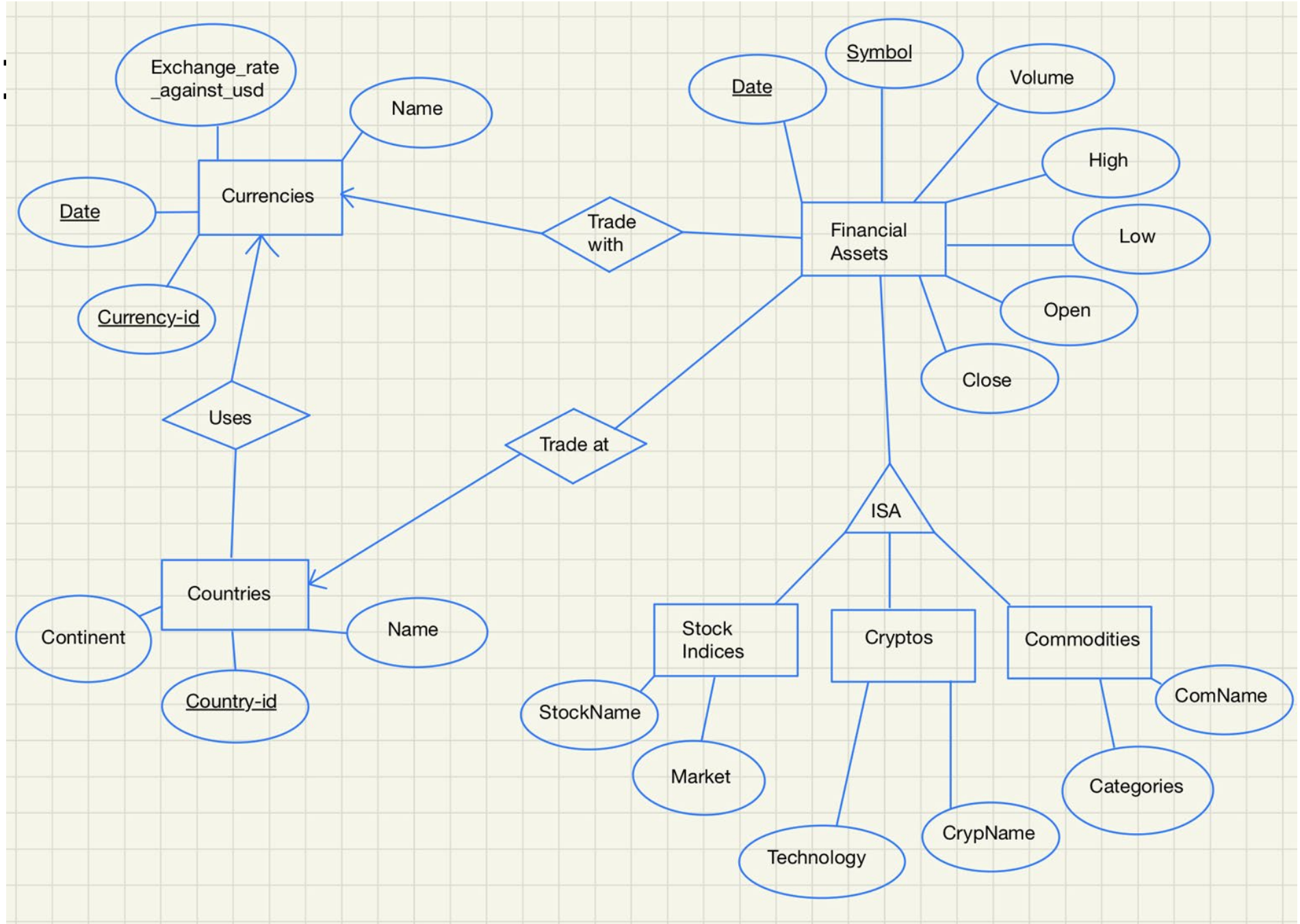
Demo – DBMS of Major Global Financial Assets

Application description

1. **Application domain & type of applications**
   a. apply in the field of investment vehicles
   b. 4 Major investment entities: cryptocurrency, commodity (cu, au, oil, etc.),stock, & foreign currency (relative to USD)
   c. type of application: personalized financial historical data querying
2. **Why it is important to have database in this domain**
   a. database necessary for 1. storing of all assets' historical data; 2. querying of desired data by user; 3. support multi-user utilization & customization
3. **Description of the functionality of the application**
   a. basic account creation & login;
   b. check certain assets' visualized historical data (open, high, close cumulative price); time period customizable by user;
   c. add personal watchlist by user;

ER Diagram:


Exchange_rate
_against_usd
Name
Currencies
Date
Currency-id
Uses
Trade
with
Trade at
Symbol
Date
Volume
High
Financial
Assets
Low
Open
Close
ISA
Countries
Continent
Name
Country-id
Stock
Indices
StockName
Market
Cryptos
Technology
CrypName
Commodities
ComName
Categories

Relational Model

```
mysql> show tables;
+----------------------+
| Tables_in_564project |
+----------------------+
| assets               |
| commo                |
| crypto               |
| currency             |
| login                |
| stock                |
| watchlist            |
+----------------------+
7 rows in set (0.01 sec)
```

```
mysql> show tables;
+----------------------+
| Tables_in_564project |
+----------------------+
| assets               |
| commo                |
| country              |
| crypto               |
| currency             |
| login                |
| stock                |
| watchlist            |
+----------------------+
8 rows in set (0.01 sec)
```

```
mysql> describe assets;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| symbol | varchar(50) | NO   | PRI | NULL    |       |
| date   | date        | NO   | PRI | NULL    |       |
| open   | double      | YES  |     | NULL    |       |
| high   | double      | YES  |     | NULL    |       |
| low    | double      | YES  |     | NULL    |       |
| close  | double      | YES  |     | NULL    |       |
| volume | double      | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
```

Relational Model

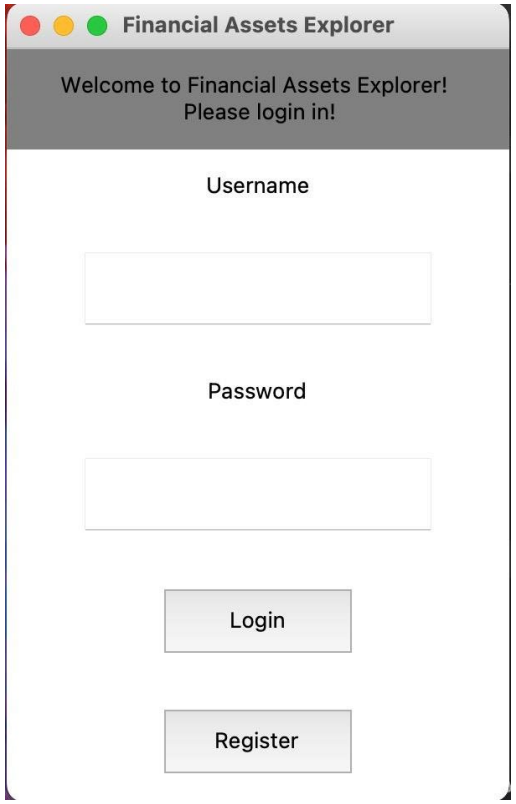
```
mysql> describe stock;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| symbol    | varchar(50) | NO   | PRI | NULL    |       |
| name      | varchar(50) | YES  |     | NULL    |       |
| country   | varchar(50) | YES  |     | NULL    |       |
| continent | varchar(50) | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> describe crypto;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| symbol | varchar(50) | NO   | PRI | NULL    |       |
| name   | varchar(50) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> describe commo;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| symbol | varchar(50) | NO   | PRI | NULL    |       |
| name   | varchar(50) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
2 rows in set (0.01 sec)
```

```
mysql> describe currency;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| name   | varchar(50) | YES  |     | NULL    |       |
| symbol | varchar(50) | NO   | PRI | NULL    |       |
| date   | date        | NO   | PRI | NULL    |       |
| price  | varchar(50) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

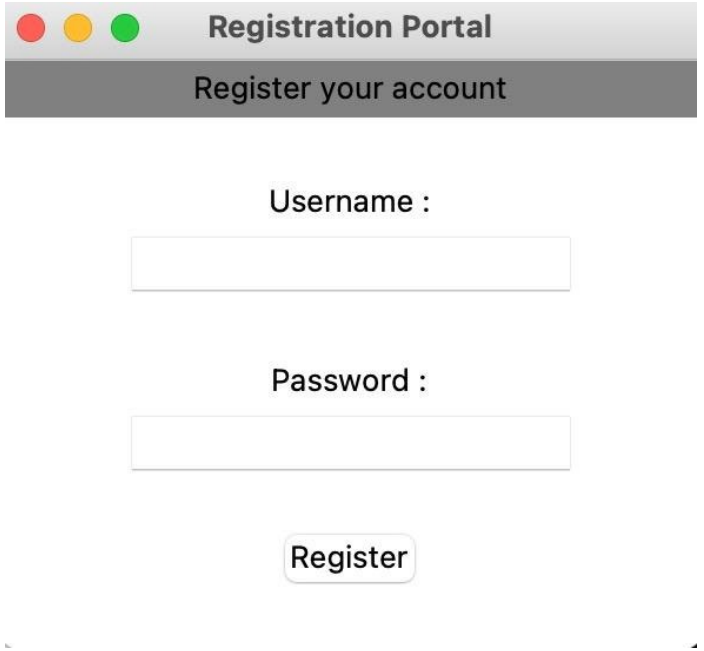
```
mysql> describe country;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| symbol    | varchar(50) | NO   | PRI | NULL    |       |
| name      | varchar(50) | YES  |     | NULL    |       |
| continent | varchar(50) | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
3 rows in set (0.01 sec)
```

Demonstration - Workflow of Our Application

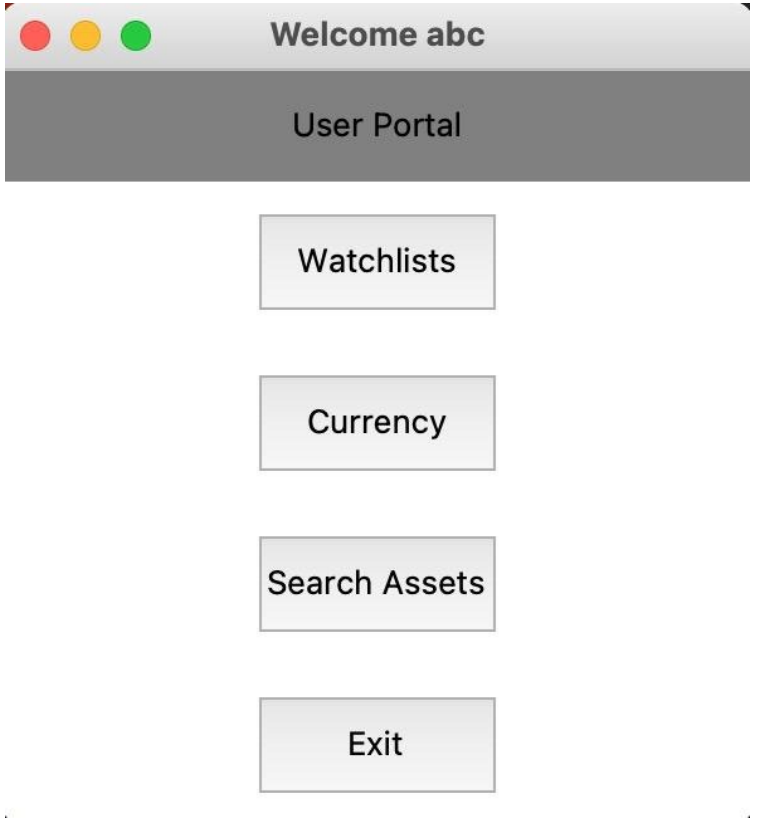
Application Landing Page



Account Registration Page

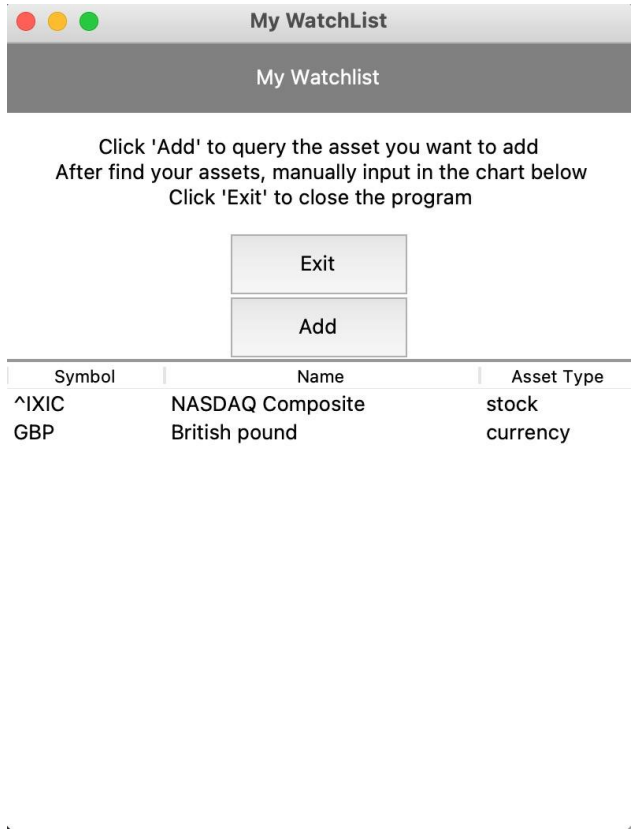


Welcome Page

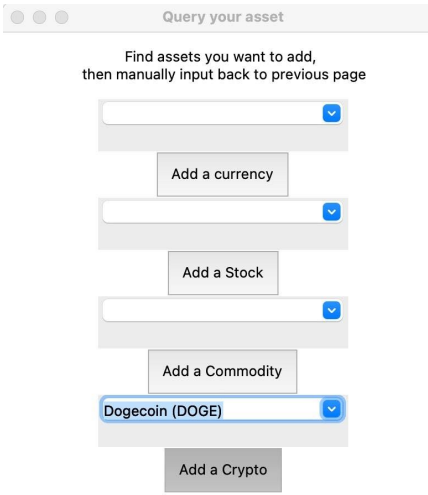


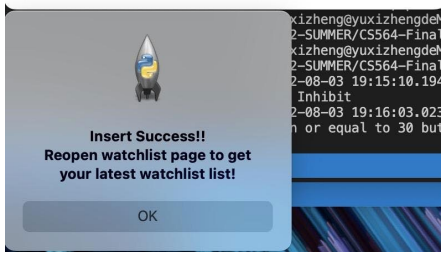
Demonstration - Workflow of Our Application

Watchlist Homepage



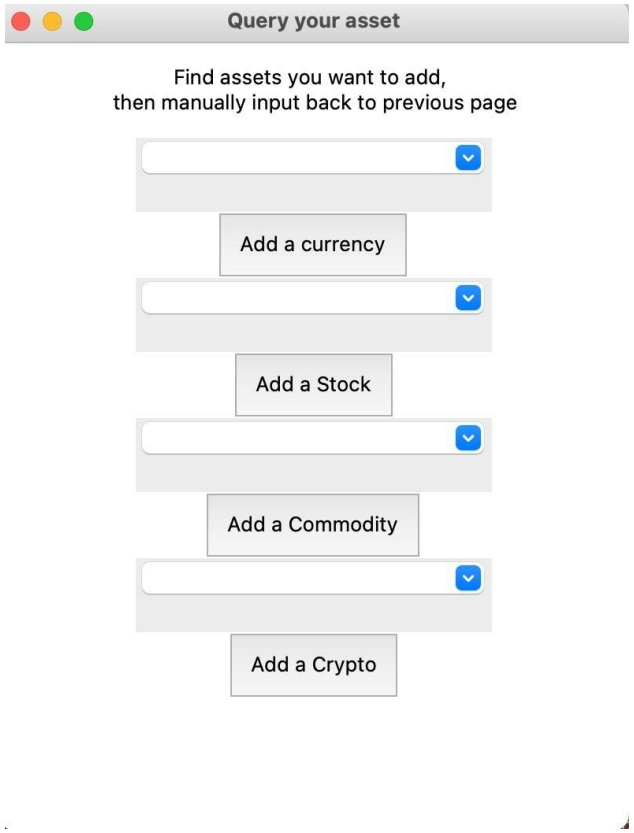
Financial Asset Addition to Wishlist



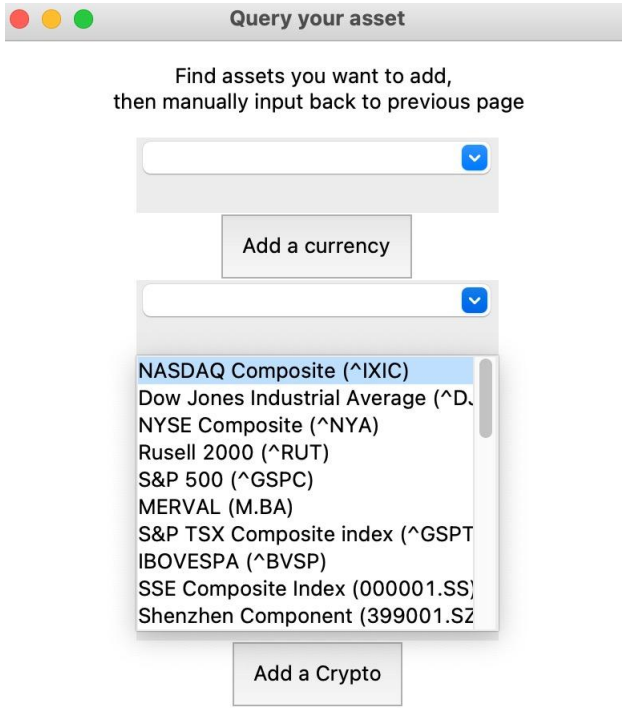


Demonstration - Workflow of Our Application

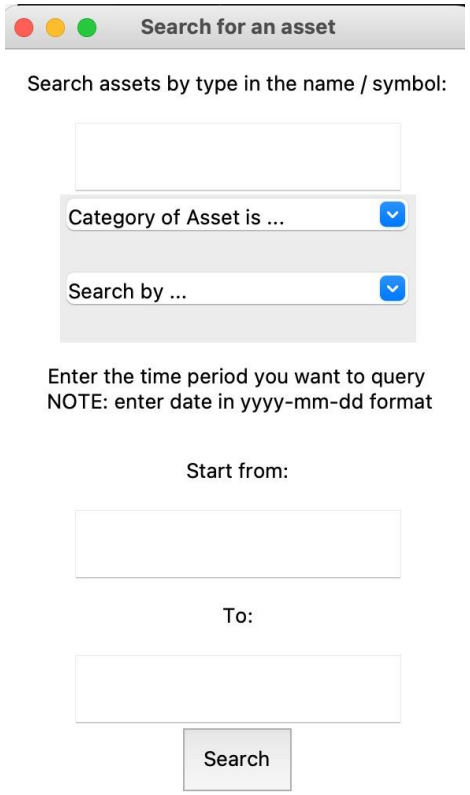
Search Page with Criteria



Search Page with Dropdown

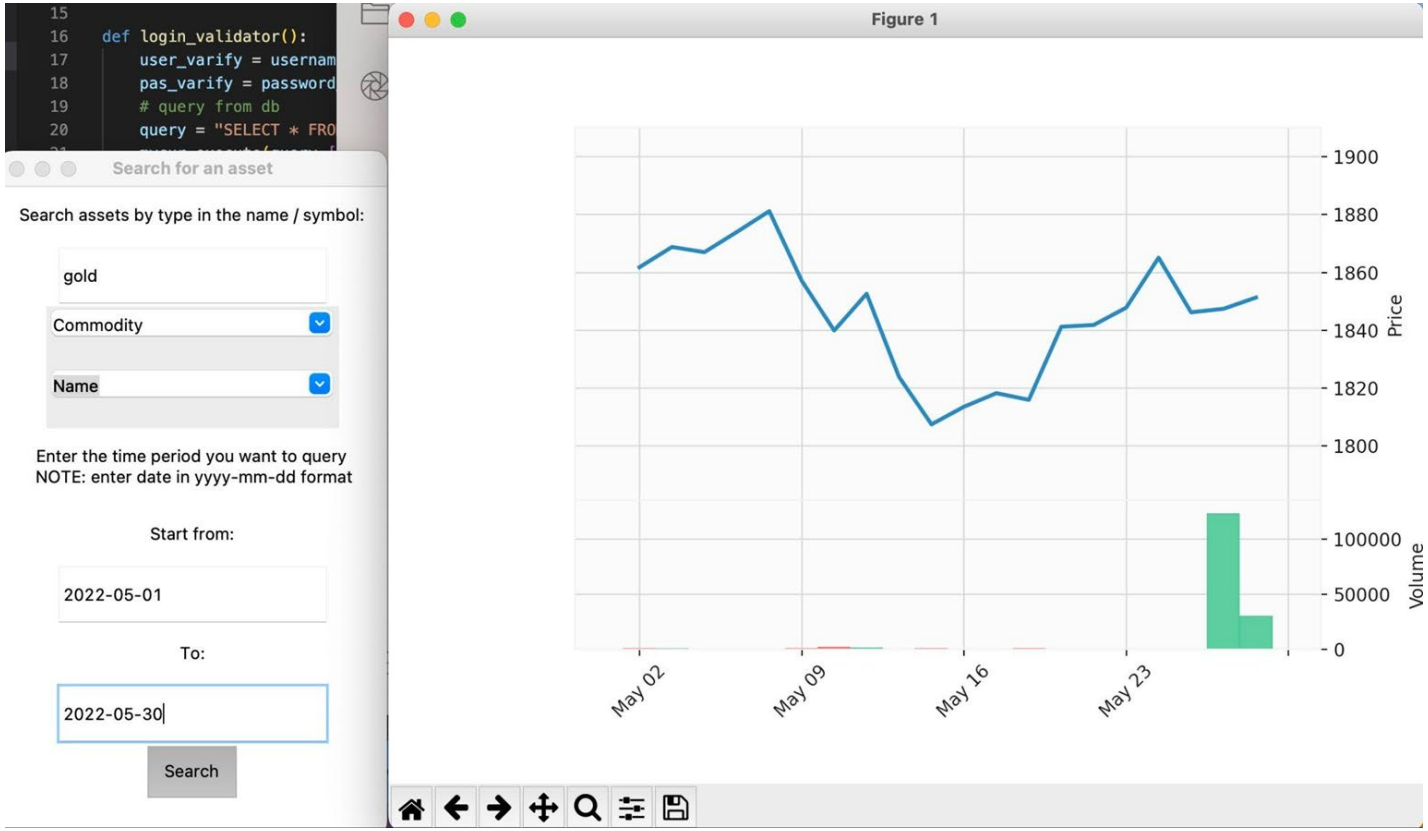


Search with Time Range

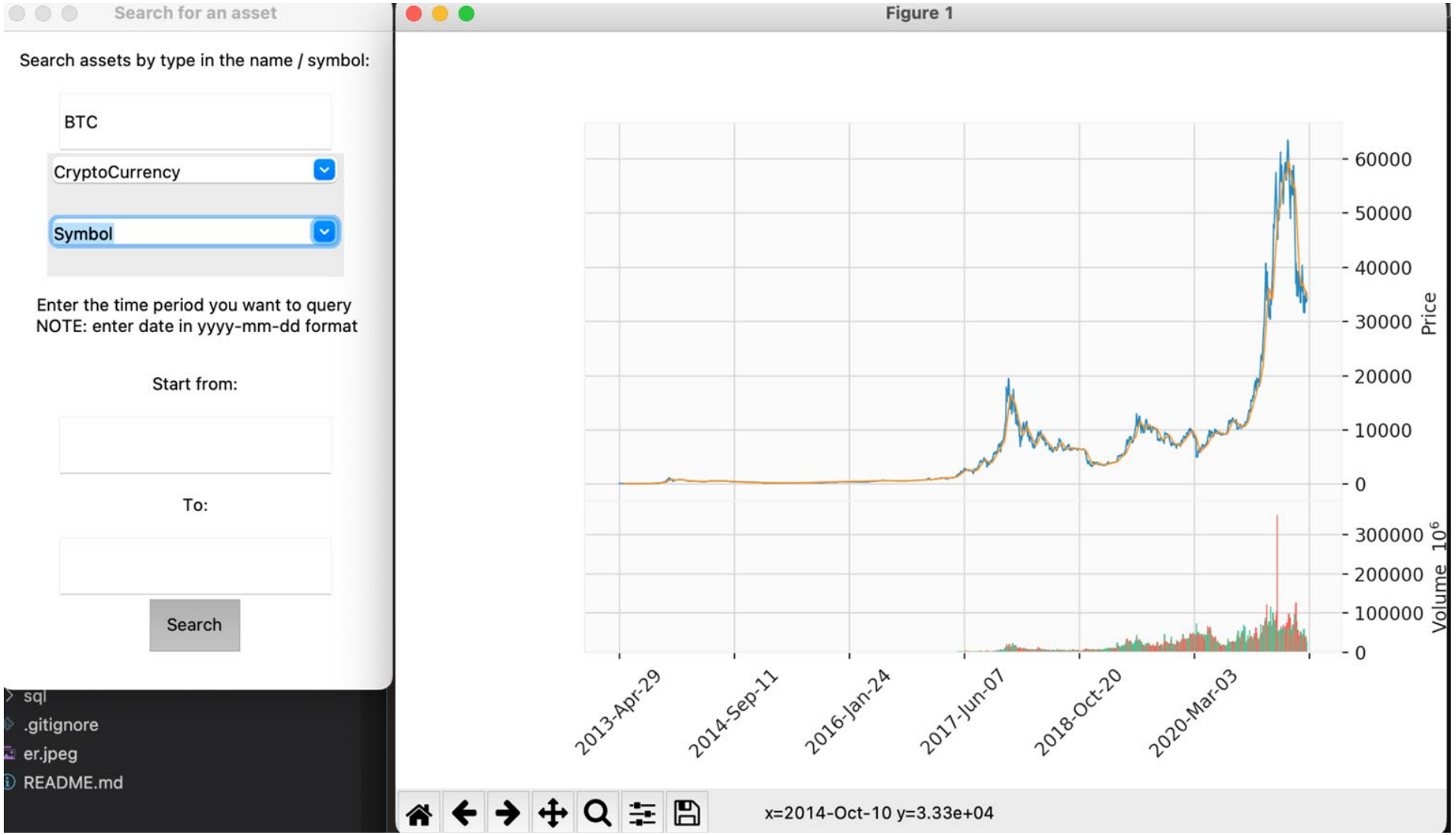


Demonstration - Workflow of Our Application

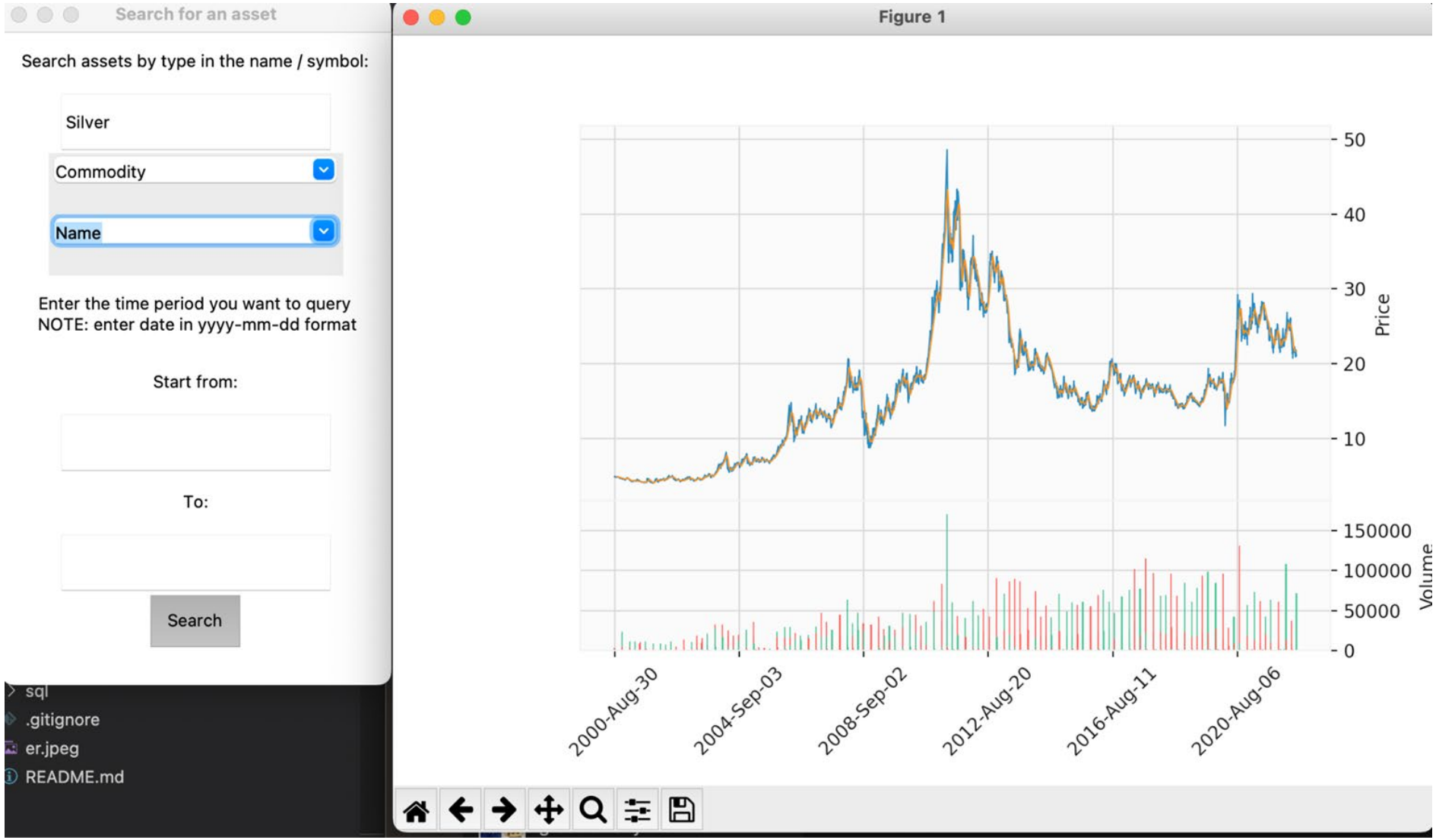
Search/Query Result Display Page



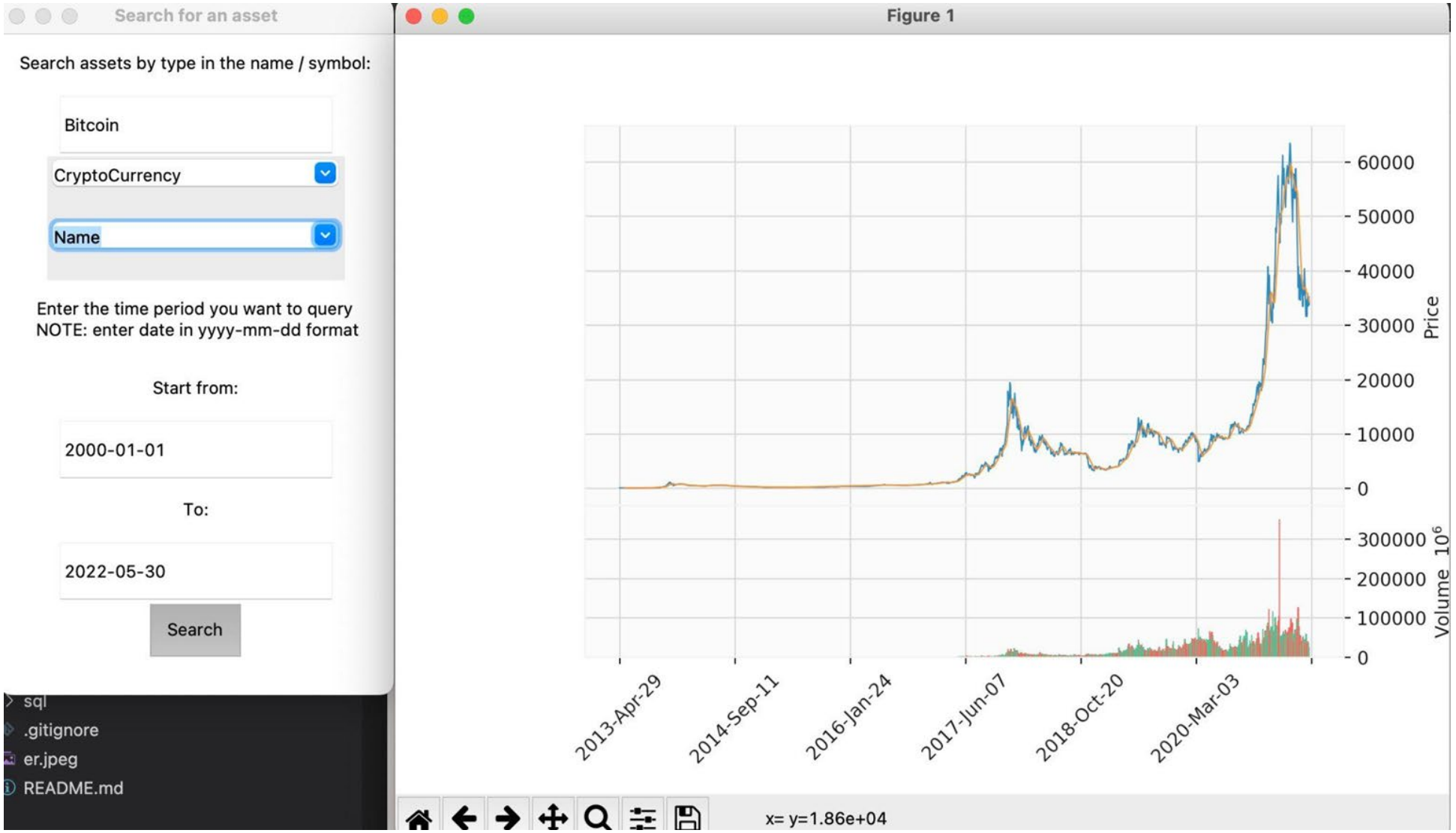
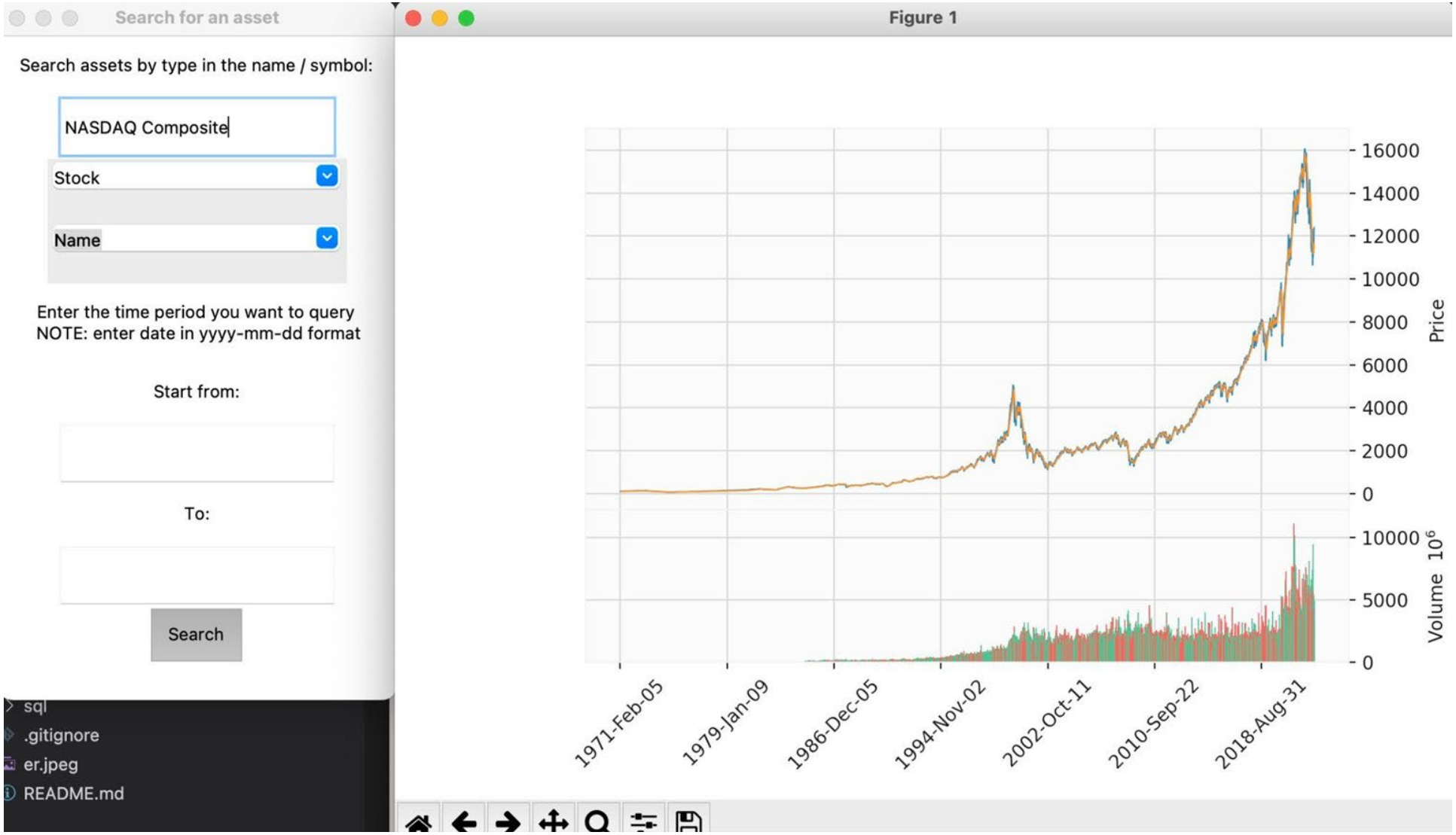
Line Chart from Query/Search



Line Chart from Query/Search



Line Chart from Query/Search



Line Chart from Query/Search