Machine Protocol Recommendation for Technicians

**Objective**

To assist radiology technicians in selecting the correct scan protocols, planning steps, and sequences during imaging procedures such as MRI and CT, using an AI-based recommendation system. This enhances decision-making, reduces errors, and streamlines workflow.

**Target Users**

Radiology technicians and imaging staff responsible for planning MRI and CT procedures.

**Input and Output**

• **Input:** Free-text string entered by the technician (e.g., "MRI brain", "CT abdomen with contrast").  
• **Output:** Structured JSON format containing:  
 ▪ Recommended imaging protocol  
 ▪ Suggested scan sequences  
 ▪ Additional planning notes or protocol link

**AI Model Functionality**

• Trained to understand natural language inputs related to body parts or suspected conditions.  
• Provides structured recommendations based on best practices and clinical standards.  
• Returns links to relevant protocols for technician reference.  
• Designed to assist—not replace—technician expertise.  
• Includes a disclaimer: “This is an AI-generated output.”

**Workflow Integration**

* The system will be integrated into your existing ERP platform via an API.
* Automated pipeline:
  1. Technician inputs the scan request.
  2. AI processes the request and returns recommendations.
  3. Output is displayed to the technician in real-time within the ERP system.

**System Architecture Overview**

Technician Input ➝ ERP System ➝ API Call to AI ➝ JSON Output ➝ Display in ERP

**Benefits and Clinical Impact**

* Faster and more accurate scan planning
* Supports new or junior technicians in decision-making
* Improved standardization of imaging protocols across the organization
* Reduces dependency on manual lookup or prior experience
* Ensures more consistent imaging quality and better diagnostic outcomes

**Summary**

An AI-powered tool that delivers real-time, structured protocol recommendations to technicians via ERP integration—enhancing efficiency, standardization, and diagnostic quality.