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(Backend) Take Home Test

Development Guidelines

- You may build using NodeJS (framework of choice)
- You may build using SQL or NoSQL
- You are free to use any open-source libraries
- You are free to add more features to the application to express your understanding of the
  problem and/or programming framework
- You may zip your repository and send to us for the submission

Evaluation Criteria

- Production quality code
  - Modularization, object-oriented
  - Solid testing approach
  - Solid error handling
  - Extendability, maintainability
- Understanding of the programming language
  - Usage of third-party libraries
  - Algorithm, solution architect
  - Database design
- Project architecture
  - API route design
  - CMS user experience
  - Comments, documentation
  - Version control

You will be evaluated at least up to
- **Basic** for Fresh Junior
- **Intermediate** for Experienced Junior
- **Advanced** for Senior

You should try to finish as much requirements as possible to showcase you skill level.

Task

Survey System

Background

The system is meant for an organization to conduct simple **surveys**. At any event, the organizer would announce the event **code** which the **participants** would enter it into their mobile application. The **participants** would then see a list of multiple choice **questions** and answer them. The organizer would then be reported the result of the **survey**.

To make it simple, the organizer would have to submit to the administrator a list of **questions** along with multiple choice **answers**. Each **answer** comes with a **description** and its **score**. The administrator would create the **event** along with the multiple choice **questions** and give back to the organizers the uniquely generated **code**. After the event ended, the administrator would then report the total number of **submissions** and the average **score**.

Basic Requirements

- There is a CMS API for the administrator to list/create/edit/delete **surveys** and the corresponding **questions** and **answers**. The administrator can also see the number of **submissions** and the average **score** there.

- To accommodate **participants'** mobile application, these APIs are needed
  - API to list corresponding multiple-choice **questions** given an event **code**
  - API to submit a list of **answers** to the survey

Intermediate Requirements

- **Administrator** can login, logout and create/delete other **administrator**
  - The first **Administrator** can be just seeded
- **Participant** can sign up, sign in, sign out
- **Participant** can submit only once for a survey, but can edit the previous **submission**
- **Participant** can see and submit the survey at a specific **timeframe** configured
- **Questions** (and **answers**) cannot be edited after the **survey** starts

Advanced Requirements

- Real-time updates of the total **submissions** and average **score** on the CMS