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## Experiment 11

**Aim:** To use google Lighthouse PWA Analysis Tool to test the PWA functioning.

### Theory:

Google Lighthouse is an open-source, automated tool developed by Google to improve the quality of web pages. It provides audits for performance, accessibility, SEO, best practices, and Progressive Web App (PWA) standards.

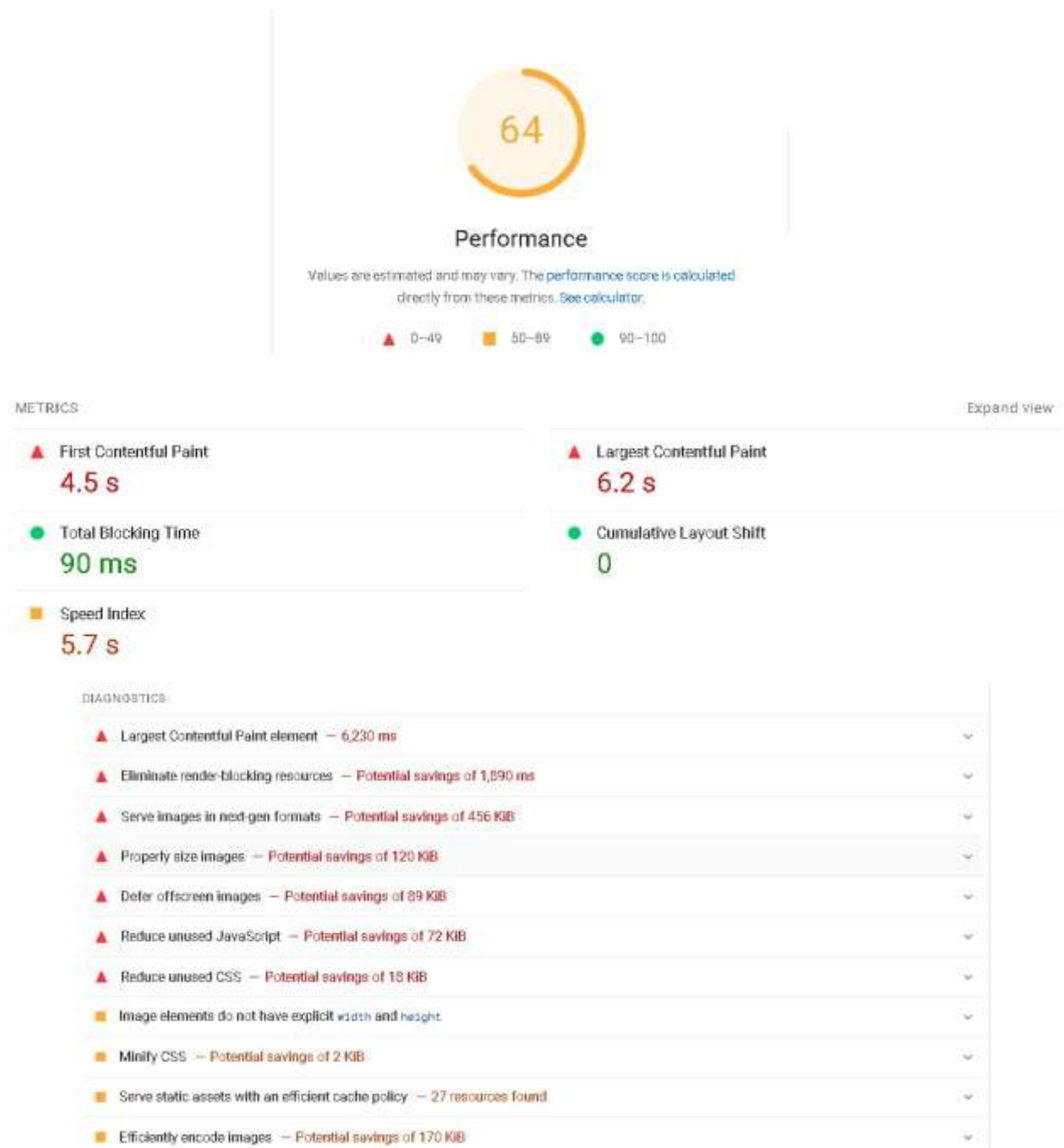
When testing a PWA, Lighthouse checks for critical requirements like:

- Valid web app manifest
- Presence and correct behavior of service workers
- HTTPS usage
- Responsive design
- Offline functionality
- “Add to Home Screen” capability

Lighthouse gives a score out of 100 based on how well the app performs as a PWA and offers suggestions for improvement. It is accessible directly in Chrome DevTools or as a browser extension.

This tool is crucial for ensuring the app meets modern web standards and provides a highquality user experience on mobile and desktop.

### Output:



## Conclusion:

Using Google Lighthouse, we successfully analyzed the PWA capabilities of railway app. The tool helped us verify important aspects like offline access, manifest configuration, and service worker functionality. It also provided valuable suggestions to optimize user experience and app performance, making it a vital step in PWA development and deployment.