmups continue to have a following
  - Niche, but enthusiastic
  - Increasing interest from indie game makers
  - As mobile games become more prevalent, 2D games are having a resurgence
  - Shmups play into this trend, as well as the casual game trend
Some Quick History

- First commercial MMORPG named Island of Kesmai designed by Kelton Flinn and John Taylor.
  - Became available in 1985 for $12 an hour, supported 100 players
- First graphical MMORPG named Neverwinter Nights designed by Don Daglow and Cathryn Mataga.
  - Available for AOL PC owners in 1991-1997 for $6 an hour
- Ultima Online was released in September 1997.
  - Credited with popularizing the genre.
  - Featured 3D isometric/third person graphics
- Everquest launched in March 1999 by Verant (SoE).
  - Brought fantasy MMORPGs into Western mainstream
- Asheron's Call created by Turbine launched in 1999
- Ultima, Asheron's and Everquest were titled the Big Three
World of Warcraft Details

- WoW was launched by Blizzard on November 23, 2004 for the 10th anniversary of Warcraft franchise.
- The game is set in the 3D Warcraft universe of Azeroth.
- WoW is in its 3rd expansion (Cataclysm), which is by far the most extensive expansion.
- WoW contains two factions, Horde and Alliance. These factions can not communicate with each other.
  - The faction war creates tension in game as well as in real life.
- WoW was ultimately praised by critics.
- A few common terms used to describe new MMORPGs
  - WoWClone - A game that has similar styles to WoW.
  - WoWKiller - A term used by players to discuss if new MMORPGs are successful or not.
Bartle’s world typology

• “The vast majority of virtual worlds, whether commercial or hobbyist, are game-like (Dorothy) worlds, the leading title at the moment being World of Warcraft…” Designer-fixed goals and player roles

• “However, there are also social (Wendy) worlds of some significance, the most important of which is Second Life…” Player-determined goals and player roles.
Bartle’s world typology

• “The players of those few balanced (Alice) worlds that remain usually consider them to be game-related, while nevertheless recognizing that they're somehow different than Dorothy worlds” (Ultima Online)

• “[T]he designer constructs a world with no storyline, but with a lush capacity for interaction. This results in a framework for the creation of story by the players”
Minecraft

Yay!