



Agile Data Warehouse The Final Frontier



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Spectre of the Data

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The Prime Directive

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Captain, we need more dimensions!

4

The United Federation of Planets





Data Warehouse Project

Waterfall

- Detailed Analysis
- Large Development
- Large Deploy
- Long Feedback loop
- Extensive changes
- Many Defects

Incremental

- In Segments
 - Detailed Analysis
 - Development
 - Deploy
 - Long Feedback loop
 - Considerable changes
 - Rework
 - Defects



Where is she?





Where is the true Agility?

- Iterations not Increments
- Brutal Visibility/Visualization
- Short Feedback loops
- Just enough requirements



Our Mission

- “**Data...** the Final Frontier. These are the continuing voyages of the starship ***Agile***. Her on-going mission: to explore strange new **projects**, to seek out new **value** and new **clients**, to **iteratively** go where no **projects** have gone before.”



The Prime Directive





Regardless of what we discover,
we understand and truly believe that
everyone did the best job they
could, given what they knew at the
time, their skills and abilities,
the resources available, and the
situation at hand



GENERAL ORDER NUMBER ONE

NO STARSHIP
MAY INTERFERE
WITH THE NORMAL
DEVELOPMENT
OF **ANY** ALIEN
LIFE OR SOCIETY



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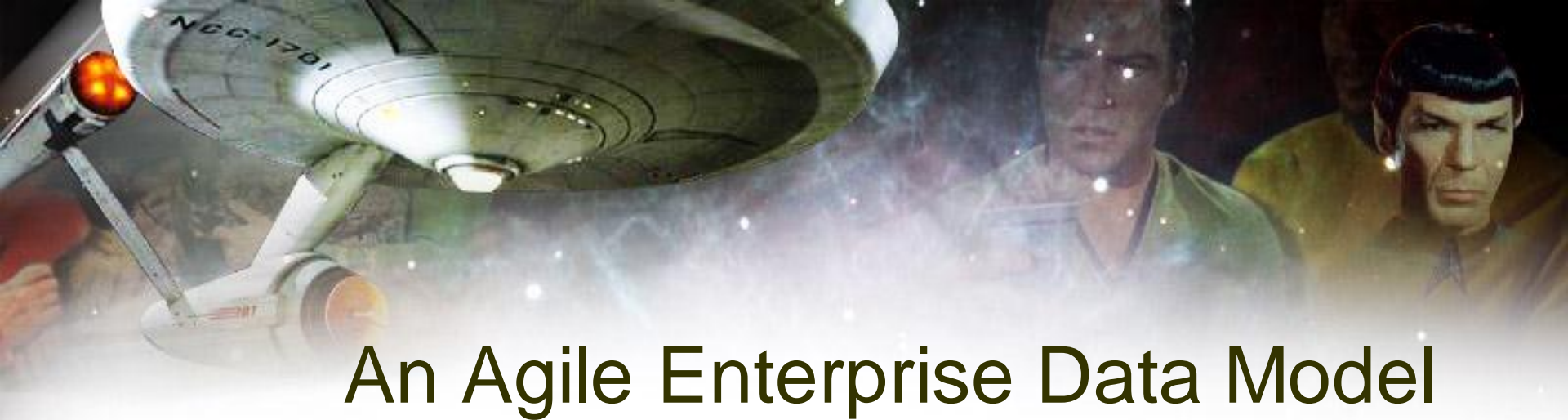
The Prime Directive

- Is a vision or philosophy that binds the actions of Starfleet
- Can an Data Warehouse project truly be Agile without a Vision of either the Business Domain or Data Domain?
 - **Essentially it is just an Ad Hoc Data Warehouse. Separate components that may fit together.**



Agile Enterprise Data Model

- Confirms the major entities and the relationships between them
 - **30-50 entities**
- Confirms the Business and Data Domains
- Starts the definition of a Data Model that will be refined over time
 - **Completed in 1 – 4 weeks**

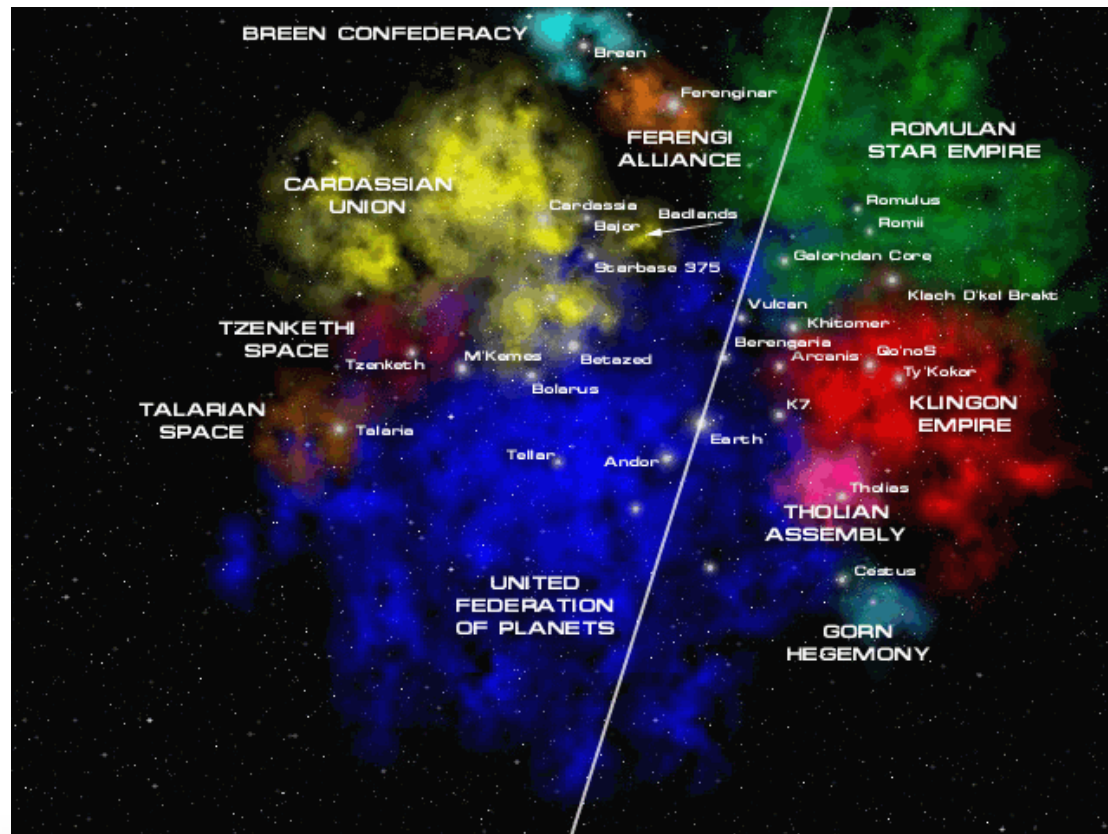


An Agile Enterprise Data Model

- Is just enough to understand the domain so that the iterations can proceed
- Is not mapping all the attributes
- Is not BDUF
- Is a User Story Map for a Data Warehouse
- Contains placeholders for refinement



Agile Enterprise Data Model is a Data Map





Agile Enterprise Data Model

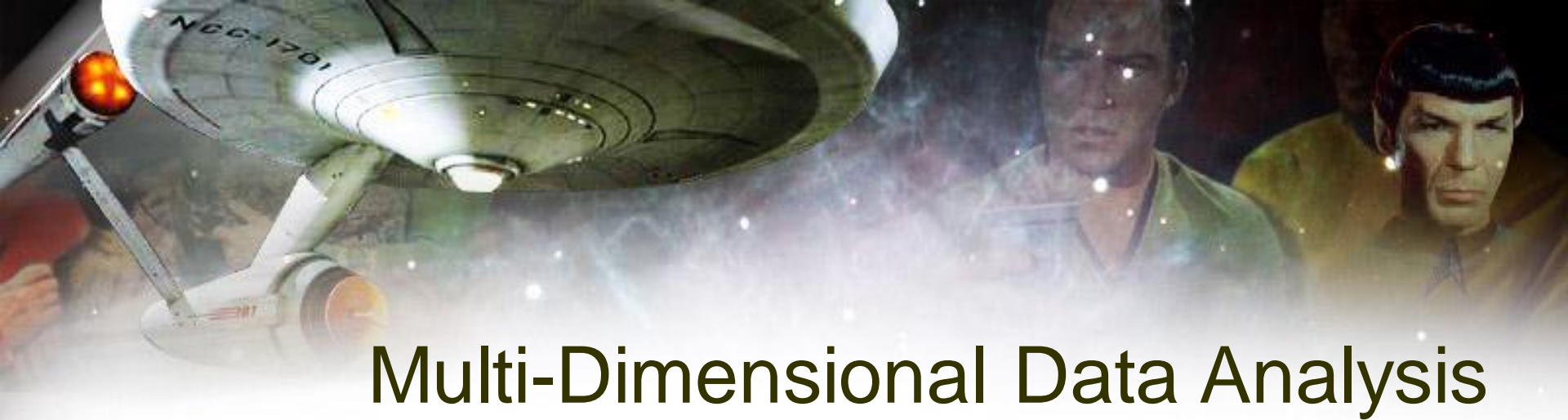
- Is
 - Our vision
 - Our User Story Map
 - Guides our solution
 - Our Prime Directive





His pattern indicates 2 dimensional thinking





Multi-Dimensional Data Analysis

- Is required to:
 - Provide a visual data backlog
 - Provide a visualization of the data requirements across dimensions
 - Plan iterations
 - Lead into the creation of FACT tables and Cubes in a Data Warehouse

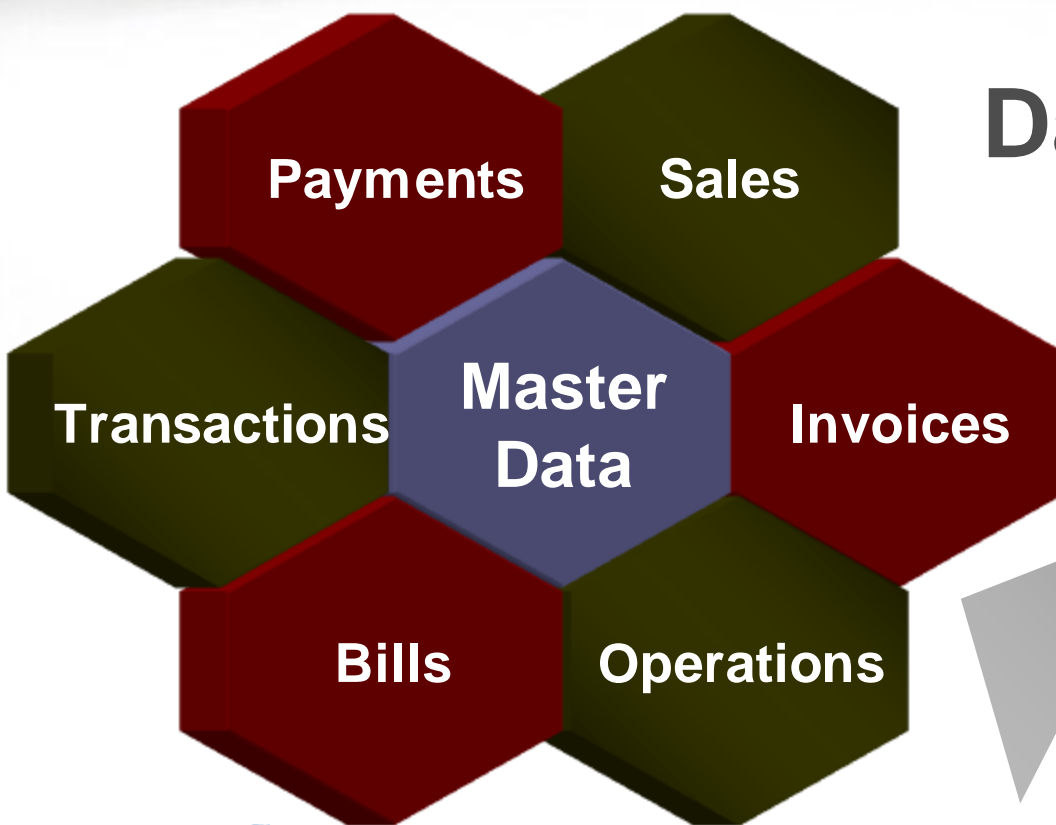


- For an Agile Data Warehouse we must think and visualize in more dimensions
- We must create a User Story Map for Data Requirements that is both intuitive and informing
 - **Primarily for clients!**
 - They should be able to look at it and understand what is currently being worked on



We need a bigger metaphor





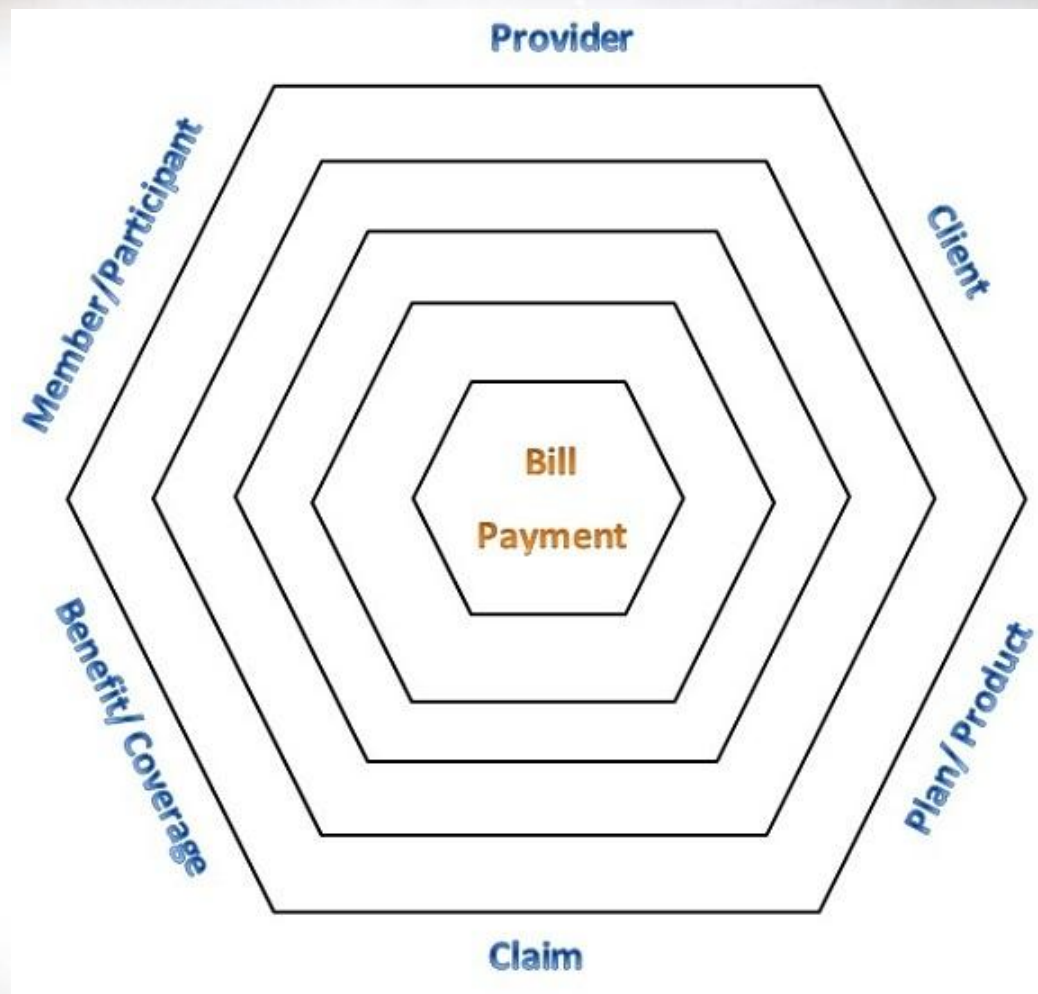
Data Hexes





Bill Payment Hex

- Can have up to six dimensions of how payments are sliced, diced, and aggregated
- Concentric hexes allow for the planning of iterations



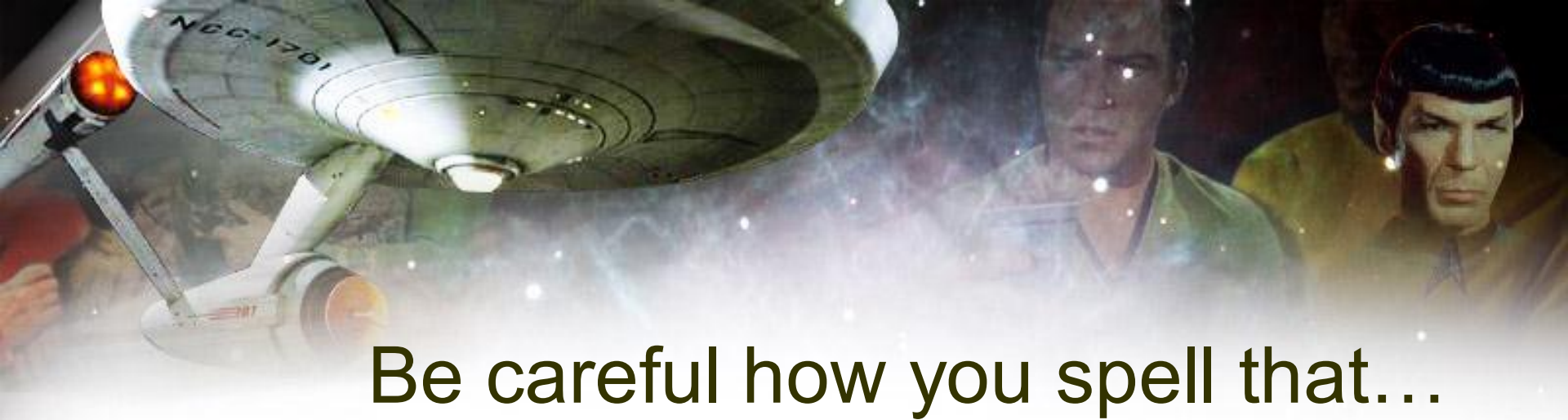


**UNITED FEDERATION
OF PLANETS**



Cardassian Union





Be careful how you spell that...

FIND THE DIFFERENCE



KARDASHIAN vs CARDASSIAN



Data Modeling Union

- For too long the Data Modelers have not been integrated with Software Developers
- Data Modelers have been like the Cardassian Union, not integrated with the Federation



Issues

- This has led to:
 - **Holy wars**
 - **Each side expecting the other to follow their schedule**
 - **Lack of communication and collaboration**
- Data Modelers need to join the 'United Federation of Projects'



Tools of the trade





Version Control





Version Control

- If you don't control versions, they will control you
- Data Models must become integrated with the source control of the project
 - **In the same repository of project trunk and branches**



Our Version Experience

- We are using Subversion
- We are using Oracle Data Modeler as our Modeling tool.
 - It has very good integration with Subversion
 - Our DBMS was SQL Server
- Unlike other modeling tools, the data model was able to be integrated in Subversion with the rest of the project

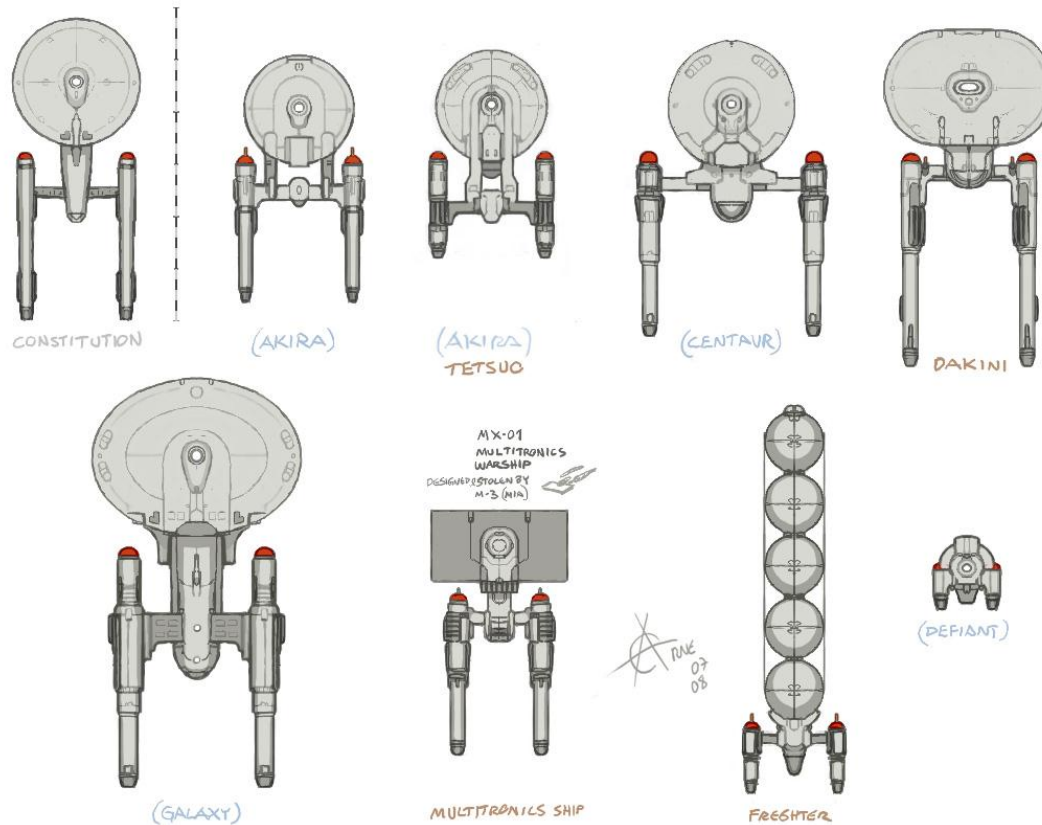


Shameless plug

- Free
- Subversion Integration
- Supports Logical, Relational, and Dimensional data models
- Since it is free, the data models can be shared and refined by all 60+ members of the development team



Adaptability





Change Tolerant Data Model

- Only add tables and columns when they are absolutely required
- Leverage Data Domains so that attributes are created consistently and can be changed in unison



Change Tolerant Data Model

- Don't model the data according to the application's Object Model
- Don't model the data according to source systems
- These items will change more frequently than the actual data structure
- Your Data Model and Object Model should be different!



Re-Factoring – Read It



TIMELY. PRACTICAL. RELIABLE.

Agile Database Techniques

Effective
Strategies for
the Agile
Software
Developer

Scott Ambler





Create the plan



PLANNING

No challenge is too great if you plan ahead. And have pointy ears.



Plan for:

- Versioning – Major and minor
- Adaptability – How the data model will adapt to major changes
- Refinement – How will iterations be planned and executed
- Re-Factoring – How will the data design be re-factored



Assimilate





Assimilate

- Assimilate Version Control, Adaptability, Refinement, and Re-Factoring into core project activities
 - **Stand ups**
 - **Continuous Integration**
 - **Check outs and Check Ins**
- Make them part of the standard activities – not something on the side



Summary

- Star Trek is far superior to Star Wars
- Use an Agile Enterprise Data Model to provide the vision
- Strive for Iterations over Increments
- Use Data Hexes to provide brutal visibility and Iteration planning on
- Plan and Integrate processes for Versioning, Adaptability, Refinement, and Re-Factoring



What doesn't change?





Leadership





Leadership

- “If you want to build a ship, don't drum up people together to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea.” ~ Antoine de Saint-Exupery



Leadership

- “[A goalie's] job is to stop pucks, ... Well, yeah, that's part of it. But you know what else it is? ... You're trying to deliver a message to your team that things are OK back here. This end of the ice is pretty well cared for. You take it now and go. Go! Feel the freedom you need in order to be that dynamic, creative, offensive player and go out and score. ... That was my job. And it was to try to deliver a feeling.” ~ Ken Dryden



Thank You!