

Contracts with Your Future: Applications Programming Interfaces

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Introduction

APIs are Forever

“Alphabet Soup”

Syntax vs. Semantics

The Support Problem

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- APIs are Forever
- “Alphabet Soup”
- Syntax vs. Semantics
- The Support Problem
- Identifying Key Issues
- Publishing Definitions
- Validation/Sandboxes
- The Future

APIs are Forever

- APIs are export products
- Outsiders will invest \$+++ in code
- Deprecation perhaps; Removal unlikely
- Shortcomings have LARGE consequences

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“Alphabet Soup”

REST

Asynchronous

HTTP

XML

SOAP

JSON

Synchronous

MultiRequest

Syntax vs. Semantics

- The “Mad Libs(TM)” Test
- JSON vs. XML – irrelevant
- JSON with eval() – dangerous
- RPC vs. REST – relevant
- SOAP vs. REST – irrelevant

The Support Problem

- Bugs are expensive
- Ambiguity is worse
- Problems in the age of Twitter
- Whose fault?

Identifying Key Issues

- Synchronous/Asynchronous
- Transport (e.g., HTTP, SMTP)
- Integrity
- Security (e.g., HTTPS, HTTP)
- Expandability
 - Transaction IDs
 - e.g., HTTP 1.0 vs. HTTP 1.1
 - Expandability mitigates obsolescence

Publishing Definitions

- Imprecision causes confusion
- Less expensive than later problems
- Schemas provide a formalism
- Grammars beyond schemas
- State machines
- Character sets (e.g., ASCII, UTF-8)

Validation/Sandboxes

- Publish good examples
- Maximize use of sandboxes
- Grammar+Schema implies correctness
- Use same tools for testing

The Future

- Well-thought out APIs are timeless
- Less diversity; less expense
- Preserve customer code investment
- Avoid error resolution

Summary

APIs should NOT be considered agile, they are a contract with your customer and future. Good specifications reduce long-term, aggregate costs for vendor and consumer.

Questions?

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Session Notes & Materials:

<http://www.rlgsc.com/nycctoschool/2013-02/contract-with-your-future.html>