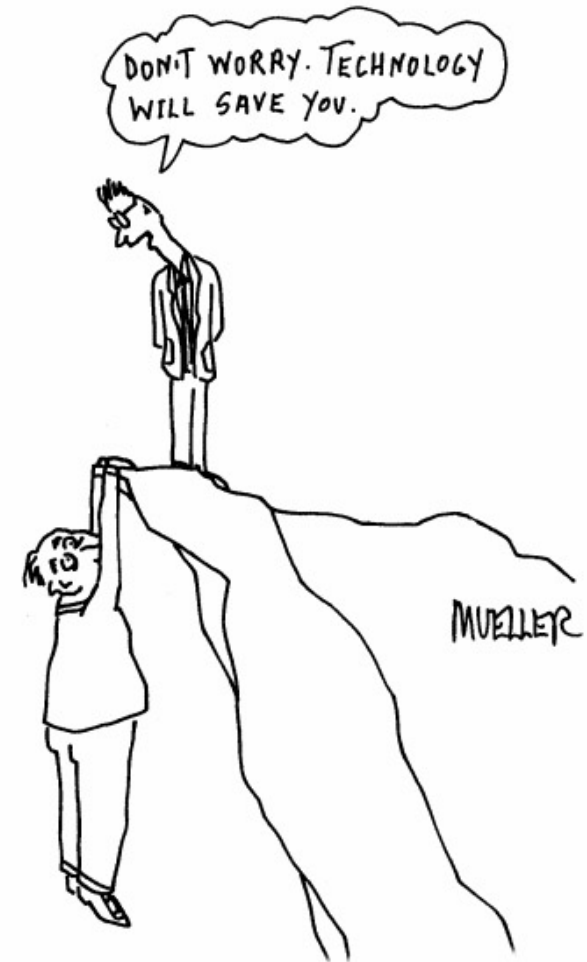


Integrating OpenTravel into Your System Development Lifecycle (SDLC)

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Discussion Topics

- SDLC Overview
- Popular SDLC Methods
- OpenTravel Tools & Resources
- Integrating OpenTravel into Common SDLC Phases
- Q & A



SDLC Overview



SDLC Overview

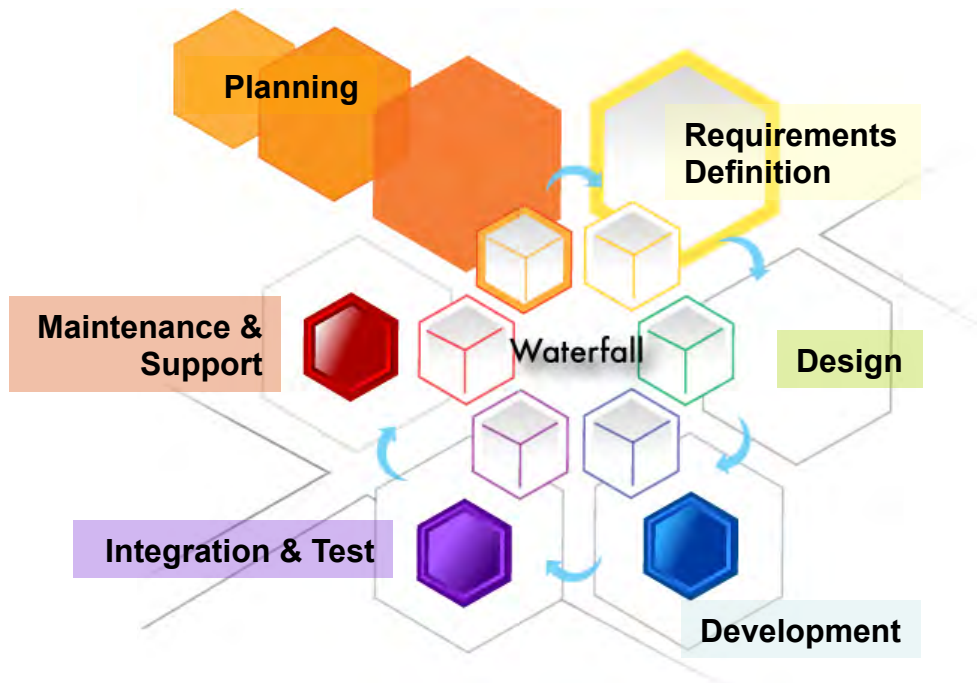
Definition

- A project management technique to divide projects into managed segments/phases
- Phases typically include:
 - Initiation
 - Planning
 - Design
 - Development
 - Testing
 - Implementation
 - Maintenance



Popular SDLC Methods

Waterfall Method



PROS...

- Simple and structured approach
- Greater economy at later stages
- Emphasis on documentation (e.g. requirements documents & design documents)

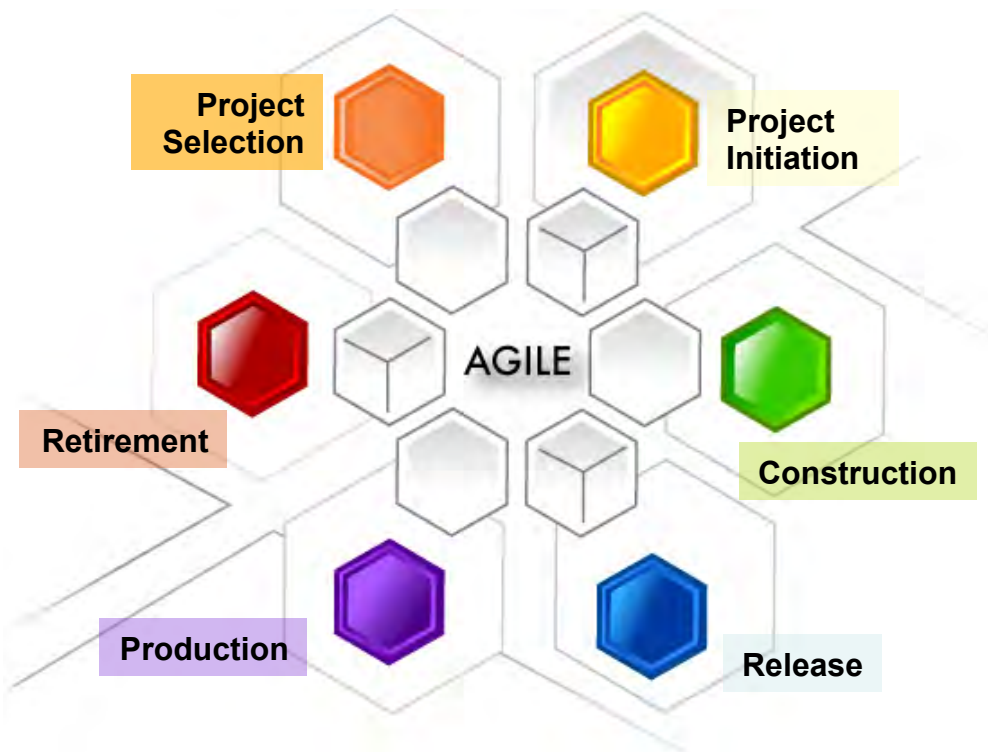
CONS...

- Rigid phase completion
- Clients and/or stakeholders must fully understand their requirements
- Not well suited fast-paced and dynamic environments



Popular SDLC Methods

Agile Development Method



PROS...

- Accommodates large scale & geographically dispersed teams
- Working software is delivered frequently with late requirements accommodated
- Easily adapts to changing business scenarios

CONS...

- Insufficient software design/ lack of documentation
- Developer skill sets/ labor pool/ turnover
- Financial forecasting less predictable



Popular SDLC Methods

RAD Method



PROS...

- Faster development
- Easier maintenance cycles
- Promotes collaborative atmosphere & dynamic gathering of requirements
- Stakeholders actively participate

CONS...

- Compromises in system functionality and performance
- Dependency on strong cohesive teams
- Design & other key decisions by committee
- Not well-suited for legacy systems



OpenTravel Tools & Resources




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OpenTravel Tools & Resources



Guides & Documentation


<i>Tool/ Resource</i>	<i>Overview</i>
 OpenTravel Message Users Guide	<p>Provides an introduction to the OpenTravel Specification, a list of external code lists & other references in OpenTravel schema, and details (including use cases and sample instances) for each OpenTravel message.</p>
OpenTravel Implementation Guide	<p>Provides information that an implementer of the OpenTravel specification can use to build software systems that are interoperable with other travel systems. Guide information includes: OpenTravel activities & processes; introductory material on XML and XML schemas; OpenTravel specification architecture; describing & exposing web services; lightweight session management; reliable messaging (WS-RM and TypeX); and XML binding tools.</p>
OpenTravel Schema Design Best Practices	<p>Provides design guidelines for all OpenTravel XML data assets and a guideline approach to maximizing component reuse for the highly diverse and yet closely related travel industry data.</p>



OpenTravel Tools & Resources



Spreadsheet-Based Tools & Resources


<i>Tool/ Resource</i>	<i>Overview</i>
 OpenTravel Messages by Business Functionality List	Provides a list of OpenTravel messages (categorized by vertical, such as Air, Car and Hotel) and the business functionality provided by each message.
OpenTravel Message Use Cases List	Provides a list of all the use cases in the OpenTravel Message Users Guide for each message to help you fully understand the capabilities of each OpenTravel message.
OpenTravel Code List Navigators	For each message vertical, provides the XPath to elements/ attributes that reference an OpenTravel Code List, with a link to the contents of the code list & code list description.
OpenTravel Data Dictionary	Provides an OpenTravel type library with element/attributes XPaths, names, data types, cardinality & use, enumerations; annotations; and schema names where the elements, attributes & types are defined and used.
OpenTravel Schema Includes Map	Provides the "xsd:include" chain for each OpenTravel message.



OpenTravel Tools & Resources



Web-Based Tools & Resources (1/2)

<i>Tool/ Resource</i>	<i>Overview</i>
 OpenTravel Forum (www.OpenTravelForum.com)	This online community of analysts, developers and partner coordinators provides an in-depth forum for ask a planning & implementation question; accessing OpenTravel documentation; subscribing to OpenTravel mailing lists; and accessing OpenTravel supportive tools & products.
OpenTravel Wiki (wiki.OpenTravel.org)	This wiki resource serves as the knowledge base for the development and implementation of the OpenTravel specification, promoting collaboration among project teams and providing an open forum for both members and implementers.
OpenTravel Schema Comments (www.OpenTravel.org)	Available from the OpenTravel.org website (in the Specifications section), this resource allows all OpenTravel implementers to submit comments on the specification for minor enhancements and/or issue correction.
OpenTravel Mailing Lists	These listserv-based mailing lists allow members to stay current with OpenTravel's specification development, and inform members of upcoming conference calls, meetings, and projects.



OpenTravel Tools & Resources



Web-Based Tools & Resources (2/2)

Tool/ Resource

Overview

OpenTravel Model Viewer
(adriatic.pilotfish-net.com/ota-modelviewer/)

The OpenTravel Model Viewer, built in conjunction with PilotFish Technology, is a schema documentation application that transforms plain XML schema files into cross-referenced, hyperlinked HTML documents.

OpenTravel Online Schema
(www.OpenTravel.org)

Available from the OpenTravel.org website (in the Specifications section), this resource provides a central location by which each OpenTravel schema can be accessed via its own, unique URL.

OpenTravel Webinars

OpenTravel webinars are provided for individuals that are new to the OpenTravel specification or for developers, engineers and architects who would like to become more familiar with OpenTravel's message structure.

OpenTravel Message Registration Program


Available from the OpenTravel.org website, this resource allows you to publicly define your use of OpenTravel messages and support of open standards, as well as providing marketing exposure and notification of changes in messages you've implemented.



OpenTravel Tools & Resources



Other Resources

<i>Tool/ Resource</i>	<i>Overview</i>
 OpenTravel Workgroups	<p>Workgroups are organized by vertical (transport, hospitality, travel integration and architecture) and are comprised of domain knowledge experts from OpenTravel member companies. During their monthly meetings, workgroups address submitted comments, review project team work and discuss emerging business requirements.</p>
OpenTravel Project Teams and Project Team Proposals	<p>OpenTravel schemas are created or significantly modified by project teams, which are initiated by a project team proposal (PTP). Three types of PTPs are available: schema, study and business requirements.</p>
The OpenTravel Specification Manager	<p>The OpenTravel Specification Manager has extensive knowledge about (and experience with) designing and implementing OpenTravel-enabled systems and is available to answer questions, assist with project team proposals, and guide you to other members and resources.</p>



Integrating OpenTravel into Common SDLC Phases



Integrating OpenTravel into SDLC Phases

Common SDLC Phases Map

<i>SDLC Phase</i>	WATERFALL	RAD	AGILE
INITIATION	Planning	Business & Data Modeling	Project Selection
PLANNING	Planning	Business & Data Modeling	Project Selection
DESIGN	Design	Process Modeling	Project Initiation
DEVELOPMENT	Development	Application Generation	Construction
TESTING & INTEGRATION	Integration & Test	Testing & Turnover	Construction
IMPLEMENTATION	Maintenance & Support	Testing & Turnover	Release
MAINTENANCE	Maintenance & Support	Testing & Turnover	Production
DISPOSAL PHASE	Maintenance & Support	Testing & Turnover	Retirement



Integrating OpenTravel into SDLC Phases

Initiation - Overview


This phase begins when an opportunity to add, improve, or correct a system is identified and formally requested through the presentation of a business case.

If your SDLC method is:	This is part of this phase:
Waterfall	<ul style="list-style-type: none">• Planning
Rapid Application Development	<ul style="list-style-type: none">• Business & Data Modeling
Agile Development	<ul style="list-style-type: none">• Project Selection



Integrating OpenTravel into SDLC Phases

Initiation – OpenTravel Tools & Resources

Task	OpenTravel Tool/Resource
 <p>Team Selection/ Skill Set Evaluation</p>	<ul style="list-style-type: none"> • <i>While preparing analysts and developers...</i> <ul style="list-style-type: none"> – Attend OpenTravel Webinars – Sign-up for the OpenTravel Forum and the OpenTravel Wiki • <i>Understand OpenTravel message functionality</i> <ul style="list-style-type: none"> – Read the OpenTravel Messages by Business Functionality List to understand the business functionality provided by messages – Read the OpenTravel Message Use Cases List to see examples of how messages are used
<p>Functional Requirements</p>	<ul style="list-style-type: none"> • <i>Create a support infrastructure...</i> <ul style="list-style-type: none"> – OpenTravel Mailing Lists – OpenTravel Workgroups – OpenTravel Project Teams



Integrating OpenTravel into SDLC Phases

Planning

The planning phase is a critical step in completing development, acquisition, and maintenance projects. Careful planning is necessary to coordinate activities and manage project risks effectively.

If your SDLC method is:	This is part of this phase:
Waterfall	<ul style="list-style-type: none">• Planning
Rapid Application Development	<ul style="list-style-type: none">• Business & Data Modeling
Agile Development	<ul style="list-style-type: none">• Project Selection



Integrating OpenTravel into SDLC Phases

Design - Overview

This phase involves converting the informational, functional, and network requirements (identified in the initiation/planning phases) into unified design specifications developers use to script programs during the development phase.

If your SDLC method is:	This is part of this phase:
Waterfall	<ul style="list-style-type: none">• Design
Rapid Application Development	<ul style="list-style-type: none">• Process Modeling
Agile Development	<ul style="list-style-type: none">• Project Initiation



Integrating OpenTravel into SDLC Phases

Design – OpenTravel Tools & Resources (1/2)

Task	OpenTravel Tool/Resource
Gap Analysis	<ul style="list-style-type: none">• While addressing any gaps between your requirements and the OpenTravel Specification...<ul style="list-style-type: none">– Use the OpenTravel Data Dictionary to understand the capabilities of elements & attributes in OpenTravel messages– Use the OpenTravel Code List Navigators to understand existing code list tables and values– Create Project Team Proposal(s) if you identify either business functionality that's not in existing messages or a need for new message(s)– Enter OpenTravel Specification Comments if you identify minor changes required in schema (e.g. a new attribute/ element or an increase in the size of a data field)– Use the OpenTravel Model Viewer & Online Schema for an interactive view of OpenTravel messages, elements & attributes



Integrating OpenTravel into SDLC Phases

Design – OpenTravel Tools & Resources (2/2)

Task

OpenTravel Tool/Resource

Design Documentation

- *While creating your design documentation...*
 - Use the **OpenTravel Message Users Guide** as a source for message functionality and sample instances
 - Use the **OpenTravel Implementation Guide** as source for both functional and non-functional requirements
 - Use the **OpenTravel Code List Navigators** when deciding on code values shared between systems and/or trading partners
 - Ask questions on the **OpenTravel Forum**
 - Use the **OpenTravel Wiki** as a source for new projects and workgroup/project team meeting calendars



Integrating OpenTravel into SDLC Phases

Development - Overview

This phase involves converting design specifications into executable programs. Effective development standards include requirements that programmers and other project participants discuss design specifications before programming begins.

If your SDLC method is:	This is part of this phase:
Waterfall	<ul style="list-style-type: none"> • Development
Rapid Application Development	<ul style="list-style-type: none"> • Application Generation
Agile Development	<ul style="list-style-type: none"> • Construction



Integrating OpenTravel into SDLC Phases

Development – OpenTravel Tools & Resources (1/2)

Task

OpenTravel Tool/Resource

Technical Documentation

- *While creating low-level technical documentation...*
 - Use the **OpenTravel Schema Design Best Practices** as a source for interoperable schema design patterns
 - Use the **OpenTravel Implementation Guide** as source for specifying strategies and guidelines for reliable messaging, lightweight session management, synchronous & asynchronous messaging, transport & payload security, message integrity, message encryption, authentication & security policies, quality of service, etc.
 - Use the **OpenTravel Model Viewer & Online Schema** as interactive references for schema structure and details
 - Use the **OpenTravel Data Dictionary** to understand message, element and attribute details, such as cardinality, use and type
 - Submit **OpenTravel Specification Comments** if you discover missing attributes and elements or need deviations from existing cardinality and use
 - Ask questions on the **OpenTravel Forum**



Integrating OpenTravel into SDLC Phases

Development – OpenTravel Tools & Resources (2/2)

Task

OpenTravel Tool/Resource

Generate Code

- *While generating code...*
 - Use the **OpenTravel Message Users Guide** as a source for sample message instances
 - Use the **OpenTravel Implementation Guide** as source for examples and code snippets of reliable messaging, session management, payload transaction management, WS-security, HTTP messaging, transport & payload security, message encryption, etc.
 - Use the **OpenTravel Model Viewer & Online Schema** as interactive references for schema structure and details
 - Use the **OpenTravel Data Dictionary** to understand message, element and attribute details, such as cardinality, use and type
 - Submit **OpenTravel Specification Comments** if you discover missing attributes and elements or need deviations from existing cardinality and use
 - Ask questions on the **OpenTravel Forum**



Integrating OpenTravel into SDLC Phases

Testing & Integration - Overview

This phase requires completion of various tests to ensure the accuracy of programmed code, the inclusion of expected functionality, and the interoperability of applications and other network components. Thorough testing is critical to ensuring systems meet organizational and end-user requirements.

If your SDLC method is:	This is part of this phase:
Waterfall	<ul style="list-style-type: none"> • Integration & Test
Rapid Application Development	<ul style="list-style-type: none"> • Testing & Turnover
Agile Development	<ul style="list-style-type: none"> • Construction



Integrating OpenTravel into SDLC Phases

Testing & Integration – OpenTravel Tools & Resources

<i>Task</i>	<i>OpenTravel Tool/Resource</i>
Test Preparation	<ul style="list-style-type: none">• <i>Prepare your QA resources by providing them with...</i><ul style="list-style-type: none">– OpenTravel Code List Navigators so they can check and understand the code list values being exchanged– The OpenTravel Data Dictionary so they can look-up element and/or attribute definitions



Integrating OpenTravel into SDLC Phases **Implementation - Overview**

This phase involves installing approved applications into production environments. Primary tasks include announcing the implementation schedule, training end users, and installing the product.

If your SDLC method is:	This is part of this phase:
Waterfall	<ul style="list-style-type: none">• Maintenance & Support
Rapid Application Development	<ul style="list-style-type: none">• Testing & Turnover
Agile Development	<ul style="list-style-type: none">• Release



Integrating OpenTravel into SDLC Phases

Implementation – OpenTravel Tools & Resources



Task

OpenTravel Tool/Resource

**Trading
Partner/App
Consumer
Support**

- *Support your trading partners and/or other consumers of your application by...*
 - **Registering your OpenTravel Messages**



Integrating OpenTravel into SDLC Phases

Maintenance - Overview

This phase involves making changes to hardware, software, and documentation to support operational effectiveness. It includes performance enhancements, bug fixing, security enhancements and/or addressing user requirements.

If your SDLC method is:	This is part of this phase:
Waterfall	<ul style="list-style-type: none"> • Maintenance & Support
Rapid Application Development	<ul style="list-style-type: none"> • Testing & Turnover
Agile Development	<ul style="list-style-type: none"> • Production



Integrating OpenTravel into SDLC Phases

Maintenance – OpenTravel Tools & Resources

Task	OpenTravel Tool/Resource
<ul style="list-style-type: none"> • Performance Enhancements • Bug Fixes • Security Enhancements • Addressing Non-fulfilled User Requirements 	<ul style="list-style-type: none"> • <i>While making bug fixes or other enhancements...</i> <ul style="list-style-type: none"> – Use the OpenTravel Implementation Guide as source for examples of message integrity, process security policies, quality of service, guaranteed delivery, message priority, message lifetime, flow control, message bundling, service-level agreements, etc. – Use the OpenTravel Model Viewer & Online Schema as interactive references for schema structure and details – Submit OpenTravel Specification Comments if you discover missing attributes and elements or need deviations from existing cardinality and use – Create Project Team Proposal(s) if you identify either business functionality that’s not in existing messages or a need for new message(s) – Ask questions on the OpenTravel Forum





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OpenTravel Tools & Resources



[OpenTravel Message Users Guide](#)
[OpenTravel Implementation Guide](#)
[OpenTravel Schema Design Best Practices](#)



[OpenTravel Messages by Business Functionality List](#)
[OpenTravel Message Use Cases List](#)
[OpenTravel Code List Navigator: Air](#)
[OpenTravel Code List Navigator: Rail](#)
[OpenTravel Data Dictionary: Rail](#)
[OpenTravel Schema Includes Map](#)



[OpenTravel Forum](#)
[OpenTravel Wiki](#)
[OpenTravel Schema Comments](#)
[OpenTravel Mailing Lists](#)



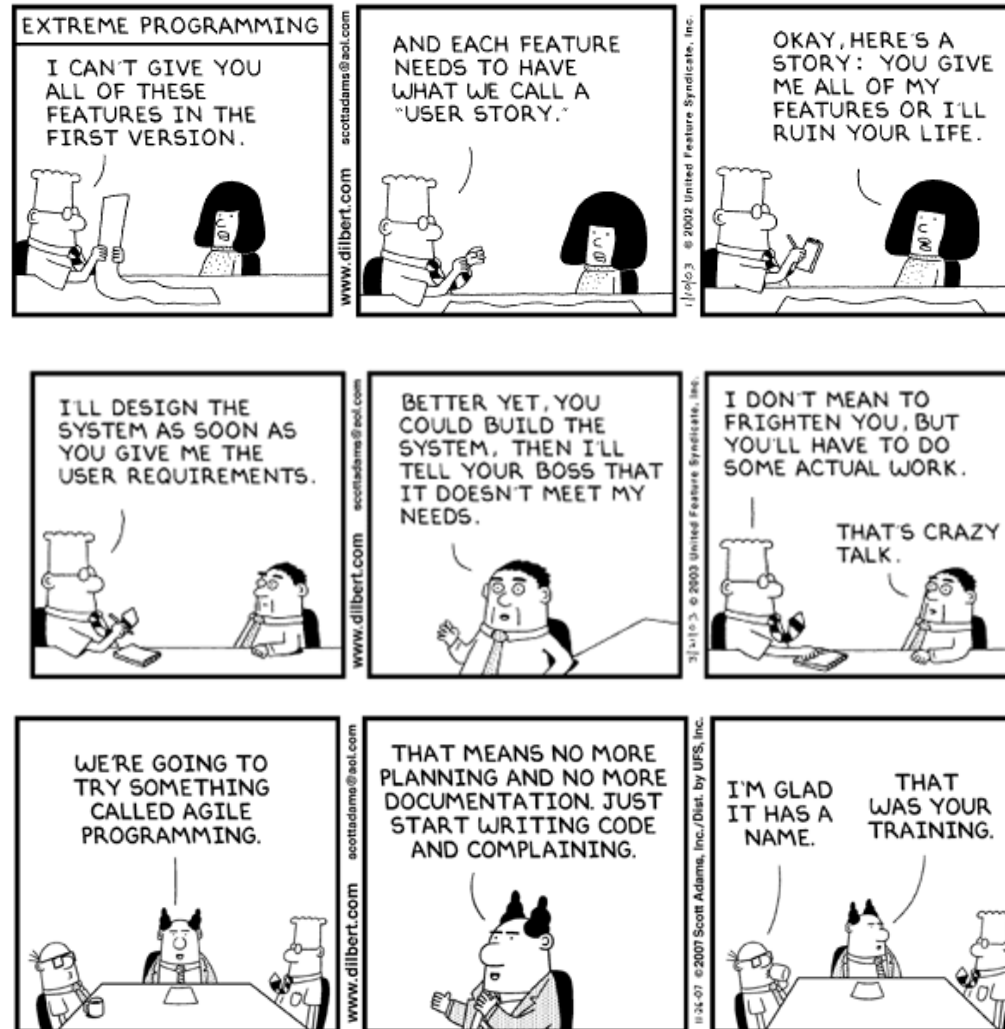
[OpenTravel Workgroups](#)
[OpenTravel Project Teams](#)
[Project Team Proposals](#)



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*Other OpenTravel Code List Navigators
and Data Dictionaries coming soon*

My Favorite Dilberts



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