



جامعة النجاح الوطنية

An-Najah National University

كلية الهندسة | Faculty of Engineering

وحدة الجودة والاعتماد - مركز ABET

Quality and Accreditation Unit - ABET Center



Cover page

Project Title: GloviX

Academic Year: 2025

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Department Name: Computer Engineering

Maha Ahmed Samara

Supervisor Name: Anas Toma

Project Type: Hardware

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.**



Project's Abstract:

The **GloviX** project aims to develop an intelligent and fully automated system for wearing medical gloves, with complete disinfection before use, through electronic control. This project responds to the urgent need to reduce infection transmission and enhance hygiene standards in sensitive work environments such as hospitals, laboratories, food factories, and precision industrial sectors, where gloves are the first line of defense against contamination.

GloviX stands out with its unique design that integrates hand disinfection, drying, and glove-wearing processes into a single automated system, minimizing manual contact and ensuring the highest level of hygiene and efficiency. This integration makes **GloviX** an innovative solution that has not been fully realized in existing systems, highlighting its significance and uniqueness in the field of health safety.

Main Objectives:

- Design and build a fully automated system for wearing gloves with complete hand disinfection and drying before use.
- Enhance hygiene and reduce the spread of germs in sensitive work environments.
- Provide a practical and innovative solution applicable in medical, laboratory, industrial, and food-related sectors.

Methodology:

The implementation of **GloviX** follows a structured development process:

1. Electronic and mechanical design of the device, utilizing the Arduino platform as the core intelligent controller.
2. Programming the system to precisely control sensors, pneumatic pumps, and motors.
3. Manufacturing and assembling a physical prototype to test system effectiveness.
4. Evaluating and refining the system to ensure maximum safety, efficiency, and hygiene.

Although there have been attempts and concepts for automated glove-wearing systems, there is currently no practical and widely used solution available. **GloviX** stands out by integrating full disinfection, wearing, and removal into a single intelligent system, offering a truly unique and comprehensive solution.