



Hackathon · Team 10



Online Wine Price Harvesting Challenge

23 – 26 Oct. 2023

The Team

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Approach

- 1.** The Challenge
- 2.** Strategy
- 3.** Technical dimension
 - Web Scraping
 - Data Management
- 4.** Visualization & Interaction
 - Interface Design
- 5.** Current state
- 6.** Since pre-pitch: improvements
- 7.** Next steps



The Challenge



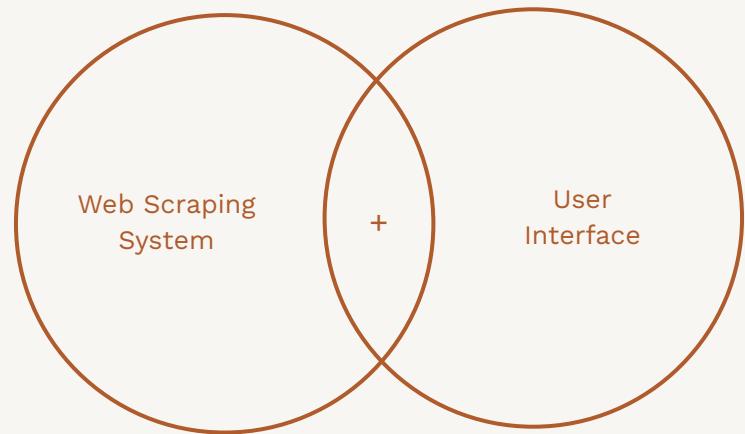


The Challenge

Design and implement a web scraping system and respective interface to keep track of product prices practiced across various stores and markets.

In its 1st stage, it should:

- collect data from **3 websites...**
- ...relating to **4 products**
- present collected data in a **user-friendly dashboard**



Strategy

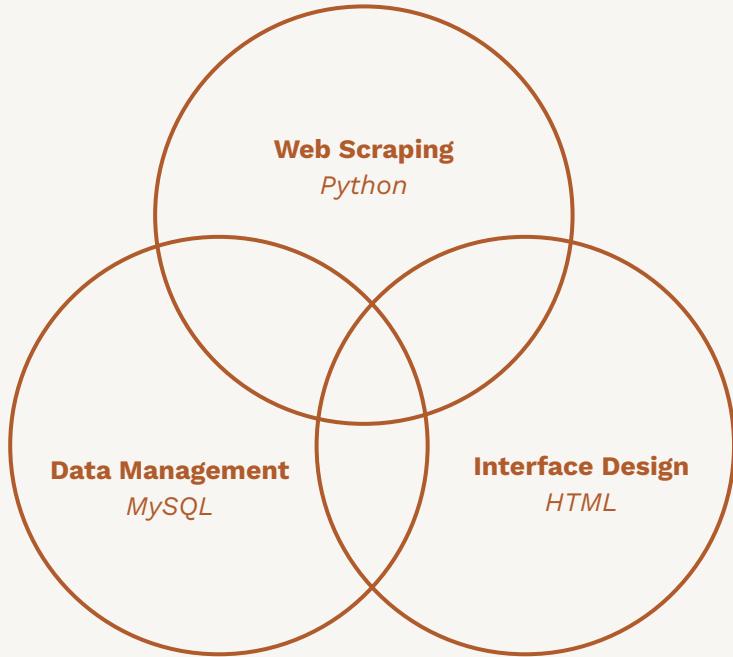


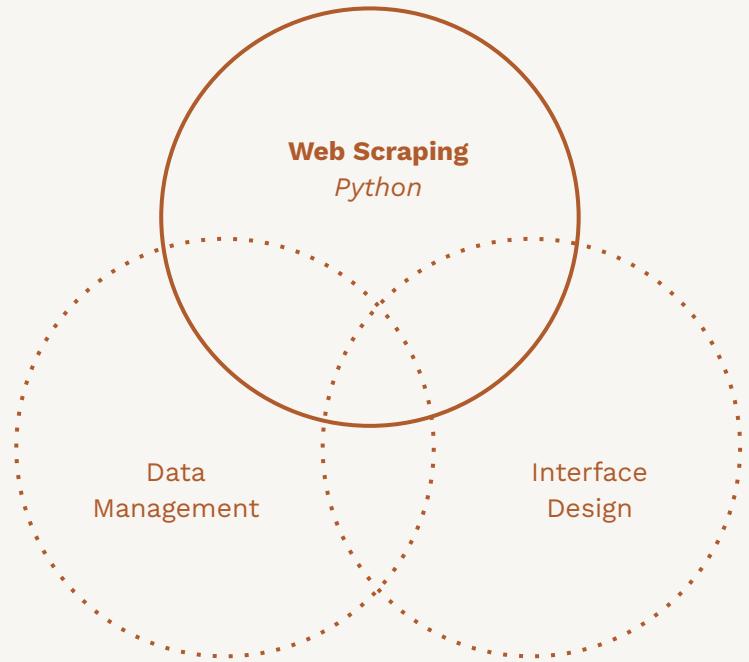


Allocating resources

We decided to subdivide the Team into three action fronts,

- **subdividing** a bigger problem into smaller and **more manageable** ones that could be **solved independently** and **simultaneously**
- **combining smaller solutions** in order to tackle the original challenge
- ensuring **constant communication** within the team so that **everything fits**





- **data analysis**

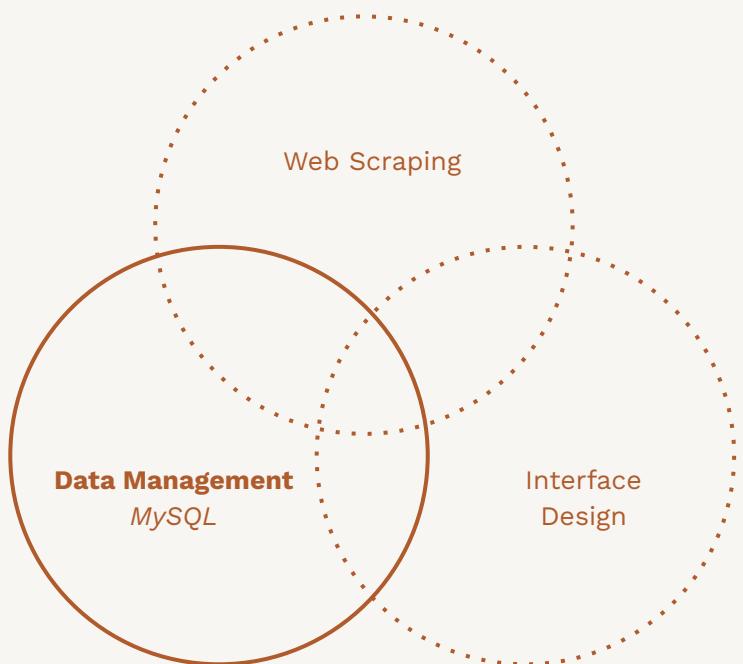
data → valuable insights

- identify target website(s)
- use locators to find relevant information in the HTML,
different websites = different classes

extracted data → delivered in structured format

Data Management

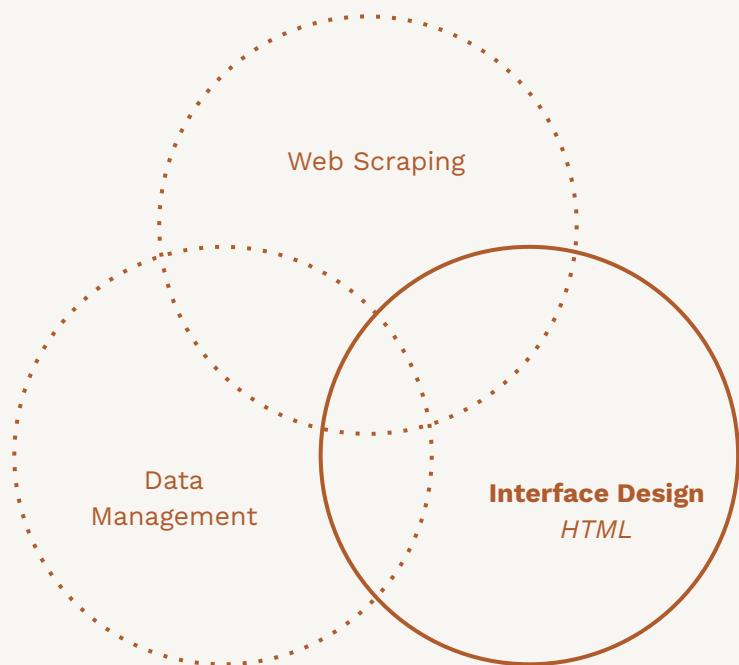
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- **data storage, retrieval, management & manipulation**
SQL \rightleftharpoons relational databases
 - standard & reliable
 - easily scalable, allowing room for future improvement

Interface Design

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- **user interface**

user input \rightleftharpoons data visualization

support the effective functionality of website:

- facilitate interaction between (non-tech) user and program
- presenting data in a visual manner
- filter data



Current state

What we are currently delivering:

- automated tool, capable of filtering:
product's name, retailer and location
- valuable & actionable data insights
- portable & compatible
(website vs. app)
- intuitive user interface
(accessible to non-tech profiles)





Since pre-pitch

- improvements in both back-end and front-end
- implementation of a more efficient product filtering system: adding the possibility to identify product by EAN
- addition of a lock screen, contemplating users with different access levels
- new page to add products to collect data about in admin mode, for pre-configured retailers



lock screen

This screenshot shows the SOGRAPE website in admin mode. It features a search interface with dropdown menus for 'Name', 'Store', 'Date', and 'Location'. Buttons for 'Refrescar' and 'Actualizar' are at the bottom. An arrow points from the lock screen to this interface.

| Name | Price | Store | Date | Location |
|---|-------|--------------------|---------------------|----------|
| MALBEC Rosé vino rosado de Portugal botella 75 cl | 4.99€ | El Corte Inglés_31 | 2020-10-24 20:22:08 | Spain |
| Espumante Malvasia Rosé 75 cl | 6.99€ | Carrefour Super | 2020-10-24 20:22:20 | Portugal |
| Vinho Branco Douro Rapapé Figo 75 cl | 7.29€ | Carrefour Super | 2020-10-24 20:22:26 | Portugal |
| MALBEC Rosé vino rosado de Portugal botella 75 cl | 4.99€ | El Corte Inglés_31 | 2020-10-24 20:22:39 | Spain |
| Espumante Malvasia Rosé 75 cl | 6.99€ | Carrefour Super | 2020-10-24 20:22:42 | Portugal |
| Vinho Branco Douro Rapapé Figo 75 cl | 7.29€ | Carrefour Super | 2020-10-24 20:22:47 | Portugal |
| MALBEC Rosé vino rosado de Portugal botella 75 cl | 4.99€ | El Corte Inglés_31 | 2020-10-24 20:22:50 | Spain |
| Espumante Malvasia Rosé 75 cl | 6.99€ | Carrefour Super | 2020-10-24 20:22:53 | Portugal |
| Vinho Branco Douro Rapapé Figo 75 cl | 7.29€ | Carrefour Super | 2020-10-24 20:22:58 | Portugal |
| MALBEC Rosé vino rosado de Portugal botella 75 cl | 4.99€ | El Corte Inglés_31 | 2020-10-24 20:22:41 | Spain |

admin mode

This screenshot shows the SOGRAPE website in user mode, displaying the same product search interface as the admin mode screenshot above.

| Name | Price | Store | Date | Location |
|---|-------|--------------------|---------------------|----------|
| MALBEC Rosé vino rosado de Portugal botella 75 cl | 4.99€ | El Corte Inglés_31 | 2020-10-24 20:22:08 | Spain |
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user mode

This screenshot shows the 'add new product' page. It includes fields for 'Nome', 'Estoque', and 'Capacidade', with a 'Próximo' button at the bottom.

Insert novo vinho:

Nome: _____
Estoque: _____
Capacidade: _____

Próximo

“add new product” page



Next steps

- add more websites to scrape from
- filter data with more than one filter at once through the graphic interface
- include more filtering options
- add more visualization options (e.g. price fluctuation history graph), making data tracking more immediate
- allow the user to input data (e.g. product name) through text in a search bar, that will be useful when navigating bigger amounts of data





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Thank you