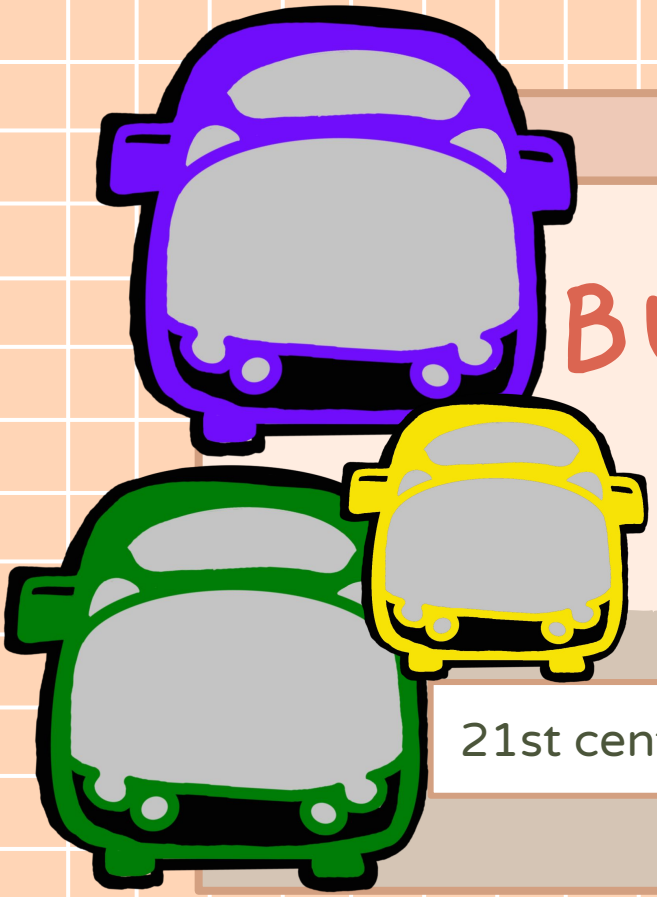
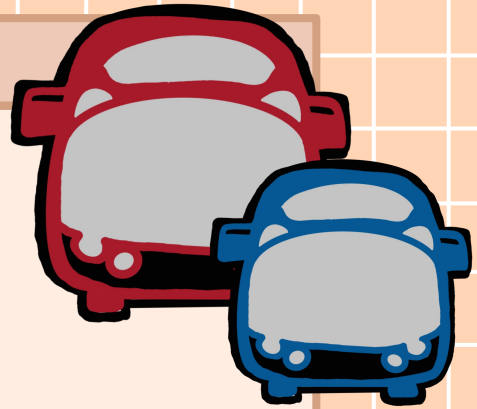


BUSTING BUS BUNCHING



21st century solutions for bus bunching

The Problems with Bus Bunching

- Overcrowding
- Long Wait Times and Delays
- Poor Overall Level of Service

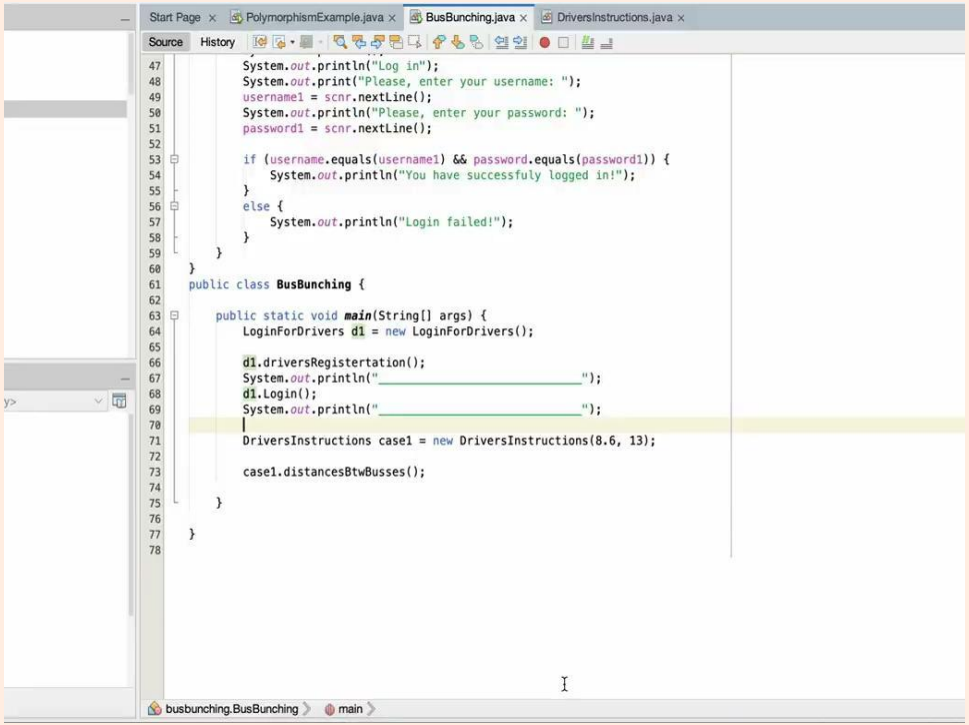
Identifying Solutions

1. Live geolocation mobile app
2. Removal of static timetables and fixed schedules
3. Reduction of on-street parking to quickly deploy new bus lanes
4. Better signage for passenger embarking and disembarking

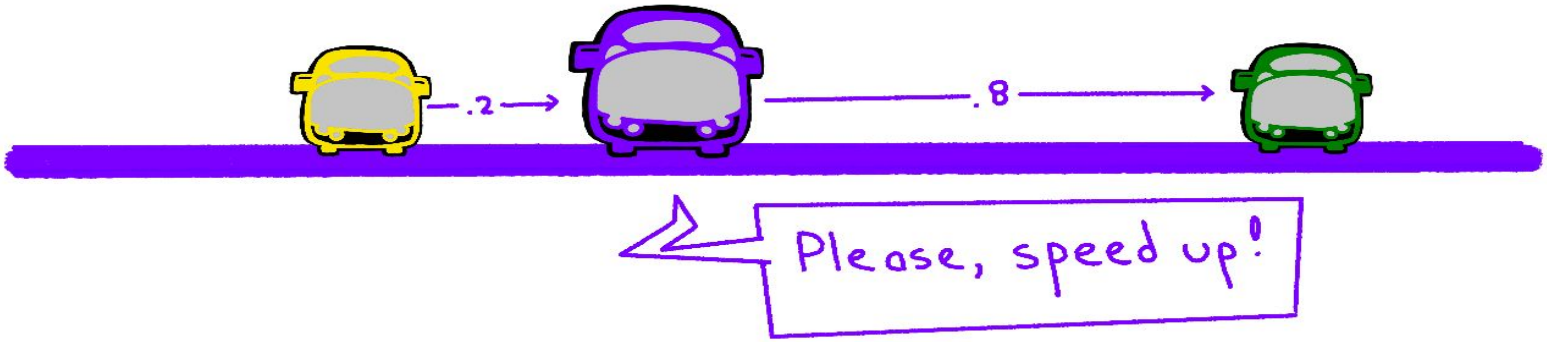
Mobile App

- Utilize existing MTA Infrastructure (GPS/Geolocation) to create a dynamic map
- RFID contingency for uptime and operational continuity
- Borough dispatch relays instructions based on incoming data
- Sensors under seats to provide live seat count data

Calculating Distance



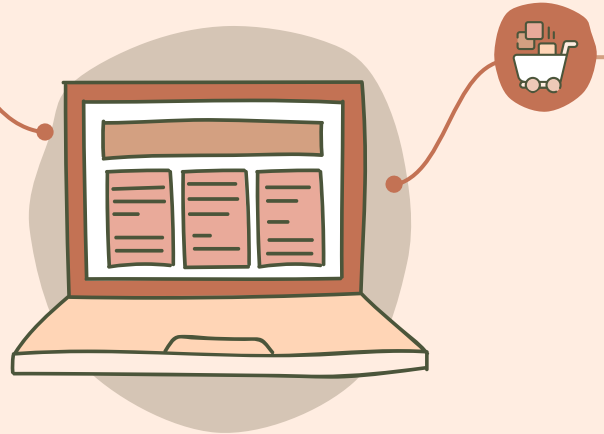
Managing Distance



Managing Distance

Mobile App

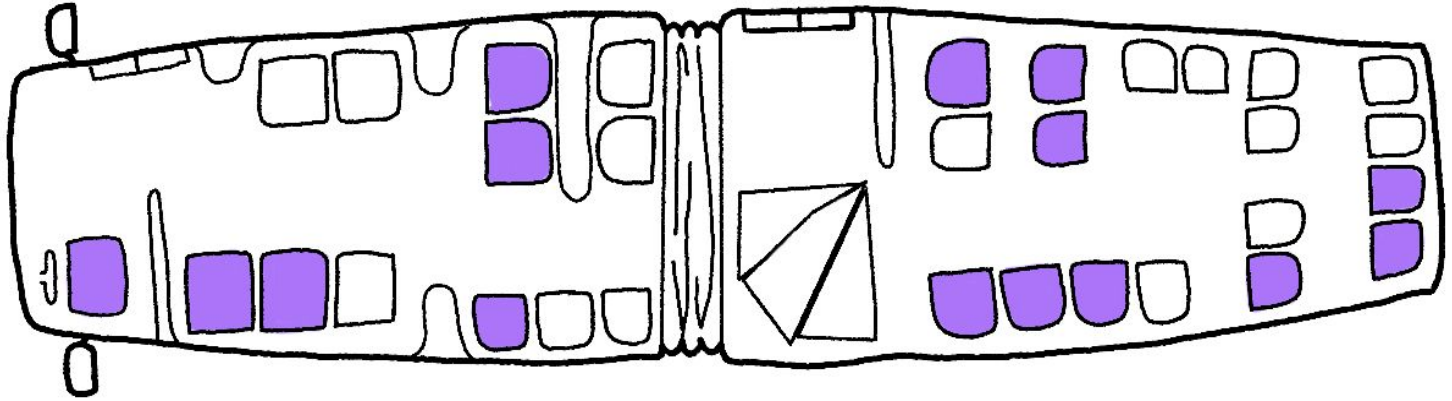
DRIVER VIEW



OPERATOR VIEW

Click links to interact with mock designs

Real-Time Seating Info



Occupied

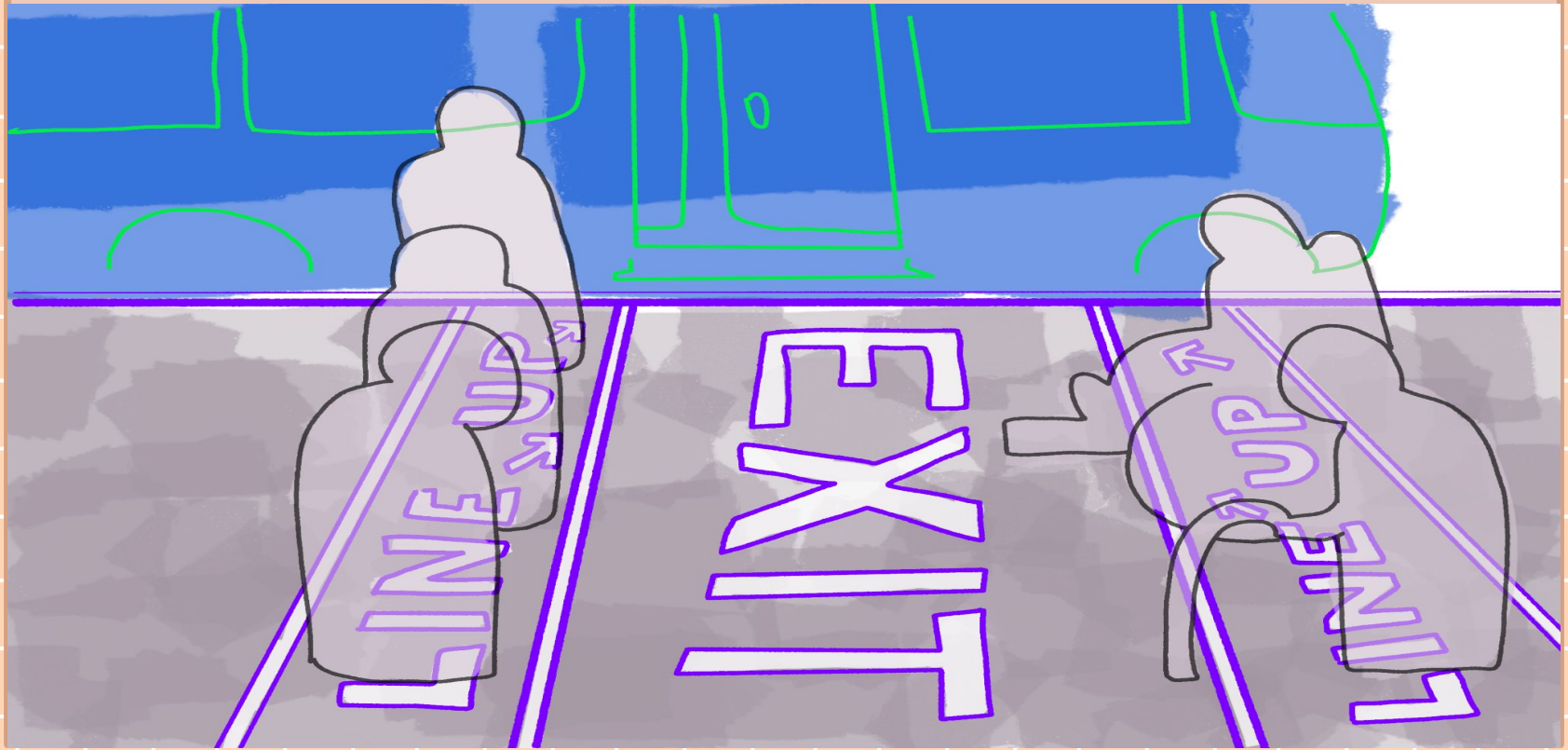
Seat available

Removal of Static Timetables

- Removing fixed static scheduling
- 20th Century artifact
- Going “With the Flow” of traffic
- Adapting to 21st Century passenger behaviour

Reduction of On-Street Parking

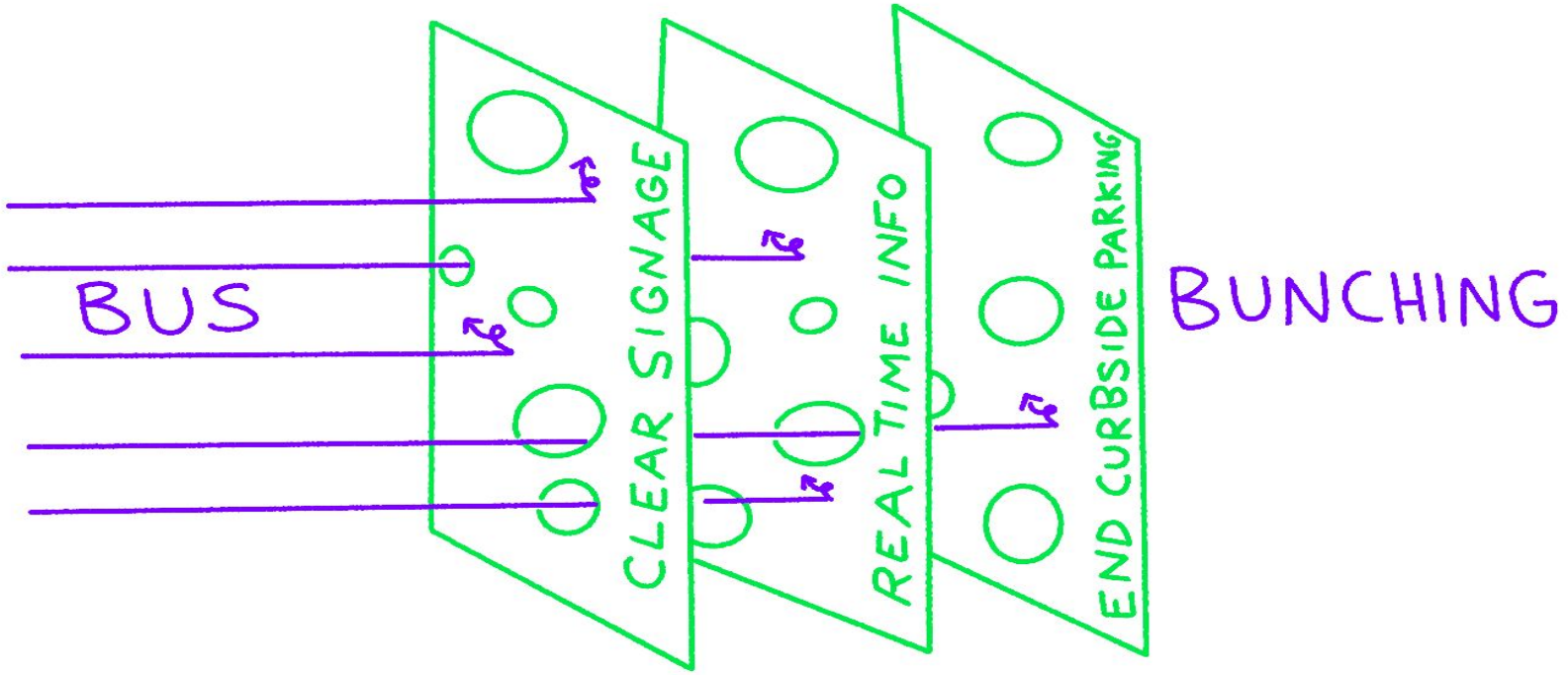
Improved Signage



Concluding Thoughts

- Individually these solutions are okay, but exceptionally strong together
- Contingencies and fail-safes for continuity
- “Swiss Cheese Model”

"Swiss Cheese" Model



Works Cited

- Ge, Liping. Robustness and disturbances in public transport / PUBLIC TRANSPORT MAG
- LA Open Data
- Maintaining a Bus Schedule / ARRB Conference 1964
- Martinez, Daniel. Can Buses Run More Efficiently Without A Schedule? Metro Wants To Test It Out / LAist
- NYC Open Data
- Traffic Light Optimization with low penetration rate vehicle trajectory data / Nature Communication Mag

THANK YOU!

Team 38

- Elissa Leung
- Kat Banks
- June Bendich
- Olha Sorych
- Angela Cruz