

LAUNDRY ALERT DEVICE

What is it?

The LAD is a portable device that you attach to laundry machine after you put your laundry in and it will send you a text message once the washing cycle is completed.

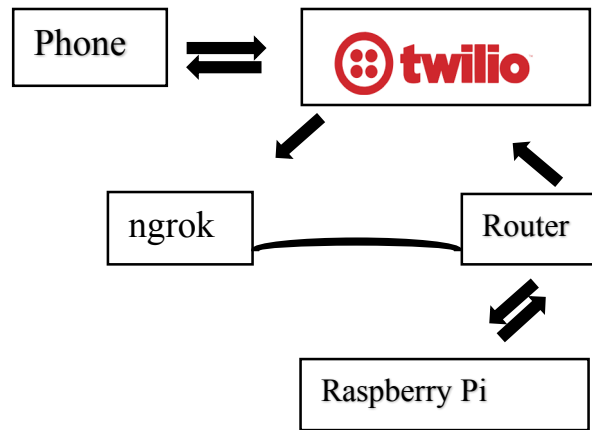
Why do you need it?

- User friendly
- Easily portable
- Reliable (It's fast and convenient in that all you need is your cellphone and network service)
- Affordable

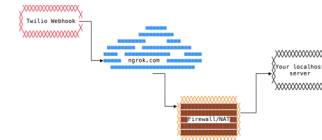
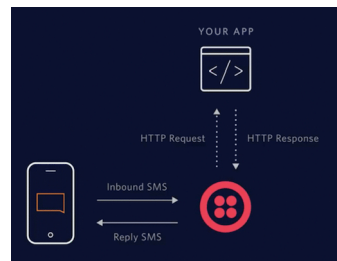
Budget: < \$50

Vibration sensors (5.90), Twilio (20), ngrok (8.25), AD converter (3.75), Magnets (~5), Battery (~5)

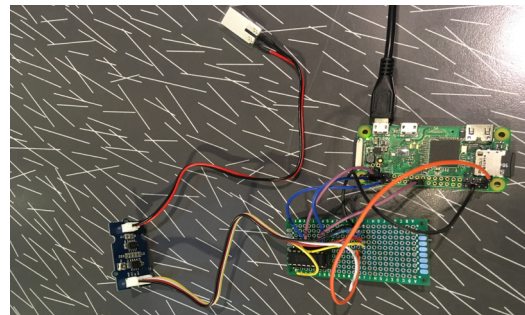
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Inside Twilio API



- ❖ We built a Flask app to receive messages.
- ❖ ngrok makes the app accessible over the internet.
- ❖ Twilio reaches to URL in our app for instructions.



How does it work?

- Input: User sends a text message to our Twilio number.
- Twilio API: Receives a command in form of a text message, then forwards it to the pi through ngrok.
- ngrok: exposes local servers behind NATs and firewalls to the public internet over secure tunnels.
- Raspberry Pi: constantly checks ngrok for a command because it cannot access Twilio directly then executes.
- Queue: waitlists up to 5 users on a first-come first-served basis.
- Vibration sensors: the washing cycle is done when sensitivity, which ranges from min 0 to max 1023, is 100 for longer than 40 seconds.
- Upon completion, the pi sends a message to the user using Twilio.

For more info, please visit: https://classes.engineering.wustl.edu/ece205/core/index.php?title=Laundry_Alert_Page