Writing Reliable Tests for React using AI

A comprehensive guide to building robust test suites with AI assistance

Introduction

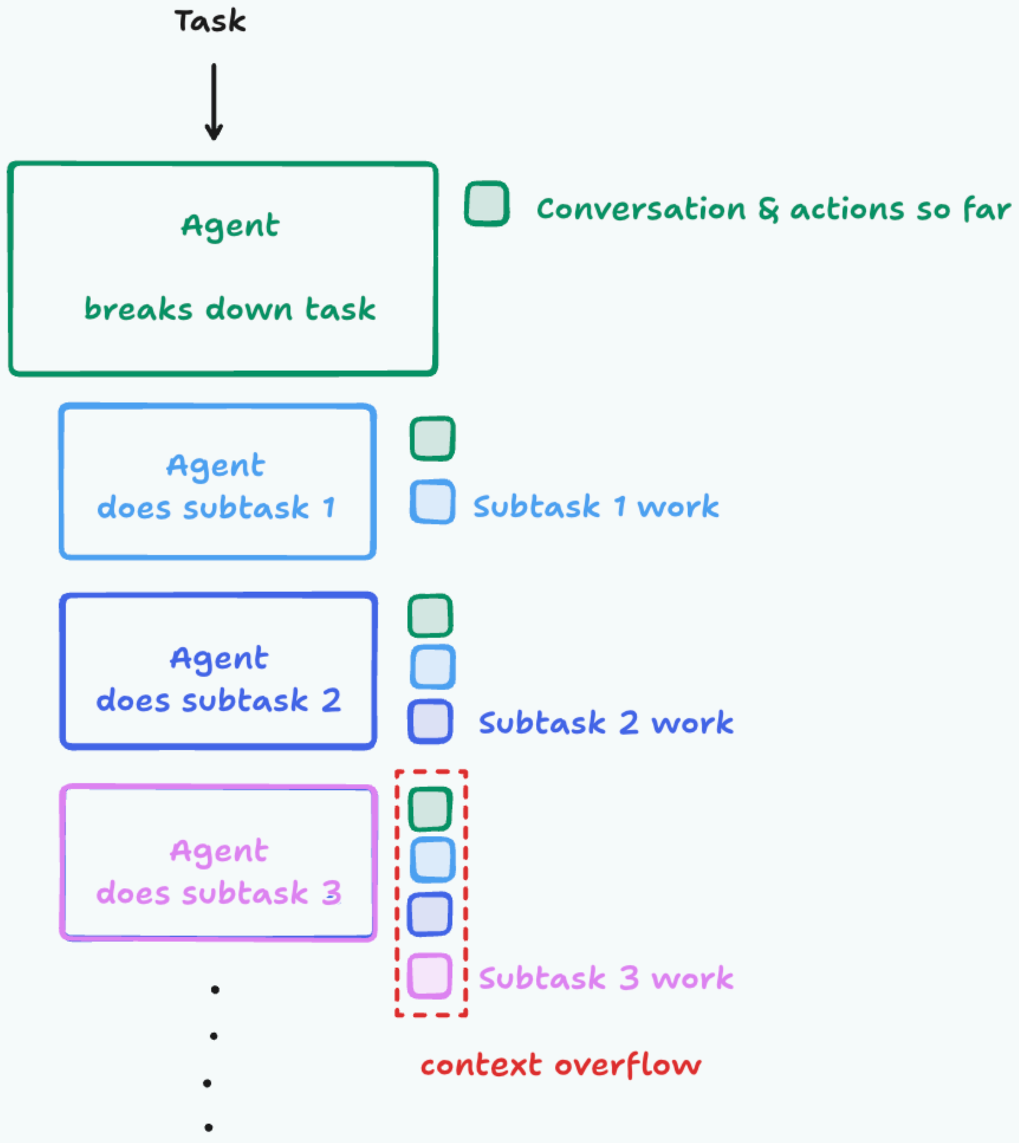
https://www.zainfathoni.com/about

AI Usage Principles

- Use AI to **enhance** your productivity
- Be the **pilot**, not the passenger
- Iron Man **suit**, not ~~robot~~ 🤖
- https://x.com/zainfathoni/status/1938256445663023244

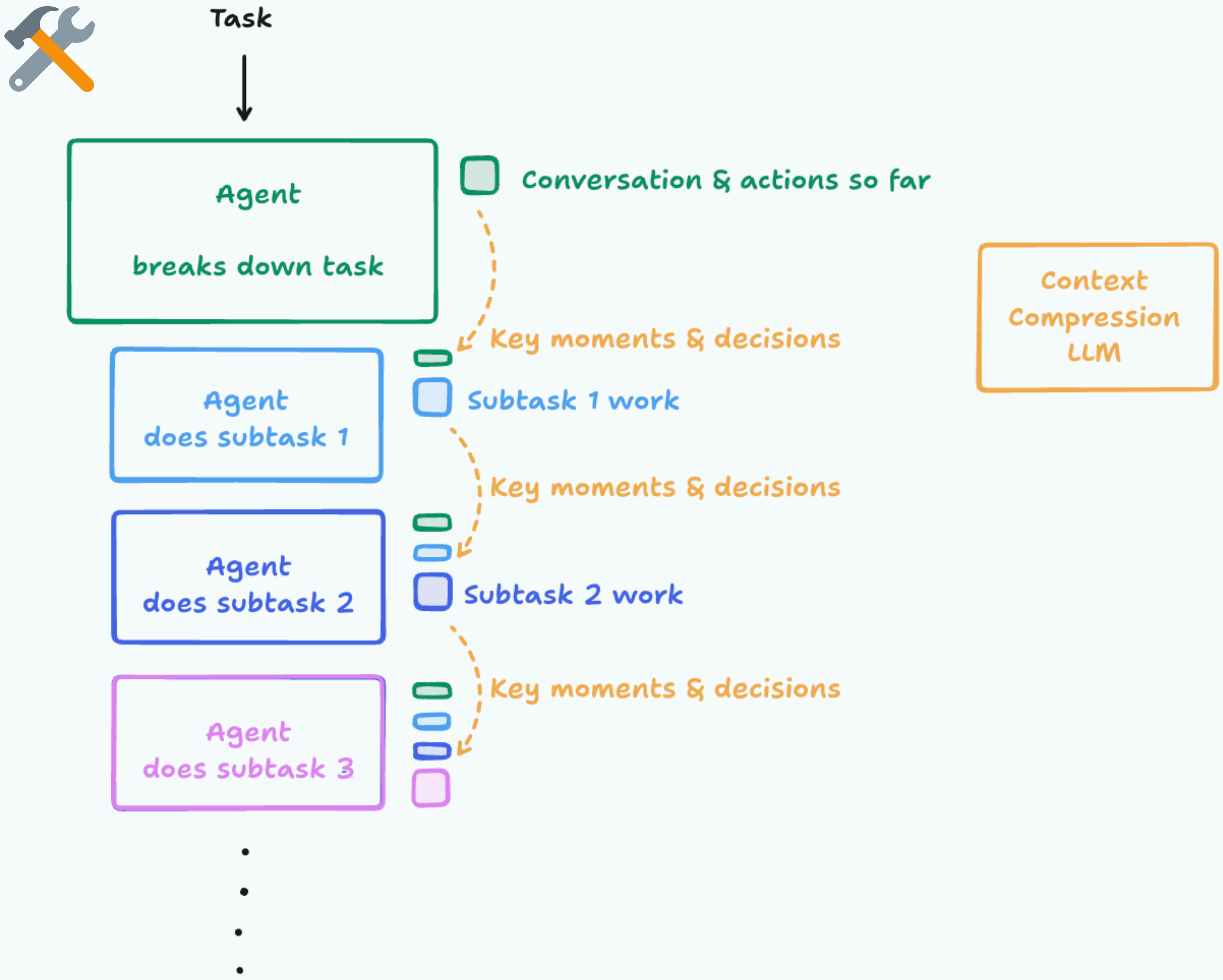
Context 🤯

but struggles with longer tasks ...



Reliable on longer tasks
(but hard to get right)

Context 🛠️



Task

Agent

breaks down task

Conversation & actions so far

Key moments & decisions

Agent
does subtask 1

Subtask 1 work

Key moments & decisions

Agent
does subtask 2

Subtask 2 work

Key moments & decisions

Agent
does subtask 3

Context
Compression
LLM

Agenda

1. **Prepare React Testing Infrastructure**
2. **Write reliable tests for React components**
3. **Use AI to write the tests**
4. **Prompt AI to produce consistent tests**

1. Prepare React Testing Infrastructure

- 🛠️ React Testing Library
- 🌐 Vitest Browser Mode
- 🎭 Playwright MCP integration

2. Write reliable tests for React components

- ✅ Test user interactions
- ❌ Avoid testing implementation details
- https://confident-react-testing.netlify.app/

3. Use AI to write the tests

- 🤖 Leveraging AI for test generation
- ✋ Understanding AI capabilities
- ⚙️ Integrating AI into testing workflow
- 🔄 Quality assurance with AI-generated tests

4. Prompt AI to produce consistent tests

- 🧠 Establishing testing standards
- 📝 Document repeated patterns
- 🤖 Generate test plans based on examples
- 1️⃣ Focuse on one test suite at a time

Key Takeaways

- 🚀 **Be the pilot, not the passenger** - AI enhances, doesn't replace
- 🧠 **Manage context carefully** - Avoid overflow, maintain relevance
- 🛠️ **Modern stack**: React Testing Library + Vitest + Playwright MCP
- 🎯 **Test behaviors, not implementation** - User-focused testing
- 📝 **Document patterns** - Guide AI with consistent standards

Thank You

https://zainf.dev/reliable-tests-with-ai