

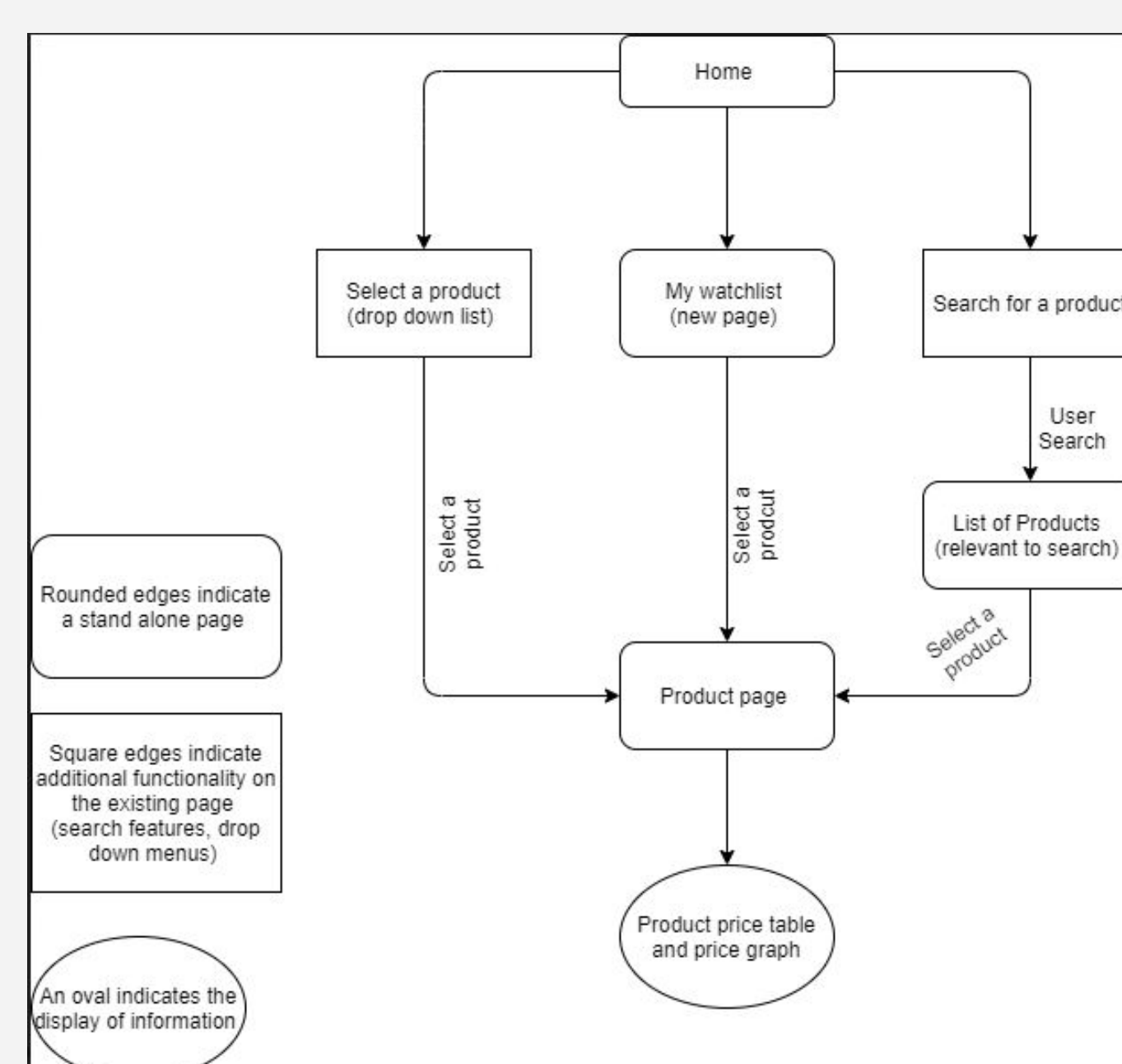
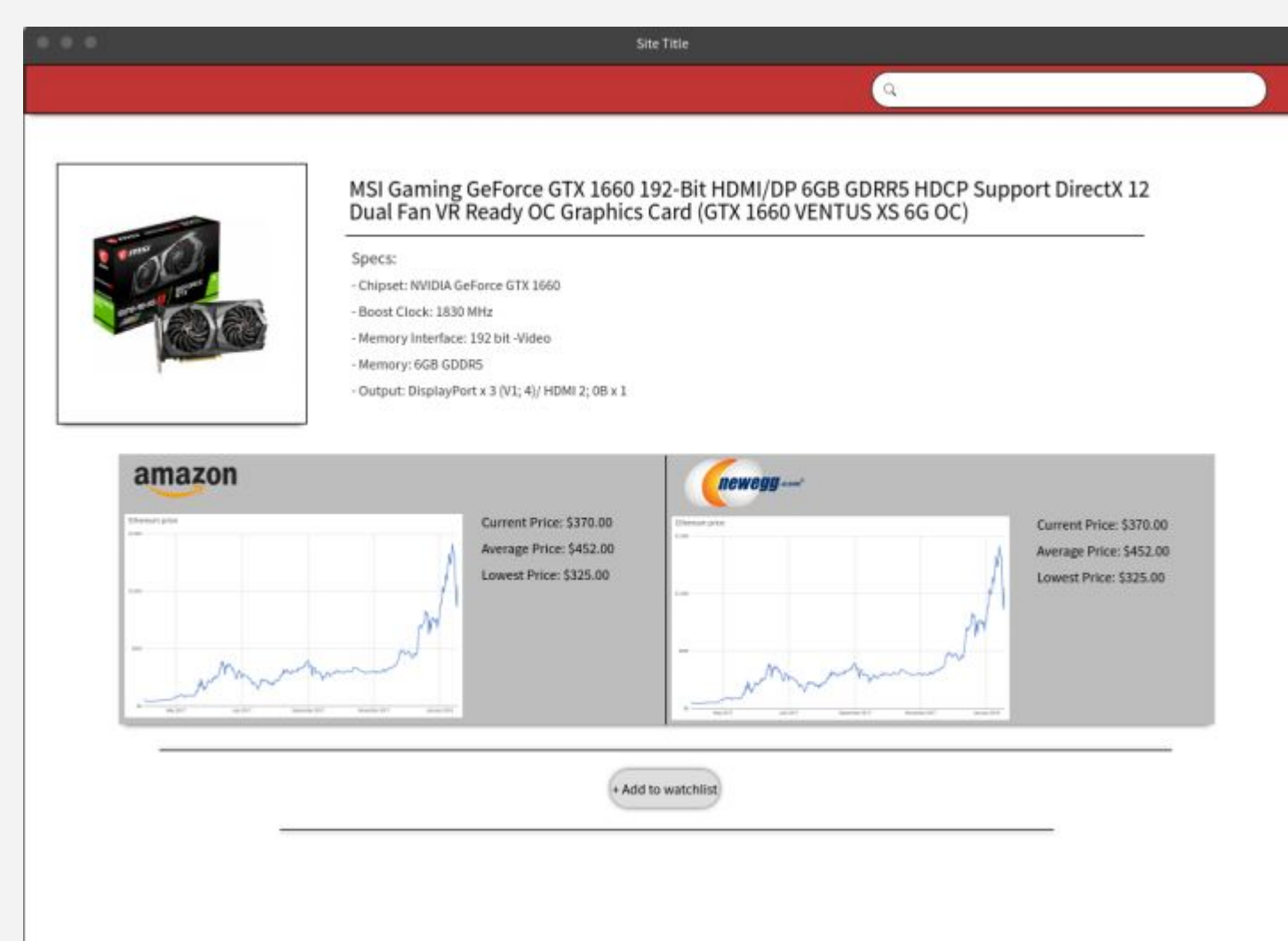
## BACKGROUND

Finding the best supplier for a particular computer component can be tricky. Common parts can be found on a multitude of sites, and their prices often differ site to site and even day to day. The Pixel Pals Part Picker allows users to see historic prices in an easy to understand format. It also allows users to monitor specific products and receive notifications regarding pricing changes!

## Project Overview

Our system, the Pixel Pals Part Picker, allows users create an account where they can monitor the prices of computer components from multiple sources. Users will be able to create watch lists of components, and our system will alert them when prices drop or meet a value determined by the user! Our custom web scraper searches each product page at the end of every day, or when a user queries an item. All of the product information is stored in our database so that users can quickly see historic prices from multiple sources side by side.

Seen below are initial designs for the website.



Rounded edges indicate a stand alone page

Square edges indicate additional functionality on the existing page (search features, drop down menus)

An oval indicates the display of information

## DESIGN

### Web Scraper

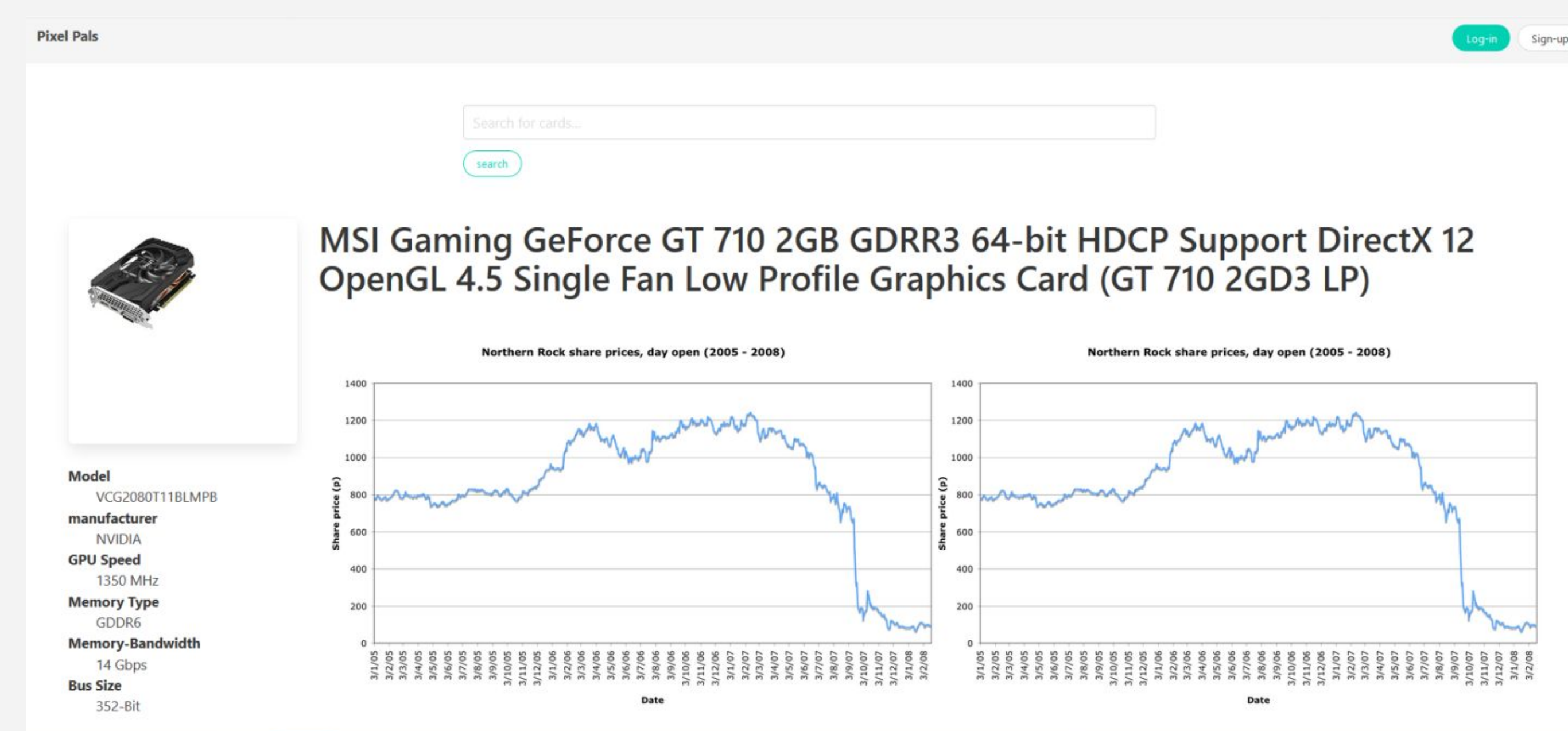
- Created in Python
- Collects product information from retailer sites

### Django Backend

- Receives product data from the scraper
- Store product data in SQLite3 database

### Frontend

- Created with React
- Website for users to interface with the system
- Allows for account creation as well as product watch lists
- Intuitive search features
- Graphical display of product pricing history



## Features

- User can create unique accounts
- Users can create product watch lists
- Users can search the site for a specific product
- The system updates product information daily
- The system alerts users as prices of watched products change
- The website displays a graph of a products price history

## Testing

```

    Namespace(url='https://www.amazon.com/Overclocked-Dual-Fan-DisplayPort-Graphics-DUAL-GTX1660S-06G-EVO/dp/B07ZHWQ81N')
    {'Price': None, 'Price_second_format': '$239.99', 'Available': 'In Stock.', 'Model_number': 'DUAL-GTX1660S-06G-EVO', 'Name': 'Asus GeForce GTX 1660 Super Overclocked 6GB Dual-Fan Evo Edition VR Ready HDMI DisplayPort DVI Graphics Card (DUAL-GTX1660S-06G-EVO)'}
  
```

- To keep the scope of our project manageable we only focused on two sites - Amazon.com and Newegg.com. Seen above is the output of our scraper when used on an Amazon web page.
- To test the backend we created mock scraper outputs to feed into the system