UX DESIGN FOR DEVELOPERS

Context for Engagement

Design your own contextual apps

For Android & iOS

{trnql}

Hi, I'm Naz!

Past - Android DevRel @ Google

- Google IO13 &14 - UXD Workshops
- Udacity Class on Designing for Mobile
- UXD show on YouTube

Currently - CEO & Founder of `trnql` - http://trnql.com

Why I'm here - Increasing User Engagement by Designing & Building smarter apps that are contextually aware

What is context?

Basic - Who, Where?

Advanced - Is your user walking or driving, happy or sad, hot or cold, near or far from something or someone relevant?

What is context?

How to determine context? Sensors!

- GPS, Accelerometer, Gyroscope, Magnetometer

- Proximity, Ambient Light, Barometer, Thermometer, Camera

- Pedometer, Fingerprint & Heart Rate Monitor, Microphone

Examples:

Messaging app can take keyboard away when user is moving and replace it with voice input

Navigation app can show walking directions if user is walking vs. driving directions if they are in vehicle.

What is context?

How to determine context? Data!

- Data from device storage (calendar, contacts, etc.)

- Data from web services (weather, neighborhood safety, etc)

Examples:

Messaging app can use calendar to determine free/ busy before interrupting user with a notification
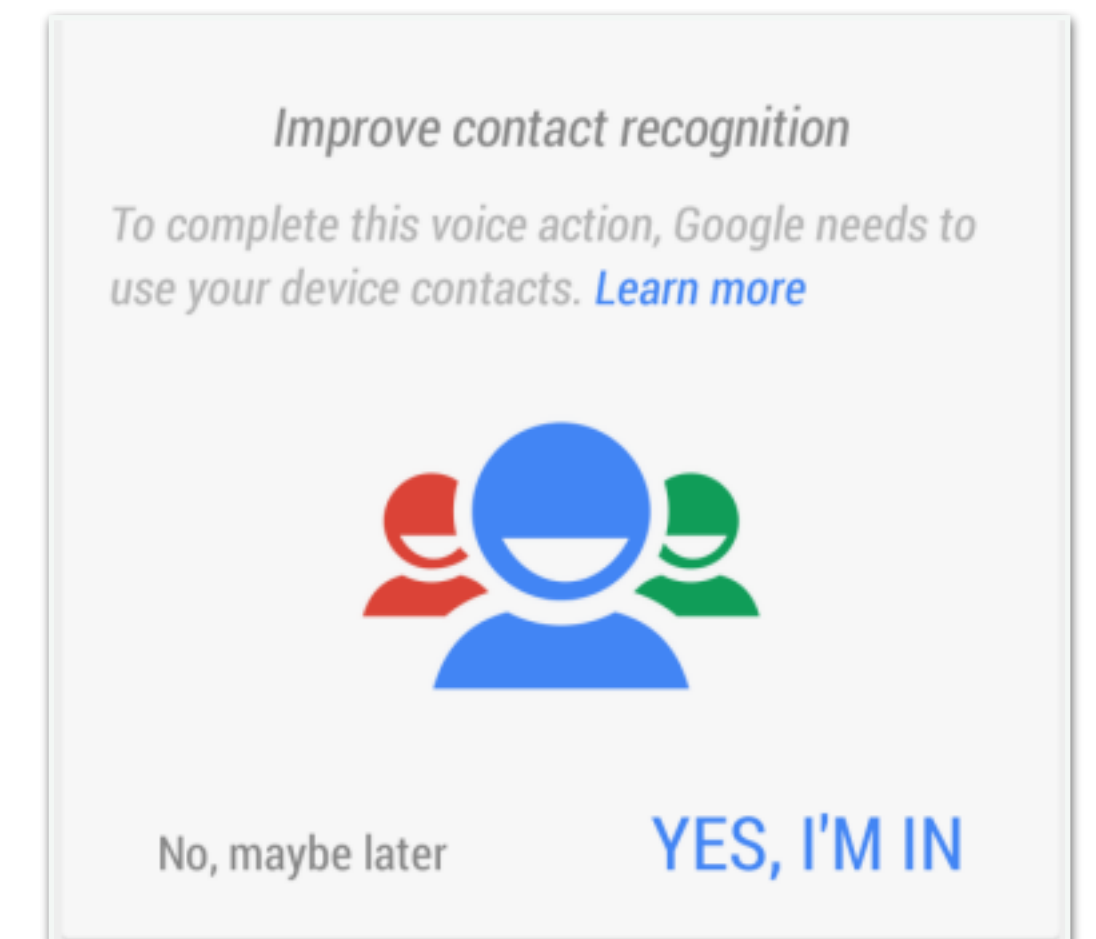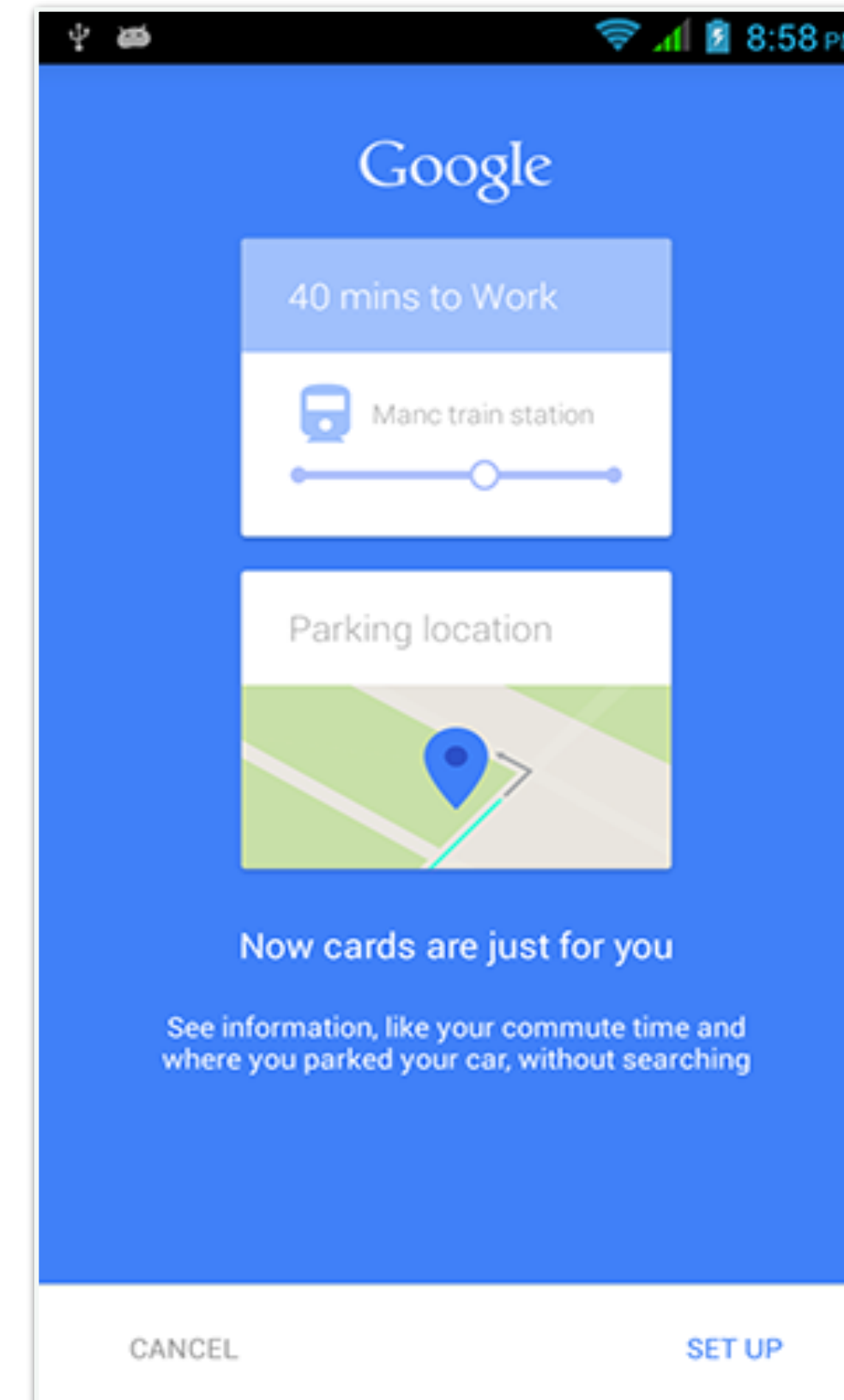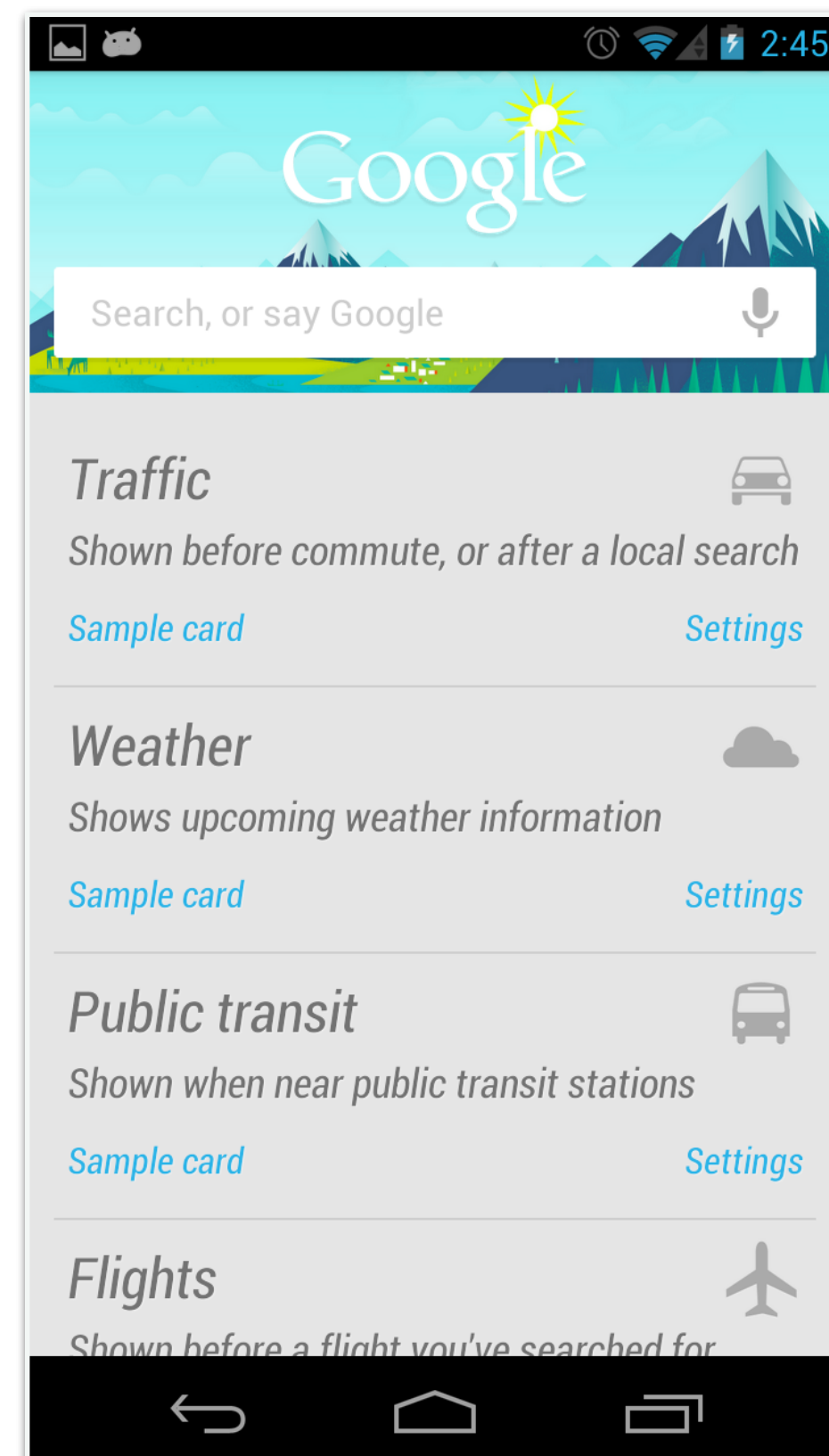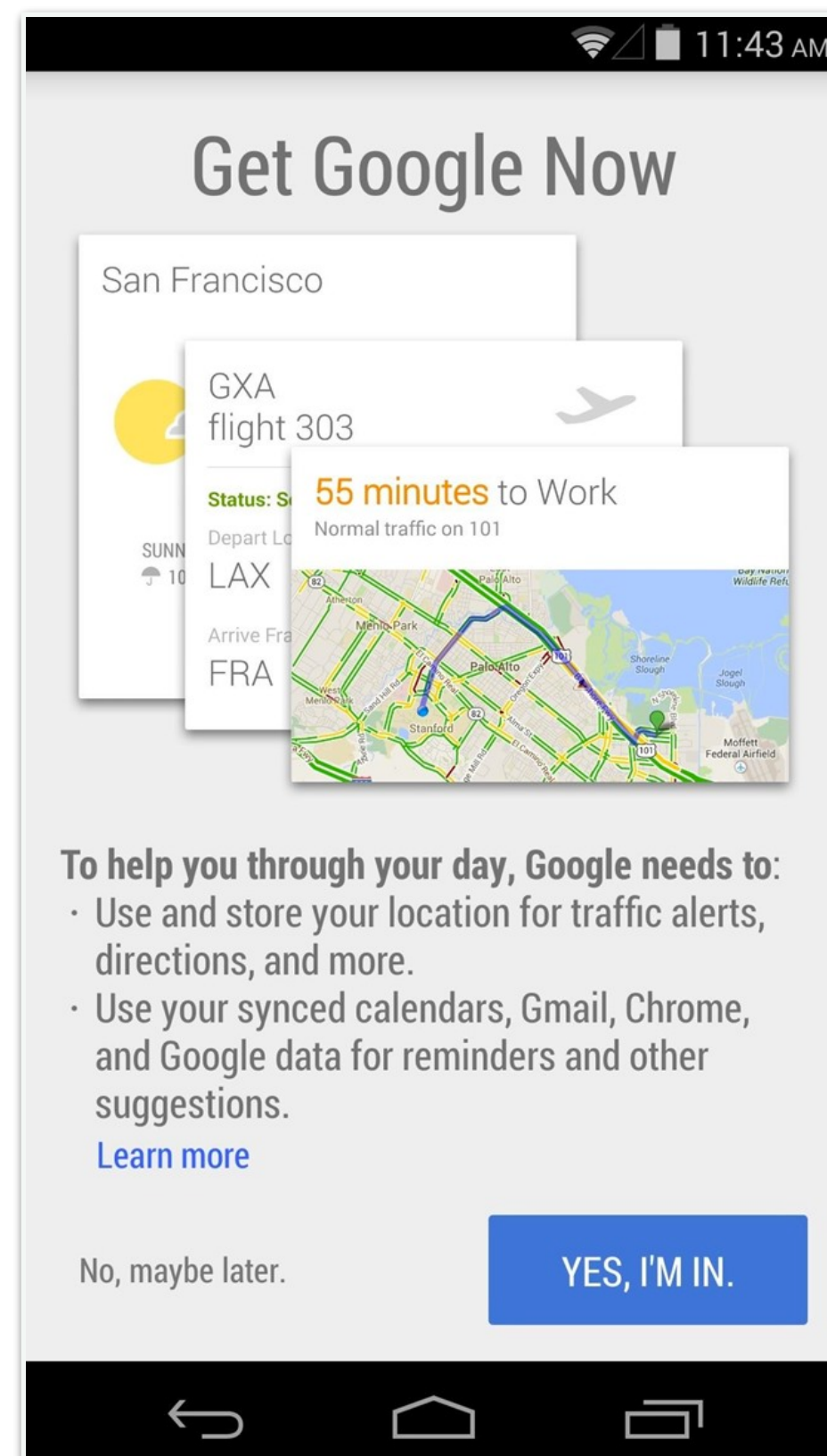
Fitness app can use weather web services to determine if running route will get rain today

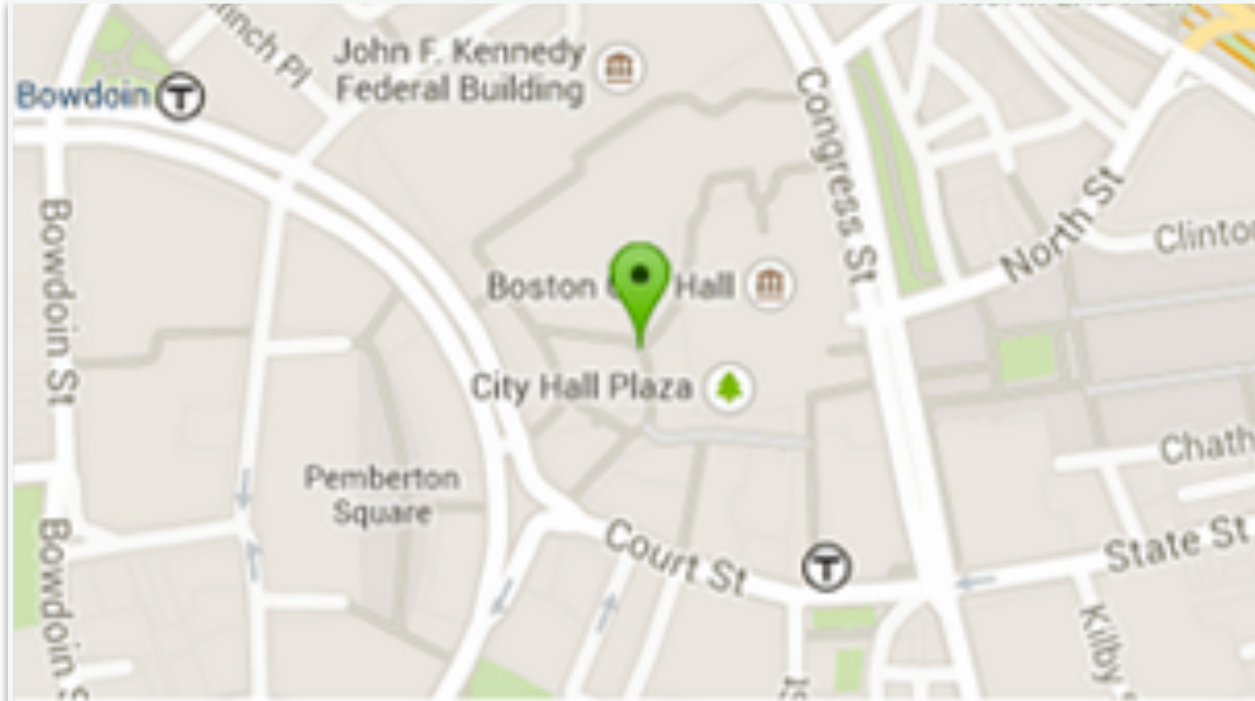Smart apps **understand** their user's **context**

Google Now

On boarding: Don't ask a lot of questions before getting started. And learn as you use the app. Ask for more permissions before asking for access.

Google Now

Assist (NOW): Figure out how to make certain things easier. Eg: find where you parked your car.

Your Zipcar reservation ends at 2:00 PM

Your Zipcar reservation is about to end

Navigate to drop off location

→ Extend your reservation

Economy 2 door sedan
Hertz rental car reservation
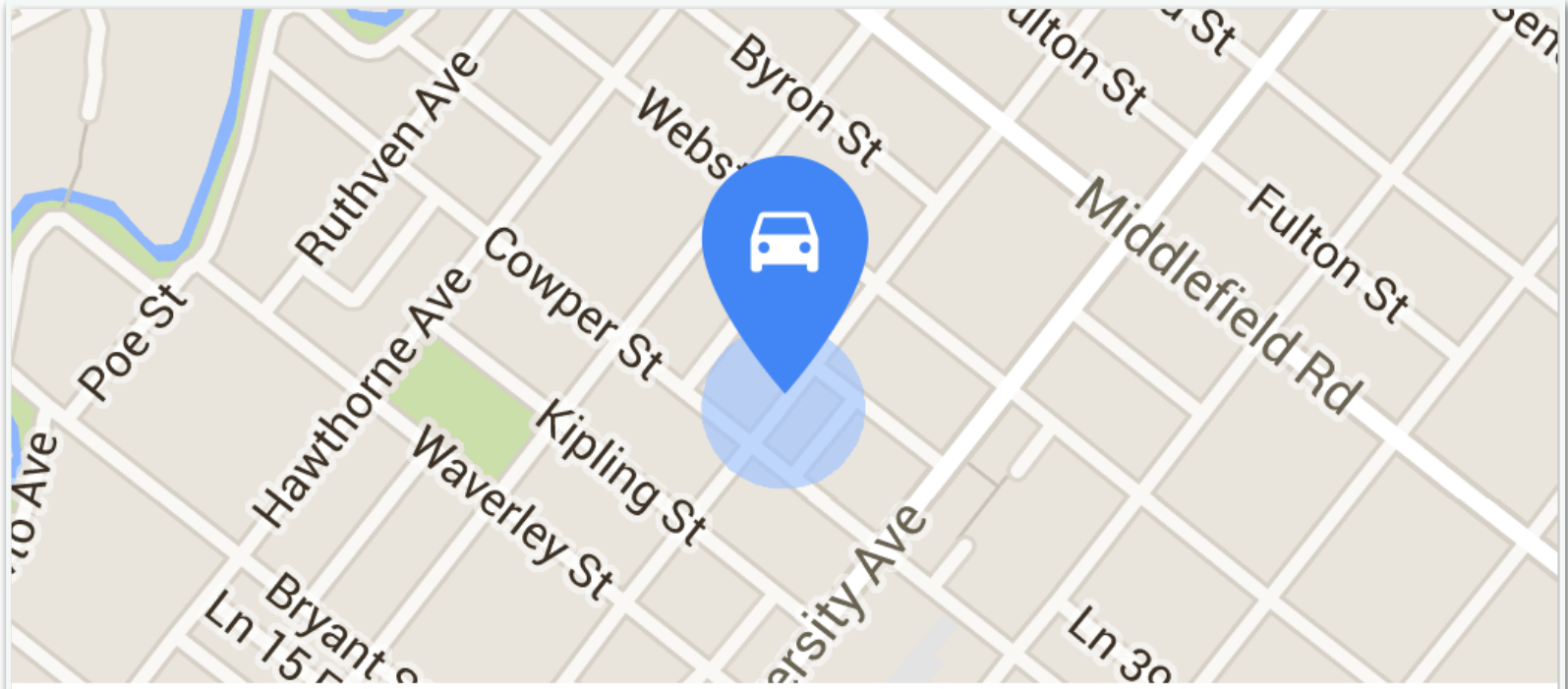
Name	Booking Number
Mr. John Smith	E12345678

Thu, 18 Apr, 2013	Fri, 26 Apr, 2013
11:40	21:50

Hertz San Diego
987 Harbor Dr, San Diego, CA 92101

Get directions

Manage reservation

View email

Parking location

530 Lytton Ave

5 hours ago · < 0.1 mi

Learn more

Google Now

Prediction (FUTURE): Use the power of the Google Search to figure out what you might need next (travel time cards, flight cards).

Delta Air Lines flight 8772
from DeltaAirLines@e.delta.com

Status: Scheduled / Fri, Nov 29, 2013

Depart San Francisco International

SFO   11:45 PM
       Terminal 1

Arrive Atlanta Hartsfield-Jackson

ATL   Sat, Nov 30, 7:05 AM
       Terminal S

Navigate to SFO / 28 mins

View email

Save on DEL – BOM flight by changing dates

Savings
₹1200

Alternative travel dates
May 31, 2015 – June 3, 2015

You searched for this sector on MakeMyTrip

→   View all flights

$300 BOS to SFO

Lowest roundtrip fare
Down $20 since yesterday

Boston to San Francisco
Sep 6 - Sep 9

You set a price alert on KAYAK
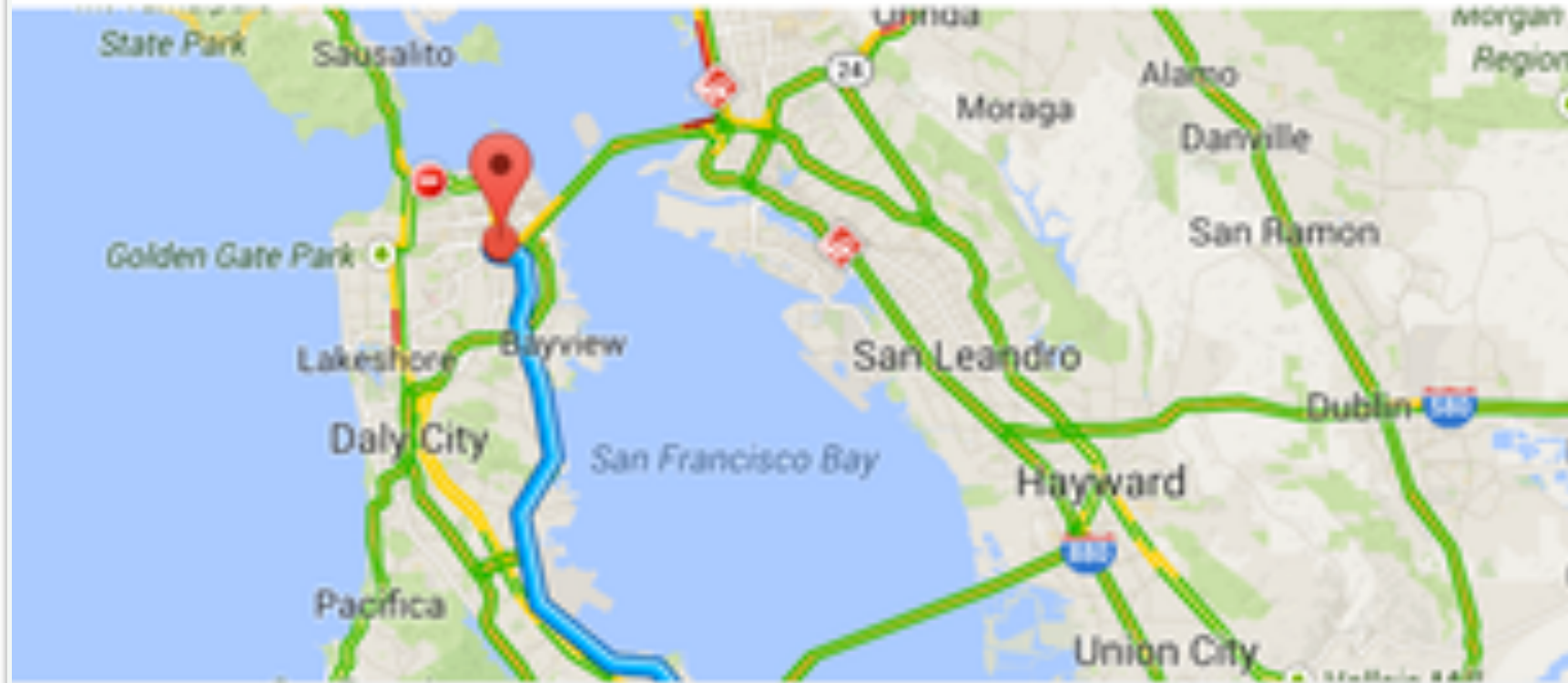
→   See all flights

Google Now

Adapt to your surroundings: Show traffic congestion and weather information, along with alerts.

Designing for Context

Application categories

FASHION	MUSIC	FOOD	MAPS + NAV
stichfix	spotify player.fm	door dash open table yelp	waze google maps

SOCIAL	ONLINE DATING	SHOPPING	TAXI
facebook pinterest instagram	tinder match	amazon	uber lyft sidecar

WEATHER	FITNESS	CALENDAR	MESSAGING
	runtastic strava		

Context signals

LOCATION	ACTIVITY	CURRENT WEATHER	WEATHER FORECAST
	walk, run, in car, on bike, still	UV Index, temperature, humidity, rain, sunrise & sunset	10 day forecast

Types of interactions

ON DEMAND / RIGHT NOW

HISTORY / USAGE OVER TIME

PLANNING & RESEARCH

Examples

FITNESS
runtastic warns it will rain in a few days when you have a run scheduled... you can also glean patterns of activity from history

MUSIC
think about how UI changes for music app based on activity. e.g.: in car, don't show playlist editor, only show simple playback controls

ASSIST
based on loc and/or activity, enable/disable features on phone. e.g.: disable ringer @ home. e.g.: send calls to voicemail while in vehicle

WEATHER
collect prefs from user for temp ranges, rate of change, rain, UV index, for alerts… give recommendations, like bring an umbrella, or jacket

CLOTHING
based on monthly collection of outfits, use weather data to suggest what outfit the user wears that day

YELP
give suggestions of places based on weather, e.g.: patio seating is relevant when it's not raining or super cold or hot

UBER
going to rain later today, so beware of surge pricing and maybe leave sooner or later

SMART CLOCK
wake me up early because it snowed last night

CALENDAR
I'm late… notify people on invite that I'm en route (by sensing activity)… suggest umbrella if bad weather

How do I get these signals?

`trnql` is an SDK that provides the signals for Location, Activity, Weather on iOS & Android and is available for you to use today in these awesome apps that you have designed.

How easy is it to integrate?

To build a **production-grade** true contextual app integrating user location, user-activity with real-time environmental conditions. **What would it take?**

Without TRNQL
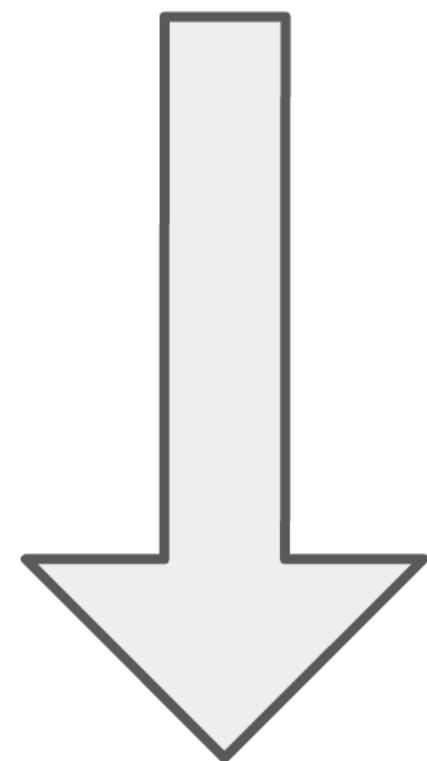
Android App	iOS App
3 Developers	2 Developers
9 Months	3 Months
80 APIs 300 Classes 800 Methods	10 APIs 45 Classes 250 Methods

With TRNQL

Android App	iOS App
1 Developer	1 Developer
2 Weeks	1 Week
1 API 4 Classes 10 Methods	1 API 4 Classes 10 Methods

trnql SDK manages:

- battery & network optimization,
- efficiency & reliability of web service interactions
- server usage, recurring tasks (that run in the background on mobile & cloud)
- database caching (on mobile & cloud)
- data scrubbing (from disparate data sources on mobile & cloud)
- user permission grants
- usage analytics
- more info

How do I get started?

`trnql` interplay is a sample app for iOS & Android that helps you get started. It is the skeleton of a contextual app that you can simply add more contextual cards to.

The code is available on github via Apache 2.0 license. And you are free to take the code and make it your own, and brand it to be whatever you want as you design for context.

Download "trnql interplay" on the Google Play Store
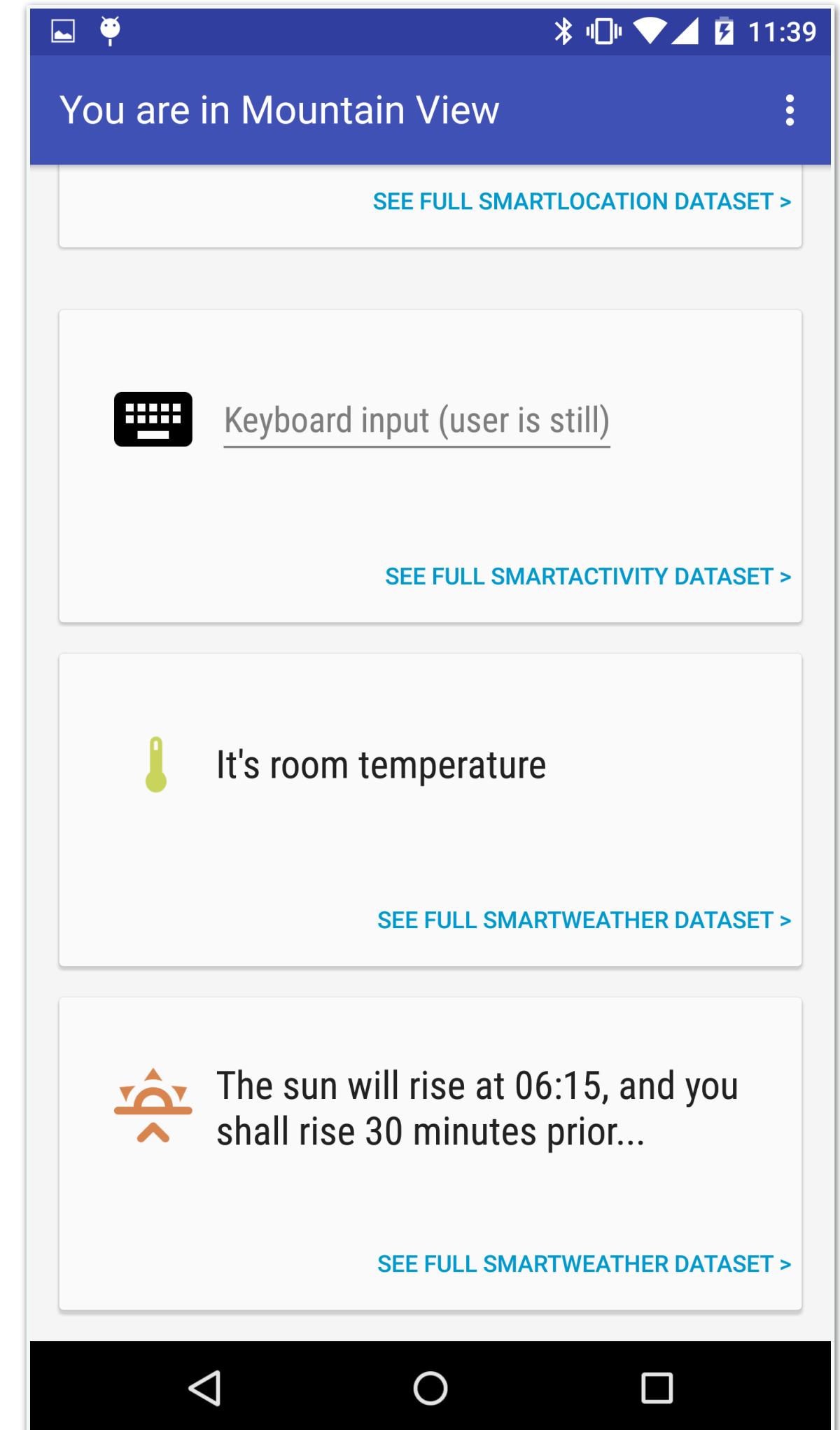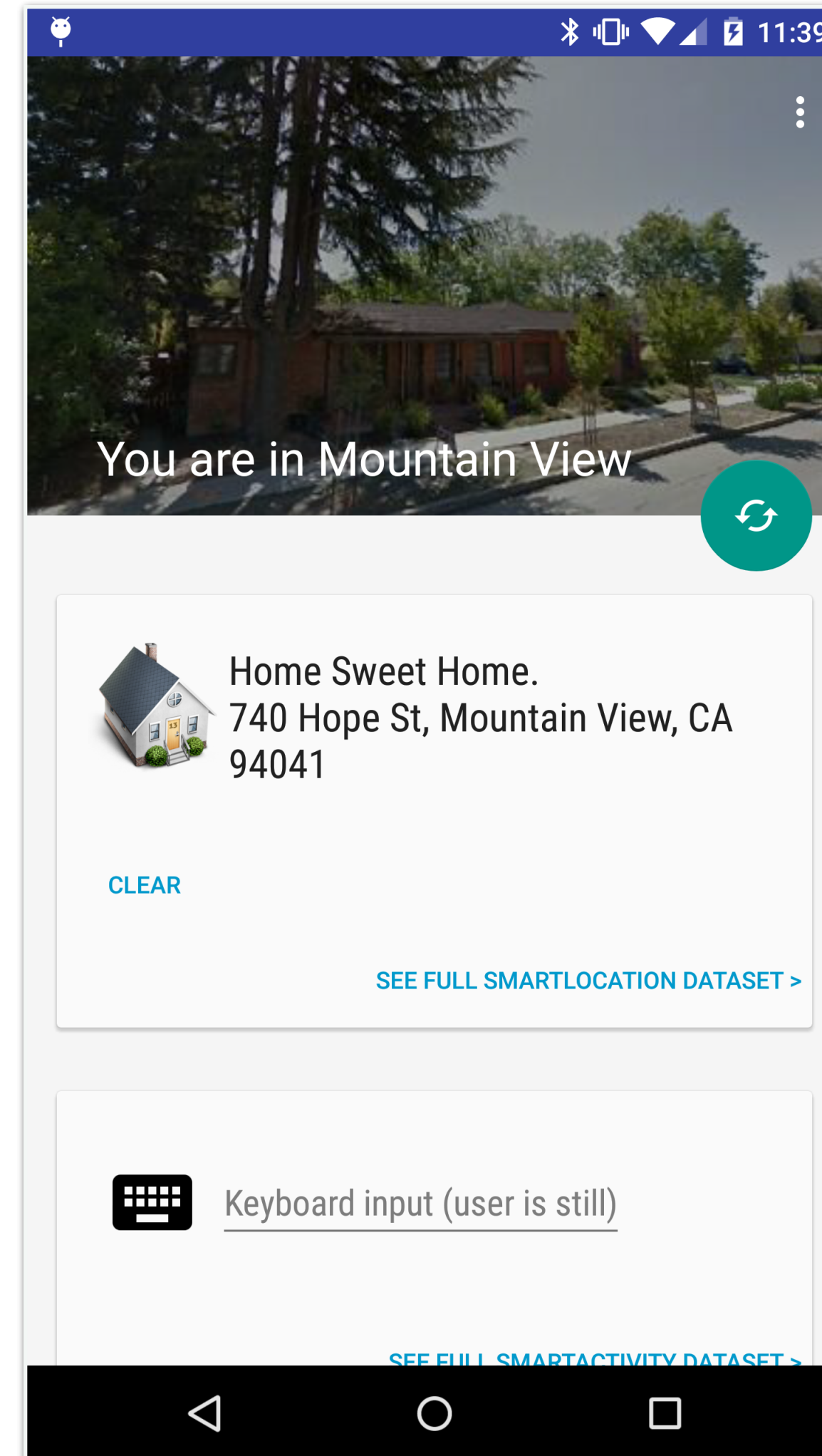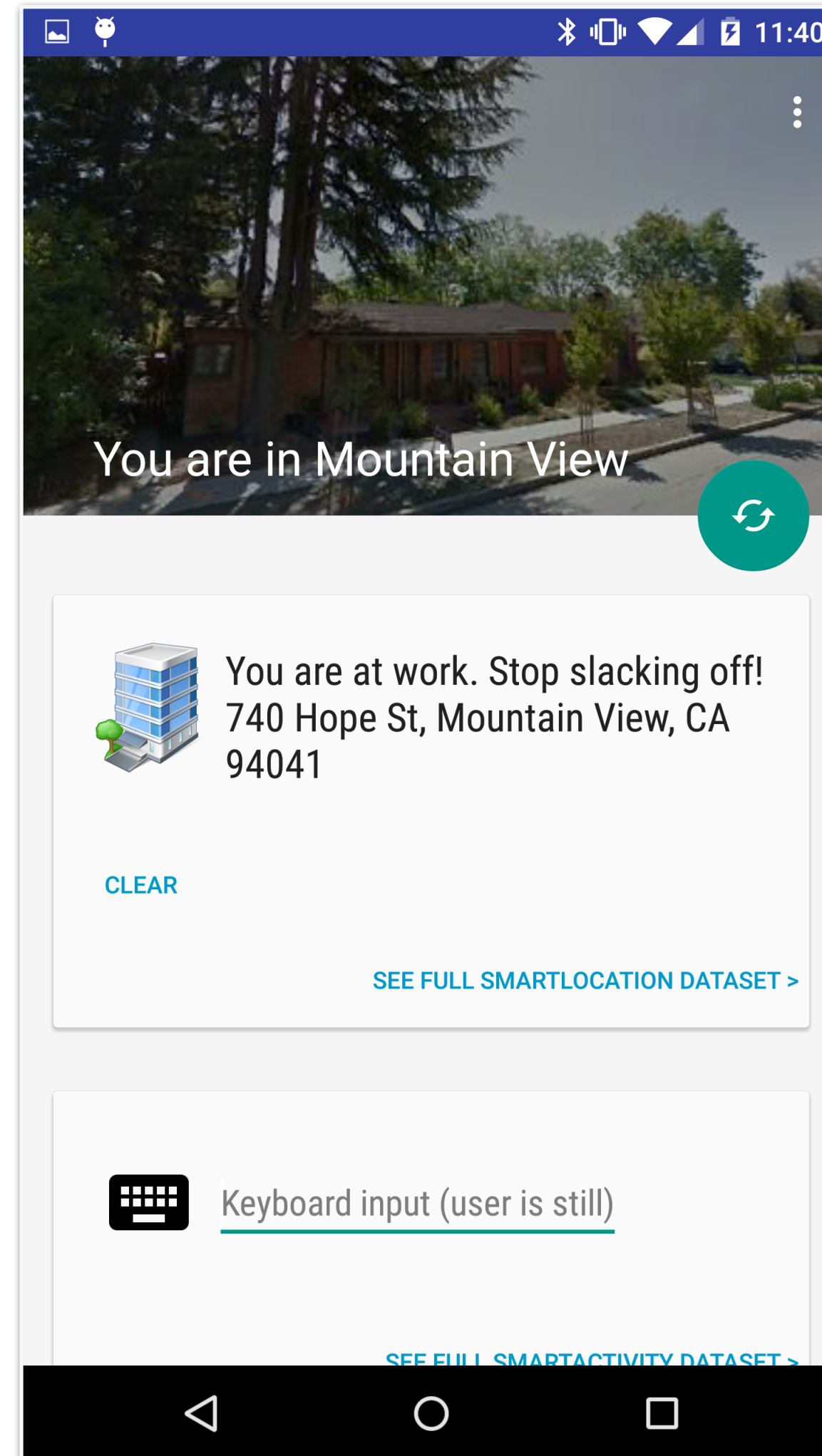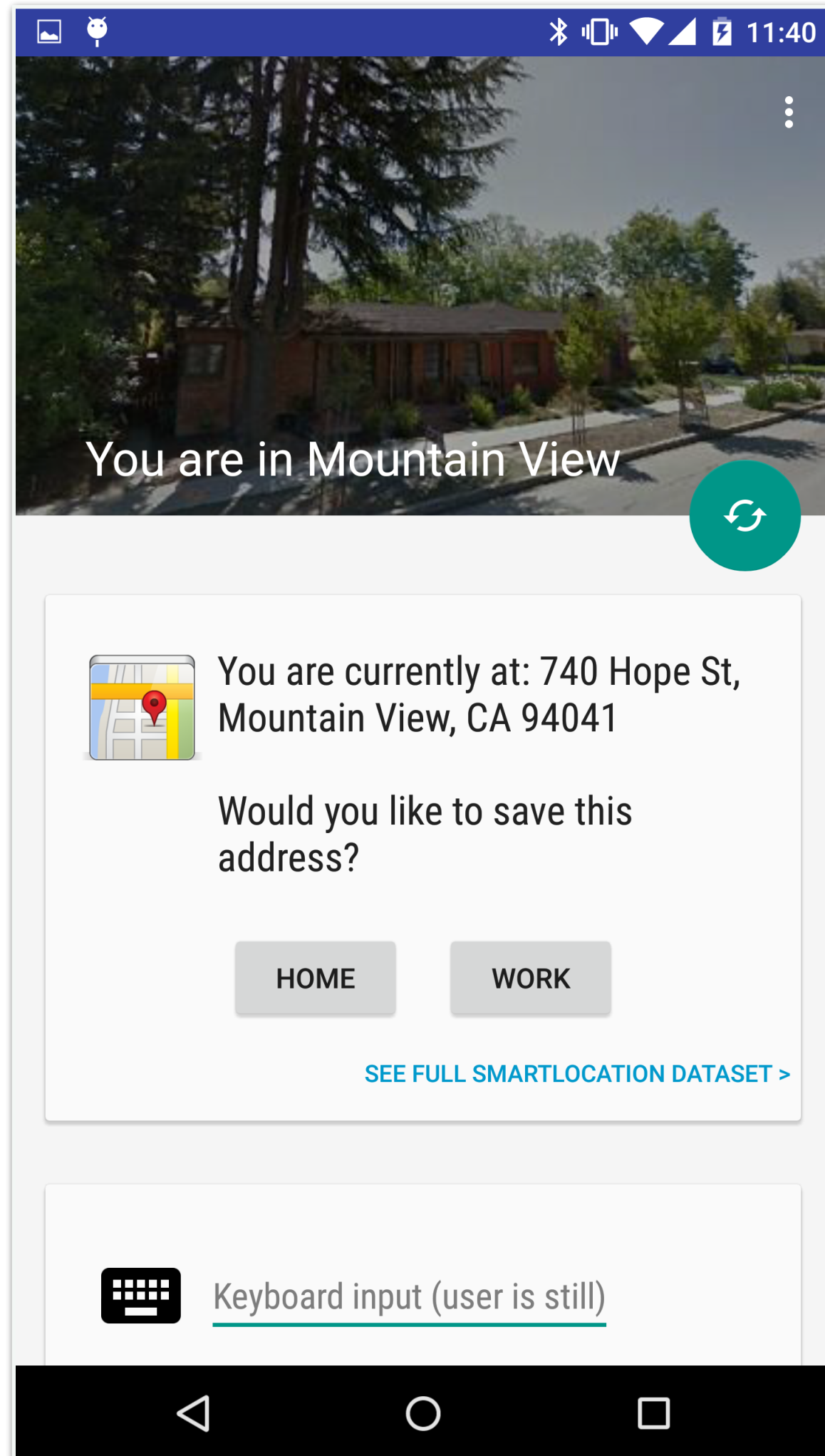
Download "trnql Interplay" for iOS on the App Store

You are in Mountain View

LOCATION

📍 You are currently at: Mountain View High School, 582 Hope St, Mountain View, CA

Would you like to save this address?

Home   **Work**

See Full SmartLocation Dataset >

ACTIVITY

⌨ Keyboard Input Enabled (User is Stationary)

See Full SmartActivity Dataset >

WEATHER

You are in Mountain View

LOCATION

🏠 Home Sweet Home.
Mountain View High School, 582 Hope St,

Reset

See Full SmartLocation Dataset >

ACTIVITY

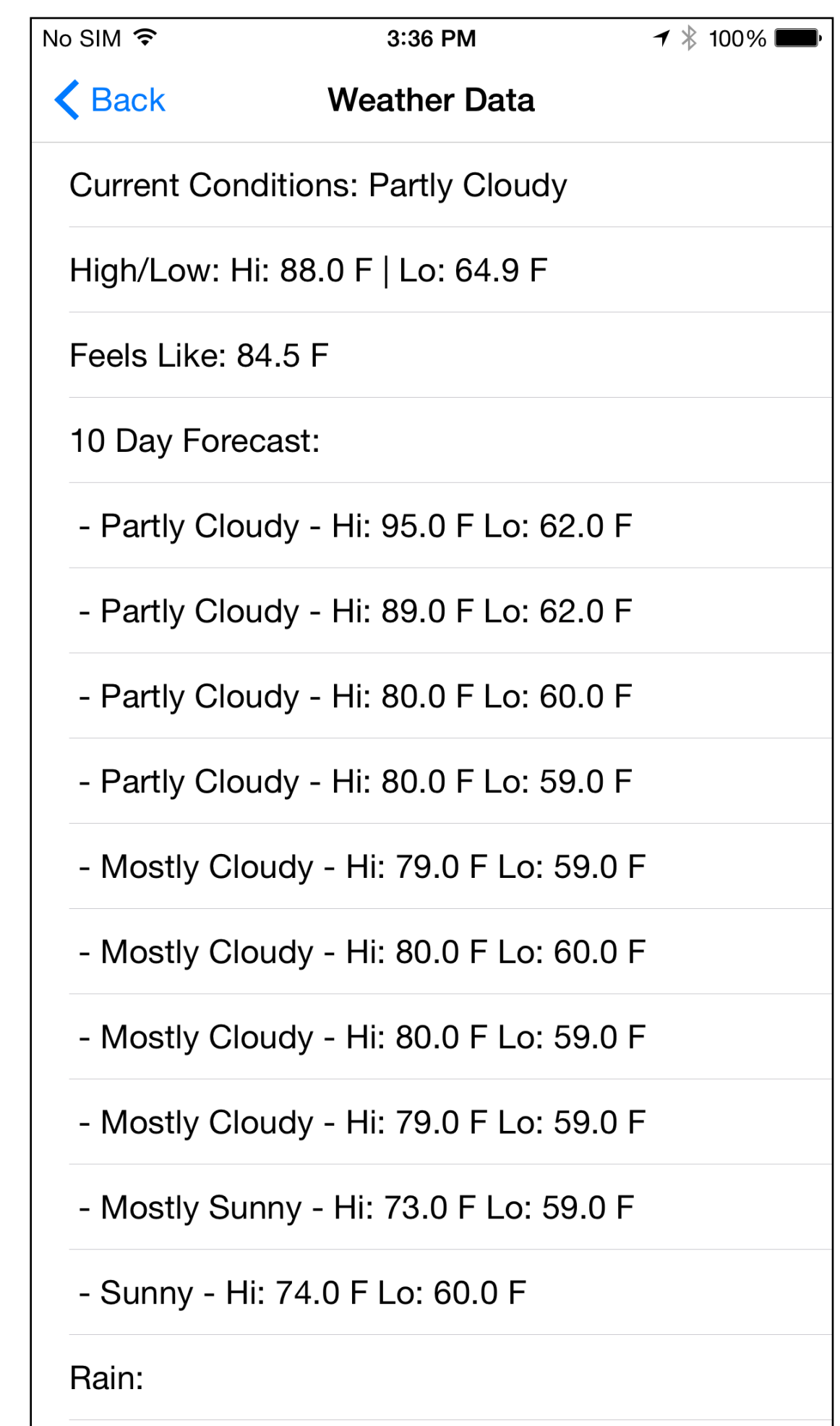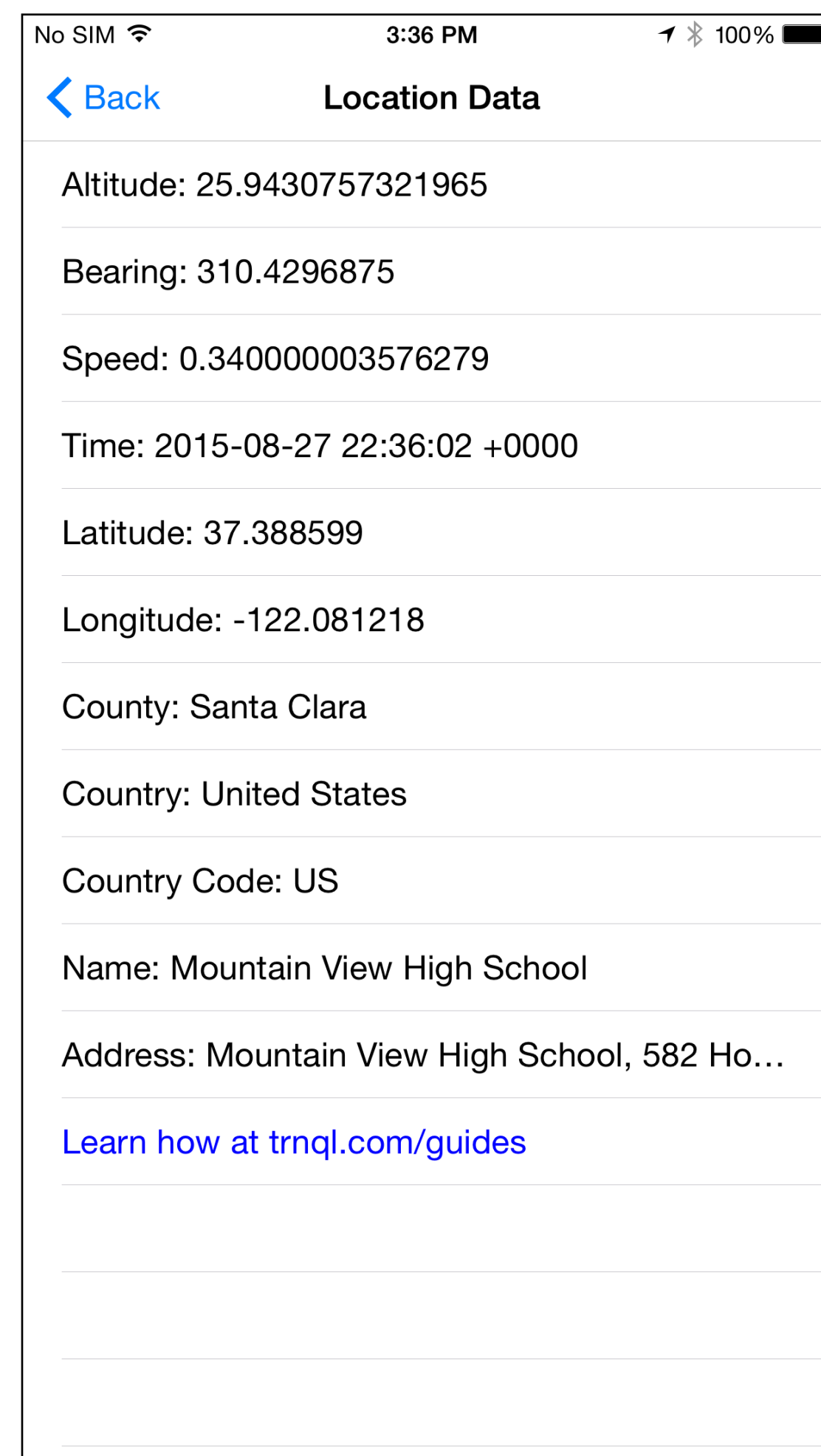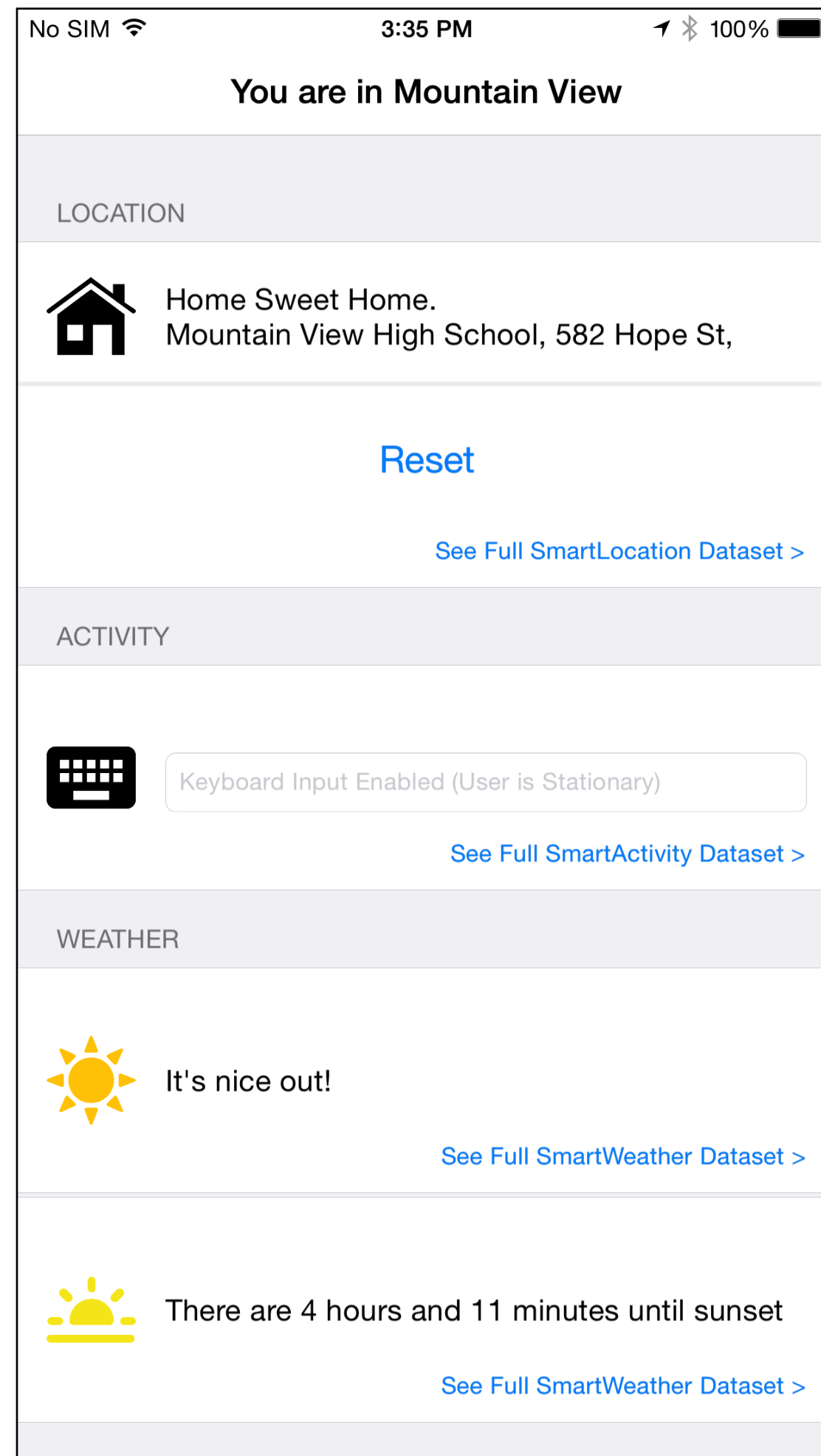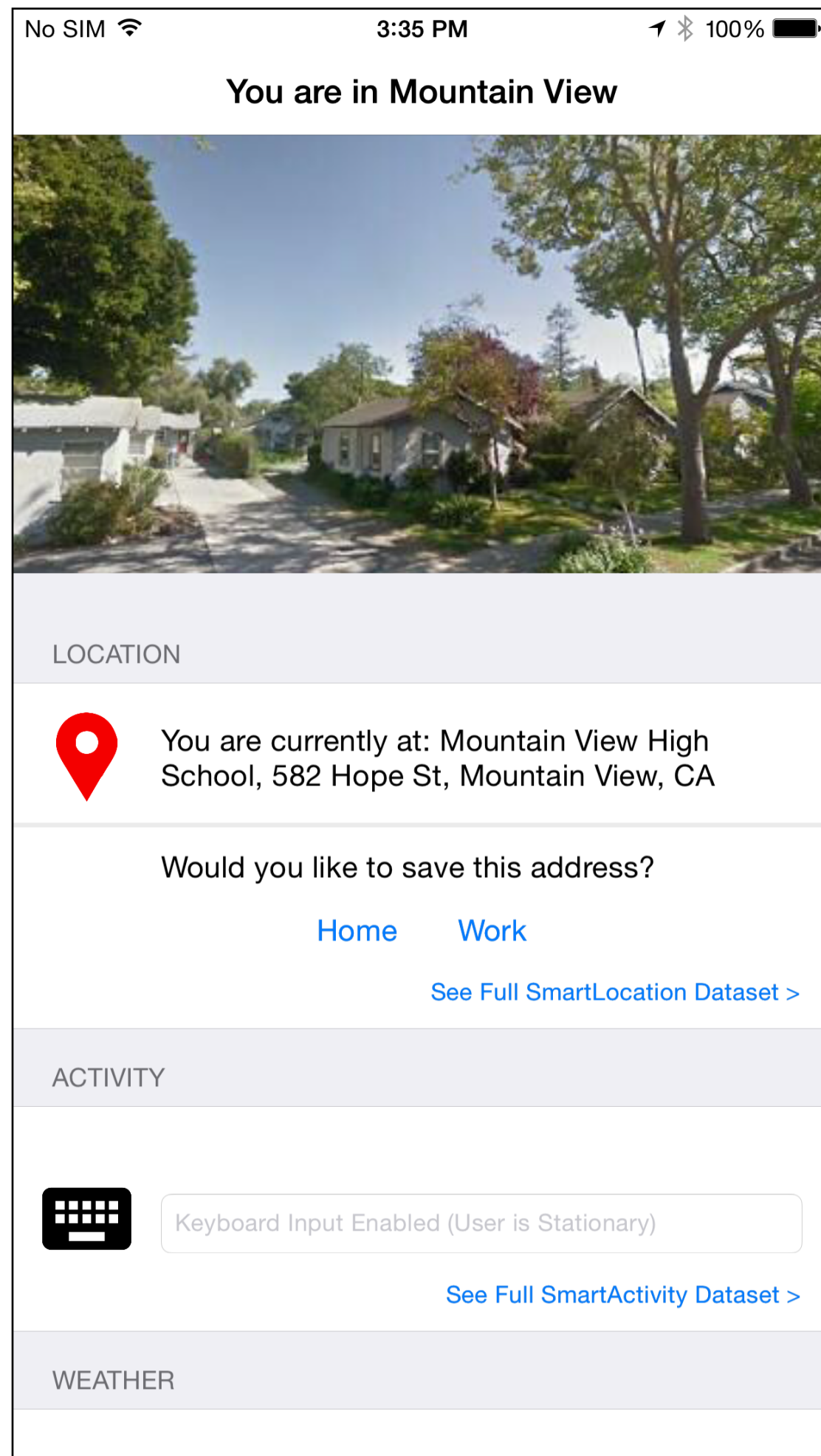⌨ Keyboard Input Enabled (User is Stationary)

See Full SmartActivity Dataset >

WEATHER

☀ It's nice out!

See Full SmartWeather Dataset >

🌅 There are 4 hours and 11 minutes until sunset

See Full SmartWeather Dataset >

‹ **Back**   **Location Data**

Altitude: 25.9430757321965

Bearing: 310.4296875

Speed: 0.340000003576279

Time: 2015-08-27 22:36:02 +0000

Latitude: 37.388599

Longitude: -122.081218

County: Santa Clara

Country: United States

Country Code: US

Name: Mountain View High School

Address: Mountain View High School, 582 Ho...

Learn how at trnql.com/guides

‹ **Back**   **Weather Data**

Current Conditions: Partly Cloudy

High/Low: Hi: 88.0 F | Lo: 64.9 F

Feels Like: 84.5 F

10 Day Forecast:

- Partly Cloudy - Hi: 95.0 F Lo: 62.0 F

- Partly Cloudy - Hi: 89.0 F Lo: 62.0 F

- Partly Cloudy - Hi: 80.0 F Lo: 60.0 F

- Partly Cloudy - Hi: 80.0 F Lo: 59.0 F

- Mostly Cloudy - Hi: 79.0 F Lo: 59.0 F

- Mostly Cloudy - Hi: 80.0 F Lo: 60.0 F

- Mostly Cloudy - Hi: 80.0 F Lo: 59.0 F

- Mostly Cloudy - Hi: 79.0 F Lo: 59.0 F

- Mostly Sunny - Hi: 73.0 F Lo: 59.0 F

- Sunny - Hi: 74.0 F Lo: 60.0 F

Rain:

Join us!

Let us know if you need help integrating the `trnql` SDK into your iOS & Android apps

Join us!

Show us what you've built. We will feature interesting smart apps in future meetups

Join us!

Meetup.com feedback - http://bit.ly/uxdmeetup

Ways to reach us

Forum - https://groups.google.com/forum/#!forum/trnql-trusted-testers

Mailing list - trusted-testers@trnql.com

Developer site - http://trnql.com/getting_started/

UX Design community - http://bit.ly/uxcommunity

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