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AI/ML Interns Weekly Plan

Python Learning Map - Week -04

Week 04 - Introduction to Flask and Django

Day 1

User Story - 0023 - Introduction to Web Development and Flask

- **Topics Covered**

- Basics of web development HTTP, web servers, clients, and request/response cycle.
- Introduction to Flask lightweight framework for building web applications.
- Setting up the Flask environment (installing Flask, setting up a virtual environment).

- **Exercises**

- Create a simple Flask application that displays "Hello, World!".
- Understand the directory structure of a Flask project.

Day 1

User Story - 0024 -Flask Routing and Templates

- **Topics Covered**

- URL routing mapping URLs to Python functions.
- Introduction to Jinja2 templating engine for dynamic HTML.
- Creating HTML templates and passing data from Flask to templates.

- **Exercises**

- Create multiple routes (e.g., `/home`, `/about`, `/contact`) that render different HTML templates.
- Pass variables to templates and display them in HTML.

Day 2

User Story - 0025 - Flask Forms and User Input

- **Topics Covered**

- Handling user input using Flask forms.
- Introduction to the Flask-WTF extension for form handling and validation.
- Redirecting and flashing messages to the user.

- **Exercises**

- Create a simple form (e.g., contact form) that collects user data (name, email, message).
- Validate form input and display success or error messages.

Day 3

User Story - 0026 - Introduction to Django

- **Topics Covered**

- Overview of Django full-featured web framework.
- Setting up a Django environment (installing Django, creating a new project).
- Understanding Django project structure (settings, apps, URLs).

- **Exercises**

- Create a new Django project and run the development server.
- Understand the purpose of different files and directories in a Django project.

Day 4

User Story - 0027 - Django Models and Admin Interface

- **Topics Covered**

- Introduction to Django models and how to define them.
- Creating and applying migrations to manage database changes.
- Overview of Django's built-in admin interface for managing data.

- **Exercises**

- Create a simple model (e.g., BlogPost) and perform database migrations.
- Register the model in the admin site and add some sample entries.

Day 5

User Story - 0028 - Django Views and Templates

- **Topics Covered**

- Understanding views in Django function-based views and class-based views.
- Creating templates using Django's templating engine.
- Passing data from views to templates.

- **Exercises**

- Create views for listing all blog posts and displaying individual post details.
- Use templates to render the list and detail pages.

Learning Outcomes

By the end of this week, interns should be able to

- Understand the basic concepts of web development and how Flask and Django fit into the ecosystem.
- Build simple web applications using Flask and Django.
- Use templates to render dynamic content and handle user input effectively.
- Create and manage databases with Django models.

This week provides a solid foundation for further exploration of web development and prepares interns for more complex projects in the future!

Thank You