

Flutter Technical Test

Welcome to the Nextbase Interview Test for Flutter Engineers & congratulations on making it to the next stage. At Nextbase, we use Flutter for all of our Apps. Our customers can play & download videos, upload videos to the cloud or change settings on their hardware.

Today, we'd like you to work on a project about video metadata; specifically, the metadata that our cameras encode into the video files. We simulate the Dash Cam using Firebase:

API: <https://us-central1-mynextbase-connect.cloudfunctions.net/sampleData?page=0>. You can pass a GET "**page**" parameter, by default 0, to retrieve the next set of data.

The response object contains:

data	<p>An array of dictionaries with these values:</p> <pre>{ "bearing": 241.360000610352, "datetime": "2018-02-22T09:39:46Z", "distanceFromLast": 0, "gpsStatus": "A", "lat": 51.571875, "lon": -3.20286661783854, "speed": 0.48332756917646, "xAcc": 0.0390625, "yAcc": -0.046875, "zAcc": 0.0234375 }</pre>
hasMore	True / False depending on whether there is more data available.

Tasks

1. Develop a basic data retrieval layer (repository) in the architecture you are most familiar with. Ensure the layer supports automatic retries:
The API is very unstable. Once in a while, the API will return HTTP 500. At that moment, the download needs to retry. Ensure the data is complete, so that all records are downloaded successfully.
2. Bring the data into a Flutter App and display the "xAcc", "yAcc", "zAcc" parameters in a combined line chart.



Optional Tasks

3. In a secondary page, show the "lat"/"lon" parameters within a simple Google/Apple Map within the App. The display should reflect the **path** of a journey.

What we are looking for

- Code structure & architecture decisions
- Unit & Widget tests using standard Flutter methodologies
- Insight in how you approached the problem of the unstable server

Recommended flutter packages

bloc, charts_flutter, retry, dio