Ayoub Ben Hamou

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Education

•Mohammed VI Polytechnic University – 1337 School | Digital Technology Architect Since 2021

- Unix, System Programming and advanced C / C++
- Data Structures & Algorithms
- Network System Administration
- Graphics, DevOps

•Ibn Tofaïl University | Bachelor degree in Mathematics and Computer Science 2018-2021

- Linear algebra, Numerical analysis, Advanced calculus, and Operational research
- C/C++, Java, SQL, UML
- Basics of system programming, Multiprocessing programming
- Web, Javascript, Networking

•Baccalaureate Science Math A 2018

- Math, Physics

Projects

•Ft_Transcendence

- A web application that enable real-time multiplayer PingPong matches in two modes 3D and 2D with the ability that allow communication between players through an integrated chat.
- Technologies and tools : TypeScript, React, and Tailwind CSS on the front end, and NestJS on the back end, Socket.IO for real-time interactions and PostgreSQL for data storage.
- This collaborative project fosters effective teamwork, making it possible to divide work, communicate, and discuss multiple solutions for a robust and enjoyable PingPong gaming platform.

•Container

- This project is truly remarkable as it delves into numerous challenges of the C++ language, providing you with an exceptional opportunity to explore it in-depth, by reimplementing vector, map, set, stack containers from scratch, this project successfully recreates nearly all of the functionalities found in the C++98 STL counterparts.

•Inception

- This DevOps project involves the creation and configuration of multiple containers using a stable Debian operating system as the base image.
- Delving into the world of Docker, Docker network management, and Docker volumes.

•Cub3d

- 3D game draws inspiration from the iconic first-person shooter game, Wolfenstein 3D. It introduces the concept of raycasting in computer graphics and strives to implement it using mathematical knowledge, including vectors and matrices.
- Entirely coded in the C language and utilizes MiniLibX as a compact basic graphics library.

•Philosophers

- The Dining Philosophers Problem is an illustrative example of a common computing problem in concurrency.
- Solving this problem by tow methodologies firstly, utilizing threads, and secondly, employing processes.
- It has many concepts : Multiprocessing, Multithreading, Threads, Processes, Concurrency, Atomic operations, Interleavings, Parallelism, Semaphores, Mutexes, Race conditions, Data races.

•WebServer

- Implementing an HTTP/1.1 WebServer from scratch using c++.
- Engaging with the intricacies of low-level network programming.

Skills and Interests

Programming languages: C, C++, Python, Typescript, Javascript, Kotlin, Java, Bash, SQL, PL/SQL, PHP
Tools, software & frameworks: Numpy, Pandas, matplotlib, PyTorch, Git, Docker, PostgreSQL, MongoDB, NodeJs, NestJs, React, Tailwind
Soft Skills: Positivity, Problem-solving, Teamwork, Adaptability, Time management
Spoken languages: Arabic (Native), English (Professional working proficiency), French (Limited working proficiency)