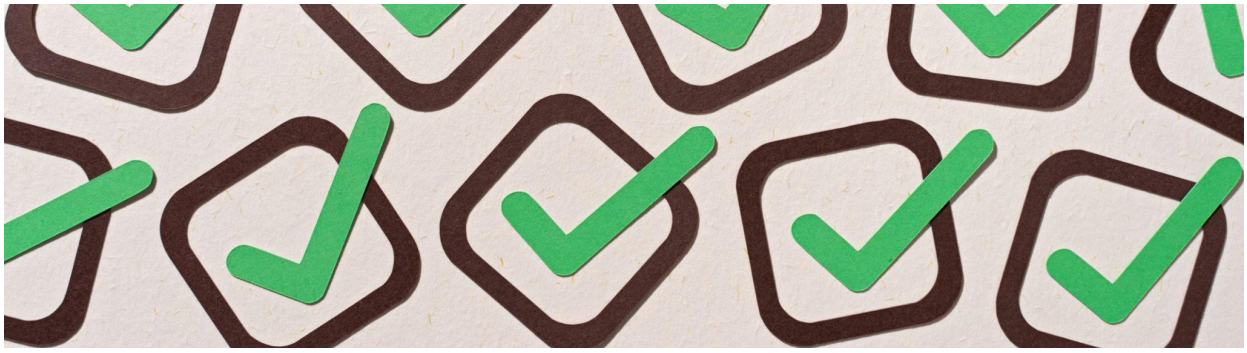


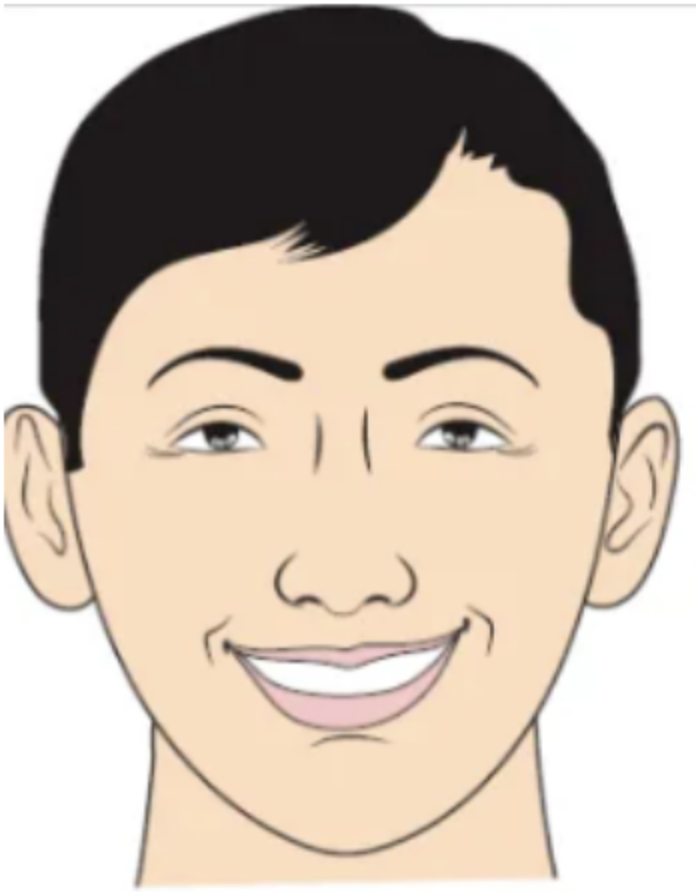
Candidate Assessment

Purpose

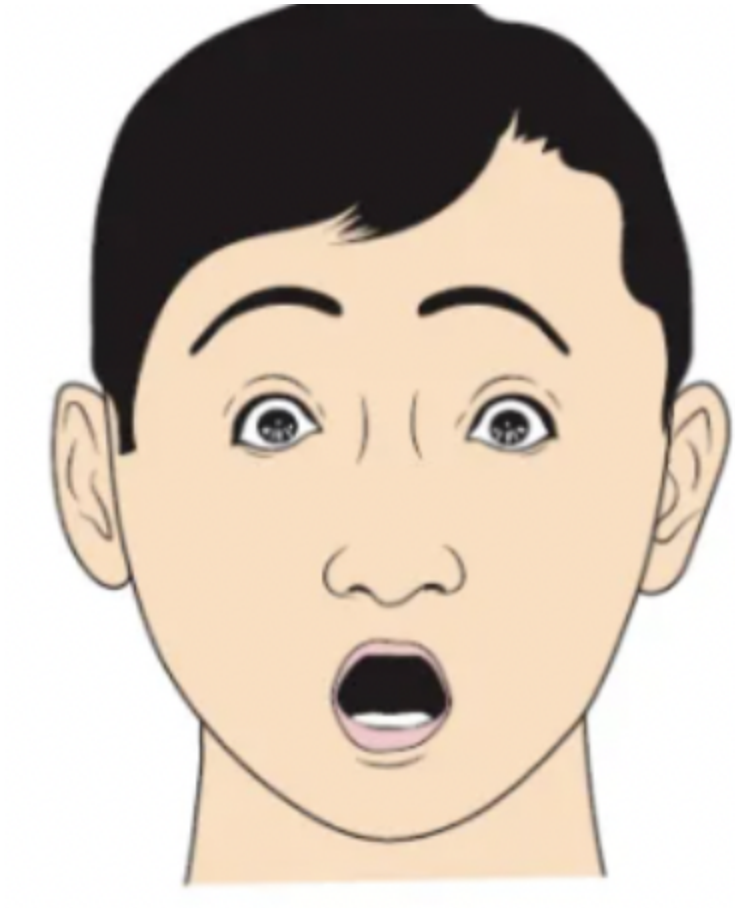
This assignment is designed to assess the potential of a candidate based on their analytical thinking, ability to adapt to fast-paced solutions, and problem-solving capabilities.

Problem statement

Consider the following: a human face can convey distinct expressions based solely on the **mouth's state**—whether it is open or closed.



The mouth is not open.



The mouth is open.

Identify a face with a closed mouth (neutral state) and a **face with an open mouth** (surprised or speaking state).

Mouth Closed:
The lips are together or only slightly parted in a way that does **not show a visible open gap** between the upper and lower lips.

- This includes neutral expressions, closed-lip smiles, and even **smiles with teeth visible**, as long as the mouth is not open in a way that suggests talking, yawning, or surprise.

Mouth Open:
The lips are clearly parted with a visible **gap or opening** between the upper and lower

lips.

- This includes talking, yawning, laughing, gasping, or any expression where the mouth is distinctly open.

Develop a solution to detect whether the mouth is **open** or **closed** using a **live webcam feed (preferred)**.

Objectives

- Can you reuse existing algorithms or machine learning models that are available?
- If not, can you come up with a simple, workable solution within a tight timeframe?
- Can you make it lightweight, so it doesn't consume a lot of processing power or memory?
- Can you make it fast, ensuring real-time performance?
- Can you make it extensible, so if I need to add more functionality in the future, I don’t have to rewrite everything?

Submission

- You will have 48 hours to complete this assessment.
- You will be invited to a Zoom call to demo your solution.
- Feel free to present your demo in any style you prefer.
- Sharing your GitHub URL is optional.
- Sharing your codebase is optional.
- Be as innovative as possible during your demo.
- We will focus on your thought process and how you arrived at the solution.

FAQs

What can I use?

Literally anything.

Can I use chat-GPT?

Yes.

Can I use ML existing model or should I create my own?

We believe you should avoid reinventing the wheel. If there's an open-source solution available that can be used, feel free to utilize it. Just make sure to provide the reference.

Which programming language should I use?

Any programming language you like.

Can it be a single file?

Yes, you can present a single file or a hundred files.