Sharebite Coding Challenge

Backend Challenge

Task: Create API for Menu Builder

Task Duration: 1 hour, 30 minutes

In this task, you will create APIs for a Menu Builder Application. The frontend, which calls these APIs, could be something as depicted below.

Menu Sections Add	Items Add	Modifiers Add
Lunch Specials	Sandwich Lunch	Extra Spicy
Dinner Specials	Soup Lunch	Regular Spice
	Half Sandwich Half Soup	No Spice

A Standard Menu on the platform consists of the following three entities:

1. Section
2. Item
3. Modifiers

Section

1. A section is a grouping of one or more Items
   - The section must have an id, name, and description.
   - Examples of sections on the platform are "Lunch Specials", "Daily Specials", "Salads", etc.

Item

1. An Item is what you order in a menu
   - An Item has must have an id, name, description, and price.
   - An item must belong to a section.
   - An Item can be part of only one section.
   - An example of an Item is "Cheese Pizza", "Chicken Sandwich", etc.

Modifiers

1. Modifiers are sides, toppings, sauces or other options for an Item
   - Modifiers have an id and description.
   - A Modifier can belong to many items.
   - An example of a modifier is "Sauce on the side", "No spice", etc.

The ER Diagram above shows the relationship between these three entities.

Requirements

1. Programing Language Python / Javascript
2. Framework - No restrictions
3. Database - MySQL (or any relational database)

What to build

1. http rest endpoints to perform CRUD operations on these entities:
   a. Section
   b. Item
   c. Modifiers
2. http rest endpoint to map Items and Modifiers
3. http rest endpoint to get the entire restaurant menu. The response from the endpoint must be structured as below

```
[
    {
        "id":1,
        "title":"Lunch Specials",
        "items":[
            {
                "id":1,
                "title":"Soup Lunch",
                "modifiers":[
                    {
                        "id":1,
                        "title": "Extra Spicy"
                    },
                    {
                        "id":2,
                        "title": "Regular Spice"
                    },
                    {
                        "id":3,
                        "title": "No Spice"
                    }
                ]
            }
        ]
    }
]
```

Create a repository on Github or BitBucket for your project and reply to the assessment email with the link to your repository.

Please feel free to write to tech@sharebite.com if you have any further questions.

Thank You,
Sharebite

Frontend Challenge

Task: Create a Menu Editor

Task Duration: 2 hours, 30 minutes

You are tasked to build the front-end for restaurants to create menus. A typical restaurant menu has the following structure:

Sections (eg: *Lunch Specials, Dinner Specials*)
   Items (eg. *Chicken Over Rice, Lamb With Salad*)
        Item Options (eg: *Grain, Vegetable)*
                     Option Choices (eg: *Brown Rice, White Rice*)

Menu Structure in JSON format:

```
{
    "sections": [
        {
              "name": "Lunch Specials"
            "items": [
                {
                    "title": "Chicken Over Rice",
                    "price": 12,
                    "options": [
                        {
                            "name": "Add Rice",
                            "choices": [
                                {
                                    "name": "White Rice",
                                    "price": 2
                                },
                                {
                                    "name": "Brown Rice",
                                    "price": 2
                                }
                            ]
                        }
                    ]
                }
            ],
        }
    ]
}
```

The menu editor you create must have the following functionality:

1. Create new Menu Sections, SecThe tion Items, Item Options, and Item Option Choices
2. Visually and logically represent the menu hierarchy:
   - The page should be divided into 4 columns to represent the 4 levels of the menu hierarchy.
   - The 4 columns should have a header containing either "Menu Sections", "Items", "Choices", or "Options", and a button to add a new entry to that column **(Figure 1)**.
   - In the column view, menu sections, section items, item options, and item option choices should be represented as "cards".
   - "Cards" should be selectable by click

- When a card is selected, the information in the menu viewer should show all information that is lower in the object hierarchy than the selected card.
  - ie. Selecting a menu section card should show its section items in the "Section Items" column. Selecting a section item should show its item options in the "Item Options" column. Selecting an item option should show its item option choices in the "Item Option Choices" column.

Notes:

1. Any frontend framework can be used

1. Backend APIs are not required

1. Persisting data and loading pre-existing menu data is not required.

Menu Sections `Add`	Items `Add`	Item Options `Add`	Option Choices `Add`
Lunch Specials	Sandwich Lunch	Soup Flavor	Soup of the day
Dinner Specials	Soup Lunch	Side	Minestrone
	Half Sandwich Half Soup		Broccolli and Cheddar

Figure 1: Example UI

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