Senior Android Developer (NordVPN) - Technical Test

Call Monitor Task

Your task is to create an app that runs as an HTTP server in the background, is capable of serving telephone call data to clients on the same network, logs those telephone calls, and displays this call log via its UI.

You are welcome to use whatever libraries, patterns, etc that you wish.

Requirements

- An HTTP server should be created on the app, that:
    - Should be reachable to other clients on the same WiFi network as the device running the app.
    - Collects telephone call logs.
- Upon launch, the application UI should present:
    - The IP address and port of the HTTP server; and a button(s) to start/stop the server.
    - The list of logged telephone calls, each item in the list showing the name of the person who made the call and the duration.
- The application should run in the background while other apps are being used, unless explicitly stopped by the user.
- An exposed API on the HTTP server *should* provide the following data:
    - Relevant metadata about the availability of the service (see *Root* in the *Example API* below).
    - Data on the current call status, the phone number of the ongoing call, name of the person the device is in a call with, etc (see *Status* in the *Example API* below).
    - Data on previous calls that have occurred since app-launch, and for each call, how many times the data for that call has been queried (see *Log* in the *Example API* below).
- A candidate should present relevant documentation of the created API in an appropriate format, e.g. with a Read-me.
- The application should support Android API level 23+.

Example API

A simple API that mostly adheres to the specification is provided below.

Root

```
curl 192.168.1.100:12345
```


```
{
    "start": "2018-05-02T23:00:00+00:00",
    "services": [
        {
            "name": "status",
            "uri": "http://192.168.1.100:12345/status"
        },
        {
            "name": "log",
            "uri": "http://192.168.1.100:12345/status"
        }
    ]
}
```


Status

```
curl 192.168.1.100:12345/status
```


```
{
    "ongoing": "true",
    "number": "+12025550108",
    "ongoing": "John Doe"
}
```


Log

```
curl 192.168.1.100:12345/log
```


```
[
    {
        "beginning": "2018-05-02T23:00:00+00:00",
```

```
        "duration": "498",
        "number": "+120255550203",
        "name": "Jane Doe",
        "timesQueried": "5"
    },
    {
        "beginning": "2018-05-01T09:00:00+00:00",
        "duration": "721",
        "number": "+120255550108",
        "name": "John Doe",
        "timesQueried": "0"
    }
]
```