Development exercise: Mood sensing app

Time allotted: 1 day

The camera on your shiny new phone can sense a user's mood based on their facial features, where mood can be characterized as either happy, sad, or neutral to start with.

We like you to design and implement a back-end application that leverages the phone's mood-sensing capability to collect mood data and provide insights:

- Upload a mood capture for a given user and location
- Return the mood frequency distribution for a given user
- Given the user's current location, return the closest location where the user has been happy.

Specifically, create code to implement the REST service cloud backend APIs for this application. Please note there is no need to create code that determines the mood from an image or upload images – you can assume the phone provides the mood-sensing capability and location!

Preferably in Python or Java, but you are free to use any framework that you are comfortable with.

Feel free to make any reasonable assumptions about the scope of your implementation (e.g. a 3rd party library for obtaining location characteristics, given a set of GPS coordinates)

We like to see a runnable version of the code plus instructions how to run it! If some parts are not implemented, please indicate so in the README and describe how you would implement it, and which 3rd party libraries or components you would use.

Try to cover as much detail as necessary to articulate the application design and implementation for the following.

Implementation Aspects:

• Define API
• Create dev project
• Layout code structure
• Design data model and key data structures
• Define data persistence using any data store of your choice.
• Define Implementation of operations
• Input validation
• Authentication
• Authorization
• Unit test
• Last but not least, provide a README for your design, implementation and assumptions.

We request you to zip up your project and send it back to us (i.e. do not upload it to GitHub or any other public repository)

Once we received your project, we will review it with you!