From Soloist to Conductor

Future proofing our careers

Software Industry Evolution

"The software engineering industry has evolved over time, software has become more complex, with ever increasing cognitive load."
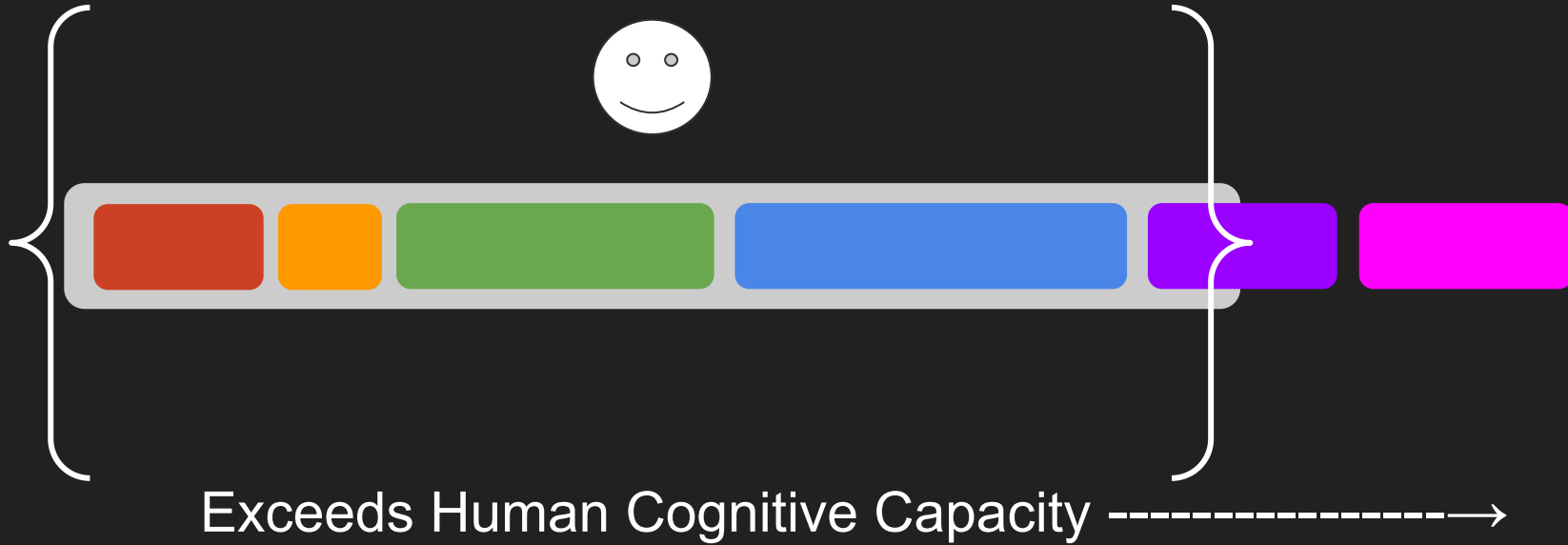
Software Industry Evolution

"To cater for this increased complexity, software engineering roles have evolved to align with human cognitive capacity."
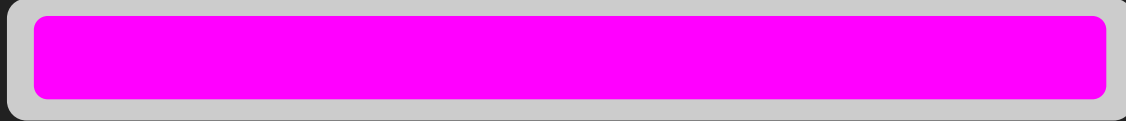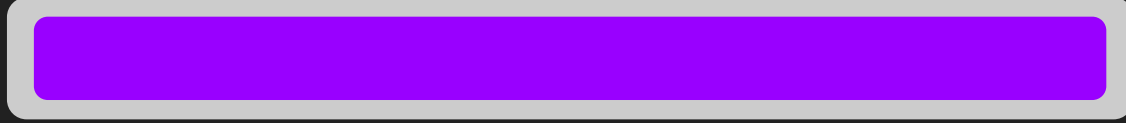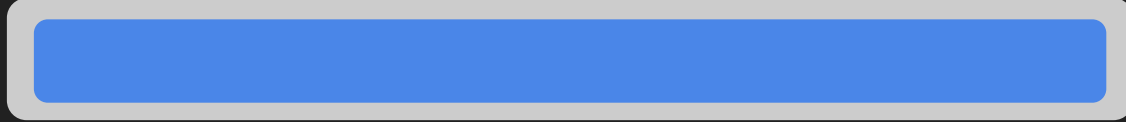
One person team: performing many roles

Human Cognitive Capacity
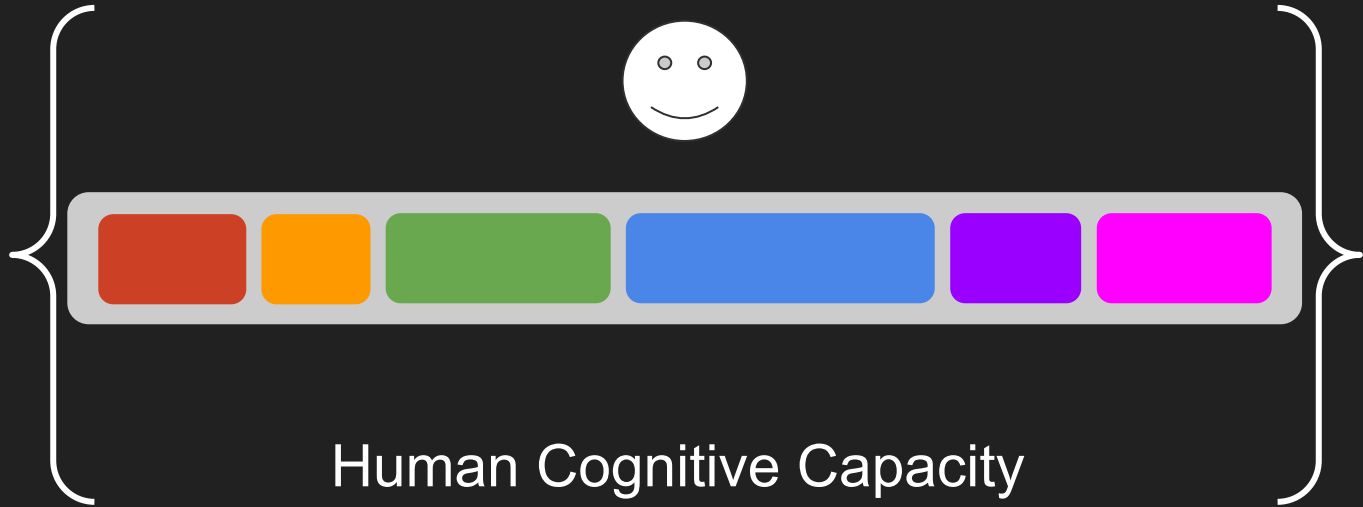
One person team: exceeds cognitive capacity

Exceeds Human Cognitive Capacity ----------------->

A team of specialist roles
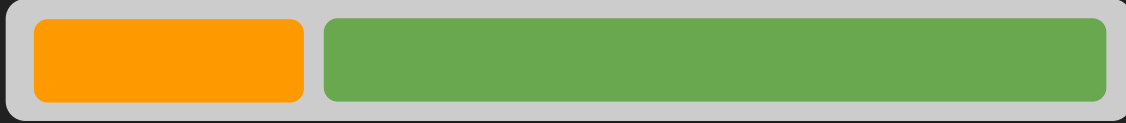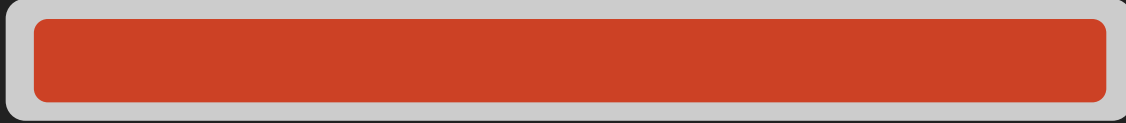
AI Era - Advantages

- AI agents can generate code as fast as we can describe it

- One human orchestrator can manage many specialist agents

- More valuable features can be developed for our customers

Conductor of AI agents: Human + AI cognitive capability

One person orchestrating multiple AI agents performing multiple roles

Conductor of AI agents: The Team Starts Broadening
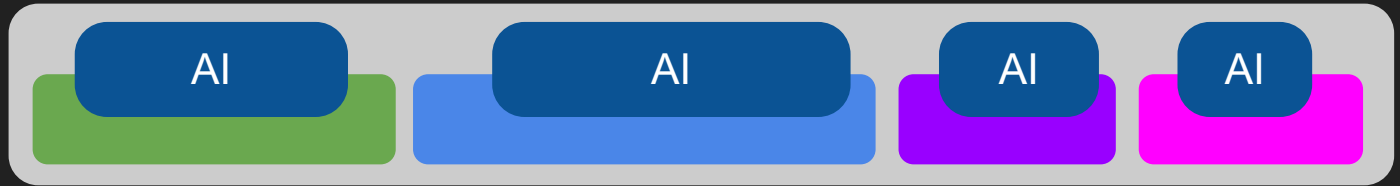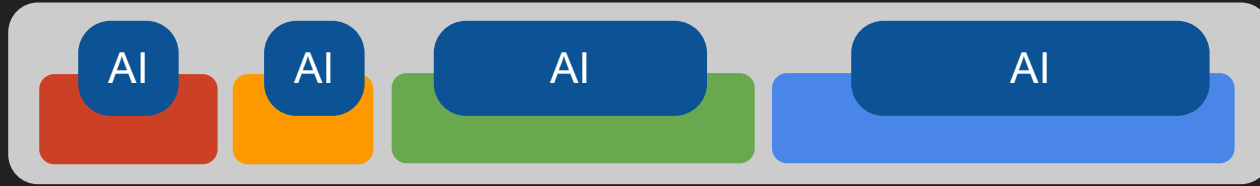
Each person orchestrating multiple AI agents performing additional roles

AI Era - New Challenges

- **It's a big paradigm shift**
  - How can we adapt as AI continues to evolve?
  - How do specialists become generalists?
- How can we review all this rapidly generated code?
- How can we keep AI generated systems secure?

Software Development ≠ Software Engineering

What's changing with AI:

- Software development - AI can write most of the code

What still needs human input:

- Software engineering (design, architecture, judgment)
  - Understanding what to build and how systems should work
  - Making architectural and integration decisions
  - Reviewing AI outputs for quality

Conductors of Intelligence - Key Skills

You don't need to become an expert in everything

Skills to focus on:

- Architectural thinking, understand how systems fit together

- Foundational knowledge: principles and patterns that transcend frameworks

- Directing AI agents effectively with clear prompts & instructions

- Code review: evaluate AI generated code for quality and security

- Comfortable navigating different levels of abstraction

Conductors of Intelligence - The Mindset for Success

Behaviors to focus on:

- Be proactive in exploring adjacent domains

- Take initiative on challenging problems

- Stay curious and ask questions

- Don't be discouraged by setbacks, learn from them

- Be deliberate in how you learn

Conductors of Intelligence

Deep expertise still matters

- Your deep knowledge is more powerful when combined with broader systems thinking and prompting skills
- Your knowledge becomes broader and more T-shaped

Over time you will develop a full-stack mindset

- Orchestrating AI agents across the technology stack

Conductors of Intelligence

- **"Software Engineer" is the new cool job title!**

  - i.e. someone who delivers complete systems

- Over time, some job title prefixes will likely disappear

  - i.e. frontend, backend

No need to panic!

- We have time to evolve, but we need to start now!
  - Think of it as expanding your mental toolkit, not replacing it
- So, how do we get there, as a team?
  - Focus on learning - (in the next session)
  - Team workshops
  - Tech Talks
  - Pair-Prompting sessions

Things to think about

How do I want my career to evolve?

Do I need to change how I learn?