XebiaLabs Front-End Developer Assessment

XebiaLabs

Version 1.1, 2016-01-26

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This is the XebiaLabs product developer assessment. The assessment is intended to give us insight into your technical abilities, development approach and general technical working habits. We view your performance on this assessment as indicative of the work you will deliver as a XebiaLabs developer.

Contents

The assessment consists of:

- an assignment to prepare beforehand
- a presentation about your implementation of the assignment at the XebiaLabs office.

Assignment

The assignment is the "Diaper Dumper" case, described below. Read the case carefully and approach it as you would a regular project. We advise you to pick technology you are familiar with so you can be instantly productive.

We expect that you will need about 5 to 8 hours to prepare for the assessment. We ask you treat the assessment confidential so we can use it again in the future - do not publish it on open source hosting sites such as GitHub. Start with the first stories and see how far you can get through all stories.

Implement this assignment as if it is production quality code. We appreciate solid software craftsmanship. And we consider testing to be a big part of that. So show us how you would test. The assessment is meant to allow you to showcase your skills as a software engineer. To get a feel for what we are looking for, please have a look at: http://essentials.xebia.com

Craftsmanship is key:

- Design sense
- (Automated) Testing
- Use of tools and frameworks
- Clean Code

Presentation

The assessment presentation will be done either in person in the XebiaLabs office or remotely. You are free to deliver your presentation in any form, but we expect you to cover:

- the overall approach you took to the assignment
- the architecture of the solution and the technologies used
- your solution for each of the user stories

If you are coming to the XebiaLabs office, bring a laptop with a working development environment. There will be a beamer present at the office with VGA, DVI and HDMI connectors. Please bring the necessary converters/cables that fit your laptop.

Delivery

Please send the assessment solution to XebiaLabs **one day** in advance of your presentation to allow us time to prepare for the assessment.

Diaper Dumper

A number of municipalities in The Netherlands allow their residents to dump diaper bags in a publicly accessible dumpster. The trick is finding these dumpsters.

We want to make things easier for parents. We would like to create an application helping residents to find these dumpsters in their neighborhood.

Basic Stories

Implement the following basic stories:

- Present a map showing nearby dumpsters.
- The dumpster data should initialy be loaded for the "current location".
- When the user pans the map, dumpster data for the area the user panned to should be fetched from the server and displayed.
- For each location, display review information.
- For each location, allow an user to submit a review anonymously.

Think about efficient use of data; are there some optimizations you might be able to do?

Advanced Stories

For extra credit, allow users to post reviews:

- Allow a user to register for an account with a username, password and email address
- Existing users should be allowed to perform a login with their existing credentials

Note that our backend uses what Parse.com calls "Revocable sessions"; make sure your application can handle this

Backend

As a backend we use a Parse.com based application; the application ID and REST application API keys can be found in the cURL commands below, which double as API examples:

Retrieve dumpsters in a radius around given lat / long coordinates

```
curl -X GET \
  -H "X-Parse-Application-Id: R8jG6ChCSOGxvB4UWjcMMlEMuloVjoVLo4mS2xkD" \
  -H "X-Parse-REST-API-Key: 8GjcnO3gOdaIE41Nl9Y2juLEQgiNvHVdUM1aZoxF" \
  -G \
  --data-urlencode 'where={
        "geo": {
          "$nearSphere": {"__type": "GeoPoint",
            "latitude": 52.25234437272909,
            "longitude": 6.160569414496422
          },
          "$maxDistanceInKilometers": 2.0
        }
      }' https://api.parse.com/1/classes/location
```

Retrieve dumpsters within a box shaped area with a from and to point

```
curl -X GET \
  -H "X-Parse-Application-Id: R8jG6ChCSOGxvB4UWjcMMlEMuloVjoVLo4mS2xkD" \
  -H "X-Parse-REST-API-Key: 8GjcnO3gOdaIE41Nl9Y2juLEQgiNvHVdUM1aZoxF" \
  -G \
  --data-urlencode 'where={
        "geo": {
          "$within": {
            "$box": [
              { "__type": "GeoPoint",
                "latitude": 52.25108329271412,
                "longitude": 6.1570074409246445
              },
              { "__type": "GeoPoint",
                "latitude": 52.264125856739554,
                "longitude": 6.173765882849693
              }
            ]
          }
        }
      }' https://api.parse.com/1/classes/location
```

Retrieve dumpster location details

```
curl -X GET \
  -H "X-Parse-Application-Id: R8jG6ChCSOGxvB4UWjcMMlEMuloVjoVLo4mS2xkD" \
  -H "X-Parse-REST-API-Key: 8GjcnO3gOdaIE41Nl9Y2juLEQgiNvHVdUM1aZoxF" \
  -G \
  --data-urlencode
'where={"location":{"__type":"Pointer","className":"location","objectId":"p7zF8gMHtD"}
}' \
  https://api.parse.com/1/classes/review
```

Add a comment to a dumpster location

```
curl -X POST \
  -H "X-Parse-Application-Id: R8jG6ChCSOGxvB4UWjcMMlEMuloVjoVLo4mS2xkD" \
  -H "X-Parse-REST-API-Key: 8GjcnO3gOdaIE41Nl9Y2juLEQgiNvHVdUM1aZoxF" \
  -H "Content-Type: application/json" \
  -d '{"comment":"A bit
smelly","location":{"__type":"Pointer","className":"location","objectId":"p7zF8gMHtD"}
,"positive":false}' \
  https://api.parse.com/1/classes/review
```

More info on the Parse.com service can be found at https://www.parse.com/docs/