

# CogniRead - Hackathon Pitch

## 30-Second Pitch

CogniRead is a Chrome extension that makes the web accessible for the 15-20% of people with cognitive differences like ADHD, dyslexia, or autism. Using Chrome's built-in AI APIs, it transforms any webpage into an easy-to-read format with features like Focus Mode, TL;DR summaries, and adaptive complexity adjustment—all processed on-device for privacy.

## The Hook

**300+ million people** with dyslexia and **366 million** with ADHD struggle with web content daily, yet current accessibility tools ignore cognitive accessibility. We're filling a **\$8.3 billion market gap**.

## Problem Statement

1. Web content is designed for neurotypical readers
2. People with learning differences spend **3-5x longer** reading online
3. Current accessibility tools focus only on visual/hearing impairments
4. No privacy-friendly solutions for cognitive accessibility exist

## Our Solution

CogniRead provides:

- **Focus Mode:** One paragraph at a time (ADHD-friendly)
- **TL;DR Mode:** AI-generated bullet summaries
- **Complexity Slider:** Adjust reading level 1-10
- **Dyslexia Mode:** Enhanced spacing and fonts
- **Definition Bubbles:** Hover explanations for difficult words
- **Progress Tracking:** Visual reading completion

## Chrome AI APIs Integration

We combine **4 Chrome AI APIs** in one solution:

1. **Summarizer API:** Extract key points
2. **Rewriter API:** Simplify complex text

3. **Prompt API:** Analyze cognitive complexity
4. **Translator API:** Convert idioms to literal language

All processing is **on-device**—no external servers, perfect privacy.

### Demo Flow

1. Show complex article (e.g., Wikipedia, news site)
2. Click extension icon → Show control panel
3. Enable Focus Mode → Highlight one paragraph
4. Toggle TL;DR Mode → Show AI summary
5. Adjust complexity slider → Simplify text
6. Enable Dyslexia Mode → Change fonts/spacing
7. Show progress bar tracking

### What Makes Us Unique

1. **First** to combine multiple AI APIs for cognitive accessibility
2. **Privacy-first:** All processing on-device
3. **Real-time adaptation:** No pre-processing needed
4. **Customizable:** Each user's cognitive needs are different
5. **Scientifically grounded:** Uses Flesch Reading Ease and proven metrics

### Market Opportunity

- **Target Users:** 300M dyslexia + 366M ADHD + 75M autism = **741M people**
- **TAM:** \$8.3B assistive technology market
- **Current Competition:** Zero solutions for cognitive web accessibility
- **Use Cases:** Education, professional development, daily browsing

### Technical Implementation

#### Architecture:

- Modular design with 3 core components
- AI Service layer with fallback methods
- Cognitive Engine for content analysis
- Content Script for UI orchestration

### Key Features:

- Flesch Reading Ease scoring
- Automatic content extraction
- Smart paragraph chunking
- Keyboard shortcuts for power users

### ## 🎯 Future Roadmap

#### Phase 1 (Hackathon):

- ✅ Core features implemented
- ✅ Chrome AI integration
- ✅ Privacy-first architecture

#### Phase 2 (3 months):

- Options page for global settings
- Reading statistics dashboard
- PDF support
- Multi-language support

#### Phase 3 (6 months):

- Chrome Web Store launch
- User testing with accessibility groups
- Integration with screen readers
- Educational institution partnerships

### 💰 Business Model (Future)

1. **Freemium:** Basic features free, advanced features paid
2. **Educational:** Site licenses for schools/universities
3. **Enterprise:** B2B for companies promoting neurodiversity
4. **API:** License AI analysis engine to other developers

### 🏆 Why We Should Win

1. **Impact:** Serves massively underserved 15-20% of population

2. **Innovation:** First comprehensive cognitive accessibility tool
3. **Technical Excellence:** Clever use of multiple Chrome AI APIs
4. **Privacy:** On-device processing protects vulnerable users
5. **Execution:** Fully functional prototype ready for testing
6. **Scalability:** Works on any website, zero infrastructure costs

## Success Metrics

- Number of active users
- Reading time reduction (target: 40% faster)
- Comprehension improvement (user surveys)
- Feature usage statistics
- User retention and engagement

## ## Team

- **Your Name:** Anthony Turner
- **Background:** Full-stack software developer - w/ADHD
- **Motivation:** To help others

## Closing Statement

"15-20% of people struggle to read online content due to cognitive differences. CogniRead transforms the entire web into an accessible format using Chrome's AI—privately, intelligently, and instantly. We're not just building an extension; we're opening the web for hundreds of millions of people."

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## ## Demo Script (3 minutes)

### [0:00-0:30] Problem

"I'm going to read you a paragraph from a typical Wikipedia article. [Read complex sentence]. For someone with ADHD or dyslexia, this is exhausting. Now watch what CogniRead does..."

### [0:30-1:00] Focus Mode

"With one click, Focus Mode highlights just one paragraph, dimming everything else. Arrow keys let me move forward. No more losing my place."

### **[1:00-1:30] TL;DR Mode**

"Too long? TL;DR Mode uses Chrome's AI to create bullet points. The entire article summarized in seconds—on your device, privately."

### **[1:30-2:00] Complexity Slider**

"But maybe I want to read it all. The complexity slider adapts the content to my reading level. Watch as the text simplifies from college level to middle school."

### **[2:00-2:30] Dyslexia Mode**

"For dyslexia? Special fonts, extra spacing, better readability. Combined with our other features, it's transformative."

### **[2:30-3:00] Closing**

"All powered by Chrome's built-in AI—no external servers, no privacy concerns. This is cognitive accessibility for 741 million people. Thank you."

## **Key Talking Points**

- ✓ **Privacy:** "All AI processing happens on your device"
- ✓ **Innovation:** "First to combine 4 Chrome AI APIs"
- ✓ **Impact:** "300M+ people with dyslexia alone"
- ✓ **Execution:** "Fully functional, ready to use today"
- ✓ **Scalability:** "Works on any website automatically"

## **Questions You Might Get**

### **Q: How is this different from text-to-speech?**

A: We don't just read text aloud—we fundamentally restructure it for comprehension. We simplify sentences, create summaries, adjust complexity, and provide contextual definitions.

### **Q: What about accuracy of AI simplification?**

A: We use Chrome's built-in Gemini Nano model, which is optimized for on-device tasks. We also provide fallback methods and let users control the complexity level.

**Q: Who's your competition?**

A: There are reading tools and visual accessibility tools, but no comprehensive cognitive accessibility solution. We're creating a new category.

**Q: How do you make money?**

A: For the hackathon, we're focused on impact. Future monetization could include premium features, educational licenses, and B2B enterprise sales.

**Q: Privacy concerns?**

A: All AI processing is on-device using Chrome's built-in APIs. We never send data to external servers. Perfect for protecting vulnerable users.

**Q: What about other browsers?**

A: We started with Chrome because of the AI APIs, but the cognitive engine and UI could be adapted to Firefox, Edge, etc. with different AI backends.