MINDCARE AI

MULTILINGUAL VOICE-BASED MENTAL HEALTH SCREENING ASSISTANT FOR STUDENTS

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SDG MAPPING

Primary SDG: SDG 3 – Good Health & Well-Being
Target Alignment:

- 3.4: Promote mental health & reduce premature mortality
- 3.C: Strengthen mental health support systems

PROBLEMS

Students today face rising mental health challenges due to:

- Academic pressure
- Competitive exams
- Digital overload
- Social comparison
- Sleep disruption

Mental health issues often go unnoticed due to stigma, lack of awareness, and limited access to counselors.

SOLUTIONS

- 85% of Indian students report exam-related stress
- 56% college students report anxiety symptoms
- 1 in 7 people in India experience mental health disorders
- Majority do not seek help due to stigma or lack of access

Early screening + awareness can prevent escalation

PROBLEM STATEMENT

How might we use AI to enable early mental health screening so that students can proactively understand their emotional state and seek timely support without stigma?

TARGET USERS

Primary Users

- School & College Students (Ages 13–24)

Secondary Beneficiaries

- Parents
- Teachers
- Institutions
- Counselors

KEY PAIN POINTS

Students currently lack:

- Awareness of symptoms
- Access to counselors
- Non-judgmental environment
- Early screening tools
- Multi-language support
- Voice-based accessibility

SOLUTION OVERVIEW

MindCare AI is a multilingual, voice-enabled AI assistant that:

- Screens mental stress signals
- Classifies stress levels
- Provides coping strategies
- Offers helpline escalation in crisis cases
- Supports English + Hinglish + Tamil

AI CAPABILITIES USED

- Whisper STT (voice → text)
- Language Detection (EN/Hinglish/Tamil)
- NLP Signal Extraction
- Stress Level Classification
- Retrieval-Augmented Guidance (RAG)
- TTS (text → voice)
- Responsible Crisis Detection Layer

WORKFLOW

Voice/Text Input → STT → Language Detect → NLP →
Classifier → RAG → Response (Text + Voice) → Helpline

SYSTEM ARCHITECTURE

Modules:

- User Interface (Streamlit)
- Voice Processing (Whisper)
- Language Detection (langid)
- NLP + Classifier
- Strategy Retriever (RAG)
- Crisis Safety Layer
- Text-to-Speech Engine
- Output Layer (UI + Audio)

MULTILINGUAL SUPPORT

Languages Supported

- English (neutral)
- Hinglish (youth)
- Tamil (student conversational)

Why Multilingual?

- Reduces stigma
- Increases comfort
- Improves access
- Matches real student communication

SAMPLE INTERACTION

User: “Exams are stressing me out and I can’t sleep.”

MindCare AI:

“Many students feel exam pressure.
How long has this been happening?”
→ Classification: Medium Stress
→ Coping Strategies Provided

VOICE INPUT & OUTPUT

✓ User can speak naturally
✓ AI responds with:
- Text
- Audio playback (voice)**

Enhances accessibility for visually impaired or reading-averse students.

CRISIS ESCALATION

If crisis language detected (“give up”, “kill myself”, “varamudiyala”, etc.):
AI responds:
“You are not alone. Please reach out for help.”
Helplines:
📞 Tele-MANAS India: 14416
📞 NIMHANS: +91-80-46110007
📞 Fortis School Helpline: +91-8376804102

COPING STRATEGIES (RAG)

Strategies include:

- Pomodoro study technique
- Sleep hygiene routines
- Deep breathing exercises
- Reduced caffeine at night
- Breaking workload into tasks

Adapted per language and context

RESPONSIBLE AI CONSIDERATIONS

MindCare AI:

- ✓ Does not diagnose
- ✓ Does not prescribe medication
- ✓ Avoids clinical claims
- ✓ No personal data stored
- ✓ Uses supportive language
- ✓ Includes crisis escalation
- ✓ Ethically aligns with SDG-3 targets

IMPACT

Impact Areas:

- Early screening & awareness
- Reduced stigma around mental health
- Improved academic well-being
- Increased access for multilingual students

Societal Impact:

- Supports SDG-3 goals
- Low-cost & scalable
- Can integrate into schools & colleges

FUTURE SCOPE

Future Enhancements:

- Real-time emotional speech analysis
- More Indian languages
- Chat-based behavioral tracking
- Integration with school ERP
- Counselor connect features
- Clinical expert review layer

CONCLUSION

MindCare AI provides a safe, multilingual, voice-based mental health screening environment for students, making early mental well-being support accessible, stigma-free, and aligned with SDG-3.

THANK YOU