

**Scenario:** "Build a proof-of-concept for a real-time analytics dashboard that processes and displays streaming sensor data."

**Technical Requirements:**

- Backend: .NET Core API that simulates receiving 1000 sensor readings per second
- Frontend: Angular/React dashboard showing real-time updates
- Display: Live chart, aggregated statistics, and alert system for anomalies
- Performance: Must handle 100,000 data points in memory without degrading
- Data should persist for 24 hours then auto-purge

**Deliverables:**

1. **Working Code** (GitHub repo)
2. **AI Conversation Log** (CRITICAL)
  - Submit your FULL conversation history with AI tools
  - Highlight 3 moments where you disagreed with AI's suggestion and why
  - Show one example where AI's initial solution would have caused performance issues
3. **Decision Document** (1-2 pages)
  - Architecture decisions and trade-offs
  - Performance optimizations you implemented
  - Which AI suggestions you rejected and why
  - How you validated the AI-generated code actually works at scale
4. **Performance Report**
  - Prove your solution handles the required load
  - Include metrics and testing methodology
  - Explain how you used AI to identify bottlenecks

**IMPORTANT:** We encourage and expect you to use AI tools (ChatGPT, Claude, Copilot, etc.). What we're evaluating is HOW you use them, not whether you use them.

We're looking for developers who:

1. Can guide AI to better solutions through smart prompting
2. Know when AI is wrong or suboptimal
3. Understand the code being generated
4. Can optimize and debug AI-generated code

This should take roughly 8 hours. You have 3 days to complete it.