

Problems for the Agentic AI Hackathon

Real problem to try to solve using agentic AI frameworks

Accessibility Agents

AI Accessibility Auditor & Fixer

- **Problem:** Ensuring accessibility across diverse content formats (webpages, Word docs, PDFs, PPTs) is complex and often overlooked.
- **Challenge:** Build an agent that:
 - Accepts any content type (webpage, document, PDF, presentation).
 - Analyzes the content for accessibility compliance (e.g., [Web Content Accessibility Guidelines \(WCAG\) 2.1](#)).
 - Provides actionable recommendations to fix issues.
 - Automatically generates an accessible version of the original file with improvements applied (e.g., alt text for images, proper heading structure, color contrast adjustments).

High-Level Requirements

- **Core Features**
 - **Content Ingestion:**
 - Upload or link to a webpage/document/PDF/PPT.
 - **Accessibility Audit:**
 - Detect missing alt text, poor contrast, incorrect headings, non-descriptive links.
 - **Fix Suggestions:**
 - Provide clear, prioritized recommendations.
 - **Auto-Fix Engine:**
 - Generate an improved version with applied fixes.
 - **Report Generation:**
 - Summarize compliance status and changes made.

- **AI Components**
 - **Computer Vision:**
 - Identify images and suggest alt text.
 - **NLP:**
 - Improve link descriptions and headings.
 - **Rule-Based Engine:**
 - Apply WCAG compliance checks.
 - **Generative AI:**
 - Rewrite inaccessible content sections.

Summary of Level AA Requirements

Level AA is the minimum compliance standard for public institutions under federal regulations. Examples of WCAG 2.1 Level AA requirements include:

- Ensuring text contrast ratios meet readability standards
- Providing text alternatives for non-text content (e.g., images, icons)
- Enabling full keyboard navigation
- Making links descriptive and unique
- Providing consistent navigation and structure across pages
- Avoiding content that triggers seizures or physical reactions
- Supporting reflow and zooming for responsive mobile accessibility
- Ensuring accessible error identification and form instructions

Smart Academic Form & Process Assistant

- **Problem:** Students struggle with complex academic forms—such as Change of Major—and processes that are still handled manually via email, like Applying for Graduation. This leads to errors, delays, and frustration.
- **Challenge:** Build an agent that:
 - Guides students step-by-step through FAU academic form or process (choose like 2-3), explaining requirements in plain language.
 - Auto-fills fields using available student data (with consent).
 - Validates entries to prevent mistakes and missing information.
 - Handles email-based processes by generating correctly formatted emails or converting them into structured submissions.
 - Tracks deadlines and sends proactive reminders for critical forms and processes.
- **Bonus Features:**
 - Offer multilingual support for diverse student populations.
 - Provide accessibility features (text-to-speech, simplified layouts).

Possible forms:

<https://www.fau.edu/registrar/forms/>

Voice Agents

- **Voice Appointment Scheduling Agent**
 - **Problem:** Students and staff often need to schedule advising sessions, tutoring, or office hours, but the process is manual and time-consuming.
 - **Challenge:** Build an AI-powered **voice agent** that works like calling a doctor's office:

- **Natural Conversation:** Users can call or interact via voice and say, *“I need an appointment with my advisor next week”* or *“Book me for tutoring on Friday afternoon.”*
- **Smart Availability Check:** The agent checks calendars for open slots and offers options: *“Your advisor is available Tuesday at 2 PM or Thursday at 10 AM. Which works for you?”*
- **Knows Meeting Type:** Automatically adds a Zoom or Teams link for online meetings and omits it for in-person appointments.
- **Confirmation & Follow-Up:** Confirms the appointment, sends a calendar invite, and provides reminders.
- **Accessibility:** Supports speech-to-text and multilingual commands for inclusivity.
- **Bonus Features:**
 - **Multi-Channel Access:** Works via phone, Teams, or web voice interface.
 - Handles cancellations and rescheduling with voice commands.
 - Integrates with FAU systems (EAB, Outlook) for real-time availability.