UNIVERSITÉ DE FRIBOURG
UNIVERSITÄT FREIBURG

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GAME DESIGN

ACT 2

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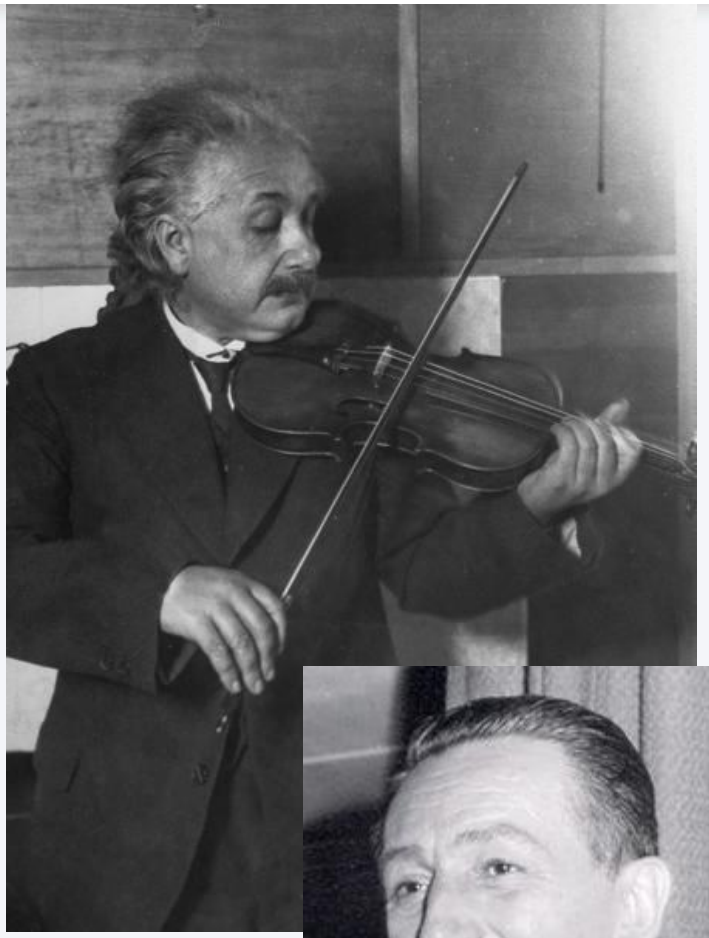
Who is the player?

THE PLAYER

- **Empathy** with your audience!
  - Einstein and his violin
  - Walt Disney during Disneyland park construction

- Think about people you know in the **target demographic**
  - Talk with them
  - Observe them
  - Imagine what it is like to be them!



DEMOGRAPHICS: CHILDREN

- 0-3 Infant
  - Interested in toys, games too complex
- 4-6 Preschooler
  - First interest in games, played with parents
- 7-9 Kids, “age of reason”
  - Very interested in games, choice of games and toys
- 10-13 Preteen, “age of obsession”
  - Neurological growth, children passionate by their interests
- 13-18 Teen
  - Significant divergence between males and females, new experiences

DEMOGRAPHICS: ADULTS

- 18-24 Young adults
  - Established tastes about play and entertainment, play less than children
  - Have both time and money (big consumers of games)

- **25-35 Twenties and Thirties**
  - Family formation
  - Most of them are casual game players
  - Hardcore players: important target market, influencing their social network

- 35-50 Thirties and Forties
  - Very caught up in career and family
  - Casual gamers, expensive games for children, family gameplay

- 50+ Fifties and Up
  - Have a lot of time
  - Game experiences with strong social component (golf, tennis, bridge, MMORPG, and so on)

MALES AND FEMALES

- Mastery / Challenges
- Competition
- Destruction
- Spatial puzzles
- Trial and error
- …

- Human emotions
- Real world
- Nurturing
- Dialog and verbal puzzle
- Learning by example
- …

PSYCHOGRAPHICS

- How players think on the inside

- **LeBlanc**'s taxonomy of pleasure
  - Sensation (aesthetics of the game)
  - Fantasy (imaginary worlds)
  - Narrative
  - Challenges (one of the core interests of gameplay)
  - Fellowship (e. g. cooperation)
  - Discovery
  - Expression (design of user levels and heroes)
  - Submission (leaving real world behind)

PLAYER TYPES

- **Bartle's** taxonomy
  - Achievers: goal oriented
  - Explorers: pleasure of discovery
  - Socializers
  - Killers: imposing themselves on others (even healers)

- Be careful with taxonomies!

The experience is in the player’s mind

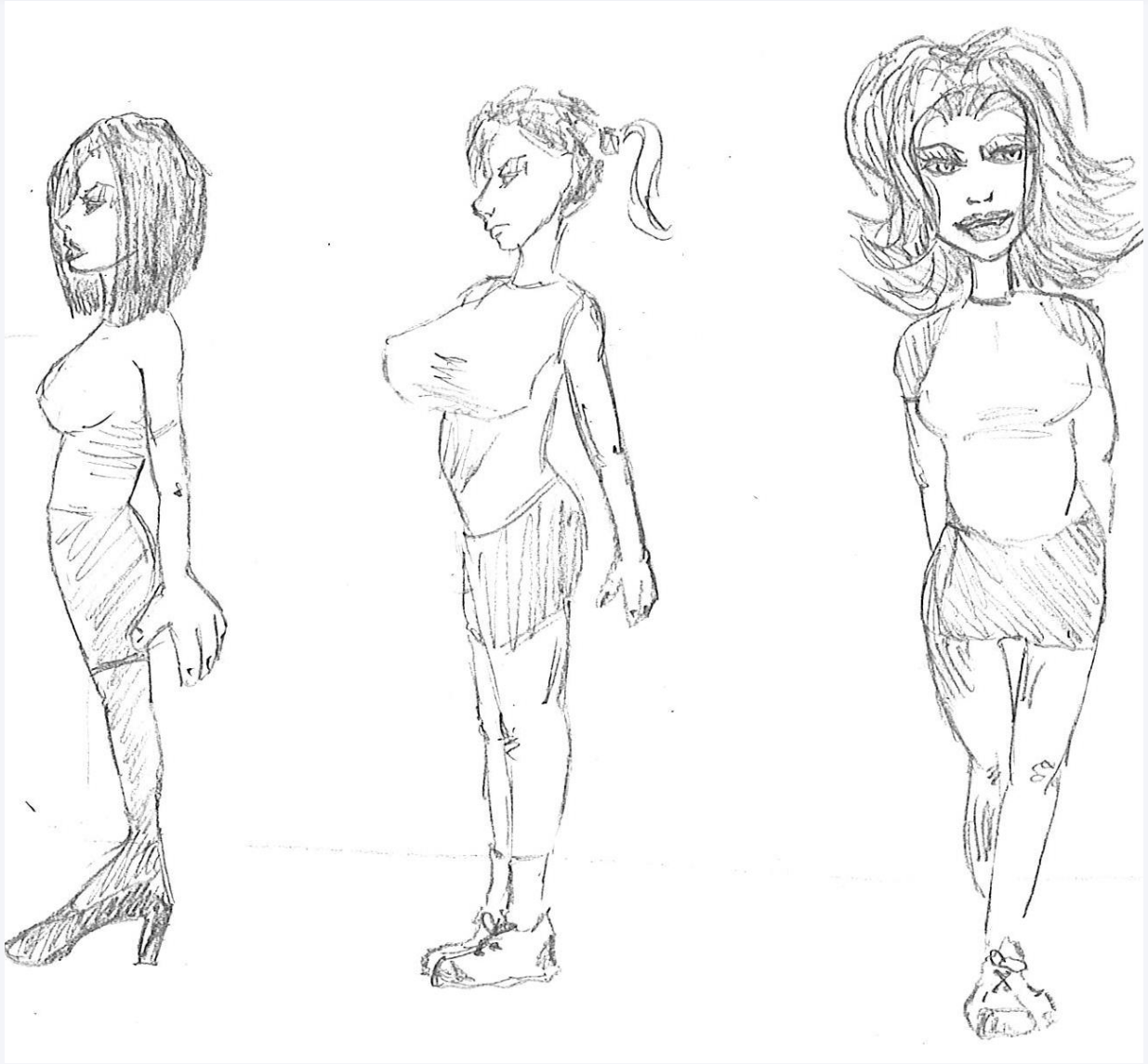
PLAYER'S MIND

- Mental abilities for gameplay
  - Modeling
  - Focus
  - Empathy
  - Imagination

MODELING

- Reality amazingly complex
- Our mind simplifies the reality with models
- Models make things plausible
  - Comics are models: easier to interpret
- Games are models of the reality
  - Find the right model for your game!

MODEL PERCEPTION

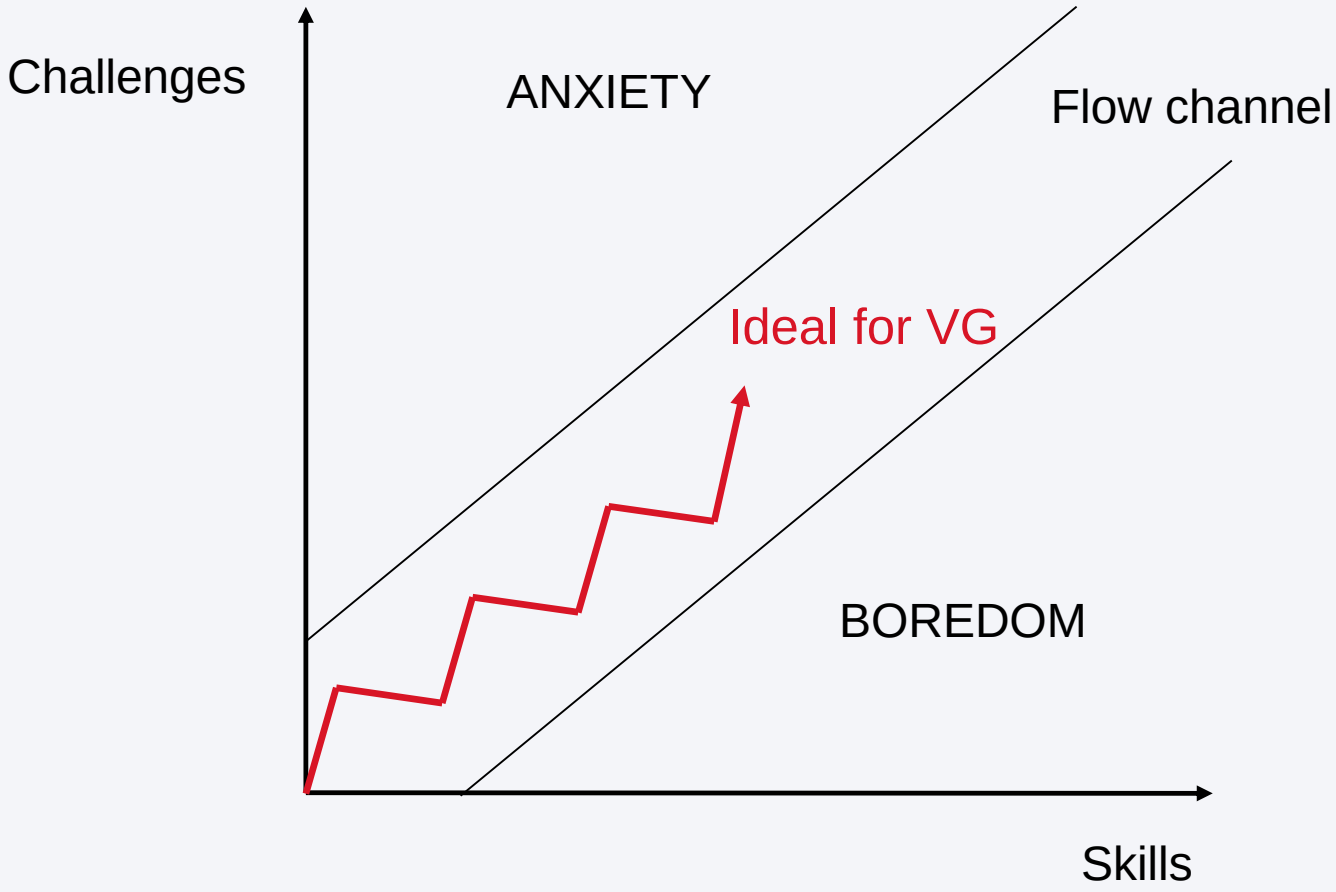


FOCUS

- Sense of the world by focusing or ignoring things
  - During a party we can filter non interesting noises and focus on a discussion

- The game experience has to be interesting enough to capture player's attention
  - Clear goals
  - No distractions
  - Direct feedbacks
  - Continuously challenging

THE FLOW CHANNEL (CSIKSZENTMIHALYI)



EMPATHY

- The ability to project ourselves into the places of others
- Useful to make players part of our story world
- Project player decision-making capacity into the character(s)

FINAL FANTASY 7

- Aeris Gainsborough

- Mission 6: The Pit
- Mission 8: The Gate
- Mission 13: Adams

IMAGINATION

- Used everyday for **communication** and **problem-solving**
- Able to complete a brief information
- Adapts itself very fast to a new context
- The art of compromise: what you should show the player or not


KONAMI
SILENT HILL 2

Game Mechanics

MECHANICS

- The core of what games truly are
- Taxonomies incomplete
  - Complex mechanics even for simple games
  - Since they act on mental models, they are difficult to analyze
- 6 **main categories**: space, objects, actions, rules, skills, and chance

M1: SPACE

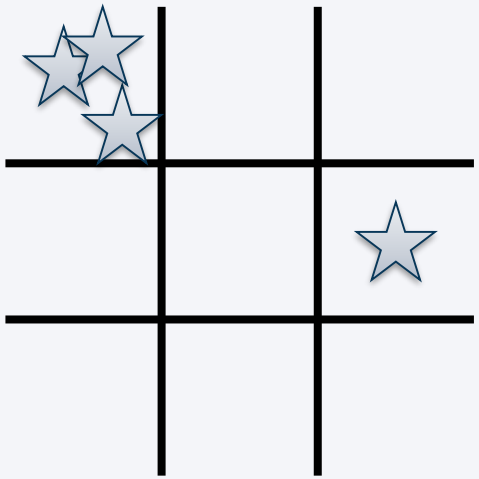
- Where games take place

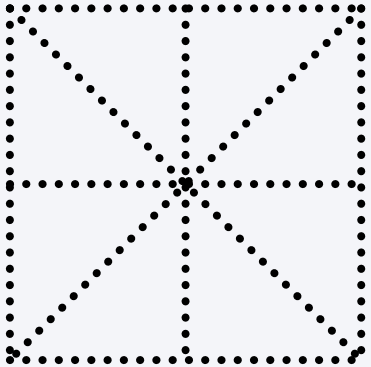
- Characteristics
  - Discrete or continuous
  - Some number of dimensions
  - Bounded areas, connected or not

- Aesthetics can give a distorted perception of space!

- A game can **mix** or **nest** several space models

SPACE IN GAMES





Discrete space, adjacency

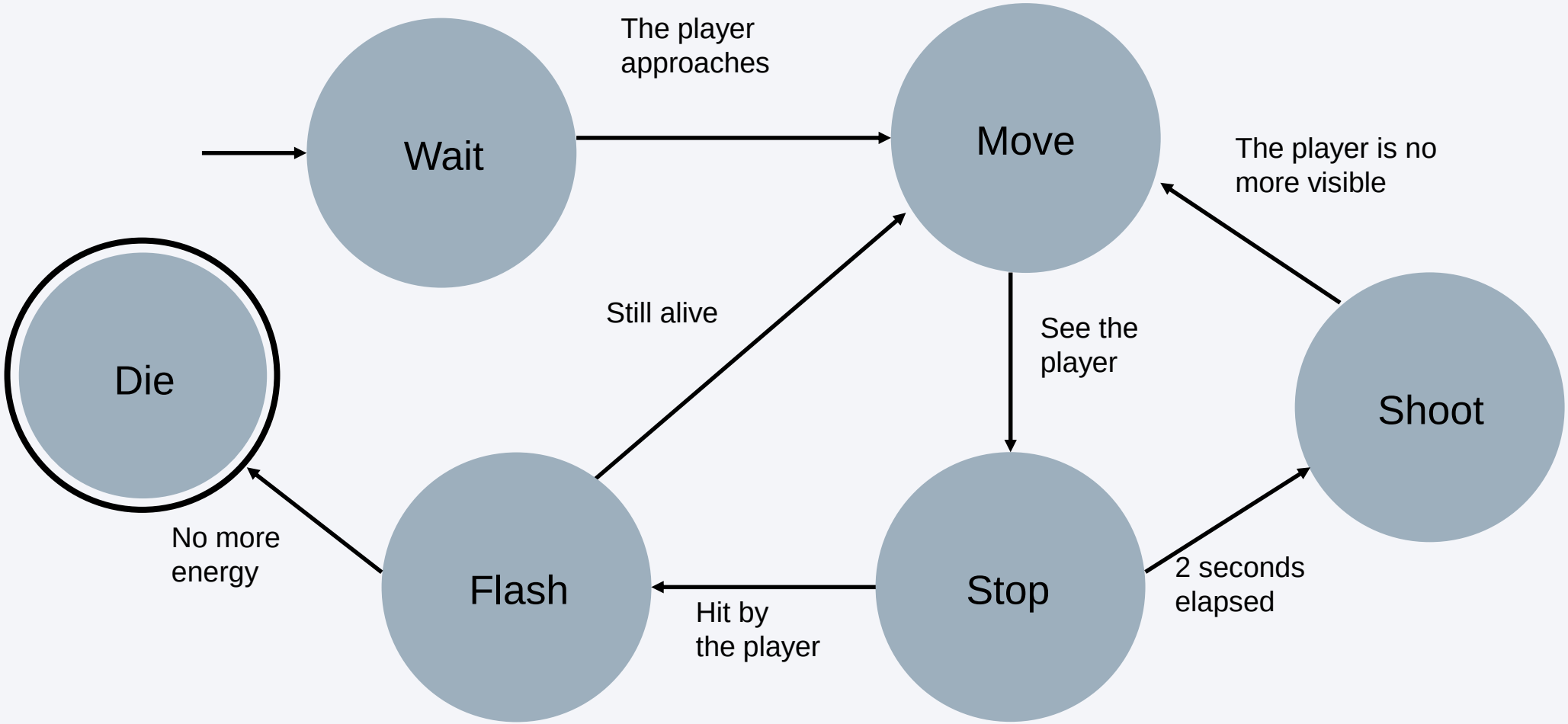
Continuous space, bounded

M2: OBJECTS

- Objects
  - Characters, props, scoreboards, and so on
- Different objects imply different appearance
- Objects have **attributes** (e.g. position, color) in a **state** (the current value)
  - Visible or hidden to the player
- State machines useful to represent attributes and states!

DISHONORED

THE ENEMY STARSHIP BEHAVIOR



M3: ACTIONS

- “What can the player do?”

- **Operative** actions (“verbs”)
  - Move
  - Jump

- **Resultant** actions (in the picture of the game)
  - Most of them are not part of the rules, strategic
  - Make a noise… to force the enemy to uncover, fix the enemy… to flank him

METAL GEAR SOLID 5

EMERGENT GAMEPLAY

- Elegant, but need care
- Creating interesting resultant actions
  - More operative actions [*useful!!!*]
  - Verbs acting on many objects
  - More ways to achieve a goal
  - Many subjects, e.g. the specialists of Commando
  - Side effects changing constraints, see checkers
- **Innovative games: new actions**!

M4: RULES

- Most fundamental mechanic
- Rules enable the other mechanics and add **goals**

PARLETT' RULE ANALYSIS (1-4)

1. Operational rules
   - Describe what players do to play

2. Foundational rules
   - Underlying formal structure of the game
   - Ex. After an action, player's power increases by a value between 1 and 10

3. Behavioral rules (or "unwritten rules")
   - Sportmanship

4. Written rules
   - The document
   - In modern videogames, replaced by more effective tutorials

PARLETT' RULE ANALYSIS (5-8)

5. Laws or "tournament rules"
   - Competitive settings
   - Clarify or modify standard written rules

6. Official rules
   - Merge written rules and laws
   - Over time they become written rules

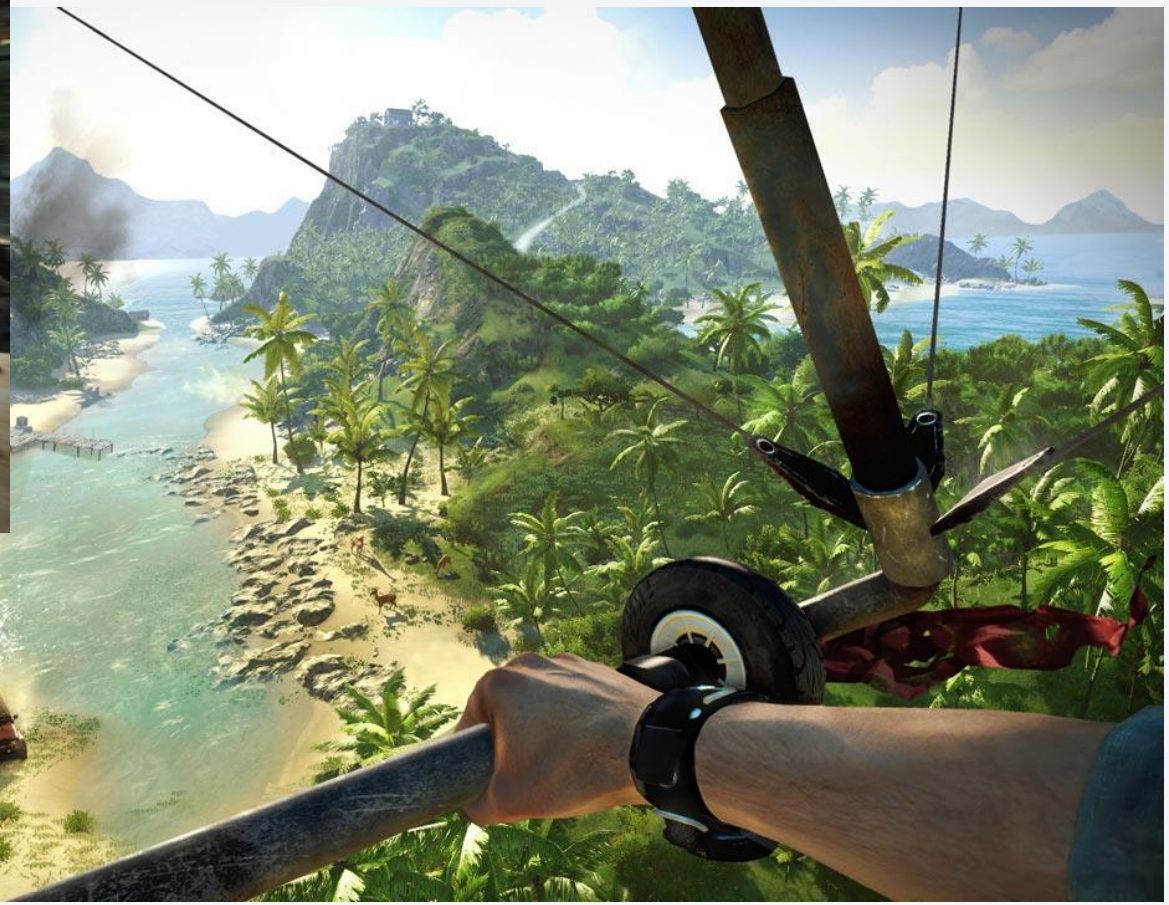
7. Advisory rules or "rules of strategy"
   - Hints to play better

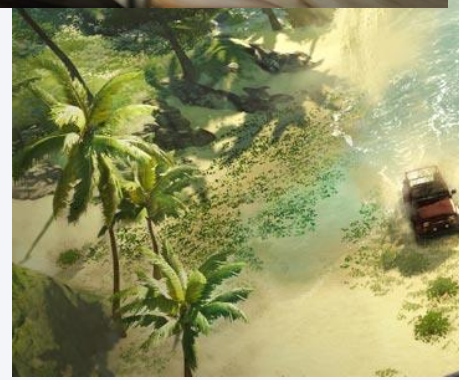
8. House rules
   - Flexible player's rules

RULES INTEGRATION

- Modes
  - Too many modes **confuse** the users
  - Players have always to know the current mode
- Traditional written or spoken rules become physical laws in videogames world
- The most important rule: the **goal**
  - Concrete
  - Achievable
  - Rewarding

FAR CRY 3





M5: (PLAYER'S) SKILLS

- Related with players and flow channel
- Main categories
  - Physical: strength, dexterity, coordination, etc.
  - Mental: memory, observation, puzzle solving.
  - Social: "anticipation", fooling, coordination, etc.
- Different from virtual skills (e.g. your avatar)
  - Feeling of power for the player
  - Player's skills can augment at the same time or not

M6: CHANCE

- Chance = uncertainty = surprise!
- Probability
  - look at **probability distribution curve**!
- Practical probability often more useful than theoretical
  - Monte Carlo Method
- Use **expected value** to determine winning, balanced and losing (sub-)games
  - Use the **real expected value** to verify the real value of your actions
  - Expected value does not perfectly predict human behavior
  - Take into account the **perceived** probabilities

SKILLS AND CHANCE ARE COUPLED

1. Estimating chance is a skill

2. Skills have a probability of success

3. Estimating an opponent's skill is a skill

4. Predicting pure chance is an imagined skill
   - human looks for imaginary patterns

5. Controlling pure chance is an imaginary skill
   - Superstition, rituals, etc.

GAME ECONOMY

INTERNAL ECONOMY

- **System**
  - resources produced, consumed, and exchanged in quantifiable amounts.

- In games, the internal economy can include **all sorts of resources** that are not part of a real-life economy (NOT just money).

- Elements of Internal Economies
  1. Resources
  2. Entities

RESOURCES

- Concept that can be measured numerically
  - Almost anything in a game can be a resource
- All economies revolve around the flow of resources
- Anything the player can produce, gather, collect, or destroy is probably a resource
- Not all resources are under the player’s control

TYPES OF RESOURCES

- **Tangible** or **intangible**
  - They have physical properties (e.g., occupy space and can be moved)

- **Abstract** or **concrete**
  - Abstract resources do not really exist in the game: player cannot see them (e.g. tactical advantage)
  - Computed from the current state of the game (internal logic)

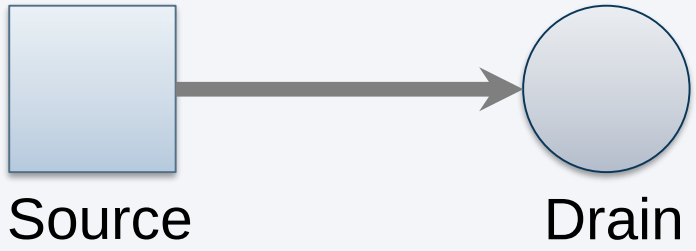
ENTITIES

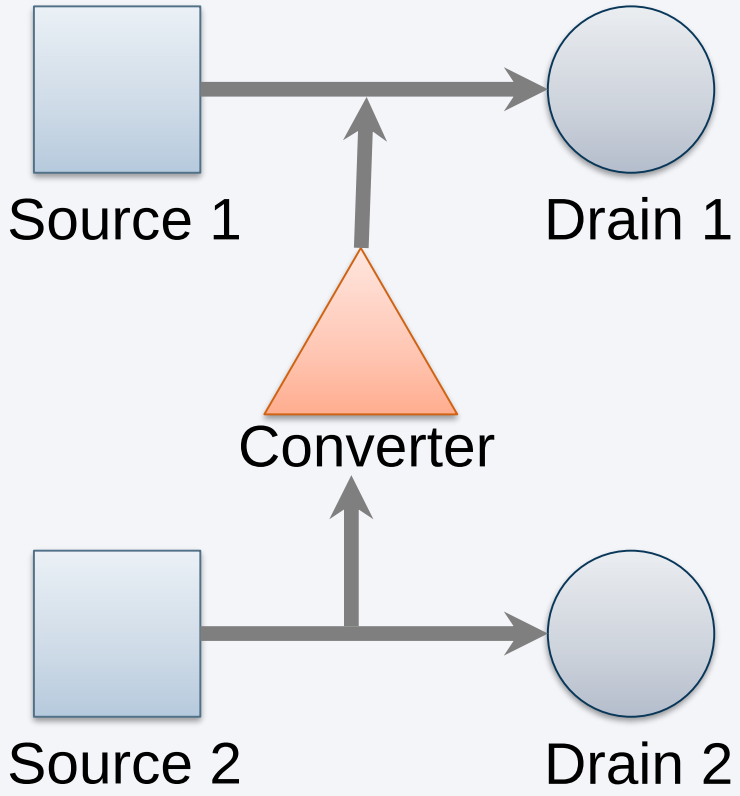
- An entity stores a specific amount of a resource
  - a variable

FOUR ECONOMIC FUNCTIONS

- **Sources**
  - mechanics that create new resources out of nothing
  - triggered by events or operate continuously
  - produce resources at a certain production rate
- **Drains**
  - take resources out of the game
  - reduce the amount stored in an entity
  - remove resources permanently
- **Converters**
  - turn resources of one kind into another
- **Traders**
  - move a resource from one entity to another, and another resource back in the opposite direction
  - based on exchange rules

FUNCTION EXAMPLES





Next act: balancing

QUESTIONS?