NeuroBreath.co.uk — Project Documentation

Version: 2.0.0
Last Updated: December 23, 2025
Project Status: Active Development

🎯 Project Mission & Vision

NeuroBreath.co.uk is **the go-to, one-stop platform for neurodivergent support across the lifespan** — providing an integrated ecosystem of tools and learning that supports neurodivergent users (Autism, ADHD, Dyslexia) and related wellbeing challenges (stress, low mood, emotional regulation difficulty), for children, teens, and adults.

🌟 North Star Definition

NeuroBreath becomes the default first platform people open when they want:
- A quick tool for calm/focus/sleep
- A structured practice plan
- A game or challenge that builds a real skill
- A clear dashboard showing improvement
- Trusted guidance for parents/teachers/carers

🎯 Core Aims (One-Stop Shop Vision)

1. Be the Go-To, One-Stop Platform for Neurodivergent Support

Provide an integrated ecosystem of tools and learning that supports neurodivergent users (Autism, ADHD, Dyslexia) and related wellbeing challenges (stress, low mood, emotional regulation difficulty), for children, teens, and adults.

2. Deliver Practical Improvement Through Structured Routines

Offer step-by-step resources, exercises, interactive tools, and training pathways that help users build calm, focus, emotional regulation, learning confidence, and daily functioning.

3. Enable Measurable, Motivating Progress Without Shame

Provide clear progress tracking, streaks, quests, rewards, and milestones that make improvement visible, encourage consistency, and make restarts easy and supportive.

4. Support the Full Circle of Care

Equip supporters (individuals, parents, teachers, carers, support workers) with practical toolkits, scripts, routines, classroom/home strategies, and progress summaries that help them support learners/clients effectively.

5. Operate as a Trustworthy, Credible, Evidence-Informed Digital Product

Maintain a clinically responsible tone, transparent sources where appropriate, strong accessibility and neuro-inclusive design, and clear safeguarding boundaries (supportive tools, not a substitute for professional care).

6. Build a Scalable, High-Quality Web + Mobile Product Foundation

Deliver a reliable, accessible platform on neurobreath.co.uk and the Flutter app, designed for growth into new modules, dashboards, partnerships, and premium resource packs.

📋 Specific Objectives (Measurable, Delivery-Ready)

A) "One-Stop Shop" Structure and User Pathways

Launch a Guided "Start Here" System (Age + Goal + Preference)

- **Age modes:** Child / Teen / Adult
- **Goals:** Calm, Focus, Sleep, Emotional Regulation, Learning/Reading Support, Routine Support
- **Success measure:** A new user reaches a personalised plan within 3 clicks and starts a session within 60 seconds

Create Condition-Informed Hubs (Support-Focused, Non-Diagnostic)

- Hubs for Autism, ADHD, Dyslexia, and Wellbeing & Mood Support (stress/low mood challenges)
- **Success measure:** Each hub contains: what helps, routines, tools, training, games, supporter guidance, signposting

B) Evidence-Informed Credibility and Trust Framework

Build a "Trust & Evidence" Layer Across the Platform

- Clear tone guidelines (supportive, credible, non-claiming)
- Referencing model (sources where relevant; "why this helps" explanations)
- Safety boundaries and UK signposting (including crisis routes)
- **Success measure:** Every wellbeing/mental-health-related page includes appropriate disclaimers and signposting, and avoids clinical claims

Add "Quality Standards" for Content and Tools

- A checklist applied to every module: accessibility, clarity, age-appropriateness, low-overwhelm design, and measurable outcome
- **Success measure:** 100% of new modules pass the checklist before release

C) Resources, Training, Practices, and Exercises

Publish a Modular Training Library (Micro-Lessons)

- Regulation skills (breathing, grounding, sensory breaks)
- ADHD supports (task start, planning, focus sprints)
- Dyslexia supports (phonics, blending, fluency routines)
- Emotional literacy (naming emotions, coping choices)
- **Success measure:** Each module includes: explain → practise → reflect → next step, and completes in 3–10 minutes

Offer Printable and Offline-Friendly Resources

- Quick cards, checklists, routines, classroom/home visuals, certificates
- **Success measure:** Downloads are one-click, A4 print-clean, and easy to find in each module

D) Interactive Games, Challenges, Quests, Rewards

Deliver Interactive Games Tied to Real Skills

- Examples: focus sprint games, reading/phonics mini-games, memory sequencing, emotion coping scenarios
- **Success measure:** Each game clearly states "what this supports", has a 3–7 minute mode, and logs completion

Implement Quests and Challenge Tracks

- Examples: "7-Day Calm Starter", "14-Day Focus Builder", "10-Day Reading Confidence"
- **Success measure:** Each track includes daily steps, a progress bar, and a completion badge/certificate

Introduce Ethical Streaks + Rewards (Optional Toggles)

- Grace days and flexible targets (e.g., 3x/week option)
- No-shame restart flows
- Rewards: badges, coupons, unlockable content packs, certificates
- **Success measure:** Users can disable gamification; streak logic is consistent; restarts do not reset lifetime progress

E) Measurable Progress Tracking and Dashboards

Build a Measurable Progress System Across All Tools

- Track: sessions completed, minutes practiced, streaks, quest completion, skill areas practiced, user ratings ("helpful/not helpful")
- **Success measure:** Dashboards update accurately and remain simple and readable

Create Supporter Dashboards (Optional)

- Parent/teacher/carer view: routines used, what worked, notes, printable summaries
- **Success measure:** Supporters can generate a simple weekly summary without complex setup

F) Prompt Generation and AI Guidance (Guardrailed)

Launch a Prompt Generator for Each Context

- Parent scripts (calm, neutral language)
- Teacher strategies (classroom supports, attention breaks)
- Carer routines (handover notes, consistent plans)
- User self-coaching prompts (motivation, next-step clarity)
- **Success measure:** Outputs are short, editable, context-specific, and aligned to NeuroBreath tone

Deploy an "AI Coach" Feature with Safety Controls

- No diagnosis, no medication advice
- Clear boundaries + escalation signposting
- **Success measure:** Safe responses are consistent and the feature is clearly framed as supportive guidance

G) Accessibility and Neuro-Inclusive Design Excellence

Meet High Accessibility and Neuro-Inclusive Standards

- Readable typography, reduced motion, sensory-friendly visuals
- Keyboard navigation, screen reader labels, simple UI
- **Success measure:** Core flows are fully usable with reduced motion enabled and with keyboard-only navigation

H) Product Delivery, Platform Reliability, and Scale

Deliver a Stable Web + Flutter App Experience

- Shared components, tokens, performance standards, regression protection
- **Success measure:** Releases do not overwrite working legacy files; critical journeys are regression-tested

Enable Optional Login + Privacy-First Guest Mode

- Guest mode provides full core value; login enables sync and dashboards
- **Success measure:** Guest mode works end-to-end; accounts add sync without friction

Implement UK GDPR-Ready Privacy Foundations

- Data minimisation, transparency, deletion/export pathway
- **Success measure:** Users can control their data and understand what is stored and why

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📁 Complete Page Structure (62 Pages)

Homepage

- `/` — Main landing page

Conditions Hub (7 pages)

Neurodevelopmental:

- `/conditions/autism` — Autism support and resources
- `/conditions/autism-parent` — Autism parent support
- `/conditions/adhd` ⚠️ Exists at `/adhd` (legacy route to be consolidated)
- `/conditions/dyslexia` → See `/dyslexia-reading-training` (comprehensive hub)

Mental Health:

- `/conditions/anxiety` — Anxiety support and tools
- `/conditions/depression` — Depression support and resources
- `/conditions/stress` → See `/stress` (legacy route to be consolidated)
- `/conditions/sleep` → See `/sleep` (legacy route to be consolidated)
- `/conditions/bipolar` — Bipolar support
- `/conditions/mood` — Mood regulation
- `/conditions/low-mood-burnout` — Low mood and burnout support

Breathing & Focus (5 pages)

- `/breathing/breath` — Breath fundamentals (how-to)
- `/breathing/focus` — Focus techniques
- `/breathing/mindfulness` — Mindfulness practices
- `/breathing/techniques/sos-60` — 60-second reset technique

- `/breathing/training/focus-garden` — Focus training (garden metaphor)

Legacy Breathing Techniques (4 pages — Keep for existing users)

- `/techniques/box-breathing` ✅ Fully functional with enhanced features
- `/techniques/4-7-8` ✅ Fully functional with enhanced features
- `/techniques/coherent` ✅ Fully functional with enhanced features
- `/techniques/sos` ✅ Fully functional with enhanced features

Tools Hub (20 pages)

Toolkits (8 pages):

- `/tools/breath-tools` — Breathing exercise toolkit
- `/tools/mood-tools` — Mood regulation tools
- `/tools/sleep-tools` — Sleep hygiene tools
- `/tools/anxiety-tools` — Anxiety management tools
- `/tools/stress-tools` — Stress relief tools
- `/tools/depression-tools` — Depression support tools
- `/tools/adhd-tools` — ADHD management tools
- `/tools/autism-tools` — Autism support tools

ADHD Deep Dive (9 pages):

- `/tools/adhd-deep-dive/what-is-adhd` — ADHD fundamentals
- `/tools/adhd-deep-dive/assessment` — ADHD assessment information
- `/tools/adhd-deep-dive/diagnosis` — Diagnosis pathway
- `/tools/adhd-deep-dive/support-at-home` — Home support strategies
- `/tools/adhd-deep-dive/self-care` — Self-care for ADHD
- `/tools/adhd-deep-dive/working-with-school` — School collaboration
- `/tools/adhd-deep-dive/teens` — ADHD teen support
- `/tools/adhd-deep-dive/young-people` — Young adult ADHD
- `/tools/adhd-deep-dive/helplines` — UK ADHD helplines

Focus Training (3 pages):

- `/tools/adhd-focus-lab` — ADHD-specific focus lab
- `/tools/focus-training` — General focus training
- `/tools` — All tools overview

Legacy Tools (4 pages — Keep for existing users)

- `/tools/breath-ladder` ✅ Progressive breathing challenges
- `/tools/colour-path` ✅ Visual focus training
- `/tools/focus-tiles` ✅ Memory and concentration game
- `/tools/roulette` ✅ Random technique selector

Dyslexia Reading Training (1 comprehensive hub)

- `/dyslexia-reading-training` ✅ **Complete 28-component structured literacy system**
- Phonological Awareness (5 games)
- Decoding & Word Recognition (8 tools)
- Fluency Development (2 tools)
- Vocabulary & Comprehension (2 tools)
- Resources & Support (5 downloadable guides)
- Gamification (3 systems: Streaks, Rewards, Reading Buddy)

Legacy Condition Pages (3 pages)

- `/adhd` — ADHD hub (to consolidate with `/conditions/adhd`)
- `/anxiety` — Anxiety hub (to consolidate with `/conditions/anxiety`)
- `/autism` — Autism hub (to consolidate with `/conditions/autism`)
- `/stress` — Stress hub (to consolidate with `/conditions/stress`)
- `/sleep` — Sleep hub (to consolidate with `/conditions/sleep`)

About & Support (12 pages)

- `/about-us` — About NeuroBreath (new unified page)
- `/about` — About page (legacy, to be consolidated)
- `/aims-objectives` — Platform aims and objectives
- `/resources` — Resource library
- `/downloads` — Downloadable content
- `/blog` — Blog and articles
- `/support-us` — Support and donations
- `/schools` — For schools information
- `/teacher-quick-pack` — Teacher resource pack
- `/coach` — AI coach feature
- `/contact` — Contact information
- `/ai-blog` — AI blog and Q&A

Special Pages (2 pages)

- `/get-started` — Onboarding and start here flow
- `/ai-blog` — AI-powered blog and Q&A system

Legacy Progress Pages (2 pages — Keep for existing users)

- `/progress` ✅ Progress tracking dashboard
- `/rewards` ✅ Rewards and achievements

📁 Asset Inventory

Public Assets Structure

```
public/
├── audio/                  # 3 audio files (Dorothy phonics, instructions)
├── css/                    # 35+ CSS files from legacy HTML site
│   ├── home.css
│   ├── adhd-games.css
│   ├── dyslexia-strategies.css
│   ├── site.css
│   └── [...35 more]
├── js/                     # 85+ JavaScript files from legacy site
│   ├── adhd-tools.js
│   ├── breathing-session.js
│   ├── phonics-sounds-lab.js
│   ├── nb-store.js
│   └── [...85 more]
├── icons/                  # NeuroBreath brand icons (16-1024px)
│   ├── neurobreath-favicon.ico
│   ├── neurobreath-logo-square-*.png
│   └── neurobreath-mark.svg
├── img/                    # UI and content images
│   ├── hero-*.svg/jpg
│   ├── full page *.jpg (17 reference designs)
│   └── [...more]
├── pdfs/                   # Downloadable resources
│   └── NeuroBreath_Prompt_Engineering_Reward_Cards_Compact_3up.pdf
├── alkhadi.png             # 1.2MB brand asset
├── neurobreath-logo-CB8ztn6H.png  # 34KB logo
├── images_default_profile.pdf     # 64KB default profiles
├── favicon.svg             # Site favicon
├── og-image.png            # Social media preview (97KB)
└── robots.txt              # SEO configuration
```

Total Asset Count:
- CSS files: 35+
- JavaScript files: 85+
- Audio files: 3
- Image files: 25+
- Icon files: 15+
- PDF files: 2+
- Total: **165+ static assets**

🎨 Design System Standards

Visual Design

- **Color Palette:**
- Primary: Purple/Indigo (#4F46E5, #7C3AED) — Calming and focused
- Accent: Cyan (#06B6D4), Green (#10B981), Blue (#3B82F6)
- Backgrounds: Soft gradients (purple-50 to pink-50, blue-50 to cyan-50)
- Text: High contrast (gray-900 on white, white on dark)
- **Typography:**

- Sans-serif fonts for readability (system fonts: Arial, Helvetica)
- Comic Sans MS for child-friendly worksheets
- Minimum 16px body text, 18-24px headings
- **Spacing:**
- Generous whitespace to reduce cognitive load
- Consistent padding (p-4, p-6, p-8)
- Clear visual grouping with cards and sections
- **Icons & Emojis:**
- Use emojis for visual interest and quick recognition (🫁 lungs, 📚 books, 🎵 music)
- Lucide icons for UI controls (consistent 24px size)

Technical Standards

- **Framework:** Next.js 14.2.28 (App Router)
- **Language:** TypeScript with strict mode
- **Styling:** Tailwind CSS with custom utilities
- **UI Components:** Radix UI primitives + shadcn/ui
- **State Management:** React hooks (useState, useEffect, useRef)
- **Audio:** Web Audio API for synthesis, HTML5 Audio for playback
- **Storage:** LocalStorage for client-side persistence
- **Package Manager:** Yarn (default and only)

🛠️ Technical Architecture

Project Structure

```
neurobreath/
├── nextjs_space/
│   ├── app/
│   │   ├── layout.tsx              # Global layout with ReadingBuddy chatbot
│   │   ├── page.tsx                # Homepage
│   │   ├── conditions/            # Condition-specific pages (7 pages)
│   │   ├── breathing/            # Breathing & focus pages (5 pages)
│   │   ├── tools/                # Tools hub (20 pages)
│   │   ├── dyslexia-reading-training/ # Comprehensive dyslexia hub
│   │   ├── about-us/             # About section (12 pages)
│   │   ├── api/                  # API routes
│   │   │   ├── download-resource/  # Dynamic resource generation
│   │   │   ├── sessions/         # Session tracking
│   │   │   ├── progress/         # Progress updates
│   │   │   ├── badges/           # Badge system
│   │   │   └── challenges/       # Challenge tracking
│   │   ├── components/
│   │   │   ├── site-header.tsx   # Simplified navigation (Home + Dyslexia)
│   │   │   ├── site-footer.tsx
│   │   │   ├── ReadingBuddy.tsx  # Global AI chatbot
│   │   │   ├── BreathingExercise.tsx   # Enhanced breathing UI
│   │   │   ├── ui/               # 50+ Radix/shadcn components
│   │   │   └── [28+ dyslexia components]
│   │   ├── contexts/
│   │   │   ├── ProgressContext.tsx
│   │   │   └── ReadingLevelContext.tsx
│   │   ├── hooks/
│   │   │   ├── useSpeechSynthesis.ts
│   │   │   ├── useSpeechRecognition.ts
│   │   │   ├── useDorothyAudio.ts
│   │   │   └── useLocalStorage.ts
│   │   ├── lib/
│   │   │   ├── utils.ts
│   │   │   ├── types.ts
│   │   │   ├── breathing-data.ts
│   │   │   ├── badge-definitions.ts
│   │   │   └── challenge-definitions.ts
│   │   └── public/                 # 165+ static assets
│   ├── .gitignore                  # 249-line comprehensive exclusions
│   ├── PROJECT.md                  # This document
│   └── README.md                   # Project overview
```

🔮 Future Development Roadmap

Phase 2: Content Population (Q1 2026)

- [ ] **"Inside the Neurodivergent Brain" Educational Deck**
- Comprehensive research-backed content
- Neurodiversity-affirming lens
- Interactive infographics
- Source of truth for feature cards and pages

- Formats: Interactive web pages, PDF downloads, markdown documentation

- [ ] Populate all 62 empty pages with content

- [ ] ADHD focus training module implementation
- [ ] Anxiety management techniques library
- [ ] Autism sensory regulation tools
- [ ] Sleep hygiene program
- [ ] Mood support resources

Phase 3: "Start Here" System (Q1 2026)

- [ ] Age selection flow (Child/Teen/Adult)
- [ ] Goal selection (Calm/Focus/Sleep/Regulation/Learning/Routine)
- [ ] Personalized plan generation
- [ ] 3-click onboarding system
- [ ] 60-second session start target

Phase 4: Gamification Enhancement (Q2 2026)

- [ ] Quest system (7-Day Calm, 14-Day Focus, 10-Day Reading)
- [ ] Ethical streak tracking with grace days
- [ ] Badge and reward system expansion
- [ ] Unlockable content packs
- [ ] Certificate generation system

Phase 5: Supporter Features (Q2 2026)

- [ ] Parent dashboard with progress summaries
- [ ] Teacher toolkit with classroom strategies
- [ ] Carer guidance and handover notes
- [ ] Printable weekly summaries
- [ ] Progress sharing system

Phase 6: AI Features (Q3 2026)

- [ ] Prompt generator for parents/teachers/carers
- [ ] AI coach with safety guardrails
- [ ] Context-specific scripting
- [ ] Personalized learning paths
- [ ] Natural language query system

Phase 7: Flutter Mobile App (Q3 2026)

- [ ] Cross-platform mobile app (iOS/Android)
- [ ] Offline mode support
- [ ] Sync with web platform
- [ ] Push notifications for reminders
- [ ] Wearable device integration (HRV tracking)

Phase 8: Research & Validation (Q4 2026)

- [ ] Clinical trials with partner institutions
- [ ] Published efficacy studies

- [ ] Professional certification program
- [ ] Integration with school IEP/504 plans
- [ ] NHS and UK education partnerships

📊 Quality Standards

Performance Targets

- **Page Load:** First Contentful Paint < 1.5s
- **Bundle Size:** Individual pages < 150 KB
- **Total JS:** First Load < 300 KB
- **Lighthouse Score:** > 90 across all metrics

Accessibility Requirements (WCAG 2.1 AA)

- **Color Contrast:** Minimum 4.5:1 for text
- **Keyboard Navigation:** All features usable without mouse
- **Screen Reader:** Descriptive ARIA labels on all interactive elements
- **Focus Indicators:** Visible focus rings on all focusable elements
- **Reduced Motion:** Respect prefers-reduced-motion

Testing Checklist

Before deploying any new feature:
- [ ] TypeScript compilation passes (`yarn tsc --noEmit`)
- [ ] Build completes successfully (`yarn build`)
- [ ] No console errors in browser
- [ ] No hydration errors
- [ ] LocalStorage persistence works
- [ ] Audio playback functions correctly
- [ ] All links are valid and accessible
- [ ] Mobile responsive (test 320px, 768px, 1024px)
- [ ] Keyboard navigation works
- [ ] Screen reader announces correctly
- [ ] High contrast mode readable
- [ ] Reduced motion respected

🚀 Current Status

Version: 2.0.0
Last Updated: December 23, 2025
Status: ✅ FRAMEWORK COMPLETE — READY FOR CONTENT POPULATION

Completed Features

- ✅ 62 page structure created (7 fully functional, 55 awaiting content)
- ✅ Simplified navigation (Home + Dyslexia only)
- ✅ 165+ legacy assets integrated
- ✅ Comprehensive dyslexia hub (28+ components)

- ✅ Enhanced breathing techniques (4 protocols)
- ✅ Progress tracking system
- ✅ Rewards and badges
- ✅ Global Reading Buddy chatbot
- ✅ API routes for dynamic content
- ✅ Comprehensive .gitignore (249 lines)
- ✅ Project documentation updated

Next Milestone

- 📋 **"Inside the Neurodivergent Brain" Educational Deck** (Research + Design)
- 📋 **Content population for 55 empty pages**
- 📋 **"Start Here" onboarding flow**
- 📋 **Flutter app foundation**

📄 License

Built with ❤️ for neurodivergent learners