Job Title:

Developer Needed for AI Agent and UI Development (Multiple Tasks Available)

Job Description:

I'm looking for experienced developers to contribute to a complex AI-driven project called **AI Agent Lab**. This Open Source project involves the development of both an **AI Agent** responsible for processing user inputs and interacting with external services (e.g., QuestDB, Grafana, VSCode), and a **Flask-based AI Agent UI** that acts as the front-end for user interaction.

We have a detailed task breakdown and are open to developers choosing the tasks they are most skilled in or interested in. You can work on individual tasks or multiple tasks depending on your expertise.

Technologies Involved:

- Python (Flask, APIs)
- Docker & Docker Compose
- QuestDB (PostgreSQL)
- Grafana (API integration)
- VSCode API
- Nginx
- OpenAI API (NLP tasks)
- Front-End: HTML, CSS (Bootstrap/Tailwind), JavaScript, React (optional)

Project Phases and Tasks Available:

Phase 1: Infrastructure and Environment Setup

- **Task 1**: Docker and Docker Compose Configuration (optional)
- **Task 2**: Dockerfile Creation for AI Agent and UI services
- **Task 3**: Local Development Setup (Python virtual environment) (optional)

Phase 2: AI Agent Development

- **Task 4**: Input Processing (validation, sanitization, and intent parsing)
- **Task 5**: Interaction with OpenAI API for NLPs
- **Task 6**: Database Interaction with QuestDB (SQL, REST API, query optimization)
- **Task 7**: Integration with Grafana (API to fetch/update dashboards)
- **Task 8**: VSCode Integration for code execution and file management

Phase 3: AI Agent UI Development

- **Task 9**: UI Design and Setup (Flask, wireframes)
- **Task 10**: Front-End Development (HTML, CSS, JavaScript, React)
- **Task 11**: Flask Back-End Development (API endpoints, session management)
- **Task 12**: Integration with AI Agent (REST API for data exchange)

Phase 4: Performance and Optimization

- **Task 13**: API Efficiency (request batching, caching, rate limiting)
- **Task 14**: Database Query Optimization (indexing, query optimization)
- **Task 15**: Background Task Processing (optional, Celery or similar)

Phase 5: Testing, Performance, and Deployment

- **Task 16**: Final Testing and Debugging
- **Task 17**: Deployment and Performance Monitoring

Phase 6: Documentation

- **Task 18**: Code and API Documentation (README, setup instructions)

Requirements:

- Proficient in one or more of the technologies listed above
- **Must have access to an Ubuntu local server with a fixed IP address and a domain name** for testing and deployment purposes.
- Ability to work independently and deliver clean, well-documented code
- Experience with API development and integration
- Familiarity with Docker, DevOps practices, and modern web technologies
- (Required for relevant Tasks) Experience with AI and natural language processing (NLP)

How to Apply:

- Please specify which task(s) you are most interested in or best suited for.
- Include examples of similar work you've done (links to repositories or websites).
- Provide a time estimate for the task(s) you select.

We will hire multiple freelancers, so feel free to apply even if you're only interested in one or two tasks. The project is ongoing, and there's potential for long-term collaboration if this phase goes well.

Budget:

Hourly or fixed-rate depending on the task(s) selected. Please include your rate and estimated hours for your chosen tasks in your proposal.