

Software Engineering Career Track

Capstone One: Step One - Pick Project Ideas

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Exploring (free) APIs — The Scryfall REST-like API (<https://scryfall.com/docs/api>)

After searching through lists of public APIs, by far my favorite is the Scryfall API. This API stores information on Magic The Gathering cards in a JSON format. In my freetime, I've been playing the MTG card game, and I think an application that uses this API would be really interesting. I also think that I would regularly use this application to help me with MTG as a hobby.

Identifying Initial Project Ideas — Please come up with three project ideas

These are listed in order of what I'd like to work on.

1. Magic the Gathering — Deck Expense Tracker

MTG cards can get really expensive, and decks can easily cost hundreds of dollars. The difference between a powerful deck and a weak deck often comes down to how much money you're willing to invest in your cards. Are you willing to buy a \$20 card or are you going to include a budget version instead? Many decklists include the price range such as "Budget Zedruu Deck Under \$50!!!" But do these players have all of these card prices memorized...? No, there's more than 20,000 MTG cards published! I've seen plenty of players make their own spreadsheets for their decklists while individually googling the prices of each card. There must be a better way... Personally, I would like to make sure I'm not spending too much on MTG cards, but it's hard to keep track of. I propose a system which keeps track of my decks and each card's price. These stats will be easily viewable via a webpage.

2. Magic the Gathering — Mana Curve Tracker

One of the main considerations when building a MTG deck is the mana curve. A lower mana curve means you can cast your spells earlier and more frequently. A higher mana curve means you have to wait a bit longer to cast your spells. Each spell has a mana cost, such as 3. Typically, decks are aiming for a low average mana cost. Players calculate this typically by separating the cards into piles which share the same mana cost, then visually seeing where most of the cards lie. This would be much faster if this were automated, so that's what I'm suggesting. This probably involves a graph to easily display the data.

3. Magic the Gathering — Inventory System

MTG players tend to have huge collections of cards. When making a deck, you may have a particular card in mind, but you have no idea where to find it. It's lost in hundreds or thousands of cards, and you don't know where to start looking. So, you just order another one. I've heard this happen plenty of times among players, and it can get frustrating very quickly. Wouldn't it be nice if you had a system which kept track of which cards you owned, how many of that card you have, and where to find it? I'm proposing a system that keeps track of that.