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](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.
Google Now

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

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**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*


*You searched for this sector on MakeMyTrip*

→ View all flights

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*$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

<table>
<thead>
<tr>
<th>Category</th>
<th>Apps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FASHION</strong></td>
<td>stichfix</td>
</tr>
<tr>
<td><strong>MUSIC</strong></td>
<td>spotify, player.fm, open table, yelp</td>
</tr>
<tr>
<td><strong>FOOD</strong></td>
<td>door dash, google maps</td>
</tr>
<tr>
<td><strong>MAPS + NAV</strong></td>
<td>waze</td>
</tr>
<tr>
<td><strong>SOCIAL</strong></td>
<td>facebook, pinterest, instagram</td>
</tr>
<tr>
<td><strong>ONLINE DATING</strong></td>
<td>tinder, match</td>
</tr>
<tr>
<td><strong>SHOPPING</strong></td>
<td>amazon</td>
</tr>
<tr>
<td><strong>TAXI</strong></td>
<td>uber, lyft, sidecar</td>
</tr>
<tr>
<td><strong>WEATHER</strong></td>
<td>runtastic, strava</td>
</tr>
<tr>
<td><strong>FITNESS</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CALENDAR</strong></td>
<td></td>
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<tr>
<td><strong>MESSAGING</strong></td>
<td></td>
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</tbody>
</table>
Context signals

LOCATION

ACTIVITY
walk, run, in car, on bike, still

CURRENT WEATHER
UV Index, temperature, humidity, rain, sunrise & sunset

WEATHER FORECAST
10 day forecast
Types of interactions

- On Demand / Right Now
- History / Usage Over Time
- Planning & Research
<table>
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<tr>
<th>Category</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>FITNESS</td>
<td>runtastic warns it will rain in a few days when you have a run scheduled… you can also glean patterns of activity from history</td>
</tr>
<tr>
<td>MUSIC</td>
<td>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</td>
</tr>
<tr>
<td>ASSIST</td>
<td>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</td>
</tr>
<tr>
<td>WEATHER</td>
<td>collect prefs from user for temp ranges, rate of change, rain, UV index, for alerts… give recommendations, like bring an umbrella, or jacket</td>
</tr>
<tr>
<td>CLOTHING</td>
<td>based on monthly collection of outfits, use weather data to suggest what outfit the user wears that day</td>
</tr>
<tr>
<td>YELP</td>
<td>give suggestions of places based on weather, e.g.: patio seating is relevant when it’s not raining or super cold or hot</td>
</tr>
<tr>
<td>UBER</td>
<td>going to rain later today, so beware of surge pricing and maybe leave sooner or later</td>
</tr>
<tr>
<td>SMART CLOCK</td>
<td>wake me up early because it snowed last night</td>
</tr>
<tr>
<td>CALENDAR</td>
<td>I’m late… notify people on invite that I’m en route (by sensing activity)… suggest umbrella if bad weather</td>
</tr>
</tbody>
</table>
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: 3 Developers, 9 Months, 80 APIs, 300 Classes, 800 Methods
- iOS App: 2 Developers, 3 Months, 10 APIs, 45 Classes, 250 Methods

With TRNQL:
- Android App: 1 Developer, 2 Weeks, 1 API, 4 Classes, 10 Methods
- iOS App: 1 Developer, 1 Week, 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
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!

Ways to reach us

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

Mailing list - trusted-testers@trnql.com

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

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