GLOSSARY

Words	Definition
URL (Uniform Resource Locator)	Web Address that used to locate and access resources on the internet.
3D (Three Dimensional)	Refers to object that have width, height, and depth.
API (Application Programming Interface)	A set of rules and protocols which allows different application to interact and communicate with each other's
GPIO (General-Purpose Input/Output)	Pins on the mini computer or electronic device that can be programmed to either receive or send signals.
LAN (Local Area Network)	LANs are used to connect devices within a limited area, facilitating local communication and resource sharing.
PCB (Printed Circuit Board)	It is a flat board that holds electronic components. It has pathways made of copper printed on it, which help connect the components and allow them to work together.
AC (Alternating Current)	Electric current that periodically changes directions
LED (Light-Emitting Diode)	Semiconductor device that emits light when an current passed through it.
JSON (JavaScript Object Notation)	Lightweight data interchange format that easy to parse and generate. JSON often used to transmit data between server and web application.
IoT (Internet of Things)	a network of interconnected devices that can collect and exchange data over the internet, enabling automation and communication between physical objects.

REFERENCES

Andrey, Suliyev, R. & Zhaparov, M., 2013. *Python to learn programming,* s.l.: s.n.

Anon., n.d. *Guide for Relay Module with Arduino.* [Online]

Available at: https://randomnerdtutorials.com/guide-for-relay-module-with-arduino/

[Accessed 8 June 2023].

Anon., n.d. *KHS-BL Peristaltic Pump.* [Online]

Available at: https://www.kamoer.com/khs-bl.html

[Accessed 13 June 2023].

Driscoll, M., 2020. *PySimpleGUI: The Simple Way to Create a GUI With Python.* [Online]

Available at: https://realpython.com/pysimplegui-python/

[Accessed 7 June 2023].

Fulbert, A., 2021. *DESIGN AND IMPLEMENTATION OF SMART LAUNDRY FACILITY: ,*
Tangerang: Swiss German University.

Ghael, H., 2020. *A Review Paper on Raspberry Pi and its Applications,* s.l.: s.n.

J, K. & D, A., 2016. *Making Washing Machines Smart through IoT,* s.l.: IJMTES |
International Journal of Modern Trends in Engineering and Science.

Kodali, R. K., Boppana, L. & Soratkal, S., 2016. *IOT based control of Appliances,* Warangal:
International Conference on Computing, Communication and Automation.

Michal, 2022. *PC817 High-Speed Optocoupler Working and Characteristics Explained.*
[Online]

Available at: https://electric-shocks.com/high-speed-optocoupler-working/

[Accessed 8 june 2023].

Qiao, Y., Zhang, C., Li, R. & Liu, Z., 2019. *A Wireless Intelligent Business Laundry Service
System,* Chengdu: Scientific Research Publishing.

Sasmita, M. H. H. & Afrianto, I., 2019. *PROTOTYPE OF NON CASH TRANSACTION,*
Bandung: s.n.

Srinath, K. R., 2017. *Python – The Fastest Growing Programming Language,* s.l.:
International Research Journal of Engineering and Technology (IRJET).

CURRICULUM VITAE

MARSHALL ALFORD SEBASTIAN DARMANTO

MECHATRONICS ENGINEER

PROFILE

An innovative mechatronics engineer with expertise in integrating mechanical, electrical, and software systems. Enjoys working in a team and embraces opportunities to learn new skills. A proactive problem-solver who strives for excellence and keeps up-to-date with the latest developments in the field.

CONTACT

- 085155349085
- marshallalford78@gmail.com
- https://www.linkedin.com/in/marshall-alford-4aa5181b4/
- Pacific Garden Apartment Alam Sutera

GENERAL SKILLS

Leadership

Problem-solving

Communication

Analytical thinking

Teamwork

TECHNICAL SKILLS

Python, C++, SQlite

Arduino

PCB Design (Proteus)

3D Modelling (Fusion 360, Rhino 3D, Solidworks)

Basic Machining skills

Photography

Photoshop, Lightroom, Premiere pro

LANGUAGES

English

German

EDUCATION

Bachelor Degree (S.T.)
Swiss German University
2019-2023

Bachelor Degree(B.Eng)
Fachhochschule Südwestfalen
2022

THESIS PROJECT

Swiss German University

Self service kiosk for Commercial Laundry

- The thesis project aimed to automate a traditional laundry service into a smart and fully automated system to reduce labor costs.
- The project involved programming a Raspberry Pi using Python to control laundry machine activation and using SQlite3 for database storage.
- The integration of the Gopay payment gateway via Midtrans API allows customers to conveniently make payments for their transactions.

WORK EXPERIENCE

Electrical Engineering Intern   2022
Deutsche E-Bike Akkuservice

- As an Engineer specializing in Panasonic e-bike batteries, I participate in cell replacement and troubleshooting battery issues, especially resetting errors. I am the Panasonic expert in this company under the supervision of Roman as a Supervisor.

- Manage the database by inputting and updating data on newly received broken batteries. This approach prevents delays in the service process or issues that could arise from disorganized or overlapping data in the battery service database.

Engineer Intern
P.T.Trimukti Wirapratama   2021

- Participating in quality control of the final product to identify defective items. This has helped the company to maintain its good product quality and reduce the number of defective items that are sold. As a result, the company has saved money and improved its reputation.

- My ability to use Rhino 3D software to model sandal or shoe sole moldings and manufacture them using CNC machines has allowed me to contribute to the company's product development process. I have been able to create prototypes of new sandal or shoe sole moldings that meet the company's specifications. This has helped the company to bring new products to market more quickly and efficiently.