What we want the game to do

- Be playable
- Have a board to play cards on
- Follow the rules outlined https://upload.snakesandlattes.com/rules/a/AdventureTimeCardWarsFinnvsJake.pdf
- Not use copyrighted art assets from the original game
- Have a local multiplayer function
- Show your cards to you
- Let you play cards on the board
- Have the “landscape” tiles feature
- Have **some** special abilities
- Correctly do battle phase attack/defense
- Have “building” cards
- Have “creature” cards
- Have “spell” cards
- Each player has their own deck
- Be able to win
- Be able to lose
- Work on a 16:9 aspect ratio on mouse and keyboard input

Here’s some text to more verbosely describe things:

Put simply, the system should be able to play the game. While vague, the rules for the game give us an exact guideline of what this should look like. It helps to divide player's turns into different phases when thinking about what the system should do; these phases shall be known as the main phase, the battle phase, and then the end phase.

At the start of the main phase the turn player draws a card, their currently controlled cards are set back to ready, and their actions are set back to two. From here the turn player will have several choices. They can spend an action to draw, use a card in hand, floop a card on field, or go to battle phase. Something important to note by now is that the system will automatically do the resolution of effects. In other words, the player can make a choice, and the system will naturally handle that choice. For example, if a player wants to summon a monster x to a zone y then the system will take that input and handle the placement and cost of doing so.

Moving into the battle phase, all creatures that are ready must attack. After a given creature attacks they are no longer ready. Only when all creatures a player controls are no longer ready can they move to the end phase. The end phase simply denotes the end of a player's turn and passes it to the other player's turn. These phases and turns

will continue until one player's life total has reached zero, in which case the game is over.

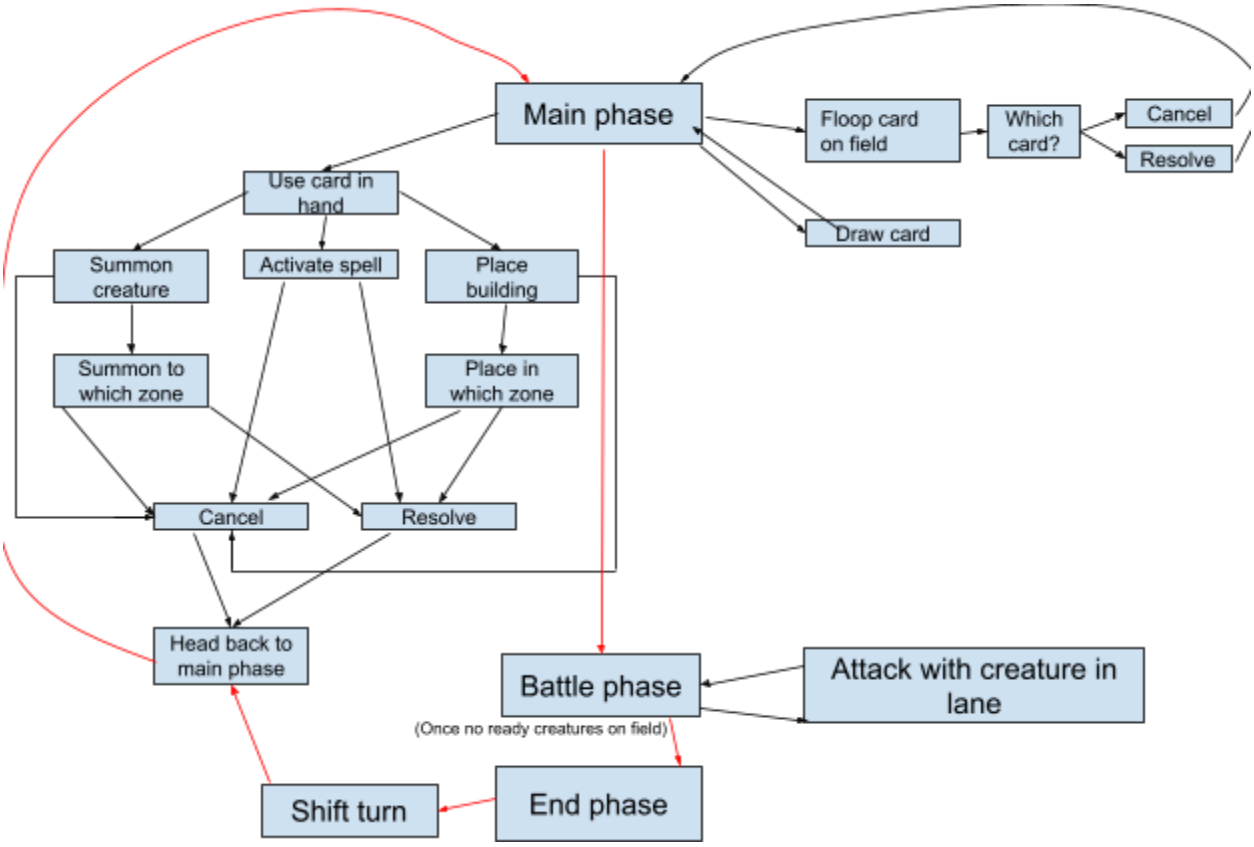
The system will need to keep track of each player. Each player has a name, a given amount of health, and a number of actions in a turn. They also have a hand, deck, and discard pile composed of cards. Depending on how we structure it they may also keep track of their given board state (creatures, landscapes, and buildings on it), but this could just as easily be abstracted into one board object that keeps track of all of those in one place for both players.

Cards each have names, cardText, effects, costs, landscapeType (what landscape they require), owner, controller (could be up for contention if this is even a necessary attribute. I am not familiar with many TCGs, but the ones I am familiar with would need this as an attribute).

Buildings, creatures, and spells all inherit from the superclass Card. As far as I can tell however, only Creatures truly need to inherit anything from the Card class. Buildings and spells get everything they need from the Card class, but I choose to have them inherit from it so, on creation of a building, spell, or creature, their type (creature, building, or spell) is set to whatever it needs to be. Anyways, creatures also need attack, defense, currentDefense (i.e. how much damage they have taken. reset upon summon), and their typing as a creature card.

Aside from the information the game needs to track itself, it will also need a database of cards (and likely functions for those cards) to pull from. This database will have any relevant information about every given card we implement. These functions I mention could likely be passed in to the effect attribute.

I’m not entirely familiar with making an online version of this, but I imagine there would be some relevant info tracked with that.



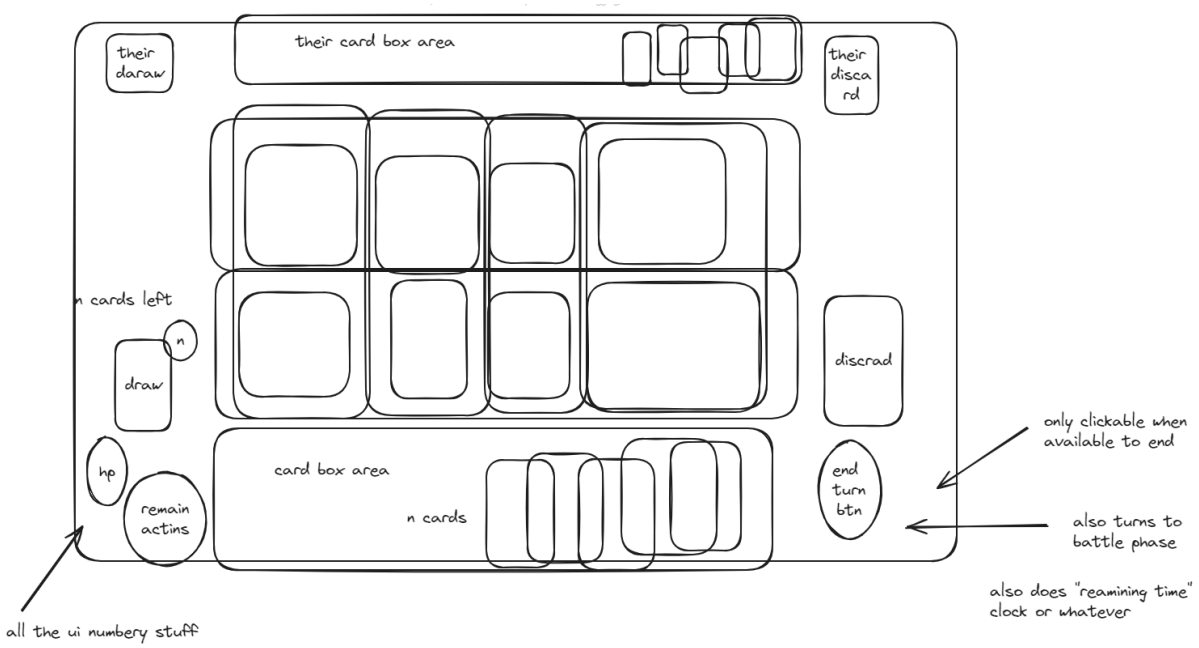
This 👆 is Tanner's awesome state diagram

First, we must establish the board and the landscapes/lanes on which the creature cards will be played. Then, we can work on the actions of a player's turn, like drawing a card, playing a card (creature, building, or spell), and keeping track of the number of actions each card takes to play. Each creature card has a name, action cost, attack, and defense/health statistic that needs to be tracked and used accordingly. Buildings have unique abilities that must be applied to the lane and potentially the other player's lane. Some cards have a unique ability that can be activated by the player or automatically activated, so that needs to be accounted for. Note there is a phase for activating abilities but some just activate immediately upon being played. If the ability had to be activated by the player, that card can't attack and is turned sideways to indicate as such. After the player has used all their actions and abilities(if they wanted to), the game then needs to

move into the attack phase, where creatures in the vertically adjacent lanes attack each other, and the current player's creature that has an open lane attacks the other player's hp. We also have to be able to switch turns and allow the other player to do the same. The game starts with each player having 25 health to start, and the winner is who can get their opponent down to 0 first. Each deck has a total of 40 cards, excluding the landscapes.

Building a deck would be up there regarding helpful features that would be nice but aren't a priority. Adding more cards or decks would be nice and different kinds of landscapes as well. Making an extensive UI that tells you how many cards are in your graveyard, deck, or hand, as well as the opponents, would be on the list of helpful but not priority features. In the original game, there were hero cards but these were added as an expansion so we could potentially make some sort of hero cards of our own with their own unique abilities. If we had the time, online multiplayer is one feature we would like to add but the focus is local multiplayer. It would also be nice to build an AI to play against if you didn't have a person to play with, but that would not only require building one to play the game but also a menu of some kind so you can choose to play against it or another player.

Here's what it might look like:



Other future things we probably won't get to

- Make it work on phone in landscape mode (same 16:9 ratio)
- Make it work on phone in portrait
- Make it multiplayer with an actual server somewhere
- A deck builder
- Accounts to save decks
- AI player (random)
- AI player (minmax)
- AI player (some complex algorithm)
- Fancier UI
- Pretty colors
- Art on the cards
- Art backgrounds
- Menu screen
- Pause menu
- Settings menu
- Music
- Sounds effects
- Animation
- Tutorial
- Instructions
- About page
- Video walkthrough

What technology will we use to make this thing

- StackBlitz
- HTML
- CSS
- JavaScript
- TypeScript
- TailwindCSS
- Node.js for development environment; not backend since we don’t have a server.
- Excalidraw
- V0.dev

Check out the list of cool tech too!
https://github.com/jcbhmr/card-battle?tab=readme-ov-file#cool-tools

3 user stories

- As a player I need to be able to take the necessary actions so that I can play the game.
- As a busy person I want to be able to sit down and jump right into a game without waiting.
- As a player I want to be able to play this game on an 16:9 desktop PC and not my phone.
- As a remote player I want to be able to see what the other player is doing in real-time.
- As a game publisher, I want to be able to understand the game without going to 3rd party apps or websites.
- As a local player, I want the game to change turns without showing the other player my cards.

TODO: add 3 types of stakeholders

- **Local players**
- **Remote players**
- **Game publisher (hypothetical)**

Or competitive vs. casual players, …

Here's some other text that we thought would fit here

Users: Their current hand, number of remaining actions, currently played cards, both uses HP, both users discard piles, current user's turn; basically all the UI stuff that gets shown.

Client(if time): Same as users

Game Runner and Server(if time): Current user's turn, both users hands, both users HP, both users actions, both users discards, both users decks, all currently played cards, current game phase

This is either going to be on the server and sent to players or on the client if we do local multiplayer.

Why your software will be high-quality (non-functional requirements)

- Be fast-ish
- Not evaluate user input as JS code
- Be accessible
- Have a good UI UX
- Show errors to the user and don't just freeze

- Dependability
- Availability