

CS396 Software Design Principles and Practices

Project: Option 3

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List of Changes Made to Design with Analysis

1. I added a `CardPlayStrategy` interface that defines execution results for all card effects depending on the card played. I made this change to take advantage of the Strategy pattern, allowing for a separation of logic between card behavior and the overarching Game as a whole. This keeps functionality intact while creating more flexible code that better handles any card behaviors being modified, removed, or added.
2. I also added a `CardStrategyFactory` class that returns the correct strategy for a given card. This was done to streamline the code while implementing the Factory pattern, as now the Game class does not need to specifically address the results of playing a specific card. Instead, all cards will be supported, and only a single standardized method will be used. This improves the flexibility of the program.
3. In a similar note to the second change, I replaced the card-specific methods in `GameUI` with `playCard`, with the idea of having `playCard` handle all of the cards and then choosing the proper behavior. This works to improve the program's flexibility and improve code readability.