SEA Food – Final Project Proposal

Course: COM S 3190 – Construction of User Interfaces
Semester: Spring 2025
Team: Team 14
Team Members:

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1. Introduction

We, David and Trung, are senior Computer Science majors at Iowa State University. We've previously worked on frontend projects, including COM S 309 app development and personal side projects. We're both passionate about cultural food, which inspired us to create the **SEA Food** project, celebrating Southeast Asian cuisine through a modern web application experience.

2. Purpose of the Proposal

The purpose of this project is to develop a modern, fully functional restaurant-style web application that highlights traditional Vietnamese and Lao cuisine. The platform will serve as a cultural showcase and simulated ordering site for food lovers. Our aim is to create a seamless, responsive experience that not only promotes our heritage but also allows users to explore and mock-order unique dishes.

3. Goals & Objectives

Goals

- Build a complete full-stack web application using modern tools (React, Node.js, MongoDB).
- Enhance our full-stack development skills.
- Promote SEA food culture with intuitive UX and appealing UI.

Objectives

- Complete weekly milestones: GitLab setup, frontend routing, backend integration, and advanced features.
- Create at least six fully functional pages.
- Implement full CRUD and authentication features.
- Deliver a polished, responsive application with solid UI/UX design.

4. Project Description

SEA Food will be a multi-page application (MPA) for a mock restaurant. Users can browse menu categories (dining, dessert, beverages), view dish details, and place mock orders. Admins will be able to manage dish listings through full CRUD operations.

Planned Pages:

1. **Login Page** – User authentication with secure form inputs.
2. **Signup Page** – Account creation and error handling.
3. **Homepage** – Hero section with cuisine highlight, mission statement, and CTAs.
4. **Menu Page** – Split into Dining, Dessert, and Beverages; includes prices, photos, and descriptions.
5. **Order Flow Page** – Step-by-step ordering process; mock order confirmation.
6. **Admin Page** – For managing menu items (CRUD functionality).
7. **About Us Page** – Team info, project overview, photos, course details.

5a. Project Path Selection

Option Chosen: **Option 1 – Extend the Midterm Project**

Justification:
The midterm project helped us lay a strong design foundation. Now we will rebuild it from scratch using React, Node.js, Express, and MongoDB. We plan to add advanced functionality (authentication, CRUD, order processing) and significantly improve the responsiveness and interactivity of the site.

6. Feature Ownership and Responsibility

Homepage

- **Handled by Trung (Frontend + Backend)**

View Menu

- **Handled by Trung (Frontend + Backend)**

Cart Management and Checkout

- **Handled by David (Frontend + Backend)**

Reservation form

- **Handled by David (Frontend + Backend)**

7. Resources and Tools

- **Frontend**: React, React Router, Tailwind CSS
- **Backend**: Node.js, Express
- **Database**: MongoDB
- **Version Control**: GitLab
- **Design Tools**: Figma, Excalidraw, CodePen
- **Libraries**: Axios, Mongoose, React Icons
- **Time Commitment**: 6–8 hours/week each
- **Team Communication**: Discord, GitLab Issues

8. File Structure

`frontend/`

– React, React Router, Tailwind css files.

–

`src/`

`assets/`

– Images of products and mongodb files for storage.

`components/`

– Cards.jsx -> this would be useful for product menus

- **Buttons.jsx -> reusable button components for call to action functions**
- **LoadAnimations.jsx (Optional if time permits) -> cool loading animation when changing to A different page using REACT DOM**

`App.jsx`
`main.jsx`

`backend/`
– MongoDB for data access and storage, Will also implement Express Server js classes and API for data and collection.

`Documents/`
– ReadMe notes for software architecture documentation, final reports , Figma prototype design, and a video for demo .

For our

9. Data Sources and Management

Data Format (Example for Menu Item):

```
{
  "id": "1",
  "category": "soup",
  "name": "Pho",
  "description": "Beef noodle soup with herbs",
  "price": 12.99,
  "image": "/images/pho.jpg"
}
```

We will use this to get data to display it on the

10. User Experience Views

- **The user will see hero section, some sort of flexbox grid layout**
- **Following users actions (Order, Reserve a table, Contact, View Cart)**

- **The screen will follow a visual hierarchy flow as in a Z flow. Where the user will skim the website from left to right back to left to right in the next section is our intent. To ensure good user experience.**

Section 1

Website Wireframe

S.E.A Food

HOME MENU CART ORDER NOW CONTACT RESERVE A TABLE

Subheading with a paragraph to catch the users attention

CALL TO ACTION CALL TO ACTION

Image Describing a unique feature

Image Describing a unique feature

Image Describing a unique feature

Button

Button

Button

FOOTER

Reference for inspiration the overall web design:
https://www.figma.com/community/file/1286704500190215261

11. Final Comments
We would like to learn about modern web development techniques using industry standard techniques and tech stack from this final project. We hope this will buff up on our resume for personal projects.

If you have any questions or concerns please contact me here
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