## Architectural Skills

CSSE6400

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#### Quote

Architecture is the stuff you can't Google.

- Mark Richards [Richards and Ford, 2020]

#### Quote

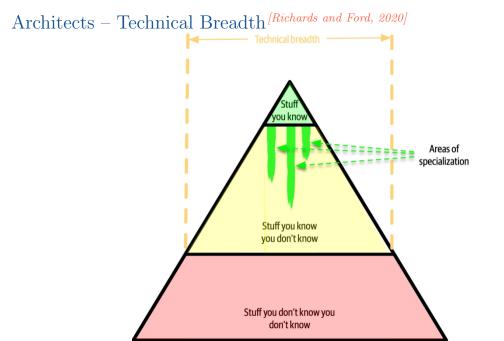
There are no right or wrong answers in architecture—only trade-offs.

- Neal Ford [Richards and Ford, 2020]

## $Architectural\ Design$

Architects use knowledge and experience to analyse trade-offs to design architectures appropriate to the system context.

# Developers – Technical Depth [Richards and Ford, 2020] Technical depth Stuff you know Stuff you know you don't know Stuff you don't know you don't know



## Definition 1. Conway's Law

Organisations design systems whose structure is inevitably a copy of the organisation's communication structure [Conway, 1968] [MacCormack et al., 2012].

#### Conway's Law Consequences

- Business Process Management
- Microservices to reflect organisation structure
- Teams formed around services

## Conway's Law Consequences

Team insularity – more loyal to team than organisation.

## Conway's Law Issues

- Cross-cutting concerns
  - e.g. Security
- Organisation structure should align with market structure
- Physical location of teams

#### Evidenced-Based Software Engineering

Don't follow fads, seek evidence for good practice.

#### Let's hear from an expert

## Software Engineering's Greatest Hits

what we actually know about software development and why we believe it's true



**Greg Wilson** 

http://third-bit.com/talks/greatest-hits/



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#### References

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Exploring the duality between product and organizational architectures: A test of the "mirroring" hypothesis.

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