

Hi,

Thanks for joining the recruitment for Senior iOS Developer position in Netguru. Here's some coding task for you so we can better know your technical skills.

Backstory

A client contacted you and wants you to make for him a quick proof-of-concept of the iOS application which shows Bitcoin (BTC) to USD trades in real-time. The key features of the app:

- The app should show in real-time trades obtained via <https://www.bitstamp.net/websocket/v2/> in a list on the screen. As for now, the client wants to show trades only from Bitstamp. However, he mentioned that he might want to include other live sources of trades in the future.
- Every 100th trade received from Bitstamp, the app should additionally download 25 trades from another remote service, distinct from Bitstamp, and add them to the existing trades. The client isn't sure at this point which service exactly he wants to use, but it's assumed that it will be RESTful.
- Every 1000th trade, the app should persist in the last 1000 trades in local storage and remove them from the memory. This should be reflected on the screen by removing them from the list.
- The price of every trade should be analyzed by a CoreML model provided by the client (https://drive.google.com/file/d/1EqFuNnAy2aw6TEKq1VXxqd_0X-fHpXEx/view). The sentiment obtained from the model should be visually presented to the user in some way (e.g. background color change). The client mentioned that the model should return values in [0..1] (where 0 is the worst and 1 is the best) for input in [2000..18000], but he wasn't sure about the behavior for other inputs.

As the app is a proof-of-concept, the client agreed to cut some corners at the development stage:

- As the RESTful remote service isn't chosen yet, it should be mocked for now. Websocket service should be implemented according to the requirements.
- The local storage can be for now implemented as printing trades descriptions to the console.

- The UI can be minimalistic - default cells showing price and timestamp are sufficient.

Additionally, the client expects you to write thorough tests of the core part of the app, as he's afraid that it may be hard to test the app manually given a large number of trades needed to trigger some actions.

Task

Your goal is to write the application which would satisfy the fictional client from the presented backstory in the best way possible. Additional requirements:

1. UI Requirements
 - a. Do not use Storyboards/xib files
 - b. Support only iPhones with portrait orientation
2. You can use any framework you think might help to finish the application
3. The application needs to be ready for deployment (no private API's, etc.)
4. Please target iOS 11.0+
5. Please use Swift

Disclaimer

Presented task is not a real project specification and was created only for the purpose of the recruitment process. Netguru won't use provided solutions in a commercial and non-commercial way.