The end result of the project will be a webpage that allows users to track, buy, and sell Magic cards. Users will be able list cards for sale and specify a price. They will be able to track the prices of cards and receive alerts when the card hits a specific price. Additionally they will be able to view historical data for the price of a card. When searching, users will be able to specify card name, price, set the card is from and the condition of the card. Users will be able to store their payment information as well as addresses for sending or receiving purchases.

The database will need to keep track of cards, users, and sales as well as the metadata for each. Cards will have information on their name, set, and condition. Users will have a username, name, email, and join date. Sales or trades will store the price of the sale, the buyer and seller, and the card sold. Users may have a number of addresses of different types. Each address has the street address, city, state, country, zip code, and type (residential, business, etc.). Users can also store their credit card data for any number of cards. A credit card will have a card number, name on the card, security code, and expiration date. A card’s price history will be tracked using the time and price at that time. A user may have a watch list, each entry of which contains a card and the price at which the user is to be alerted.

The database will have to contain tables for cards, users, trades, addresses, credit cards, watch lists, and card history. The tables will contain a variety types of data to store and may be of wildly different sizes and grow at very different rates. For example the price history table will need to be able to capture new data and grow with each time unit. On the other hand, the size of the cards table will remain constant for long periods of time, since new cards are not released very frequently.

One of the major problems to be solved is to gather the initial data for all the cards. Another problem to be solved is maintaining updated price history. We will need a source for the data and the ability to gather and store new data frequently. We will also need a way to securely store users’ personal data such as addresses and credit cards. The website will need a way for new users to create accounts and for current users to save addresses, credit cards, watch lists, and perform sales.