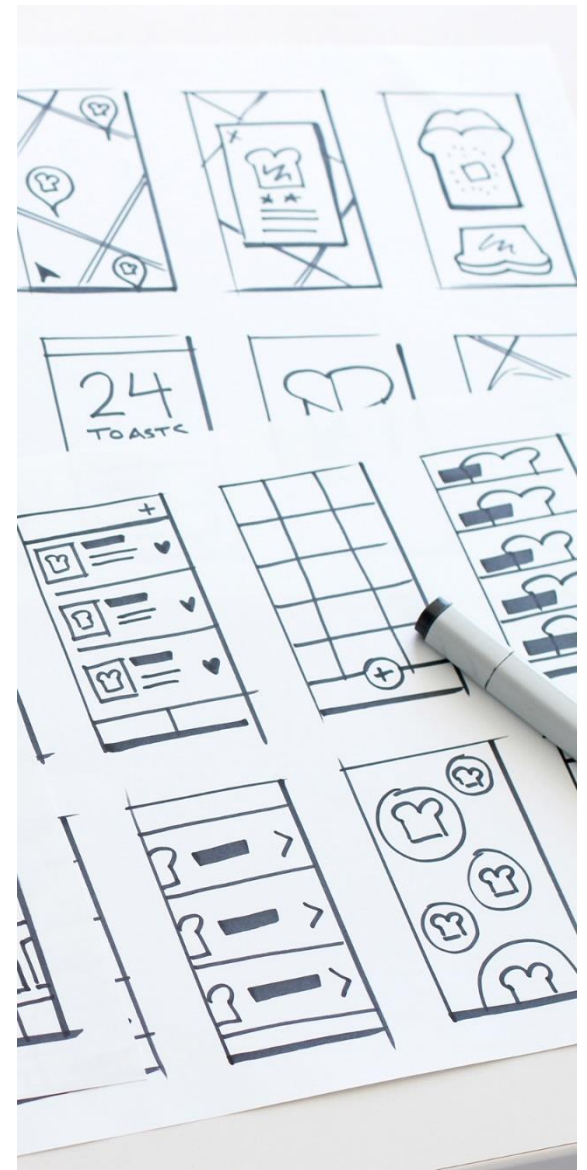


# Prototyping a Social Network

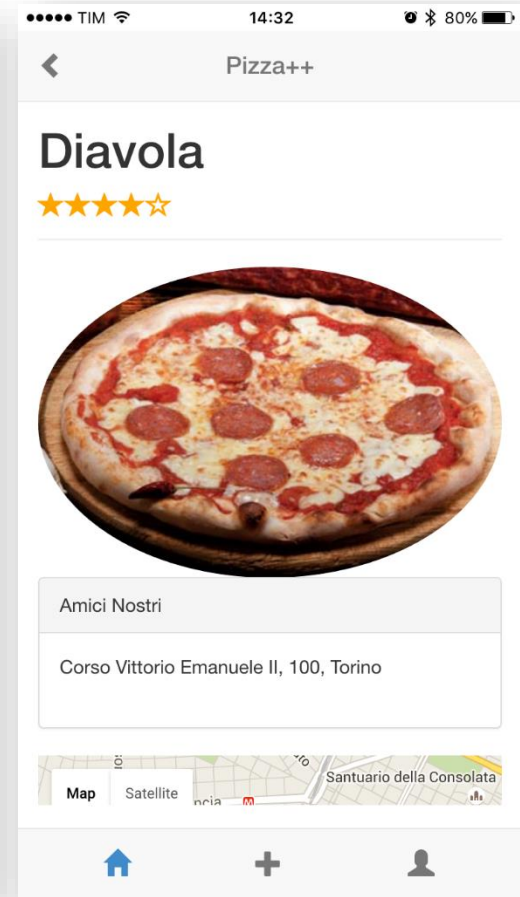
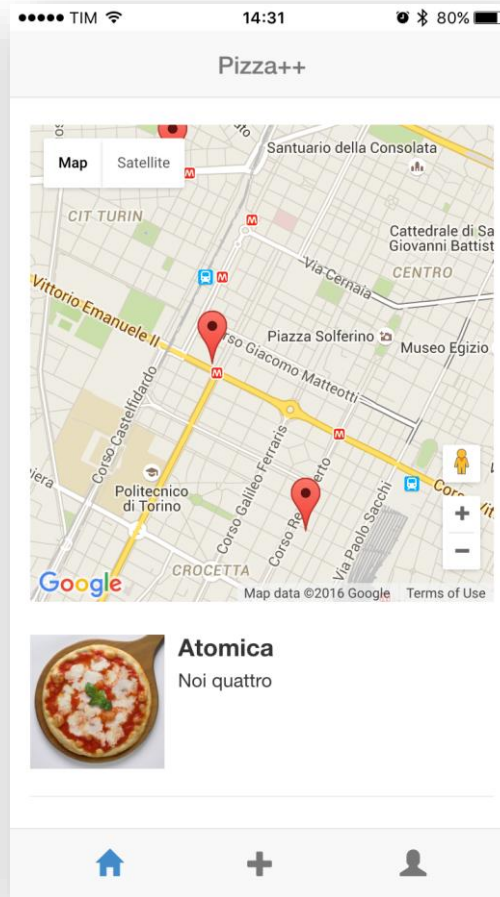
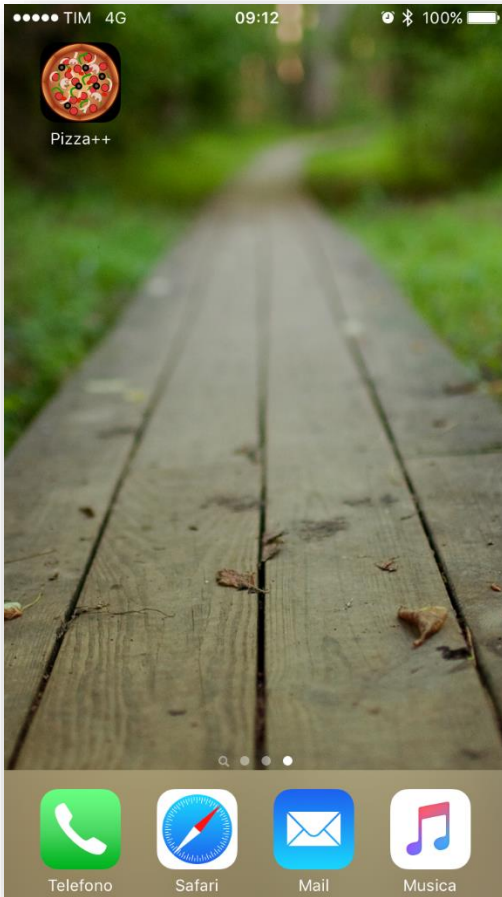
BACKEND WITH FIREBASE



POLITECNICO  
DI TORINO



# Pizza++



# Pizza++ Feature Set

- Find top pizzas to eat near me
- Post pizzas
- Rate pizzas
- Review (comment) pizzas
- Discuss about pizzas with my friends

# Pizza++

- Ingredients for frontend
  - HTML5
  - CSS3, with the help of the Bootstrap framework (<http://getbootstrap.com>)
  - JS, with the AngularJS framework (<http://angularjs.org/>)
- Ingredients for backend
  - *None*
  - We will rely on Firebase (<http://firebase.com>)



Getting started...

# **FIREBASE**

# Firebase

- A powerful platform for mobile or web applications
  - <https://www.firebase.com>
- Overview (video)
  - <https://youtu.be/SLgHfH7KzXU>
- Quickstart for the Web
  - <https://www.firebase.com/docs/web/quickstart.html>



Realtime DB



Authentication



Hosting

# Realtime Database



- Data in your Firebase database
  - stored as JSON
  - synchronized in realtime to every connected client
- Automatically scales with your app
- Works offline

# Authentication



- Built-in support for user authentication
- Support
  - Social Login (Facebook, Twitter, GitHub, Google)
  - Anonymous Login
  - Login with username and password
- Handle user login entirely with client-side code
- Integrate authentication with your existing backend
  - if needed



# Static Hosting



- Deploy your web app in seconds
  - production-grade static asset hosting
- All of your content is served over HTTPS and backed by a global CDN
  - SSL by default
- Static Hosting management and rollback deploys

# A quick look

**Dashboard** VIEWING PIZZA++ Account Settings

Expand Data Collapse Data Import Data Export Data

VIVID-INFERNO-8565

Rectangular Snip

**vivid-inferno-8565**

- pizzas**
  - KGMK9nc4RZ7Zke4ILmh**
    - address: "corso Francia 24, Torino"
    - image: "data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABg..."
    - name: "Atomica"
    - pizzeria: "Noi quattro"
    - posted-by: "f44887c1-f5ad-4de1-a452-b21565876cd5"
    - rating
      - total: 11
      - value: 4
      - votes: 3
  - amici-nostri-diavola**
    - address: "Corso Vittorio Emanuele II, 100, Torino"
    - image: "../images/pizza/amici-nostri-diavola.jpg"
    - name: "Diavola"
    - pizzeria: "Amici Nostri"
    - posted-by: "d8e51078-98db-4810-bf12-a25877b6e387"
    - rating
      - total: 11
      - value: 4
      - votes: 3
  - amici-nostri-margherita**

**Legend**

- Changed
- Added
- Deleted
- Moved

# Structuring Data

- "Everything is a JSON"
- Use nested data sparingly, but prefer flattened data
- Use indices to define complex relationships

# Structuring Data

```
1. // Tracking two-way relationships between users and groups
2. {
3.   "users": {
4.     "mchen": {
5.       "name": "Mary Chen",
6.       // index Mary's groups in her profile
7.       "groups": {
8.         // the value here doesn't matter, just that the key exists
9.         "alpha": true,
10.        "charlie": true
11.      }
12.    },
13.    ...
14.  },
15.  "groups": {
16.    "alpha": {
17.      "name": "Alpha Group",
18.      "members": {
19.        "mchen": true,
20.        "hmadi": true
21.      }
22.    },
23.    ...
24.  }
25. }
```

# AngularFire

- Firebase library for AngularJS
  - <https://www.firebase.com/docs/web/libraries/angular/>
- The officially supported AngularJS binding for Firebase
- Getting started guide
  - <https://www.firebase.com/docs/web/libraries/angular/guide/>

Getting started with Pizza++ and Firebase

# **(GUIDED) EXERCISE**

# (Guided) Exercise

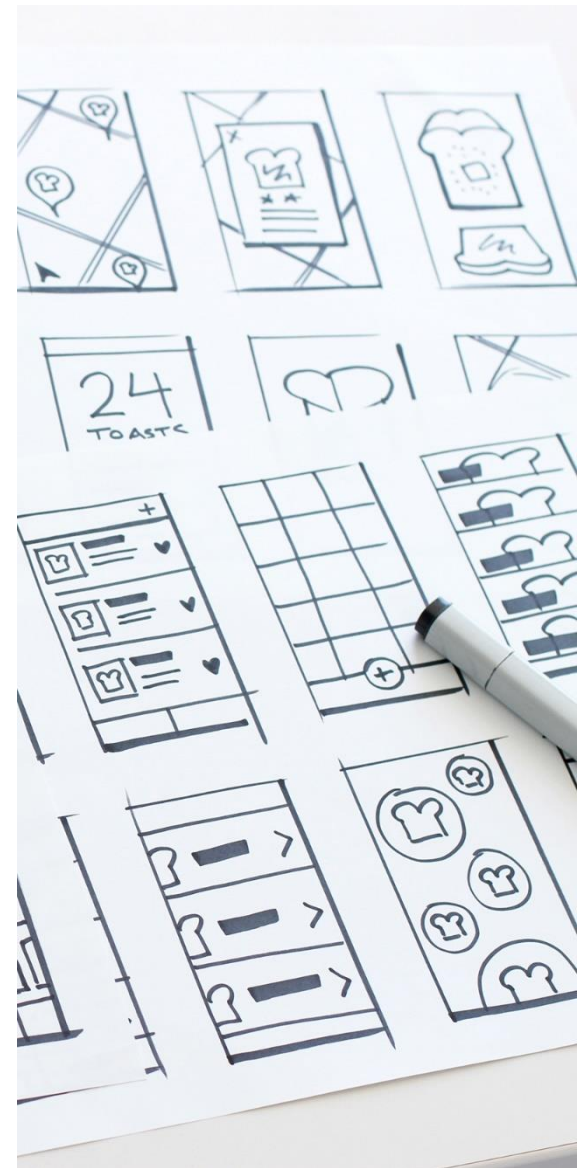
- Starting from the knowledge of the previous lab...
    - <https://github.com/SoNet-2016/social-prototype-firebase/releases>
1. integrate AngularFire and Firebase
  2. read/write the JSON data from/to Firebase
  3. complete the pizza list page
  4. complete the single pizza page

# Questions?

**01QYAPD SOCIAL NETWORKING: TECHNOLOGIES AND APPLICATIONS**




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