

Wolf Pack

A simple dogfight-themed simulated card game

Players

The overarching class which handles players, including AI.

Players have the following assets:

- a username
- health
- a hand

Delegates

These delegates are contained within all players. Some may not currently have implementations.

int OnDamaged(int damage): When the player is damaged, effects may proceed.

void OnDeath(): Triggers when a player dies

void OnCardDraw(): Triggers when a player draws a card

Card OnSelect(Card card): Triggers when a player selects a card

Player OnTarget(Player target): Triggers when a player targets something.

void OnTargeted(Player origin): Triggers when the player is targeted by someone else

Active Players

Actions by Active Players are handled by humans. Active players choose their own usernames and have 50 health and a 3-card hand. They may play 1 card per turn. There is a maximum of 5 Active Players in one game room. They can play via LAN.

The Ace

The ace is the AI player which the players cooperate to defeat. It is a subtype of Player which is handled by an AI.

The ace plays 3 cards per turn. These are selected randomly.

The ace has the following assets:

- 250 health
- A 5-card hand

Turn Order

Finite State Machine

The turn order operates on a Finite State Machine.

Delegates

For each state, there is a delegate that occurs on each entry and exit transition. E.g.:

```
void State1ToState2 (params){  
    //While the game still hasn't made changes to change to State 2, do things.  
    //Example: Cards that deal damage all resolve at once on the end of the action phase instead  
    //of immediately when they are played.  
    OnState1ToState2Enter(params);  
    [TRANSITION LOGIC]  
    //Immediately on entry to State 2, do things.  
    //Example: Cards that deal damage to a player at the beginning of each turn or deactivate  
    //a player for one turn.  
    OnState1ToState2Exit(params);  
}
```

Effects:

Effect: An abstract class for effects which need to be held by the system. Every card has an effect.

Targets: A list of players targeted by the card.

void PlaceTriggers(): Places all triggers in their delegate locations.

void Setup(): Places the effect in the EffectFile and calls PlaceTriggers.

Triggers: All methods held by the effect which are placed in delegates.

void RemoveTriggers(): Removes all triggers from their delegates.

void Complete(): Called at end of turn as a standard but may be overridden. Calls RemoveTriggers and removes the Effect from the EffectFile.

EffectFile: A LinkedList of effects held by the FSM. Effects must remove themselves from this file when they

States and Transitions

Draw: Per-turn effects proc at the beginning of the Draw state. UI for drawing activates. Players draw cards. Ends when all players have drawn cards.

DrawToAction()

Selection: Selection effects proc at the beginning of the Selection state, (e.g. "Player cannot target other players next turn) Players select cards to play and targets. Ends when all players have selected and

confirmed cards. Players may choose to discard some number of cards instead of playing one and get one less new cards in their place.

SelectionToAction()

Action: One player's action procs. Reactions may proc before or after this. This state will transition to itself with a new action until all cards have been exhausted. Ends when the card effect has been displayed fully.

ActionToAction()

ActionToConfirm()

Confirm: Post-action phase and end-of-turn effects proc here. The server player may proceed to the Ace's turn.

ConfirmToBossDraw()

BossDraw, BossSelection(x3), BossAction(x3):

Identical to the above, except BossSelection occurs multiple times and has a transition to itself. They are all handled by the Ace AI.

BossPhaseConfirm: As Confirm, the server player may proceed to the Players' turn.

Cards:

Card: An abstract card from which other cards can be produced. Each card has an associated Effect subclass which it activates when played.

Cards for both Players and Boss:

Open Fire: Deals 5 damage to target.

Sidewinder: Deals 5 damage to target. (uncommon, cannot be negated)

Dodge Roll: Negates damage from 1 "Open Fire" or "Sweeping Fire" card targeting target next turn

Suppression: Target takes 2 damage for each of their next 4 actions. Expires in 2 turns.

Suppress: This effect is special in that it holds a countdown of turns and actions. When either is exhausted, it calls Complete().

Pulling G's: Target cannot target you on their next turn

Cards for the Players only:

Mid-Air Regroup: Target player heals 10 health (uncommon)

Cover Fire: The Ace can only take two actions next turn (rare)

Cards for the Ace only:

Into the Fog: Players cannot target each other next turn (uncommon)

Air-to-Air Barrage: Deal 10 damage to target player

Sweeping Fire: Deal 5 damage to each player (rare)