Game Systems Part II

Admin

- Quiz
- Final Exam coming
- Game design Project 2

- Reading assignment
- Read chapters 9, 11 & 12 in your book.

Mechanics and Attributes

- What is a Game Mechanic?
- What is a game attribute?

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- What is a Game Mechanic?
  - The encoding of rules in a game
- An example in a well known game?
  -

- What is a game attribute?
  - The values/data in a game
- An example from a well known game?

Mechanics and Attributes

- What is a Game Mechanic?
  - The encoding of rules in a game
- An example in a well known game?
  - Landing on a square in monopoly, causes lander to have to pay owner
- What is a game attribute?
  - The values/data in a game
- An example from a well known game?
  - Park place costs $35 empty
  - Baltic Ave costs $4 to land on

Your game entities need attributes

- Tell me about the attributes in your project 3

Your game entities need attributes

- Tell me about the attributes in your project 3
- Lots of possible answers, but a few
  - X and Y positions of game entities
- Farm Game
  - Growth speed for plants
- RPG
  - Health of enemies
- Fighting Game
  - Speed, health, damage
- What else.

Thinking about attributes

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  - Let’s first try a sports game
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Thinking about attributes

- Let’s think about some attributes
  - Let’s first try a sports game
    - Let’s pick a sport and try some out on board
  - Now lets try an early “fast and furious” style street racing game.

Weights for attributes

- Some attributes count more than others
  - Core Keeper Like game
    - Mining
    - Melee Combat
    - Range Combat
    - Hair Color
    - Gardening Skill
    - Vitality
- When checking a combat encounter with one of the minibosses
  - which of these attributes should be given high weight
  - Which low or no weight?

Balancing Encounters

- When balancing encounters
  - Consider a PvP contest
  - Needs to consider who would win comparing everyone against everyone else
  - A version of the handshake problem
  - Which is?

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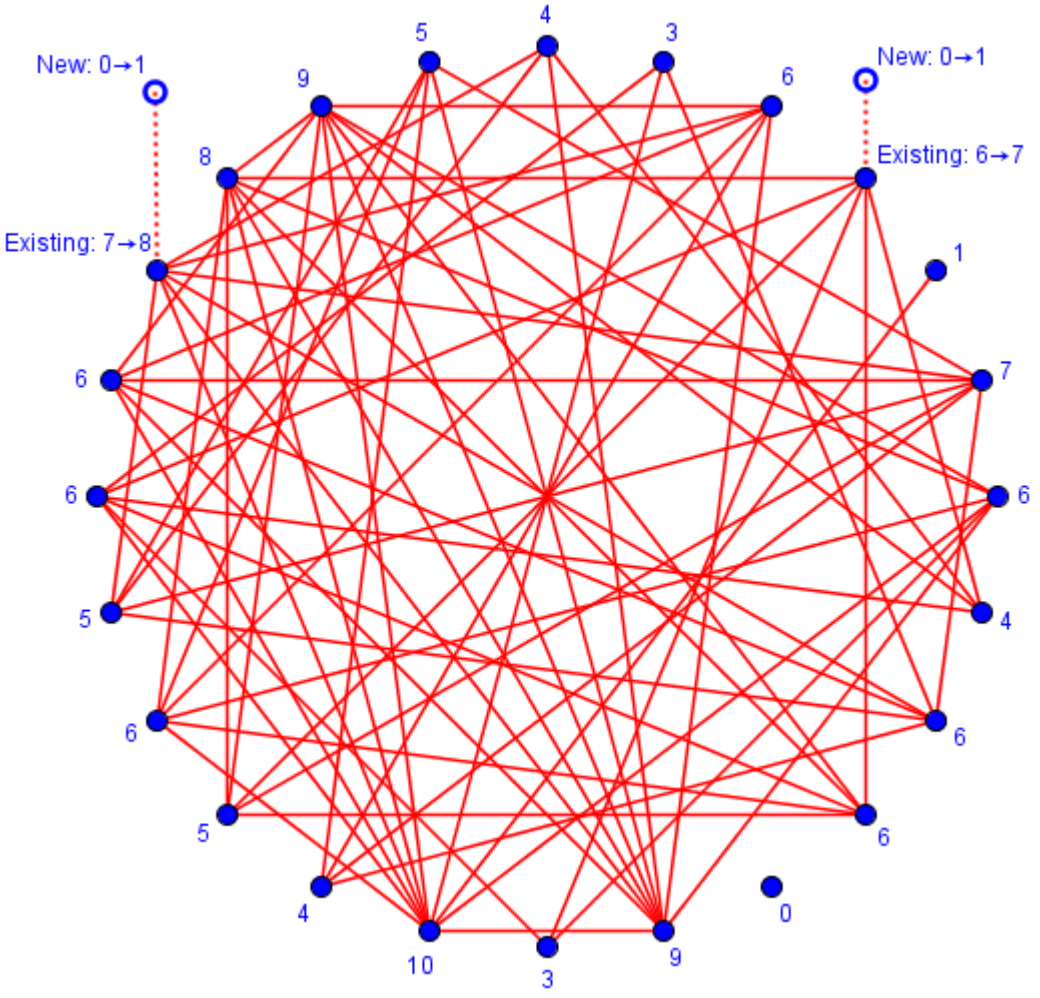

Balancing Encounters

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  - Which is?
  - Or closer to your book

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A	X	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
B	X	X	S	S	S	S	S	S	S	S	S	S	S	S	S	S
C	X	X	X	S	S	S	S	S	S	S	S	S	S	S	S	S
D	X	X	X	X	S	S	S	S	S	S	S	S	S	S	S	S
E	X	X	X	X	X	S	S	S	S	S	S	S	S	S	S	S
F	X	X	X	X	X	X	S	S	S	S	S	S	S	S	S	S
G	X	X	X	X	X	X	X	S	S	S	S	S	S	S	S	S
H	X	X	X	X	X	X	X	X	S	S	S	S	S	S	S	S
I	X	X	X	X	X	X	X	X	X	S	S	S	S	S	S	S
J	X	X	X	X	X	X	X	X	X	X	S	S	S	S	S	S
K	X	X	X	X	X	X	X	X	X	X	X	S	S	S	S	S
L	X	X	X	X	X	X	X	X	X	X	X	X	S	S	S	S
M	X	X	X	X	X	X	X	X	X	X	X	X	X	S	S	S
N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	S	S
O	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	S
P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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  - Don't need to consider player H vs player H,
    - No need to worry about battling yourself.
    - Book also says that B vs H is the same as H vs B
    - And sometimes it is
    - In say Mario Kart
    - But when is it not?

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A	X	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
B	X	X	S	S	S	S	S	S	S	S	S	S	S	S	S	S
C	X	X	X	S	S	S	S	S	S	S	S	S	S	S	S	S
D	X	X	X	X	S	S	S	S	S	S	S	S	S	S	S	S
E	X	X	X	X	X	S	S	S	S	S	S	S	S	S	S	S
F	X	X	X	X	X	X	S	S	S	S	S	S	S	S	S	S
G	X	X	X	X	X	X	X	S	S	S	S	S	S	S	S	S
H	X	X	X	X	X	X	X	X	S	S	S	S	S	S	S	S
I	X	X	X	X	X	X	X	X	X	S	S	S	S	S	S	S
J	X	X	X	X	X	X	X	X	X	X	S	S	S	S	S	S
K	X	X	X	X	X	X	X	X	X	X	X	S	S	S	S	S
L	X	X	X	X	X	X	X	X	X	X	X	X	S	S	S	S
M	X	X	X	X	X	X	X	X	X	X	X	X	X	S	S	S
N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	S	S
O	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	S
P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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    - EU5
      - Units have different attack and defense rates.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
A	X	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
B	X	X	S	S	S	S	S	S	S	S	S	S	S	S	S	S
C	X	X	X	S	S	S	S	S	S	S	S	S	S	S	S	S
D	X	X	X	X	S	S	S	S	S	S	S	S	S	S	S	S
E	X	X	X	X	X	S	S	S	S	S	S	S	S	S	S	S
F	X	X	X	X	X	X	S	S	S	S	S	S	S	S	S	S
G	X	X	X	X	X	X	X	S	S	S	S	S	S	S	S	S
H	X	X	X	X	X	X	X	X	S	S	S	S	S	S	S	S
I	X	X	X	X	X	X	X	X	X	S	S	S	S	S	S	S
J	X	X	X	X	X	X	X	X	X	X	S	S	S	S	S	S
K	X	X	X	X	X	X	X	X	X	X	X	S	S	S	S	S
L	X	X	X	X	X	X	X	X	X	X	X	X	S	S	S	S
M	X	X	X	X	X	X	X	X	X	X	X	X	X	S	S	S
N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	S	S
O	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	S
P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

So how many combos?

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  - For EU5 style game
    - Where unit has different attack and defense
      - So H attacks K is different than K attacks H
  - Assuming Mario Kart
    - Which is reflexive

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    - Which is reflexive
    - $(N^2-N)/2$
      - Because half of the remainder are not needed

So how many combos?

Reading

- You’ve read chapters 1-5 in the book, now please add chapter 6