

BUILD THE RIGHT SYSTEM

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A BIT OF PROJECT MANAGEMENT



What does your team build?

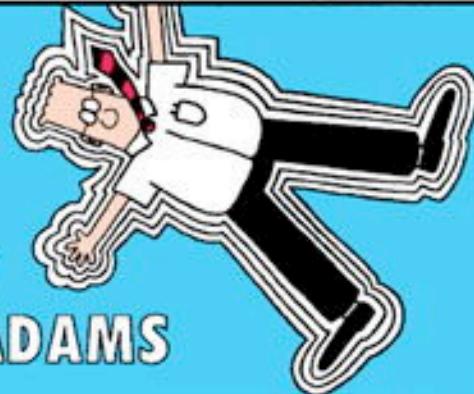
- Code?
- Integration between systems?
- Something complex?
- You build a product.

What do your customers buy?

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



DILBERT®



BY

SCOTT ADAMS

I'LL NEED TO KNOW
YOUR REQUIREMENTS
BEFORE I START TO
DESIGN THE SOFTWARE.



E-mail: SCOTTADAMS@AOL.COM

FIRST OF ALL,
WHAT ARE YOU
TRYING TO
ACCOMPLISH?



I'M TRYING TO
MAKE YOU DESIGN
MY SOFTWARE.



I MEAN WHAT ARE
YOU TRYING TO
ACCOMPLISH WITH
THE SOFTWARE?



I WON'T KNOW WHAT
I CAN ACCOMPLISH
UNTIL YOU TELL ME
WHAT THE SOFTWARE
CAN DO.



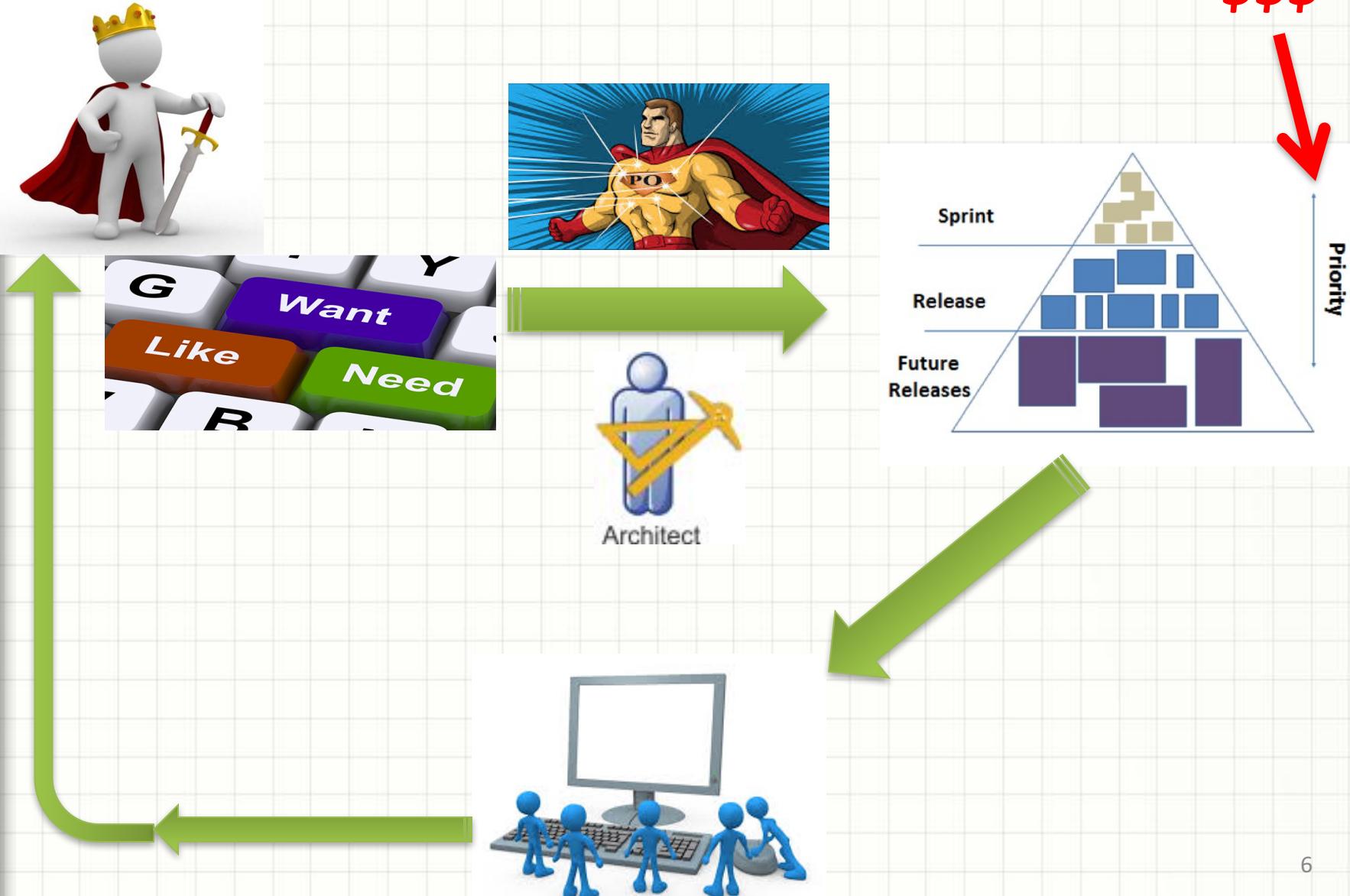
TRY TO GET THIS
CONCEPT THROUGH YOUR
THICK SKULL: THE
SOFTWARE CAN DO
WHATEVER I DESIGN
IT TO DO!



CAN YOU DESIGN
IT TO TELL YOU
MY REQUIREMENTS?



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