

Bilal Eddinaoui

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EDUCATION

1337 Coding School

Computer Science

Khouribga, Morocco

PROJECTS

[commodore 64 emulator](#) - Emulator of the Commodore 64 home computer (C64) - C

- Implemented complete CPU emulation, memory management, hardware timing simulation.
- Developed a debugger which lets you view the contents of RAM, VIC-II registers, CIA 1 and 2 registers
- Ported into the web using WebAssembly: [commdore 64 emu web](#)

[port scanner](#) - Ports scanning tool - C

- Support the SYN, ACK, FIN, NULL, XMAS, and UDP scans
- Able to identify services by comparing ports and transport protocols to the NMAP services-database
- Provided a set of options to Customize scan behavior like specifying custom TCP flags combinations

[traceroute](#) - Network traceroute utility - C

- Developed a network diagnostic tool to trace the route packets take to reach a specified destination.

[ping](#) - Network ping utility - C

- Developed a network diagnostic tool to test network connectivity by sending ICMP echo requests.

[WebServ](#) - HTTP/1.1 web server - C++

- Capable of handling GET, POST and DELETE requests using an event-driven architecture with Kqueue.
- Static file serving and dynamic content generation using CGI with support of (php, py, js, pl, sh) file extensions.
- Support for cookies and session management with two dynamic applications in C++ and Python as examples.

[MiniShell](#) - Unix Shell - C

- Provided basic shell features such as command execution, piping and redirection.

[6502 cpu emulator](#) - Emulator of the MOS 6502 8-bit CPU - C

- Fully supports all 151 instructions, 13 addressing modes, and cycle accuracy.
- Added visualisation using the Ncurses library, allowing for real-time observation of the CPU behavior.

[ft_transcendence](#) - Online Multiplayer Gaming Platform - TypeScript, Python

- Capable of running multiple games between different users concurrently using Django.
- Offers Complete Users management system with three different authentication methods.
- All run on top of docker using multiple containers for each service.

[trading-client](#) - High-Performance Trading System - C++

- Built a real-time order execution and management system for crypto trading.
- Implemented WebSocket-based market data streaming.
- Used the Deribit API to retrieve market data and execute trades.

SKILLS & INTERESTS

- **Skills:** Software Development, C, C++, DevOps, Docker, Full Stack Web Development, JavaScript, Python, Django, Version Control (Git), Object Oriented Programming, Network & system administration