

## Criterion B: Design

### Graphical Visualization - Proposed Design

#### Authentication Page

Authentication Page

Username

Password

Login

*Figure 1. Authentication Page*

Price Index Page

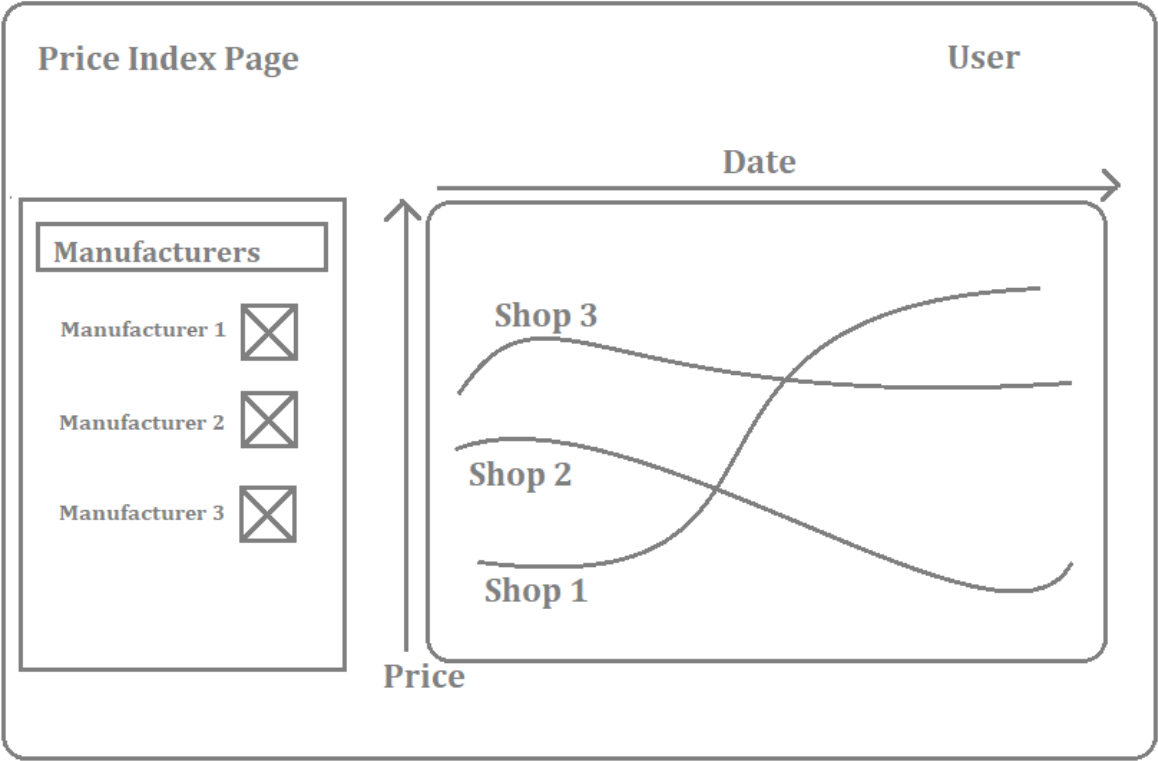


Figure 2. Price Index Page

**Product Analog Page**

Analog Page

Product 1 ↓

Product 2 ↓

Submit Analog

*Figure 3. Product Analog Page*

**Product Data Table Page**

Data Table Page			
ID	Product Name	Product Price	Date
1	Apple	1.35 €	2022 05 20
2	Orange	0.79 €	2022 05 20
3	Banana	0.45 €	2022 05 20
4	Lemon	1.19 €	2022 05 20
5	Watermelon	4.79 €	2022 05 20

*Figure 4. Product Data Table Page*

# System Structure Diagram

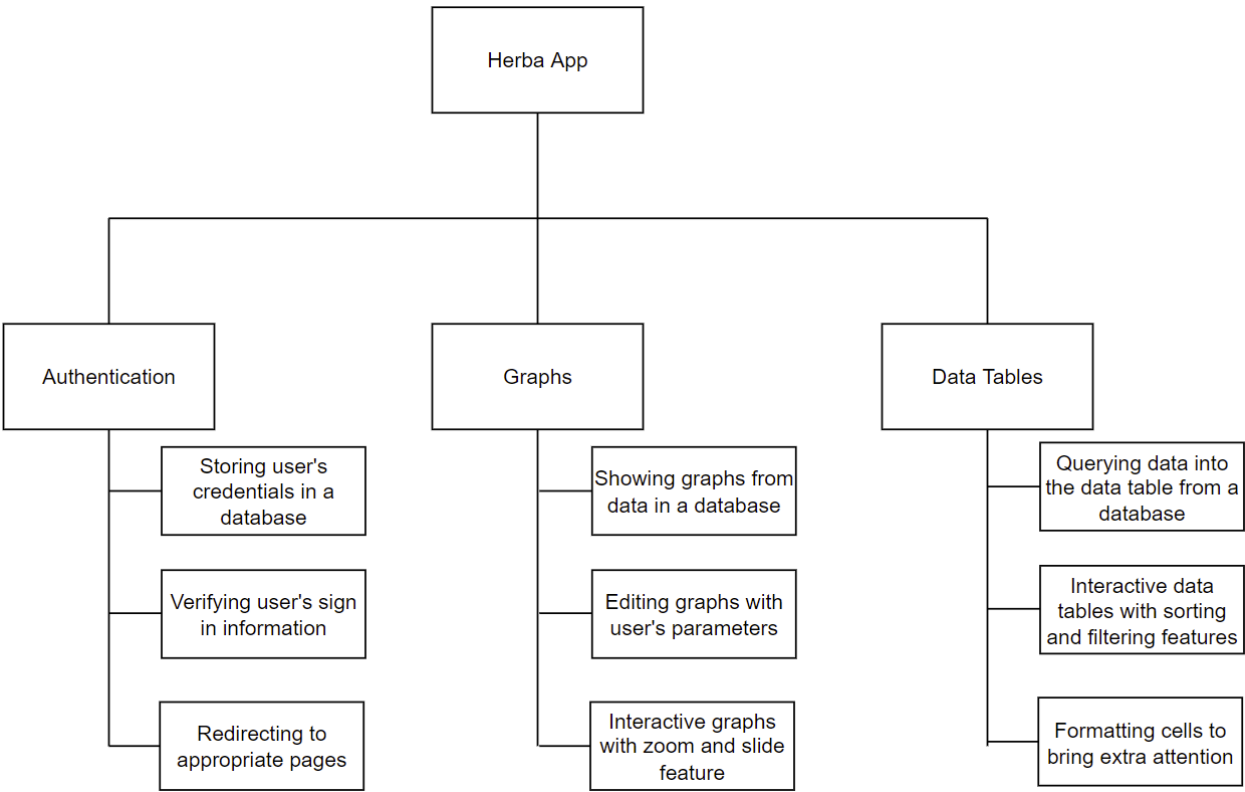


Figure 5. System Structure Diagram

## Authentication Flowchart

Every client must be authenticated to access the features of the application. The authentication process is described below in a flowchart.

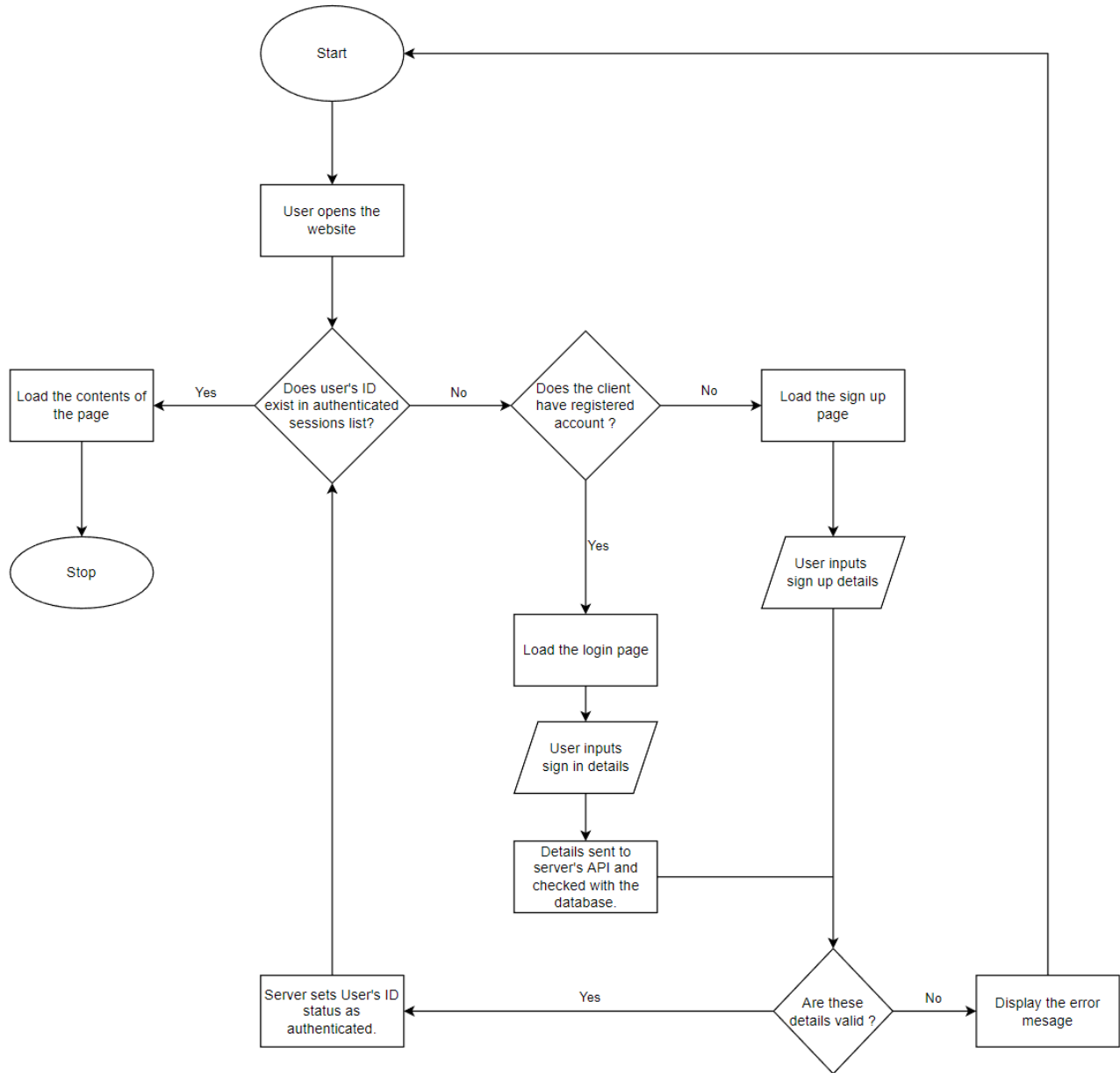


Figure 6. Authentication Flowchart

## Web Crawler Flowchart

Web crawler is used to gather data about products from various websites and it is described in the flowchart.

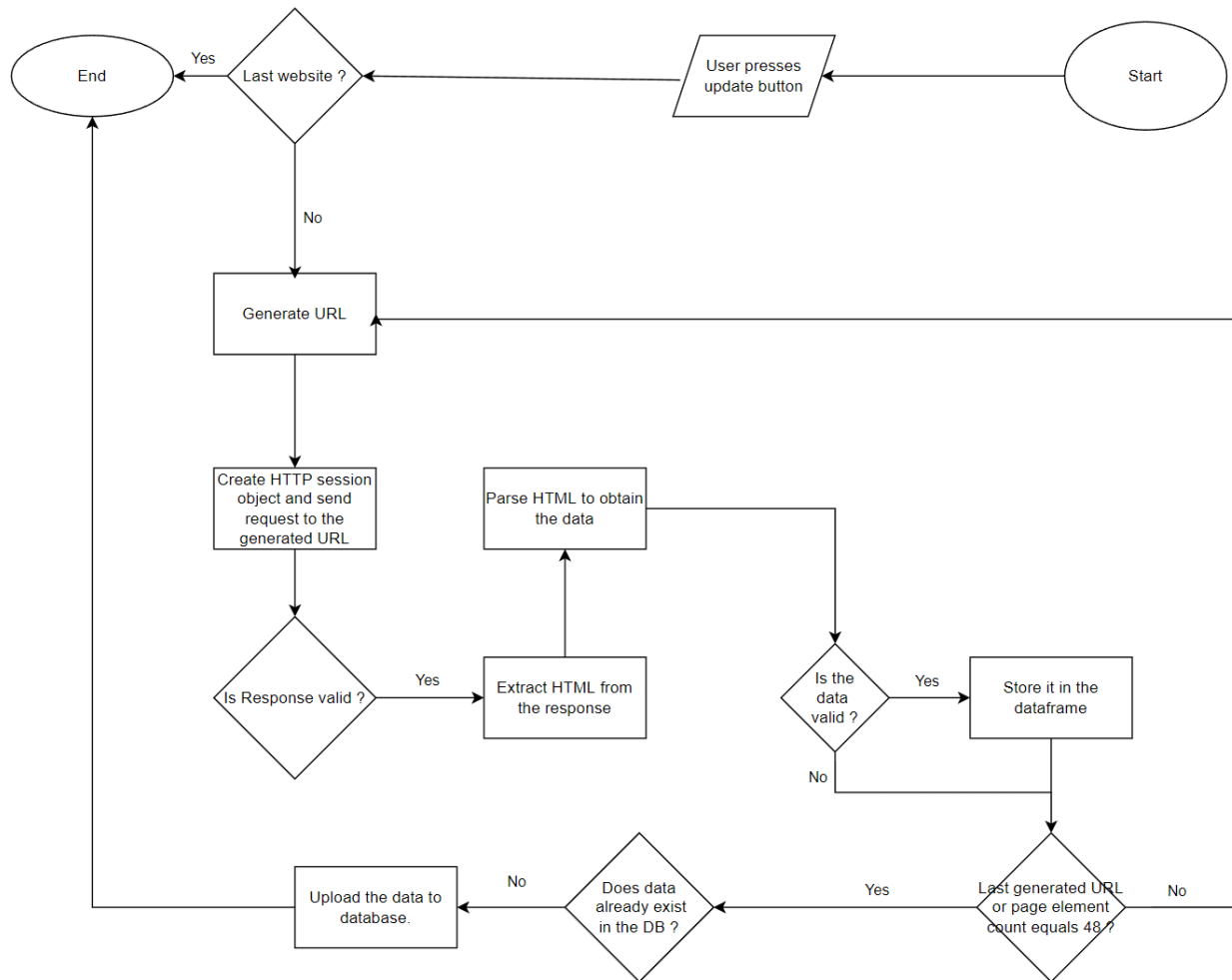


Figure 7. Web Crawler Flowchart

# UML Diagram

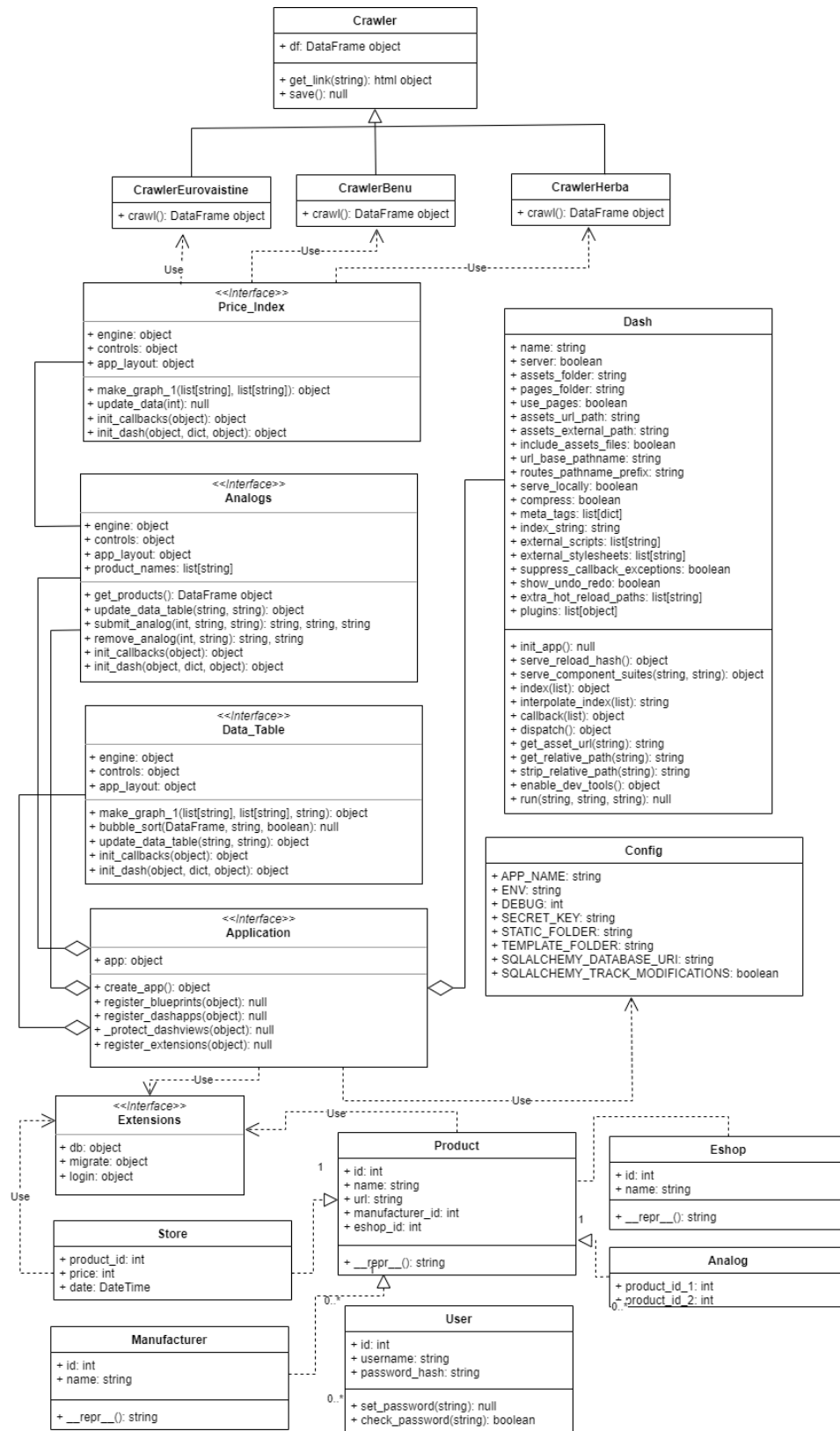


Figure 8. UML Diagram



# Testing

The types of testing used in the development stage:

- Unit testing
  - Unit testing will be used throughout the process of development and launch in order to check if the application, its functions, and algorithms of separate modules are working the way they are supposed to.
- Prototype testing
  - The client will test the prototype at regular time intervals during the development process and give feedback on the performance of the application.
- Acceptance testing
  - The client and advisor will test the app to see whether the success criteria have fully met.

Some of the expected testing results with regard to testable success criteria:

No.	Action	Expected result	Success Criteria
1.	Client enters credentials and logins in the page.	Application validates the credentials, authenticates the user and takes the client to the appropriate screen.	1; 9; 10
2.	Client enters credentials and signs up in the page.	Application validates details and stores the credentials in the database, while logging the user in the process.	2; 9; 10
3.	Client presses update button in price index page.	Application runs a web crawler and gathered results are uploaded into the database and graphs are updated.	3
4.	Client enters any page without being authenticated.	Application redirects the client to the authentication page.	4
5.	Client filters by specified manufacturers or eshops	Application updates the graph according to the filtered variables and includes or excludes specified manufacturers from the	5

		data.	
6.	Client chooses products and presses a button to submit product analog	Application validates the choice and uploads it into the database if it doesn't already exist.	6; 9
7.	Client specifies id of analog and presses remove analog button.	Application validates the input and deletes the row with a specified ID correctly from the database.	7; 9
8.	Client chooses sort by method.	Application updates data table according to sort by method specified correctly.	8;11