Chengdu University of Technology

Computer Science and Technology
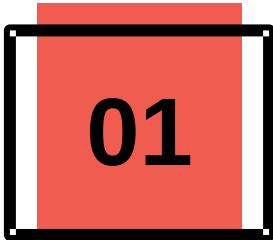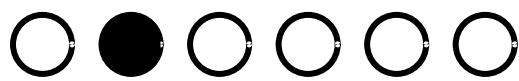
Product
Comparison System

Speaker： Darren（Zhu Xunran）
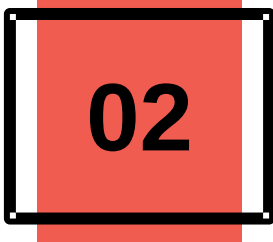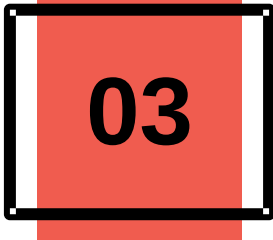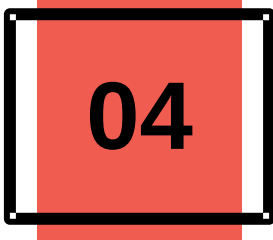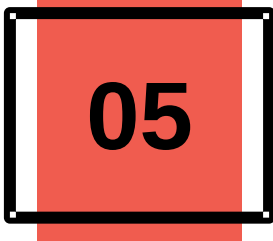
Mentor： Albert Xu

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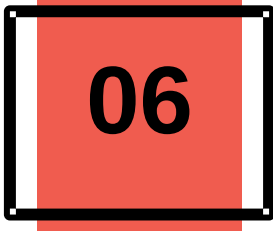
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PART 01

Introduction

Introduction

Background

With the gradual rise of Internet technology, people's lifestyles and shopping habits have changed and online shopping has become increasingly popular. People are keen to compare prices on products when shopping online. A price comparison system that can display matching products from multiple shopping platforms and display product information and price comparison results after users enter relevant search terms woul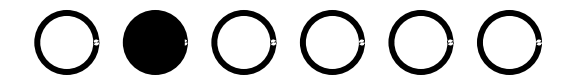d provide great convenience to users. How to implement this price comparison system to improve the convenience of consumer shopping has become the focus of the moment.

Introcution
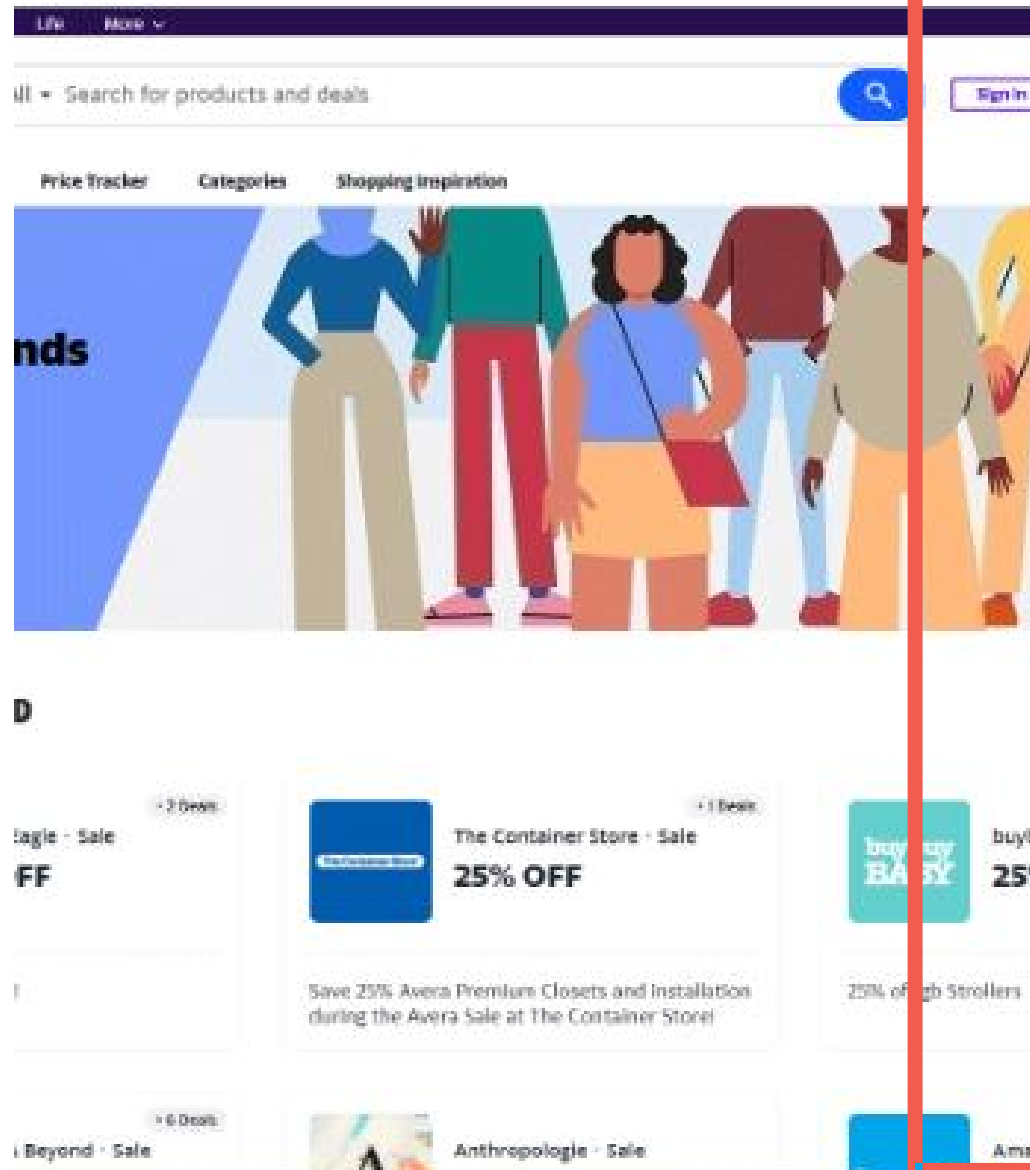
Aim

Using a data extraction method based on web and web crawler technology, we designed a system that can compare prices of products on different platforms to meet consumers' needs for online shopping comparison.

Objectives

1)Background research   2) Determination of development steps

3) Database design   4) Crawler technology design

5) Front-end UI design   6) Back-end code design

7) Test project   8)Realization project

PART 02

Motivation

Motivation

Purpose of topic selection
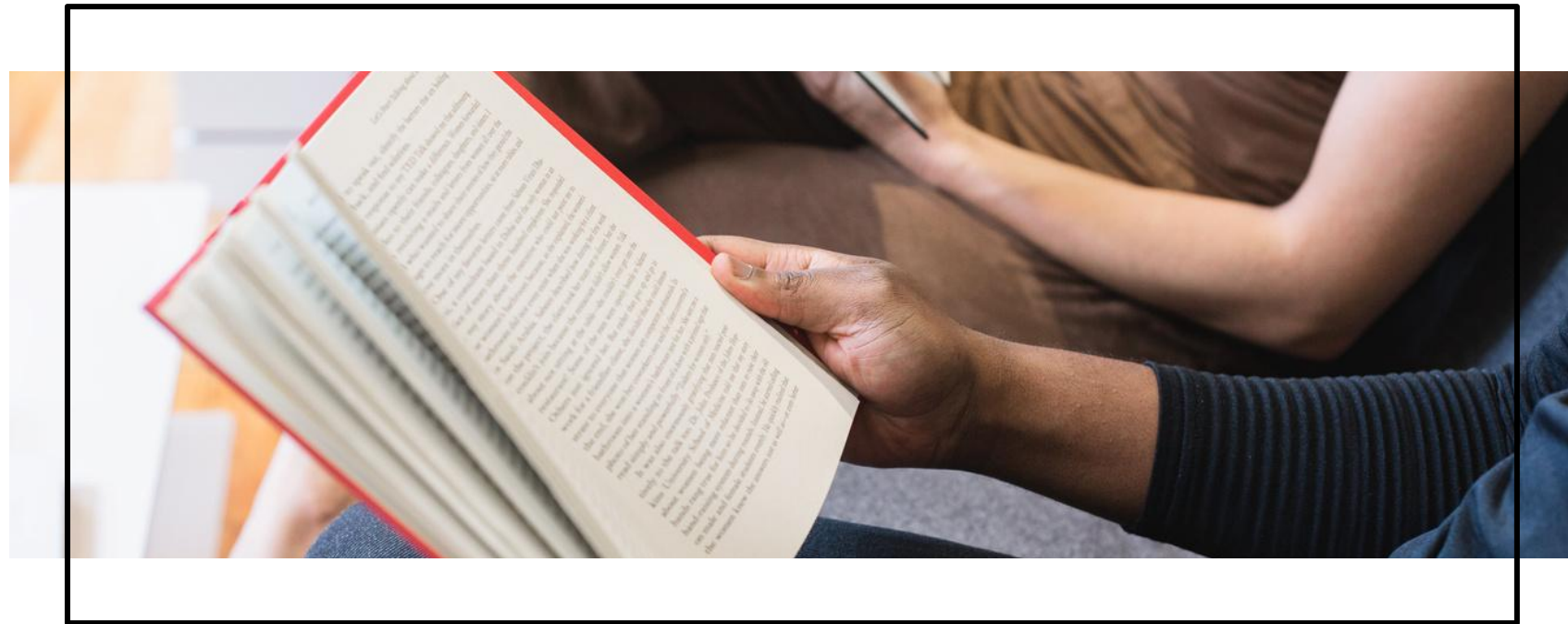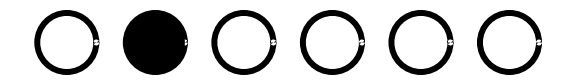
What is the problem

Why is it interesting

PART 03

Background Review

Background Review

Literature Research

Find literature on price comparison systems and study the development ideas in the literature.

Technology Research

Crawling technologies: Scrapy, Pyspider, and Beautiful Soup, etc.

Front-end technologies: HTML5

Database technologies: MySQL, SQL Server, Oracle, etc.

Back-end coding technologies: Python, Java
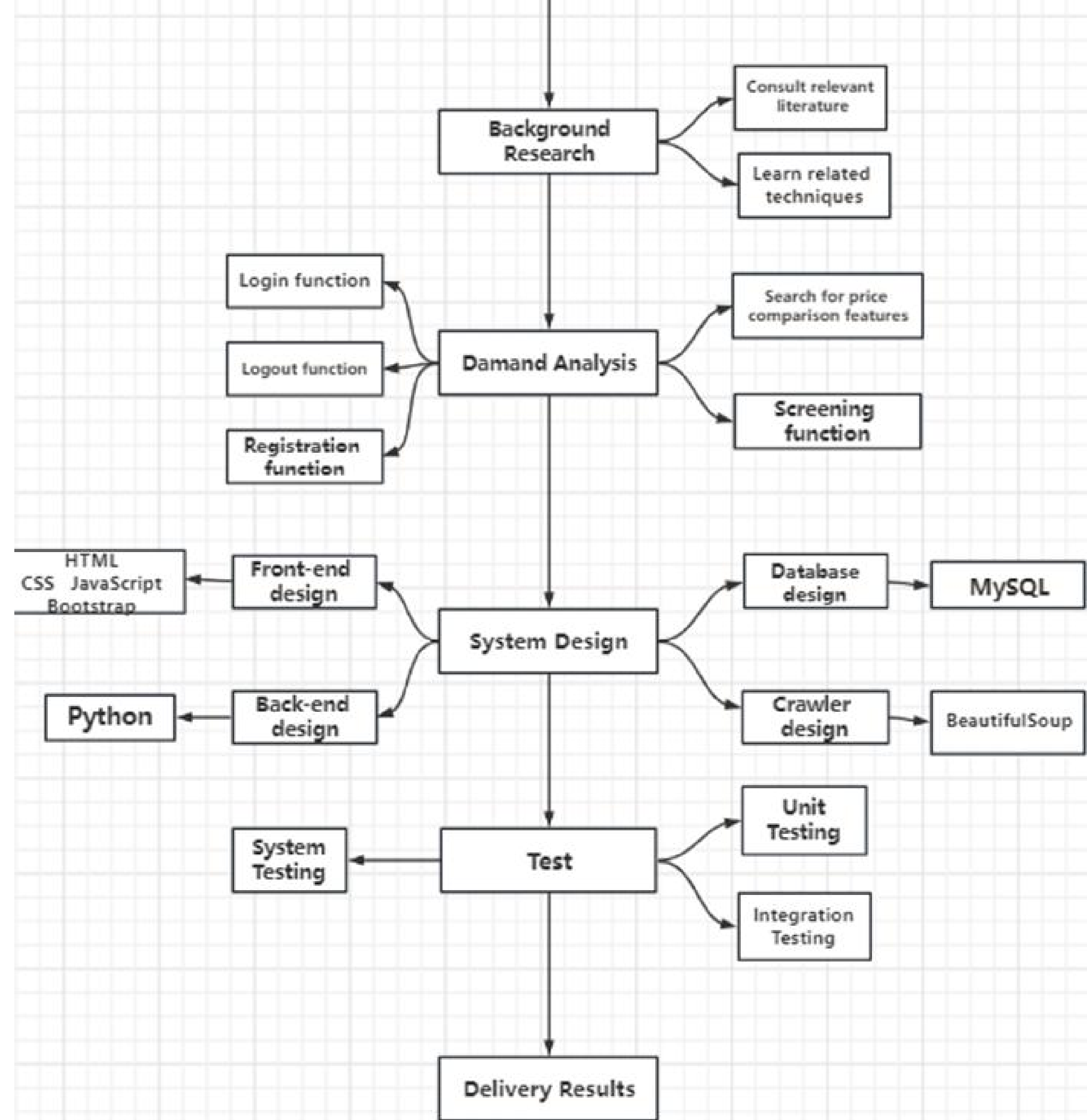
PART 04

Methodology

Methodology

Design Methodology

Front-end design: HTML5, JavaScript, CSS, Bootstrap framework

Back-end design: Python, Flask framework

Crawler design: BeautifulSoup, Selenium, Requests

Database design: MySQL

Methodology

Development tools used

Software: PyCharm 2021.2.3 , MySQL Workbench 8.0 CE, MySQL 8.0 Command Line Client

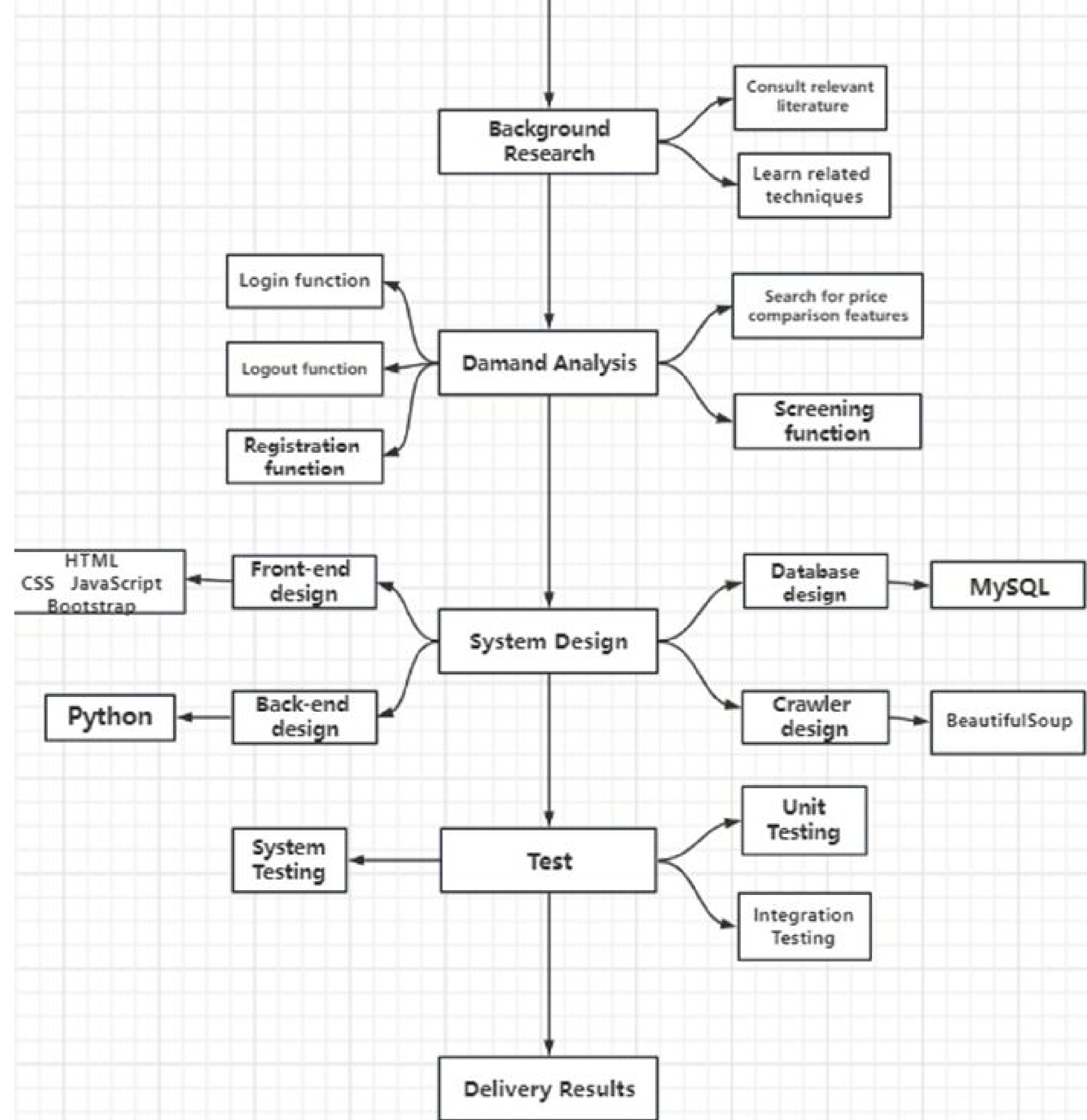Hardware: CPU: Intel(R) Core (TM) i7-8565U CPU @ 1.80GHz 1.99 GHz

GPU: Intel(R) UHD Graphics 620, NVDIA GeForce MX250

Programming language: Python3.9, SQL, HTML

Browser: Microsoft Edge

Database: MySQL Database
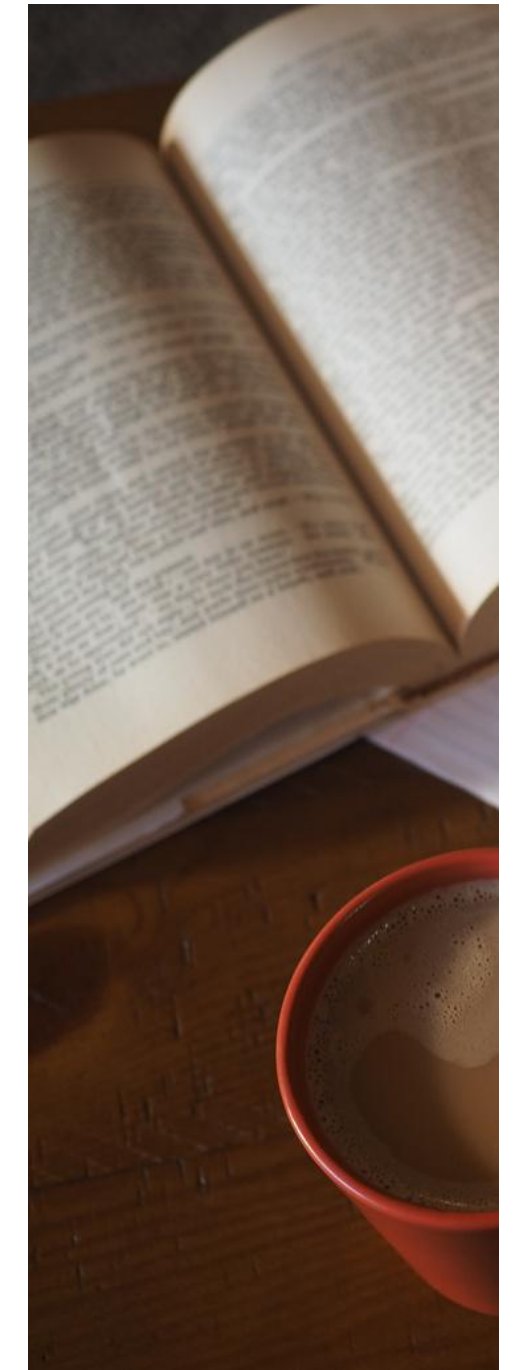
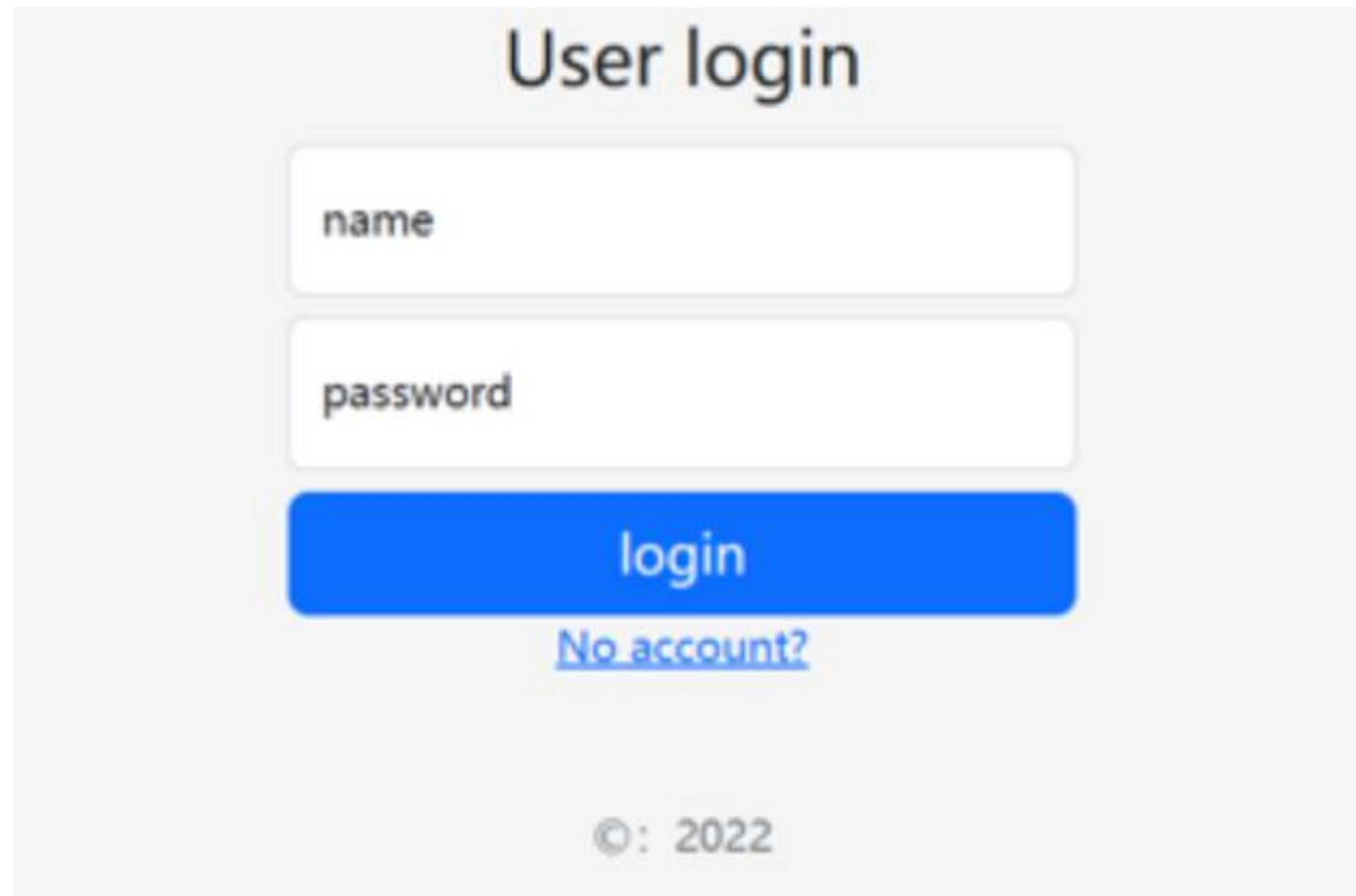Frame: Flask

PART 05

Project Implementation &Results

Design Process

1) Front-end design: firstly design the registration and login interface, secondly design the main interface of the system, including the main interface button, filter button and price comparison button, and finally design the price comparison interface.

2) Crawler design: first determine the crawl target and import the appropriate library, such as requests, selenium, beautiful soup and so on. Then send http request, next parse the web page to crawl and collect the data, and finally import the data into the database and save it.

3) Database design: first of all, requirements analysis, and then need to create two tables, one for saving the user's account password, the other is to save the crawled commodity data information, in the process of creating tables to pay attention to data types, constraints (primary key, unique constraints, etc.), and finally use SQL statements to write data for testing whether the database can run properly.

4) Back-end design: Based on Python language, set up routes to connect the front and back ends together to achieve front and back-end interaction. Connect the database, write the information crawled by the web crawler into the database, and finally present the data in the front-end interface to realize the price comparison function.
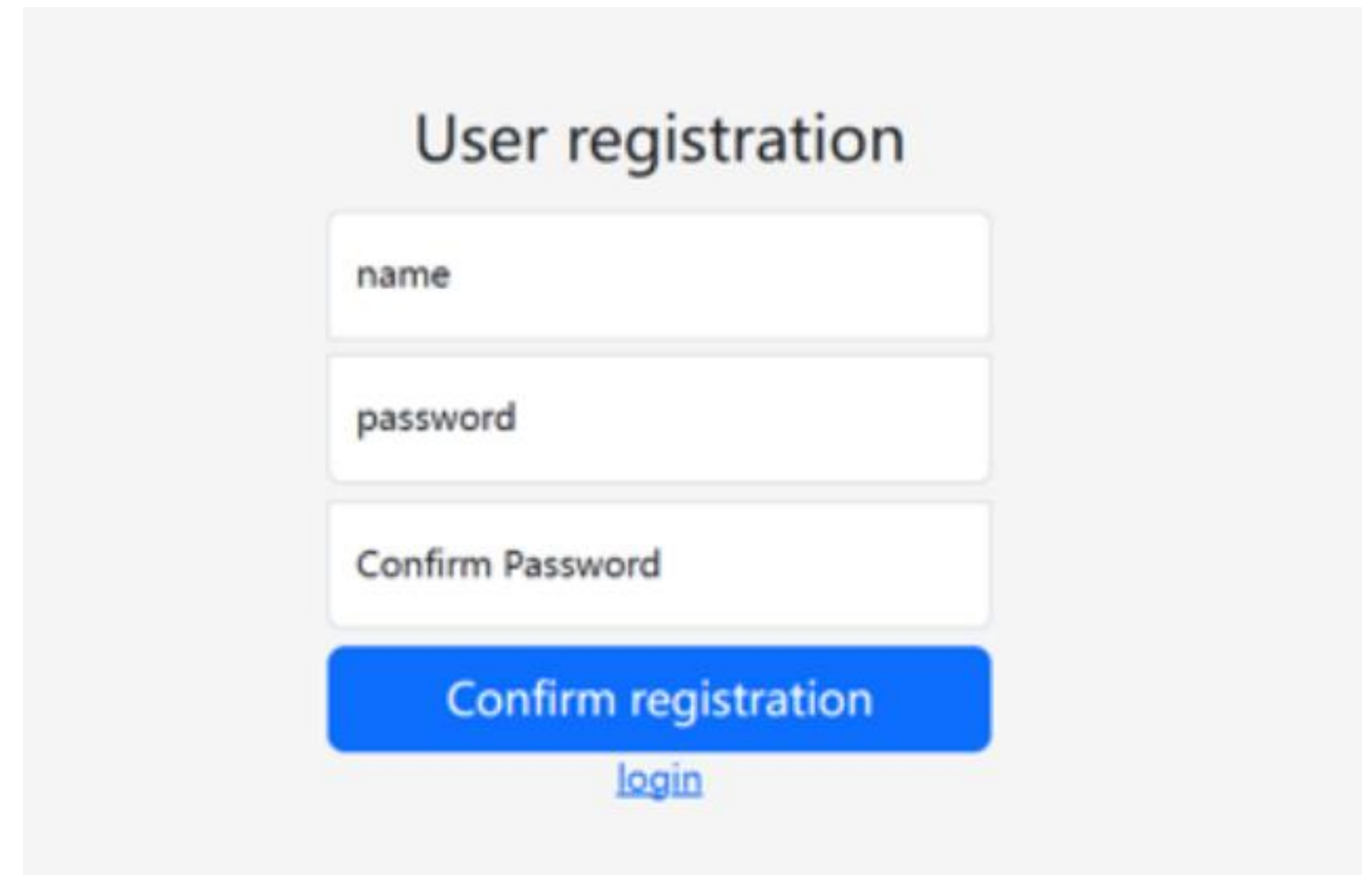
Project Implementation &Results

Results

Login

Registration

Project Implementation &Results

Results
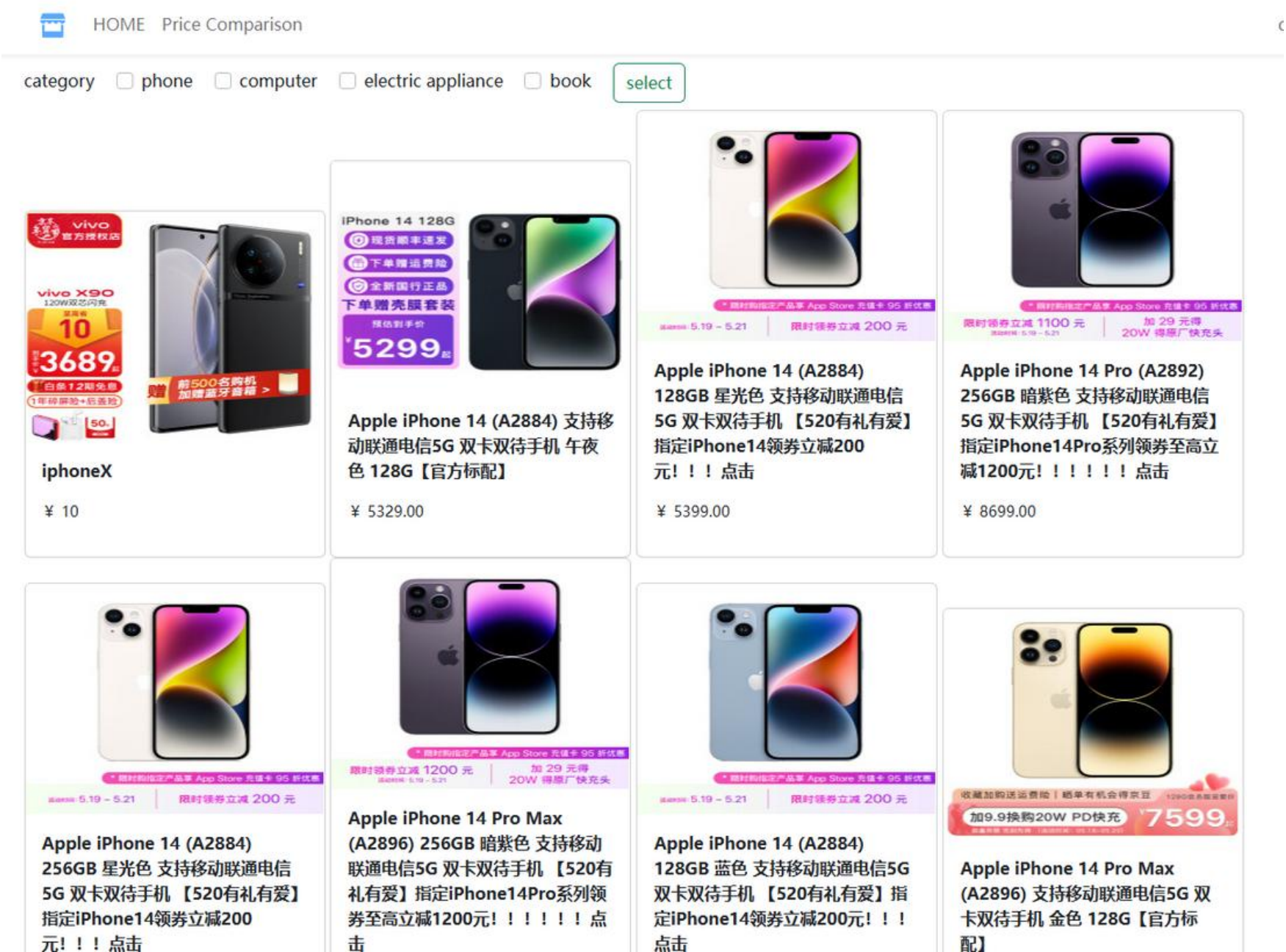
Main Interface

Price Comparison Interface

PART 06

Conclusion

Conclusion

Overall, the project uses Python as the development language, Beautiful Soup as the crawler framework, MySQL as the database, Flask as the back-end framework, and Bootstrap as the front-end framework. Each part is linked by the back-end code on PyCharm compiler, which finally forms a complete price comparison system, and the basic functions have been implemented to meet the development design requirements and achieve the expected purpose.

Q & A

Please ask
your questions

Speaker：Darren（Zhu Xunran）

Mentor： Albert Xu