

Senior Drupal Developer Assessment: AI-Enhanced Dataset Publishing Platform

Overview

You're tasked with building a modern dataset publishing platform using Drupal (v10+) as the base framework, with the integration of AI-powered metadata generation. You are expected to leverage your experience in Drupal module development, entity API, Views, and multilingual systems, alongside your knowledge of AI tools (e.g., OpenAI, Hugging Face) to deliver a functional prototype. This challenge consists of 3 mini-tasks designed to simulate real-world responsibilities. Estimated time: 2 days.

Mini-Task 1: Dataset Upload and Processing in Drupal

Requirements:

- Create a custom form or entity to allow file uploads (CSV/XLSX)
- Use Drupal services or Symfony components to parse and validate uploaded data
- Extract and display basic stats: row count, column names, file size
- Implement validation rules for supported formats
- Store metadata and upload status using custom content entities

Deliverables:

- Custom module with:
 - A drag-and-drop file upload widget (e.g., using Dropzone.js + Drupal Form API)
 - Backend service to parse/validate data and extract file summary
 - Summary display using a custom or contributed Twig template
 - Database schema/entity for dataset metadata

Evaluation Criteria:

- Code modularity and Drupal best practices
 - Reusability of custom services
 - Error handling and user feedback
 - Performance with large files
 - UI/UX polish
-

Mini-Task 2: AI-Driven Metadata Generation

Requirements:

- Integrate an AI service (OpenAI, Hugging Face, etc.) to analyze uploaded dataset content
- Auto-generate: title, description, tags, and suggested categories
- Support bilingual output (English & Arabic) using Drupal's multilingual API
- Provide a metadata editor (based on Drupal Forms) with revision and preview capabilities
- Enable draft saving using entity revisions or autosave

Deliverables:

- Drupal service for AI API interaction
- Metadata generation UI as a separate tab or step in the form workflow
- Multilingual field support for metadata content
- Revisioning system or draft workflow
- PHPUnit or Kernel tests for metadata services

Evaluation Criteria:

- AI integration quality and abstraction
 - Metadata accuracy and relevance
 - Drupal-compliant multilingual implementation
 - Usability of the editing interface
 - Robust state management
-

Mini-Task 3: Publishing Workflow & Review System

Requirements:

- Create a custom content moderation workflow for dataset publishing
- Add supervisor roles with permissions to approve or request edits
- Implement dataset versioning via entity revisions or a custom solution
- Build a dashboard using Views + exposed filters for status management
- Enable search/filtering via Views or Solr integration

Deliverables:

- Full content moderation setup (workflow + permissions)
- Supervisor review UI (e.g., an admin View or custom controller)
- Dataset version tracking
- Searchable dashboard with filters (dataset name, status, date, etc.)
- Technical documentation covering design decisions

Evaluation Criteria:

- Clean and scalable architecture

- Effective use of Drupal's core moderation tools
 - Intuitive UX for reviewers and admins
 - Code quality and documentation
-

Submission Guidelines

- Share a Git repository (GitHub/Bitbucket/etc.)
 - Include a README.md with setup instructions, AI API keys (mocked/placeholder), and module structure
 - Provide a live demo or local demo setup instructions (Docker, Lando, DDEV)
 - Be ready to walk through your architecture in a follow-up review
-

Resources

- Drupal 10 documentation: <https://www.drupal.org/docs>
 - OpenAI API: <https://platform.openai.com/docs>
 - Hugging Face API: <https://huggingface.co/docs/api-inference>
 - Dropzone.js Drupal Integration: <https://www.drupal.org/project/dropzonejs>
-

Goal

We're looking for enterprise-level Drupal expertise, cleanly abstracted AI integration, and thoughtful UX/UI built on Drupal's strengths