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1. Nine Pillars Understanding

Why is using AI Development Agents (like Gemini CLI) for repetitive setup tasks better for your growth as a system architect?

Using AI Development Agents for repetitive setup tasks consumes less time in comparison to traditional development they free up your time so you spend most time designing the architecture rather than writing code you can develop and test prototypes faster and find out what works best for your line of work they also give useful suggestion and improvements that you missed.

Explain how the Nine Pillars of AIDD help a developer grow into an M-Shaped Developer.

The Nine Pillars of AIDD help a developer grow by developing a mindset of using AI to develop systems and not use it just as a tool it enables strategic architectural thinking and by mastering it developers can solo develop complex systems each pillar develops a skill set in specific domain that works amazing when combined together

2. Vibe Coding vs Specification-Driven

Why does Vibe Coding usually create problems after one week?

Vibe coding starts fast and feels more productive but it skips disciplined spec writing that helps in designing an architectural system and tends to produce unstable and insecure systems that causes problems in the long run

How would Specification-Driven Development prevent those problems?

By writing a clear architecture spec of the system at the start it helps provide better context of the application that you want to build to AI and by helping AI understand your needs, safety implementations and test cases earlier it prevents mistakes and bugs and allows AI to generate better outputs and give better recommendations.

3. Architecture Thinking

How does architecture-first thinking change the role of a developer in AIDD?

Architecture first thinking shifts the developer's role from a code writer to strategic orchestrator. It helps developers focus on the more important things like specifying, designing and validating rather than writing code. Their role changes from code writing to system thinking and decision making and this leads to better development.

Explain why developers must think in layers and systems instead of raw code.

Developers must think in layers and systems instead of raw code because AI tools can generate the code for them making developers responsible for architecture, scalability and security implementation of the system.

Part B — Practical Task (Screenshot Required)

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> generate a 1-paragraph specification for an email validation function.Requirements:Must contain "@"Must contain a valid domain (e.g., .com, .org)Should return clear error messages

+ The validate_email function will analyze a given string to determine if it constitutes a valid email address format. A valid email must contain exactly one "@" symbol, which must not be the first or last character. Furthermore, the domain portion of the address (the part following the "@") must include at least one period (".") and conclude with a valid top-level domain of two or more letters, such as ".com" or ".org". For any validation failures, the function will return a clear and specific error message indicating the nature of the problem, such as "Missing '@' symbol" or "Invalid domain extension," to guide the user in correcting their input.
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Part C — Multiple Choice Questions

1. What is the main purpose of Spec-Driven Development?

- A. Make coding faster
- B. Clear requirements before coding begins ☒
- C. Remove developers
- D. Avoid documentation

2. What is the biggest mindset shift in AI-Driven Development?

- A. Writing more code manually
- B. Thinking in systems and clear instructions ☒
- C. Memorizing more syntax
- D. Working without any tools


3. Biggest failure of Vibe Coding?

- A. AI stops responding
- B. Architecture becomes hard to extend ☒
- C. Code runs slow
- D. Fewer comments written

4. Main advantage of using AI CLI agents (like Gemini CLI)?

- A. They replace the developer completely
- B. Handle repetitive tasks so dev focuses on design & problem-solving ☒
- C. Make coding faster but less reliable
- D. Make coding optional

5. What defines an M-Shaped Developer?

- A. Knows little about everything
- B. Deep in only one field
- C. Deep skills in multiple related domains 
- D. Works without AI tools