Backend Engineering Exercise

This exercise is intended as a starting point to help us better understand how you work through software architecture and engineering problems. There is no preferred solution, but you'll want to be able to walk us through your implementation and explain the technical choices you made.

We'll be evaluating the overall design of your system as well as the general quality of the code you write, awareness of development patterns and general understanding of the technical, product and business tradeoffs when working with third parties and large systems and data.

This exercise is not intended to take more than a few hours, if you find that you have questions please ask for clarification sooner rather than later. In a ReadMe, you can address what additional steps you would take to extend your solution if given unlimited time.

Please use a GitHub repo to share your response with us.

Instructions

Ovia is looking to build an incentives system to reward eligible Enterprise users for engagement with Ovia's apps. Certain employers have employee engagement programs, and Ovia's incentives system needs to define a menu of events and event structures that employers can choose to reward through their programs. For example, an employer might incentivize logging health data (ex. Symptoms or moods) in the Ovia apps. If an eligible user logs such data five days in a row, they might receive a physical reward such as a pregnancy pillow. Your task is to design this system and then write code that establishes the pattern for implementation. The system you design should:

● Support different types of incentive events - for this exercise, you can assume there are two incentive events:

    1. User logged data five days in a row

    2. User reported a birth

● Identify and record when a user achieves a certain incentive

As indicated above, incentivized actions might be single events, such as reporting a birth, or might be more complex event structures such as logging data for 5 days in a row. Your system should support both.

The exercise is two fold:

1. Produce a short document proposing a design for such a system.

2. Write some PHP code that establishes the patterns to support identifying and recording incentive events. There's no need to implement all the details - only enough to give us a sense of the patterns you'd like to establish in such a system.

Considerations & Assumptions

● Performance of this system should be a priority. We should strive to minimize any negative impact on the user experience.

● For the code portion of the exercise, there's no need to implement any persistence or data storage.

● While it's not necessary to write any code for it, please suggest a couple ways we could share the user incentive achievements with incentive-managing partners outside of Ovia Health while balancing data security, performance and user experience. Feel free to make assumptions about our partners' technical systems.

● Feel free to make assumptions with regards to other internal systems, just call out which assumptions you're making.

● You can assume there's already an existing client-facing API with endpoint(s) for logging health data and reporting birth. Feel free to stub these out in your code if you find it helpful; it's not a requirement that your code can actually execute, we're most concerned with the design and clean code.

Please don't hesitate to reach out with any questions. And, please don't spend more than a few hours on this. If you find yourself approaching that limit, feel free to outline your thought process and where you would have gone if given more time in a ReadMe.