HTN ‘15 Mobile Interview Challenge

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Contributors

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Introduction

On the Hack the North (HTN) mobile platform team, you will be responsible for helping us build mobile product(s) relating to the hackathon. This includes writing code, weighing in on features we add, critiquing UI/UX design, and more---whatever we need to get done to deliver an epic mobile experience. You can help in whatever areas you’d like.

A small challenge will help us determine 1) how you work, including your ability to integrate with open source and platform APIs, and 2) how you think about your work; product vision.

Email shaneecy@gmail.com for any questions.

Mobile Application

Create a mobile application (native Android or iOS) that displays fake HTN attendee profile data on either a list or a map. You will deliver the application to us in source code format. Evaluation will be reading your code and using your app that we will build locally (Android Studio for Android apps; XCode 6 for iOS apps).

Data

We have 1200+ fake user profiles complete with geographic information and skills listings located at https://htn15-interviews.firebaseio.com/.json. The JSON schema is:

```
{
  “name”: <string>,
  “picture”: <string>
  “company”: <string>,
  “email”: <string>,
```

```
  “phone”: <string>,
  “latitude”: <float>,
  “longitude”: <float>,
  “skills”: [
    {
      “name”: <string>,
      “rating”: <float>
    }
  ]
}
```

Notes:

1. Skills with the same name can appear in the list. I.e. someone might have {“Android”,1} and {“Android,5} in their skills.

Application Specification

The following is the base specification for your application. Get as far as you can in the given timeframe.

1. Native iOS or Android mobile app.
2. Use the Firebase REST API, not iOS or Android SDKs.
3. Display every user on either a list or a map (you should only implement one):
    a. List
        i. Display each user’s name, picture, and skills.
        ii. Sort the list alphabetically by name.
    b. Map:
        i. Mark each user on the map using the geographic coordinates.
        ii. The color of the user’s mark on the map should depend on the user’s strongest skill.

Important Considerations

1. Is the base specification implemented?
2. Have you used appropriate networking, JSON, etc. libraries in retrieving data from Firebase?
3. Is the UI performant? For the list, is scrolling smooth despite loading images from the network? For the map, is drawing all the elements onto the map smooth despite there being more than 1200 of them?

Other Notes

If you are a beginner or have never implemented an app before, get as far as you can using the internet as a resource for learning. We are especially interested in motivated beginners so do your best and we will evaluate you based on your experience!

If you're a rockstar and implement the above spec quickly, feel free to make improvements as you see fit. Especially so if the improvements you implement are part of a larger vision for your application as a product for hackathon attendees (see below).

Product Vision & Design

Treat your new application as a product for hackathon attendees, and think about the following questions. You will deliver these thoughts in a conversation with us. Evaluation will be in your ability to articulate your ideas:

Good: "Filtering the data by _____ would be sweet because when hackers/sponsors are _____, they'll need to know about all the _____ quickly."
Bad: "I thought it'd be nice to be able to filter the data by _____."

This should be a relatively passive activity; we're interested in your ideas, not in an essay or detailed plan. You may want to take notes if any of these questions aren't enough of a trigger for remembering your thoughts. Finally, note that these important questions mirror what the HTN team will be asking in the coming weeks as we plan for the real HTN mobile product.

1. What are some good ways to filter the given data (either on a list or on a map)?
2. What useful features could we build with the given data?
3. How could the profile data be meaningfully extended? For example, "Having access to their github handle would let us pull their code down into our app, which we could use to…"
4. What are some useful performance metrics for this application and why?
5. Could this data be useful for building any features / products for sponsors of HTN?
6. *< Other thoughts you may have; not limited to answering the previous questions >*