

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

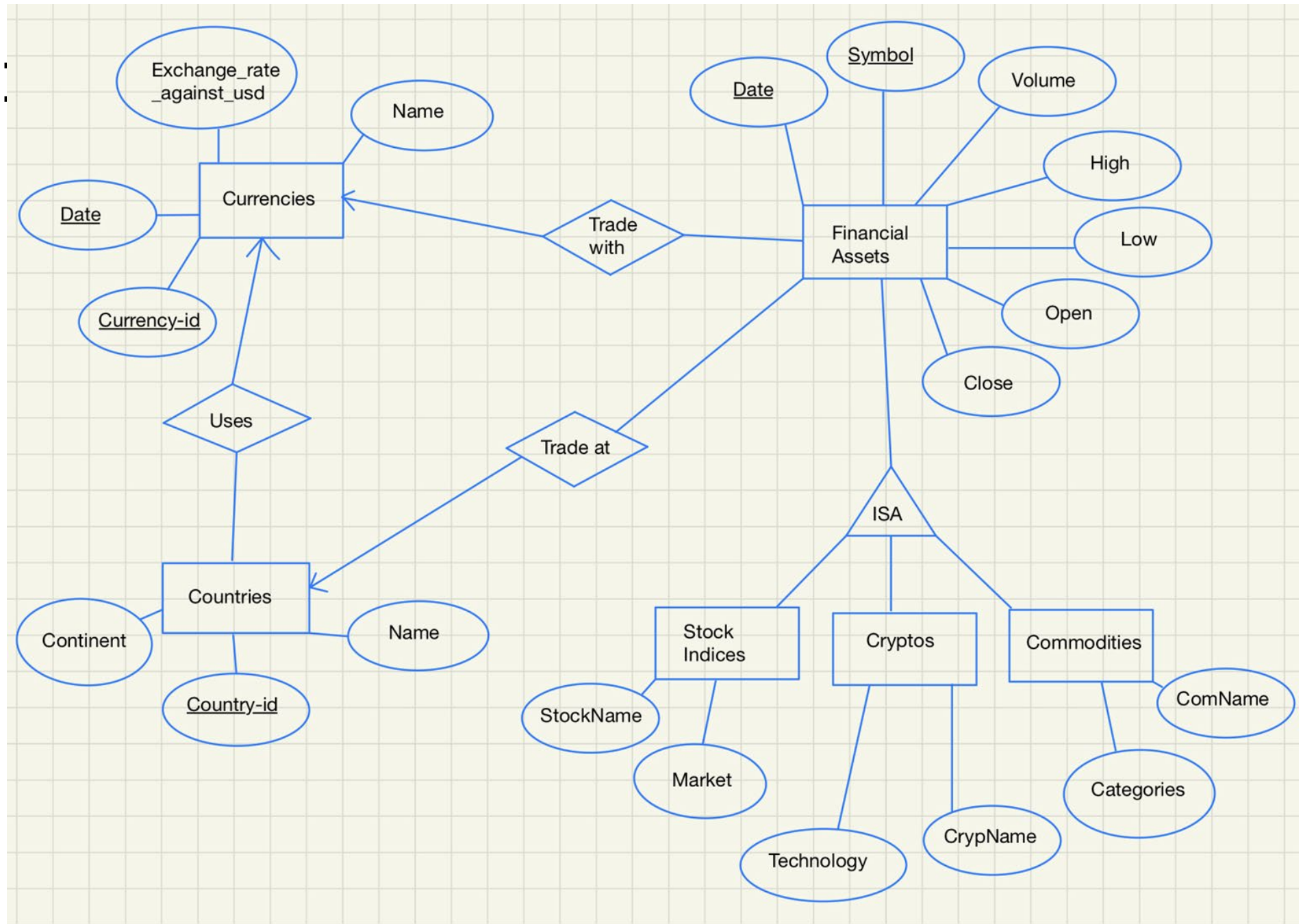
2. **Why it is important to have database in this domain**

- 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:



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)
```

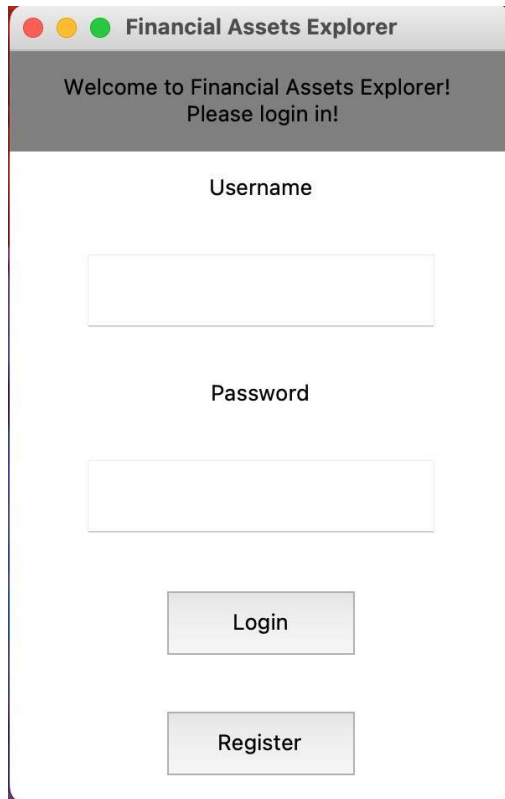
```
[mysql> describe country;
```

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



Financial Assets Explorer

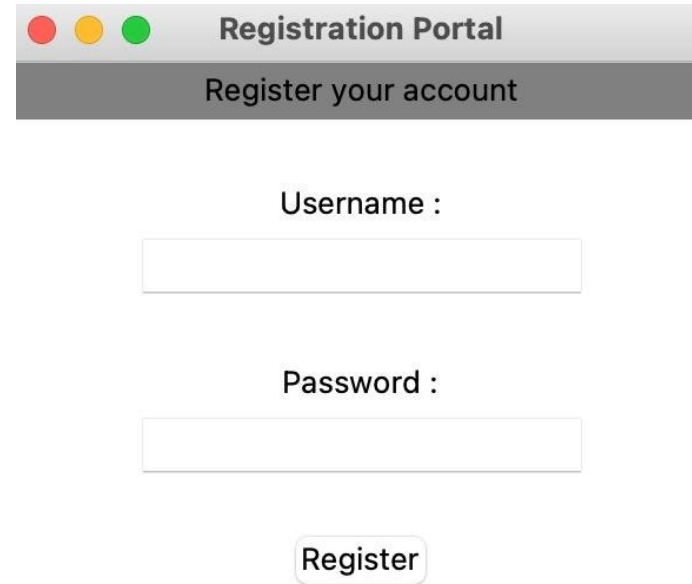
Welcome to Financial Assets Explorer!
Please login in!

Username

Password

Login

Register



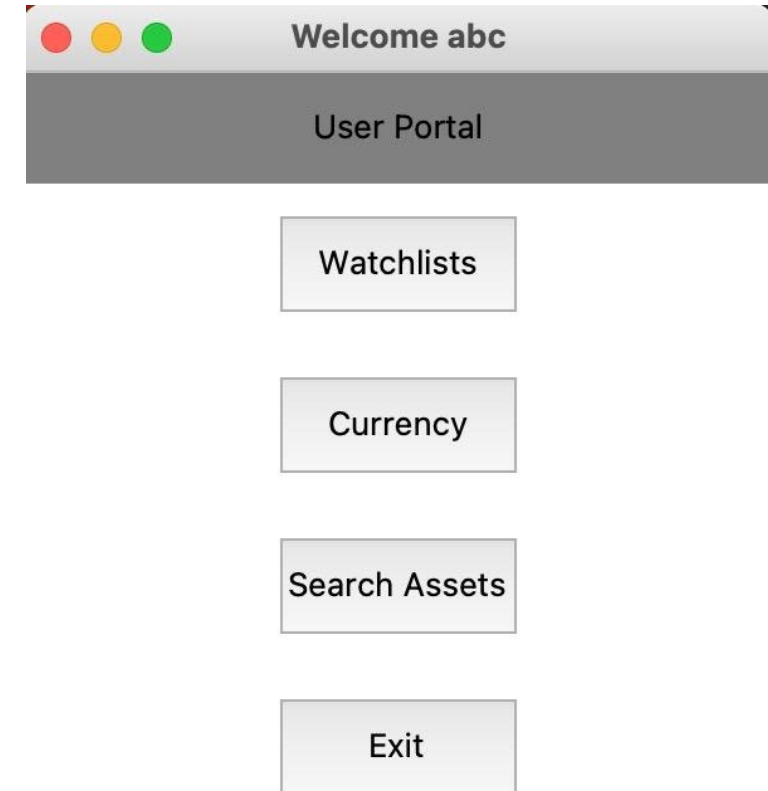
Registration Portal

Register your account

Username :

Password :

Register



Welcome abc

User Portal

Watchlists

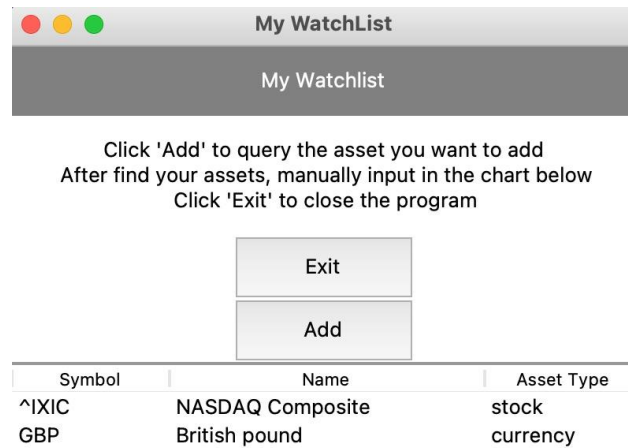
Currency

Search Assets

Exit

Demonstration - Workflow of Our Application

Watchlist Homepage



My WatchList

My Watchlist

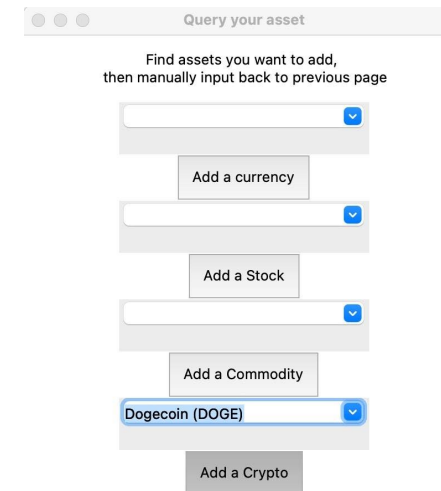
Click 'Add' to query the asset you want to add
After find your assets, manually input in the chart below
Click 'Exit' to close the program

Exit

Add

Symbol	Name	Asset Type
^IXIC	NASDAQ Composite	stock
GBP	British pound	currency

Financial Asset Addition to Wishlist



Query your asset

Find assets you want to add,
then manually input back to previous page

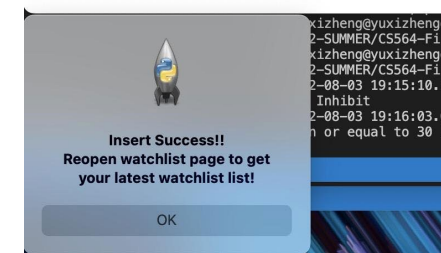
Add a currency

Add a Stock

Add a Commodity

Dogecoin (DOGE)

Add a Crypto



Demonstration – Workflow of Our Application

Search Page with Criteria

Query your asset

Find assets you want to add,
then manually input back to previous page

Add a currency

Add a Stock

Add a Commodity

Add a Crypto

Search Page with Dropdown

Query your asset

Find assets you want to add,
then manually input back to previous page

Add a currency

NASDAQ Composite (^IXIC)
Dow Jones Industrial Average (^DJI)
NYSE Composite (^NYA)
Russell 2000 (^RUT)
S&P 500 (^GSPC)
MERVAL (M.BA)
S&P TSX Composite index (^GSPTSE)
IBOVESPA (^BVSP)
SSE Composite Index (000001.SS)
Shenzhen Component (399001.SZ)

Add a Crypto

Search with Time Range

Search for an asset

Search assets by type in the name / symbol:

Category of Asset is ...

Search by ...

Enter the time period you want to query
NOTE: enter date in yyyy-mm-dd format

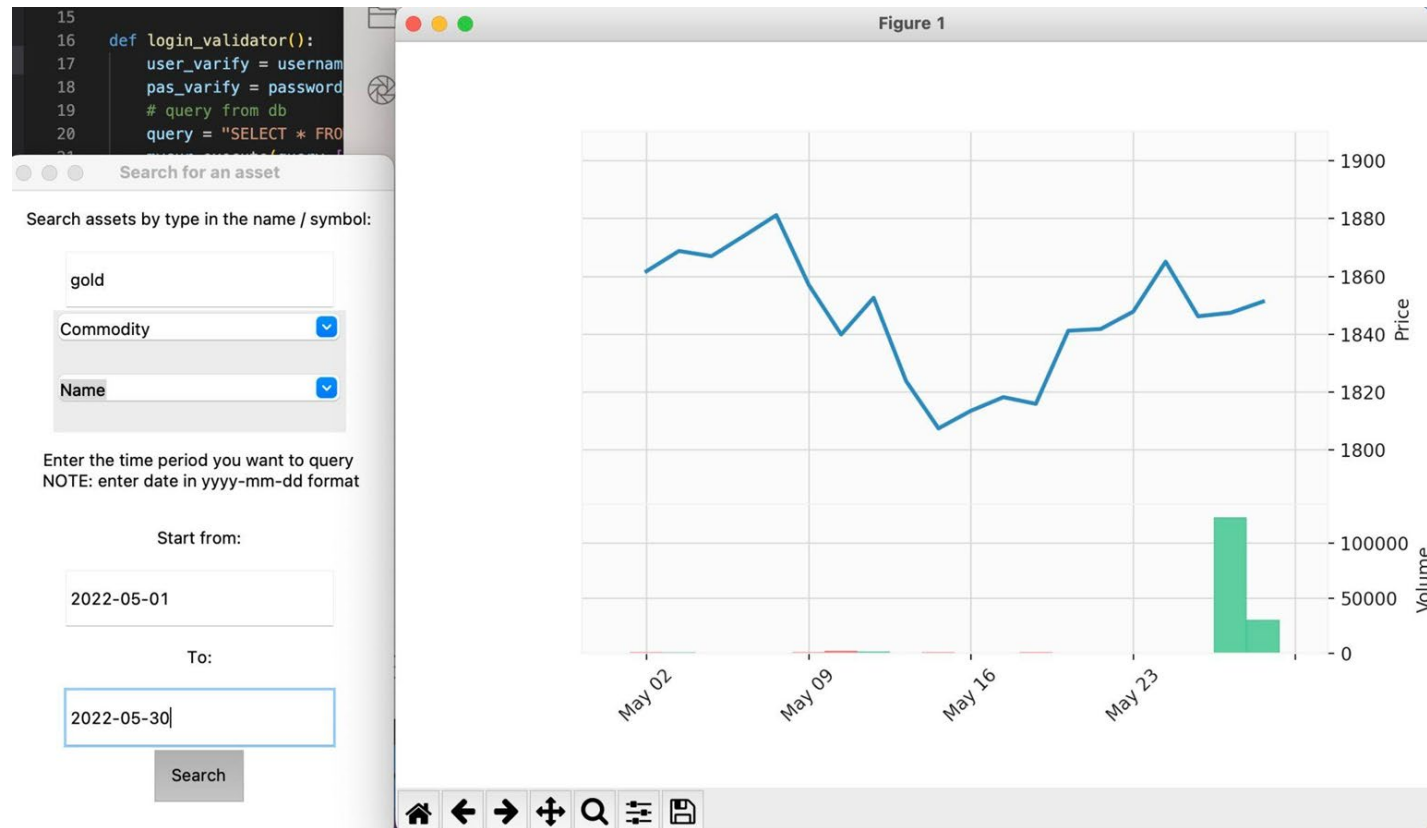
Start from:

To:

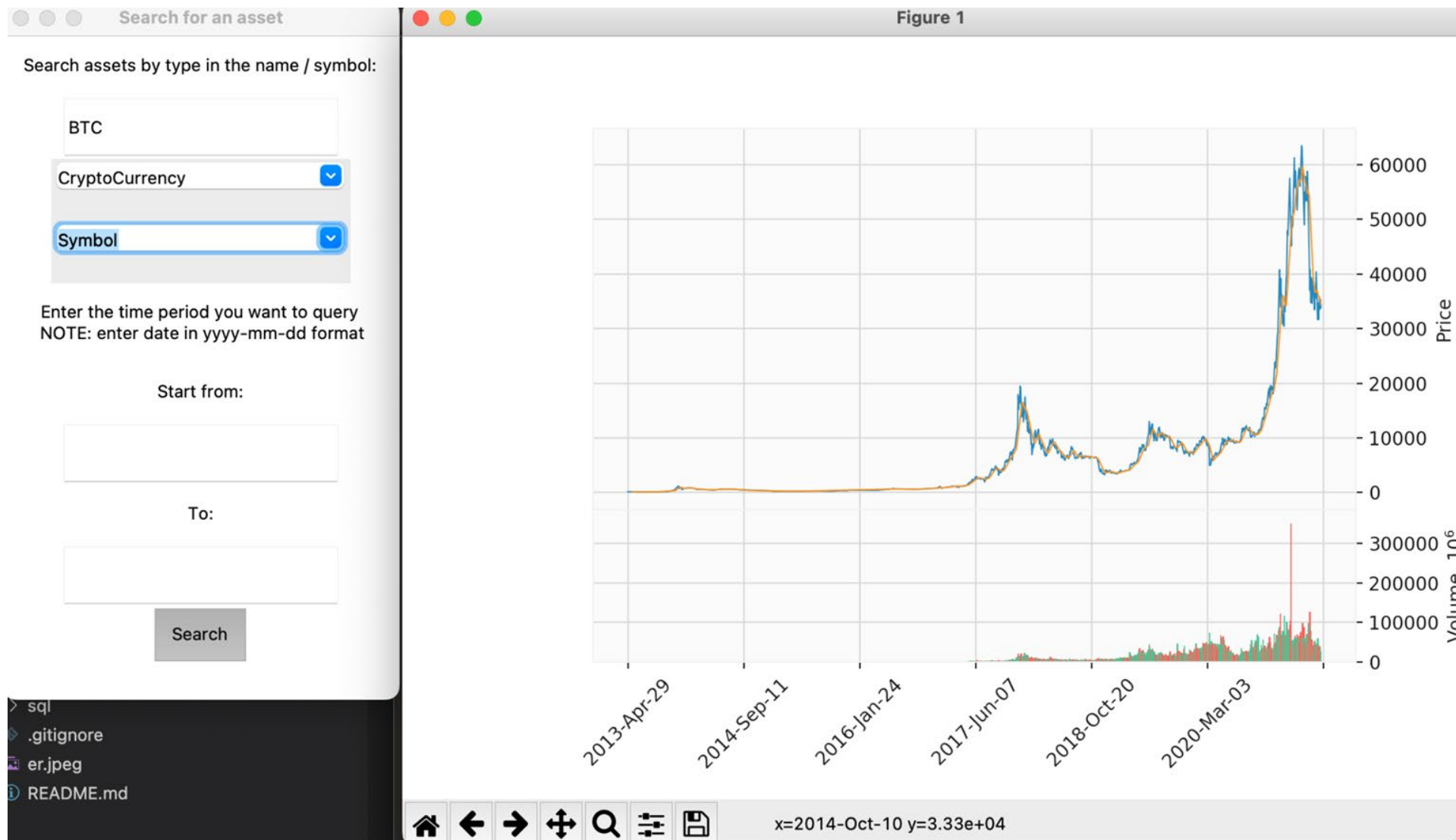
Search

Demonstration - Workflow of Our Application

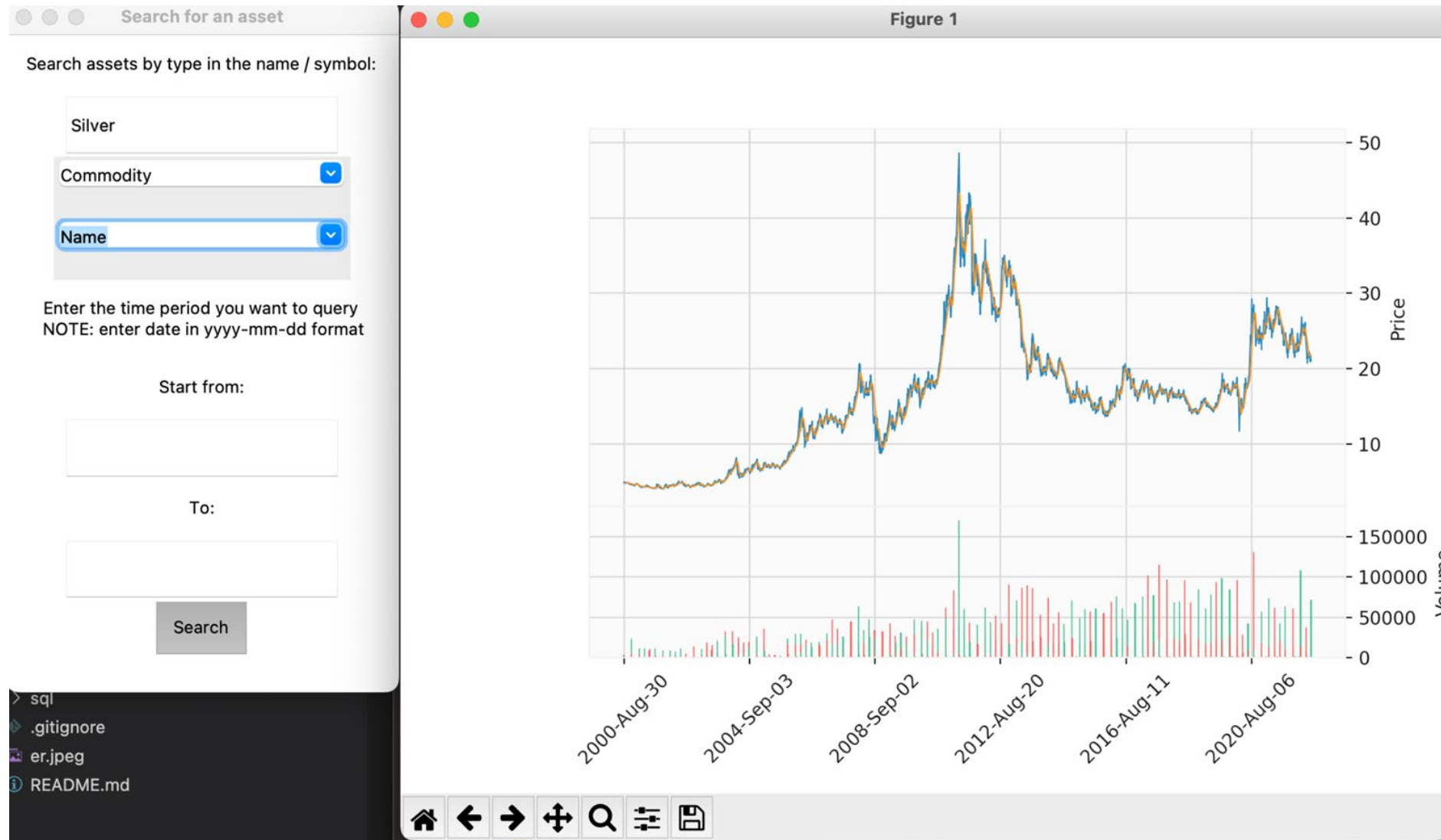
Search/Query Result Display Page



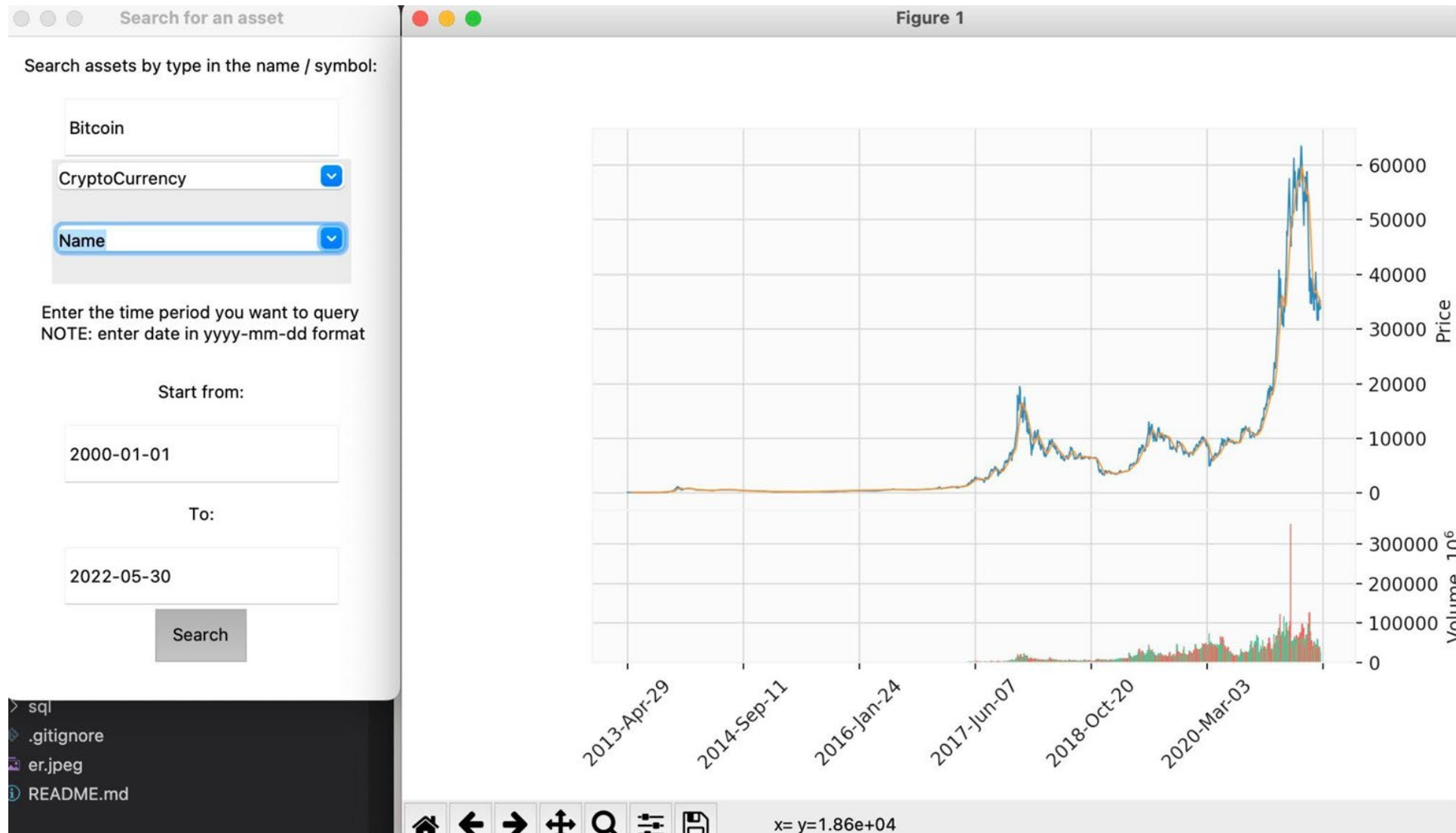
Line Chart from Query/Search



Line Chart from Query/Search



Line Chart from Query/Search



Line Chart from Query/Search

