CS 103000
Prof. Madeline Blount

Week 10:
OBJECT-ORIENTED
PROGRAMMING! OOPs!

attendance link:
PAPER TODAY
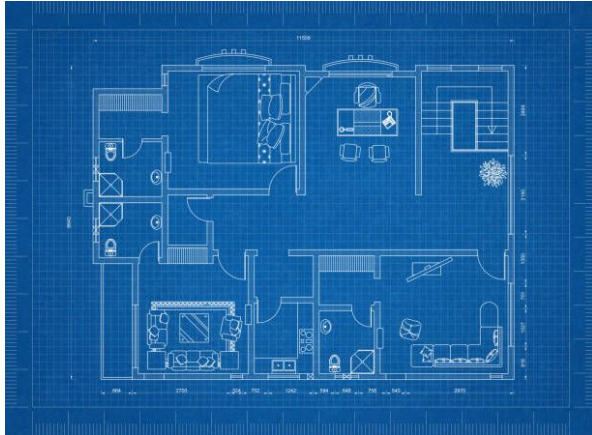

Dall-E 2: cats learning C++ in the forest on '90's technology

CLASS vs. OBJECT

- **Class is the blueprint; object is an INSTANCE of the class**

CLASS	OBJECT

blueprint

building

CLASS vs. OBJECT

- **Class is the blueprint; object is an INSTANCE of the class**

CLASS	OBJECT

cookie cutter

cookie

STRENGTH in COMMUNITY

Crown Heights Mutual Aid

Join a network of neighbors providing for one another

CROWN HEIGHTS MUTUAL AID is a network of neighbors supporting one another and the most vulnerable in our community in the face of this pandemic and the crises we face from climate change, state violence, and inequality. We all have something to offer and we all have something we need.

Join us at crownheightsmutualaid.com/slack or on Facebook at Crown Heights Mutual Aid

- Early March 2020

- Spontaneous, reaction; at the same time, there is a deep history of these movements

- Started both analog & digital: Slack, Facebook, posters

- "The real threat to Power is breaking their monopoly on creating" (Mutual Aid Disaster Relief, lessons learned)
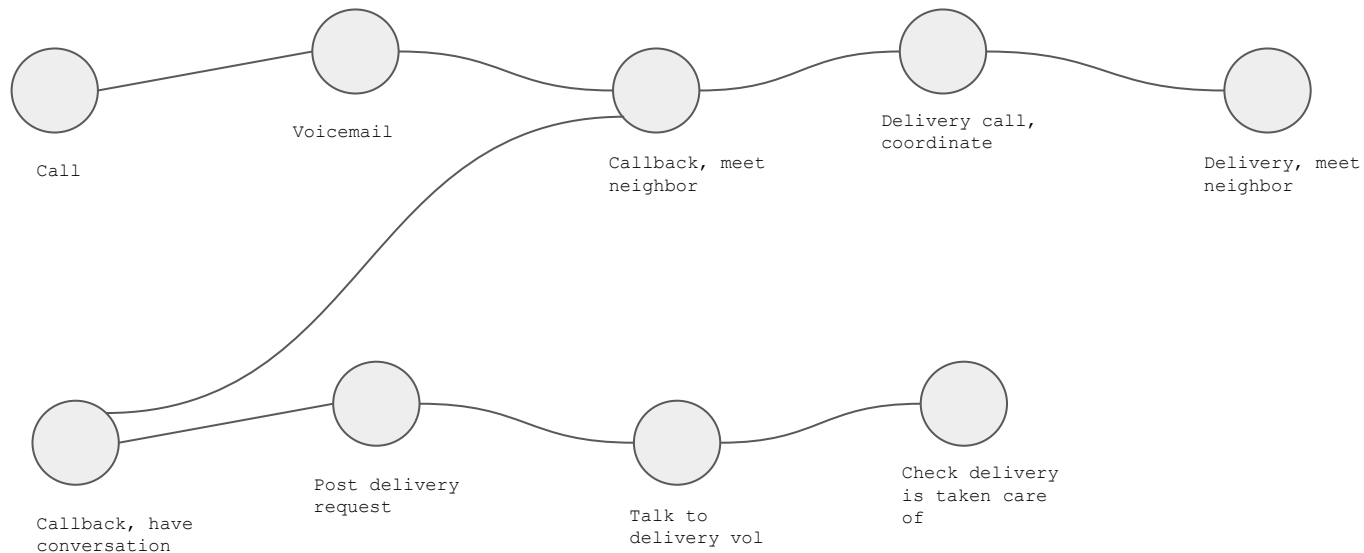
<u>What we had:</u>

- **Need** list (growing) - turning to new places, everything shut

- **Volunteer base** (growing) - time, interest: delivery, phone calls, donations

- **Technical** savvy, for some (Slack, Facebook, Twitter, etc. - so much time on these platforms)

- **Small team** of coders (3-20), larger group using system

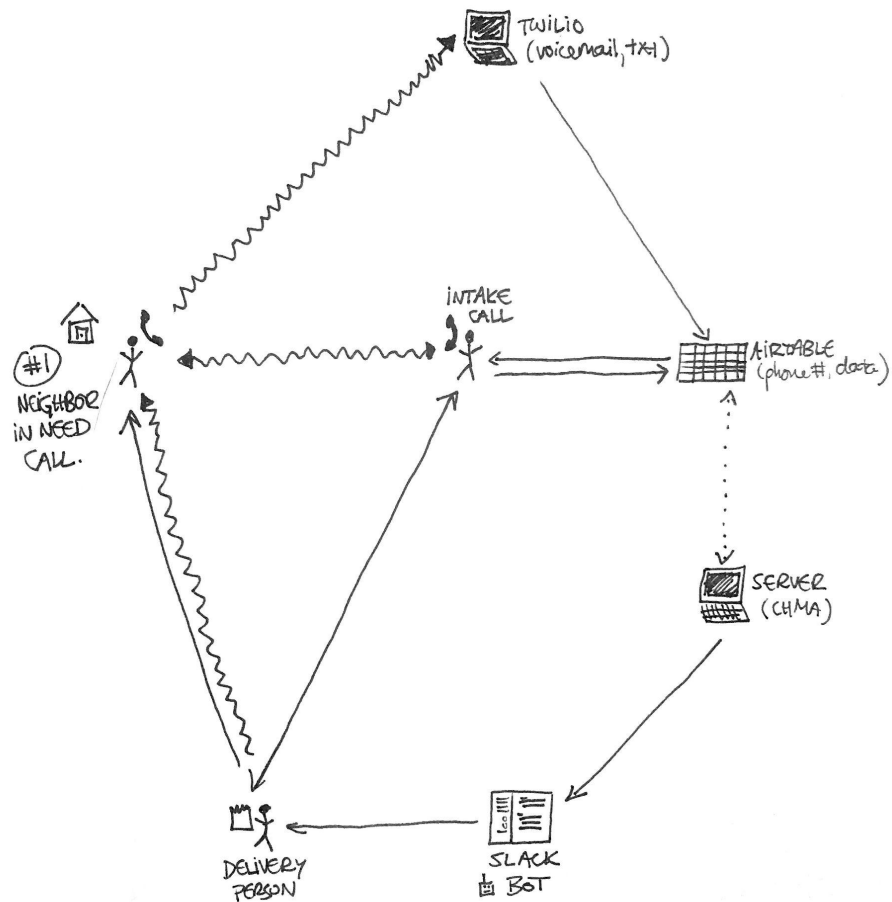- **Security minded**

<u>What we needed:</u>

- Way to **connect** local neighbors in need with local neighbors able to give
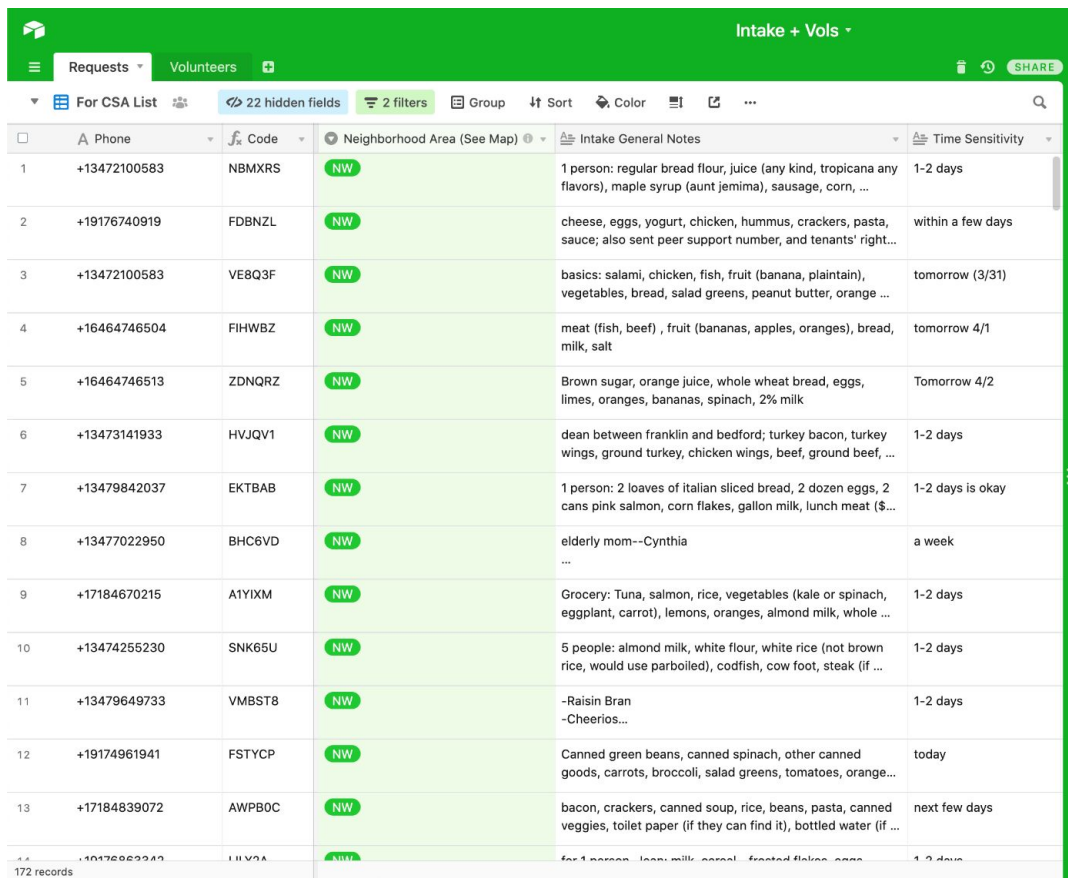
Systems/JOURNEYS: user/data

[Neighbor in Need]

Call

Voicemail

Callback, meet
neighbor

Delivery call,
coordinate

Delivery, meet
neighbor

Callback, have
conversation

Post delivery
request

Talk to
delivery vol

Check delivery
is taken care
of

[Intake Volunteer]

TWILIO
(voicemail, txt)

INTAKE
CALL

#1
NEIGHBOR
IN NEED
CALL.

AIRTABLE
(phone #, data)

SERVER
(CHMA)

DELIVERY
PERSON

SLACK
BOT

Step 2: database, intake

- "Intake" volunteer, uses the **relational** database (Airtable) like a call sheet; unique code generated

- First connection made: neighbor in need to neighbor on the phone (shifts, parties)

- Fills out fields that are empty from phone conversation

- **DATA SECURITY:** vulnerable; but only keeps first names, and cross street

- Volume …
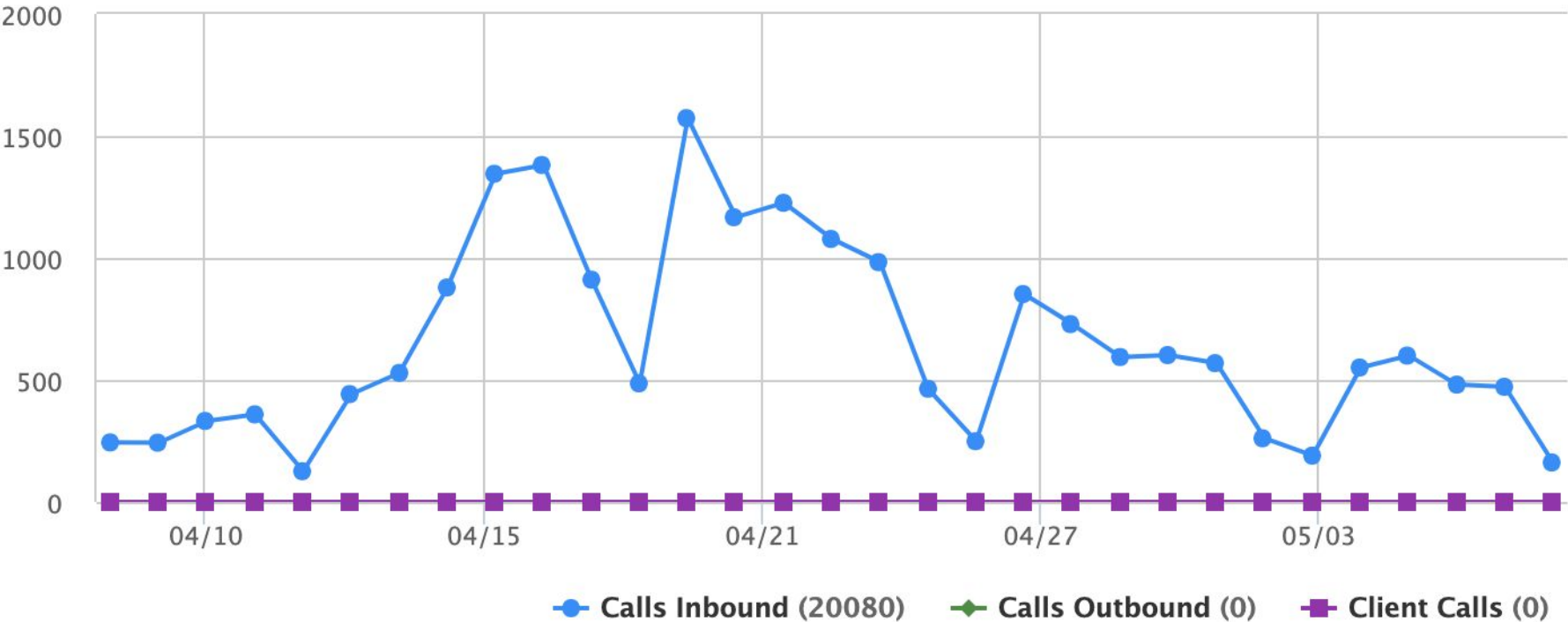
Version 2.0 delivery system: web map
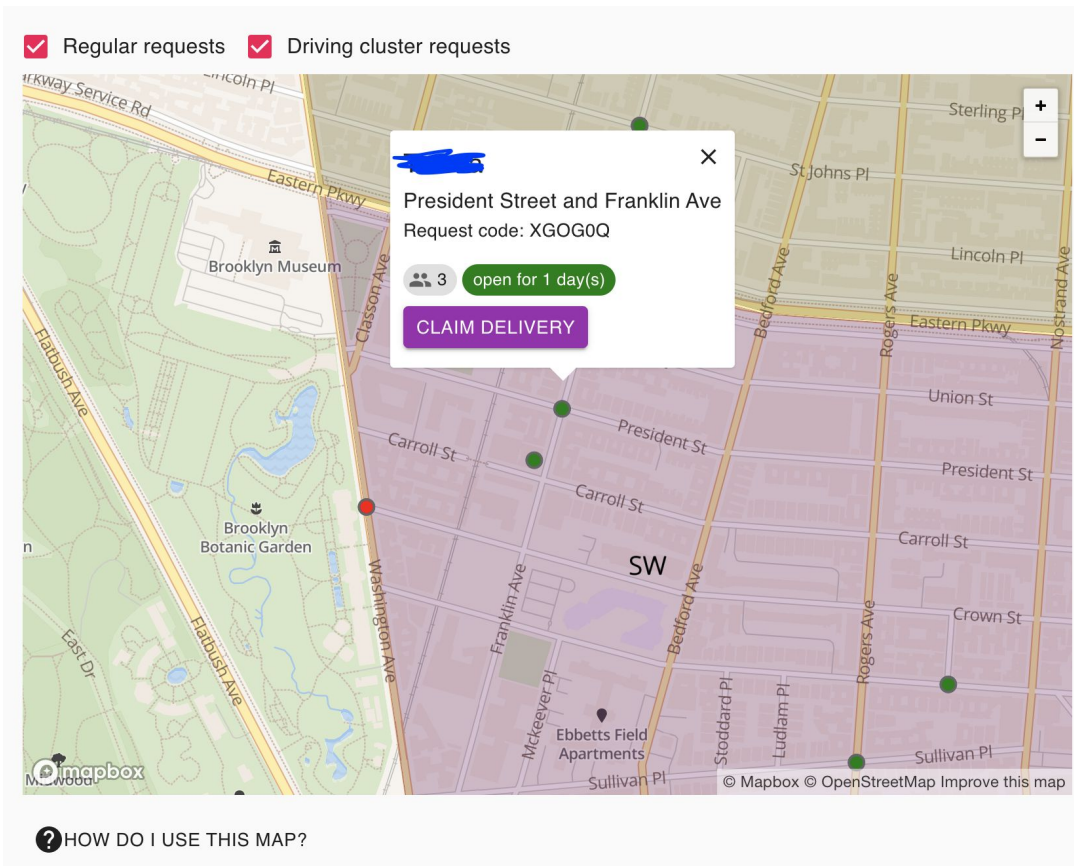
- When intake volunteer changed status column in Airtable to "Needs Delivery" call sent to endpoint on Node.js server

- Used Google Maps API to geolocate cross streets, place them on web map (front-end: Mapbox)

SCALE SCALE SCALE SCALE SCALE SCALE

Calls

Last 30 Days ⌄

— Calls Inbound (20080)   ◆ Calls Outbound (0)   ■ Client Calls (0)

Rehearsing Solidarity
Learning from Mutual Aid

voicemail, txt

intake

TECH, LOCATION-BASED PODS, SHARE PHONE #'s

SLACK + FACEBOOK

- groceries?
- mental health?
- childcare?
- tenant organizing?
- POD first, then if needed, reach out via Slack + Facebook...?
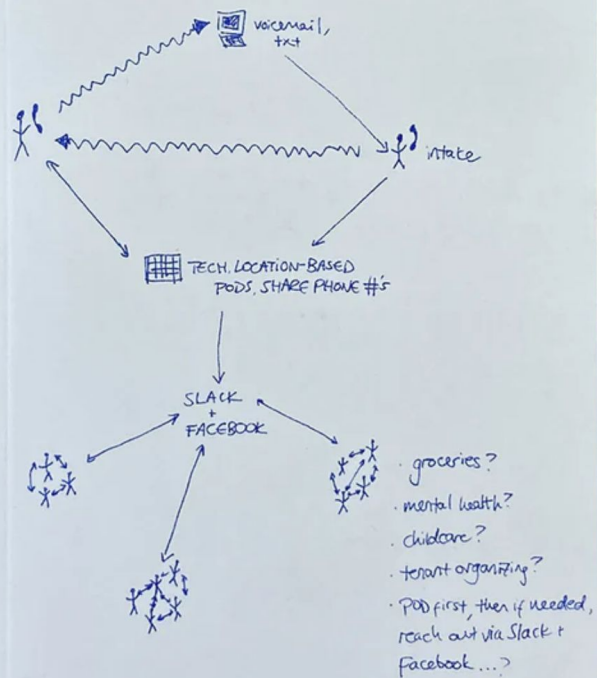
WE THE PEOPLE MUST HELP EACH OTHER!

Extensions & Projects:

Collective Decision-Making (**DATA**)

Name   Name

Name   Name

a   Name

Name

(PASS)

Block

Stand Aside

Name
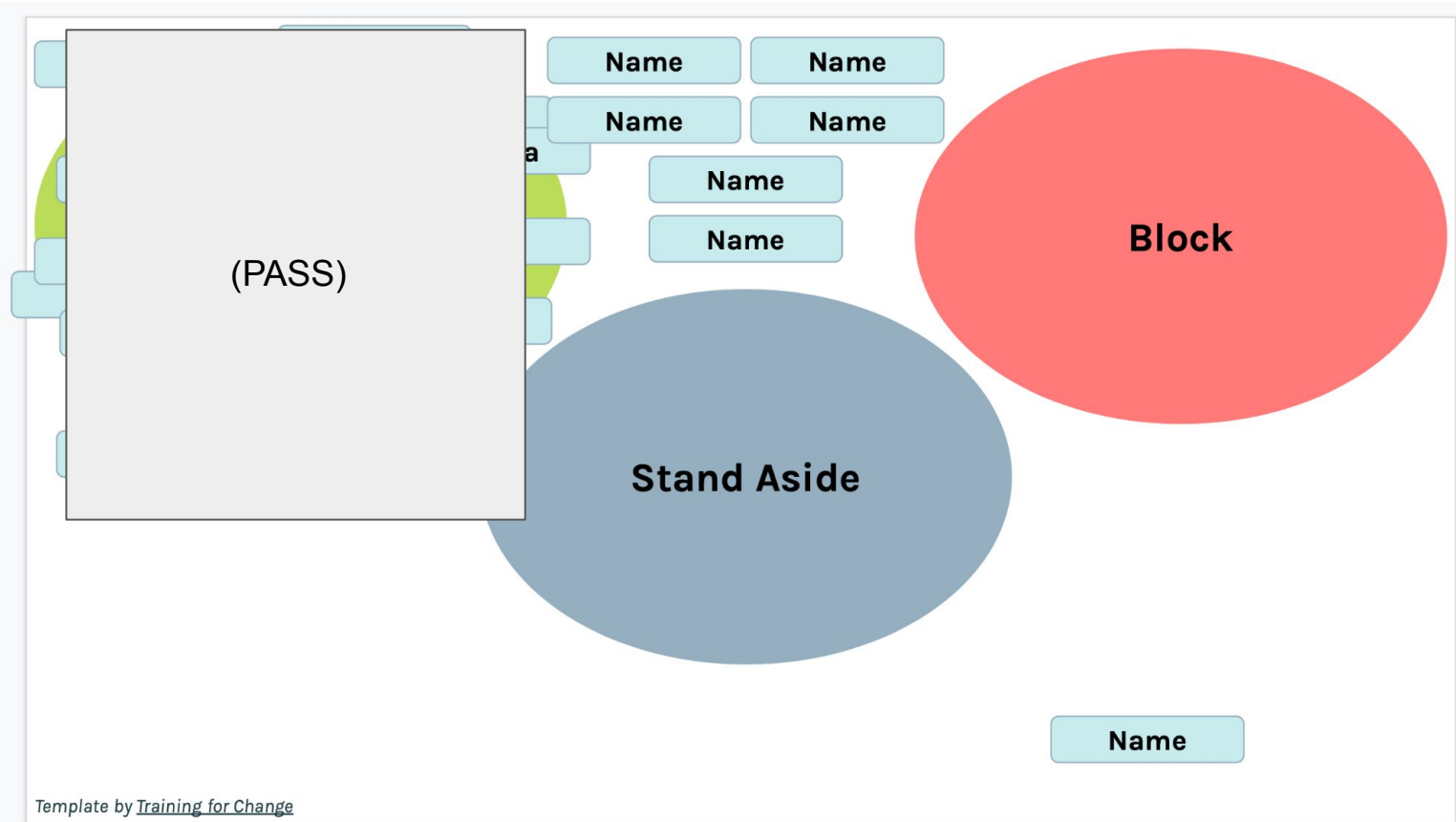
Extensions & Projects:

- Goals beyond deliveries: more
  connected and organized
  communities; spontaneous,
  autonomous connections;
  someone to call in a crisis;
  relationships to neighbors
  across age, race, class etc.

- "Anarchist Uber Eats" ? vs.
  PODS

voicemail, txt

intake

TECH. LOCATION-BASED
PODS, SHARE PHONE #'s

SLACK
+
FACEBOOK

· groceries?
· mental health?
· childcare?
· tenant organizing?
· POD first, then if needed,
reach out via Slack +
Facebook ...?
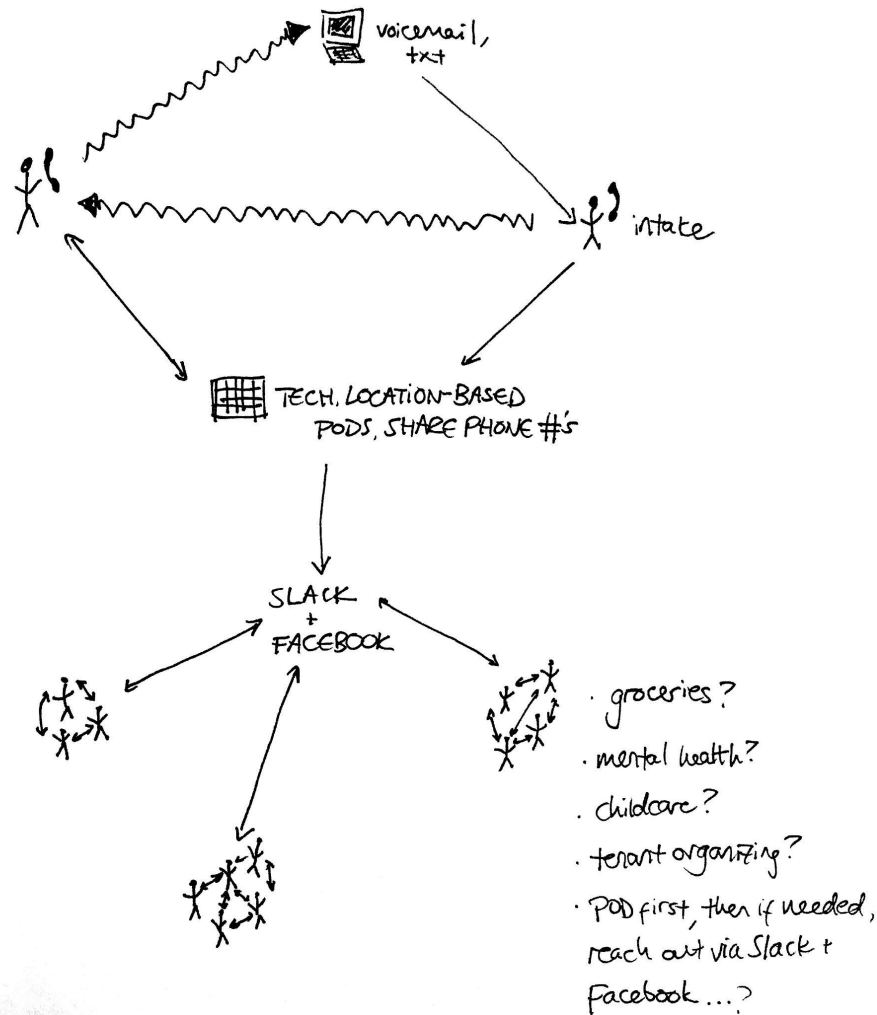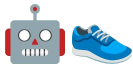
🤖👟 <u>software design sprint!</u>

- Google, but used all over

- Typically 5 days, with functioning prototype @ the end

- "Don't let perfect be the enemy of the good," make a decision and move forward with it, for exercise

- Prototype mentality: airBnb example

- Less about research, more about GO

FILE STRUCTURE

imagine class called Neighbor

Class encapsulation, **(attributes, member data, declarations)**

#include

Neighbor.h

#include

main.cpp

Neighbor.cpp

Class methods (function definitions)

compile: g++ main.cpp Neighbor.cpp

🚧 CONSTRUCTOR

- object initialization function, runs automatically

- declared in **public** encapsulation

- Funny definitions syntax … **DOES NOT HAVE RETURN TYPE!**

  example: class named Neighbor

```
Neighbor::Neighbor() {


}
```