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| **OPERATING INSTRUCTIONS**   * **1. Press the PUSH START BUTTON first.** * **2. The STEPPER will return to the 0, 0, 0 position to find the limit switch.** * **3. Then see if the pilot lamp is off, which means the IR sensor has detected a shoebox at 0, 0, 0.** * **4. Then we can select the button on the BLYNK side or the barcode scanner side to scan the barcode.** * **5. The stepper motor will take the shoebox to the specified position.** * **6. If we want to take the shoebox off, we can control it on Blynk.** * **7. The stepper motor will go to the specified position and take the shoebox to 0, 0, 0.** |  | **Recommendations**   * **Advanced drivers**: use improved motor drivers for better performance. * **Camera integration**: add a camera for automatic compartment location. * **Upgraded motors**: implement high-quality stepper motors for reliability. * **Better rails**: utilize superior rails for smoother and quieter operation. * **Expanded capacity**: design for a larger grid to hold more shoes. * **Enhanced barcode scanner**: improve scanner accuracy for quicker identification. * **Voice control**: integrate voice control for hands-free operation. * **Commercial applications**: explore uses in smart homes and retail environments. |  | smart shoe rack  An Intelligent Storage Solution for Organized Footwear Management  **Name : Chong Kheng Chen**  **Matrik number : 03DET22F1043**  **Class : Det5C**  **Penyelia : Puan Habsah Bt Hussain** |

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| **INTRODUCTION** **Scan barcodes attached to shoes, making it easy to identify and manage individual pairs.****Send the scanned barcode data to a google sheets database for logging and tracking shoe usage.****Utilize Blynk, an IOT platform, to allow remote control of the system. Users can effortlessly select which shoe to retrieve through a mobile application.****The movement of the shoe rack is controlled by stepper motors that navigate in x, y, and z directions, ensuring the selected shoe is accurately retrieved and brought down to the user.****Problem statement****Traditional shoe cabinets have several limitations:****Limited storage capacity and inefficient space usage.****Difficulty in sorting and retrieving shoes, especially by style, size, or color.****Hygiene and safety concerns due to disorganized shoe placement, leading to potential falling hazards.****Manual stock management in stores is time-consuming and error-prone, often resulting in inventory ISSUES.** |  | **Problem statement****Traditional shoe cabinets have several limitations:****Limited storage capacity and inefficient space usage.****Difficulty in sorting and retrieving shoes, especially by style, size, or color.****Hygiene and safety concerns due to disorganized shoe placement, leading to potential falling hazards.****Manual stock management in stores is time-consuming and error-prone, often resulting in inventory ISSUES.** | **OBJECTIVES**  **Modular Design: Develop a customizable shoe storage system with a unified and expandable structure, allowing users to adjust modules based on space and needs.**  **User-Friendly Interface: Provide a mobile app Blynk that allows users to remote control and retrieve shoes from the storage system.**  **Automation: Automate the process of shoe storage and retrieval using a 3x3 grid system with 2 active compartments.**  **Barcode Integration: Implement a barcode scanner for efficient shoe identification and placement.**  **IoT Control: Utilize IoT technology via Blynk for remote operation, enhancing user convenience.** |