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the  
gamedesigninitiative  
at cornell university

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# Nature of Games

# Definitions of Games

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- Adams: *Fundamentals of Game Design*

A **game** is a form of *interactive entertainment* where *players* must overcome *challenges*, by taking actions that are governed by *rules*, in order to meet a *victory condition*.

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- Salen & Zimmerman: *Rules of Play*

A **game** is a *system* in which *players* engage in *artificial conflict*, defined by *rules*, that results in a *quantifiable outcome*.

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- Adams: *Fundamentals of Game Design*

A **game** is a structured activity with *rules* where *players* take *actions* that are *interdependent* and result in *challenges* and *victory* conditions.

- Salen & Zimmerman: *The Art of Game Design*

A **game** is an artificial activity designed to be played according to a set of rules in a quantifiable outcome.

- Players
- Challenges
- Rules
- Goals

# Design Decisions

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- **Players**

- How many players are there at a time?
- Who or what is the player in the world?
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- **Players**

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- Who or what is the player in the world?
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- **Goals**

- What is the player trying to achieve?
- Defined by the game or by the player?
- Specifies the player *focus*

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- How does the player learn the rules?
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- **Challenges**

- What obstacles must the player overcome?
- Is there more than one way to overcome them?
- Specifies the fundamental *gameplay*



# Play Length

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- How short a game can I play and have fun?
  - Least meaningful unit of play
  - **Console**: 30 minutes+ is acceptable
  - **Mobile**: No more than a minute
- **Casual** often means short play units
  - But can have sophisticated gameplay!
  - **Example**: *Plants vs. Zombies*
- But **casual** vs **core** is a bad distinction

# (Other) Design Decisions

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- **Game Modes**

- How are the challenges put together?
- What is the interaction *context*?

- **Setting**

- What is the nature of the *game world*?
- What is the *perspective* (e.g. side-scroller, 3D, etc.)?

- **Story**

- What *narrative* will the player experience?
- How is it connected to gameplay?

# Dueling Design Philosophies

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## Narrative

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- Games are a *story medium*
  - Focuses on storytelling
  - Traditional narrative structure
- **Advantages:**
  - Emotionally compelling
  - Strong artistic vision
- **Disadvantages:**
  - Author *voice* over player voice
  - Poorly defined mechanics

## Ludic

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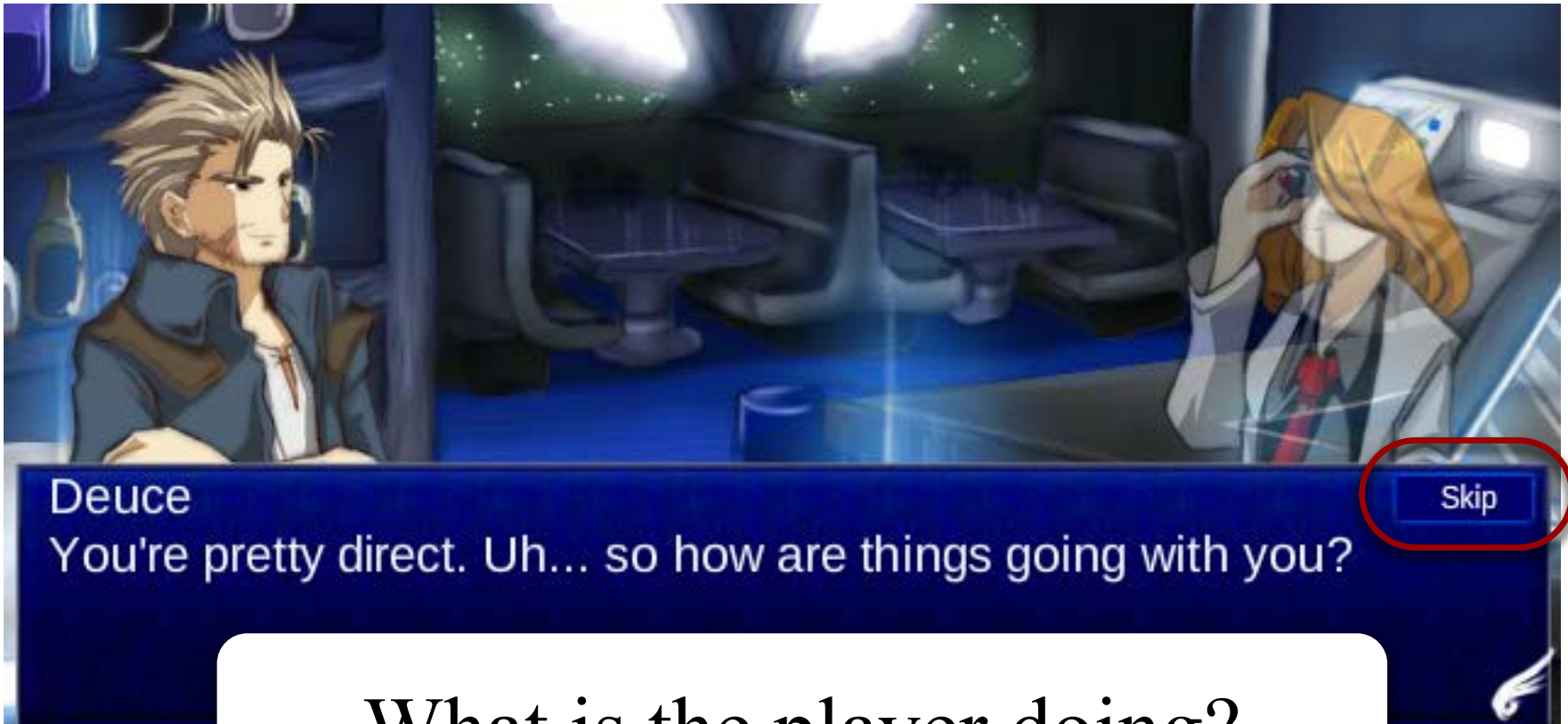
- Games are about *mechanics*
  - Focus on gameplay, rules
  - Storytelling is minimal
- **Advantages:**
  - Focus on player *agency*
  - Tight, well-defined gameplay
- **Disadvantages:**
  - Lack of player motivation
  - Hard to distinguish yourself

# The Dangers of Pure Story

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# The Dangers of Pure Story



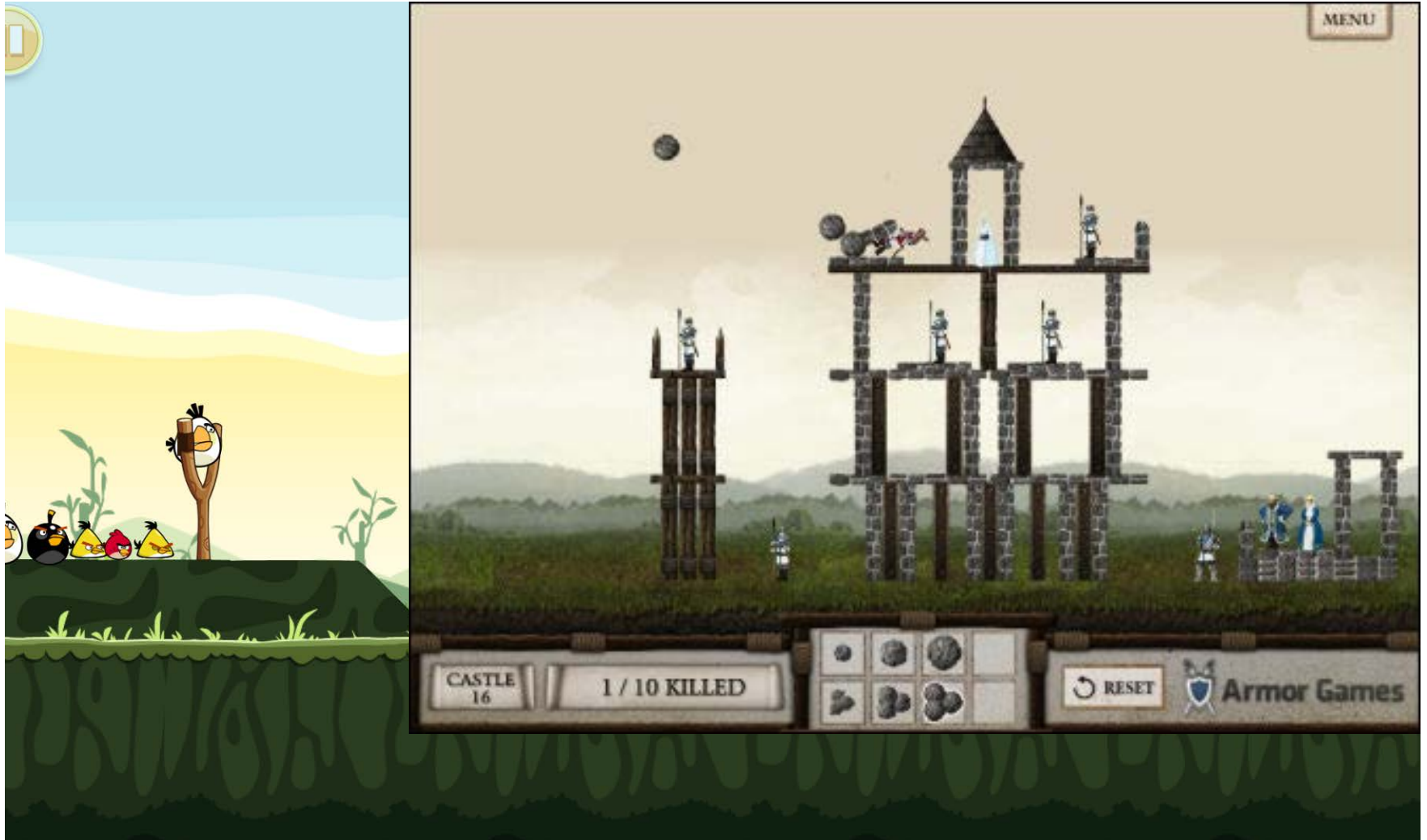
What is the player doing?

# But Ludic is Not Everything





# But Ludic is Not Everything



# Game Design Must Be a Balance

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## Motivate the Player

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- Needs a story *framework*
  - Setting to work within
  - Strong sense of identity
  - Challenges with context

## Empower the Player

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- Drama from player *actions*
  - Define what the player can do
  - Challenges reward or punish
  - Freedom in achieving goals



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Games are **dramatic**, but they have their own **conventions**.

# But This Course Will Be Ludic-Centric

- Will focus on **design tools**
  - Techniques that we can train
  - Using them requires practice
  - Implementing them has technical challenges
- But design is much more
  - You use tools to create art
  - Can only learn by doing
  - With critiques from us
  - Like a studio course
- Keeping balance is up to you

**Base to Hit Table**

Range	To Hit
Short	3
Medium	7
Long	14

If a 1 is rolled for a weapon that has an event occur on the normal 2d6 roll of "2" (such as a jam) , re-roll. On a re-roll result of 10 or less, the weapon event occurs.

**Hit Location Table**

1d20	Left	Front / Rear	Right
1	Left Leg	Right Arm	Right Leg
2	Left Arm	Right Arm	Right Arm
3	Left Arm	Right Arm	Right Arm
4	Left Arm	Right Leg	Right Arm
5	Left Arm	Right Leg	Right Arm
6	Left Leg	Right Torso	Right Leg
7	Left Leg	Right Torso	Right Leg
8	Left Leg	Right Torso	Right Leg
9	Left Torso	Center Torso	Right Torso
10	Left Torso	Center Torso	Right Torso
11	Left Torso	Center Torso	Right Torso
12	Center Torso	Left Torso	Center Torso
13	Center Torso	Left Torso	Center Torso
14	Center Torso	Left Torso	Center Torso
15	Right Torso	Left Leg	Left Torso
16	Right Torso	Left Leg	Left Torso
17	Right Arm	Left Arm	Left Arm
18	Right Arm	Left Arm	Left Arm
19	Right Leg	Left Arm	Left Leg
20	Special	Special	Special

**Special Hit Location Table**

1d20	Left	Front / Rear	Right
1 – 10	Head	Head	Head
11 – 20	LT (Critical)	CT (Critical)	RT (Critical)

# The Adams Approach

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- Games as *wish-fulfillment*
  - I want to \_\_\_\_\_
- Questions to answer:
  - What dream are you satisfying?
  - What *goals* does this dream create?
  - What *actions* achieve those goals?
  - What *setting* does this dream create?
  - What is the appropriate *interface*?
- Use this to define **gameplay**

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**Narrative**

**Ludic**

# Have Realistic Goals

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- **Goal:** Size of a indie mobile game
  - Can be played instantly with minimal tutorial
  - A few core mechanics with some variation
- **Quality over Quantity**
  - Ten amazing levels > 30 poor levels
  - Balance number of challenges with level size
  - Avoid feature bloat (e.g. power ups)
- We will give you constant feedback on this

# Commercial Examples

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- **Braid**: Puzzle platformer with time-travel mechanics
- **Limbo**: Dark platformer with realistic physics
- **Hotline Miami**: Top-down stealth and action
- **Clash of Heroes**: Match 3 + Turn-based strategy
- **Guild of Dungeoneering**: RPG + CCG
  - Use cards to build the dungeon that you explore
- **Monument Valley**: Puzzle-based exploration
- Think indie games, not boxed retail

# Examples from Previous Semesters

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- **Mount Sputnik (Spring 2017):**
  - Competitive rock-climbing game
- **Arc en Ciel (Spring 2015):**
  - Platformer where you paint platforms, while enemy erases
- **Dash (Spring 2014):**
  - Action game with dash mechanics to avoid enemies, obstacles
- **Exodus Protocol (Spring 2013):**
  - X-Com style strategy game with only three units
- **Ensembler (Fall 2011):**
  - Classical music rhythm game with you as conductor

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Some are available at  
<http://gdiac.cs.cornell.edu>