



## Cover page

Project title: Smart Vending Machine

Academic Year: 2022/2023

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Department Name: Computer Engineering

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**Project Type** Hardware

Supervisor Name: Dr. Hanal Abu-Zant

### Format:

- Single space, Times New Roman.
- 12 pt,
- Maximum 1 page.

### Abstract Body:

#### Items must be provided in the Abstract:

- Why do you think this project is important? Please explain the significance of this Project in brief.
- In your point of view what are the important aspects that should be covered in the project?
- Objective(s): In your view, please explain the main objectives of the project.
- Methodology: Give a brief outline of the application development process.
- Had this project been done before? Are there any similar applications available today?
- **Note:** Please deliver this abstract early to ensure that your Project has been approved by the department's projects committee. **Registration will not be done without this approval.**



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## Project's Abstract:

The objective of this hardware is to design and develop a smart vending machine that incorporates advanced features for product dispensing, security, and monitoring. The vending machine is equipped with various components, such as sensors for temperature and humidity to ensure the optimal condition of the products, proximity sensors to determine if a slot package is present or empty, door/lock sensors to detect if the cabinet is open or closed. The control of the vending machine is facilitated through mobile application or a website, providing users with convenient access to the machine's functionalities.

The smart vending machine consists of multiple slots to accommodate different products, making it versatile and suitable for various retail environments. Each slot is equipped with a motor system, enabling product selection, and two big motors for x-axis/y-axis movement for delivery. Additionally, the machine is designed with a fingerprint sensor for enhanced security and a PIN code system to grant authorized access to users.

User can provide the mobile application or website with a list of the products needed in order to deliver them, user can also browse available products, check their prices, and make selections through the intuitive interface.

Overall, the smart vending machine presented in this project serves as a practical and efficient solution for automated product dispensing. The integration of sensors, control mechanisms, and security features ensures product quality, customer satisfaction, and a seamless user experience. The project demonstrates the potential for advanced technology to revolutionize traditional vending machine systems and offers opportunities for further research and development in the field of smart retail solutions.