



## **BONUS MODULE: MAKING IT FAST FOR SRI LANKAN USERS**

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### **LESSON 15: Mobile Performance Tips**

#### **Learning Objective**

By the end of this lesson, you will optimize your site for Sri Lankan users on mobile data connections.

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#### **15.1 Understanding Sri Lankan Mobile Context**

Real-world statistics:

- Average mobile speed: 10-20 Mbps
- Many users on 3G in rural areas
- Data costs: Rs. 10-20 per GB

- Users are data-conscious

Goal: Make site work well even on slow connections

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## 15.2 Testing on Slow Networks

Chrome DevTools:

1. Open DevTools (F12)
2. Go to "Network" tab
3. Click "No throttling" dropdown
4. Select "Slow 3G" or "Fast 3G"
5. Reload and test

Target: Site should load in under 5 seconds on Slow 3G

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## 15.3 Performance Checklist for Sri Lanka

✓ Minimize JavaScript:

javascript

1. *// Dynamic import for heavy components*
2. `const HeavyComponent = dynamic(() => import('./HeavyComponent'), {`
3. `loading: () => <p>Loading...</p>,`
4. `ssr: false // Don't load on server`
5. `});`

✓ Optimize fonts:

## javascript

1. `// Use system fonts when possible`
2. `fontFamily: '-apple-system, BlinkMacSystemFont, "Segoe UI", Roboto, sans-serif'`

### ✓ Reduce third-party scripts:

- Remove unnecessary tracking
- Load analytics after page load
- Use self-hosted fonts

### ✓ Implement skeleton loading:

## javascript

1. `function ProductCardSkeleton() {`
2.  `return (`
3.  `<div style={{`
4.  `border: '1px solid #e2e8f0',`
5.  `borderRadius: '8px',`
6.  `padding: '1rem'`
7.  `}}>`
8.  `<div style={{`
9.  `width: '100%',`
10.  `height: '200px',`
11.  `backgroundColor: '#f1f5f9',`
12.  `borderRadius: '4px',`
13.  `marginBottom: '1rem'`
14.  `}} />`
15.  `<div style={{`
16.  `height: '20px',`
17.  `width: '80%',`
18.  `backgroundColor: '#f1f5f9',`
19.  `marginBottom: '0.5rem'`
20.  `}} />`
21.  `<div style={{`
22.  `height: '16px',`

```
23.   width: '60%',
24.   backgroundColor: '#f1f5f9'
25.   }} />
26. </div>
27. );
28. }
```

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## 15.4 Implementing Offline Support (Bonus)

For advanced users, add PWA support:

Step 1: Install next-pwa

```
bash
```

```
npm install next-pwa
```

Step 2: Update next.config.js

```
javascript
```

```
1.  const withPWA = require('next-pwa')({
2.    dest: 'public',
3.    disable: process.env.NODE_ENV === 'development'
4.  });
5.
6.  module.exports = withPWA({
7.    // your existing config
8.  });
```

Step 3: Add manifest file public/manifest.json

```
json
```

```
1.  {
```

```
2. "name": "CeylonMart",
3. "short_name": "CeylonMart",
4. "description": "Sri Lankan products online",
5. "start_url": "/",
6. "display": "standalone",
7. "background_color": "#ffffff",
8. "theme_color": "#1e40af",
9. "icons": [
10.  {
11.    "src": "/icon-192.png",
12.    "sizes": "192x192",
13.    "type": "image/png"
14.  }
15. ]
    a. }
```

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## 15.5 Real-User Monitoring

Track how real Sri Lankan users experience your site:

Vercel Analytics:

- Core Web Vitals
- Page load times
- User locations

Custom tracking:

```
javascript
```

```
1. // Track load time
2. useEffect(() => {
3.   if (window.performance) {
4.     const perfData = window.performance.timing;
```

```
5.   const pageLoadTime = perfData.loadEventEnd - perfData.navigationStart;
6.   console.log('Page load time:', pageLoadTime);
7.   // Send to analytics
8.   }
9. }, []);
```

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## Lesson 15 Summary

- Test on simulated slow networks
  - Minimize JavaScript and third-party scripts
  - Use skeleton loading for perceived performance
  - Consider PWA for offline support
  - Monitor real user experience
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## Final Practice Exercises

1. Run Lighthouse audit on your deployed site and fix issues
  2. Test on multiple devices (mobile, tablet, desktop)
  3. Ask friends in different areas of Sri Lanka to test speed
  4. Challenge: Get your site to 90+ on Lighthouse performance
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## COURSE COMPLETION

 **Congratulations!**

You've successfully built a complete e-commerce site with:

-  React & Next.js fundamentals
-  Product listing and detail pages
-  Shopping cart with localStorage
-  PayHere payment integration
-  Deployment to Vercel
-  Performance optimization for Sri Lankan users

## What's Next?

1. Add user authentication (login/register)
2. Build admin dashboard for managing products
3. Add order history for customers
4. Implement product reviews and ratings
5. Create mobile app using React Native

## Getting Help

If you get stuck:

- Next.js Documentation: [nextjs.org/docs](https://nextjs.org/docs)
- PayHere Docs: [support.payhere.lk](https://support.payhere.lk)
- React Community: [react.dev/community](https://react.dev/community)

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Thank you for taking this course!

You now have a valuable skill that's in high demand in Sri Lanka. Go build something amazing! 🇱🇰

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*This course was created by Ravindu Dharmaraja for Sri Lankan web developers.*