TECH & DEVELOPMENT ASSESSMENT

Objective:

The primary objective of this case study assessment program is to evaluate the technical and problem-solving skills of tech graduates and assess their ability to apply theoretical knowledge to real-world scenarios.

Problem Prompt:

You have recently joined an organization that recently closed a round of 1 million USD at a valuation of 10 million USD. Now the organization is looking to quickly expand from 20 employees to 200 employees. Some of them will work remotely, some work out of office, and some prefer the hybrid mode. However, this brings a challenge in visibility as the higher management needs to know if there are any resources who are missing work. The higher management has decided to launch a task-force for developing a smart attendance management system; you have made the cut - congratulations !

This product needs to be built as a group activity. The suggested flow is the following:

1. Definition (The Why?)
2. Structure (What content is required?)
3. Design (What UI is needed?)
4. Development (How do we build it ?)

Requirements:

Employee-Facing Application

1. Login
2. User should be able to take a selfie at the time of clock in
3. User should be able to take a selfie at the time of clock out
4. If a user has accidentally clocked in multiple times; the earliest clock-in identifies their check-in time.
5. If a user has accidentally clocked out multiple times; the latest clock-out identifies their check-out time.
6. Logout

Employer Portal

1. User should be able to log in
2. User should be able to create a new employee account (email, id, name, password, DOB, employee_pic)
3. User should be able to block an employee account
4. User should be able to view daily attendance against a specific employee email/employee id
5. User can export CSV files for monthly attendance against a specific user. (optional)
6. User can filter by employee email, employee id, employee name, DOB (optional)
7. User should be able to log out

Allowed Front End Development Stack:

- Vue.js
- React.js
- Angular

Allowed Backend Development Stack:

- Laravel PHP
- Nodejs / Express.js
- FastAPI / Flask

Allowed Data Science Stack:

- Python / Julia
- Pre-built libraries (Keras, Sklearn, Pytorch, Tensorflow etc.)
- Jupyter Notebook
- Google Colabs (For training)

Allowed Android Application Stack:

- Java
- Kotlin
- React Native

Allowed iOS Application Stack:

- SwiftUI
- Swift
- React Native

Activity Time Frame:

2.5 hours shall be provided to the students in order to perform the activity