Ludology

Name for the study of games and game design.

Common Frameworks for Ludology

- *MDA : Mechanics, Dynamics, and Aesthetics*
- *FDD : Formal, Dramatic, and Dynamic elements*
- *Elemental Tetrad: splits games into four core elements*

  ❖ *Mechanics*
  ❖*Aesthetics*
  ❖*Story*
  ❖*Technology*

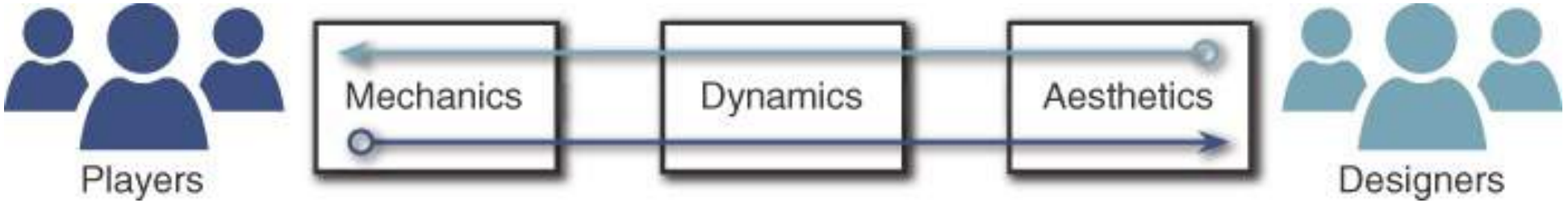
MDA : Mechanics, Dynamics, and Aesthetics

Mechanics *:The particular components of the game at the level of data representation and algorithms.*

Dynamics : *The runtime behavior of the mechanics acting on player inputs and each other's outputs over time*

Aesthetics :*The desirable emotional responses evoked in the player when they interact with the game system*

Designer and Player Views of a Game



FDD: Formal, Dramatic, and Dynamic Elements

Formal elements: The elements that make games different from other forms of media or interaction and provide the structure of a game

Dramatic elements *:*The story and narrative of the game, including the premise.

Dynamic elements: The game in motion. When players turn the rules into actual gameplay, the game has moved into dynamic elements

Formal elements:

Game Design Workshop proposes seven formal elements that differentiate games from other forms of media:

- **Player interaction pattern:** How do the players interact? Is the game single-player, one-on-one, team versus team, multilateral (multiple players versus each other, as is the case in most board games), unilateral (one player versus all the other players like some *Mario Party* minigames or the board game *Scotland Yard*), cooperative play, or even multiple individual players each working against the same system.
- **Objective:** What are the players trying to achieve in the game? When has someone won the game
- **Rules:** Rules limit the players' actions by telling them what they may and may not do in the game. Many rules are explicitly written and included in the game, but others are implicitly understood by all players. (For example, it's implicitly understood that you can't steal money from the bank in *Monopoly*, even though no rule explicitly say so

- **Procedures:** The types of actions taken by the players in the game. A rule in *Snakes and Ladders* tells you to roll the die and move the number of spaces shown. The procedure dictated by that rule is the actual action of rolling the die and moving the piece. Procedures are often defined by the interaction of a number of rules.
- **Resources:** Resources are elements that have value in the game. These include things such as money, health, items, and property.
- **Boundaries:** Where does the game end and reality begin.
- **Outcome:** How did the game end? There are both final and incremental outcomes in games.

Dramatic Elements

Dramatic elements help make the rules and resources more understandable to players and can give players greater emotional investment in the game.

Fullerton presents three types of dramatic elements:

- **Premise:** The basic story of the game world. In *Monopoly*, the premise is that each of the players is a real-estate developer trying to get a monopoly on corporate real estate in Atlantic City, New Jersey. In *Donkey Kong*, the player is trying to single-handedly save his girlfriend from a gorilla that has kidnapped her. The premise forms the basis around which the rest of the game's narrative is built.
- **Character:** Characters are the individuals around whom the story revolves, be it the nameless and largely undefined silent first-person game
- **Story:** The plot of the game. Story encompasses the actual narrative that takes place through the course of the game. The premise sets the stage on which the story takes place.

Dynamic Elements

Dynamic elements are those that occur only when the game is being played. There are a few central things to understand about dynamic elements in games:

- **Emergence:** Collisions of seemingly simple rules can lead to unpredictable outcomes.
- **Emergent narrative:** In addition to the dynamic behavior of mechanics covered in the MDA model, Fullerton's model also recognizes that narrative can be dynamic, with a fantastic breadth of narratives emerging from the gameplay itself. Games, by their nature, put players in extra-normal situations, and as a result, they can lead to interesting stories.

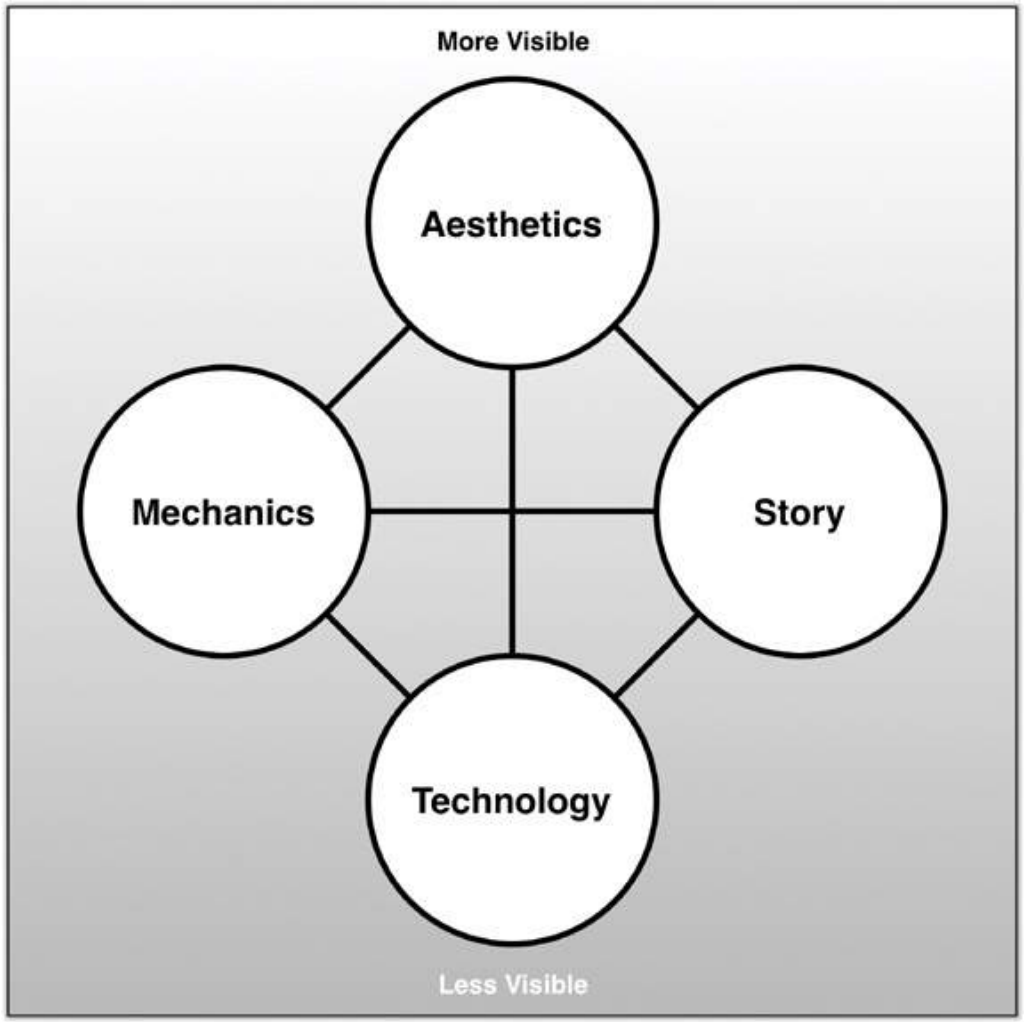
The Elemental Tetrad

Mechanics: The rules for interaction between the player and the game. Mechanics are the elements in the tetrad that differentiate games from all noninteractive forms of media. Mechanics contain things like rules, objectives, and the other formal elements described by Fullerton. This is different from the mechanics presented by MDA here the use of the term differentiates between game mechanics and the underlying technology that enables them.

Aesthetics: Aesthetics describe how the game is perceived by the five senses: vision, sound, smell, taste, and touch. Aesthetics cover everything from the soundtrack of the game to the character models, packaging, and cover art. This is different from MDA's use of the word *aesthetics* because MDA used the word to refer to the emotional response engendered by the game.

Technology: This element covers all the underlying technology that makes the game work. While this most obviously refers to things such as console hardware, computer software, rendering pipelines, and such, it also covers technological elements in board games. Technology in board games can include things like the type and number of dice that are chosen, whether dice or a deck of cards are used as a randomizer, and various stats and tables used to determine
the outcome of actions.

Story: story encompasses all of the narrative elements in your game, including both premise and characters.



The tetrad shows how the four elements all interrelate with each other

The aesthetics of the game are always very visible to the player (again, this is different from the aesthetic feelings described in MDA), and the technology of the game is the least visible with players generally having a better understanding of the game mechanics (e.g., the way that snakes and ladders affect the position of the player) than game technology (e.g., the probability distribution of a pair of six-sided dice). Schell's tetrad does not touch on dynamic play of the game and is more about the static elements of the game as it comes in a box