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AGILE DATA ARCHITECTURE

CHEAPER, FASTER, BETTER

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I'M SPEAKING AT
ENTERPRISE
DATA WORLD

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TODAY'S AGENDA

- Agile MDM (Start with the end in mind)
- Introduce Agile Data Architecture
 - Gather (Understanding)
 - Evolve (Structure)
 - Consume (Implement)

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AGILE DATA ARCHITECTURE

- **Context:** Joint Agile Development (JAD) approach
 - Identify Agile Manifesto application for data
 - Demonstrate JAD sprint pre-zero techniques
 - Make Agile Data work in your environment
- **Session:** Agile Data Architecture in three phases
 - Gather
 - Evolve
 - Consume

SPRINTS: AGILE -vs- JAD

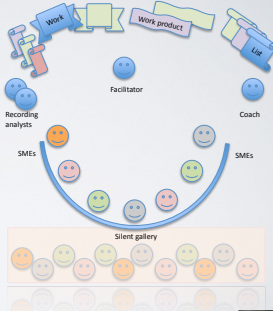
- | • Agile | • JAD |
|-------------------------|----------------------------|
| • Full time co-location | • Periodic co-location |
| • 2-3 week sprints | • 2-3 day biweekly sprints |
| • Parallel work efforts | • Singular work effort |
| • Backlog | • Backlog |

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ELEMENTS OF JOINT AGILE DATA

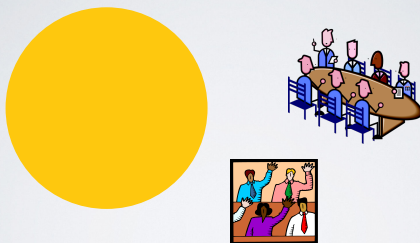
- **No** parallel work streams
- Group-developed, consensual work products
- Session specific roles
- Facilitated, instrumented & structured



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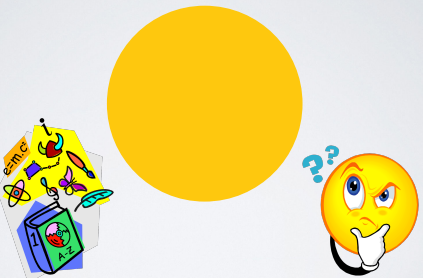
GROUP DEVELOPED




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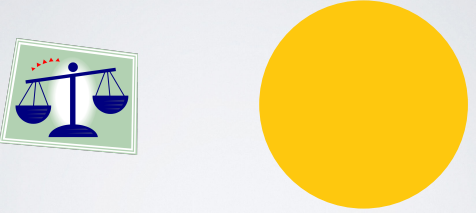
INTELLECTUALLY
MANAGEABLE




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CONSENSUS




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FACILITATED



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STRUCTURED - DATA

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STRUCTURED - PROCESS

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STRUCTURED - EVENT

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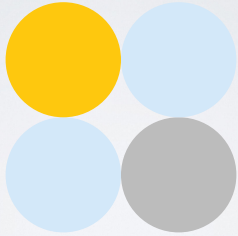
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FACILITATOR



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GROUND RULES

Community Screen

Single Group Conversation

Stand Up, Move Around

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SESSION WORK

Making Lists

Analyzing

Agile for Data

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GATHER

- Agile values
- Agile principles
- Business ownership
- Assess current situation
- Case Study

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INDIVIDUALS & INTERACTION PROCESS & TOOLS

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CUSTOMER COLLABORATION CONTRACT NEGOTIATION

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AGILE PRINCIPLES

- Joint Agile Developed (JAD)

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation*

- Business Driven

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software

- Sustainable Pace

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely

*"Principles behind the Agile Manifesto", <http://agilemanifesto.org/principles.html>

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PEOPLE - PROCESS - TECHNOLOGY BUSINESS OWNERSHIP

- Executive Sponsorship

- Subject Matter Experts

- Empowered to make decisions on behalf of Business Unit/Area

- Key business resource, go-to person

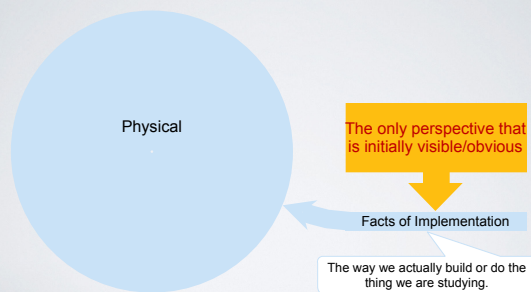
- NOT local tech guru

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ANALYTIC FOCUS HOW IT FIRST LOOKS

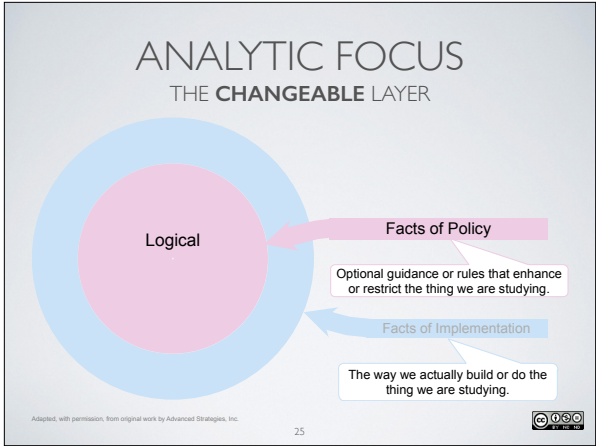


Adapted, with permission, from original work by Advanced Strategies, Inc.

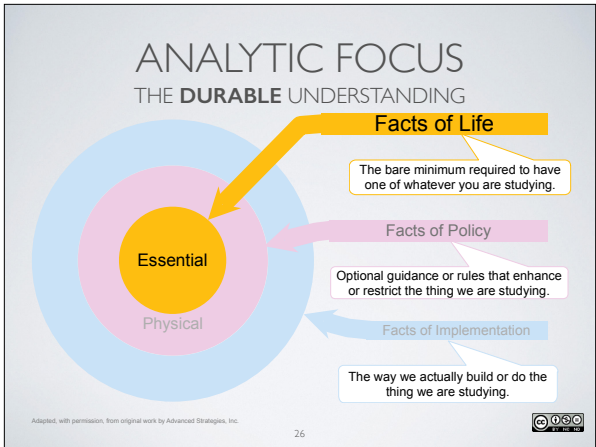
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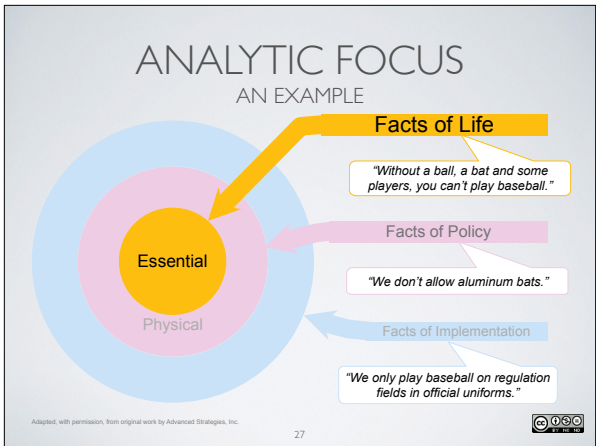
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ANALYTIC SCALING

LIFECYCLE AND GRANULARITY

Before

Business Concept

After

Bigger

Smaller

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ANALYTIC SCALING

AN EXAMPLE

Education

Job

Retired

Career

Project Work

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Illustration: Hans Moller, molters.dk

GATHER CASE STUDIES

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RETAIL INDUSTRY



- Mission: Enterprise Conceptual Data Model (ECDM)
 - Executive commitment and resource availability
 - Monthly sprints for three months
- Results: Enterprise Data Model published in fourth month
 - Subject area effort consumed ECDM during month two
 - Reduced planned project time aligned with new enterprise data strategy
 - Fired up participants who initiated efforts for the next Agile JAD topics

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HEALTH INDUSTRY



- Mission: Claim definition & Data Model
 - Executive "tolerance" and minimal resource availability
 - Sporadic mini-sprints for three months
- Results: Effort cancelled after three months
 - Against all odds, Claim definition was nearly completed
 - Gathering the group ultimately failed as other initiatives demanded their attention

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EVOLVE



- Agile values
- Agile principles
- Codify future
- Verify past
- Define bridge
- Case Study

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- *"Principles behind the Agile Manifesto". <http://agilemanifesto.org/principles.html>

CODIFY FUTURE

- Motivation = Trust + Empowerment
- Sustainable Patterns
 - Future proof; support strategy over operations
- Remain technology agnostic (for now...)
- Start/continue your Product Backlog

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FIVE DOMAINS FOR ANALYSIS

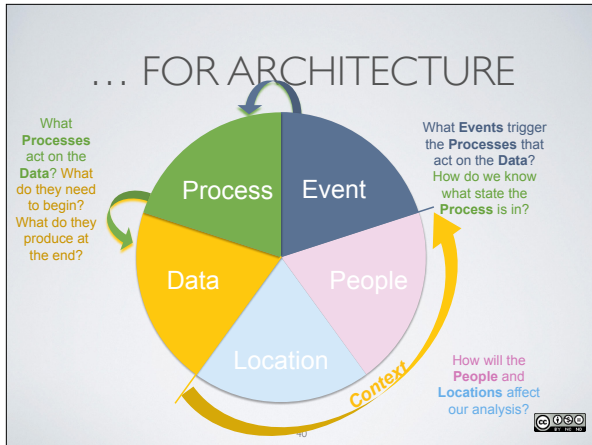


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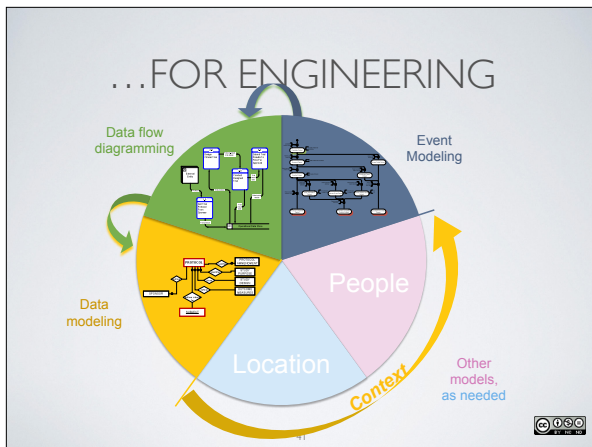
...FOR INFORMATION
ANALYSIS



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CODIFY (& CREATE) FUTURE

- Focus on To-Be state analysis
- System/technology-independent perspective
- Embed "What if..." scenarios
- Unless you are a one-person shop, write it down!
- (If it isn't written down, it never happened...)

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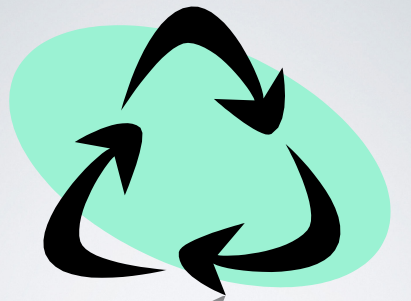
VERIFY (& SILENCE) PAST

- Current state reflection
 - Don't build a future that breaks the past...
- Save to your Product Backlog
 - Current or future gaps
 - Once it is in the Product Backlog, move on

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EVOLVE CASE STUDIES

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GOV'T AGENCY



- Mission: Re-architect information infrastructure
 - Executive support, dedicated funding, dedicated resources
 - Bi-weekly sprint cadence over two 6-9 month cycles
- Results: Enterprise information framework re-architected
 - Two divisions merged as a result of early JAD Sprints
 - Divisional applications based on new architecture rolled out
 - New agency commissioner pulled the plug abandoning the effort

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GOV'T AGENCY



- Mission: Integrate Agile Data Architecture approach in MIS Bureau
 - Executive support, dedicated funding, dedicated resources
 - Department by department approach
- Results: Well established across agency
 - Multiple efforts successfully completed
 - Not all efforts use Agile Data approach, it is applied sparingly

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CONSUME



- Agile values
- Agile principles
- Select subject area/domain
- Consume for reuse, refine & redeploy
- Consume for COTS/Cloud solutions
- Consume for institutional knowledge alignment
- Case study

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AGILE VALUES - ALL

- **Individuals and interaction** over process and tools
- **Working data** over comprehensive documentation
- **Customer collaboration** over contract negotiation
- **Responding to change** over following a plan

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AGILE PRINCIPLES

- Continuous Delivery

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale*

- Working Data = Measure

Working software is the primary measure of progress

- Welcoming Change

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage

*"Principles behind the Agile Manifesto", <http://agilemanifesto.org/principles.html>

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PEOPLE - PROCESS - TECHNOLOGY BUSINESS IMPACT

- Select impact strategy/domain/discipline, etc.

- Market updated models and metadata

- Measure artifact use, get feedback and adjust

- Welcome change, you'll get invited back

- Engage Business, engage IT - show up with models

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BUILD - BUY - CLOUD

- Information Model

- Table of Contents

- Data Dictionary

- Agreed upon Meaning and Structure (how WE think of this)

- Concordance (Where Used) Model

- Data Context - what touches/integrates with what?

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INSTITUTIONAL KNOWLEDGE

- Business process/activity
 - How data is created, read, updated, deleted
- Data in motion, data at rest
 - Why does it move, where is it stored
- Data integration
 - Where does it move, when is it needed

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BUSINESS PREDICTIVE

- Event analysis
 - What triggers change
- Key business state transitions
 - What states can the data be in
- Exception (Business) Intelligence
 - When and how should, or did, it change

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CONSUME CASE STUDIES

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CHEMICAL INDUSTRY



- Mission: Emergency plant notification system
 - Management support, stalled multi-year effort, restarted
 - Business focused JAD without big budget, tech-driven video & fiber to desktop, etc. 'requirements'
 - Three requirements remained:
 - What happened? Where did it happen? Who should head to the scene?
- Results: Text-based solution in production in two months, staff cost only
 - Still in production 12+ years and counting

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FINANCIAL INDUSTRY



- Mission: Establish Enterprise Data Model
 - Upper management support, contract data architects
 - Primarily driven as an IT effort, managers' bonuses tied to tactical solution delivery
- Results: Resources redirected to tactical initiative
 - Enterprise effort abandoned
 - Contract data architects left to pursue other opportunities

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AGILE DA CONTEXT

- Agile Manifesto in Data Architecture Context
 - Agile values
 - Agile principles
- JAD sprint pre-zero
 - JAD - singular work effort
 - Agile - parallel work efforts

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AGILE DA SESSION

- Gather
 - Focus on Facts of Life, prepare for change
- Evolve
 - Focus on perspectives, model the future, bridge to the past
- Consume
 - Drive business impact, with your Agile Data Architecture!

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QUESTIONS?

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