CleverRefill

A Python based web application for monitoring fuel prices in the local environment

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Outline


Project environment
Project Objective & Rationale
Project phases
User interface
Project realization
Cost / benefit analysis

Project environment - company

- Founded in Augsburg in the **19th century**
- Approx. **1000** employees
- **Largest** manufacturer of web offset presses
- Merger with Goss International 2018
  → **Market monopoly**
- **3000** printers in operation **worldwide**

Project Objective & Rationale

Objective:

- Python based web application
- Visualization of data & prices
- Easy finding of cheap fuel
- Navigation to the gas station
- Promotion of economical consumer behavior

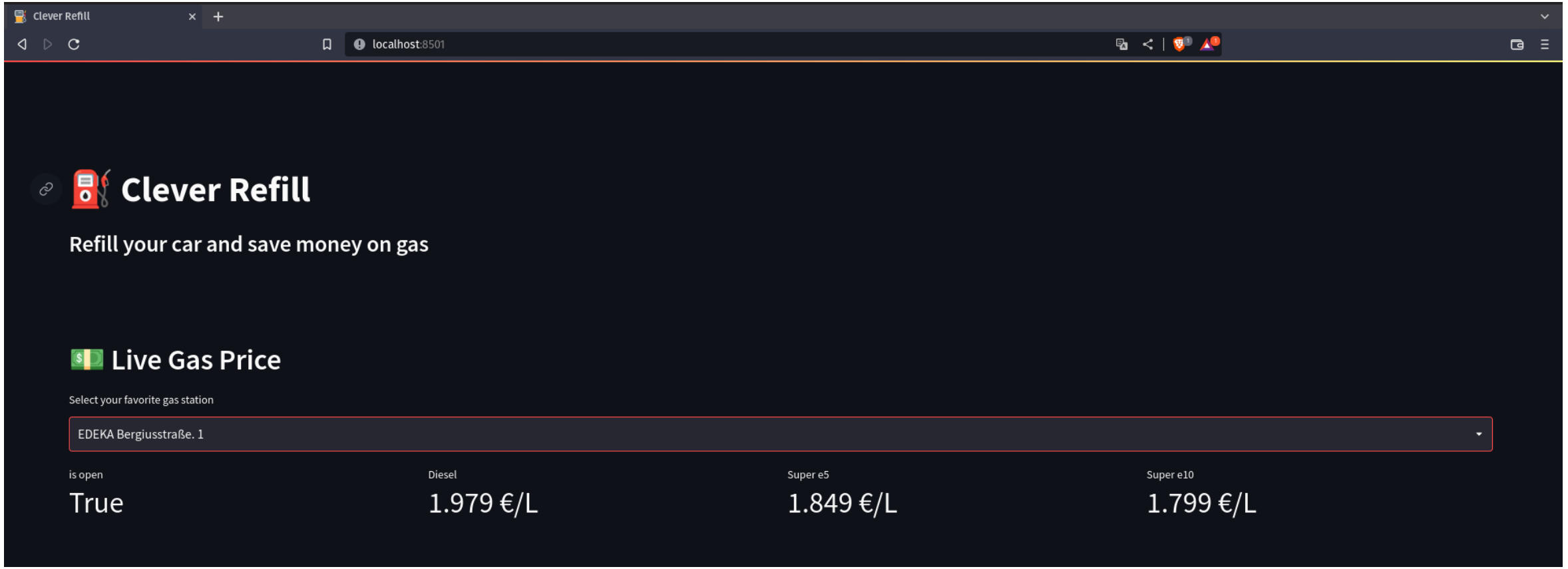
Justification:

- Passing the driver's license & receiving a car
- Rising fuel prices (prices over 2€/L)
- Inflation and energy crisis
- Curiosity about the subject
- Interesting data

Project phases

Project phases	Planned time in hours
Analysis phase	2
Design phase	4
Implementation phase	4
Test phase and troubleshooting	2
Preparation of the documentation	7
Creation of the presentation	2
Total	**21 h**

User Interface - Part 1
Header & Live Price



User Interface - Part 2
Best Price

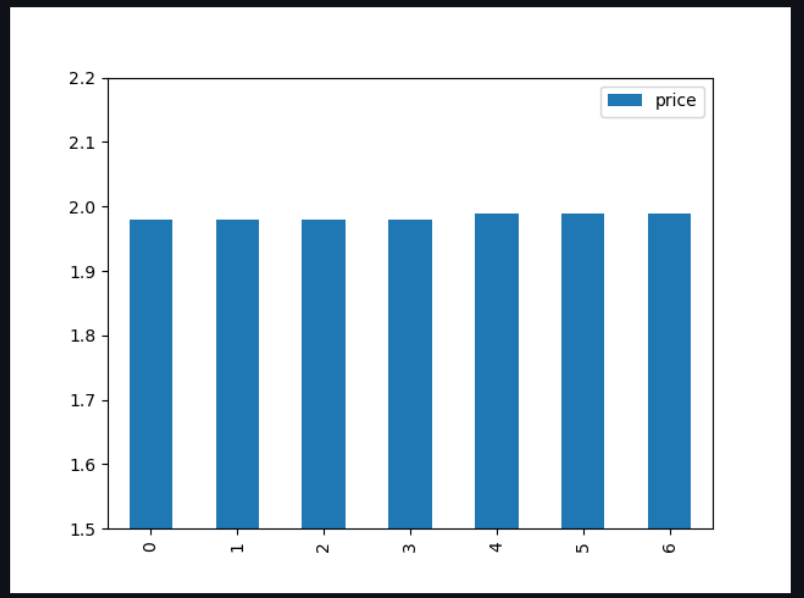
Best Price

Number of results

7

3 31

	name	brand	street	dist	price
0	Supermarkt-Tankstelle AUGSBURG BERLINER ALLEE 72	Supermarkt-Tankstelle	BERLINER ALLEE	2.3000	1.9790
1	Bernd Seng Kraftstoffe e.K.	EDEKA Seng	Bergiusstraße	3.0000	1.9790
2	NK Westfilialen GmbH	EDEKA	Neuburger Straße	3.3000	1.9790
3	NK Westfilialen GmbH	EDEKA	Hagenmähderstraß	3.7000	1.9790
4	JET AUGSBURG SCHILLSTR. 5	JET	SCHILLSTR.	1.6000	1.9890
5	JET AUGSBURG NEUBURGER STR. 174	JET	NEUBURGER STR.	2.9000	1.9890
6	Augsburg, Bürgermeister Wegele Str. 15	HEM	Bürgermeister Weg	4.0000	1.9890



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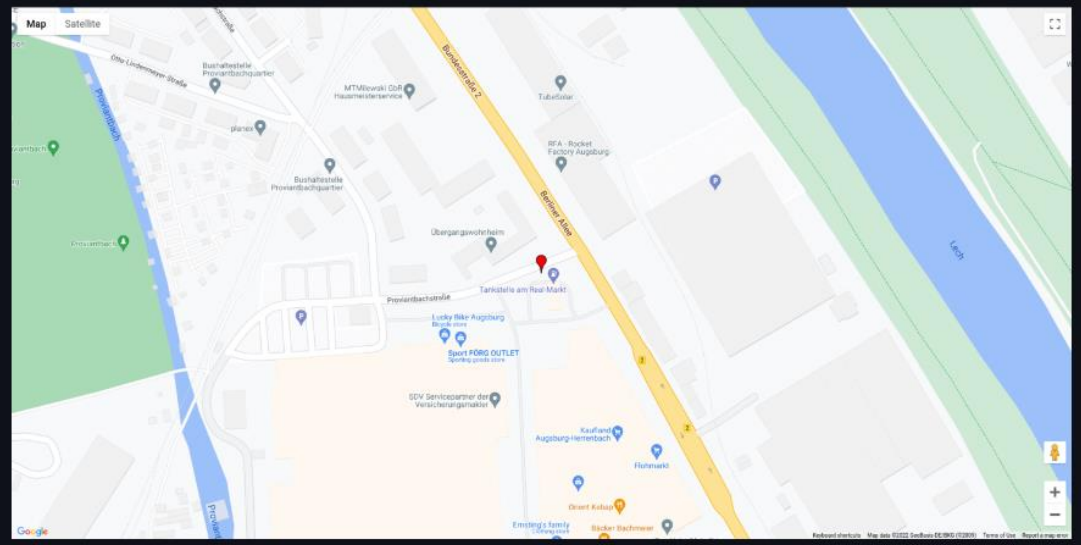
User interface - Part 3
Route to the gas Station

Route to the gas Station

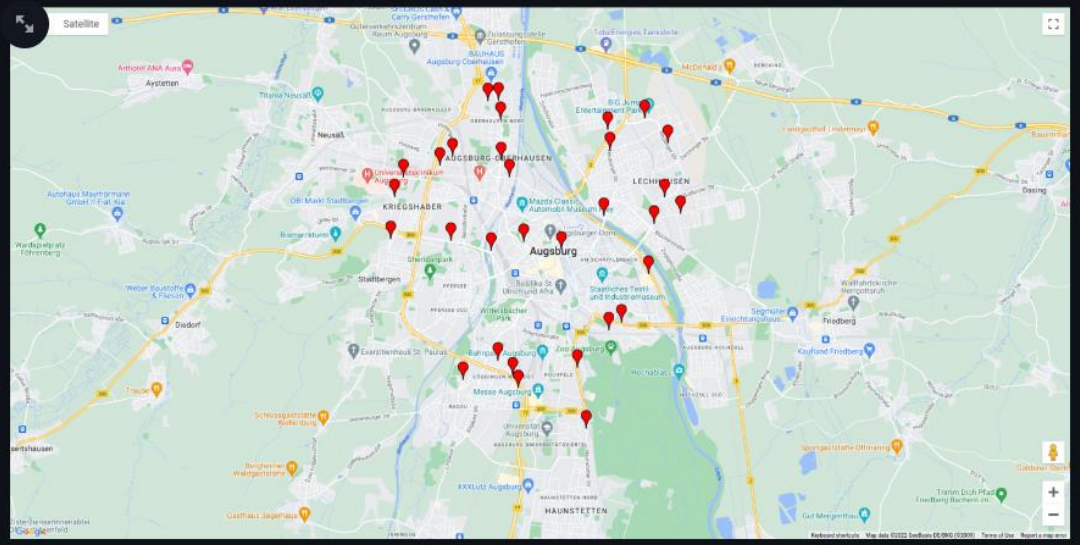
Best price station

Open station map



All stations as selected

Open all stations in maps



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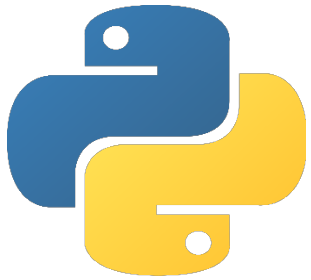
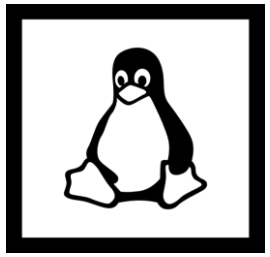
Project planning - resources



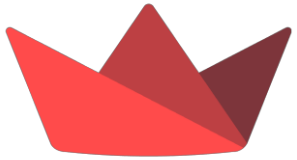
- Object-oriented programming language
- Many libraries

Programming & Dev



- Pop!_OS 21.0
- Based on Ubuntu
- GNU + Linux

Operating system



- Streamlit
- Pandas, Numpy
- matplotlib, gmplot
- JSON

UI Framework & Libraries

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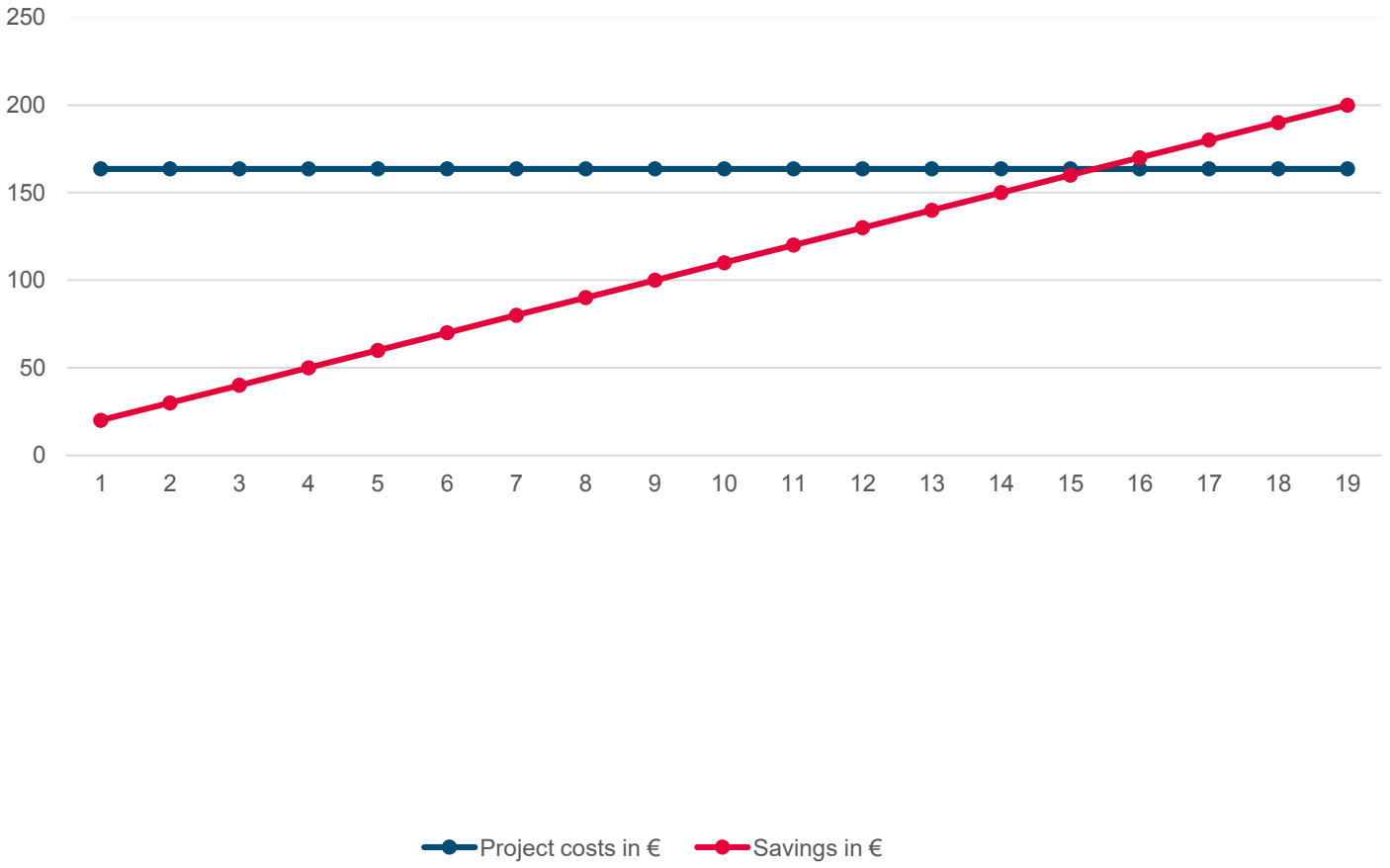
Cost/benefit analysis



- Period: **12h**
- Trainee hourly rate: **7,77€/h**
- Total cost: **162,53€**

- Savings per L: **0,20ct**
- Savings per tank load: **10€**
- Refueling period: **1 time per month**

- Payback period: **16 months**

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Thank you for your attention

~ Your MGWS