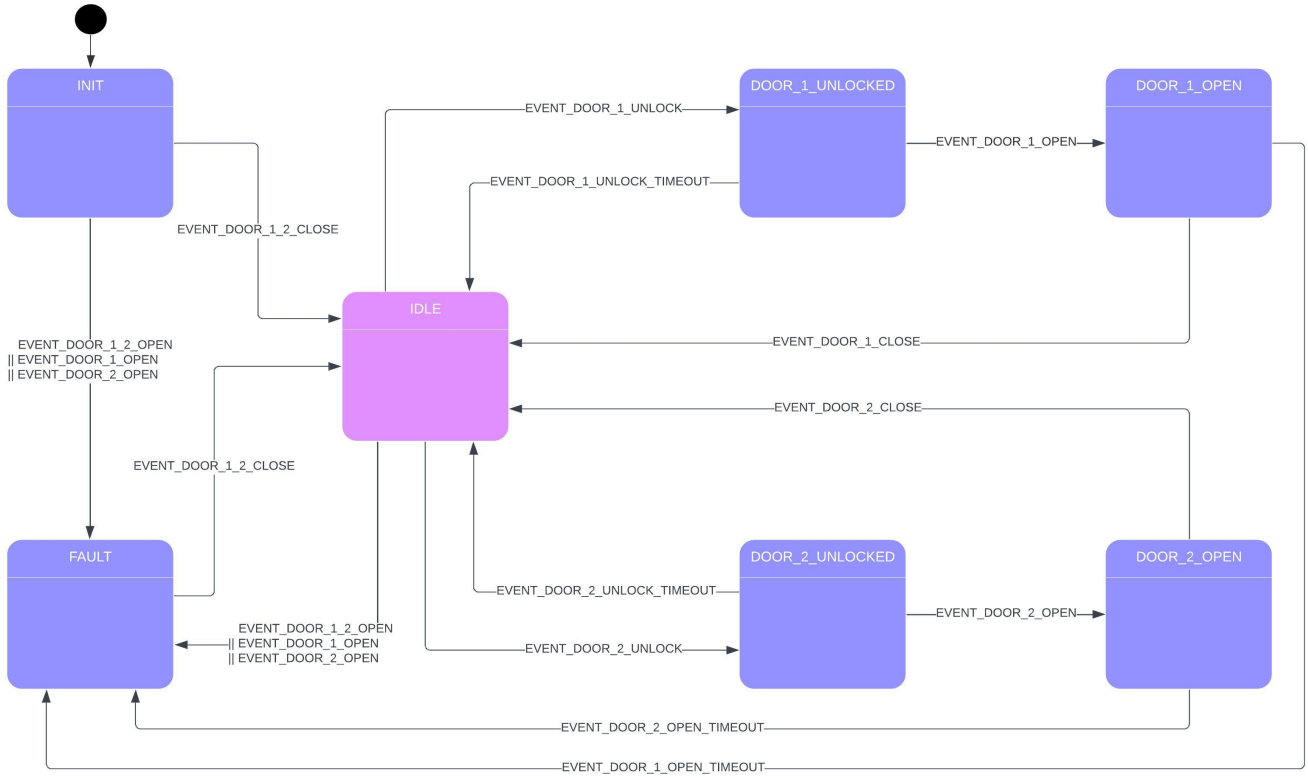
Metek Door Control

State Diagram



Command Line Interface (CLI) User Manual

This manual will guide you through installing the required software and using the command line interface (CLI) to control different features of the system. No prior knowledge of computers or IT is required.

Installation and Setup

Step 1: Install Arduino IDE

To operate the CLI, you'll need to install the **Arduino IDE**. This software allows you to communicate with the system using a **Serial Monitor**.

Follow these steps to install Arduino IDE:

1. **Download the Arduino IDE:**
    - Visit the official Arduino website and download the version for your operating system (Windows, macOS, or Linux).
2. **Install the Arduino IDE:**
    - Once the download is complete, follow the installation steps for your operating system:

- On **Windows**: Double-click the installer file (`.exe`) and follow the on-screen instructions.
- On **macOS**: Open the downloaded `.dmg` file and drag the Arduino icon to the Applications folder.
- On **Linux**: Extract the downloaded archive and follow the installation instructions provided on the Arduino website.

3. **Launch Arduino IDE:**
    - After installation, open the **Arduino IDE** by double-clicking the icon.

Step 2: Connect Your Device

1. **Connect Your Device to the Computer:**
    - Use a USB cable to connect your hardware (e.g., Arduino board) to your computer. The hardware is where the CLI will run.
2. **Select the Board:**
    - In the Arduino IDE, go to **Tools > Board** and select the correct board type (e.g., Arduino Uno, Nano, etc.).
3. **Select the Port:**
    - Go to **Tools > Port** and select the port to which your device is connected.

Step 3: Open the Serial Monitor

Once the Arduino IDE is set up, the **Serial Monitor** will allow you to interact with the CLI. Follow these steps to open it:

1. **Open the Serial Monitor:**
    - In the Arduino IDE, click on the **magnifying glass** icon in the top right or navigate to **Tools > Serial Monitor**.
2. **Set the Baud Rate:**
    - In the Serial Monitor, set the **baud rate** to the correct value. This is typically **115200** but check your system settings if unsure.
3. **Select "Newline" Option:**
    - In the Serial Monitor, set the dropdown option to **Newline** (this ensures that commands are sent correctly).
4. **Now you're ready to use the CLI!**
    - You can type commands into the Serial Monitor and see the system's responses.

Using the Command Line Interface (CLI)

The following commands are available. Simply type the command into the Serial Monitor and press **Enter** to execute it.

1. **info** — Get Software Information

Use this command to see information about the software.

- **Command:** `info`

Example:

```
info
```

2. **log** — Set Log Level

Use this command to set the "log level," which controls the amount of information recorded by the software. The log level can be set to a number between 0 and 6.

- **Command:** `log <level>`

Where `<level>` can be:

- 0: No logs
- 1: Error messages only
- 2: Warnings and errors
- 3: Informational messages, warnings, and errors
- 4-6: Increasingly detailed logs

Example:

```
log 3
```

3. **timer** — Set the Timer

This command allows you to set different timers that control how the software behaves in certain situations.

- **Command:** `timer -u <unlock timeout> -o <open timeout> -b <blink interval>`

Where:

- `<unlock timeout>` is the time (in seconds) before a door unlocks.
- `<open timeout>` is the time (in minutes) before a door stays open.
- `<blink interval>` is the time (in milliseconds) between LED blinks.

Example:

```
timer -u 5 -o 2 -b 500
```

4. **dbc** — Set Debounce Time

This command sets the "debounce" time for inputs (such as buttons). Debounce time ensures that accidental multiple presses are ignored.

- **Command:** `dbc -i <input index> -t <debounce time>`

Where:

- `<input index>` is the number of the input (from 0 to 3).
- `<debounce time>` is the time (in milliseconds) for which the input should be stable.

Example:

```
dbc -i 1 -t 100
```

5. **inputs** — Get Input State

This command shows the current state of all inputs (like buttons or switches).

- **Command:** `inputs`

Example:

```
inputs
```

6. **help** — Show Help

If you need to see all the available commands and what they do, use this command.

- **Command:** `help`

Example:

```
help
```

Common Errors

If you enter a command incorrectly, the system will display an error message. Double-check your spelling and make sure you include all the necessary arguments (e.g., numbers or letters that go with the command).