

Chat Scroll & Voice Conversation Enhancements

Overview

This update significantly improves the AI Coach Assistant's user experience with enhanced chat scrolling behavior and a completely revamped voice conversation system that supports hands-free, continuous interaction.



Chat Scrolling Improvements

1. Auto-Scroll Behavior

- **Smart Auto-Scroll:** Chat automatically scrolls to the latest message when new messages arrive
- **User Intent Detection:** Stops auto-scrolling when user manually scrolls up to read previous messages
- **Smooth Scrolling:** Uses smooth scroll animations for better visual experience

2. Scroll-to-Bottom Button

- **Dynamic Visibility:** A floating arrow button appears when user scrolls away from the bottom
- **Visual Feedback:** Animated bounce effect to catch user's attention
- **One-Click Return:** Instantly scrolls back to the latest message
- **Smart Positioning:** Positioned in bottom-right corner, doesn't interfere with messages

Technical Implementation:

```
// New state variables
const [showScrollButton, setShowScrollButton] = useState(false);
const [isUserScrolling, setIsUserScrolling] = useState(false);
const messagesEndRef = useRef<HTMLDivElement>(null);

// Scroll detection logic
const checkIfAtBottom = () => {
  const { scrollTop, scrollHeight, clientHeight } = scrollRef.current;
  const distanceFromBottom = scrollHeight - scrollTop - clientHeight;
  return distanceFromBottom < 100; // Within 100px of bottom
};
```



Voice Conversation System Overhaul

1. Continuous Conversation Mode

NEW: Completely hands-free voice interaction!

- **How it works:**
 1. Enable voice mode by clicking the mic button
 2. Toggle "Continuous Conversation" switch in settings
 3. Speak your question → AI responds → Automatically starts listening again
 4. No need to click the mic button repeatedly!

- **Smart Features:**

- Auto-sends voice input to AI
- Automatically starts listening after AI finishes speaking
- Prevents feedback by stopping recording during AI speech
- 10-second inactivity timeout (automatically ends conversation if silent)

2. Voice Selection

NEW: Choose from multiple AI voices!

- **Available Voices:** All English voices available on your system
- **Easy Selection:** Dropdown menu in settings panel
- **Visual Indicators:** Flag emojis for US 🇺🇸 and UK 🇬🇧 voices
- **Instant Preview:** Voice changes take effect immediately

3. Enhanced Text-to-Speech

FIXED: Bot no longer reads URLs and image references!

- **Smart Content Filtering:**

- Removes all HTTP/HTTPS URLs
- Filters out image file references (.jpg, .png, etc.)
- Removes markdown and HTML image tags
- Strips action markers and formatting
- Removes common image-related phrases

- **What gets filtered:**

```javascript

// URLs

<https://zd-brightspot.s3.us-east-1.amazonaws.com/wp-content/uploads/2021/11/23141646/URL-Filtering-1.png> → (removed)

// Image tags

alt text

→ (removed)

→ (removed)

// File extensions

preview.png → (removed)





// Phrases

"image of", "picture showing" → (removed)

```

4. Improved Mic Button Behavior

One Button, Multiple Functions:

Mode	State	Icon	Action	Result
Disabled	Idle	 Gray	Click	Enable voice mode
Enabled	Idle	 Green	Click	Start recording
Enabled	Recording	 Red	Click	Stop recording
Continuous	Active	 Red (pulsing)	Click	End conversation

Key Improvements:

- Click mic or X button to end continuous conversation
- Visual feedback with pulsing red button during active conversation
- Clear tooltips explain current state
- Smooth state transitions

5. Inactivity Timeout

NEW: Automatic conversation end after 10 seconds of silence

- **Purpose:** Prevents unintended battery drain and mic access
- **Behavior:**
 - Timer starts when recording begins in continuous mode
 - Resets on each successful voice input
 - Shows friendly notification when timeout occurs
 - Automatically disables voice mode
- **User Control:** Can manually end conversation anytime with mic/X button



UI Enhancements

Mode Toggle Panel

Enhanced settings panel with three sections:

- Quick Actions vs Conversational**
 - Toggle between instant execution and confirmation-first behavior
 - Icon indicators: ⚡ for Quick, 🗣️ for Conversational
- Continuous Conversation** (when voice enabled)
 - Toggle hands-free mode
 - Status labels: “Hands-Free” or “Click to Speak”
 - Auto-starts recording when enabled
- Voice Selection** (when voice enabled)
 - Dropdown with all available English voices
 - Visual feedback with country flags
 - Settings gear icon for easy identification

Visual States

Mic Button States:

- Gray mic: Voice disabled
- Green mic with border: Voice enabled, ready
- Red pulsing X: Active recording/continuous mode

Scroll Button:

- Appears when 100px+ from bottom
- Gradient blue-purple styling
- Bounce animation for visibility
- Smooth fade-in/out transitions

Technical Details

New Dependencies

```
// Additional state variables
const [selectedVoice, setSelectedVoice] = useState<SpeechSynthesisVoice | null>(null);
const [availableVoices, setAvailableVoices] = useState<SpeechSynthesisVoice[]>([]);
const [showScrollButton, setShowScrollButton] = useState(false);
const [isUserScrolling, setIsUserScrolling] = useState(false);
const silenceTimerRef = useRef<NodeJS.Timeout | null>(null);
const messagesEndRef = useRef<HTMLDivElement>(null);
```

Event Handling

```
// Auto-send event for continuous mode
useEffect(() => {
  const handleAutoSend = (event: any) => {
    if (continuousMode && event.detail) {
      handleSend();
    }
  };

  window.addEventListener('autoSend', handleAutoSend);
  return () => window.removeEventListener('autoSend', handleAutoSend);
}, [continuousMode, input]);
```

Voice Initialization

```
// Load voices on component mount
const loadVoices = () => {
  const voices = window.speechSynthesis.getVoices();
  setAvailableVoices(voices);

  // Set default voice (prefer English Female voices)
  const defaultVoice = voices.find(v =>
    v.lang.startsWith('en') && v.name.includes('Female'))
  || voices.find(v => v.lang.startsWith('en')) || voices[0];

  if (defaultVoice) setSelectedVoice(defaultVoice);
};
```

User Experience Flow

Starting a Voice Conversation

1. Click gray mic button → Voice mode enabled
2. Toast notification: “Voice mode enabled”
3. Click green mic button → Start recording
4. Speak your question
5. Toast notification: “Voice captured!”
6. Message auto-sends
7. AI responds with voice
8. (If continuous mode) Automatically starts listening again

Ending a Voice Conversation

Method 1: Click the mic button (shows red X with pulse)

Method 2: Click the X button in the input area

Method 3: Wait 10 seconds without speaking (auto-timeout)

All methods result in:

- Recording stops
- Voice mode disabled
- Continuous mode disabled
- Friendly notification shown

Key Benefits

For Users

1. **More Natural Conversation:** Talk back-and-forth without clicking
2. **Better Readability:** Easy to return to latest messages
3. **Clearer Audio:** No more confusing URL/image references in speech
4. **Voice Variety:** Choose preferred AI voice
5. **Battery Friendly:** Auto-timeout prevents mic staying on forever

For Accessibility

1. **Hands-Free Operation:** Ideal for coaching during practice
2. **Visual Feedback:** Clear indicators for all states
3. **Multiple Input Methods:** Text, single voice, or continuous voice
4. **Smooth Scrolling:** Easier to track conversation flow

Bug Fixes

1. **Fixed:** Chat wouldn't auto-scroll to new messages
2. **Fixed:** No way to return to bottom after scrolling up
3. **Fixed:** Bot reading out image URLs and file names
4. **Fixed:** Mic button not ending continuous conversations
5. **Fixed:** No timeout for inactive voice sessions
6. **Fixed:** Limited to default system voice only

Future Enhancements

Potential improvements for next iteration:

1. Voice speed/pitch controls
2. Custom wake word for hands-free activation
3. Multi-language voice support
4. Voice activity detection visualization
5. Conversation history export with timestamps

Files Modified

1. `/components/chat-agent.tsx` - Main implementation
 - Added scroll detection and button
 - Implemented continuous voice mode
 - Enhanced text-to-speech filtering
 - Added voice selection UI
 - Improved mic button logic

Testing Checklist

- [x] TypeScript compilation passes
- [x] Build succeeds without errors
- [x] App starts and loads correctly
- [x] Chat scrolls to bottom on new messages
- [x] Scroll button appears when scrolling up
- [x] Scroll button returns to bottom smoothly
- [x] Voice mode enables/disables correctly
- [x] Continuous mode starts/stops recording
- [x] Voice selection changes AI voice
- [x] Text-to-speech filters URLs and images
- [x] Mic button ends conversation in continuous mode
- [x] 10-second timeout ends inactive conversations
- [x] All buttons have proper visual feedback

Summary

This update transforms the AI Coach Assistant from a basic chat interface into a sophisticated, hands-free coaching companion. Users can now have natural, flowing conversations while coaching their teams, with the flexibility to switch between text and voice seamlessly. The enhanced scrolling ensures important messages are never missed, and the improved voice system makes interactions feel more natural and intelligent.

Version: 2.0

Date: November 9, 2025

Status:  Production Ready

Tested:  All tests passing