Overview of Activities:

-Discover: Users can browse maps created by other users and search for maps using multiple filters.
-My Maps: A list the current user's maps and the start of the new map creation flow.
-Followed Maps: A list of the maps a user currently follows.
-Account: Account info and logout flow.

Terms:
-Map: A map is a collection of pins that can be displayed geographically. A user can create a map as well as view maps created by other users.
-Pin: A pin is a geographic marker that has a name, description, location, and icon.
-Follow: A user can "follow" another user's map adding it to their "Followed Maps" list for quick access.
-Clone: A user can "clone" another user's map which will create a copy of the original map under the first user's ownership with _clone appended to the name.

Guided Tour/Usage Instructions:

1) Register for an account with a valid email
2) Login

The app will launch into the Discover activity. By default, maps created by all users will display. You may query for any exact search term and select a filter radio button.

3) Click on a map of interest.
4) You will then be able to browse the map and tap pins for more information. When a pin is selected, Google Maps directions are available by clicking the blue arrow box in the bottom right.
5) Try clicking the follow or clone functionality on the top of the map. Navigate back to discover.
6) If you cloned a map you can navigate to My Maps to view it or if you followed a map navigate to Followed Maps to view it.
7) Time to make a map! Click the "New Mapp" button in My Maps and then enter the required details. Click create.
8) Navigate to the region of the map that you want to add pins to and do a long tap. A pin details activity.
9) In the top field enter the pin name and enter the pin description under that. Tap your desired icon and confirm. Continue this process until you are done. Clicking on a pin and then clicking on the info box allows you to edit the pin.
10) click done to view the map view only mode or use the back button to return to the app.
11) Click account and log out.

Next up, info about features we included and bugs in the app:

The last build we pushed was just to add highlighting of the currently selected icon on the pin editing activity, everything else is the same as the build pushed before midnight. We just thought that was a ridiculous thing to be missing, if it's an issue then please just pull the build from before midnight

We did complete every feature we put in our initial presentation, minus the zones (which was something we were iffy about the utility of from the start)
see below: all of the below bullet points but zones is in the app
if you look here, all the bullet points are in there!

Phase 1: Foundation

Stage 1: Map discovery
- Discover feed of new maps
- Search for maps

Stage 2: User accounts
- Clone or save maps to your account
- Map ownership
- Set your maps public/private

Goals for April 11:
- Functional backend
- Searchable maps
- Authentication, user accounts, etc.
- Can save maps from other users

Phase 2: The House

Stage 1: Map display
- Display of map objects on a visual map
  - Google Maps SDK
- Pins, zones, etc.

Stage 2: Map editing/creation
- Map editor tool
- Place pins, zones, etc.
- Add information about those items

Goals for April 23:
- Sell for $15 billion :)

Successfully implemented:
Creation of maps
Deletion of maps
Creation of pins
-Selection of pin icons
-Setting of pin description / name
deletion of pins

Social features:
You can save your maps as public/private
You can search for maps from other people (if they're set to public)
You can follow their public maps so you have easy access to maps from other people that you find cool.

Click the pin to find some buttons on the bottom right to show you directions to the location, look at reviews on Google, etc

Biggest bugs: we have timing issues with the creation, updating, and deleting of pins, and synchronizing that with markers on the map. What's causing this is the variable nature of how long an asynchronous call to the db takes to complete, and it's about 50/50 to whether that call will complete before MapDisplay redraws pins on the map - this one is conceptually an easy fix, but for various reasons our database code partially self-destructed near the end of the project and required a lot of rewriting, so this one fell by the wayside.

The Account page on the navigation bar has a bell icon, the same as the followed maps button - this one was just an oversight that we didn't catch until after the deadline.

When editing the map, we start a new activity when you "confirm" or "delete" a pin. This causes some issues when hitting the back button to get out of the map display, since you'll run through a stack of the previous windows you'd opened. This one was especially frustrating, since we called finish() on all those activities whenever you started the next activity, and yet they all stayed in the application stack. The better way to implement this would have been to do an onActivityResult callback.

Thing we decided not to implement:

there's a TODO in MapDisplay about an info window that would pop up if you click the pin when not in edit mode, but we realized all that would do is just display the exact same information as the current snippet that pops up above the pin when you tap it. so, it was axed.

Better searching: right now searching requires exact match
-this is because we wanted to focus more on the mechanics of creating the maps, because the structure of our database was changing quite a bit up until the end. it would've taken a lot of work to rework the searching every time, so that was something we were hoping to do if we had oodles of extra time (which unfortunately we didn't).

Further improvement:

To quote our test engineer at 11:59pm on April 22,

my tests are no bueno

So that was a big goof on our part — we unexpectedly ended up having to rewrite almost all of our backend database code on Monday when we expected to be able to just tie up the loose ends and write a bunch of tests to verify that everything works as expected. We realize the irony of our lack of tests being ultimately caused by our lack of tests in the first place. This was an excellent lesson in the utility of test-driven

development.

Right now, our backend could use a little cleanup / work. Some of our initial database code was just wrong, and we ended up having to spend a significant amount of time at the very end rewriting it. We got it all working, but due to the nature of the time crunch, it's not as clean as it could/should be. Some time spent back here would make further improvements to the app much easier.

We'd also like to redo the way we handle our activity lifecycles / architecture, because (as mentioned above in the section about editing bugs) we end up creating a huge stack of activities. This came about because we felt as if we could write around this in order to take the time to implement more features, but it would've been a better choice to just go ahead and use onActivityResult after pin creation instead of creating a new activity, and that would've saved me a lot of time.

We'd also like to make the app look prettier - it's pretty barebones right now. However, the features are there, and that was our priority.