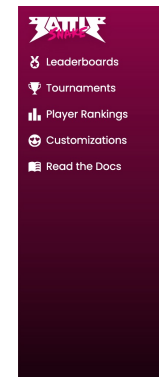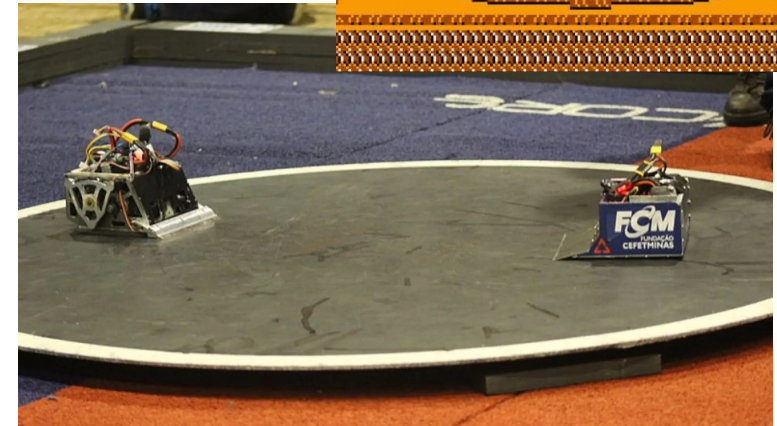# Research Topic

by Bagus

Sumobot: AI Competition Platform

1. Pacing-based Challenge in Sumobot

- Create the core gameplay
  - 2 Modes: real-time & turn-based
  - Live code feature

- Embed pacing-based challenge
  - Create NPC AI that follows the intended pace

- Contribution
  - AI competition platform, where student can use as a portfolio
  - Provide the resource to learn programming

2   Akira   VS   Fuji   0

Dash

Skill
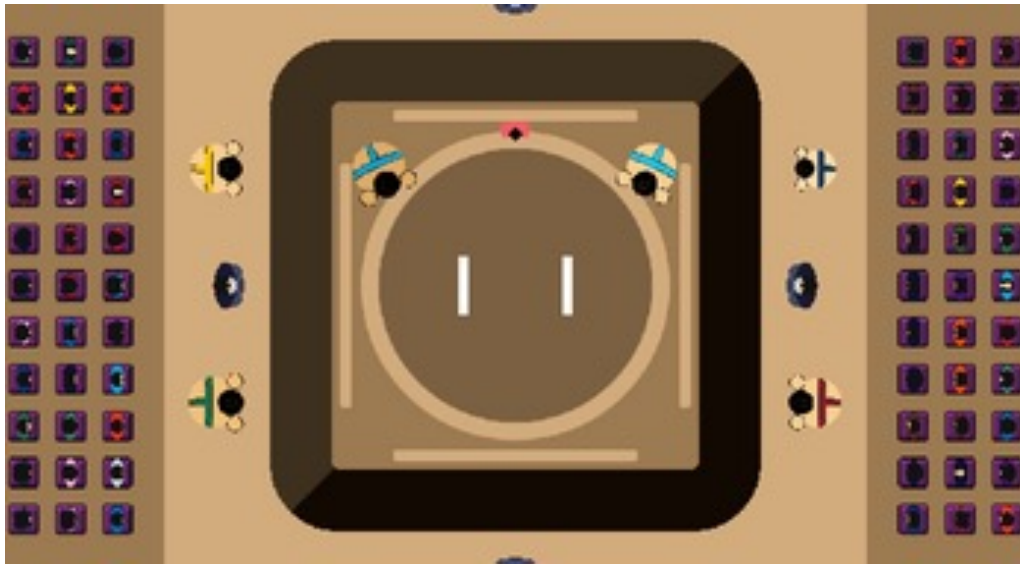
> Write your command here

Actions:
Turn(<angle>)
Move(<power>)
Dash(<power>)

Sumotori Creator

Back to Previous Page   Nagano's Takatensho, 180 cm / 120 kg   Randomize

< Shoulders: 1 >   < Brows: 3 >
< Skin Color: 1 >   < Nose: 3 >
< Ears: 1 >   < Mouth: 4 >
< Head Shape: 4 >   < Cheeks: 1 >
< Eyes: 4 >   < Chin: 5 >

Hand: Right   Years to simulate: 20

--- START GAME ---

波大龍   Yokozuna Namitairyu Takeshi   < > X

Highest Rank: Yokozuna

Last 5 Tournaments:
○ ○ ○ ○ ○
13-2 14-1 10-5 14-1 12-3

Kotonosho stable

Show Full History

From Hiroshima   Age: 27

Last Tournament: 13-2

Career Record: 200-37

Sumotori Creator

Back to Previous Page   Nagano's Takatensho, 180 cm / 120 kg

Power: 155, Speed: 155   Randomize

Yotsu: 101   Oshi: 56   Head: 100   Torso: 85   Potential: 89   Roll

Pot. Quickness: 96   Roll

Consistency: 1   Roll

Nage: 88   Tsuki: 49   Legs: 62   Arms: 52   Confidence: 3   Roll

Base Strength: ~301

Next!

2. Procedural Contents on Sumobot

- Procedural contents using pacing
  - Avatar: skin, dialog
  - Environment: arena, crowds
  - FX: damage, smoke

- Features
  - Mixing (visual & stats)
  - Marketable generated contents
  - Level editor

- Contribution
  - Evolution-based market to enhance the player experimentation.

Experimentation → Replayability

3. Action-level, branching & strategy modelling

- Action-level pacing
  - Action scale game pacing segmentation
- Pacing branching
  - Define possible actions and its resulting pacing
- Strategy modelling
  - Pacing as strategy modelling (actions → trees of actions → strategy)

- Contribution
  - Conceptual of strategy modelling using pacing

Threat

Impetus

Tempo

Value [0...1]

Rooms
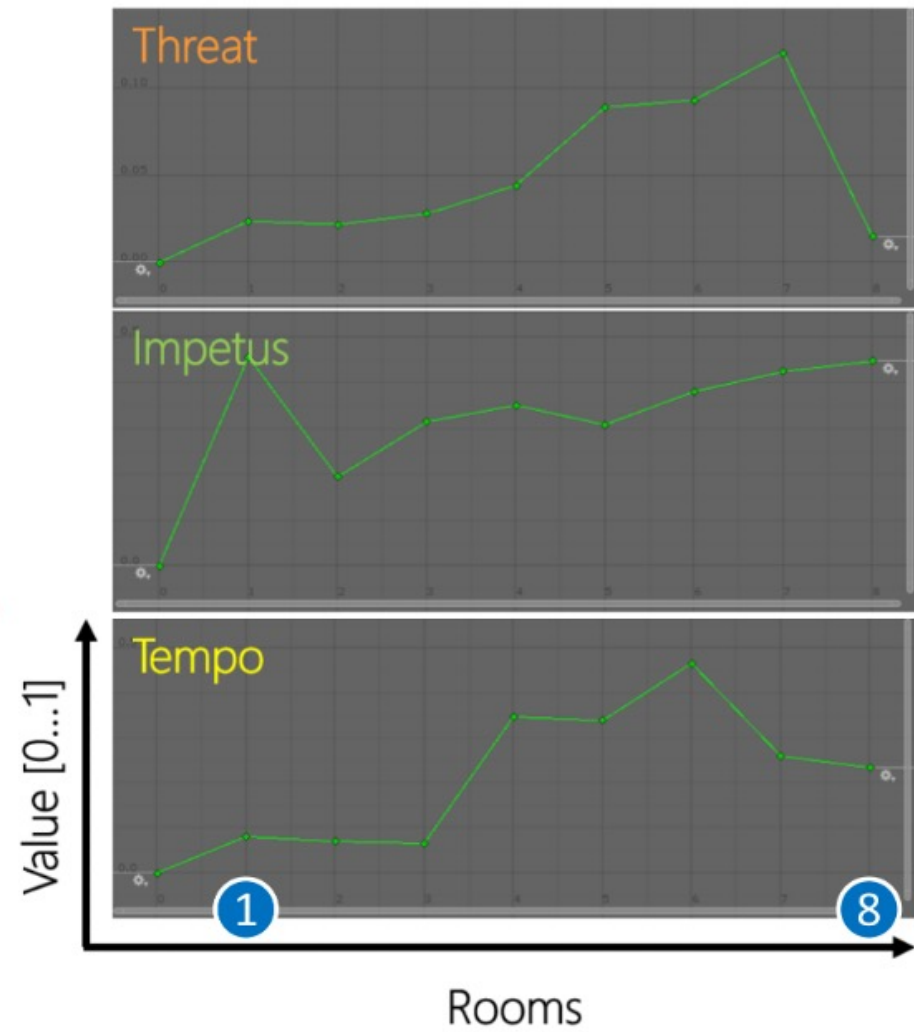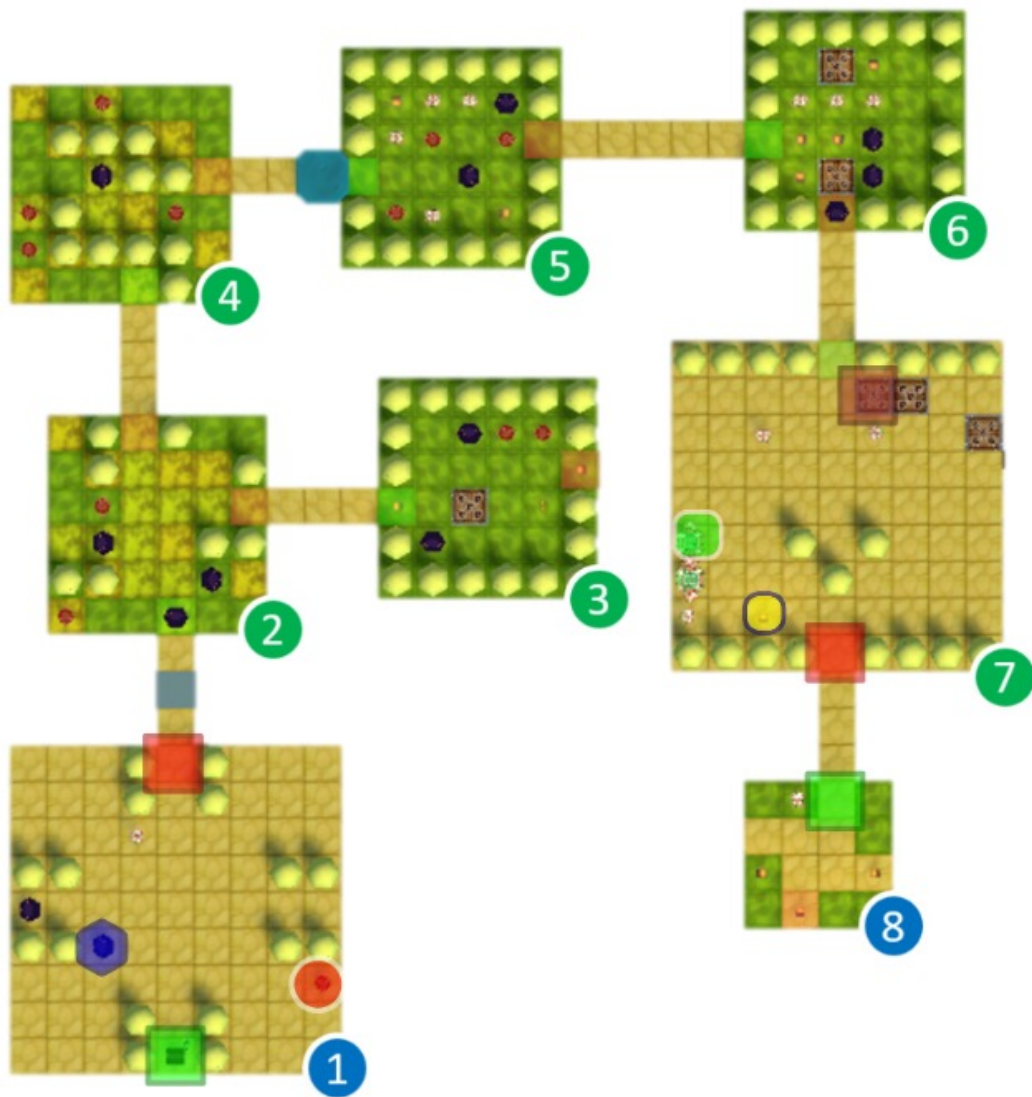
Pacing is used as a kind of strategy modelling

Pacing (vertical axis)

Time (horizontal axis)

Sequence
- Am I Hungry?
- Do I Have Food?
- Inverter
  - Enemies Around
- Eat Food

Sequence
- Walk to Door
- Selector
  - Open Door
  - Sequence
    - Unlock Door
    - Open Door
  - Smash Door
- Walk through Door
- Close Door

Selector
- Sequence
  - Walk to Door
  - Selector
    - Open Door
    - Sequence
      - Unlock Door
      - Open Door
    - Smash Door
  - Walk through Door
  - Close Door
- Sequence
  - Walk to Window
  - Selector
    - Open Window
    - Sequence
      - Unlock Window
      - Open Window
    - Smash Window
  - Climb thru Window
  - Close Window

Composite
- Leaf
- Decorator
  - Leaf
- Leaf