Deployment Fix - December 19, 2025

Issues Identified

1. ✅ FIXED - OpenAI Build Failure

Problem: Next.js build failing because OpenAI client initialization throws error when `OPENAI_API_KEY` is missing during build time.

Error:

```
Missing credentials. Please pass an `apiKey`, or set the `OPENAI_API_KEY` environment
variable.
Error: Failed to collect page data for /api/inquiries/[id]/generate-response
```

Solution: Updated `src/lib/ai/inquiry-response-generator.ts` to handle missing API keys gracefully during build (like Stripe does):
- Uses dummy key for build-time initialization
- Logs warning instead of throwing error
- Adds runtime validation to throw helpful error if API is actually called without real key

Files Modified:
- `src/lib/ai/inquiry-response-generator.ts`

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2. ⚠️ REQUIRES MANUAL FIX - Failed Migration on Render

Problem: Migration `20251218162945_update_homes_to_active` failed on Render database and is blocking new deployments.

Error:

```
Error: P3009
migrate found failed migrations in the target database
The `20251218162945_update_homes_to_active` migration started at 2025-12-18 18:17:49.7
23200 UTC failed
```

Resolution Steps (Manual - via Render Shell):

1. **Open Render Shell:**
   - Go to your Render dashboard
   - Navigate to your service
   - Click "Shell" tab

2. **Resolve the failed migration:**
   `bash`
   `npx prisma migrate resolve --rolled-back 20251218162945_update_homes_to_active`

3. **Apply the migration again:**
   `bash`
   `   npx prisma migrate deploy`

4. **Verify migration status:**
   `bash`
   `   npx prisma migrate status`

The Migration is Idempotent:
The migration SQL is safe to run multiple times:

```
UPDATE "AssistedLivingHome"
SET status = 'ACTIVE'
WHERE status = 'DRAFT' OR status IS NULL;
```

Alternative: Database Console Fix

If you have direct database access, you can also fix this via SQL:

```
-- Check the failed migration
SELECT * FROM _prisma_migrations
WHERE migration_name = '20251218162945_update_homes_to_active';

-- Mark as rolled back
UPDATE _prisma_migrations
SET rolled_back_at = NOW(),
    finished_at = NULL
WHERE migration_name = '20251218162945_update_homes_to_active';

-- Manually run the migration SQL
UPDATE "AssistedLivingHome"
SET status = 'ACTIVE'
WHERE status = 'DRAFT' OR status IS NULL;

-- Mark migration as applied
UPDATE _prisma_migrations
SET finished_at = NOW(),
    rolled_back_at = NULL
WHERE migration_name = '20251218162945_update_homes_to_active';
```

Deployment Steps

Step 1: Commit OpenAI Fix

```
cd /home/ubuntu/carelinkai-project
git add src/lib/ai/inquiry-response-generator.ts
git add scripts/resolve-homes-migration.sh
git add DEPLOYMENT_FIX_DEC19.md
git commit -m "fix: Handle missing OPENAI_API_KEY gracefully during build

- Use dummy key during build time (like Stripe pattern)
- Add runtime validation for actual API calls
- Prevents build failures when API key not set
- Resolves Render deployment issue"
```

Step 2: Push to GitHub

```
git push origin main
```

Step 3: Fix Migration on Render

Once the new build starts (which should now succeed), resolve the migration:

1. Go to Render Dashboard → Your Service → Shell
2. Run: `npx prisma migrate resolve --rolled-back 20251218162945_update_homes_to_active`
3. Run: `npx prisma migrate deploy`

Step 4: Manual Deploy (if auto-deploy didn’t trigger)

If needed, trigger manual deploy from Render dashboard.

Verification Checklist

After Build Succeeds:

- [ ] Build completes without OpenAI error
- [ ] Warnings show for missing API keys (expected)
- [ ] Service starts successfully
- [ ] Migration is resolved
- [ ] Application loads at https://carelinkai.onrender.com

Test API Endpoints:

- [ ] Homepage loads (GET /)
- [ ] Pipeline dashboard accessible (GET /operator/inquiries/pipeline)
- [ ] API health check works (GET /api/health)
- [ ] Inquiries API works (GET /api/inquiries)

Check Logs:

- [ ] No build errors
- [ ] Expected warnings present (Stripe, OpenAI, SendGrid)
- [ ] No runtime errors on startup

Expected Warnings (These are OK)

```
WARNING: STRIPE_SECRET_KEY is missing in production build...
WARNING: SENDGRID_API_KEY is not defined...
WARNING: OPENAI_API_KEY is missing in production build...
```

These warnings are **expected** if you haven’t configured external services yet. The application will build and run, but those specific features won’t work until keys are provided.

Rollback Plan

If issues persist after these fixes:

1. **Revert to previous working commit:**

   ```
   bash
      git log --oneline | head -10  # Find last working commit
      git revert <commit-hash>
      git push origin main
   ```

2. **Alternative: Manual Deploy of Previous Version**
   - Go to Render Dashboard → Deploys
   - Find last successful deploy
   - Click "Redeploy"

Root Cause Analysis

Why did the build fail?

OpenAI Issue:
- Next.js performs static analysis during build
- Module-level imports are evaluated at build time
- OpenAI client initialization threw error when API key missing
- Solution: Lazy initialization with dummy key (like Stripe)

Migration Issue:
- Migration started but didn't complete successfully on Render
- Likely due to database connection timeout or resource constraints
- Migration is idempotent and safe to re-run
- Solution: Manual resolution via Render shell

Prevention

For Future Deployments:

1. **Always use lazy initialization for external service clients**
   - Use dummy keys for build time
   - Validate at runtime only when service is actually called

2. **Test builds without secrets**
   - Ensure build succeeds even without API keys
   - Services should fail gracefully at runtime, not build time

3. **Monitor migrations**
   - Check Render logs for migration failures
   - Resolve failed migrations immediately
   - Use idempotent migration patterns

4. **Document required environment variables**
   - Clearly mark which are required for build vs runtime
   - Provide clear error messages when missing

Status

- ✅ OpenAI fix implemented and ready to deploy
- ⏳ Waiting for deployment and migration resolution
- 📋 Next: Comprehensive Phase 5 testing after fixes deployed

Last Updated: December 19, 2025
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