



Parking Simplified

**Team 21**

Bogdan Vochin, David Minin, Hugh Matsubara,  
Kevin Zhang, Vangjush Ziko, Wen De Zhou



BOB DOESN'T WANT TO WORRY ABOUT PARKING HE WANTS TO  
FOCUS ON THE EVENT.

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# Technical Discussion

## 1. Application Model (MMVC) Design Pattern

- Naturally follows from Android
- We attempted to follow something similar since our components needed to be modular
- Most of the design was followed however we had to cheat when short on time (filtering)
- Ran into Asynchronous issues
- Learned that problems arise when we steer off track - stick to the design

# Technical Discussion

- Issue with our controller and Asynchronous HTTP request to server.

```
821 private List<AbstractParkingLot> getLotsFromServer(double lat, double lng) {
822     // Instantiate the RequestQueue.
823     RequestQueue queue = Volley.newRequestQueue(this);
824     String url = "https://lotspot-team21.herokuapp.com/api/lots";
825
826     Log.v("MyActivity", "Attempting search at " + lat + ", " + lng);
827     block = true;
828
829     // Request a string response from the provided URL.
830     StringRequest stringRequest = new StringRequest(Request.Method.GET, url,
831         (response) -> {
832             //Log.v("MyActivity", "Successful response");
833             try {
834                 // Make ParkingLot ArrayList
835                 JSONObject jsonObj = new JSONObject("{'lots':" + response + "}");
836                 JSONArray arr = jsonObj.getJSONArray("lots");
837
838                 //Log.d("MyActivity", "test: " + jsonObj.toString());
839
840                 // Clear list
841                 lots.clear();
842
843                 for (int i = 0; i < arr.length(); i++){
844                     JSONObject objj = arr.getJSONObject(i);
845                     //((int id, int capacity, int occupancy, String name, String address, double lat, double lng, Double pricePerHour)
846                     AbstractParkingLot p = new ParkingLot(i, objj.getInt("capacity"),
847                         objj.getInt("occupancy"), objj.getString("name"), objj.getString("address"),
848                         objj.getDouble("lat"), objj.getDouble("lng"), objj.getDouble("price"), objj.getBoolean("handicapParking"));
849                     lots.add(p);
850                     //Log.d("MyActivity", "test_parkinglot: " + p.toString());
851                 }
852             }
853             ((SearchResultFragment) getSupportFragmentManager().findFragmentById(R.id.result_fragment)).filterResult(lots, oCost, oDis
854         }
855     }
```

# Technical Discussion

## 2. Interfacing our backend with hardware

- Interesting to see our design pattern pay off
- Hardware -> Server -> Users
- Important for the integrity of the business idea
- Shows off the power of our MMVC model

# Restful Server hosted on Heroku

## Lots

[Add New](#)

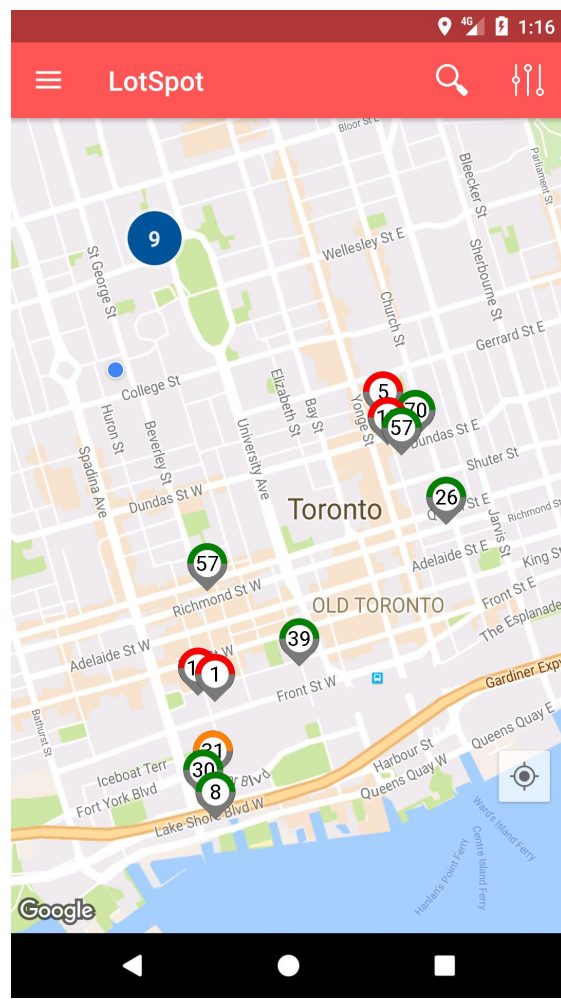
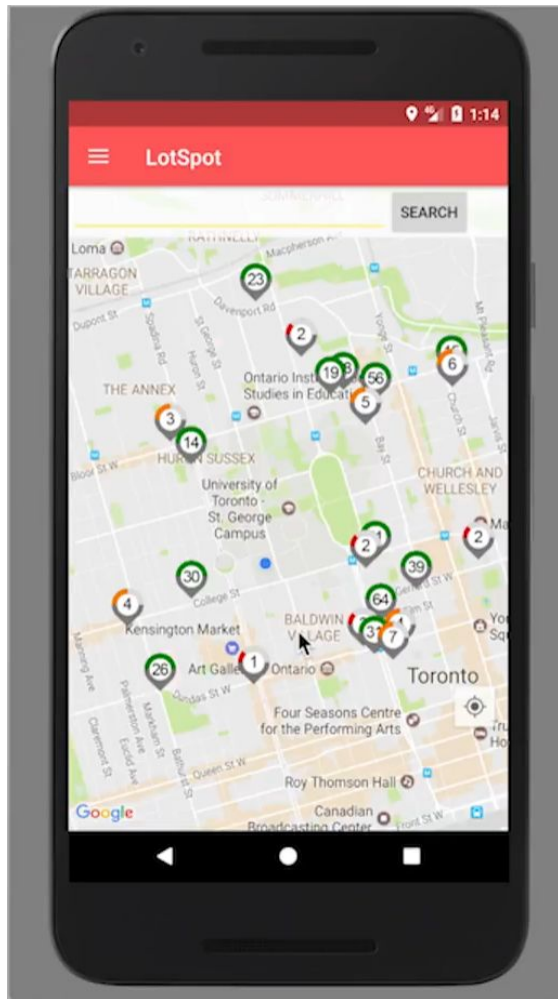
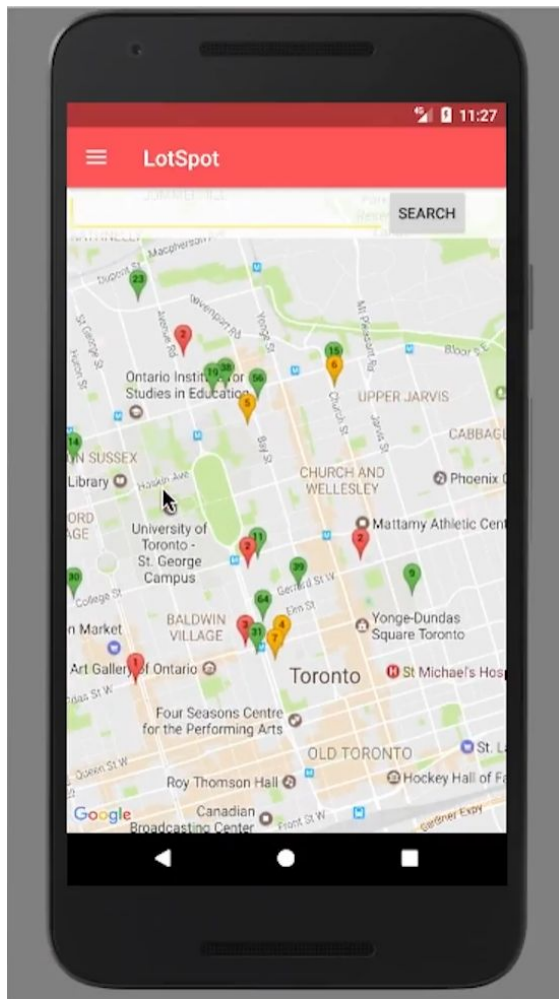
Index	Name	Address	Lat	Lng	Phone Number	Capacity	Occupancy	Price	PaymentType	Hours	HandicapParking	Edit	Delete
1	IMPARK Park	47 Richmond St E	43.652332	-79.375988	877-909-6199	38	12	3	Hourly	Mon-Sun 24HR	true	<a href="#">Edit</a>	<a href="#">Delete</a>
2	Precise Park	8 Hoskin Ave	43.664443	-79.394948	416-398-4052	20	8	8	Hourly	Mon-Sun 24HR	true	<a href="#">Edit</a>	<a href="#">Delete</a>
3	University of Toronto Parking Services	Mclennan Physical Laboratories Russell Street Toronto, ON M5S 2S2	43.659928	-79.398202	416-978-7275	25	24	4.50	Hourly	Mon-Fri 5:00pm - 6:00am, Sat-Sun All day	true	<a href="#">Edit</a>	<a href="#">Delete</a>
4	Trinity College, University of Toronto	University of Toronto - Trinity College 6 Hoskin Ave Toronto, ON M5S 1H8	43.665530	-79.395475	416-978-2522	30	27	3	Hourly	Mon-Sun 24HR	true	<a href="#">Edit</a>	<a href="#">Delete</a>

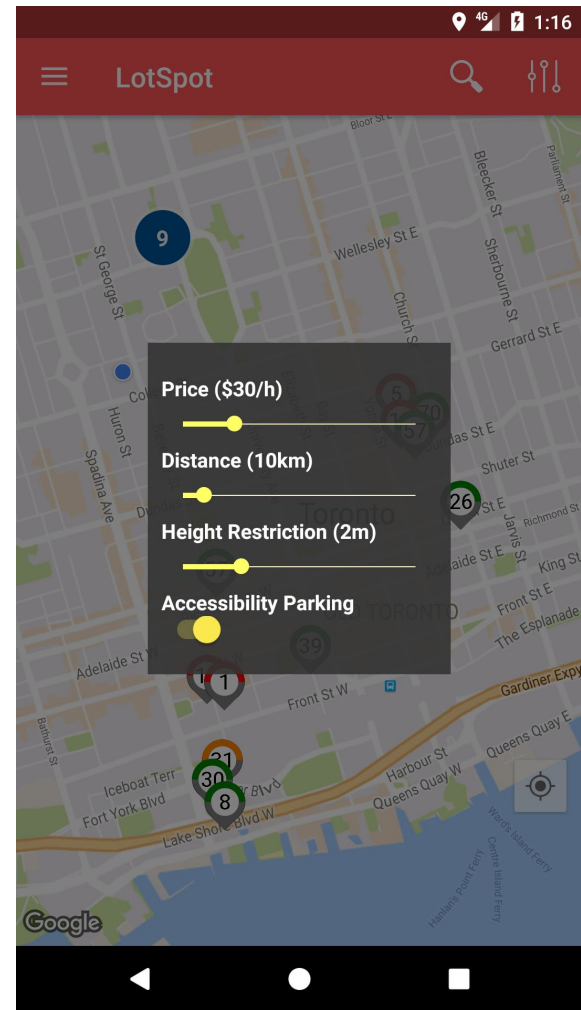
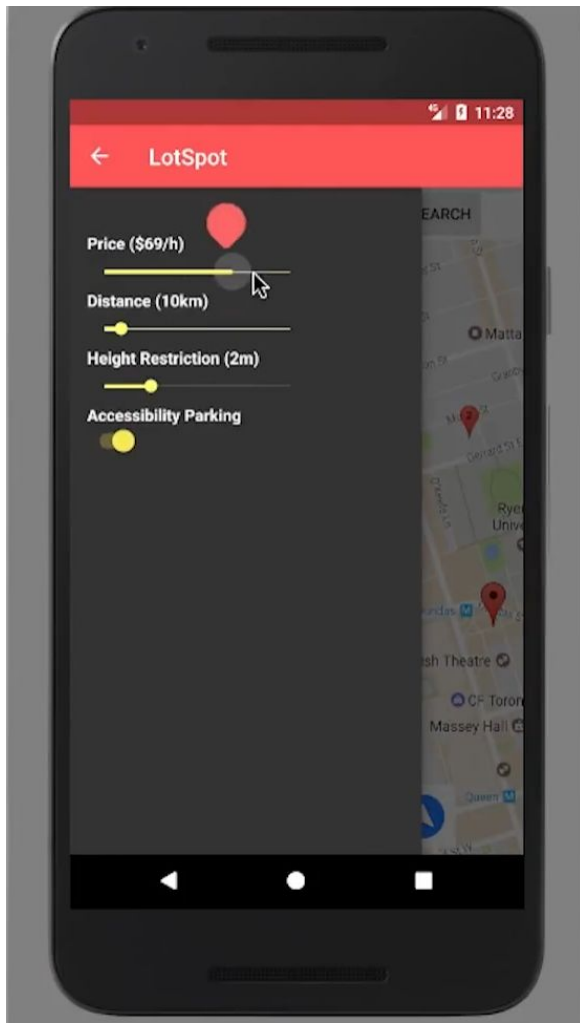
# Technical Discussion

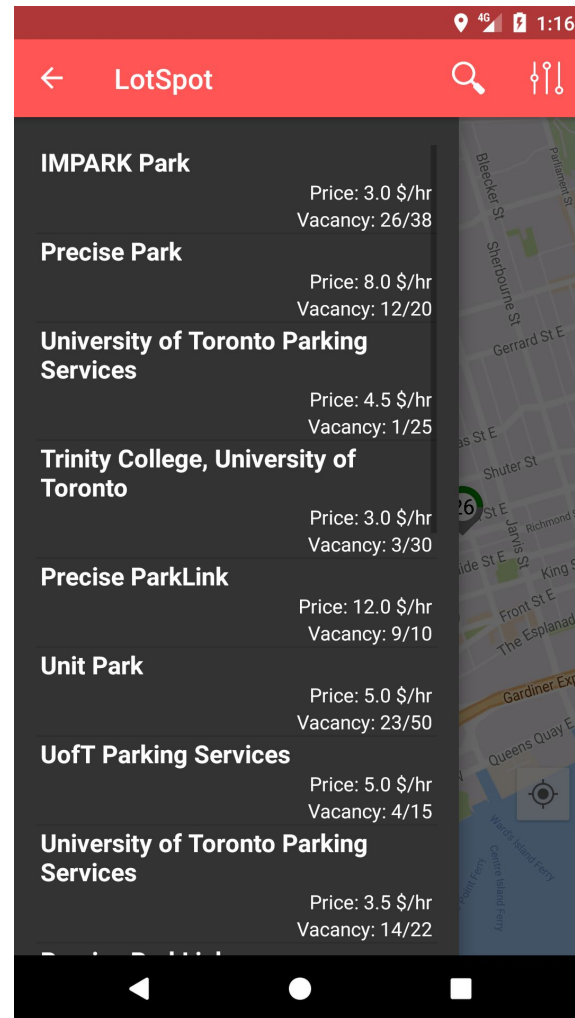
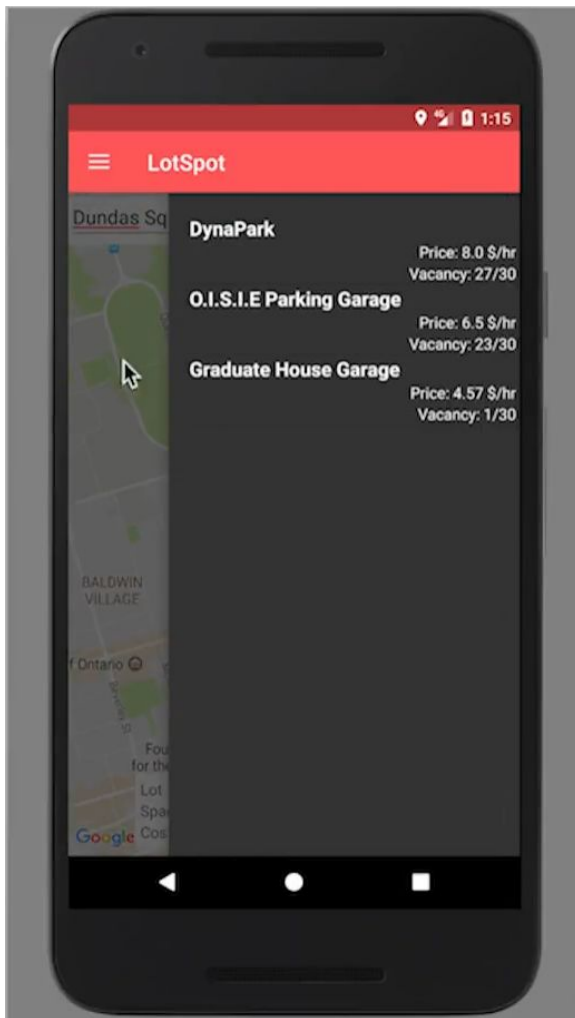
## 3. UI Improvements

- We had to go over many iterations of our design.
- After our second iteration we got some feedback on our UI from Albert our TA.
  - i. Albert critiqued our UI fairly heavily, which got us to focus and change many items.
  - ii. Asked friends / others for feedback and suggestions.
  - iii. Focus on easy understandable UI.
    - 1. Our original UI had filtering and list in un-intuitive segments(hidden list).
    - 2. Original search bar was difficult to see.









# Workflow

- We used slack to communicate and github issues for task distribution
- People's tasks were usually assigned modularly, so people can work on their own files and merging was simple
- Had weekly meetings and would add meetings as needed for phases
- Significant decisions we made (good or bad)
  - Peer review sessions (good, allowed people to make sure code was working and functioned with other people's work)
  - Assigning more than one person to a task when there is bottleneck (good, used for listview and controller)
  - Tasks were due day before phase, no follow up in between (bad, changed after first phase. We ran into the issue that some tasks were more complicated or time consuming than others)

## All Time Statistics



### Total Messages

87% **public channels**, 0% **private channels**, 13% **DMs**



### Storage Used

For **19 files**.

### 3 Integrations Used



and **1 more...**

Note: Stats computed up to Apr 4, 2017 8:00:00 PM EDT and they were last updated 4 hours and 43 minutes ago.

## Recent Statistics

**66 messages** have been posted by people (plus another **2 messages** from integrations) and **1 file** has been uploaded. There are **5 people** reading and **5 people** posting, out of **7 people** on **your team**.

2 Open

✓ 30 Closed

Author

Labels

Projects

Milestones

Assignee

Sort

Put server up on Haroku

#45 by VochinBogdan was closed 3 days ago

Search bar UI improvement

#41 by VochinBogdan was closed 17 hours ago

Filter Pop up

#40 by VochinBogdan was closed 6 days ago

List or lots peeks when clicking search

#39 by VochinBogdan was closed 9 days ago

Periodic update information on application

#37 by VochinBogdan was closed 12 hours ago

Controller

#36 by VochinBogdan was closed 6 days ago

Dynamic Markers

#35 by VochinBogdan was closed 6 days ago

Iteration report

#29 by VochinBogdan was closed 9 days ago

Dynamic Data

#28 by VochinBogdan was closed 14 days ago

Current Location Marker

#27 by VochinBogdan was closed 9 days ago

Android Controller

#26 by VochinBogdan was closed 16 days ago

UI Improvements: Map Style

#24 by VochinBogdan was closed 7 days ago

Parking Lot API

#23 by VochinBogdan was closed 13 days ago



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