Modifying A Drink Vending Machine to Accept Virtual Money

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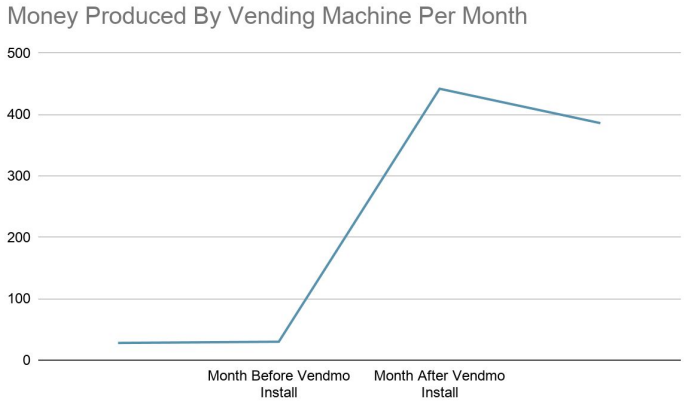
Why Make the Upgrade?

How will this upgrade make more money?

- Ease of access for customers, leading to an increase in profits who will buy more
- Less downtime, only required upkeep is the product, not change
- In just the first month of its implementation, the Vendmo increased vending revenue from approximately $30/mo to $442 for the month for our vending machine. An increase of 1473%



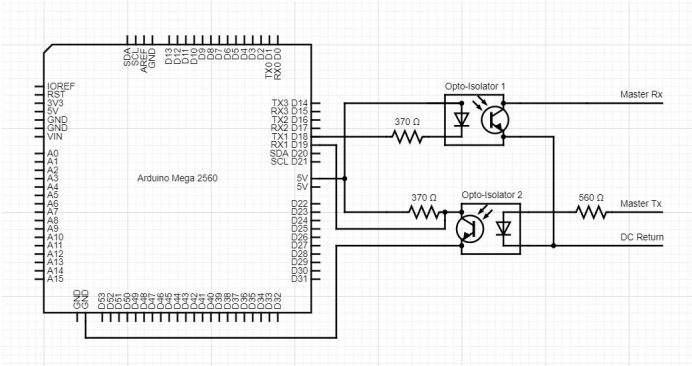
How will this upgrade make your life easier?

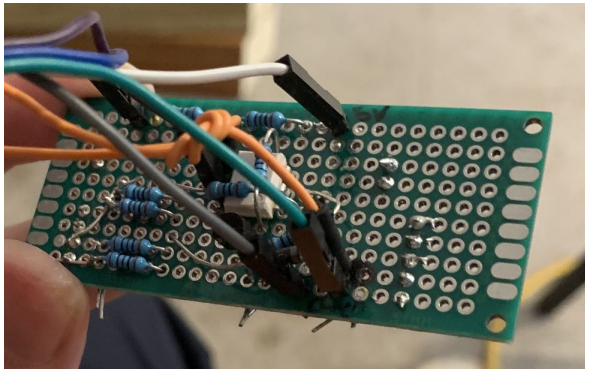
- Less banking, coins need to be replaced less often
- Eliminates the need for a method of coin dispensing
- Venmo allows instant money transfer, no delays (with small fee, 1-3 business days for free transfers)
- Quick to install and implement
- Does no permanent damage to the vending device

How Do I Upgrade?

Brief Overview of Hardware

In order to facilitate communication between the arduino and the vending machine a small hardware board called a “shield” needs to be created. This requires a minimum amount of soldering knowledge but can be made following instructions and diagrams within the users manual. Other than this, an arduino mega and an arduino mega ethernet shield are required for within the vending machine. Some sort of computer or host server is also required to run the email checking.



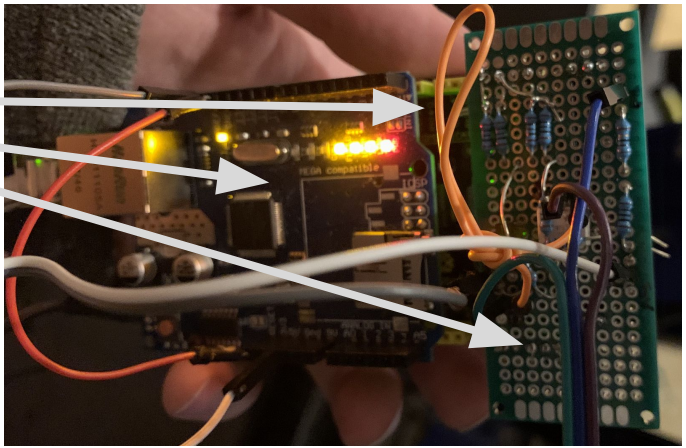


Required Items

One vending device which uses MDB as its primary communication for it's coin acceptor. This information can be found within the device manual for most devices.

Parts List:

- One Arduino Mega
- One Arduino Ethernet Shield
- One appropriately sized protoboard
- Two 370 Ohm resistors
- One 560 Ohm resistor
- Two Opto-Isolators
- Six connecting wires
- Fourteen pin pegs

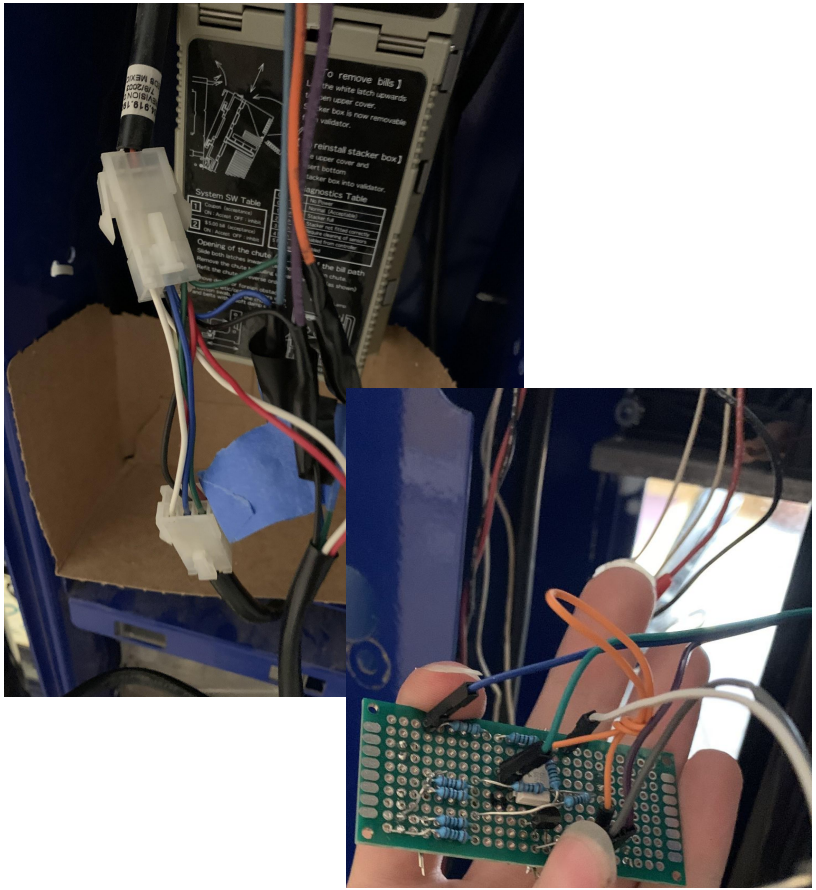


Required Infrastructure

- An additional server or host device is required to allow the reading of emails and to send that information to blynk and to the machine.
  - The device will need to run at all times
  - The device will require an internet connection
- An ethernet connection (or wifi connection if you purchase a wifi shield) for the arduino that can be routed inside the vending machine

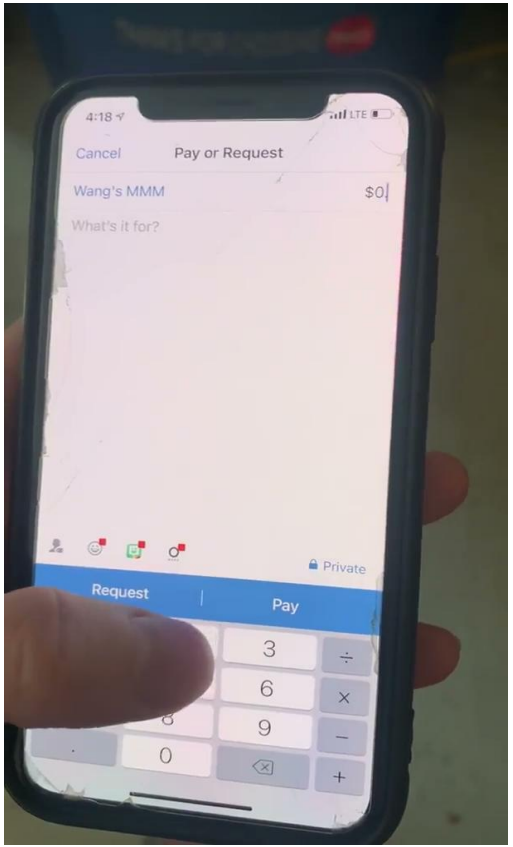
Installation Methods

As walked through in the user's guide, installation into the vending machine requires three wires to be split to allow a place for the arduino to communicate on the lines. This addition means that the arduino addition will have no impact on the regular use of the vending machine.



Example of a Correct Implementation

- Times can take between 2-8 seconds for a venmo to register
- Vending machine registers change as if it was inserted through the coin slot
- Ethernet cord should run into the vending machine from the outside



Further Information

A full walkthrough of the installation process as well as the code required to run the device can be found on the Vendmo GitHub page:

https://github.com/Payday02/Vendmo