Abdelrahman Amro Zakzouk

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EDUCATION

German University in Cairo — Cairo, Egypt
Bachelor of Computer science and Engineering — *Oct. 2021 – July 2026*

Green Hills international school — Jeddah, Saudi Arabia
American diploma — *Aug. 2018 – June 2021*

PROJECTS

CariGo: Trip Planner Website | *React, Node.js, MongoDB, Express.js, Postman, Git* — *October 2024 – December 2024*

- Developed a full-stack trip planner website using the MERN stack to provide an interactive platform for tourists.
- Designed an intuitive user interface using React to enable users to easily plan, manage, and book their trips.
- Implemented user authentication with JWT (JSON Web Tokens) for secure access and management of personalized trip plans.
- Developed API endpoints for itinerary management, user preferences, and booking statuses with Node.js and Express.js.
- Integrated a third-party currency conversion API for users to view trip prices in their selected currency.
- Used 'nodemailer' for email notifications to keep users informed of their booking statuses, trip updates, and new offers.
- Created dynamic, interactive trip planners for users to select activities, transportation options, and hotels based on their preference.
- Employed Postman for testing and debugging APIs to ensure robust and seamless backend functionality.

Operating System Round Robin Scheduler | *C, Concurrency Control, System Simulation* — *April 2024 – May 2024*

- Developed a simulated OS focusing on process scheduling and resource management.
- Implemented a Round Robin scheduler and created mutexes for critical resources.
- Designed Process Control Blocks (PCBs) and built an interpreter for program execution.
- Managed memory allocation to ensure fair process execution and robust concurrency control.

Front-End Web Application for a Charitable Organization | *HTML, React, CSS, Git* — *March 2024 – May 2024*

- Developed a user-friendly front-end interface to facilitate efficient interactions.
- Enabled donors to view charity requests, select donation items, and schedule pickup times.
- Designed features for organization representatives to post new donation requests and manage existing ones.
- Implemented an admin panel for managing user accounts, verifying organizations, and tracking donation activity.
- Focused on front-end development, while some backend features were non-functional.

Database Engine | *Java, Serialization, B+ Trees* — *March 2024 – May 2024*

- Implemented table storage using serialized binary files and integrated B+ tree indices for optimized data retrieval.
- Developed features for creating, inserting, updating, and deleting records.
- Managed table schemas and data types through a metadata file.
- Implemented exception handling through a custom 'DBAppException' to maintain schema integrity.
- Optimized disk storage using on-demand page loading, ensuring efficient memory usage.

Database System for Advising Students | *SQL Server, ASP.NET, Database Design* — *September 2023 – January 2024*

- Designed a relational database schema for an educational institution's advising system.
- Implemented stored procedures, views, and triggers to support real-time business logic and data consistency.
- Developed features for dynamic course scheduling, graduation plan creation, and payment tracking.
- Built a web application with ASP.NET, enabling real-time data retrieval from an SQL Server database.

The Last of Us: Legacy | *Java, JavaFX* — *February 2023 – July 2023*

- Developed a single-player, turn-based survival game set in a zombie apocalypse.
- Implemented unique hero abilities such as healing, attacking, and curing zombies, with cured zombies becoming allies.
- Added game elements like traps, vaccines, and supplies, which influence the player's survival and strategy.
- Designed a 15x15 grid map with fog-of-war mechanics for visibility where heroes can only reveal and interact with adjacent cells.

TECHNICAL SKILLS

Back End: Java, NodeJS, JavaScript, Express, Basic Python, Basic C/C++
Front End: React, HTML, Css, Basic Asp.net
DataBase Management System: MySQL, Mongoose
Developer Tools: Git, VS Code, Postman, Visual Studio, IntelliJ, Eclipse
Languages: Arabic (Native), English (fluent), German (Basic)