# Mano Veda (मनो वेद)

## An Early Alzheimer Detection App

### Presented By

## Code Of Wizards

# OUR TEAM MEMBERS

- Team Leader

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# PROBLEM OVERVIEW

Alzheimer's disease is a progressive brain disorder that affects the memory, thinking skills, and behavior. Early symptoms are subtle like mild forgetfulness or confusion and they are often mistaken for normal aging. This leads to late diagnosis, by which time the damage is significant and irreversible.

👥**It affects:**
- Older adults (age 60+)
- Caregivers and family members
- Healthcare systems burdened with late-stage care

📊 **Key Stats:**
- Every 3 seconds, a new case is diagnosed
- Only 16% of seniors get screened early

Real Life Example: A study showed that simple memory tests or voice analysis tools could detect Alzheimer's risk years before clinical symptoms appear, but such tools are rarely available at the primary care or mobile level.

🚫 **Gaps in Current Solutions**
- Lack of early screening tools for the general public
- Over reliance on in-clinic diagnosis (MRI, CT scans — expensive and inaccessible)
- Minimal digital outreach in rural and semi urban areas
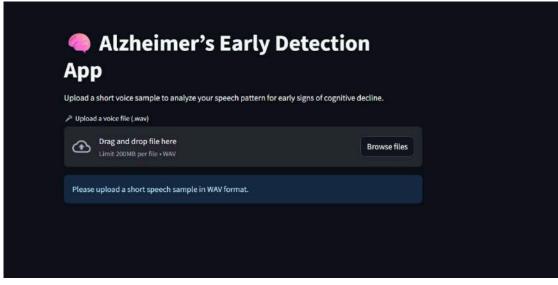- Existing apps are often too technical or not user-friendly for seniors

# SOLUTION OVERVIEW

💡 **Summary: Our idea focuses on early detection of Alzheimer's Disease using Voice Analysis and Memory Games to identify cognitive decline before irreversible damage occurs.**

🔍 **Key Features & Innovations:**
- **Voice Analysis: Identifies subtle speech changes and hesitation patterns.**
- **Memory Games: Engaging cognitive tests to assess brain function.**
- **User-Friendly: Simple tools for easy accessibility.**
- **Early Detection: Enables timely intervention and treatment.**

👥 **Who Benefits?**
- **Individuals at risk of Alzheimer's**
- **Caregivers & families seeking early signs**
- **Healthcare professionals for better diagnosis**
- **Researchers studying cognitive health**

✨ **Impact: Making Alzheimer's detection accessible & effective!**



🧠 Alzheimer's Early Detection App

Upload a short voice sample to analyze your speech pattern for early signs of cognitive decline.

⬆ Upload a voice file (.wav)

Drag and drop file here
Limit 200MB per file • WAV

Browse files

Please upload a short speech sample in WAV format.

# SOLUTION/TECHNICAL APPROACH

🛠️ **Tools, Tech Stack, and Platforms:**
- **Programming: Python, JavaScript**
- **AI & ML Frameworks: TensorFlow, PyTorch**
- **Speech Processing: OpenAI Whisper**
- **Databases: MongoDB**
- **Cloud: Google Cloud**
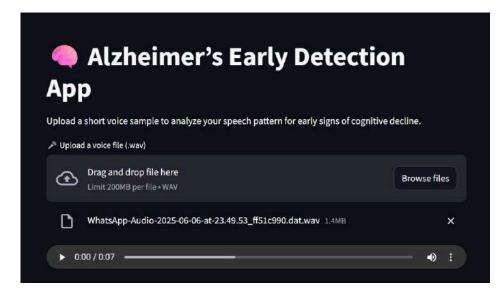- **Frontend: React.js, Next.js**
- Backend: Node.js

🔄 **System Flow / Architecture:**
1. **Data Collection: User voice samples recorded.**
2. **Preprocessing: Speech signals cleaned and filtered.**
3. **Feature Extraction: Analyzing vocal tone, pauses, fluency.**
4. **Cognitive Testing: Memory game assessments integrated.**
5. **AI Analysis: Machine learning detects cognitive decline.**
6. **Result Generation: Risk levels and patterns reported.**
7. **User Feedback: Actionable insights for healthcare professionals.**

🚀 **PoC, Prototype, or Progress**
- **PoC: Initial tests using voice sample data.**
- **Prototype: Basic prototype phase started, integrating core functionalities.**
- **Testing & Optimization: Early validation, improving AI models.**
- **User Feedback: Research and refinements for real-world application.**



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📄 WhatsApp-Audio-2025-06-06-at-23.49.53_ff51c990.dat.wav  1.4MB  ✕

▶ 0:00 / 0:07

# FEASIBILITY & APPLICATIONS

🛠️ **Feasibility with Available Resources**
- **Uses AI-powered voice analysis and simple memory tests.**
- **Can be developed with existing speech recognition technology.**
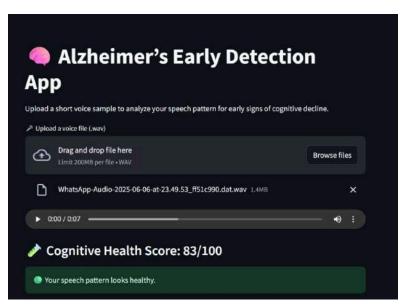- **Mobile apps make screening accessible and scalable.**

🌍 **Real-World Use Cases & Sectors**
- **Healthcare: Early Alzheimer's screening for hospitals and clinics.**
- **Research: Cognitive health studies using speech and memory data.**
- **Caregiving: Support tool for families tracking loved ones' cognitive health.**

⚠️ **Major Limitations & Risks**
- **Accuracy challenges in detecting subtle early symptoms.**
- **User adoption may be slow due to awareness gaps.**
- **Requires further validation for clinical use and regulatory approvals.**

# BUSSINESS POTENTIAL

💡 **Value & Impact**
- **Global Alzheimer's market was valued at $7.5B in 2023, projected to reach $20B by 2033 (CAGR: 10.3%).**
- **Our AI-driven treatment solutions reduce diagnosis time and saves in healthcare costs.**

👥 **Potential Users/Partners**
- **Clinics & Hospitals – Early detection & personalized treatment.**
- **IT Companies – AI integration for scalable health-tech solutions.**
- **Research Institutions – Data-driven insights for drug development.**
- **Individuals – At-home monitoring & preventive care.**

📈 **Future Plans & Scalability**
**3 Models:**
- **ClinicPro (Clinics/IT)**
- **ResearchAI (Labs)**
- **HomeCare (Individuals)**

Global Alzheimer's Market Share: 2023 vs 2033

72.7%    2033 ($

27.3%

3 ($7.5B)

ClinicPro    Research    Individiuals

Clinic/Alt    For Lab    HomeCare

THANK YOU