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# **Preparing for New Data Projects: Considerations for Product Support in a Future Life Cycle Perspective**

**Wayne Gafford**  
**ADL Life Cycle and Configuration Lead**

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# Explorations

- **Middle Ages Tech Support:** *The Future Back Then*
- **The Future of Data:** *Packaging and Delivery*
- **Data Project Foundations:**  
*A Framework for Success Today and Tomorrow*
- ***A Very Brief Intermission***
- **Data Project Fundamentals:**  
*Ingredients for Success Today and Tomorrow*
- **The Future of Data:** *Mobile access*
- **Eddie Izzard on Computers and Tech Support:**  
*The Future Right Now*



# Middle Ages Tech Support

The Future Back Then

# The Future of Data is...

....About What We Do With It



Packaging and Delivering to Scenarios

# State of Defense “Publishing”?

**Authors**  
**Creators**  
**Designers**  
**Artists**  
**Engineers**

**D  
A  
T  
A**



**D  
A  
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A**

**Consumers**  
**End Users**  
**Performers**  
**Operators**  
**Maintainers**  
**Learners**

***The Great Wall of Publishing Logistics***

# Data Packaging/Delivery in the Market

- Jimmy Wales – “*Wikipedia*” - American internet entrepreneur and a co-founder and promoter of Wikipedia. 16 million articles...3.4 million in English. Anyone can provide, anyone can edit, anyone can learn.  
***His Vision: A free encyclopedia for every person on the planet.***

***Implication: Imagine a wiki supporting every system, job and mission in defense. How could that help create consistency with so much turnover?***

- Richard Baranuik – “*Connexions'*” . - an open-source learning system that “chops up” the textbook, allowing teachers to share course materials, modify existing work and disseminate it to their students.  
***His Vision: to create a free, global online education system***

***Implication: Imagine operators and maintainers mixing and matching modular technical and training data into personally-tailored support packets.***



# Data Packaging/Delivery Scenarios

<u>Scenarios</u>	<u>Scenario Support</u>	<u>Data Management</u>
Need to Know, Have to Know, <i>Oh \$%#@*!</i>	The “ <i>Oh \$%#@*!</i> ” scenario is best supported by bits of content and short lessons.	Source data compartmentalization, modularization
Write Once, Render Anywhere	Data created for and delivered to <i>ANY</i> device, not just to a specific one	Broadly-supported distribution formats
“All I need to understand is <i>THIS!</i> ”	Data tailored to a Context	User profile and system information coupled with source data

# Data Life Cycle Logistics Must Adapt...



**From This...**



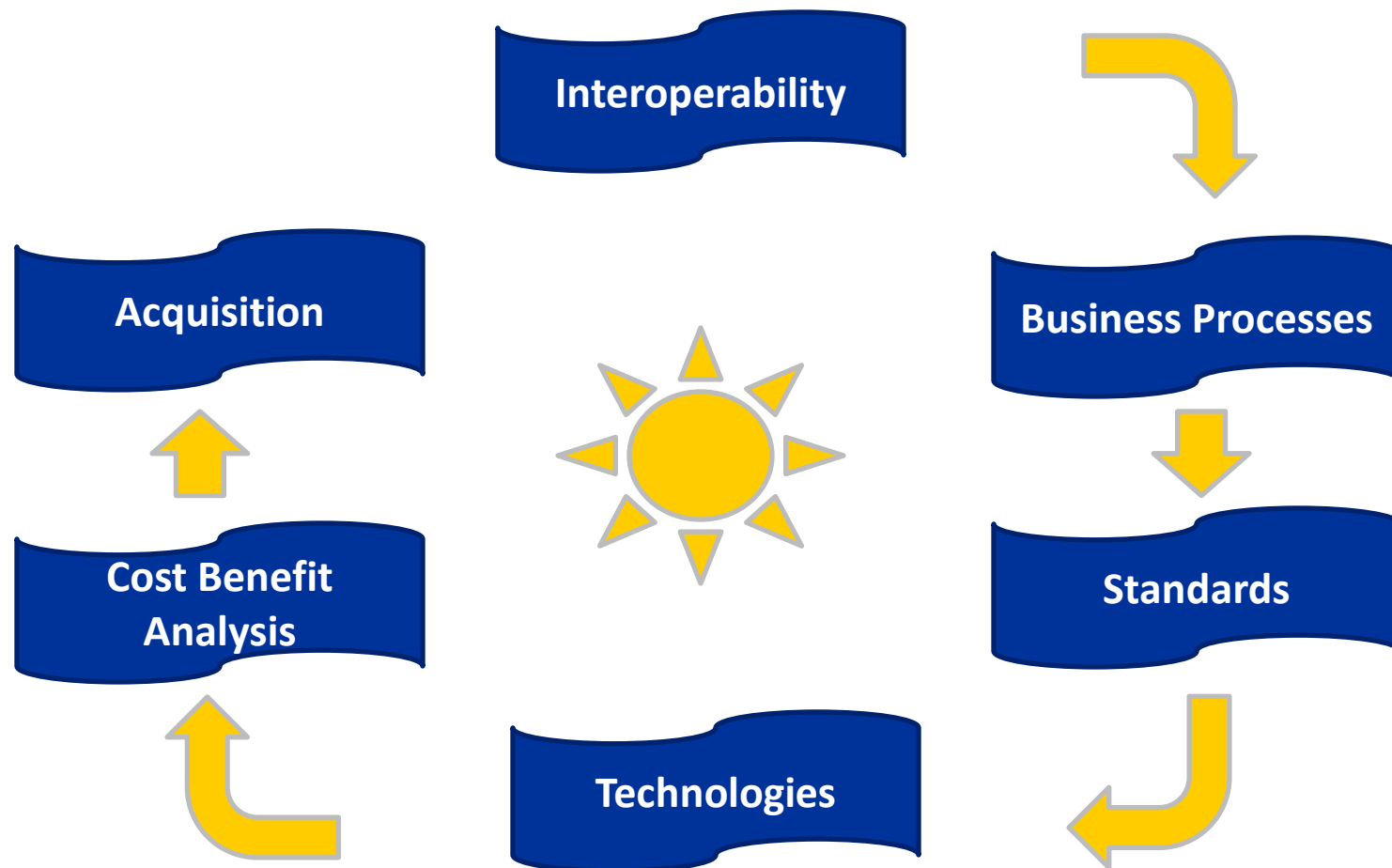
***To This!***

# Can We Deliver the Future?

- **Self-adjusting info to pick up reader characteristics:**
  - *Its not just tech data any more, its a personalized environment.*
- **Flexible, interoperable products/systems**
  - *Its not just standalone functions, its an eco-system that challenges the operator.*
- **Products with reference to information supply**
  - *The SYSTEM knows all of its own data*

# Data Project Foundation Questions:

## *A Framework for Success Today and Tomorrow*

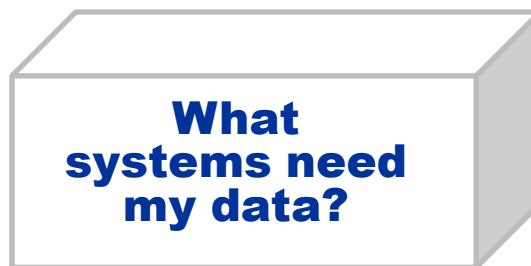


# Framing the Project Success: Questions About the Framework



**Restricted Access**

**(when restriction disables  
a mission)**



**Syntactic Interoperability**

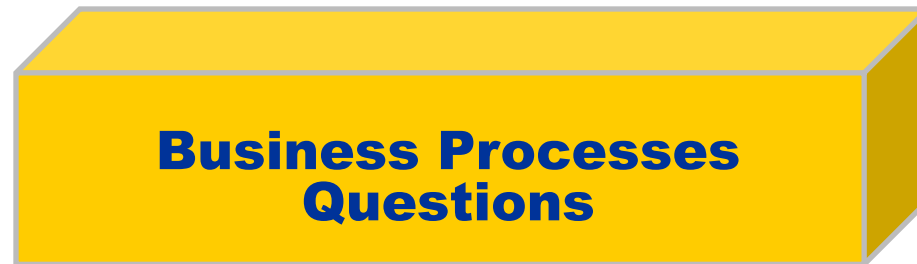
**(when systems are capable  
of communication)**



**Semantic Interoperability**

**(when what is sent is the  
same as what is understood)**

# Framing the Project Success: Questions About the Framework



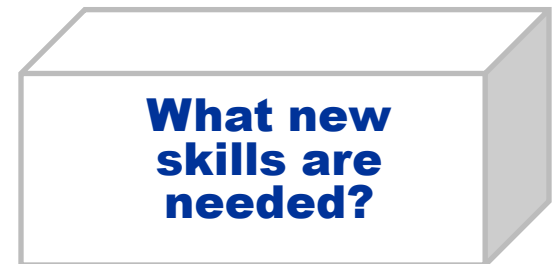
**Change Management**

**(from current state to desired future state)**



**Workflow**

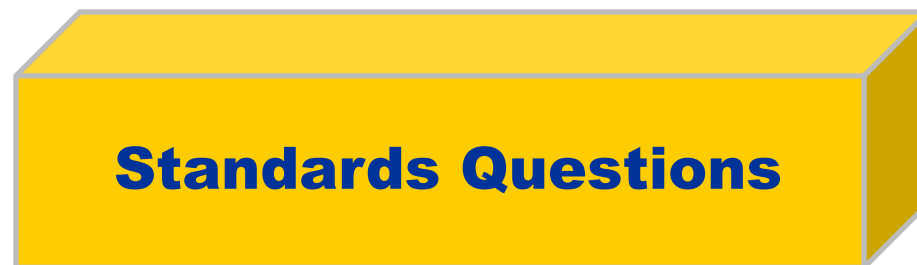
**(for a reliably, repeatable sequence of operations)**



**Technological Society**

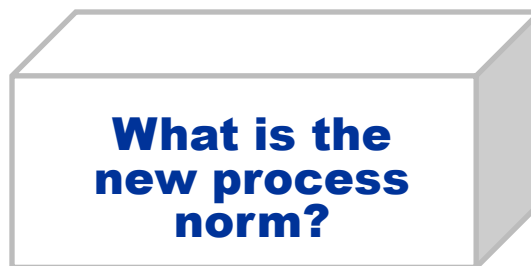
**(learning to learn – develop a measurable task repeatedly)**

# Framing the Project Success: Questions About the Framework



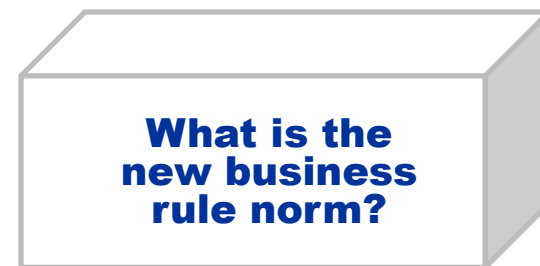
**A Standard Specification**

**(for explicit requirements)**



**A Standard Practice**

**(for a concept of operations)**



**A Standard Constraint**

**(for achieving goals)**

# Framing the Project Success: Questions About the Framework

## Technology Questions

**What needs to  
be controlled?**



Information Technology

(to convert, store, protect,  
process, transmit, input,  
output, retrieve)

**What needs  
to be  
influenced?**



State of the Art Technology

(to reach the highest level of  
development: device,  
technique, field)

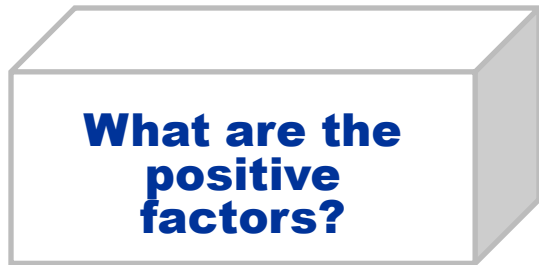
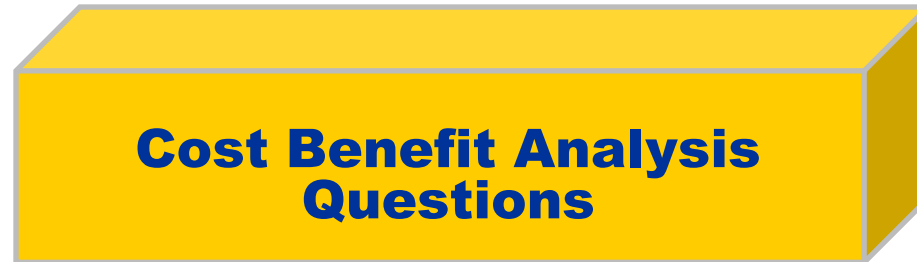
**What needs  
to be  
improved?**



Human Performance  
Technology

(to improve process, individual  
and organizational levels)

# Framing the Project Success: Questions About the Framework



**Defining the Intervention's  
Desirability**

**(benefits, value, return)**



**Defining the Intervention's  
Cost**

**(development, change, new  
personnel)**



**Defining the Units of Measure**

**(hours, data, personnel)**

# Framing the Project Success: Questions About the Framework

## Acquisition Questions

**What needs to  
be required?**

**What needs  
to be bought?**

**What needs  
to be  
sustained?**

**Concept & Technology  
Development**

**System Demo, Dev, &  
Production**

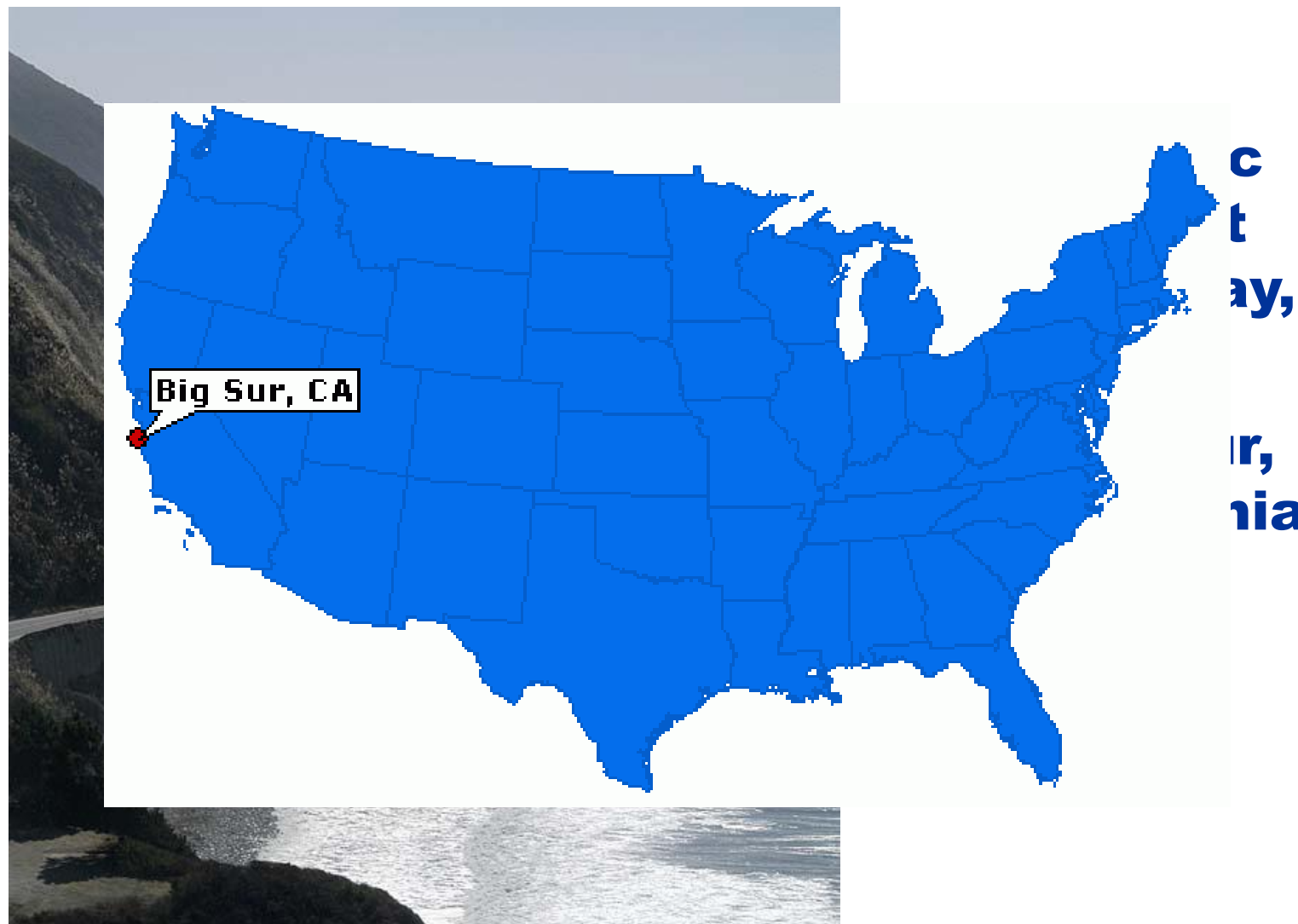
**System Deployment and  
Sustainment**

**(conceptualization,  
initiation, design)**

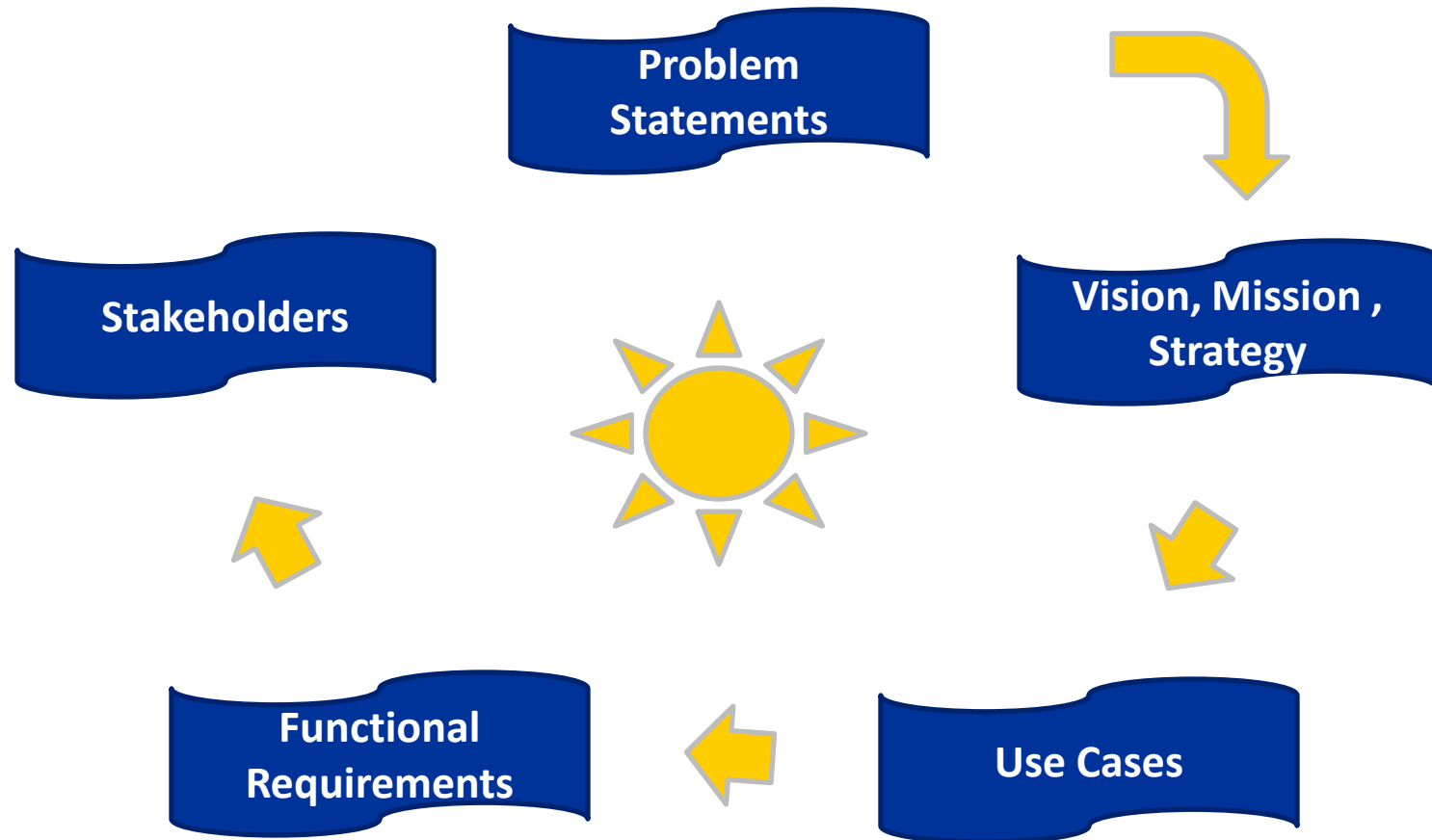
**(development, test,  
contracting, production)**

**(deployment, logistics  
support, modification)**

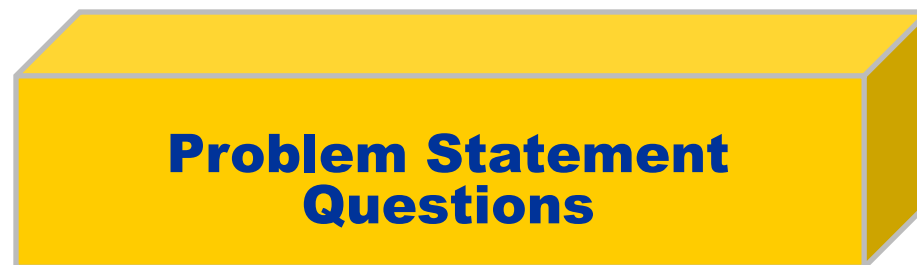
# A Brief Presentation Intermission



# Data Project Fundamentals: *Specific Ingredients for Success*



# Framing the Project Success: Questions About Each Ingredient



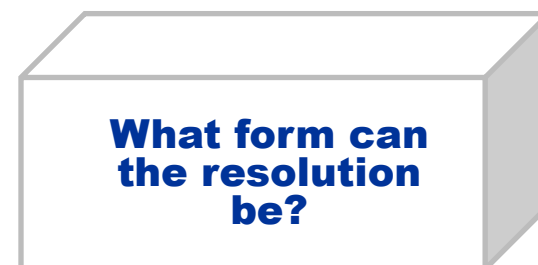
**The Active Challenge**

**(why my [project] team is  
needed)**



**The Constrained People**

**(the ones that decide the  
problem has been solved)**



**Resources and Stage**

**(money, time, technology /  
white paper, web tool...)**

# Framing the Project Success: Questions About Each Ingredient

**Vision, Mission and  
Strategy Statements**

**Vision:  
The Intended  
Future State?**



**A Source of Inspiration**

*(Data on time, every time.)*

**Mission:  
The Fundamental  
Purpose?**



**A Source of Meaning**

*(Performance support for the  
multi-tasked worker.)*

**Strategy:  
The Plan of  
Action?**



**A Source of Focus**

*(Personalized data from the  
web to your mobile device.)*

# Framing the Project Success: Questions About Each Ingredient

## Use Case Questions

**What is the  
business use  
case?**



What the process does

*(“Data delivery, expense  
report approval”)*

**What is the  
system use  
case?**



What the system does

*(“Search data, create  
voucher”)*

**Who are the  
Actors?**



What interacts with the  
system

*(People, devices, subsystems.)*

# Framing the Project Success: Questions About Each Ingredient

**Functional Requirement Questions**

**What shall the system do?**



**Functional Requirement**

*(Detailed in a system design plan)*

**What shall the system be?**



**Non-Functional Requirement**

*(Detailed in a system architecture)*

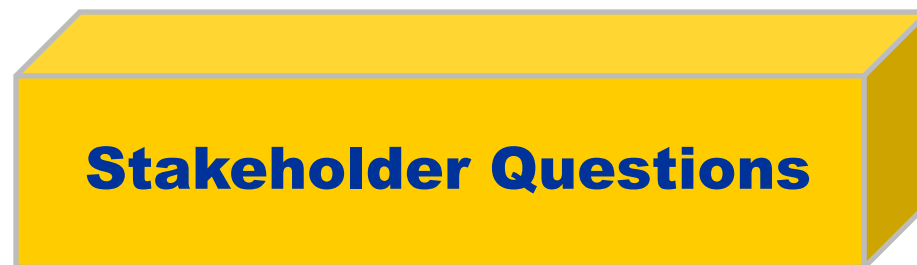
**How do they support use cases?**



**Behaviors**

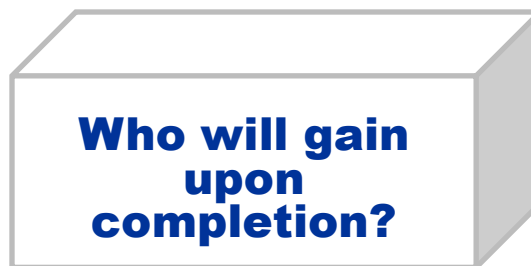
*(Calculations, data manipulation, etc)*

# Framing the Project Success: Questions About Each Ingredient



Resource allocators

*(“Money, people, services”)*



Customers, Managers, Users

*(“Paint a picture of the vision”)*

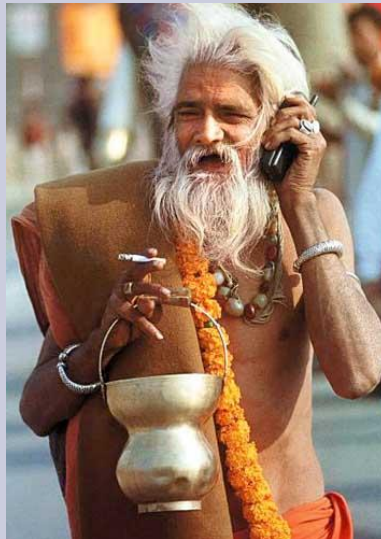


Makers and Breakers

*(“Know the players”)*

# The Future of Data is...

...About how we use it



Mobile

# Mobile

- We already know mobile is everywhere. Some are competing for efficiency...

[The Advertising Campaign for Windows Phone](#)

# From “Mobile Marketing Watch”

- Greystripe CEO Calls Q4 The “Blowout Quarter For Mobile Advertising,” Predicts 600% Growth

“We expect a majority of Fortune 100 consumer brands to run mobile advertising campaigns this holiday season,” he said. “We are seeing unprecedented demand firsthand and believe this is an industry-wide trend that will continue into 2011 and beyond.”

- Report (International Telecommunications Union (ITU)): 200K SMS Messages Sent Every Second, Earning Operators \$812K Per Minute

United States and the Philippines alone accounted for over one-third of all SMS messages sent worldwide in 2009



# Why Mobile Data in Defense?

- Reduce trouble tickets to helpdesks
- Lack of accessible and consolidated technical troubleshooting and configuration data in modular formats
- Lack of contextual relationships between “Lowest Replaceable Units” and the system as a whole
- High crew turnover rates
- High tech refresh rates
- Lack of upfront system training.

# Mobile Web: Graceful Degradation vs. Progressive Enhancement



# Mobile Web: Approach Comparison

Graceful Degradation – developing for the latest and greatest.	Progressive Enhancement – developing for the broadest support.
Browser-focused	Content-focused
Test high-end browsers first; low-end browsers last	Supports low-end browsers; if high end available then add enhancements
Looks at Accessibility Last	Looks at Accessibility First
May Require Browser and/or Device Detection with Server-side Scripting	Possible to support ALL browsers with only set of X/HTML; May Also Require Device Detection



# Final Thoughts on Logistics



**How is this picture like a  
“data packaging and delivery strategy”?**

# Eddie Izzard on Computers

The Future Right Now

# Why are we here today?



**What does this person need to succeed?**

**Is there a Great Wall of Publishing Between you and this Person?**

# Tack!

Wayne Gafford  
Advanced Distributed Learning

[Wayne.gafford@adlnet.gov](mailto:Wayne.gafford@adlnet.gov)

703 283 3372

