

```

import React, { useState, useEffect, useRef, createContext, useContext
} from 'react';
import { initializeApp } from "firebase/app";
import { getAuth, signInAnonymously, onAuthStateChanged } from
"firebase/auth";
import { getFirestore, collection, addDoc, onSnapshot, query, orderBy,
limit } from "firebase/firestore";

// --- PASTE YOUR FIREBASE CONFIG HERE ---
const firebaseConfig = {
  apiKey: "YOUR_API_KEY",
  authDomain: "YOUR_AUTH_DOMAIN",
  projectId: "YOUR_PROJECT_ID",
  storageBucket: "YOUR_STORAGE_BUCKET",
  messagingSenderId: "YOUR_MESSAGING_SENDER_ID",
  appId: "YOUR_APP_ID"
};
// -----

// --- Firebase Initialization ---
const AppContext = createContext();
const appId = typeof __app_id !== 'undefined' ? __app_id :
'ai-wellness-companion';
const effectiveFirebaseConfig = typeof __firebase_config !==
'undefined' ? JSON.parse(__firebase_config) : firebaseConfig;

const app = initializeApp(effectiveFirebaseConfig);
const auth = getAuth(app);
const db = getFirestore(app);

// --- Gemini API Helper ---
const callGeminiApi = async (prompt, systemInstruction) => {
  const apiKey = ""; // Canvas will provide this
  const apiUrl =
`https://generativelanguage.googleapis.com/v1beta/models/gemini-2.5-fl
ash-preview-05-20:generateContent?key=${apiKey}`;

  const payload = {
    contents: [{ parts: [{ text: prompt }] }],
    systemInstruction: {
      parts: [{ text: systemInstruction }]
    },
  };

  // Exponential backoff for retries
  let response;
  for (let i = 0; i < 4; i++) {
    try {

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        response = await fetch(apiUrl, {
            method: 'POST',
            headers: { 'Content-Type': 'application/json' },
            body: JSON.stringify(payload)
        });
        if (response.ok) break;
    } catch (error) {
        console.error('API call failed:', error);
    }
    await new Promise(resolve => setTimeout(resolve, Math.pow(2,
i) * 1000));
}

    if (!response || !response.ok) {
        return "Sorry, I'm having trouble connecting right now. Please
try again later.";
    }

    try {
        const result = await response.json();
        return result.candidates?.[0]?.content?.parts?.[0]?.text ||
"I'm not sure how to respond to that. Could you rephrase?";
    } catch (error) {
        console.error("Error parsing Gemini response:", error);
        return "There was an error processing the response.";
    }
};

// --- Dynamically load external scripts ---
const loadScript = (src) => {
    return new Promise((resolve, reject) => {
        if (document.querySelector(`script[src="${src}"]`)) {
            return resolve();
        }
        const script = document.createElement('script');
        script.src = src;
        script.onload = () => resolve();
        script.onerror = () => reject(new Error(`Script load error for
${src}`));
        document.body.appendChild(script);
    });
};

// --- Main App Component ---
export default function App() {
    const [user, setUser] = useState(null);

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const [loading, setLoading] = useState(true);

useEffect(() => {
  const unsubscribe = onAuthStateChanged(auth, async (currentUser)
=> {
    if (currentUser) {
      setUser(currentUser);
    } else {
      try {
        await signInAnonymously(auth);
      } catch (error) {
        console.error("Error signing in anonymously:", error);
      }
    }
    setLoading(false);
  });
  return () => unsubscribe();
}, []);

if (loading) {
  return <LoadingScreen />;
}

return (
  <AppContext.Provider value={{ user, db, appId }}>
    <div className="bg-gray-900 text-white min-h-screen font-sans">
      <Header />
      <main className="container mx-auto px-4 py-8">
        <Dashboard />
      </main>
      <Footer />
    </div>
  </AppContext.Provider>
);
}

// --- UI Components ---

function LoadingScreen() {
  return (
    <div className="flex items-center justify-center min-h-screen
bg-gray-900">
      <div className="text-center">
        <svg className="animate-spin h-10 w-10 text-cyan-400 mx-auto
mb-4" xmlns="http://www.w3.org/2000/svg" fill="none" viewBox="0 0 24
24">
          <circle className="opacity-25" cx="12" cy="12" r="10"

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stroke="currentColor" strokeWidth="4"></circle>
    <path className="opacity-75" fill="currentColor" d="M4 12a8
8-8V0C5.373 0 0 5.373 0 12h4zm2 5.291A7.962 7.962 0 014 12H0c0 3.042
1.135 5.824 3 7.93813-2.647z"></path>
    </svg>
    <h1 className="text-2xl font-semibold text-white">Connecting
to your space...</h1>
    <p className="text-gray-400">Please wait a moment.</p>
  </div>
</div>
);
}

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function Header() {
  const { user } = useContext(AppContext);
  return (
    <header className="bg-gray-900/80 backdrop-blur-sm sticky top-0
z-50 border-b border-cyan-500/30">
      <nav className="container mx-auto px-4 py-3 flex justify-between
items-center">
        <div className="flex items-center space-x-3">
          <svg className="w-8 h-8 text-cyan-400" fill="none"
stroke="currentColor" viewBox="0 0 24 24"
xmlns="http://www.w3.org/2000/svg"><path strokeLinecap="round"
strokeLinejoin="round" strokeWidth={2} d="M12 3v1m0 16v1m9-9h-1M4
12H3m15.364 6.364l-.707-.707M6.343 6.343l-.707-.707m12.728
0l-.707.707M6.343 17.657l-.707.707M16 12a4 4 0 11-8 0 4 4 0 018
0z"></path></svg>
          <h1 className="text-xl font-bold text-white
tracking-wider">Youth Mental Wellness</h1>
        </div>
        <div>
          {user && <span className="text-sm text-gray-400 hidden
sm:block">UID: {user.uid}</span>}
        </div>
      </nav>
    </header>
  );
}

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function Dashboard() {
  const [autoDetectedMood, setAutoDetectedMood] = useState(null);

  return (
    <div className="grid grid-cols-1 lg:grid-cols-3 gap-8">
      <div className="lg:col-span-2 space-y-8">
        <FacialMoodDetector onMoodDetected={setAutoDetectedMood} />
        <MoodCheckIn autoDetectedMood={autoDetectedMood} />
      </div>
    </div>
  );
}

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        <Journaling />
    </div>
    <div className="lg:col-span-1">
        <AIChat />
    </div>
</div>
);
}

function FacialMoodDetector({ onMoodDetected }) {
    const videoRef = useRef(null);
    const canvasRef = useRef(null);
    const [modelsLoaded, setModelsLoaded] = useState(false);
    const [detectionStatus, setDetectionStatus] =
useState('Initializing');
    const [detectedMood, setDetectedMood] = useState(null);
    const [isCameraOn, setIsCameraOn] = useState(false);
    const intervalRef = useRef(null);

    useEffect(() => {
        const loadModels = async () => {
            const MODEL_URL =
'https://cdn.jsdelivr.net/npm/@vladmandic/face-api/model/';
            try {
                await
loadScript('https://cdn.jsdelivr.net/npm/face-api.js@0.22.2/dist/face-
api.min.js');
                await Promise.all([

faceapi.nets.tinyFaceDetector.loadFromUri(MODEL_URL),

faceapi.nets.faceLandmark68Net.loadFromUri(MODEL_URL),

faceapi.nets.faceRecognitionNet.loadFromUri(MODEL_URL),

faceapi.nets.faceExpressionNet.loadFromUri(MODEL_URL),
                ]);
                setModelsLoaded(true);
                setDetectionStatus('Ready to start');
            } catch (error) {
                console.error("Failed to load face-api models:",
error);
                setDetectionStatus('Error loading AI models.');
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        if(intervalRef.current)
clearInterval(intervalRef.current);
        if(videoRef.current && videoRef.current.srcObject) {
            videoRef.current.srcObject.getTracks().forEach(track
=> track.stop());
        }
    }, []);

const startVideo = () => {
    navigator.mediaDevices.getUserMedia({ video: {} })
        .then(stream => {
            if (videoRef.current) {
                videoRef.current.srcObject = stream;
                setIsCameraOn(true);
                setDetectionStatus('Detecting...');
            }
        })
        .catch(err => {
            console.error("error:", err);
            setDetectionStatus('Camera permission denied.');
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    }, 700);
  };

  return (
    <section className="bg-gray-800/50 p-6 rounded-2xl shadow-lg
border border-gray-700">
      <h2 className="text-xl font-semibold mb-4
text-cyan-300">Automatic Mood Detection</h2>
      <div className="flex flex-col items-center">
        <div className="relative w-full max-w-sm h-48
bg-gray-700 rounded-lg overflow-hidden mb-4 border-2
border-transparent focus-within:border-cyan-400">
          <video ref={videoRef} onPlay={handleVideoPlay}
autoPlay muted playsInline className="w-full h-full object-cover" />
          <canvas ref={canvasRef} className="absolute top-0
left-0" />
        </div>
        {!isCameraOn ? (
          <button onClick={startVideo}
disabled={!modelsLoaded} className="bg-cyan-600 hover:bg-cyan-500
text-white font-bold py-2 px-4 rounded-lg transition-colors
disabled:bg-gray-500">
            {modelsLoaded ? 'Start Camera' : 'Loading AI
Models...'}
          </button>
        ) : (
          <p className="text-lg">Detected Mood: <span
className="font-bold text-cyan-400">{detectedMood || '...'}</span></p>
        )}
        <p className="text-sm text-gray-400
mt-2">{detectionStatus}</p>
      </div>
    </section>
  );
}

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function MoodCheckIn({ autoDetectedMood }) {
  const { user, db, appId } = useContext(AppContext);
  const [selectedMood, setSelectedMood] = useState(null);
  const [isSubmitted, setIsSubmitted] = useState(false);
  const moods = [
    { name: 'Joyful', icon: '😊' }, { name: 'Calm', icon: '😌' },
    { name: 'Sad', icon: '😞' }, { name: 'Anxious', icon: '😟' },
    { name: 'Angry', icon: '😡' }, { name: 'Content', icon: '😄' },
  ];
};

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const handleMoodSelect = async (moodName) => {

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const mood = moods.find(m => m.name === moodName);
if (!user || !mood || isSubmitted) return;

setSelectedMood(mood);
setIsSubmitted(true);
try {
  const privateCollectionPath =
`artifacts/${appId}/users/${user.uid}/moods`;
  await addDoc(collection(db, privateCollectionPath), {
    mood: mood.name,
    icon: mood.icon,
    timestamp: new Date(),
  });
} catch (error) {
  console.error("Error adding mood: ", error);
}

setTimeout(() => {
  setIsSubmitted(false);
  setSelectedMood(null);
}, 2500);
};

useEffect(() => {
  if(autoDetectedMood) {
    handleMoodSelect(autoDetectedMood);
  }
}, [autoDetectedMood]);

return (
  <section className="bg-gray-800/50 p-6 rounded-2xl shadow-lg
border border-gray-700">
    <h2 className="text-xl font-semibold mb-4 text-cyan-300">How are
you feeling right now?</h2>
    {isSubmitted ? (
      <div className="text-center py-8 transition-opacity
duration-300">
        <p className="text-3xl">{selectedMood?.icon}</p>
        <p className="mt-2 text-lg">Thanks for sharing. Your mood
'{selectedMood?.name}' has been logged.</p>
      </div>
    ) : (
      <div className="grid grid-cols-3 sm:grid-cols-6 gap-4">
        {moods.map((mood) => (
          <button
            key={mood.name}
            onClick={() => handleMoodSelect(mood.name)}
            className={`flex flex-col items-center justify-center

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p-4 rounded-xl transition-all duration-300 ease-in-out transform
hover:-translate-y-1 hover:shadow-2xl focus:outline-none focus:ring-2
focus:ring-offset-2 focus:ring-offset-gray-800 focus:ring-cyan-400
bg-gray-700 hover:bg-gray-600`}
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    >
      <span className="text-4xl">{mood.icon}</span>
      <span className="mt-2 text-sm
font-medium">{mood.name}</span>
    </button>
  )})
</div>
)}
</section>
);
}

```

```

function Journaling() {
  const { user, db, appId } = useContext(AppContext);
  const [entry, setEntry] = useState('');
  const [entries, setEntries] = useState([]);
  const [isSaving, setIsSaving] = useState(false);
  const [insight, setInsight] = useState('');
  const [isGeneratingInsight, setIsGeneratingInsight] =
    useState(false);

  useEffect(() => {
    if (!user) return;
    const privateCollectionPath =
`artifacts/${appId}/users/${user.uid}/journal`;
    const q = query(collection(db, privateCollectionPath),
orderBy('timestamp', 'desc'));

    const unsubscribe = onSnapshot(q, (querySnapshot) => {
      const journalEntries = querySnapshot.docs.map(doc => ({
id: doc.id, ...doc.data() }));
      setEntries(journalEntries);
    }, (error) => console.error("Error fetching journal entries:
", error));

    return () => unsubscribe();
  }, [user, db, appId]);

  const handleSaveEntry = async () => {
    if (entry.trim() === '' || !user) return;
    setIsSaving(true);
    try {
      const privateCollectionPath =
`artifacts/${appId}/users/${user.uid}/journal`;

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        await addDoc(collection(db, privateCollectionPath), {
text: entry, timestamp: new Date() });
        setEntry('');
        setInsight(''); // Clear previous insight on new entry
    } catch (error) {
        console.error("Error saving journal entry: ", error);
    } finally {
        setIsSaving(false);
    }
};

const handleGetInsights = async () => {
    if (entry.trim() === '') return;
    setIsGeneratingInsight(true);
    setInsight('');
    const systemPrompt = "You are an empathetic wellness coach.
Read the following journal entry from a user. Provide a short (2-3
sentences), compassionate, and insightful reflection. Focus on
validating their feelings and offering a gentle, encouraging
perspective. Do not give medical advice. Frame your response as if you
are speaking directly to the user.";
    const response = await callGeminiApi(entry, systemPrompt);
    setInsight(response);
    setIsGeneratingInsight(false);
};

return (
    <section className="bg-gray-800/50 p-6 rounded-2xl shadow-lg
border border-gray-700">
        <h2 className="text-xl font-semibold mb-4
text-cyan-300">Daily Journal</h2>
        <textarea
            className="w-full h-32 p-3 bg-gray-700 rounded-lg
border border-gray-600 focus:outline-none focus:ring-2
focus:ring-cyan-400 text-white transition"
            placeholder="What's on your mind?"
            value={entry}
            onChange={(e) => setEntry(e.target.value)}
        ></textarea>
        <div className="mt-4 flex space-x-4">
            <button
                onClick={handleSaveEntry}
                disabled={isSaving || entry.trim() === ''}
                className="flex-1 bg-cyan-600 hover:bg-cyan-500
text-white font-bold py-2 px-4 rounded-lg transition-colors
disabled:bg-gray-500 disabled:cursor-not-allowed"
            >
                {isSaving ? 'Saving...' : 'Save Entry'}

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        </button>
        <button
            onClick={handleGetInsights}
            disabled={isGeneratingInsight || entry.trim() ===
''}
            className="flex-1 bg-cyan-700 hover:bg-cyan-600
text-white font-bold py-2 px-4 rounded-lg transition-colors
disabled:bg-gray-500 disabled:cursor-not-allowed"
            >
                {isGeneratingInsight ? 'Thinking...' : '✨ Get
Insight'}
            </button>
        </div>

        {isGeneratingInsight && <p className="text-center
text-gray-400 mt-4">Generating your insight...</p>}}
        {insight && (
            <div className="mt-6 p-4 bg-gray-700/50 border-1-4
border-cyan-400 rounded-r-lg">
                <h4 className="font-semibold
text-cyan-300">Wellness Insight</h4>
                <p className="text-gray-300 mt-2">{insight}</p>
            </div>
        )}

        <div className="mt-6">
            <h3 className="text-lg font-semibold mb-2">Recent
Entries</h3>
            <div className="space-y-4 max-h-60 overflow-y-auto
pr-2">
                {entries.length > 0 ? entries.map(e => (
                    <div key={e.id} className="bg-gray-700 p-3
rounded-lg">
                        <p className="text-sm text-gray-300
whitespace-pre-wrap">{e.text}</p>
                        <p className="text-xs text-gray-500 mt-2
text-right">
                            {e.timestamp?.toDate().toLocaleDateString()}
                        </p>
                    </div>
                )) : <p className="text-gray-400">No entries yet.
Write your first one above!</p>}}
            </div>
        </div>
    </section>
);
}

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function AIChat() {
  const { user, db, appId } = useContext(AppContext);
  const [messages, setMessages] = useState([]);
  const [input, setInput] = useState('');
  const [isListening, setIsListening] = useState(false);
  const [isInitializing, setIsInitializing] = useState(true);
  const [isAwaitingResponse, setIsAwaitingResponse] =
useState(false);
  const [latestMood, setLatestMood] = useState(null);
  const [latestJournal, setLatestJournal] = useState(null);
  const chatEndRef = useRef(null);
  const recognitionRef = useRef(null);

  // Effect for fetching data
  useEffect(() => {
    if (!user) return;

    const moodQuery = query(collection(db,
`artifacts/${appId}/users/${user.uid}/moods`), orderBy('timestamp',
'desc'), limit(1));
    const unsubMood = onSnapshot(moodQuery, (snapshot) => {
      setLatestMood(snapshot.docs[0]?.data() || 'new_user');
    }, (error) => {
      console.error("Error fetching mood:", error);
      setLatestMood('new_user');
    });

    const journalQuery = query(collection(db,
`artifacts/${appId}/users/${user.uid}/journal`), orderBy('timestamp',
'desc'), limit(1));
    const unsubJournal = onSnapshot(journalQuery, (snapshot) => {
      setLatestJournal(snapshot.docs[0]?.data() || 'new_user');
    }, (error) => {
      console.error("Error fetching journal:", error);
      setLatestJournal('new_user');
    });

    return () => {
      unsubMood();
      unsubJournal();
    };
  }, [user, db, appId]);

  // Effect for updating initial message based on fetched data
  useEffect(() => {
    if (latestMood && latestJournal) {
      let initialMessage = "Hello! I'm your personal wellness

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companion. How can I support you today?";
    if (latestMood !== 'new_user') {
        initialMessage = `I notice you're feeling
${latestMood.mood.toLowerCase()} today. Is there anything on your
mind?`;
    }
    if (latestMood !== 'new_user' && latestJournal !==
'new_user') {
        const journalSnippet = latestJournal.text.substring(0,
40);
        initialMessage = `I sense you're feeling
${latestMood.mood.toLowerCase()}. I also saw your recent journal entry
about "${journalSnippet}...". Would you like to talk about it?`;
    }
    setMessages([
{ role: "model", parts: [
{ text:
initialMessage }
]
}]);
    setIsInitializing(false);
}
}, [latestMood, latestJournal]);

useEffect(() => {
    const SpeechRecognition = window.SpeechRecognition ||
window.webkitSpeechRecognition;
    if (SpeechRecognition) {
        const recognition = new SpeechRecognition();
        recognition.continuous = false;
        recognition.interimResults = false;
        recognition.lang = 'en-US';
        recognition.onresult = (event) => {
            const transcript = event.results[0][0].transcript;
            setIsListening(false);
            if (transcript.trim() !== '') handleSend(transcript);
        };
        recognition.onerror = (event) => {
            console.error('Speech recognition error:',
event.error);
            setIsListening(false);
        };
        recognition.onend = () => setIsListening(false);
        recognitionRef.current = recognition;
    }
}, []);

const toggleListening = () => {
    if (isListening) {
        recognitionRef.current?.stop();
    } else if (recognitionRef.current) {
        recognitionRef.current.start();
    }
}

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        setIsListening(true);
    }
};

useEffect(() => {
    chatEndRef.current?.scrollIntoView({ behavior: "smooth" });
}, [messages]);

const handleSend = async (textToSend) => {
    const currentInput = typeof textToSend === 'string' ?
textToSend : input;
    if (currentInput.trim() === '' || isAwaitingResponse) return;

    const newUserMessage = { role: "user", parts: [{ text:
currentInput }] };
    const updatedMessages = [...messages, newUserMessage];
    setMessages(updatedMessages);
    setInput('');
    setIsAwaitingResponse(true);

    const systemPrompt = "You are an AI wellness companion for
youth. Your personality is empathetic, patient, and supportive. You
are not a doctor and must never give medical advice. Keep your
responses concise and conversational. Your goal is to help the user
explore their feelings and feel heard.";
    // We will create a prompt from the conversation history
    const promptFromHistory = updatedMessages.map(msg =>
`${msg.role === 'model' ? 'AI' : 'User'}:
${msg.parts[0].text}`).join('\n');

    const aiResponseText = await callGeminiApi(promptFromHistory,
systemPrompt);

    const newAiMessage = { role: "model", parts: [{ text:
aiResponseText }] };
    setMessages(prev => [...prev, newAiMessage]);
    setIsAwaitingResponse(false);
};

const handleTextSend = () => handleSend(input);

return (
    <section className="bg-gray-800/50 rounded-2xl shadow-lg
border border-gray-700 flex flex-col h-[85vh]">
        <h2 className="text-xl font-semibold p-4 border-b
border-gray-700 text-cyan-300">✨ AI Companion</h2>
        <div className="flex-1 p-4 space-y-4 overflow-y-auto">
            {isInitializing ? ( <div className="flex

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justify-center items-center h-full"><p
className="text-gray-400">Personalizing your chat...</p></div> ) : (
    messages.map((msg, index) => (
        <div key={index} className={`flex ${msg.role
=== 'user' ? 'justify-end' : 'justify-start'}`}>
            <div className={`max-w-xs lg:max-w-md px-4
py-2 rounded-2xl shadow-md ${msg.role === 'user' ? 'bg-cyan-600
text-white rounded-br-none' : 'bg-gray-600 text-white
rounded-bl-none'}`}>
                {msg.parts[0].text}
            </div>
        </div>
    ))
    <div className="flex
justify-start"><div className="max-w-xs lg:max-w-md px-4 py-2
rounded-2xl shadow-md bg-gray-600 text-white
rounded-bl-none">Typing...</div></div>
        <div ref={chatEndRef} />
    </div>
    <div className="p-4 border-t border-gray-700 flex
items-center">
        <button onClick={toggleListening} className={`p-2
rounded-full transition-colors ${isListening ? 'bg-red-500
animate-pulse' : 'bg-cyan-600 hover:bg-cyan-500'}`>
            <svg className="w-6 h-6 text-white" fill="none"
stroke="currentColor" viewBox="0 0 24 24"
xmlns="http://www.w3.org/2000/svg"><path strokeLinecap="round"
strokeLinejoin="round" strokeWidth={2} d="M19 11a7 7 0 1-7 7m0 0a7 7
0 1-7 7m7 7v4m0 0h8m4 0h4m-4-8a3 3 0 1-3-3v5a3 3 0 116 0v6a3 3 0
01-3 3z" /></svg>
        </button>
        <input
            type="text"
            value={input}
            onChange={(e) => setInput(e.target.value)}
            onPress={e => e.key === 'Enter' &&
handleTextSend()}
            className="w-full bg-gray-700 rounded-full py-2
px-4 focus:outline-none focus:ring-2 focus:ring-cyan-400 text-white
transition mx-2"
            placeholder="Type or speak..."
            disabled={isInitializing || isAwaitingResponse}
        />
        <button onClick={handleTextSend} className="p-2
bg-cyan-600 rounded-full hover:bg-cyan-500 transition-colors
disabled:bg-gray-500" disabled={isInitializing || isAwaitingResponse}>

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                <svg className="w-6 h-6 text-white" fill="none"
stroke="currentColor" viewBox="0 0 24 24"
xmlns="http://www.w3.org/2000/svg"><path strokeLinecap="round"
strokeLinejoin="round" strokeWidth={2} d="M5 10l7-7m0 0l7 7m-7 7v18"
/></svg>
            </button>
        </div>
    </section>
    );
}

function Footer() {
    return (
        <footer className="bg-gray-900 border-t border-cyan-500/30 mt-8">
            <div className="container mx-auto px-4 py-4 text-center
text-gray-500">
                <p>© 2025 Youth Mental Wellness. All rights reserved.</p>
                <p className="text-xs mt-1">This application is for
demonstration purposes and is not a substitute for professional
medical advice.</p>
            </div>
        </footer>
    );
}

```