



# CHAPTER 1

# INTRODUCTION

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BCM3163  
COMPUTER GAME PROGRAMMING I

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# Content

- Game content
- Game mechanics
- Game technology

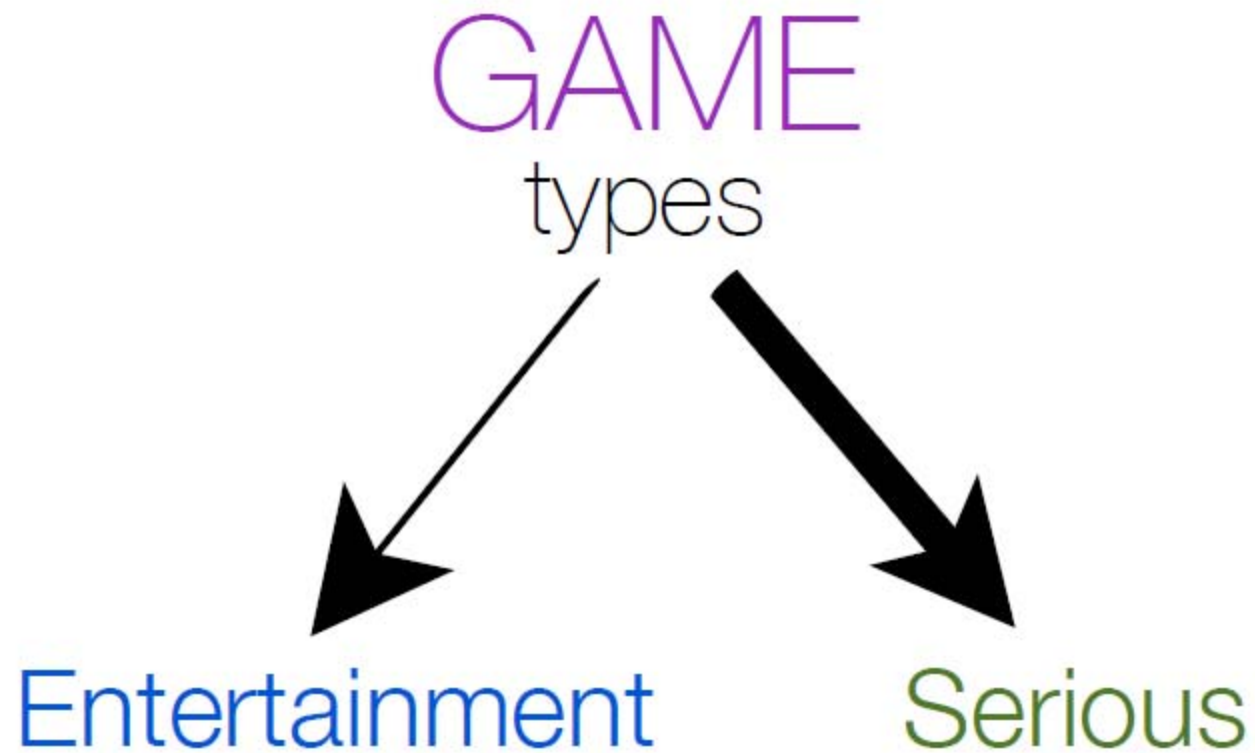
GAME?

# Definition of Game

Definition by Rabin (2010):

- Artifacts / System – A thing made with an intended function.
- Play and fun

***GAME is an emotional artefact used through a series of structured interactions.***



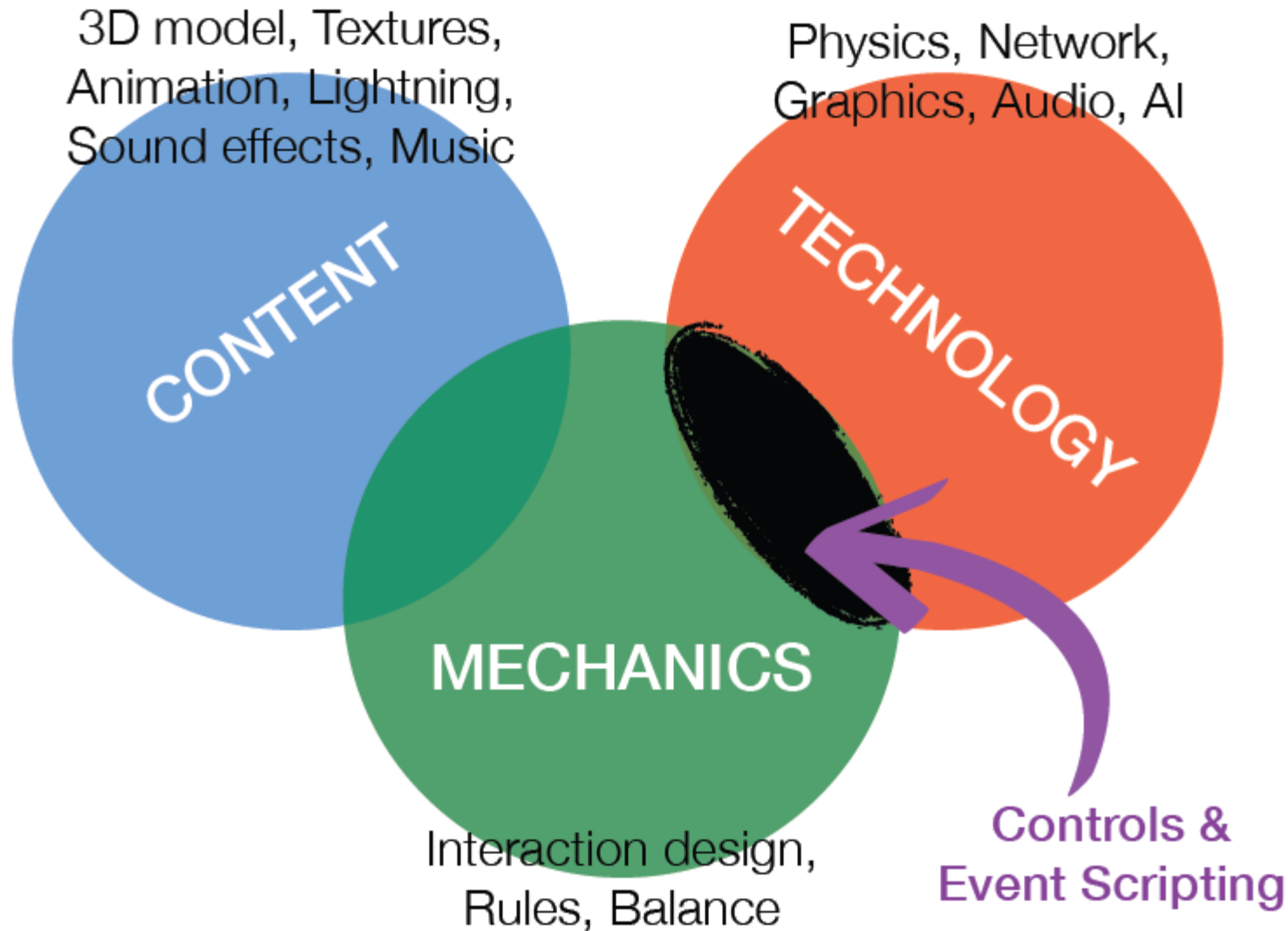


Entertainment



Serious

# Game Component (Morgan et al., 2009)





# Game Content

- *Content* is the space of your game and everything that fits inside of it: the combined total of all areas, elements, and states throughout any moment in time.
- Levels, models, missions, back-stories, enemies, animations, textures, dialogue, sound effects, music, particles, characters, etc.
- We tend to think in terms of the things we need to create during the production of a game—stuff we need to work on.

# Game Content

- Game spaces—chessboards, The Barrens
- Game objects—a rook
- Narratives—back stories
- Characters—Mario, Frodo
- Scripted events
- Models and animations
- Sounds and music

# Game Mechanics

- When someone playing *Lego Star Wars* cracks apart a table, jogs in a circle to gather the coins that erupted from the rubble, and receives the value of those coins into her total account, they experience a mechanic.
- If she continues breaking objects and collecting coins, she might be able to unlock Greedo back at the cantina; that is a mechanic.
- *Angrybird?*
- *Super Mario?*
- *Daytona?*
- *Other types of mechanics in games?*

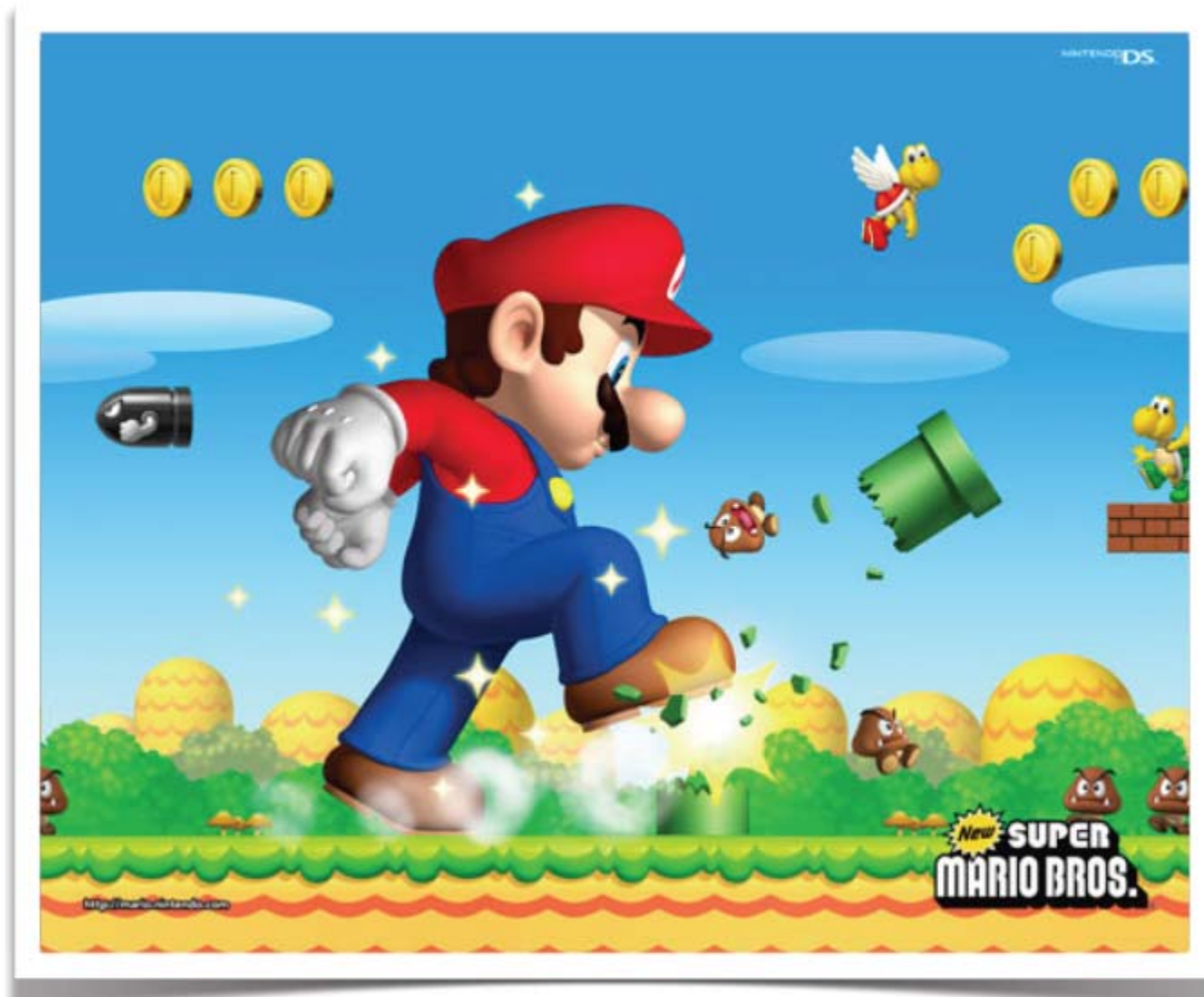
Construction of rules intended to produce an enjoyable game.

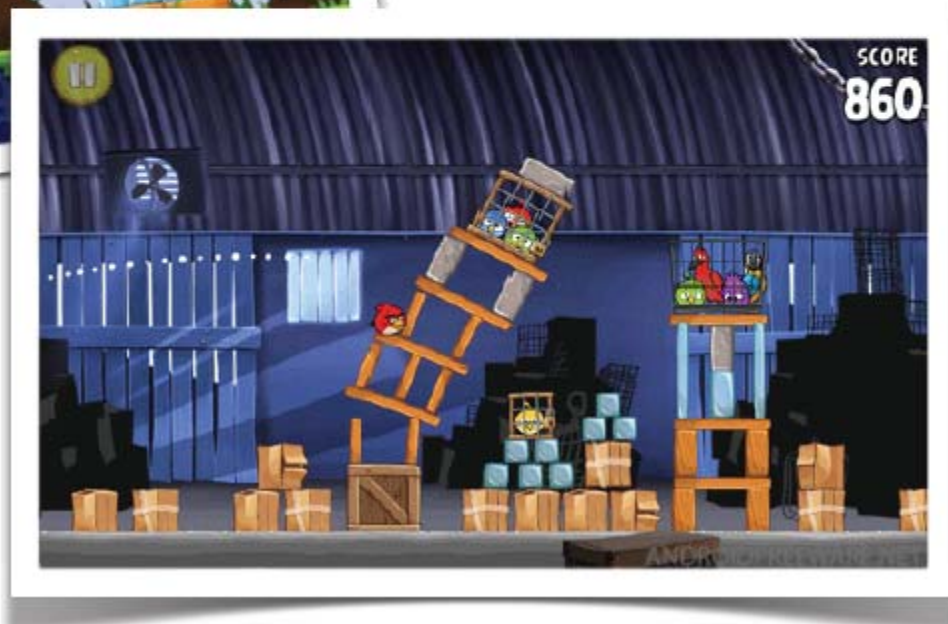


- Gameplay -  
MECHANICS

Interaction design,  
Rules, Balance







# Game Technology

- Physics
  - Realistic motion through simulation, velocity, speed.
- Network
  - Multiplayer, protocol, physical layer, buffering, real-time communication, security.
- Graphics
  - 2D/3D modeling, rendering, material, texture, shaders, etc.
- Audio
  - Analog and digital audio, audio manipulation, compressed audio format, 3D audio, environmental sound effect, voice recognition.
- AI
  - Game agents, searching, learning and remembering, path finding, obstacle avoidance, scripting.



# Activity

- Form a group of 4 members.
- Assume that you are required to develop a game.
- Propose ONE game to be developed.
- Identify the content, technology and mechanics to be included in your proposed game.
- Present your proposal to the audience.