Sri Lanka Institute of Information Technology

Programming Applications and Frameworks (IT3030)

Continuous Assignment – 2023, Semester 1

Initial Document

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Content

1. Project Description

The goal of the project is to create a social media platform where food and drink aficionados may share their dining experiences, recipes, and other food-related material. Users of the site will be able to make accounts, follow other users, share pictures and videos of their favorite meals, and give reviews of restaurants and cafes. The goal is to create a vibrant community of foodies who can connect, inspire, and learn from each other's culinary adventures.

These are the functions that related to our web application.

- **Post Management**

Users may share their food and dining experiences with the community using the post creation feature. Users may post pictures of their food along with reviews that explain the restaurant or café, the food's quality, the service, the atmosphere, and any other pertinent information.

- **User Management**

Users may communicate with other users on the site and maintain their profiles using the user management feature. Users may follow each other, which enables them to stay up to date on the cuisine and eating experiences of other people they are interested in, which is one of the function's primary benefits. Users may utilize the name or interest search to find other users, and then opt to follow them to view their posts and updates on their activity feeds.

- **Comment & Likes Management**

Users can interact with one another's postings by commenting on them and like them using the comments and likes management function. In addition, if the comment's original author chooses to do so, they may edit or remove their previous submission. In addition to improving user experience, this allows users more control over the content of their posts. and also Users are informed when someone comments on or likes their article using the notification feature included in the comments and likes management function.

- **Community Group Management**

Anyone with a common interest in food and eating can join or start groups using the community group management feature. On the site, users may find and join groups. They can also start their own groups and invite others to join them. Users can discuss their opinions, stories, and suggestions pertaining to particular subjects or cuisines inside these communities.

2. The functional requirements for the REST API and the client web application.

2.1. REST API

- **Authorization and Authentication**
  Users should be able to authorize and authenticate themselves using the API, with support for a variety of authentication techniques like OAuth.

- **HATEOAS**
  The API should be compatible with HATEOAS (Hypermedia as the Engine of Application State), which calls for the response to contain links to pertinent sites to help clients find and use the API.

- **Resource Manipulation**
  The API should be able to create, read, update, and delete resources as per the HTTP verbs – POST, GET, PUT, and DELETE respectively.

- **Rate limiting**
  The API should have a mechanism to limit the number of requests that can be made within a specified period of time, to prevent abuse and ensure fair usage.

- **Cacheable**
  The API should be able to support caching to improve performance and reduce network traffic.

2.2. Client Web Application

- **User Registration and Authentication**
  Let users to register for accounts and administer them using their email, phone, or social network credentials. To ensure security, authentication procedures should be in place.

- **Commenting**
  Users should be able to like or dislike comments as well as leave feedback on comments.

- **Follow and Unfollow**
  Allow users to follow or unfollow other users, food items, groups, restaurants, and cuisines to receive updates and recommendations.

- **Social Sharing**
  Allow users to share their reviews and photos on other social media platforms.

- **Notification System**
  Notify users of new comments, likes, and followers. Users should be able to manage their notification preferences.

- **Profile Management**
  Users should be able to edit their profiles, add profile pictures, and manage their privacy settings.

- **Group Community**
  Users can Create group or join to the existing groups.

3. The non-functional requirements for the REST API and the client web application.

3.1. REST API

- **Performance**
  Even under heavy demand, the API should be built to be extremely performant, with quick response times and little latency.

- **Scalability**
  The API should be scalable to handle a large number of requests and users, without compromising performance or reliability.

- **Security**
  The API need to be created with security in mind, with safeguards to prevent unauthorized access, guard sensitive data, and guarantee the confidentiality, integrity, and accessibility of the API.

- **Maintainability**
  To make updates, bug repairs, and feature additions simple, the API should be easily maintained with a distinct separation of responsibilities, modularity, and high-quality code.

3.2. Client Web Application

- **Usability**
  Even non-technical users should be able to easily utilize and navigate the site.

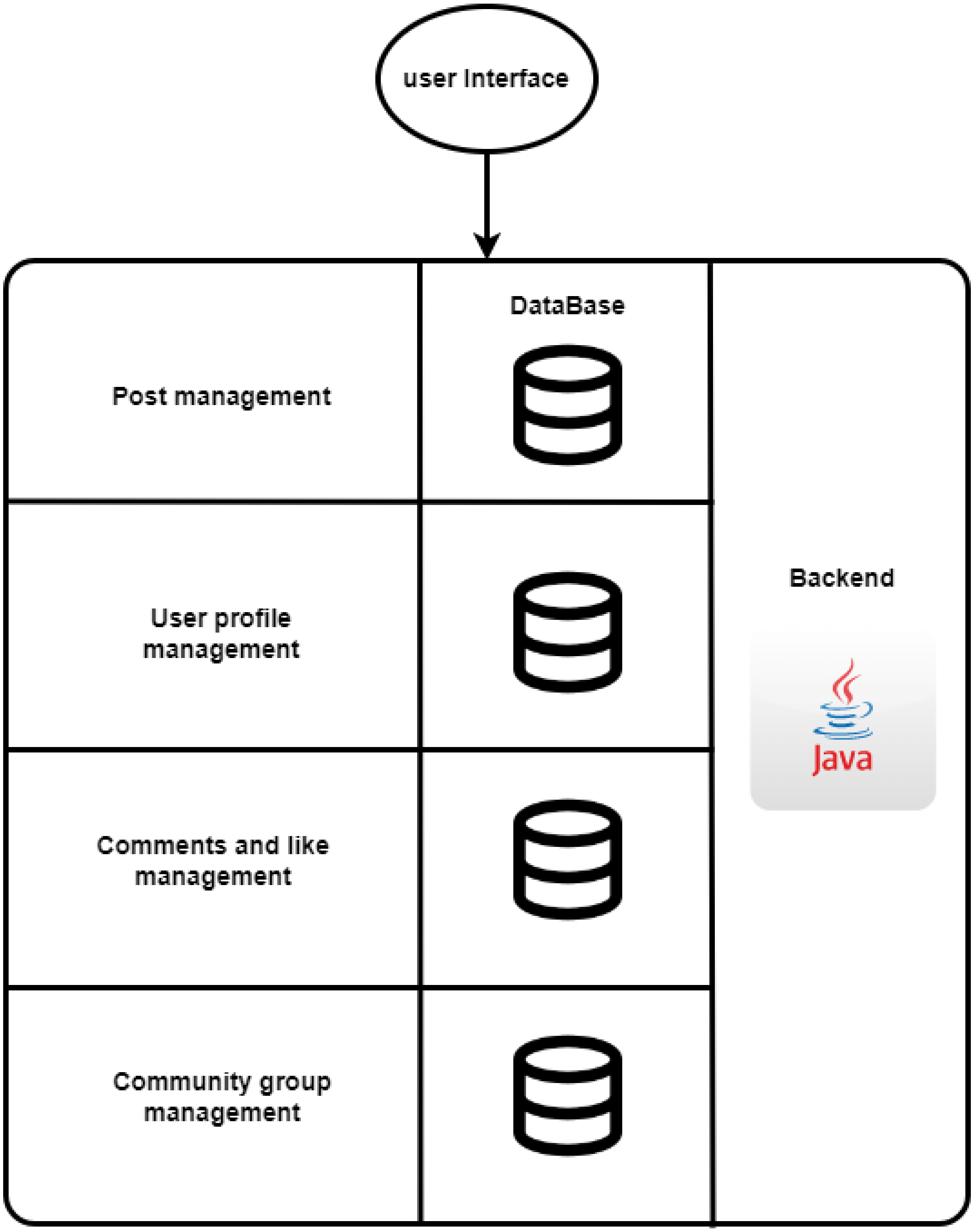
- **Privacy**
  Users should have the ability to manage who may see their reviews and personal information on the site, which should respect their privacy.

- **Compatibility**
  To enable users to use the platform from any location, it should be compatible with a variety of hardware and web browsers.

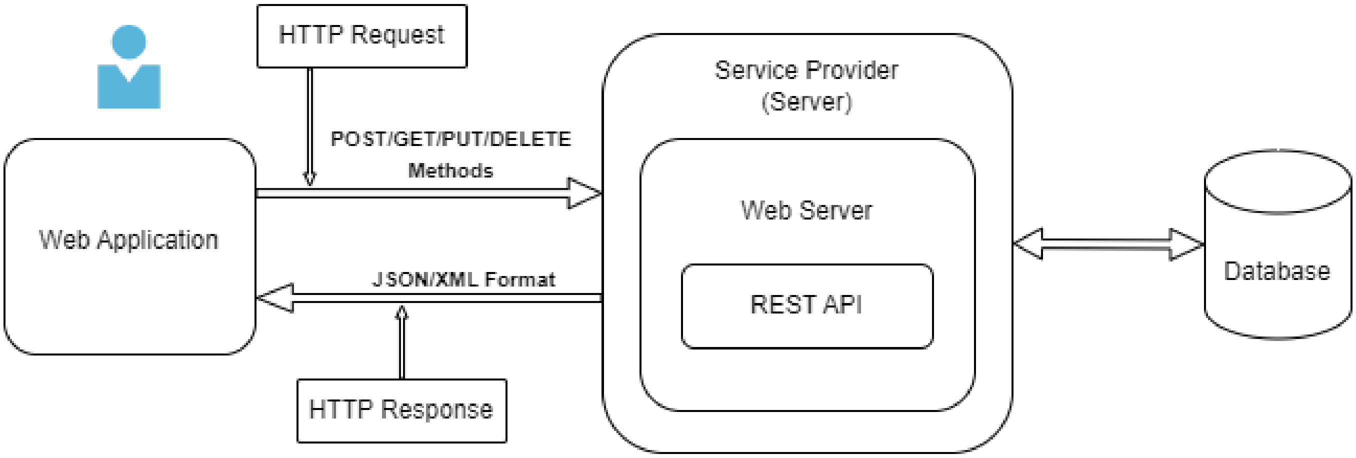
- **Performance**
  Even during times of high demand, the platform should respond quickly and load pages quickly.

- **Reliability**
  There should be little to no downtime and constant availability of the platform.

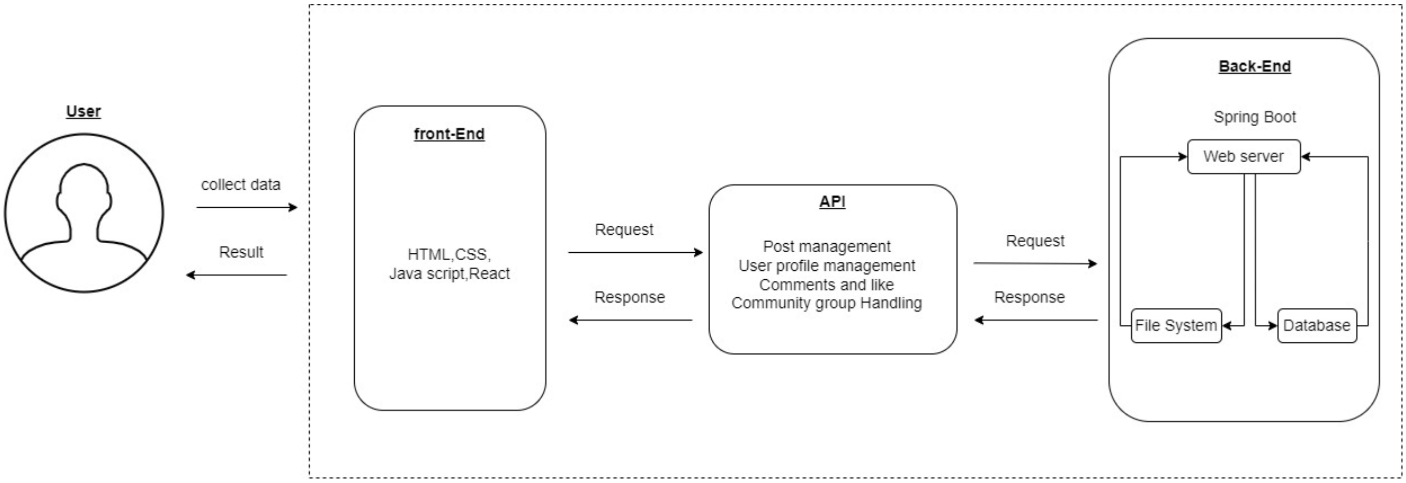
4. Overall architecture diagram for the entire system



5. Architecture Diagram for REST API



6. Architecture Diagram for Client Web Application



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