

# Online Procedural Trading Cards Game

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## GAMEPLAY

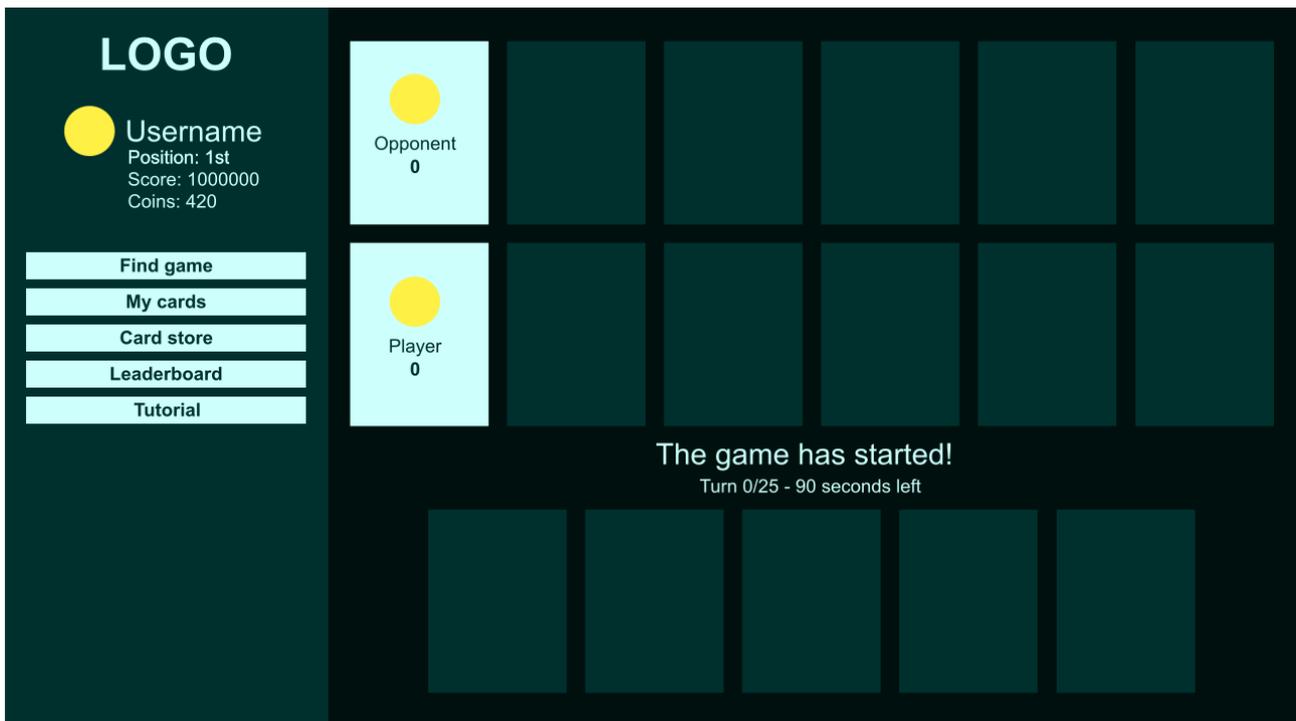
Both players draw five cards from his thirty card deck. A random player starts the first turn. In every turn the player chooses a card from his hand and places it somewhere on the field, then he can choose to activate one of the cards on the field or pass. If there are five cards already on the field the player is forced to destroy one and replace it. After that he draws a card from the deck and passes the turn to the other player. The match ends when both decks are empty and the player with the highest score wins. Each player is then awarded an amount of in-game currency based on the score, with a bonus for the winner.

## CARD DESIGN

Each card has a procedurally generated name, health value from 10 to 100 and effect, which can be one or any combination of the following: attack, heal, grow, shrink and suicide. Each effect, with the exception of suicide, has a value from 1 to 10 that determines its strength. “Attack” damages the enemy card directly facing it, “Heal” adds health to the neighboring cards on the player’s side of the field, “Grow” increases the player’s score, “Shrink” decreases the enemy score and “Suicide” means the card will be destroyed after use. The price of the card is determined by the following equation:

$$price = \{[(attack + heal + grow + shrink) + (health / 10)] / suicide\} * constant$$

where suicide is 2 if it’s present and 1 if it’s not, and constant is a value calculated during testing that will depend on the scale of the end game rewards. For every card seed there are four classes, one (gray) with one effect, one (red) with two, one (purple) with three and one (gold) with all four effects. “Suicide” is generated separately using the card’s seed.



## CODE STRUCTURE

index.php → *Leaderboard:*  
- index.js

play.php → *Public matchmaking:*  
- play.js  
- game.php

game.php → *Play:*  
- game.js  
- cardgen.js  
- gameover.php

gameover.php → *Game stats/Profile update*

profile.php → *Manage cards and decks:*  
- profile.js  
- cardgen.js

store.php → *Buy cards:*  
- store.js  
- cardgen.js

login.php → *Login/Sign up:*  
- login.js

tutorial.php → *Guide to the game*

sidebar.php → *The sidebar that goes on every page:*  
- login.php  
- play.php  
- profile.php  
- store.php  
- index.php  
- tutorial.php

getmessages.php → *Get unread match messages*

sendmessage.php → *Send a match message*

refreshstore.php → *Change store seeds every 24 hours*

cardgen.js → *Generate card from seed and class*

styles.css → *Style the pages*

database.txt → *Create the database*

## **DATABASE STRUCTURE**

### **Users:**

- User ID (primary)
- Name
- Email
- Password hash
- Score
- Currency
- Last access

### **Cards:**

- Card position (primary)
- User ID
- Seed
- Class
- Deck number

### **Store:**

- Card position (primary)
- Seed
- Class

### **Matches:**

- Message position (primary)
- Match ID
- User ID
- Message
- Read check

### **Matchmaking:**

- Cue position
- User ID
- Match ID
- Time stamp

## CHECKLIST

- index.php
- play.php
- game.php
- gameover.php
- profile.php
- store.php
- login.php
- tutorial.php
- sidebar.php
- getmessages.php
- sendmessage.php
- refreshstore.php
- index.js
- play.js
- game.js
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