# Critical Fixes Summary - Map Infinite Loop & Tour Diagnostic Logging

**Date:** December 17, 2025
**Commit:** a5db54c
**Status:** ✅ Deployed to GitHub

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## 🎯 Overview

Fixed two critical production issues in a single deployment:

1. **Map Infinite Loop** - Crashing pages with 592,920+ error logs
2. **Tour Submission Failure** - No diagnostic visibility into failures

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## 🔴 Issue 1: Map Infinite Loop (CRITICAL)

### Problem:

- `SimpleMap` component generating infinite error logs
- Error: `[SimpleMap] Error initializing map: {}`
- Causing page crashes (Chrome Error Code 9)
- Making debugging impossible

### Root Cause:

- No retry limit enforcement in catch block
- useEffect re-running on dependency changes
- Retry counter not preventing re-initialization
- Errors causing re-renders triggering more errors

### Solution Implemented:

**File Modified:** `src/components/search/SimpleMap.tsx`

#### Key Changes:

1. **Reduced Max Retries:**
   ```typescript
   const maxInitAttempts = 3; // Reduced from 5 to 3
   const hasReachedMaxAttemptsRef = useRef(false); // Track completion
   ```

2. **Added Early Exit Check:**
   ```typescript
   // Prevent infinite loops
   if (hasReachedMaxAttemptsRef.current) {
     console.log("[SimpleMap] Max attempts reached. Skipping re-initialization.");
   ```

```
    return;
  }
```

3. **Exponential Backoff:**
   ```typescript
     const backoffDelay = 300 * Math.pow(2, initAttemptRef.current - 1);
     // 300ms → 600ms → 1200ms
   ```

4. **Max Attempt Check in All Paths:**
   - Container null check
   - Zero dimensions check
   - Catch block error handling

5. **Improved Error Messages:**
   ```typescript
     console.error(`[SimpleMap] ❌ Max retries (${maxInitAttempts}) reached.`);
     setMapError("Unable to load map after multiple attempts. Please refresh the page.");
   ```

6. **Success Reset:**
   ```typescript
     // Reset counter on successful initialization
     initAttemptRef.current = 0;
     console.log("[SimpleMap] ✅ Map initialization complete");
   ```

### Expected Outcomes:

✅ **Maximum 3 initialization attempts**
✅ **Exponential backoff prevents rapid retries**
✅ **Graceful error display instead of crashes**
✅ **Rest of page remains functional**
✅ **No more infinite console logs**
✅ **Clear diagnostic messages**

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## 🔴 Issue 2: Tour Submission Diagnostic Logging

### Problem:

- Tour submission fails before API call
- No diagnostic logs in browser console
- Unable to identify where/why failure occurs
- No visibility into form state or request payload

### Solution Implemented:

**File Modified:** `src/app/homes/[id]/page.tsx`
**Function:** `handleTourSchedule` (lines 475-613)

#### Comprehensive Logging Added:

1. **Handler Entry:**
   ```typescript
     console.log('🔴🔴🔴 [TOUR DIAGNOSTIC] ========================================');
   ```

```
  console.log('🔴 [TOUR DIAGNOSTIC] Tour schedule handler called');
  console.log('🔴 [TOUR DIAGNOSTIC] Timestamp:', new Date().toISOString());
```

2. **Form State Snapshot:**
   ```typescript
     console.log('🔴 [TOUR DIAGNOSTIC] Current inquiry form state:', {
       name, email, phone, residentName, moveInTimeframe,
       careNeeded, message, tourDate, tourTime
     });
     console.log('🔴 [TOUR DIAGNOSTIC] Home ID:', id);
   ```

3. **Date Conversion Tracking:**
   ```typescript
     console.log('🔴 [TOUR DIAGNOSTIC] Step 1: Composing tour date-time...');
     console.log('🔴 [TOUR DIAGNOSTIC] Parsed time components:', { hmm, ampm });
     console.log('🔴 [TOUR DIAGNOSTIC] Calculated hours (24h format):', hours);
     console.log('🔴 [TOUR DIAGNOSTIC] ✅ Final tour date ISO:', tourDateIso);
   ```

4. **Request Payload:**
   ```typescript
     console.log('🔴 [TOUR DIAGNOSTIC] Step 2: Building request payload...');
     console.log('🔴 [TOUR DIAGNOSTIC] Request payload:', JSON.stringify(payload, null, 2));
   ```

5. **API Call Details:**
   ```typescript
     console.log('🔴 [TOUR DIAGNOSTIC] Step 4: Making API call...');
     console.log('🔴 [TOUR DIAGNOSTIC] URL: /api/inquiries');
     console.log('🔴 [TOUR DIAGNOSTIC] Method: POST');
   ```

6. **Response Analysis:**
   ```typescript
     console.log('🔴 [TOUR DIAGNOSTIC] Step 5: API call completed');
     console.log('🔴 [TOUR DIAGNOSTIC] Response status:', res.status);
     console.log('🔴 [TOUR DIAGNOSTIC] Response ok:', res.ok);
     console.log('🔴 [TOUR DIAGNOSTIC] Response data:', JSON.stringify(responseData, null,
   2));
   ```

7. **Full Exception Details:**
   ```typescript
     console.error('🔴 [TOUR DIAGNOSTIC] ❌ EXCEPTION CAUGHT');
     console.error('🔴 [TOUR DIAGNOSTIC] Error type:', err?.constructor?.name);
     console.error('🔴 [TOUR DIAGNOSTIC] Error message:', err?.message);
     console.error('🔴 [TOUR DIAGNOSTIC] Error stack:', err?.stack);
     console.error('🔴 [TOUR DIAGNOSTIC] Full error object:', err);
   ```

## Expected Outcomes:

✅ **Every step logged with timestamps**
✅ **Easy to identify where failure occurs**
✅ **Full form state visibility**
✅ **Request payload inspection**
✅ **API response details**

✅ **Complete error diagnostics**
✅ **Color-coded 🔴 markers for console filtering**

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## 📦 Deployment Details

### Files Modified:

```
src/components/search/SimpleMap.tsx       (Map infinite loop fix)
src/app/homes/[id]/page.tsx               (Tour diagnostic logging)
```

### Build Status:

```
✅ TypeScript compilation successful
✅ Production build completed
✅ No breaking changes
✅ All existing functionality preserved
```

### Commit Information:

- **Commit Hash:** `a5db54c`
- **Branch:** `main`
- **Pushed:** ✅ Successfully pushed to GitHub
- **Auto-Deploy:** Render will detect and deploy automatically

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## 🧪 Testing Instructions

### Testing Map Fix:

1. **Navigate to Search Page:**
   `https://carelinkai.onrender.com/search`

2. **Open Browser Console (F12)**

3. **Look for Map Initialization Logs:**
   ```
   [SimpleMap] Initializing map attempt: 1/3
     [SimpleMap] Container dimensions: [width]x[height]
     [SimpleMap] ✅ Map initialization complete
   ```

4. **Verify No Infinite Loops:**
   - Check console for max 3 attempts if initialization fails
   - Verify error message appears on page
   - Confirm no page crashes
   - Ensure rest of page remains functional

### Testing Tour Diagnostic Logging:

1. **Navigate to Home Details Page:**
   `https://carelinkai.onrender.com/homes/[any-home-id]`

2. **Open Browser Console (F12)**

3. **Click “Schedule a Tour” Button**

4. **Fill in Tour Form and Submit**

5. **Observe Console Logs:**
```
🔴🔴🔴 [TOUR DIAGNOSTIC] ========================================
   🔴 [TOUR DIAGNOSTIC] Tour schedule handler called
   🔴 [TOUR DIAGNOSTIC] Timestamp: 2025-12-17T...
   🔴 [TOUR DIAGNOSTIC] Current inquiry form state: {...}
   🔴 [TOUR DIAGNOSTIC] Step 1: Composing tour date-time...
   🔴 [TOUR DIAGNOSTIC] Step 2: Building request payload...
   🔴 [TOUR DIAGNOSTIC] Step 3: Setting submitting state to true...
   🔴 [TOUR DIAGNOSTIC] Step 4: Making API call...
   🔴 [TOUR DIAGNOSTIC] Step 5: API call completed
   🔴 [TOUR DIAGNOSTIC] Response status: [status]
   ...
```

6. **Verify Complete Visibility:**
   - All form fields logged
   - Date conversion visible
   - Request payload shown
   - API response captured
   - Any errors fully detailed

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## 🚨 Rollback Plan (If Needed)

If issues arise, rollback to previous commit:

```
git revert a5db54c
git push origin main
```

**Previous Commit:** `ed60c5c`

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## 📊 Performance Impact

### Map Component:

- **Before:** Infinite retries, potential thousands of logs
- **After:** Max 3 retries with exponential backoff
- **Impact:** Significantly reduced CPU/memory usage

### Tour Submission:

- **Before:** No logging overhead
- **After:** Console logging only (negligible performance impact)
- **Impact:** Minimal, development/debugging only

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## 🎯 Success Metrics

### Map Component:

✅ No more than 3 initialization attempts
✅ No page crashes
✅ User-friendly error messages displayed
✅ Rest of page remains functional

### Tour Submission:

✅ Full diagnostic visibility
✅ Can identify exact failure point
✅ Complete error stack traces
✅ Form state inspection possible

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## 🔄 Next Steps

1. **Monitor Render Deployment Logs**
   - Watch for successful deployment
   - Check for any deployment errors

2. **Test in Production**
   - Verify map loads without infinite loops
   - Check tour submission logging works

3. **Analyze Tour Submission Logs**
   - Once deployed, attempt tour submission
   - Collect and analyze diagnostic logs
   - Identify root cause of failures
   - Plan fix based on diagnostic data

4. **Remove Diagnostic Logging (Future)**
   - Once tour issue is fixed, optionally remove verbose logging
   - Keep critical error logging in place

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## 📝 Notes

- **Map fix is permanent** - Production-ready solution
- **Tour logging is diagnostic** - Can be refined/removed after issue is resolved
- **Both changes are non-breaking** - Existing functionality preserved
- **Build verified** - No TypeScript errors
- **Auto-deploy enabled** - Render will deploy automatically

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## 🔗 Related Documentation

- Map Component Source (/src/components/search/SimpleMap.tsx)

- Home Details Page Source (/src/app/homes/[id]/page.tsx)
- Previous Fix Attempts (./TOUR_FORM_FIX_SUMMARY.md)
- Quick Test Guide (./TOUR_FORM_QUICK_TEST.md)

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## ✅ Deployment Checklist

- [x] Map infinite loop fixed with retry limits
- [x] Tour diagnostic logging added
- [x] TypeScript compilation successful
- [x] Production build completed
- [x] Changes committed to git
- [x] Changes pushed to GitHub
- [ ] Render deployment successful (automatic)
- [ ] Map functionality verified in production
- [ ] Tour diagnostic logs captured
- [ ] Tour submission issue diagnosed

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**Status:** ✅ Ready for Production Testing
**Estimated Deploy Time:** 5-10 minutes (automatic via Render)