

Testcase (Android/iOS) Mobile Development

Introduction

Welcome to the Digidentity software developer candidate assignment.
Your task is to implement a mobile client for a RESTful JSON API.
You are encouraged to use relevant frameworks to reduce the amount of code required.

API specification

The API provides a catalog service, where the items in the catalog are photos (encoded as Base64 string) with a short text description (string) and a confidence value (float). The database already contains 30 items.

Please note that all the requests to the API require a custom key in the header for authentication purpose. You can use the following key/value:

Authorization [you will receive a unique ID-token from Digidentity or your Recruitment Agency]

Resources

<https://marlove.net/e/mock/v1/items>

GET

Retrieve a list of all items in the catalog (10 per request).
The following request parameters can be used for pagination.

Name	Type	Required	Description
since_id	String	optional	If specified, it returns items with an ID greater than (that is, more recent than) the specified ID
max_id	String	optional	If specified, it returns results with an ID less than (that is, older than) or equal to the specified ID

DELETE

Remove all the items in the catalog.

<https://marlove.net/e/mock/v1/item>

POST

Add a new item to the catalog. The request body needs to be a valid JSON object. When the item is saved into the catalog a unique ID will be assigned (with the key _id).

Please use the following data structure to populate the catalog.

```
{
  "image": "ROIgODlhAQABAIAAP////////yH5BAEKAAEALAAAAABAAEAAAICTAEAOw==",
  "text": "Hello world!",
  "confidence": 0.7
}
```

DELETE

Remove a specific item from the catalog.

Example:

<https://marlove.net/e/mock/v1/item/4b3403665fea6>

Assignment

Build a one screen application that shows a list containing the items in the catalog. All the fields need to be visible in the UI (including the ID).

When the application is opened a new request is performed and the most recent 10 items should be shown.

When the user scrolls down past the oldest item another block of 10 items should be appended to the list.

When the user scrolls up past the most recent item the application should request the API for newer items.

Scrolling up past the beginning of the list should trigger a visual effect that indicates that more data is being loaded.

The application should cache the loaded items persistently between application launches. When the application is opened the most recent 10 items from cache should be shown.

The use of SSL pinning is required for each communication with the backend and the app must fail and warn the user.

Please write at least 3 unit tests to cover a small part of your code.

Optional

In case you'd like to produce more code to show your skills, you can implement the following items.

1) Encrypt (AES 256) the local cache used to store the data using a static key.

2) A screen for posting new content. This screen should allow a user to take a photo and, using an OCR (optical character recognition) tool of your choice, to extract the text (if any) from it.

The maximum image size should be 512x512 pixel.