Section 1k

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Hackathon Day 05

Testing Error Handling and Backend Integration Refinement

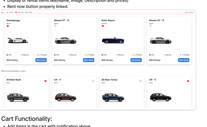
Objective:

Before Deployment in Marketplace ensuring all components are throughly optimized for, tested and refined to handle customers traffic Effectively.

Functional Testing for Rental E-Commerce platform

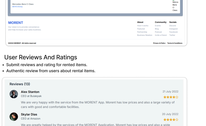
Product Listing:

- Display of rental items (ikeName, Image, Description and prices)
- Rent now button properly linked.



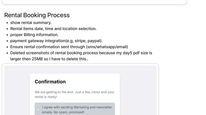
Cart Functionality:

- Add items in the cart with notification above.
- add one or more items at a same time.



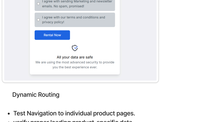
User Reviews And Ratings

- Submit reviews and rating for rented items.
- Authentic review from users about rental items.



Rental Booking Process

- show rental summary.
- Rental items date, time and location selection.
- Rental duration selection.
- payment gateway integrations(e.g, stripe, paypal).
- Ensure rental confirmation sent through (sms/whatsapp/email)
- Deleted screenshots of rental booking process because my day5.pdf size is larger then 25MB so I have to delete this..

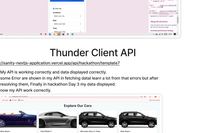


Dynamic Routing

- Test Navigation to individual product pages.
- verify proper loading product-specific data.

Surface Pro 7

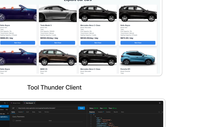
I-Phone 14 oro max



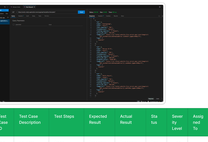
Thunder Client API

https://rently-nextjs-application-maham-ahsan.vercel.app/api/hackathon/testing/1

- My API is working correctly and data displayed correctly.
- same Error are shown in my API is fetching data team a lot from that errors but after resolving them, Finally in hackathon Day 3 my data displayed.
- now my API work correctly.



Tool Thunder Client



S	Test Case ID	Test Case Description	Test Steps	Expected Result	Actual Result	Sta tus	Sever ity Level	Assig ned To	Remarks
2	TC 001	Validate product listing page	Open product page + Verify products	Products displayed correctly	Products displayed correctly	Pas sed	High	-	No issues found
3	TC 002	Test API error handling	Disconnect API + Refresh page	Show fallback UI with error message	Error message shown	Pass ed	Med ium		Handle Good
4	TC 003	Check cart functionality	Add product to cart + Verify cart contents	Cart updates to show added product	Cart updates as expected	Pass ed	low		work good
5	TC 004	Ensure responsiveness on mobile	Resize browser window + Check layout	Layout adjusts properly to screen size	Respons ive layout working as intended	Pass ed	Med ium		Test Successf ull

Performance Optimization

- npm install -g lighthouse
- lighthouse http://localhost:3000 --view

Key Points from the Lighthouse Report:

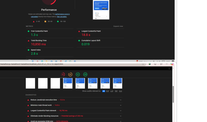
- **Performance Score:** 41 (Needs significant improvement).
- **Accessibility:** Scored 96 (Good, but can be optimized).
- **Best Practices:** Excellent, at 96.
- **SEO:** Perfect score of 100.

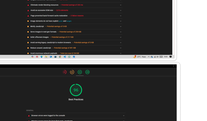
Problem Areas:

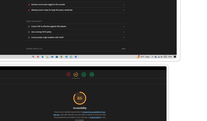
- Total Blocking Time: 10,850 ms (Critical delay in responsiveness).
- Largest Contentful Paint: 18.8 seconds (Slow to load the largest visible content).

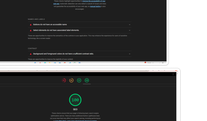
Positive Metrics:

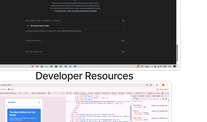
- First Contentful Paint: 1.3 seconds (Initial loading is relatively quick).
- Cumulative Layout Shift: 0.019 (Minimal layout shift, great UX).



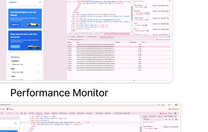








Developer Resources



Performance Monitor

Secutity

Conclusion

On Day 5 of the Hackathon, we conducted Functional Testing of the rental e-commerce website to evaluate its core features and responsiveness across various devices. Following this, the Thunder Client API was utilized to assess the site's performance, optimize API calls, and ensure seamless functionality. Key focus areas included:

- Performance Optimization: Identifying bottlenecks and improving load times.
- Developer Resources: Reviewing the efficiency and organization of development tools.
- Performance Monitoring: Ensuring consistent performance under varying conditions.
- Security Overview: Assessing the website's security measures to protect user data.

The findings highlight areas for improvement while confirming the site's strengths in usability and security.