

Framework for Auto-Generating Agents that Fight in a Semi-Coherent Way

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Inspiration

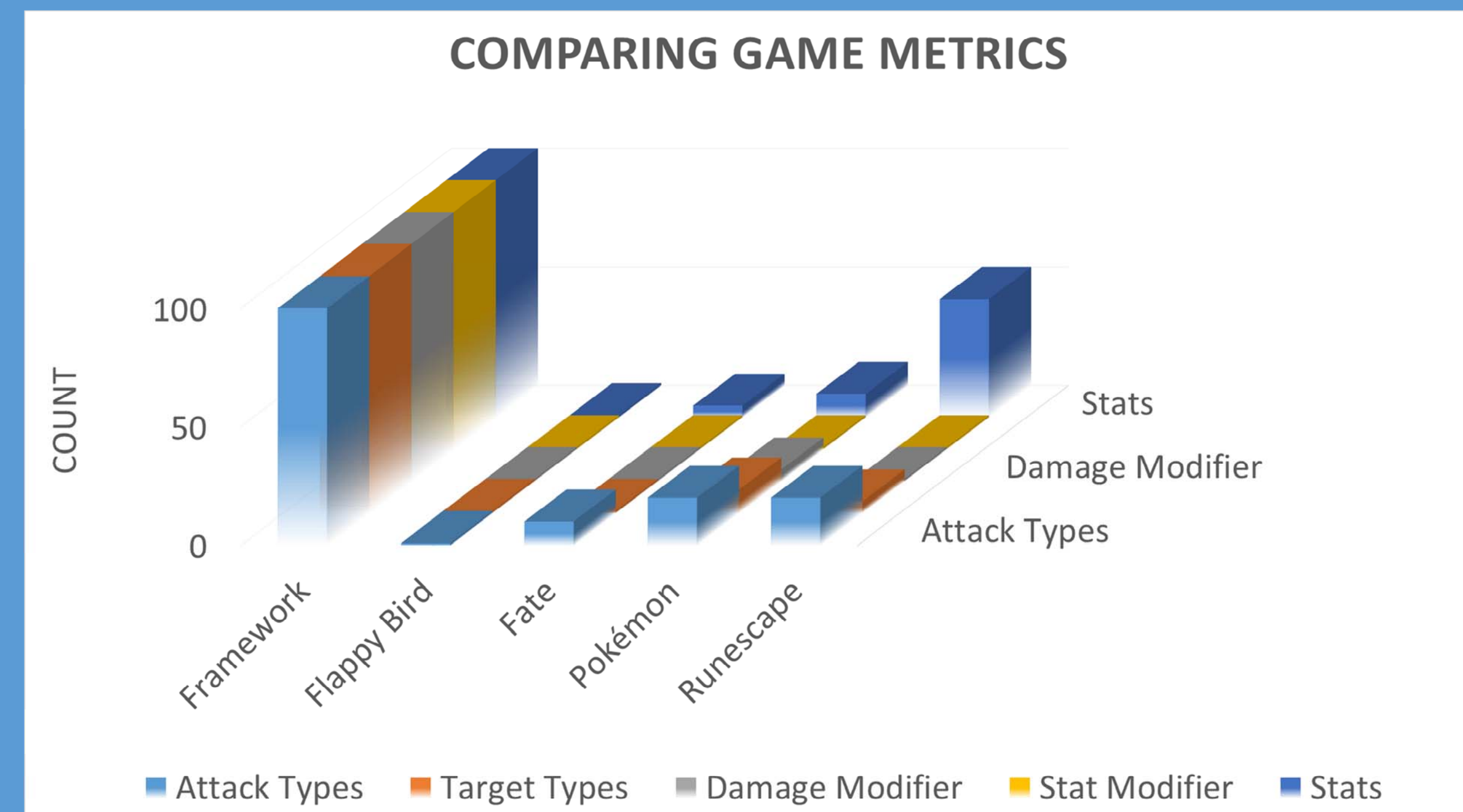
I want to make a game such that I am not bored of that game before I am done making it.

Idea

Develop a game that generates its own content and allows me to easily redesign the content.

Project

For this project, I focused developing an auto-generated fighting scheme.



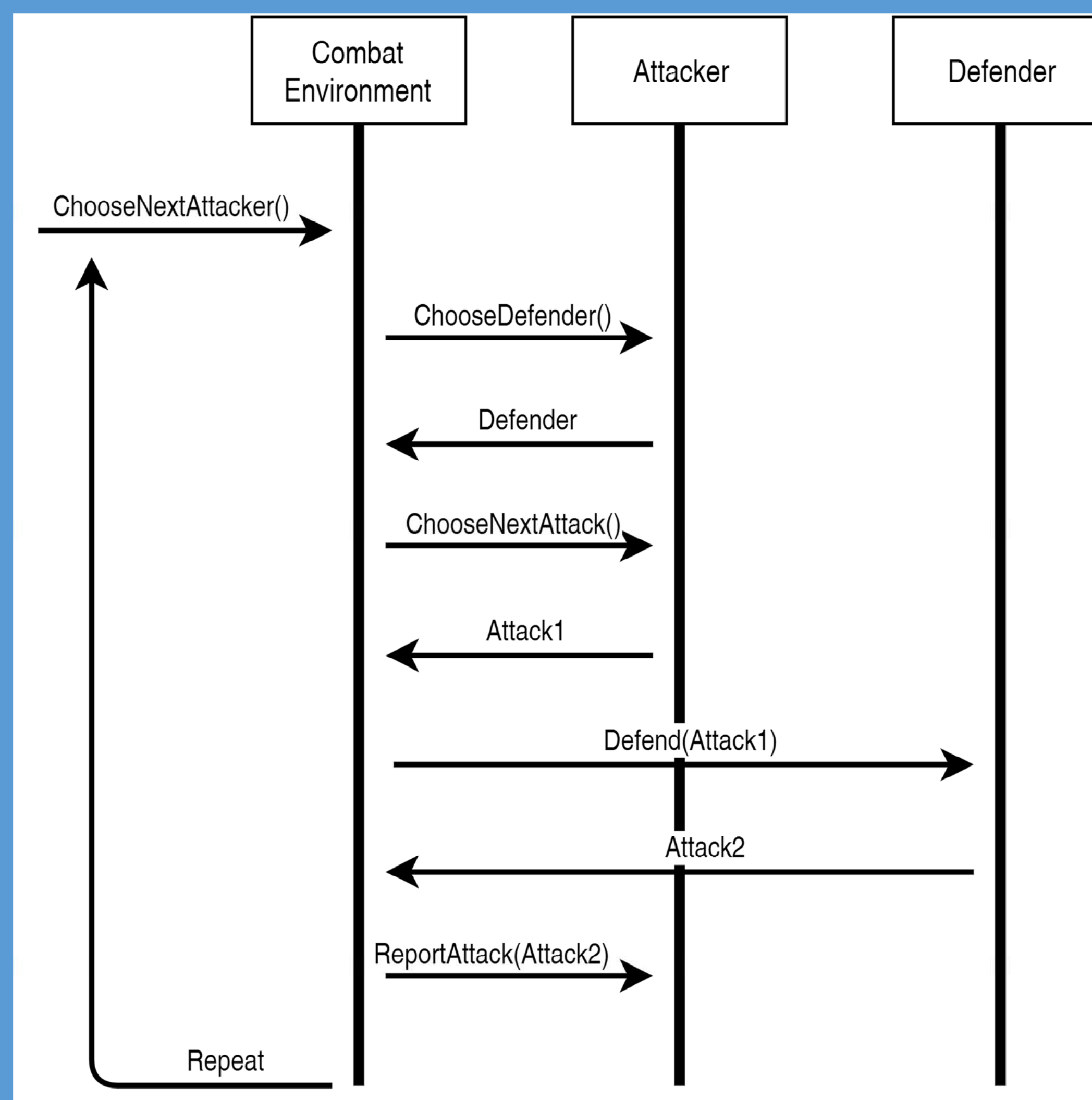
Flappy Bird is so simple, if it was implemented with this framework, there would only be 1 of every component for it.

Fate has magic, ranged and melee attacks, with four elemental bonuses, while the only target is the health stat. Fate has few fighting stats consisting mostly of mana and health.

Pokémon has at least 15 Pokémon types which are attack type. Target types are like health and speed. For every two attack types, there are 1 of about 5 damage modifiers to change the damage. Example: Water damage gets doubled when used on Fire.

RuneScape has 3 melee attack types, +4 magic elemental types (fire, water, air, earth), ranged attack type, and +3 status attack types (default, spiritual, poison, disease). Stats include the many skills in addition to stamina and carried resource caches.

The created framework is able to support undefined amounts of each metric.



Combat Scheme

1. Environment chooses an attacker
2. Attacker chooses a defender to target
3. Attacker sends the defender an Attack
4. Defender defends Attack and the Attacker is presented with component of the Attack that was successful
5. The Environment chooses another Attacker if appropriate

Requirements

- Working source code for framework
- Fighting demos for developer
- Interfaces document to assist future developer with creating a game
- Must be compatible with any system of graphics

Outcome

Three fighting demos

1. Fair Duel

Only two warriors who take turns attacking each other

2. Random Multiplayer

Warriors are randomly selected to attack each other next

3. Parallel Multiplayer

Warriors get their own threads and attack each other when they want to