

# BUILD THE RIGHT SYSTEM

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# A BIT OF PROJECT MANAGEMENT

# What does your team build?

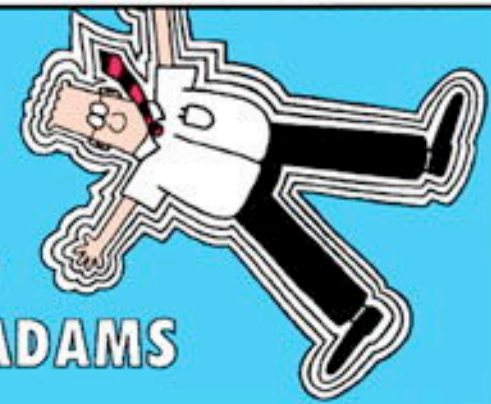
- Code?
- Integration between systems?
- Something complex?
- You build a product.

# What do your customers buy?

- Code?
  - Doc?
  - Features?
- 
- They buy value.



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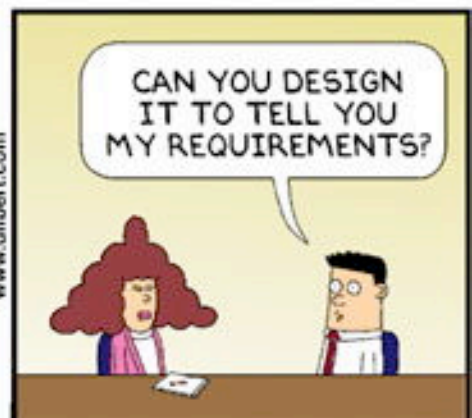
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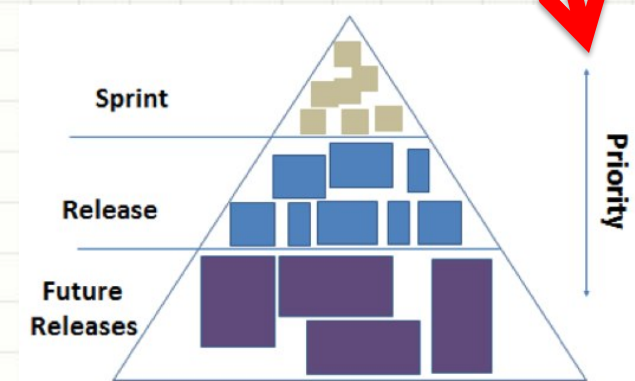


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# How do you map the two?



# So

- As an architect, you need to be able to attach value to requirements
  - → understand the market
  - → know your customers
- As an architect, you need to be able to attach cost to requirements
  - → understand the technology
  - → know your team

# The Project Manager's job is about

- Headcount / resources
  - Hardware costs
  - Task durations
  - Schedules
- 
- That is: balancing costs



# You're **not** a project manager

- It's a completely different job
- But
- You need to understand a few things about PM, and you're part of the SDLC

# Did I just write “SDLC”?

- What is it?
- Software Delivery Life Cycle



# SOFTWARE DELIVERY LIFE CYCLE

# Definition

- From one line of code to a product
- Starts from a constantly evolving code base
- Can **build, test, deploy** this code into a product, using processes that are
  - Repeatable
  - Efficient
  - Fast
- (may) Also include **operating** said product

# Different types

- Waterfall
- Incremental (Eg: RUP)
- Agile (Eg: XP, Scrum)
- Lean
- Formal methods (DOD, Z, OWL)
- Code and fix (aka Cowboy coding)
- DevOps



# But share some common phases

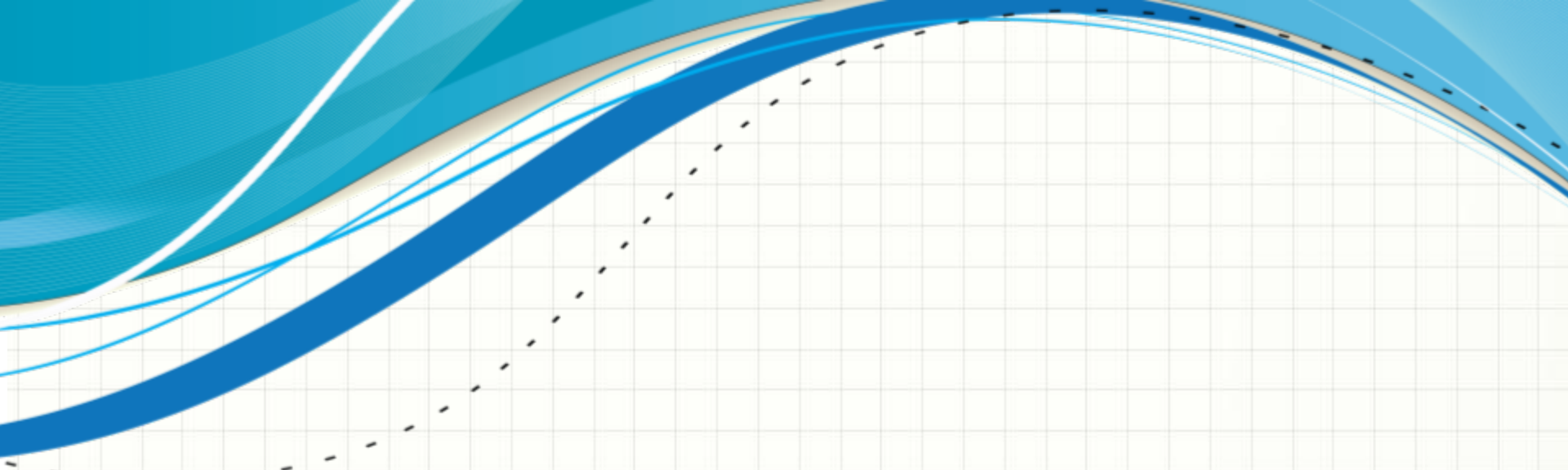
- System Analysis
  - (incl. Requirements capture)
- System Design
- Coding
- Testing
- Deployment
- Maintenance
- End of life

Project Management

# Which phases the architect contributes to?

- System Analysis
  - (incl. Requirements capture)
- System Design
- Coding
- Testing
- Deployment
- Maintenance
- End of life

Project Management



# ARCHITECT ROLES (FOR BUILDING THE RIGHT SYSTEM)

# Where do you fit in the SDLC?

- Attach value to requirements
- Prioritize high level backlog
- Choose technology
- Design system and interfaces
- Drive inception work
  - Esp. on technology evaluation
- Feedback loop: customer evaluation

# Attach value to requirements

- Shared responsibility between
  - Product Managers
  - Designers
  - Architects
- Needed to prioritize global backlog



# Requirements tracking

- Maps each requirement (expressed by customer) to a user story
- Maps each story to a test case
- At any point of time, the status of a story is known
- When software is delivered, exact tested content is known (and published)

# User Story consistency

- Product or large project team
  - Several scrum teams (or squads)
- How is their work coordinated?
- What happens with cross-team Epics?

# Contribute to cost estimates

- Help estimating costs
- Choose technology depending on cost
- Contribute to buy vs build recommendations
- Help assessing the value → ROI

# Planning impacts

- Planning
  - Risky stuff first
- Build skeleton (“walking skeleton”) \*
- Integrate early
- Validate new technology
  - Incl. costs
    - Of using
    - Of learning
    - Of replacing / evolving

\* see appendix

# Feedback

- Early design program
- Early access programs = Beta



# Pitfalls

- Golden hammer syndrome
- Build complexity only when needed
- Iterative architecture
  - Cost of refactoring
  - Length of vision

# **BUILDING THE RIGHT SYSTEM - CONCLUSION**

# Compromise

- Architecture is always a compromise
- Between
  - Technology
  - Team skills
  - Cost
  - Time



Container City II, London. 22 apartments < 50k £. Built in 8 days.









**QUESTIONS?**



# APPENDIX

# Walking Skeleton

- This is what we want you to do for your project !!!
- What is it, why ?

# Walking Skeleton - Definition

- A vertical slide through architecture layers
- Minimal implementation
- Validate design and chosen technology

# Walking Skeleton - Benefits

- Early feedback on choices
- Quality built in, not an after-thought
- Allows to set up development environment
  - And CI pipeline
  - And yes, we want you to do that in your project early !!
- Helps dev teams to get started