

Plan for Software Engineering Project:

1. Design

Define the application's main features: viewing the menu, placing an order, viewing past orders, user registration, and login.

Design the application's user interface: Use wireframe tools like Figma, Adobe XD, or Sketch to design the app's interface.

Create a database schema: Plan out how data will be stored in the database, such as tables for users, orders, and menu items.

2. Set Up a GitHub Repository

Create a new public repository on GitHub.

Clone the repository locally.

3. Backend Development

Choose a backend framework: Django, Flask, Express.js, etc.

Set up the database: Use PostgreSQL, MySQL, or another persistent database.

Create API endpoints for the features: Get menu items, place an order, view past orders, etc.

Implement user authentication: You can use JWTs (JSON Web Tokens) for session management.

For third-party authentication, consider Passport.js with OAuth providers.

4. Frontend Development

Choose a frontend framework: React, Vue, Angular, etc.

Fetch data from your backend and display it.

Implement forms for user registration, login, and order placement.

Display feedback to the user (e.g., order confirmation, error messages).

5. Hosting

Backend: Use services like Heroku, AWS Elastic Beanstalk, or DigitalOcean.

Frontend: Consider services like Netlify, Vercel, or GitHub Pages.

Database: Use cloud database solutions like AWS RDS or a managed database from your hosting provider.

6. Continuous Integration

Use GitHub Actions to automate your build and test processes.

Write unit and integration tests to ensure application stability.

On every push to the GitHub repository, have GitHub Actions build your application, run the tests, and report any issues.

7. Final Touches

Test the entire application flow.

Ensure error handling is in place.

Optimize performance where necessary.

Refine the graphical user interface for a smooth user experience.

8. Deployment and Maintenance

Deploy your backend, frontend, and set up the database.

Regularly monitor the application for any issues.

Make improvements based on user feedback and analytics.

Ensure the security of the application, especially with regards to user data and payment information.

Lastly, make sure to regularly commit your changes to GitHub with meaningful commit messages. Use branches for developing new features or fixing bugs, and merge them into the main branch upon completion.