

Timeline Navigation Enhancements - Summary

Overview

This document summarizes the enhancements made to the NeuroNarrative application's timeline navigation and visualization interface.



Problem Statement

Based on user feedback, the interface had the following issues: 1. Only ONE plot appeared to be visible (the overview was not prominent enough) 2. Navigation buttons needed enhancement 3. The distinction between the overview and detail views was not clear

Solution Implemented

1. Visual Enhancements

Section Headers with Icons

-  **Full Recording Overview**: Clear title for the full timeline view
-  **Detail View (Zoomed)**: Clear title for the zoomed detail view

Descriptive Text

Added explanatory text for each section: - Overview: "Click anywhere on the timeline below to jump to that point. The red line shows your current position." - Detail: "This view shows a zoomed-in portion of the signal that follows the current playback position."

Visual Distinction

- Overview section: Blue gradient border (border: 2px solid rgba(56, 189, 248, 0.3))
- Both sections: Distinct backgrounds with padding and rounded corners
- Better spacing between elements

2. Navigation Improvements

Additional Jump Buttons

Added three new quick-jump buttons: - **25%**: Jump to quarter of the recording - **50%**: Jump to halfway point - **75%**: Jump to three-quarters point

Complete Navigation Controls (7 buttons total)

1. ⏮ Start - Jump to beginning
2. ⏮ -10s - Skip backward 10 seconds
3. +10s ⏭ - Skip forward 10 seconds
4. 25% - Jump to 25% position
5. 50% - Jump to 50% position
6. 75% - Jump to 75% position
7. End ⏭ - Jump to end

Enhanced Button Styling

- Hover effects with lift animation (`transform: translateY(-1px)`)
- Active state feedback
- Flex-wrap for responsive layouts
- Container background and border for visual grouping

3. Technical Implementation

Component Structure

```
SignalPreview
├─ Header (session info + playback controls)
├─ Navigation Controls (7 buttons)
├─ Gauge Panel (current value display)
├─ Overview Section ← NEW WRAPPER
│   ├── Section Title
│   ├── Description
│   └─ OverviewChart (full timeline)
└─ Detail Section ← ENHANCED
    ├── Section Title
    ├── Description
    └─ SignalChart (zoomed view)
```

Key Functions Added

```
jumpToQuarter()      // Jump to 25%
jumpToHalf()          // Jump to 50%
jumpToThreeQuarters() // Jump to 75%
jumpToTime(seconds)  // Helper function
```

CSS Classes Added

- `.overview-section` - Wrapper for overview chart
- `.detail-chart-section` - Wrapper for detail chart (enhanced)
- `.section-title` - Consistent styling for section headers
- `.section-description` - Consistent styling for explanatory text

4. Files Modified

1. **frontend/src/components/SignalPreview.tsx**
 - Added navigation helper functions
 - Added prominent section wrappers
 - Enhanced navigation buttons
 - Removed redundant OverviewChart h3
2. **frontend/src/styles.css**
 - Added section wrapper styles
 - Enhanced navigation controls styling
 - Improved responsive behavior
 - Added hover and active states

Results

Before

- Single visible plot (overview not prominent)
- 4 navigation buttons
- No clear distinction between views

After

- **TWO clearly visible plots** with distinct styling
- **7 navigation buttons** with percentage jumps
- Clear labels and descriptions
- Interactive overview with visual feedback
- Better responsive design

Pull Request

- **PR #16:** [Enhance Timeline Navigation with Improved UI and Additional Controls](#)
- **Branch:** `feature/improve-timeline-navigation`
- **Status:** Open, ready for review

Testing Checklist

- ✓ Both plots render correctly
- ✓ Overview plot is clickable for navigation

- ✓ All 7 navigation buttons work as expected
- ✓ Visual styling is consistent with dark theme
- ✓ Responsive layout works on different screen sizes
- ✓ Section headers and descriptions are visible
- ✓ Hover effects work on navigation buttons
- ✓ Current position indicator updates in overview

User Benefits

1. **Clarity:** Users can now clearly see there are two different views
2. **Discoverability:** Prominent labels make features obvious
3. **Efficiency:** Quick-jump buttons allow faster navigation
4. **Understanding:** Descriptions explain what each view does
5. **Visual Feedback:** Hover effects and distinct styling improve UX

Technical Notes

- The OverviewChart component already existed and was functional
- The issue was primarily about visual prominence and clarity
- No breaking changes - all existing functionality preserved
- Backward compatible with existing data and workflows

Future Enhancements

Potential future improvements could include: - Custom time input for precise navigation - Keyboard shortcuts for navigation - Zoom level controls for detail view - Bookmark/marker functionality - Multiple overview visualization modes

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