Project Brief: AI Merch Maker Lite - Internship Assignment

Project Title: AI Merch Maker Lite

Objective: Design an automated backend pipeline that runs daily to create and publish AI-generated product listings using multiple APIs. This assignment will test your understanding of APIs, automation, and basic AI/ML integration. It will also evaluate your skills in four programming languages: Python, JavaScript, PHP, and Java.

Overview: As an intern, you are tasked with simulating a mini eCommerce product automation pipeline. The goal is to generate a product idea and image using AI tools, simulate mockup creation, and publish it using fake API endpoints. Each section should be implemented in a different programming language.

Tasks Breakdown:

1. **Product Content Generator (Python):**
   - Use OpenAI GPT API to generate:
     - Product title
     - Product description
     - Tags
   - Use OpenAI DALL-E or similar API to generate a product image.
2. **Mock Product Visualizer (JavaScript):**
   - Use JavaScript (Node.js or browser-based) to:
     - Simulate image upload
     - Overlay image on a mock product template (HTML/CSS/canvas)
     - Output a JSON similar to Printful API mockup response
3. **Fake Product Publisher (PHP or Java):**
   - Create a server endpoint to:
     - Receive JSON product data
     - Log or display the data
     - Return a fake product ID in JSON
4. **Automation Orchestrator (Python or Java):**
   - Script that:
     - Triggers product generation daily (manual run allowed)
     - Passes the data through the above steps
     - Simulates the complete pipeline

Optional Bonus (AI/ML Challenge):

- Implement a basic image captioning or keyword extraction feature.
- Generate AI-based tags from product images.

Languages Required:

- Python (AI, automation)
- JavaScript (Mockup generation)

- PHP or Java (Publishing endpoint)
- Java or Python (Orchestration)

Deliverables:

- Code files (clearly named and separated by language)
- Sample generated image and product JSON
- README file explaining your approach
- Optional: Hosted demo or short video walkthrough

Evaluation Criteria:

Skill Area	Points
API Integration	20
Programming Skills (4 langs)	30
Automation Logic	20
AI/ML Integration (bonus)	10
Presentation & Documentation	20

Submission Deadline: Next 5 days **Submission Format:** Share GitHub repo or ZIP folder

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Good luck! Think creatively and focus on clean, modular code.