Game Experience

from: The art of game design
UI Design as Metaphor to Game Controls Design
From *The design of everyday things*

- When people have trouble with something, it isn’t their fault—it’s the fault of the design
• Design must convey the essence of a device’s operation;
  – possible actions that can be taken;
  – feedback: just what it is doing at any particular moment
Curtain Switch

Correct Mapping

(what you think matches what you do)
• surest way to make something easy to use, with few errors, is to make it impossible to do otherwise—to constrain the choices
1.13 Seat Adjustment Control from a Mercedes-Benz Automobile. This is an excellent example of \textbf{natural mapping}. The control is in the shape of the seat itself: the mapping is straightforward. To move the front edge of the seat higher, lift up
• A good designer makes sure that appropriate actions are perceptible and inappropriate ones are invisible
What is Game Design?
Learning to Think

every truth has four corners: as a teacher I give you one corner, and it is for you to find the other three...

— Confucius

I don’t know what are the other three corners, I don’t know even if it is a square...

-Anonymous
• **Game design is the act of deciding what a game should be.**
  – hundreds, usually thousands of decisions.

• **you can actually design a game in your head.**
  – write down these decisions - memories are weak
  – need to communicate - people help you
Design vs. Programming

• *architects and carpenters:*
  – architect does not know how carpenter *works*
  – architect must know what carpenter is *capable of*
What game design involves?

• **Story** decisions for the game
• Decisions about **rules**
• **Look and feel**, timing
• Risk-taking - **rewards**, punishments,
Back to the Future

- many games can be played without the use of computers or technology; board games, card games, and athletic games
Design Inspiration: Real World

- Video games are a natural growth of traditional games into a new medium.
  - rules that govern them are still the same.
  - study principles of simplest games:
    - Dice games
    - Card games
    - Board games
    - Playground games
Video Game Realms

• **Animation** — games are full of characters that need to seem alive.
  
  **Anthropology** — studying your audience in their natural habitat, trying to figure out their desires

  **Architecture** — You will be designing whole cities and worlds, understanding the relationship between people and spaces

  **Brainstorming** — You will need to create new ideas by the dozens

  **Business** — Most games are made to make money

  **Cinematography** — Almost all modern videogames have a virtual camera. You need to understand the art of cinematography

  **Communication** — You will need to talk with people in every discipline listed here

  **Creative Writing** — You will be creating entire fictional worlds, populations to live in them, and deciding the events that will happen there

  **Economics** — Many modern games feature complex economies of game resources

  **Engineering** — New technical innovations make new kinds of gameplay possible
Video Game Realms

- **History** — Many games are placed in historical settings
- **Management** — Any time a team works together toward a goal, there must be some management
- **Mathematics** — Games are full of mathematics.
- **Music** — the language of the soul. If your games are going to truly touch people, to immerse, and embrace them, they cannot do it without music.
- **Psychology** — Your goal is to make a human being happy. You must understand the workings of the human mind
- **Public Speaking** — You will frequently need to present your ideas to a group.
- **Sound Design** — Sound is what truly convinces the mind that it is in a place; in other words, “hearing is believing.”
- **Technical Writing** — You need to create documents that clearly describe your complex designs.
- **Visual Arts** — Your games will be full of graphic elements. You must be fluent in the language of graphic design and know how to use it.
What is experience? (game related)
Game Experience Def

The Game Is Not the Experience. The Game Enables the Experience

When people play games, they have an experience. Without experience, the game is worthless.

We create a game and cross our fingers that the experience during that interaction is enjoyable.
A non-linear medium

- Linear mediums
  - storytelling
  - screenplay
- direct mapping between creation and experiences

- Game permits interaction/movement - no linear experience
  - The player has large control on sequences
  - Random events
The game enables the experience!

• Unique feelings offered by medium:
  – choice
  – freedom
  – responsibility
  – accomplishment
  – friendship

What’s else...!?
create games that will somehow generate wonderful, compelling, memorable, immersive experiences.
studies of human experience

- *Psychology* - mechanisms that govern human mind
- *Anthropology* - similarities and differences between various peoples of the world
- *Design* - useful principles about human experience.
What is playing?
aimless expenditure of energy.
– Friedrich Schiller

whatever is done spontaneously and for its own sake.
– George Santayana

activities accompanied by a state of pleasure, exhilaration, power, and the feeling of self-initiative.
– J. Barnard Gilmore
What are games?
(players playground)
What are games?

Games are voluntary exercises, in which there is a contest between powers, confined by rules in order to produce a disequilibrial outcome.
– Elliot Avedon and Brian Sutton-Smith

A game is an interactive structure that requires players to struggle toward a goal.
– Greg Costikyan

A game is a closed, formal system, that engages players in structured conflict, and resolves in an unequal outcome.
– Tracy Fullerton, Chris Swain, and Steven Hoffman
• Q1. Games are entered willfully.
• Q2. Games have goals.
• Q3. Games have conflict.
• Q4. Games have rules.
• Q5. Games can be won and lost.
• Q6. Games are interactive.
• Q7. Games have challenge.
• Q8. Games can create their own internal value.
• Q9. Games engage players.
• Q10. Games are closed, formal systems.
Lenses

• no “unified theory of game design
  – rules of thumb

• Good game design happens when you view your game from many perspectives=lenses
  – Lenses are questions you should ask yourself about your design
Essential Experience

• stop thinking about your game and start thinking about the experience of the player.
  – What experience do I want the player to have?
  – What is essential to that experience?
  – How can my game capture that essence?
introspection:
examining your own experiences

• Dissect (analyze) your feelings: clearly state what you like, what you don’t like, and why.
  – analyze to point where you make useful suggestions about how to improve.
  – what is true of my experiences may not be true for others

—play play play play play play
How can we observe our own experiences?

• Heisenberg Uncertainty Principle: the motion of a particle cannot be observed without disturbing its motion
  – the nature of an experience cannot be observed without disturbing the nature of that experience.
Essential Experience vs. Realism
Surprise

• fill your game with interesting surprises.

– What will surprise players when they play my game?

– Does the story in my game have surprises? Do the game rules? Does the artwork? The technology?
Fun

• Fun is desirable in nearly every game
  – What parts of my game are fun? Why?
  – What parts need to be more fun?
Curiosity

• What questions does my game put into the player’s mind?
• How to make them care about these questions?
• What can I do to make them invent even more questions?
Values

• players’ feelings about items, objects, and scoring in your game.
  – What is valuable to the players in my game?
  – How can I make it more valuable to them?
Curiosity vs. Values
A game is a problem-solving activity.

• any game with a goal has presented you with a problem to solve:
  – Find a way to get more points than the other team.
  – Find a way to get to the finish line before the other players.
  – Find a way to complete this level.
  – Find a way to destroy the other player before he destroys you.

When problem solving is removed from a game, it ceases to be a game and becomes just an activity.
MAY CONTAIN CONTENT
INAPPROPRIATE FOR CHILDREN

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Problem

– What problems does my game ask the player to solve?
– Are there hidden problems to solve that arise as part of gameplay?
– How can my game generate new problems so that players keep coming back?
A game is a problem-solving activity, approached with a playful attitude (Q1)

- define a clear goal (Q2).
- determine the rules of the problem (Q4)
- model a smaller version of the real-world situation, to interact with (Q6)
- establishing a closed, formal system (Q10) with a goal.
- reaching that goal is challenging (Q7)
- it involves some kind of conflict (Q3).
- if we care about the problem, we quickly become engaged in solving it (Q9)
- eventually, we defeat the problem, or are defeated by it, thus winning or losing (Q5).
What is playing? - summary

• A good toy is an object that is fun to play with.
• Fun is **pleasure** with **surprises**.
• Play is manipulation of **values** that satisfies **curiosity**.
• A game is a **problem-solving activity**, approached with a playful attitude.
So far...

• Experience
• Surprise
• Fun
• Curiosity
• Values
• Problem
What are games made of?

(You’re a doctor now!)
The Four Basic Elements
Mechanics: procedures and rules of your game

- how players can/cannot try to achieve the goal, and what happens when they try...

  - technology support them
  - aesthetics emphasize them
  - story allows them to make sense
**Story**: sequence of events that unfolds in your game

- may be linear or it may be branching: write title and intro...

  - mechanics strengthen the story and let it emerge
  - aesthetics reinforce the ideas of your story
  - technology that is best suited to story
Aesthetics: how game looks, sounds, feels

• a certain look, or tone, that you want players to become *immersed* in
  – technology that amplify and reinforce aesthetics
  – mechanics that make players feel like they are in the world that the aesthetics defined,
  – story that let your aesthetics emerge
Technology: materials and interactions that make your game possible

• Architecture, platform, external libs
  – the medium in which aesthetics take place,
  – where mechanics will occur
  – through which the story will be told.
The Four Basic Elements

Brain activity

More visible

Aesthetics

Mechanics

Story

Technology

Less visible
Minecraft
Elemental tetrad

• Is my game design using elements of all four types?
• Could my design be improved by enhancing elements in one or more of the categories?
• Are the four elements in harmony, reinforcing each other, and working together toward a common theme?
Review: Space Invaders (Taito, 1978) by Toshihiro Nishikado
Technology

• the first videogame that allowed a player to fight an advancing army, due to a custom motherboard
Mechanics

• player shoot at advancing aliens that shoot back
• player hide behind shields that can be destroyed
  – earn bonus points by shooting a flying saucer.
  – closer aliens are easier to shoot and worth fewer points
• more aliens you destroy, the faster they invade
• game ends:
  – player’s ships destroyed by alien bombs
  – advancing aliens reach the player’s home planet
Story - change in story allowed for a change in camera perspective with a dramatic impact on aesthetics.

• Originally: fire at an army of soldiers
  new story: advancing aliens
  – futuristic theme - a space battle novel at time
  – dramatic story - “if they touch down, we’re doomed!”
  – avoid violence in videogames - shooting people
  – camera “top down” view - marching soldiers are walking on the ground. Aliens are lowering toward your planet, and you are shooting up
Aesthetics

• The aliens are not all identical – three different designs, each worth a different amount of points.

• simple two-frame “marching” animation that is very effective.
Audio – help tell the story

• marching invaders made a sort of heartbeat noise, and as they sped up, the heartbeat sped up

• punishing, buzzing crunch noise when your ship was hit with an alien missile.
Score<1> Hi-Score Score<2> 0000
Press fire button to start play
Space Invaders
Bomb speed........--Normal
Shields.............--Fixed
Invisible Invaders--No
Zig-zagging Bombs--No
Players.............--1
Color scheme........--1
Stick up/down selects option
Stick left/right changes value
Level 01
Holographic Design

• see everything in your game at once: the four elements (skeleton) and the player experience (skin), as well as how they interrelate

• What elements of the game make the experience enjoyable? What elements of the game detract from the experience?

• How can I change game elements to improve the experience?
How the game begins?
(with an Idea)
1. Think of an idea.
2. Try it out.
3. Keep changing it and testing it until it seems good enough.
Get Inspired

• What is an experience I have had in my life that I would want to share with others?
• Capture the essence of that experience and put it into game?
get an idea past filters:

1. “Does this game feel right?”
2. “Will the intended audience like this game?”
3. “Is this game novel enough?”
4. “Will this game sell?”
5. “Is it technically possible to build this game?”
test-improve your design

The spiral model of software development
The Formal Loop:

1. State the problem.
2. Brainstorm some possible solutions.
3. Choose a solution.
4. List the risks of using that solution.
5. Build prototypes to mitigate the risks.
6. Test the prototypes. If they are good enough, stop.
7. State the new problems you are trying to solve, and go to step 2.
Making likeable games
Game is Made for a *Player*

- Demographics
core of playing and winning games is mastering abstract formal systems

- Age
- Gender
Males Like to See in Games:

• Mastery
• Competition.
• Destruction.
• Spatial Puzzles.
• Trial and Error.
Females Like to See in Games:

• Emotion.
• Real World.
• Nurturing.
• Dialog and Verbal Puzzles.
• Learning by Example.
Psychographics - what a person enjoys the most
(LeBlanc’s Taxonomy of Game Pleasures)

- **Sensation** - involve using your senses.
- **Fantasy** - pleasure of the imaginary world
- **Narrative** - dramatic unfolding of events
- **Challenge** - a problem to be solved.
- **Fellowship** - friendship, cooperation, and community
- **Discovery** - exploration, secret, strategy
- **Expression** - pleasure of expressing/creating things
- **Submission** - pleasure of entering the magic circle
Bartle’s Taxonomy of Player Types

♦ Achievers want to achieve the goals of the game. Their primary pleasure is Challenge.

♠ Explorers want to get to know the breadth of the game. Their primary pleasure is Discovery.

♥ Socializers are interested in relationships with other people. They primarily seek Fellowship.

♣ Killers are interested in competing with and defeating others.
A diagram showing the relationship between 'Players' and 'World' with two axes: 'Acting' and 'Interacting'. The quadrants are labeled as:

- **Players**: Killers, Socializers
- **World**: Achievers, Explorers

The 'Acting' axis is vertical, while the 'Interacting' axis is horizontal.
Misc. pleasures

• **Anticipation.** – for a pleasure to arrive
• **Delight in Another’s Misfortune.** – in competitions
• **Humor.**
• **Possibility.** – having many choices
• **Pride in an Accomplishment.**
• **Purification.** - make something clean.
• **Surprise.**
• **Thrill.** - fear minus death equals fun
FLOW
Focus - selective attention

• **ignoring** some things, and devoting more mental power to others

• **blend** of our unconscious desires and our conscious will.

• **game experience** interesting enough that it holds the player’s focus as long as possible.
State of sustained focus - Flow

• When something captures our complete attention and imagination for a long period, we enter a mental state.
  – The rest of the world seems to fall away, and we have no intrusive thoughts.
  – All we are thinking about is what we are doing, and we completely lose track of time.
• **FLOW** = “a feeling of complete and energized focus in an activity, with a high level of enjoyment and fulfillment.”
stay focused for long time!

- Clear goals
- No distractions
- Direct feedback – immediate feedback
- Continuously challenging
  - achievable otherwise frustration
  - not too easy otherwise boring
flow activities lead to growth and discovery

• One cannot enjoy doing the same thing at the same level for long: either bored or frustrated;
• The desire for FUN pushes us to stretch our skills, and discover new opportunities for using them.
**flow channel** - boredom and frustration
VS.
people are not motivated to pursue higher level needs until the lower needs are satisfied.