

# BOLSTERING SERVICE DELIVERY SUCCESS WITH AGILE-DRIVEN RISK MANAGEMENT

WARNING: THIS IS A BULLET-FREE ZONE. IF THE ABSENCE OF BULLETS IN A PRESENTATION MAKES YOU FEEL UNCOMFORTABLE, YOU SHOULD LEAVE THE ROOM **NOW**. GUNS DON'T KILL PEOPLE...BULLETS DO.



U.S. DEPARTMENT OF  
**ENERGY**



PRESENTED BY:

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PRINCIPAL SOLUTIONS ARCHITECT

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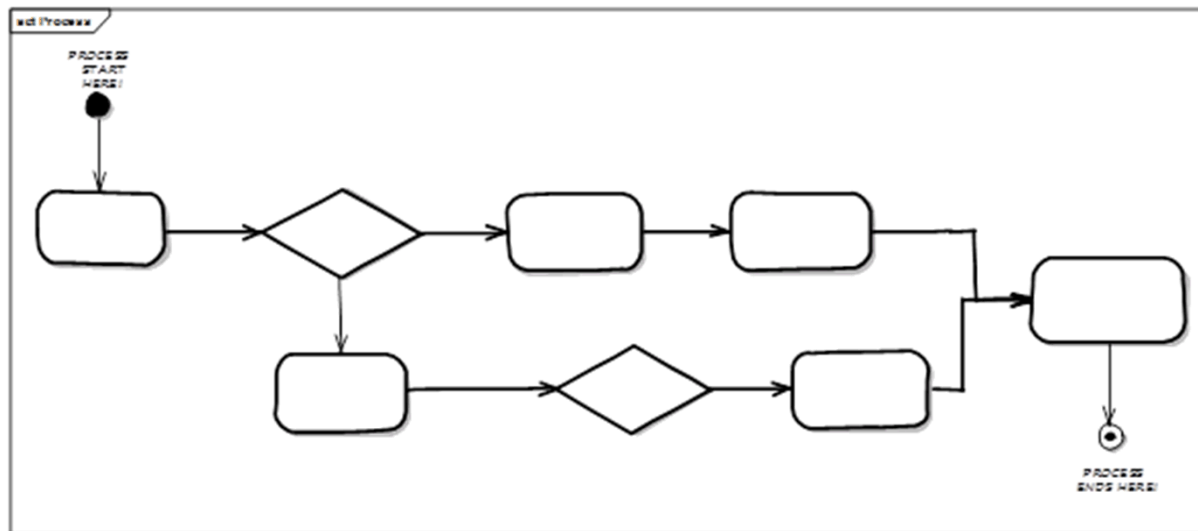
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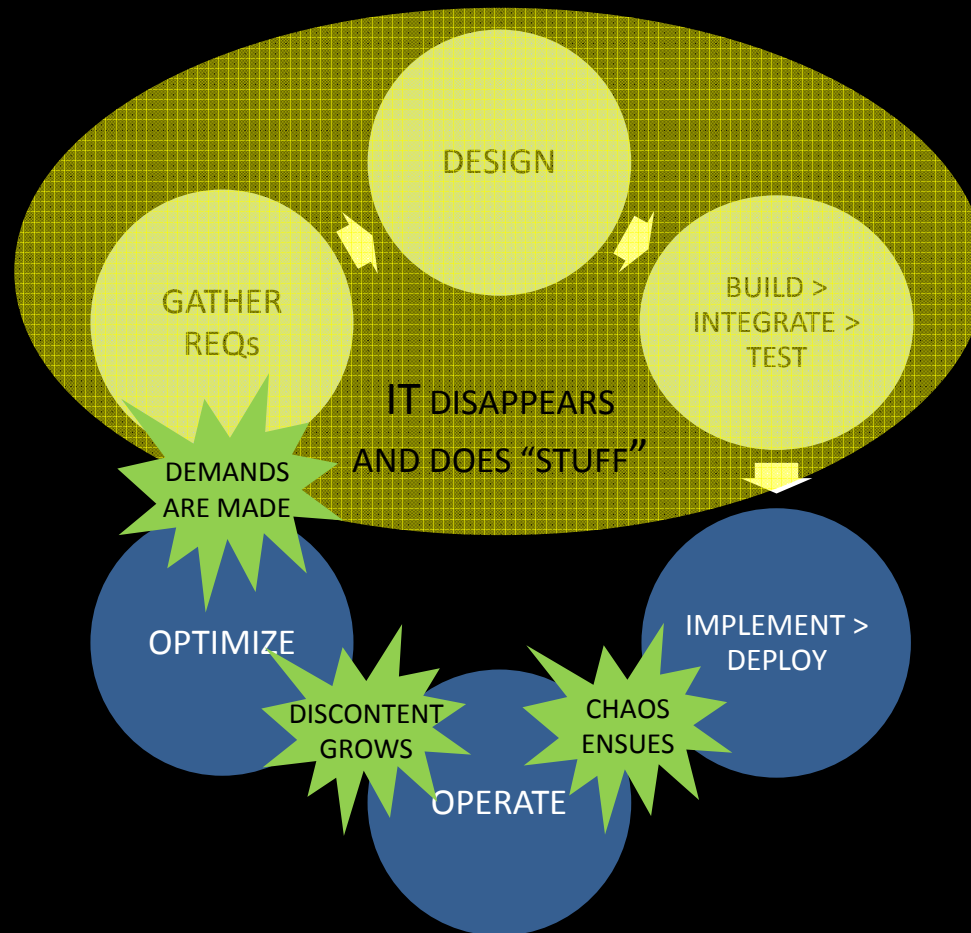


**PROCESS**: A SERIES OF ACTIONS THAT PRODUCES SOMETHING OR THAT LEAD TO A PARTICULAR RESULT.



## *Service Transition >*

*Building and deploying of new or modified IT services, Including applications.*



HOW THE  
CUSTOMER MIGHT  
VIEW THE SAME  
PROCESS



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# ***THE GOOD NEWS?***

***YOUR CUSTOMERS REALLY DON'T CARE ABOUT YOUR  
PROCESS...BUT THEY DO CARE ABOUT VALUE.***

**“IN ORDER TO ATTRACT NEW CUSTOMERS AND KEEP THE  
EXISTING CUSTOMERS SATISFIED IT IS NECESSARY TO CREATE  
VALUE. VALUE IS CREATED BY GETTING **THE BALANCE**  
CORRECT **BETWEEN WHAT THE CUSTOMER RECEIVES AND**  
**HOW MUCH IT WILL COST.”****

[HTTP://BUSINESSCASESTUDIES.CO.UK/STANDARD-LIFE/CUSTOMERS-PROCESS-AND-PEOPLE/INTRODUCTION.HTML](http://BUSINESSCASESTUDIES.CO.UK/STANDARD-LIFE/CUSTOMERS-PROCESS-AND-PEOPLE/INTRODUCTION.HTML)



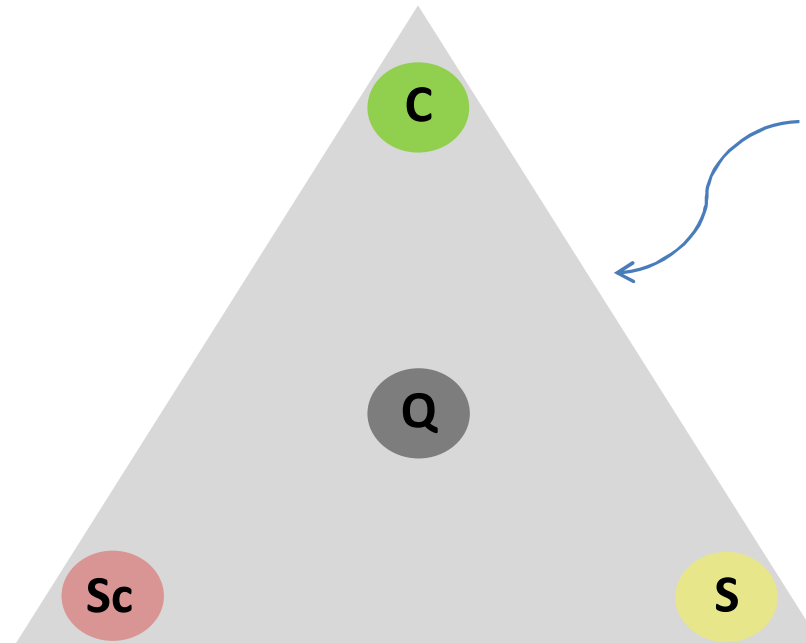
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***CUSTOMERS REALLY CARE ABOUT...***



PMP GEEKS CALL  
THIS THE “TRIPLE  
CONSTRAINT” ...

BECAUSE ITS EASIER  
THAN CALLING IT  
THE “QUADRUPLE  
CONSTRAINT”

***BUT WE WILL REFER TO THESE AS CUSTOMER-BASED RISKS...***



# ***A FAILURE TO ADDRESS CUSTOMER-BASED RISKS CAN...***



“Profit in business comes from repeat customers, customers that boast about your project or service, and that bring friends with them.”

**W. Edwards Deming**



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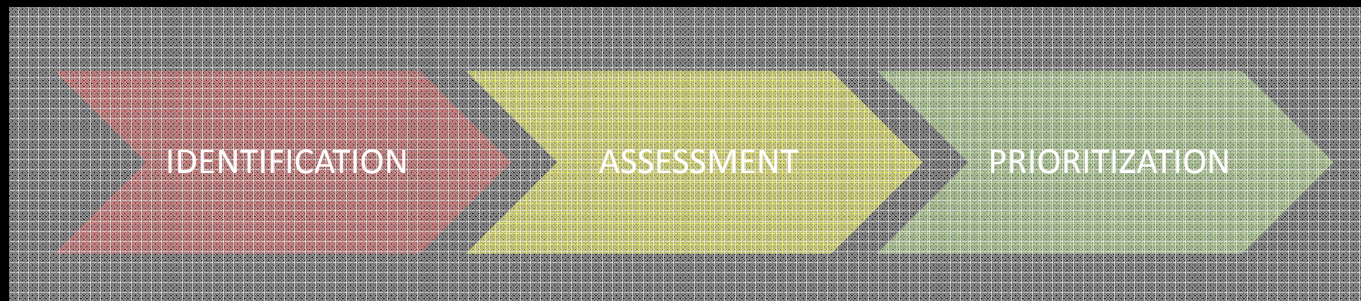




## QUESTION:

HOW DO MOST IT ORGANIZATIONS APPROACH THE MANAGEMENT OF CUSTOMER-BASED RISKS?

**ANSWER:** THROUGH THE USE OF A RISK MANAGEMENT STRUCTURE, INCLUDING METHODS, PROCESSES, PLANS, ETC.



**ISO 31000**



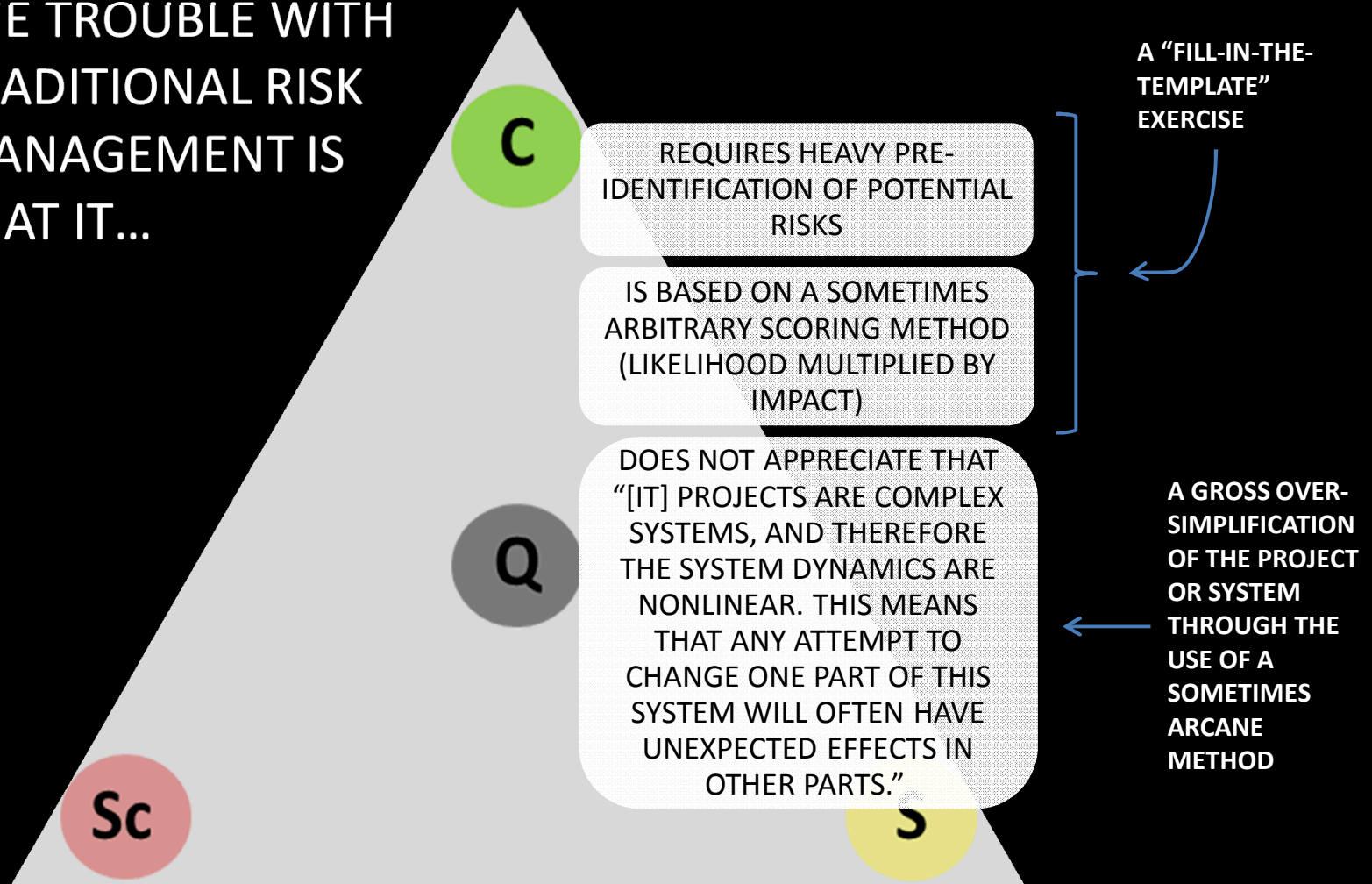
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# THE TROUBLE WITH TRADITIONAL RISK MANAGEMENT IS THAT IT...



<http://www.noop.nl/2008/03/traditional-ris.html>



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# REALITY CHECK...

SUCCESS RATES FOR AGILE PROJECTS  
ARE 72%; SUCCESS RATES FOR  
TRADITIONAL APPROACHES ...63%.

DR DOBBS JOURNAL (2007 – 2011)

→ **QUESTION:** IF TRADITIONAL PROJECT  
MANAGEMENT INCLUDES FORMAL RISK  
MANAGEMENT AND...YET...THESE EFFORTS  
STILL PERFORM BELOW AGILE-BASED PROJECTS  
THEN...**WHAT'S THE POINT?**



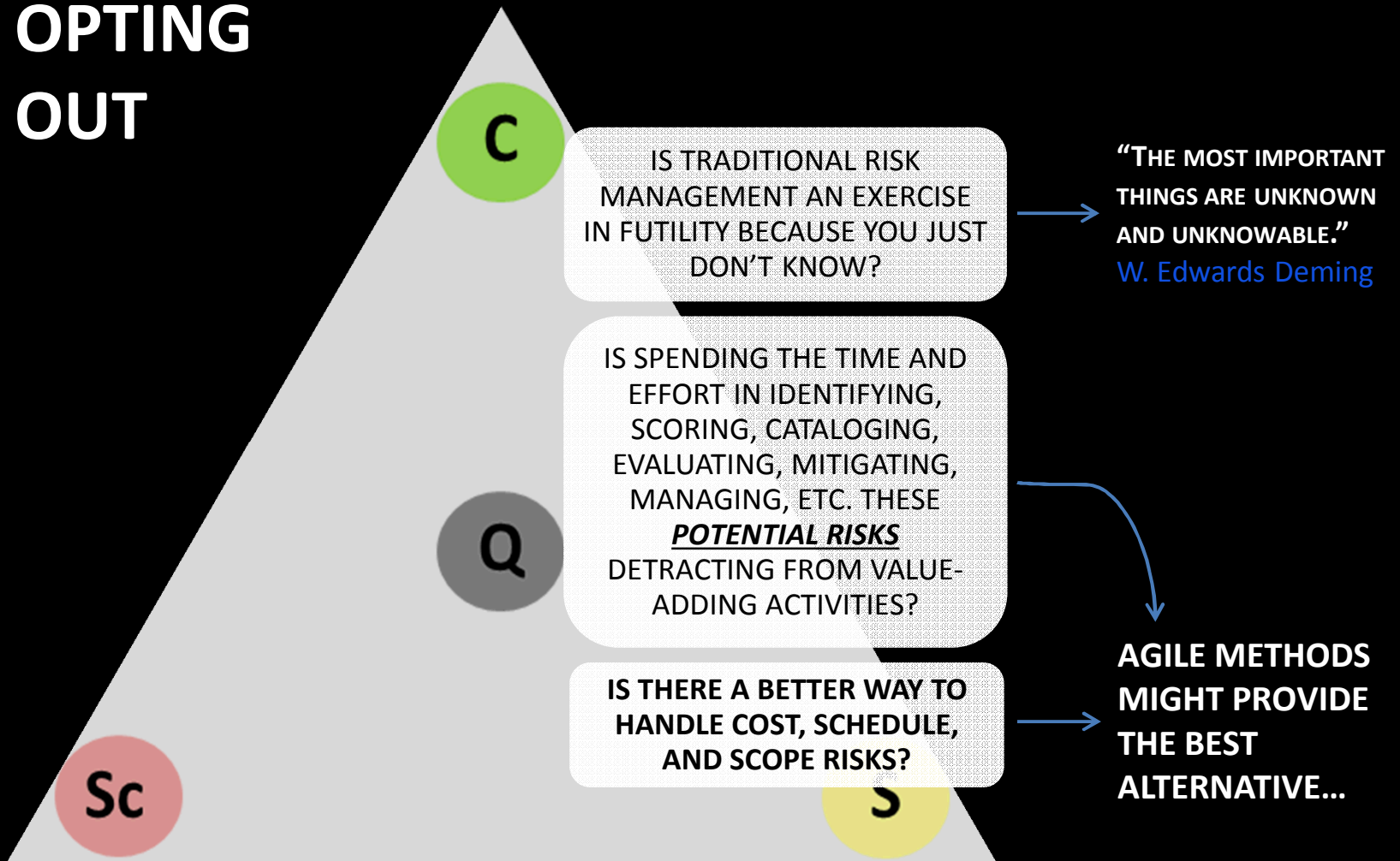
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# OPTING OUT



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# AGILE METHODS FOR RISK MITIGATION

THIS PRESENTATION WILL ATTEMPT TO CONVINCE ATTENDEES THAT TRADITIONAL RISK MANAGEMENT METHODS ARE NON-VALUE-ADDING ACTIVITIES THAT CANNOT AND DO NOT ENSURE PROJECT SUCCESS.

THE SUGGESTED APPROACH CENTERS ON MORE EFFECTIVE MANAGEMENT AND CONTROL OF THE TRIPLE CONSTRAINT (I.E. THE PRIMARY CUSTOMER RISKS) THROUGH THE USE OF **AGILE-BASED METHODS**.



SCRUM (OR ITERATIVE PLANNING METHODS) FOR ENHANCED AND “JUST IN TIME” SCHEDULE CONTROL



AGILE MODELING FOR PRODUCT ENVISIONING AND ENHANCED SCOPE CONTROL



RAPID ESTIMATION (VIA UCP OR SIMILAR) AND KANBAN FOR ENHANCED COST CONTROL



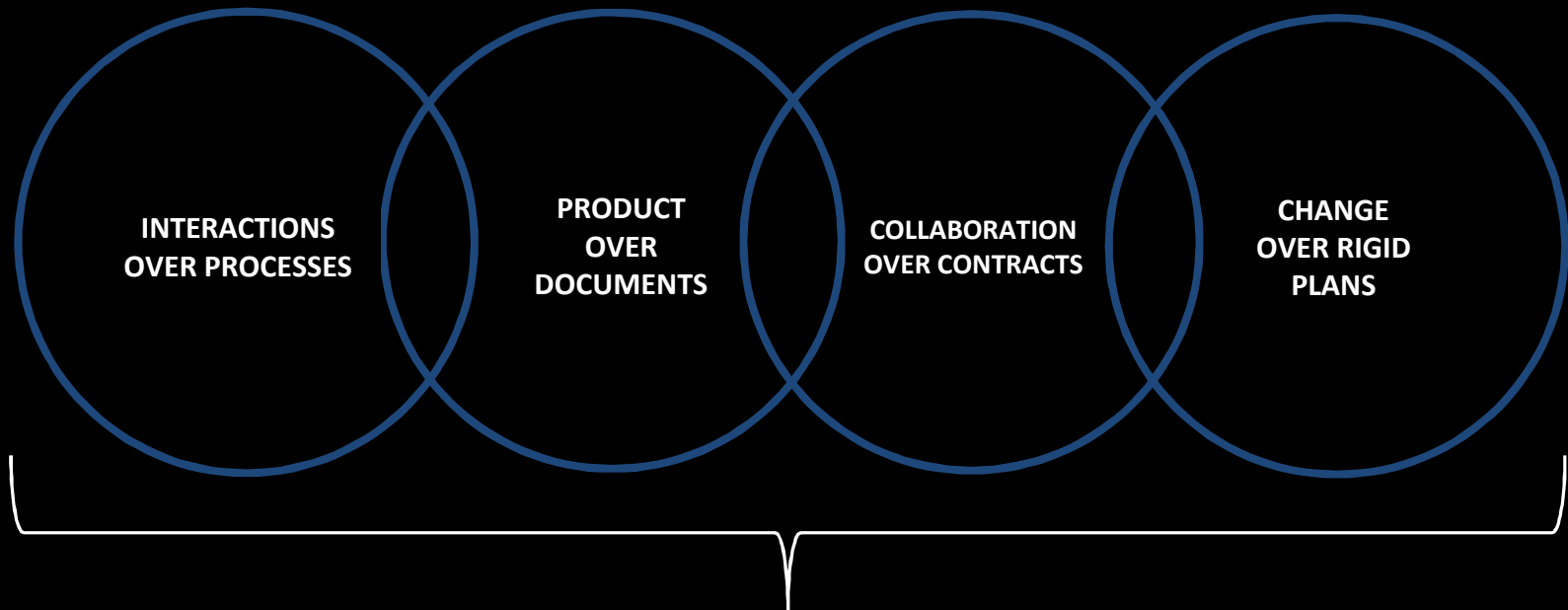
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**In terms of IT systems development, Agile is a set of principles:**



<http://agilemanifesto.org/>



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# LEAN:

MAXIMIZES CUSTOMER VALUE AND MINIMIZES WASTE.

CREATES PROCESSES THAT NEED LESS HUMAN EFFORT,  
LESS SPACE, LESS CAPITAL, AND LESS TIME TO MAKE  
PRODUCTS AND SERVICES AT FAR LESS COSTS AND WITH MUCH FEWER  
DEFECTS.



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# S

## **SCHEDULE AS A RISK:**

**THE LIKELIHOOD OF FAILING TO MEET SCHEDULE PLANS AND THE EFFECT OF THAT FAILURE.**

“IT IS IMPOSSIBLE TO PREDICT, WITH COMPLETE CONFIDENCE, THE LENGTH OF TIME NECESSARY TO COMPLETE AN ACTIVITY, MEET A MILESTONE, OR DELIVER A SYSTEM.”

<https://acc.dau.mil/CommunityBrowser.aspx?id=17745>



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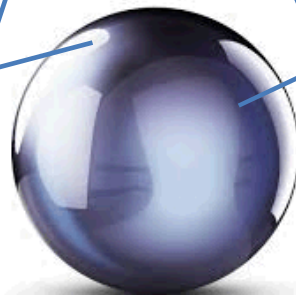


S

THIS IS "MYSTIC BOB"



I CAN SCHEDULE  
4-HOUR TASKS  
SIX MONTHS IN  
ADVANCE...



THIS IS MYSTIC BOB'S  
CRYSTAL BALL

**MYSTIC BOB CAN  
SEE THE FUTURE...**



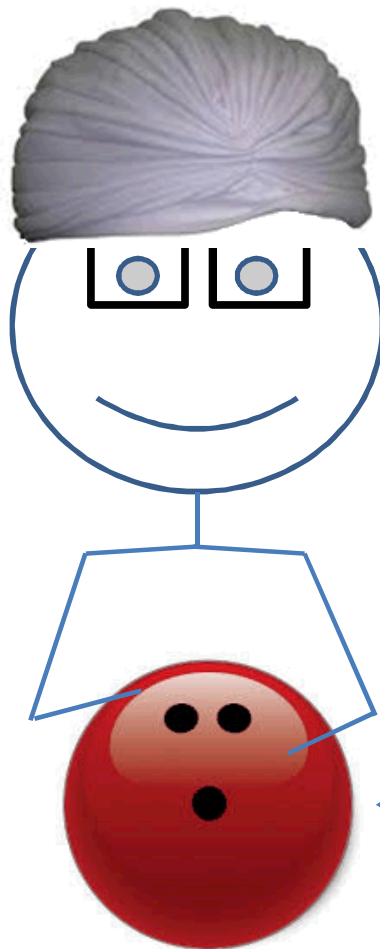
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**FACT IS...**

THIS IS REALLY JUST  
PLAIN OLD "IT BOB"



AND THIS IS REALLY JUST  
BOB'S BOWLING  
BALL...OPAQUE AND  
IMPOSSIBLE TO SEE INTO...

BOB CAN'T SEE INTO  
THE FUTURE...BUT HE  
DOES HAVE A BOWLING  
AVERAGE OF 156...

NOT TOO SHABBY!



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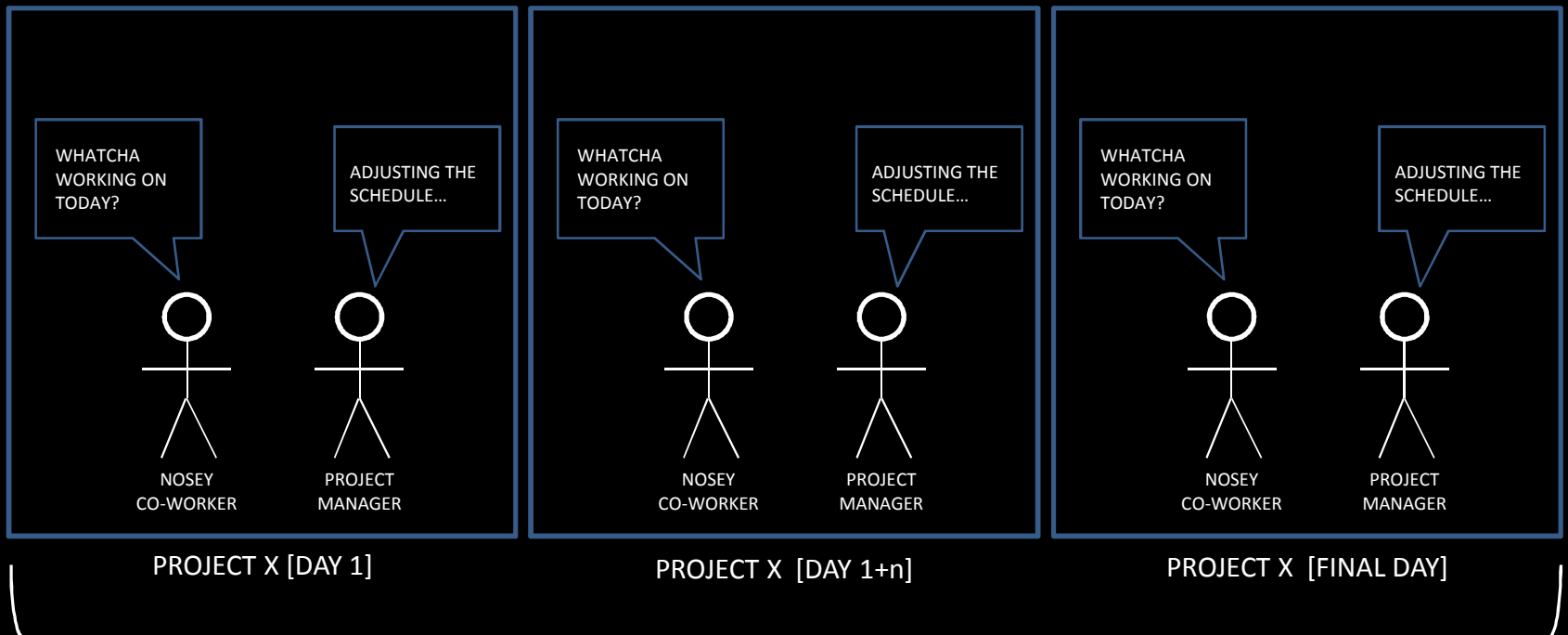


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## A YEAR (OR SO) IN THE LIFE OF A PROJECT MANAGER...



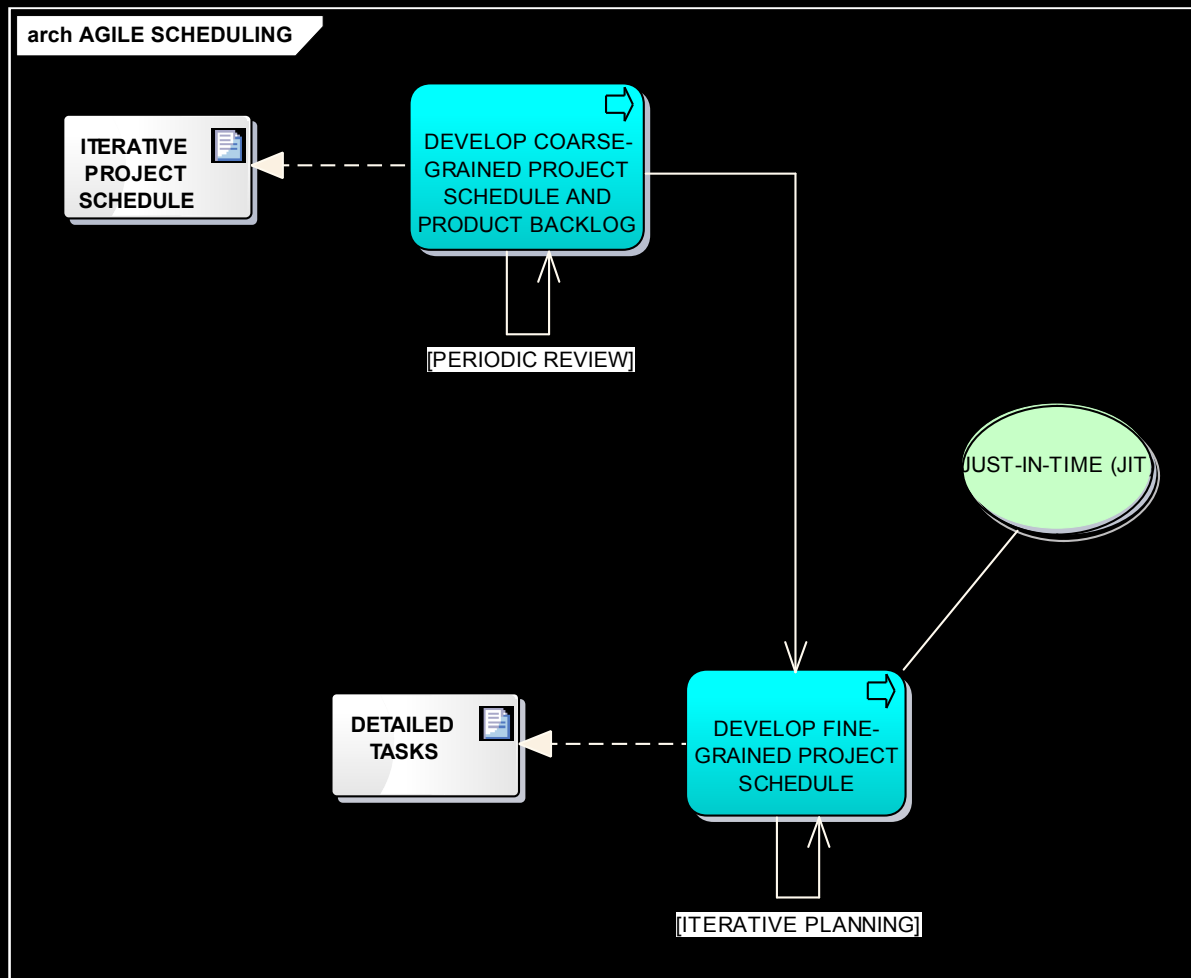
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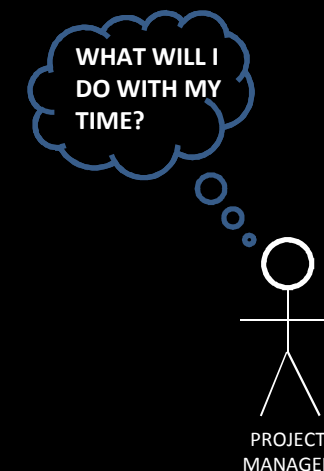
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S



**THIS IS JUST-IN TIME (JIT) SCHEDULING**



## SCOPE AS A RISK:

“...THE CONTINUOUS GROWTH OR CHANGE IN THE SCOPE OF A PARTICULAR PROJECT BEYOND ITS ORIGINAL STATED INTENT.”

<http://enewsletters.constructionexec.com/riskmanagement/2013/09/scope-creep-increases-risk-and-decreases-profitability/>

“EVERY FAILING PROJECT I'VE SEEN HAS HAD AN INFORMAL SCOPE OF "THE SUN, THE MOON, THE SKY AND THE STARS." IN OTHER WORDS, MANAGEMENT AND THE END USERS ARE CONVINCED THAT THEY MUST HAVE AND WILL RECEIVE THE PERFECT SOLUTION RIGHT OUT OF THE GATE. THEY NEVER GET TO THE GATE...”

[http://www.agilespec.com/Key\\_Practices/Scope\\_and\\_risk\\_management.htm](http://www.agilespec.com/Key_Practices/Scope_and_risk_management.htm)



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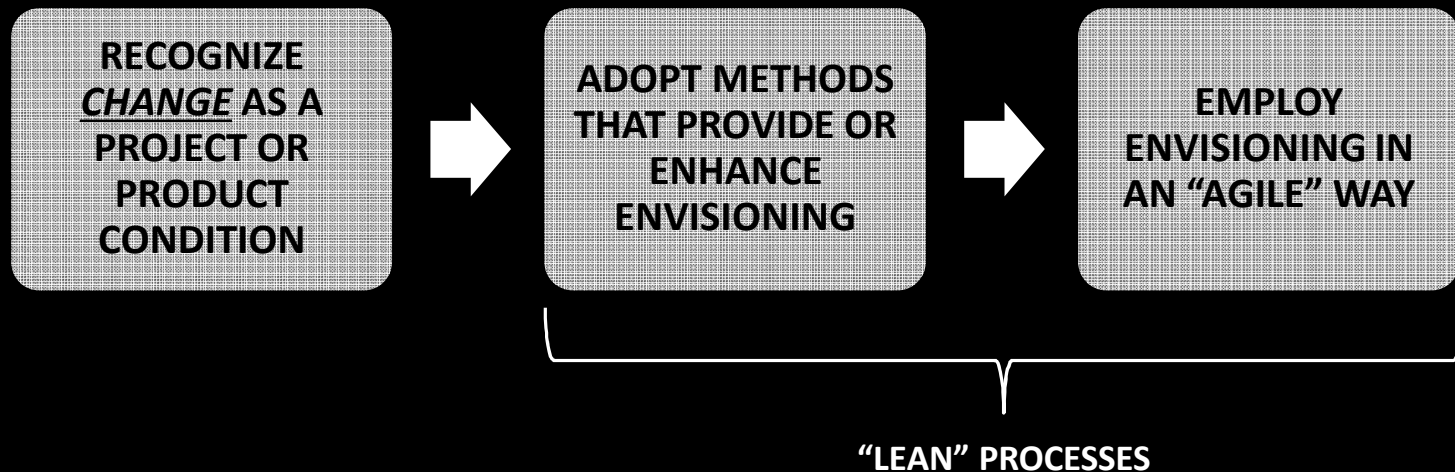


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## SCOPE CREEP DOES NOT HAVE TO BE A PROJECT OR PRODUCT CONDITION...RATHER...



“...TOO OFTEN A COMPLEX PROJECT IS UNDERTAKEN WITHOUT CLEAR GOALS AND DIRECTION. THESE "MINOR" DETAILS ARE HAPLESSLY LEFT TO SORT THEMSELVES OUT ONCE THE PROJECT IS UNDERWAY.”

[http://www.imsi-pm.com/home/library/scope\\_creep.pdf](http://www.imsi-pm.com/home/library/scope_creep.pdf)



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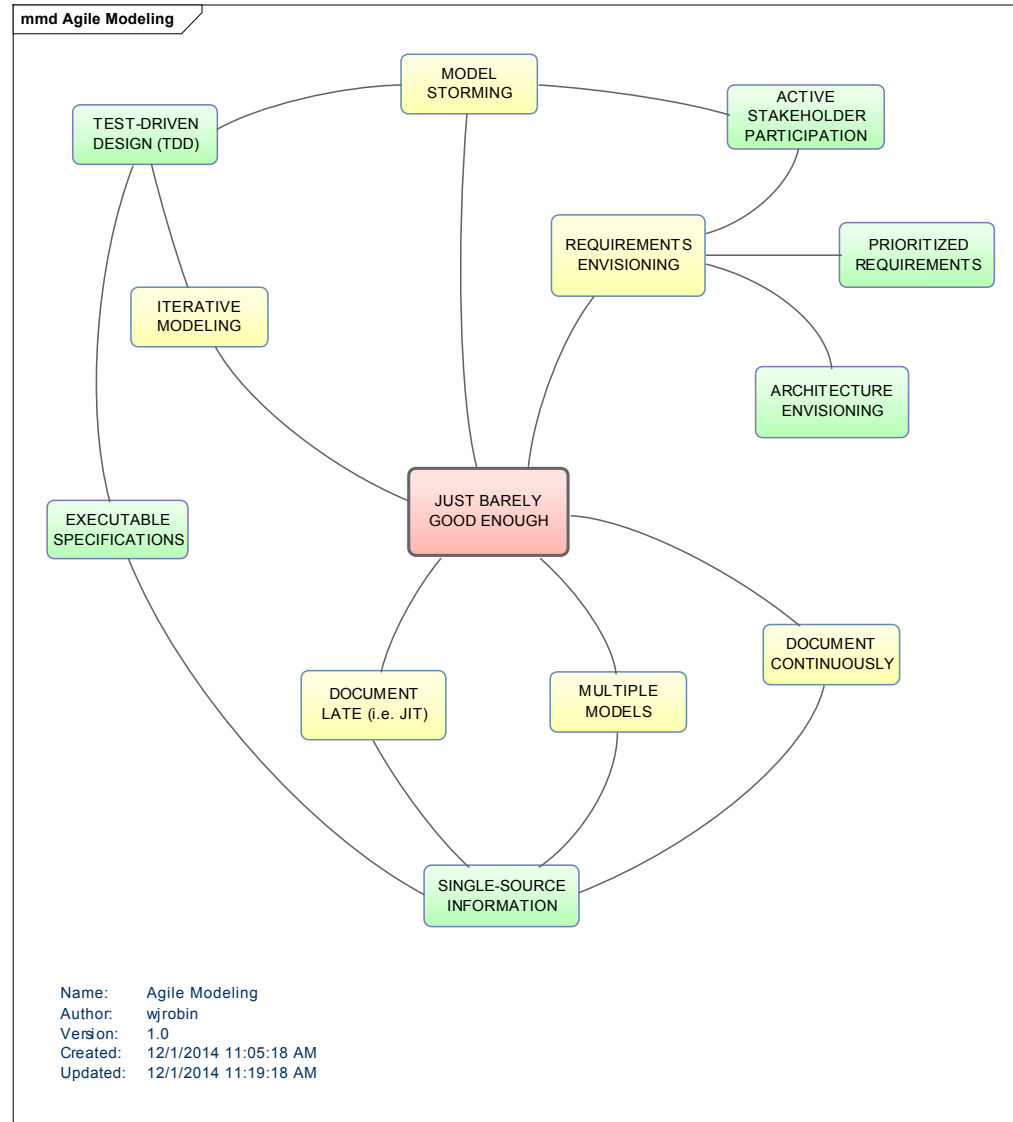
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# Agile Modeling (AM)

A COLLECTION OF VALUES, PRINCIPLES, AND PRACTICES FOR MODELING [SYSTEMS] THAT CAN BE APPLIED ON A PROJECT IN AN EFFECTIVE AND LIGHTWEIGHT MANNER.



←  
PRACTICES



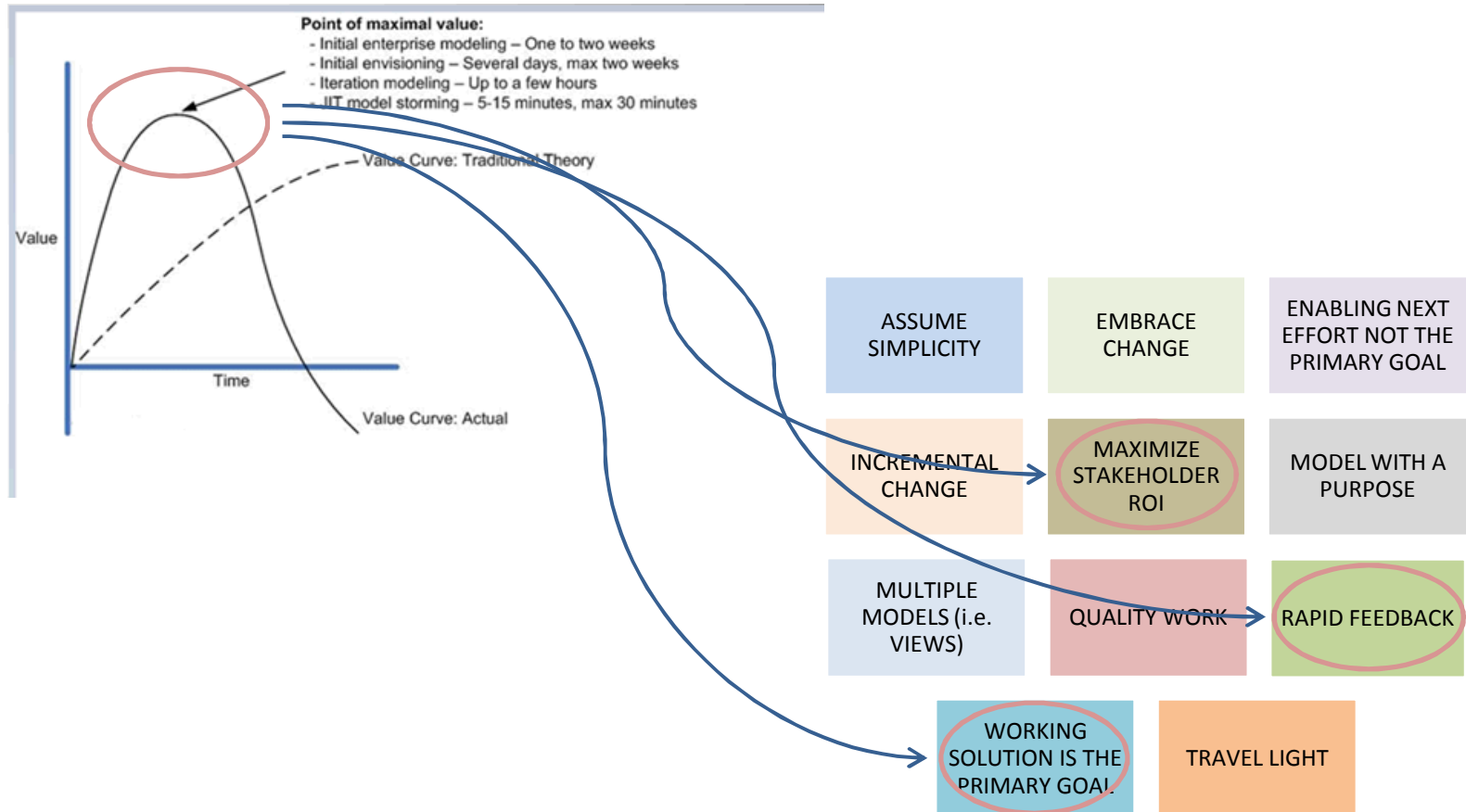
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## SOME AGILE MODELING EXAMPLES

### USER INTERFACE MOCKUP (ON WHITEBOARD):

The mockup consists of two hand-drawn panels on a whiteboard.

**Left Panel: Student Information**

Student Number: 789-567-234 [Help]

First Name:

Middle:

Surname:

Salutation:  [v]

Date First Enroll: June 14 2003

Seminars:

Seminar	Term	Grade	Status
CSC 100 Intro to CS	Fall 2003	A+	Passed
CSC 200 Hrs to AM	Fall 2003	A	Passed
CSC 203 Advanced AM	Spring 2004	-	Enrolled

[Add] [Enroll] [Transcript] [Close]

**Right Panel: Add a seminar**

Seminar Number:  [Help]

Name:

[Search]

Results

Seminar	Term	Seats Avail	Professor
CSC 250 Agile Techniques	Fall 2004	4	Smith, J.
CSC 300 Agile Exp	Spring 2005	17	Jones, S.
CSC 310 Agile Database techniques	Spring 2004	0	Johnson, H.

Course description:

CSC 310 Agile Database Techniques

This course describes evolutionary development strategies for data oriented development. See [www.agile4oh.org](http://www.agile4oh.org) for details.

This course currently has 39 people waitlisted for it. [Close]



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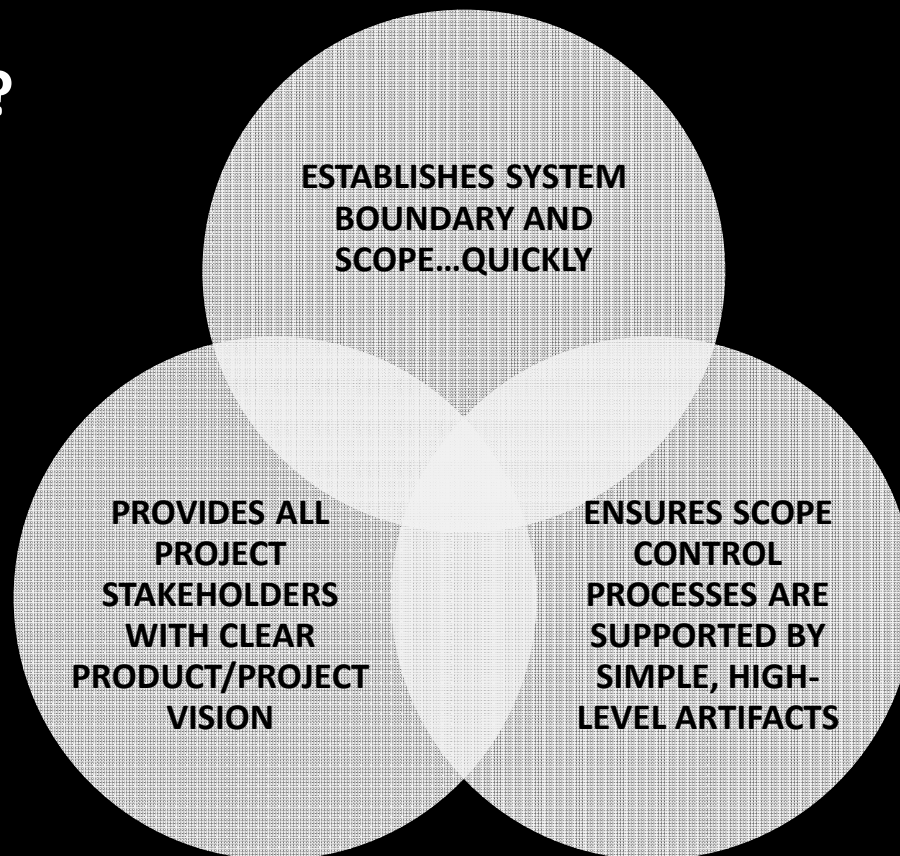


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National Nuclear Security Administration

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## AGILE MODELING? SO WHAT?



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# C

## **COST AS A RISK:**

**A COST OVERRUN, ALSO KNOWN AS A COST INCREASE OR BUDGET OVERRUN, INVOLVES UNEXPECTED COSTS INCURRED IN EXCESS OF BUDGETED AMOUNTS DUE TO AN UNDERESTIMATION OF THE ACTUAL COST DURING BUDGETING.**

“The accuracy of project estimates can have a dramatic impact on profitability....characterized by regularly over running [project] budgets and rarely meeting deadlines.”

<http://www.totalmetrics.com/consulting-function-points/project-cost-estimation>



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FACT IS...

MOST TEAMS DO SUCK AT ESTIMATION...

BUT THERE MIGHT BE A SIMPLE  
SOLUTION...



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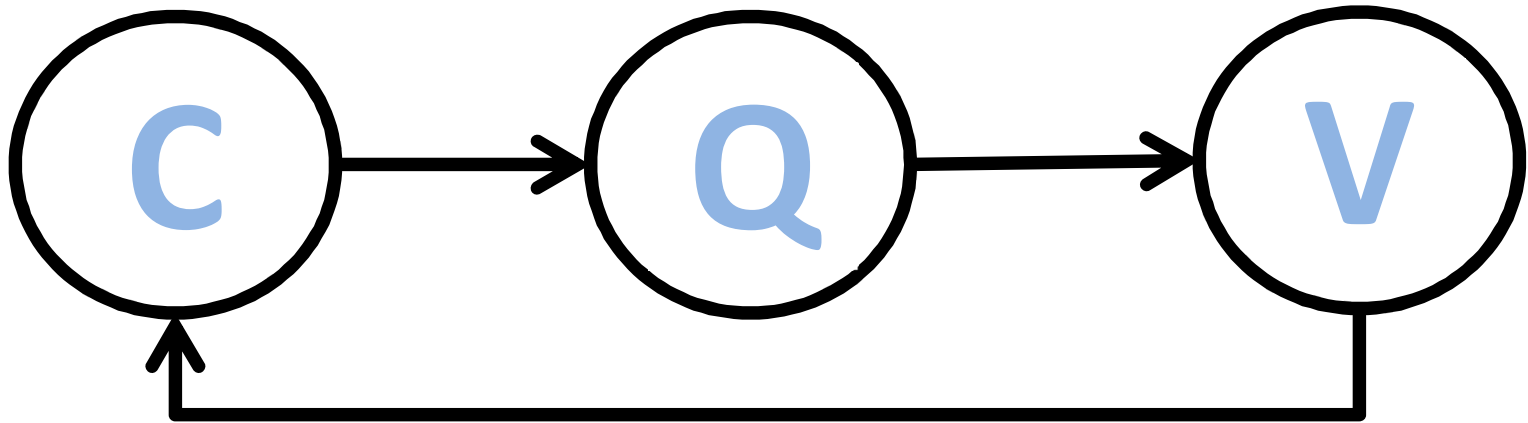


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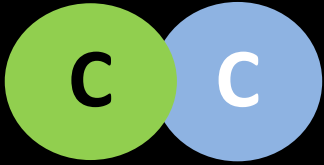
START WITH A  
SIMPLE PROCESS...



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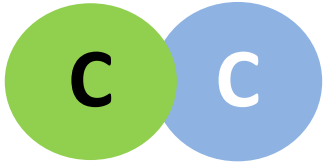
<http://www.istockphoto.com/vector/prehistoric-cave-painting-with-war-scene-18263666>

DEVELOP A  
**TOTAL  
SYSTEM  
CONCEPT**  
WITH USE CASES

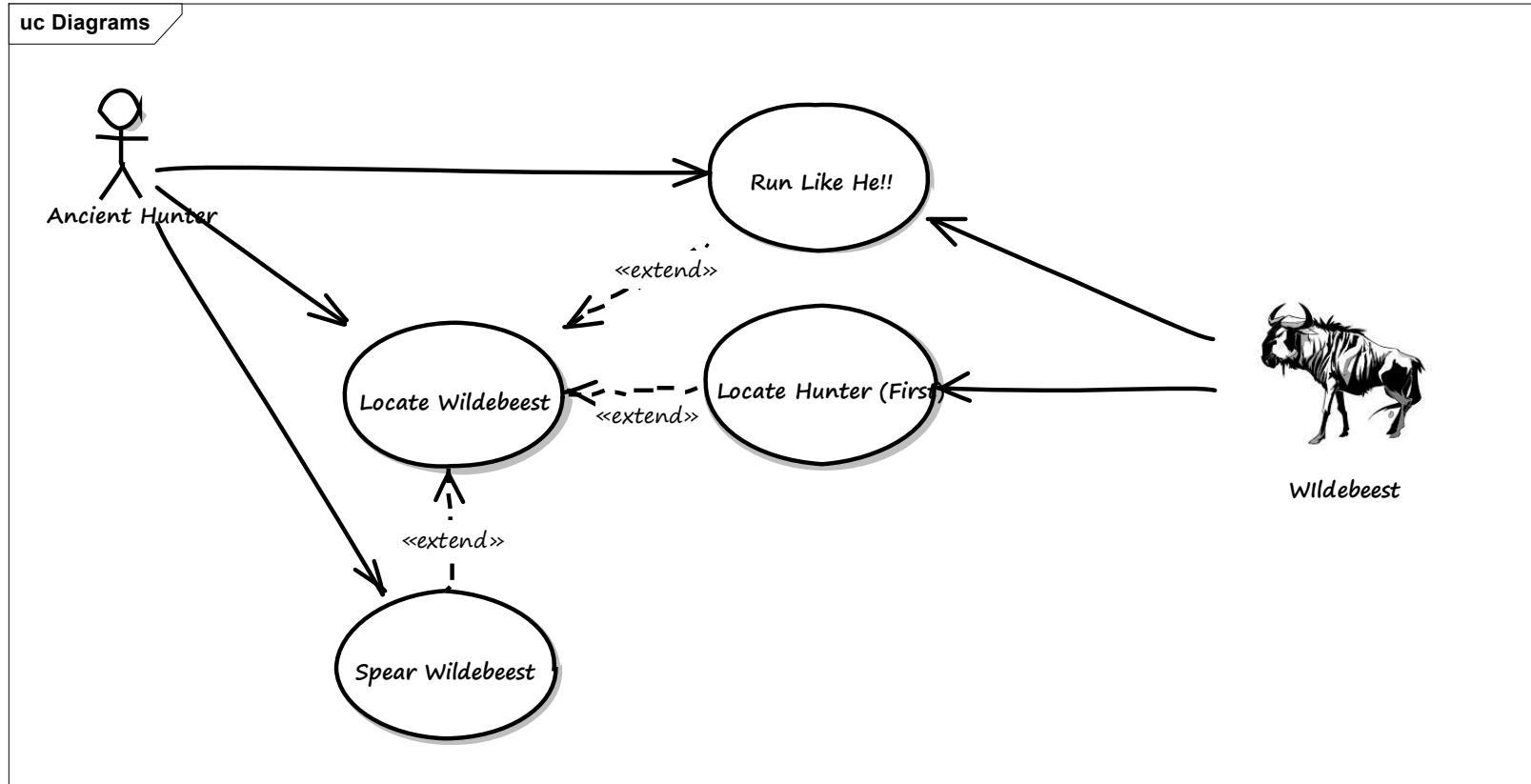


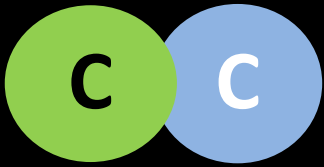
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NOW WE HAVE ALMOST ALL OF THE  
**INGREDIENTS** NEEDED TO PERFORM  
AN **ESTIMATE WITH UCP!**





## USE CASE [PRETTY GOOD] RULES OF THUMB...

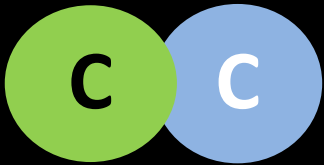
- 1 AT THE RIGHT LEVEL
- 2 BARELY GOOD ENOUGH
- 3 NEARLY COMPLETE



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## “AT THE RIGHT LEVEL” MEANS...

THINK “CRUD”:  
CREATE > READ >  
UPDATE > DELETE



SEA BLUE LEVEL  
(USER GOALS)

<http://www.istockphoto.com/photo/shark-swimming-among-corals-20534783>

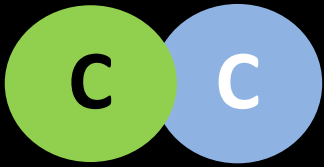


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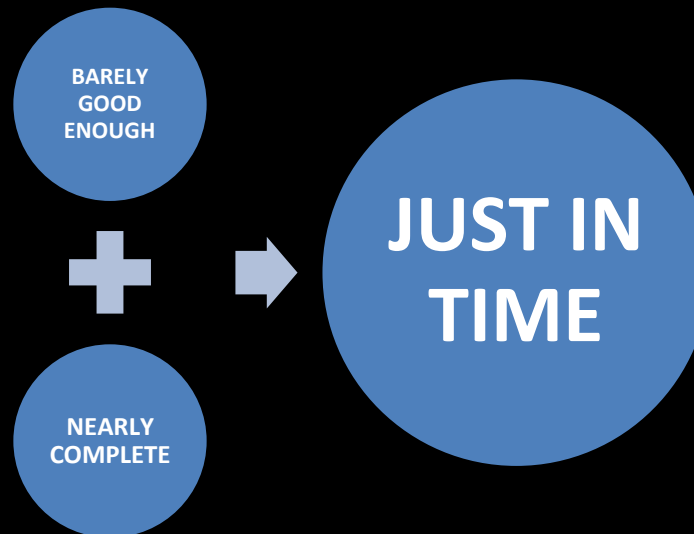


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“YOU WILL EVENTUALLY ADD DETAILS TO EACH USE CASE, ADDING PRECISION. IF YOU HAPPEN TO BE WRONG (INACCURATE) WITH YOUR ORIGINAL, LOW-PRECISION STATEMENT OF GOALS, THEN THE ENERGY PUT INTO THE HIGH-PRECISION DESCRIPTION IS WASTED. BETTER TO GET THE GOAL LIST CORRECT BEFORE EXPENDING THE DOZENS OF WORK-MONTHS OF ENERGY REQUIRED FOR A FULLY ELABORATED SET OF USE CASES.” [ALISTAIR COCKBURN, *WRITING EFFECTIVE USE CASES* (ADDISON-WESLEY, 2001), P. 30.]

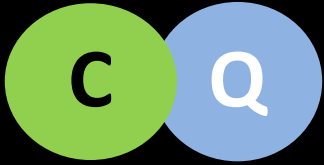


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## QUANTIFYING IS AS EASY AS...

- 1 ASSIGNING COMPLEXITY TO USE CASES AND ACTORS
- 2 CONFIGURING THE UCP MODEL FOR THE SPECIFIC EFFORT/PROJECT
- 3 RUNNING THE CALCULATION!

**SERIOUSLY...IT'S THAT SIMPLE...**

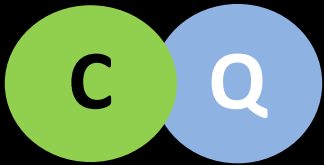


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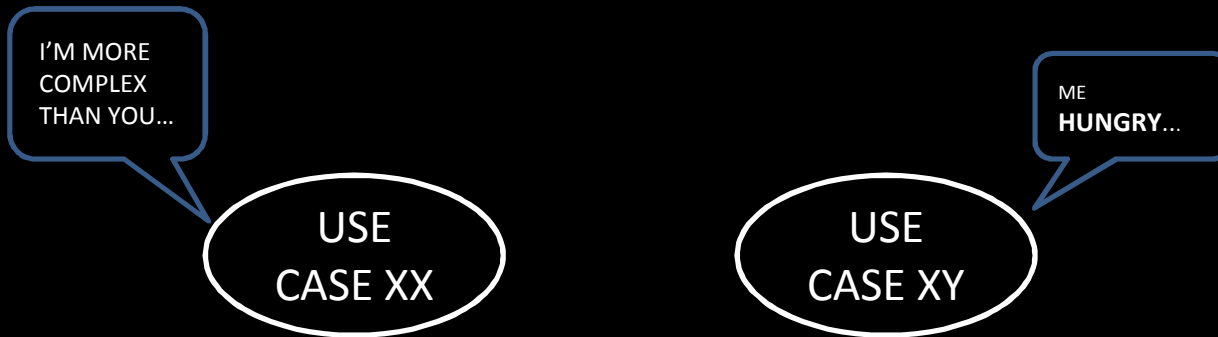


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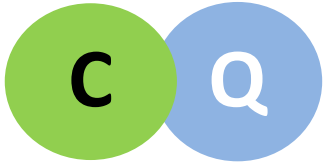


## USE CASE COMPLEXITY RULES

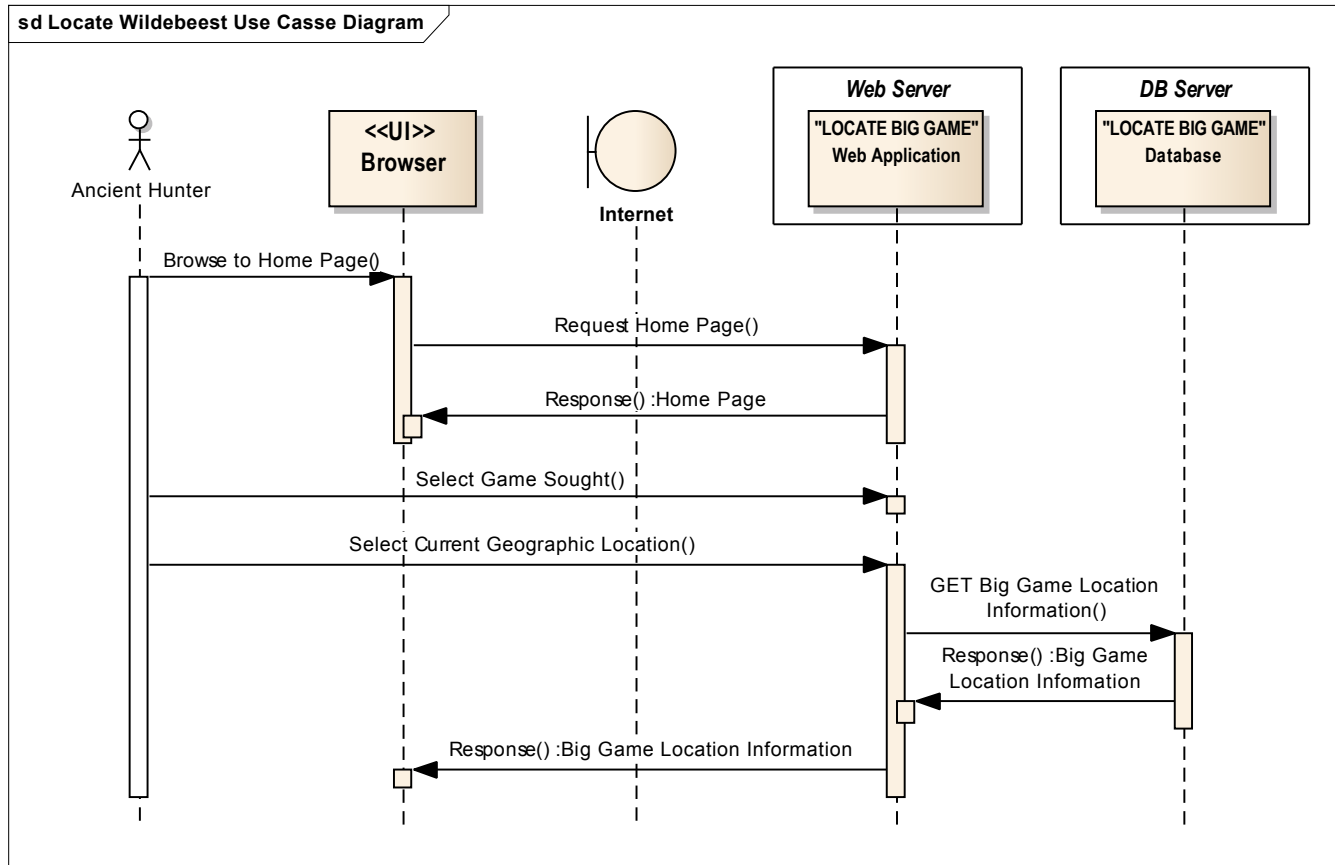


**NOT ALL USE  
CASES ARE  
CREATED EQUAL!**





# USE CASE COMPLEXITY RULES (PART 2)



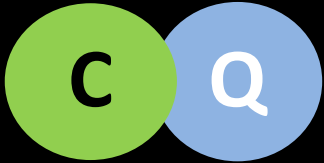
THE COMPLEXITY  
OF A USE CASE IS  
DETERMINED BY  
THE SPECIFIC  
TRANSACTION.

YEP...THERE'S  
AN APP FOR  
THAT!

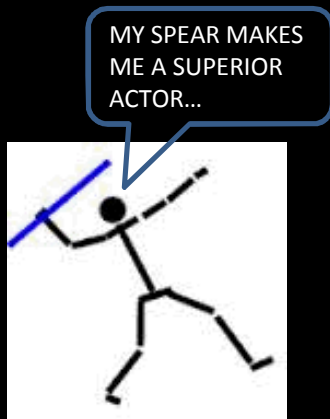


WILDEBEEST

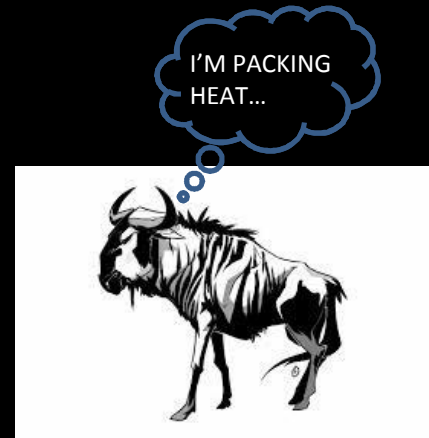




## ACTOR COMPLEXITY RULES



ANCIENT HUNTER



WILDEBEEST

ACTOR COMPLEXITY IS  
DETERMINED BY TYPE  
(HUMAN, SYSTEM, ETC.)!

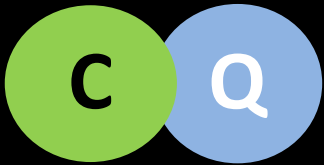


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## AND HERE IS THE SECRET RECIPE...

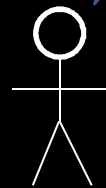
$$\begin{array}{ccccc} \text{SUM} & & \text{SUM} & & \text{UNADJUSTED USE} \\ \text{OF USE} & + & \text{OF} & = & \text{CASE POINTS} \\ \text{CASES} & & \text{ACTORS} & & \text{(UUCP)} \end{array}$$

THIS LOOKS  
PRETTY  
SIMPLE...EVEN  
FOR AN  
ANCIENT  
HUNTER.



ANCIENT  
HUNTER

THIS  
BETTER  
NOT BE MY  
SECRET  
RECIPE...



"THE  
COLONEL"

1

$$\text{UUCP} * \text{TC} * \text{EC} = \text{UCP}$$

2

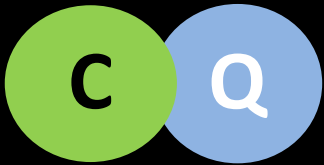


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## AND NOW THE BIG “SO WHAT?”

$$\text{UCP} * \text{HOURS PER UCP} = \text{TOTAL EFFORT (HOURS)}$$

THIS VALUE IS  
DERIVED FROM  
AN INDUSTRY  
AVERAGE  
(INITIALLY)!

AND THEN IT IS  
CONTINUALLY  
CALIBRATED USING  
ACTUAL RESULTS



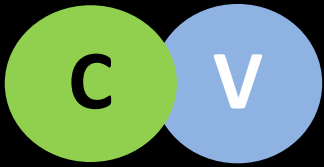
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**USE CASES ARE AN AGREEMENT WITH THE CUSTOMER**

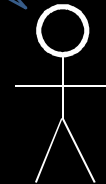
*SPECIFIES DELIVERABLES*

*CONTROLS SCOPE*

**THE CUSTOMER AND THE DELIVERY TEAM PERFORM CONSTANT VERIFICATION**

THE WALL OF SEPARATION

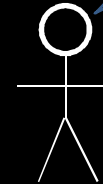
WE WANT IT ALL...BY NEXT WEEK...



CUSTOMER



DEVELOPER



DEVELOPER SIDEKICK

YOU'LL BE LUCKY TO GET HALF OF IT...BY NEXT YEAR...

REMEMBER... WE'RE NOT HAPPY UNTIL YOU'RE NOT HAPPY...

*SUPPORTS SYSTEM ACCEPTANCE*

**USE CASES LATER LEVERAGED FOR TESTING**



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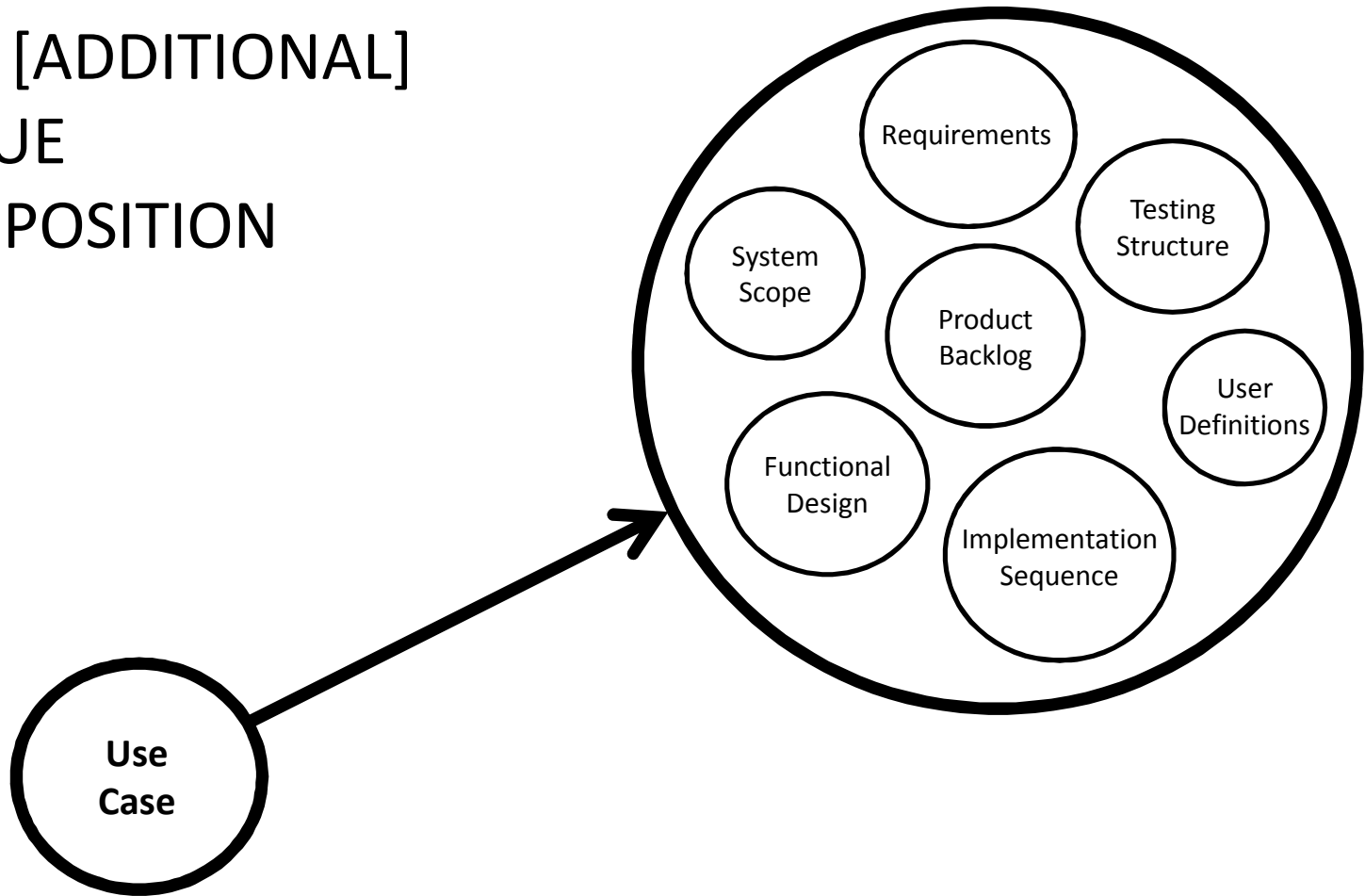


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## THE [ADDITIONAL] VALUE PROPOSITION



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National Nuclear Security Administration

C

UCP  
IS...

QUICK,  
CHEAP AND  
DIRTY!

AND IT WORKS!



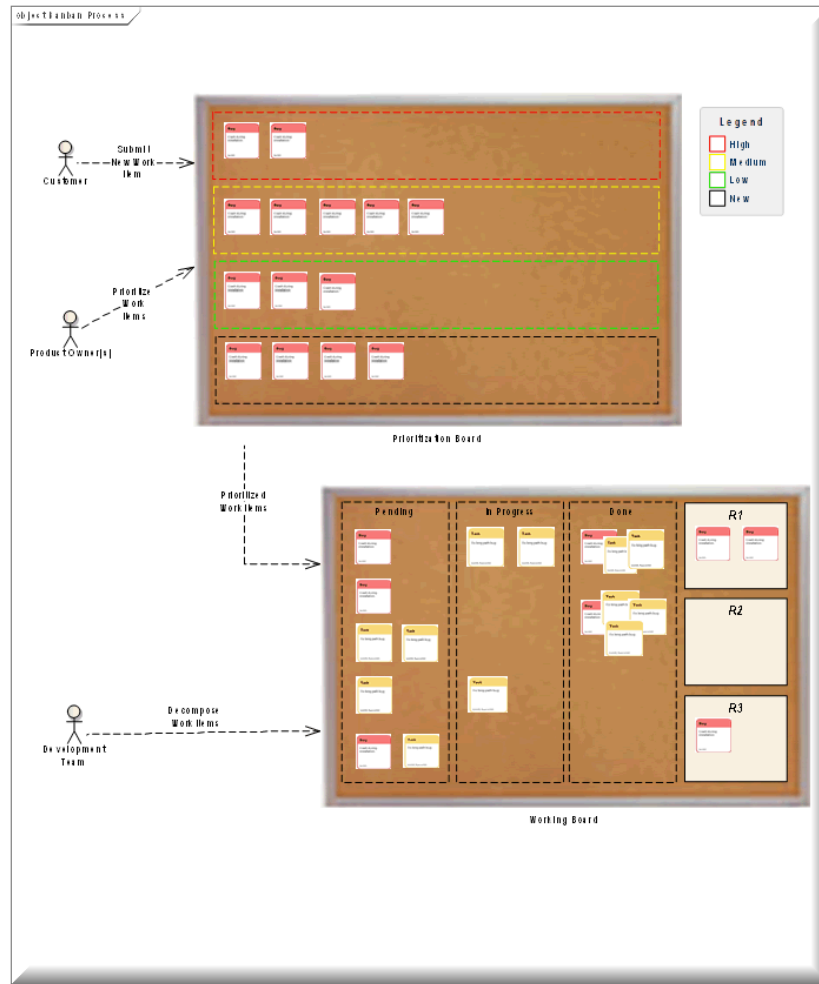
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BOTTLENECKS  
VISIBLE IN NEAR-  
REAL-TIME

IMPROVES  
WORKFLOW TO  
EXECUTE A TASK AT  
ALL TIMES ALONG  
WITH IMPROVED  
RESPONSIVENESS TO  
CHANGE

INTRODUCES A  
VALUE-DELIVERY  
CULTURE AND  
REDUCES PROCESS  
WASTE

TCO IS  
ULTIMATELY  
REDUCED BY  
THROTTLING  
RESOURCES TO  
DEMAND



# TODAY, WE DISCUSSED...

...A RISK MANAGEMENT APPROACH THAT CENTERS ON MORE EFFECTIVE MANAGEMENT AND CONTROL OF THE TRIPLE CONSTRAINT (I.E. THE PRIMARY CUSTOMER RISKS) THROUGH THE USE OF **AGILE-BASED METHODS**.



SCRUM (OR ITERATIVE PLANNING METHODS) FOR ENHANCED AND “JUST IN TIME” SCHEDULE CONTROL



AGILE MODELING FOR PRODUCT ENVISIONING AND ENHANCED SCOPE CONTROL



RAPID ESTIMATION (VIA UCP OR SIMILAR) AND KANBAN FOR ENHANCED COST CONTROL



Sandia National Laboratories



U.S. DEPARTMENT OF  
**ENERGY**



LOOK! IT'S "MYSTIC  
BOB"...AGAIN...



IS IT HAPPY  
HOUR YET?



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