

## BV: 블록체인 시각화

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## BV: Blockchain Visualiser

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### Overview

Blockchain technologies have become an important part of the modern financial market. However, despite their promise of transparency and liquidity, they have become associated with financial fraud and concerns have been raised about their environmental impact.

Blockchain Visualiser (BV) was developed as a platform that would offer its users access to Bitcoin and Ethereum transaction data with the goal of promoting responsible investment; and offer access to environmental impact metrics about these technologies to raise awareness about the issue.

### Development Tools

Design	Figma
Programming Languages	TypeScript, Python
Web Development	Next.js, TailwindCSS, Recharts
Deployment	GitHub, Vercel
Blockchain Data	Blockchain.com, Etherscan, Digiconomist

### Development Process

Blockchain Visualiser (BV)'s development started with UI design with Figma. This step served as the foundation for the whole platform. In this design step, all BV features were carefully planned, and the main focus was creating a platform that was easy to use and navigate, eliminating redundant pages and selection menus, without compromising the access to information.

After the design step, the UI was implemented and tested. TailwindCSS was an important tool to optimize BV to different screen sizes and to make the planned UI a reality.

Following UI implementation, Bitcoin and Ethereum transaction data were added to the platform utilizing Blockchain.com and the Etherscan API as sources.

The last development stage was the implementation of the environmental impact features. A metrics page for each of the featured blockchains was created to show users how different blockchains impact the environment. Lastly, an energy expenditure over time graph was created utilizing the Recharts library. The data was sourced from several sources including Digiconomist, World Bank and different research papers.

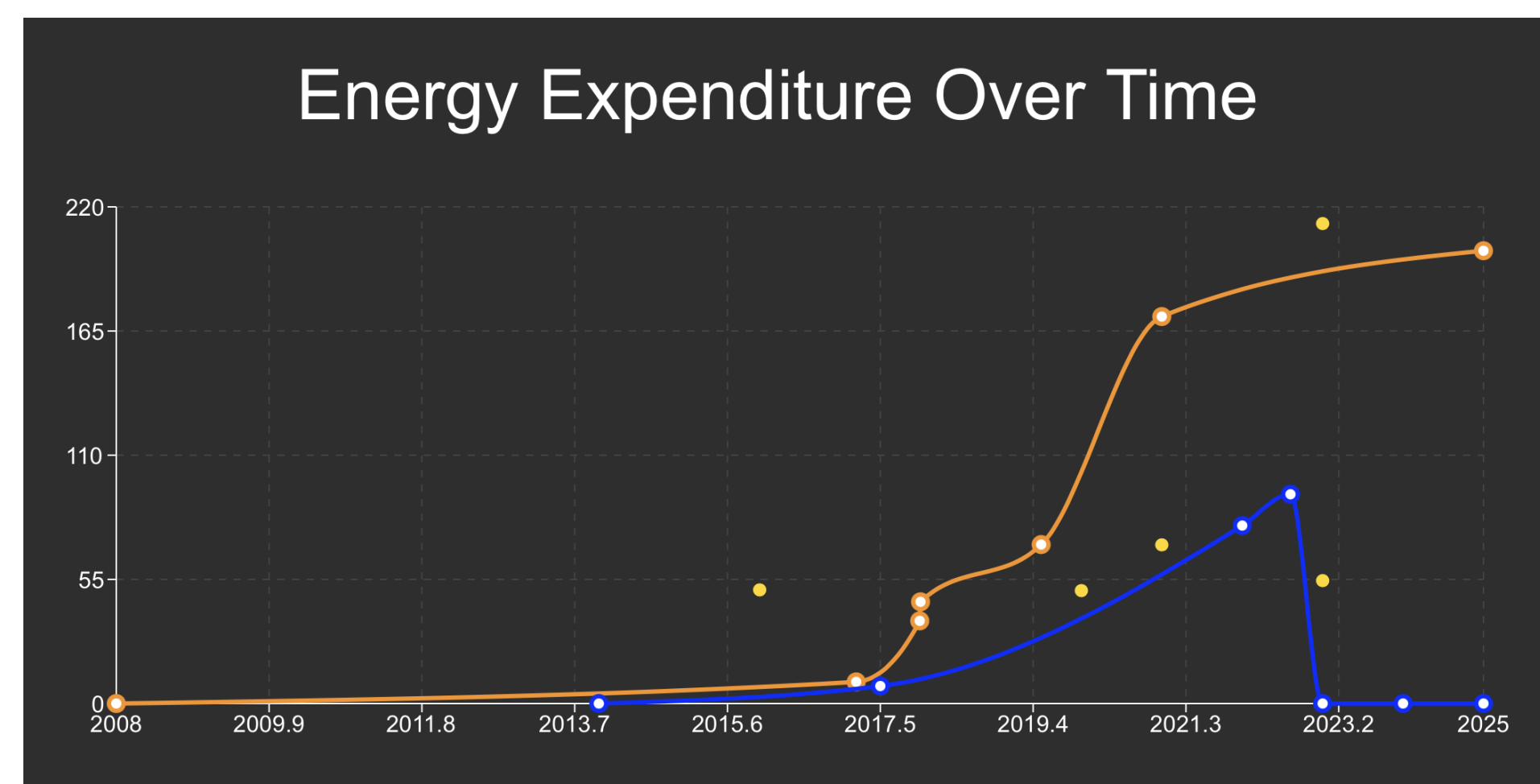
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### Platform Features

#### 1. Transaction List

Ethereum					
Latest Transactions					
Search for a wallet					
Sender	Receiver	Amount	Fee	Date (yyyy/mm/dd)	Time (UTC)
0xf4b51b14b9...	0x742d35cc6...	1.0	0.002079	2018-04-29	00:28:17
0x742d35cc6...	0xd26114cd6e...	0.0	0.005157306	2018-04-29	00:43:03
0x742d35cc6...	0x876eabf441...	0.5	0.002079	2018-04-29	00:57:49
0x742d35cc6...	0xf230b790e0...	0.0	0.003672009	2018-04-30	19:52:21
0x742d35cc6...	0xcbeaec699...	0.0	0.008752194	2018-05-01	07:25:57
0x742d35cc6...	0xf7920b0768...	0.0	0.009769419	2018-05-01	07:26:58
0x742d35cc6...	0xbf2179859f...	0.0	0.003720024	2018-05-01	07:30:39
0x876eabf441...	0x742d35cc6...	2252.43418	0.00063012	2018-05-01	16:12:59
0x876eabf441...	0x742d35cc6...	2282.78534	0.00063012	2018-05-01	16:22:38
0x876eabf441...	0x742d35cc6...	2291.29998	0.00063012	2018-05-01	16:23:05

#### 2. Energy Expenditure Graph



The orange line represents Bitcoin, the blue line represents Ethereum, and the yellow points represent different countries. The y-axis is in TWh.

#### 3. Environmental Impact Metrics

Bitcoin		
Ethereum		
...		
Carbon Footprint	Electrical Energy	Electronic Waste
111.76 Mt CO2	200.38 TWh	25.48 kt
Comparable to the carbon footprint of Czech Republic.	Comparable to the power consumption of Thailand.	Comparable to the small IT equipment waste of the Netherlands.

### Conclusion

Developing Blockchain Visualiser (BV) was an opportunity not only to test and improve web development skills, but also better understand how blockchains impact the environment and how they can be used to commit fraud.

BV's goal is to be part of the solution for these problems by improving the general public's access and understanding of blockchain data.