MAVERICK CHIN YU HENG

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EDUCATION

NANYANG POLYTECHNIC   Apr 2023 – present
Diploma in Electronic & Computer Engineering   **GPA 3.99**
     NYP-SICK Product Center Asia Scholarship
     Awarded Director's List Y1S1-Y2S2 (up to present)
     Relevant Coursework: Microcontroller Applications, Electronic Systems Design, Connected Systems Design

CATHOLIC HIGH SCHOOL (SECONDARY)   Jan 2018 - Oct 2021
GCE O-Level   **L1R5 7, L1R4 5**

EXPERIENCE

WORLDSKILLS SINGAPORE (ELECTRONICS)   Mar 2024 – Apr 2025
Trainee & Competitor
Software used: STM32Cube Development Tools, Autodesk Fusion 360 Electronic Design, LTSpice

Embedded Systems Programming
- Gained hands-on experience with STM32 MCUs.
- Analysed component datasheets to integrate them appropriately.
- Utilised and studied common interface standards: SPI, I2C, USB
- Proficient in using common MCU features and peripherals:
  GPIO, NVIC/EXTI, RCC, DMA, Low Power modes, ADC, COMP, DAC, TIM/LPTIM, PWM

Hardware Design Prototyping
- Designed analogue and digital circuits involving ICs and microcontrollers, simulating them to prevent errors.
- Schematic capture; PCB routing; 3D PCB visualisation.

Fault Finding and Repair
- Diagnosed faults in analogue and digital circuits using multimeters and oscilloscopes, performing rework.

POLYTECHNIC PROJECTS

AUTOMATED RENTAL MUSIC ROOM SYSTEM (Connected Systems Design Project)   Jun 2024 – Jul 2024
Project Lead, Group of 4
- **Objective:** Designed an automated system for managing rental music rooms using IoT and full-stack web technologies, aimed at reducing operational costs and enhancing service quality for users.
- Programmed BeagleBone Black Wireless boards together with Mikroe Click boards to manage access, monitor room conditions, and interface with the backend Flask server via Socket.IO.
- Designed and implemented a RESTful backend including SQLAlchemy (SQLite) to streamline integration, support scalability, and follow standard development practices.
- Developed a modern web interface using Next.js and Mantine, enabling dynamic room booking and admin monitoring.

SKILLS

Technical Skills:
- **Embedded C:** Usage of HAL libraries to program microcontrollers.
- **Full-Stack Development:** Utilising front-end (Next.js) and back-end (SQL, Flask) web technologies.
- **PCB Design**: Familiar with designing and prototyping PCBs using Autodesk Fusion 360 Electronics Design and KiCad.