

Vending Machine Simulation Project Report

Project Overview

This project is a C++ simulation of a vending machine with **User** and **Admin** modes. It uses **SQLite** to manage items and financial transactions, demonstrating database integration and basic object-oriented programming concepts.

Key Features

User Mode

- **Select Item:** Users can pick an item by entering a unique code.
- **Payment:** Pay using denominations (100 THB, 20 THB, 10 THB, 5 THB, 1 THB).
- **Stock Management:** The stock is reduced by 1 after each purchase.
- **Out of Stock:** Displays "OUT OF STOCK" if an item is unavailable.
- **Stop Operation:** Stops if:
 - 50% or more of products are out of stock.
 - The change box is empty.
 - The coin collection box is full.

Admin Mode

- **Set Initial Stock:** Admin can set the initial stock for items.
- **Re-stock:** Admin can refill stock when needed.
- **Cash Management:** Admin can check and collect money from the collection and change boxes.

Installation

1. Clone the repository:

```
git clone https://github.com/SawZiDunn/vending-machine.git
```

2. Go to the project directory:

```
cd vending-machine
```

3. Install SQLite3 (if not already installed).
4. Compile and run the program:

```
$ g++ main.cpp -o vending_machine -lsqlite3
```

```
$ ./vending_machine
```