No Silver Bullet: Essence and Accidents of Software Engineering

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The essence of software

- Complexity
- Conformity
- Changeability
- Invisibility
Solutions to accidental difficulties

- High-level programming languages
- Time-sharing
- Unified programming environments
Potential silver bullet?

- Ada and other high-level language advances
- Object-oriented programming
- Artificial intelligence
- Expert systems
- "Automatic" programming
- Graphical programming
- Program verification
- Environments and tools
- Workstations
Promises

• Buy versus build -> components 😊
• Requirements refinement and rapid prototyping
• Great designers

• Anything else 20 years later?