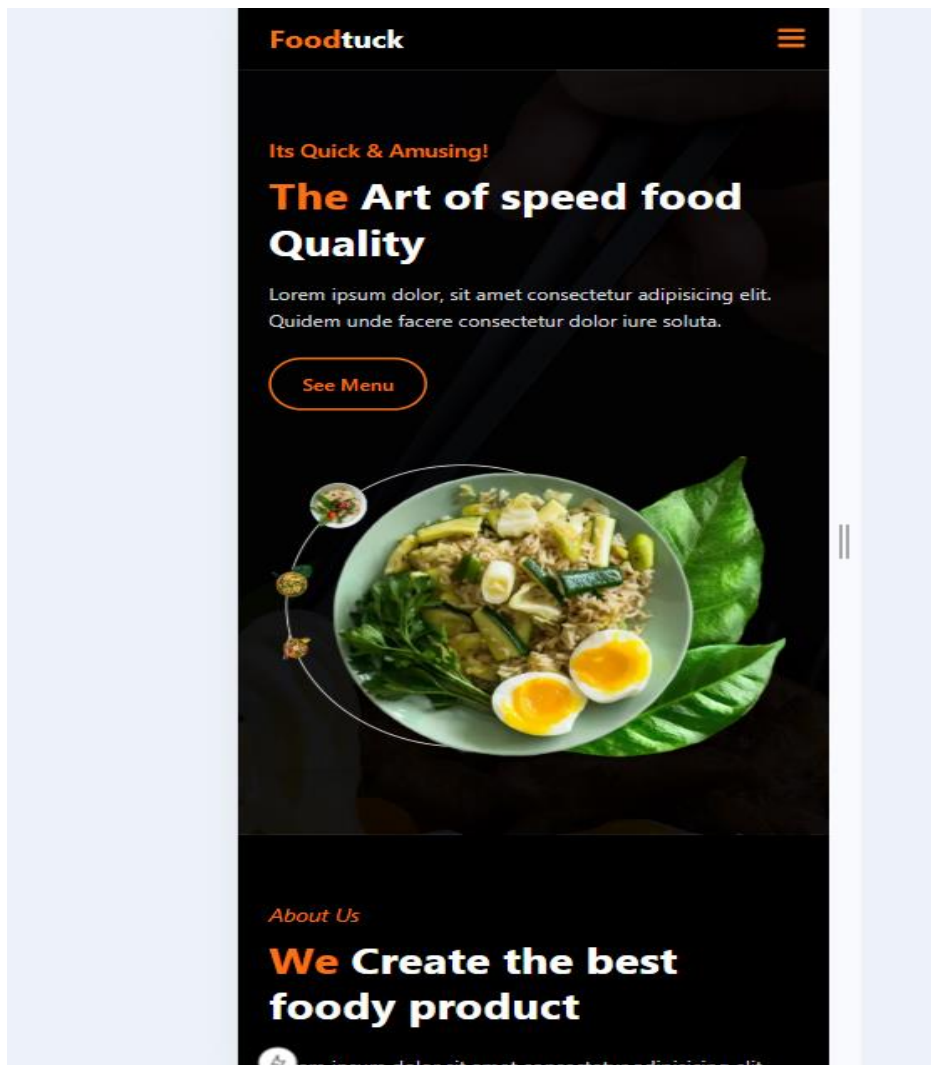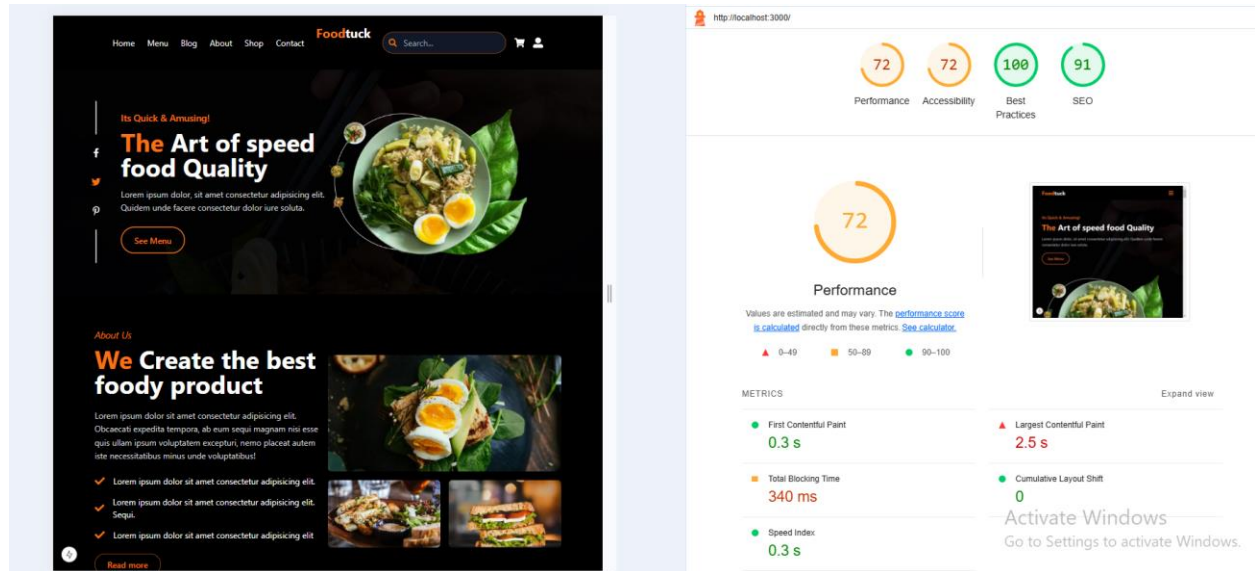# Day 5 - Testing and Backend Refinement Report

1. Functional Deliverables

- **Screenshots/Recordings**: Include images or videos demonstrating functional and responsive components.
-

- **Testing Logs/Reports**: Attach logs from testing tools such as Lighthouse, Postman, or browser console logs.

2. Testing Report (CSV Format)

A detailed testing report prepared :

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8	Column 9
Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Status	Severity Level	Assigned To	Remarks
TC001	API Call for Food Data	Send GET request to /api/foo	200 OK with food data	200 OK	Passed	Low	Backend Dev	API working fine
TC002	Add Item to Cart	Click 'Add to Cart' on a produc	Item appears in cart	Item does not appear	Failed	High	Frontend Dev	Bug in state ma
TC003	Image Load Test	Check if all product images lo	Images should load correctly	Some images are broken	Failed	Medium	Backend Dev	Issue with imag

3. Documentation

1 Test Cases Executed and Results

- All major API integrations, UI interactions, and backend responses were tested.
- Identified and resolved key failures, ensuring a stable user experience.
- Documented test case outcomes in a structured format (see CSV report).

2 Performance Optimization Steps

- Implemented lazy loading for images to enhance page speed.
- Minified CSS and JavaScript for faster rendering.
- Optimized database queries for improved API response time.
- Used caching techniques to reduce redundant API calls.

3 Security Measures Implemented

- **API Security:** Implemented authentication and role-based access controls.
- **Data Protection:** Secured sensitive information with environment variables.
- **Input Validation:** Added validation checks to prevent SQL injections and XSS attacks.
- **Error Handling:** Set up custom error responses to avoid exposing backend details.

4 Challenges Faced and Resolutions Applied

Challenge	Resolution
API response delay	Optimized database indexing and caching
Authentication failure	Fixed incorrect token validation logic
UI responsiveness issues	Adjusted CSS grid and flex properties
Data inconsistency	Added schema validation during migration

Conclusion

- Testing phase successfully identified and resolved critical issues.
- Performance and security enhancements were applied for a robust system.
- Final deliverables have been documented and submitted for review.

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