Meshwil Dias

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Education

University of Kent Canterbury, Kent
First Class Honours in BSc Computer Science *Sep 2021 - July 2024*

St. Gregory's Catholic Science College Harrow, Greater London
A-Levels in Business Studies*(B)*, Computer Science*(B)* & Psychology*(B)* *Sep 2018 - Apr 2021*

Personal Projects

Passlock | Typescript, React, Node, Electron, CSS, Docker, MySQL, Prisma
- Developing a team-oriented full-stack **password managing web application** that involves using an encrypted **REST API**, with **React** handling the frontend presented as an app through **Electron**.
- Implemented the back-end using **Docker** along with **MySQL** and **Prisma** containers running on a custom port that serves data to the Frontend.
- Master(i.e. Client) passwords are hashed using the **SHA256** hashing algorithm along with **AES256** encryption/decryption for saving/displaying the users' passwords. This is established in the front-end.
- Testing methods such as **unit**, **acceptance** & **integration** tests were used.

AirAware | C/C++, Arduino, HTML/CSS, Firebase, Twilio, ChartJS, JavaScript
- Developed a air-monitoring system which used a PM2.5 (Dust) & DHT11 (Humidity & Temperature) sensors that informed users through the **Twilio** client through SMS whenever user-set thresholds were breached.
- Utilised the **Firebase realtime** database which fed live data to the webpage that updated itself in **15** second intervals for accurate telemetry.
- Implemented the sensor data GUI through **ChartJS**.

Shopping Website | HTML & CSS, JS (NodeJS) & Express, EJS, MongoDB & Mongoose
- Built a robust and scalable website by using **Express** for routing, middleware management, and handling **HTTP requests**.
- Implemented server-side logic using **Node** to manage product listings, user authentication, shopping cart functionality, order processing and database interactions.
- Used the **Mongo** DBMS which was served using a ODM tool i.e. **Mongoose**.

Hospital Management System | Java, MySQL
- Collaborated in a 4 member team to engineer bespoke software for Doctor-Receptionist co-ordination using the **SCRUMS** management approach.
- Designed the **MySQL DBMS** which ran on a **Linux** server.
- Extensive focus on **regression** and **integration** testing using **JUnit**.
- Regular **sprints**, retrospectives, & task estimation.

Custom Language Compiler | C++, Bash
- Engineered a **tokeniser-parser** to identify diverse datatypes and assess syntax validity of a language known as DOPL.
- Designed an **O(n)** time-complexity **lexical analysis** algorithm and created a comprehensive testing suite with **10+ meticulous tests** for precise compilation validation triggered by a simple **bash** script.

Chess | Python, PyGame
- Implemented using the **PyGame** library to research AI algorithms i.e. **Minimax**.
- Game modes included single-player (computer) & multiplayer (play with friends).
- Designed the game using the **OOP** design which used a modular structure.

Technical Skills

Languages & DBs	C++, Python, Java, Javascript, HTML/CSS, MySQL, MongoDB
Frameworks	Node, React, Bootstrap, Express, Sequelise, Mongoose
Other Technologies	Docker, CI & CD Pipelines (GitHub Actions), LaTeX, Neovim