Agent Hub: Open-Source Platform for Specialized AI Agents

Presented by:
- Soufiane DAHIMI
- Yassmine EDDYB

Context & Problem

Agent Hub: Building the GitHub for AI Agents

The AI Revolution is Here

Anthropic's breakthrough: **AI can now use computers like humans**

- View screens
- Move cursors
- Type naturally

But There's a Catch

High Latency

- Up to 5-10s response time
- Unusable for real-time tasks

Costly Operation

- Significant compute resources
- High operational costs

Reliability Issues

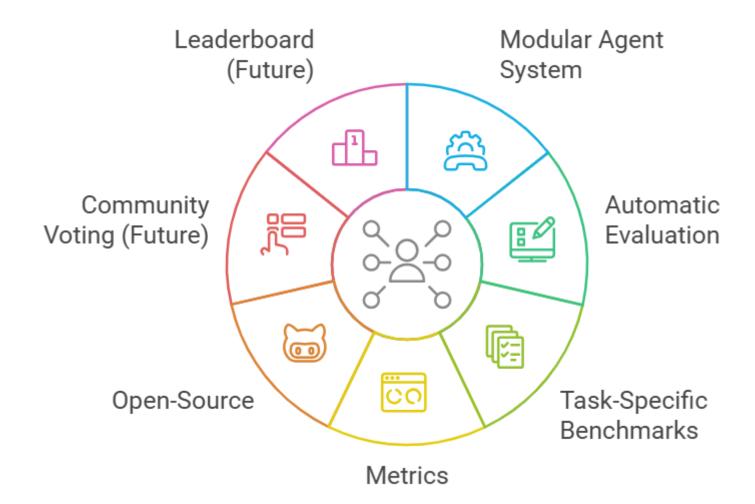- Struggles with specialized tasks
- Inconsistent performance

"We need a more efficient approach to AI automation"

Our solution

Agent Hub: Building the GitHub for AI Agents

- A platform for developers to submit specialized AI agents that interact with computers
- Agents are automatically evaluated and ranked based on performance metrics.
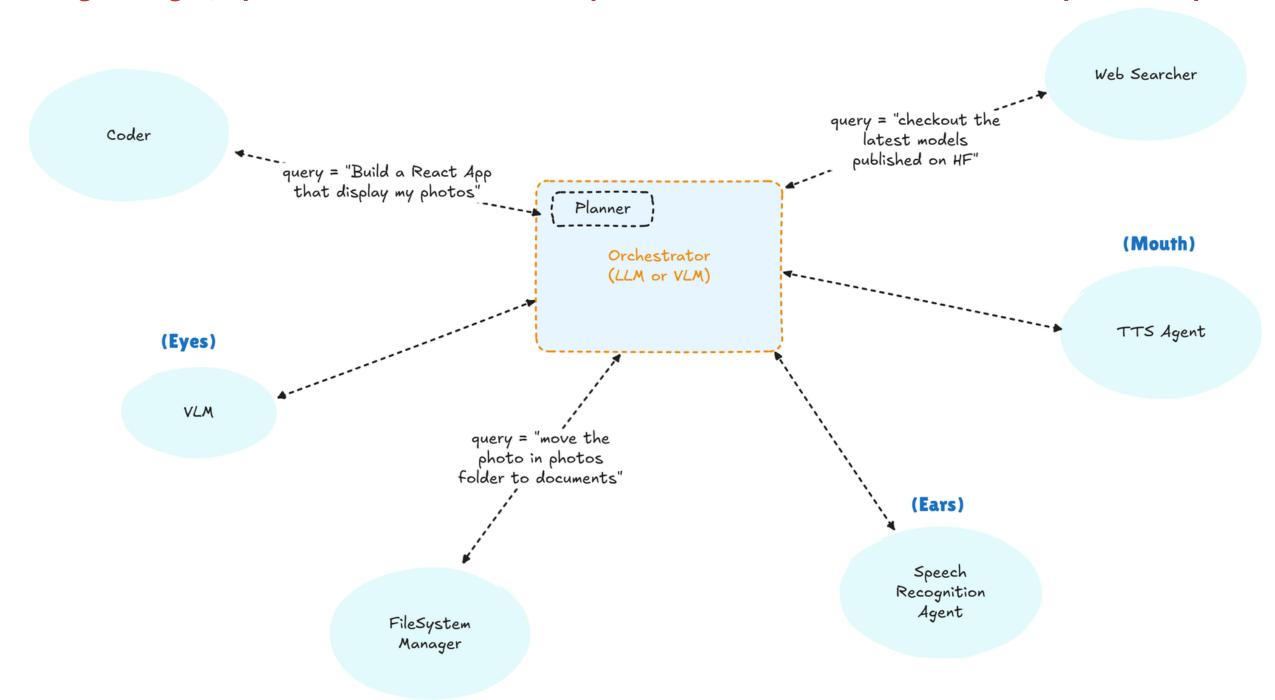
Key Features

Key Benefits

⚡ **Efficiency**

💰 **Cost-Effective**

🎯 **Reliability**

🔄 **Extensible**

System Architecture

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Agents are lightweight, open-source software components with standardized I/O that perform specific tasks

Available Agents & Innovation

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Current Agent Types

💻 CLI Agent

- Full-featured shell execution
- File system operations
- System management

👨‍💻 Code Generator

- Application development
- Code generation & modification
- Testing & debugging

🌐 Web Agent

- Dynamic navigation & interaction
- Form automation
- Intelligent web searching

Technical Innovation

🎯 Fine-tuning Approach

- QLoRA fine-tuning on prepared datasets
- Base Model (quantized): Qwen/Qwen2-0.5B
- Knowledge distillation from larger models

💻 Efficient Resource Usage

- 20x+ smaller model footprint
- Optimized inference speed
- Reduced memory requirements

🎓 Specialized Training

- Task-specific optimization
- Custom datasets per agent type
- Maintained high accuracy rates

Market Opportunity

Agent Hub: Building the GitHub for AI Agents

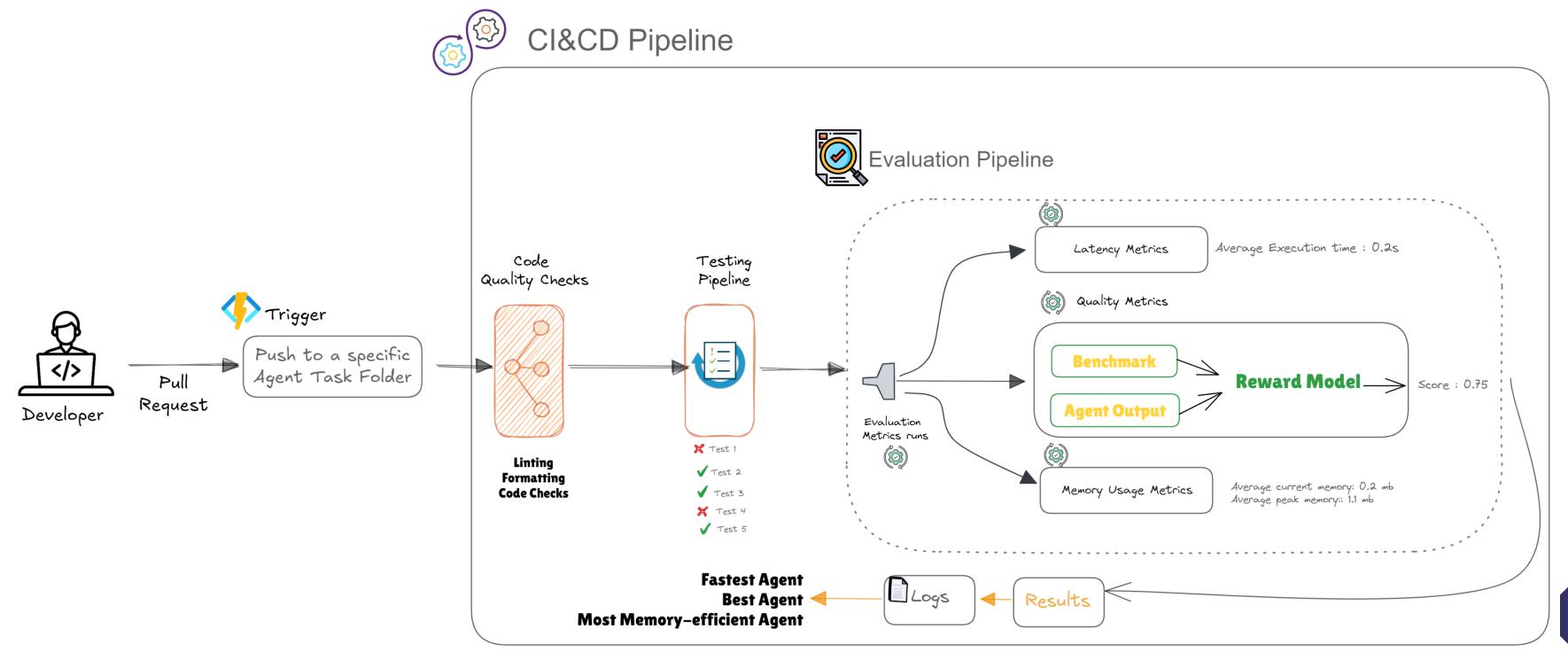**Vision:** "Making Morocco the GitHub of AI Agents"

Target Markets

📊 **Business Process**

🛠️ **Developer Tools**

🧠 **AI Research**

Growth Potential

📈 **Demand for AI**

🌐 **Community Growth**

📍 **Strategic Location**

Contributing & Evaluation pipeline

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CI&CD Pipeline

Evaluation Pipeline

Developer

Pull Request

Trigger

Push to a specific Agent Task Folder

Code Quality Checks

Linting Formatting Code Checks

Testing Pipeline

✗ Test 1
✓ Test 2
✓ Test 3
✗ Test 4
✓ Test 5

Evaluation Metrics runs

Latency Metrics — Average Execution time : 0.2s

Quality Metrics

Benchmark
Agent Output
Reward Model — Score : 0.75

Memory Usage Metrics — Average current memory: 0.2 mb
Average peak memory:: 1.1 mb

Fastest Agent
Best Agent
Most Memory-efficient Agent

Logs

Results

Contributing & Evaluation pipeline

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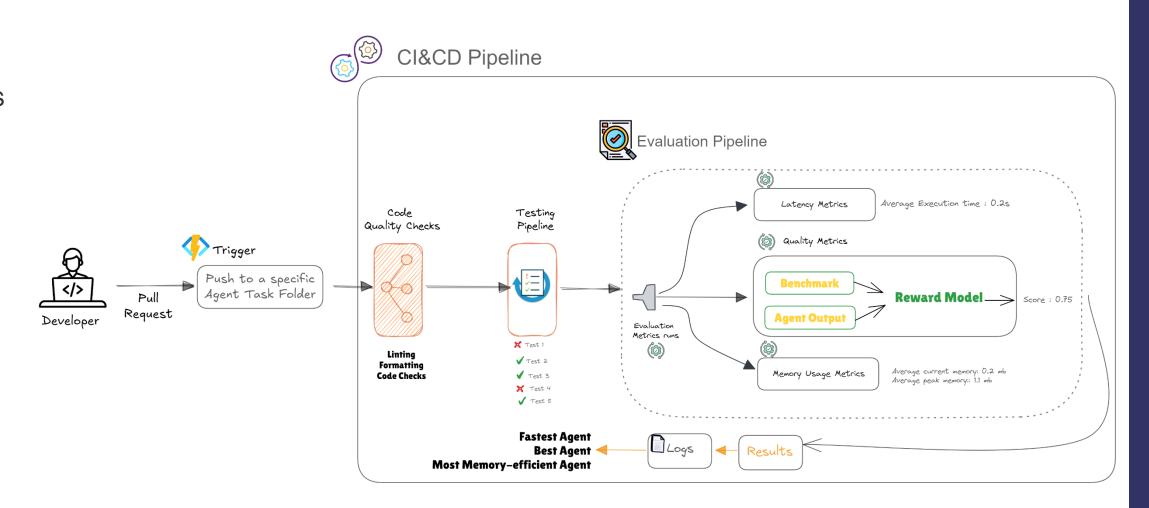
How To Contribute

🛠️ Building Agents

- Create & implement specialized AI agents

- Test and document your solutions

- Submit via pull requests

📊 Evaluation Infrastructure

- Create benchmarks & metrics

- Build reward models & testing tools

- Improve evaluation pipelines

🔄 CI/CD Pipeline

- Enhance submission & testing workflow

- Streamline deployment process

- Add comprehensive testing

Thank you !