



APIDAYS NZ 2016

DESIGNING PRAGMATIC RESTFUL APIs

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About me

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AGENDA

- What are APIs?
- Purpose of APIs
- Digital Business Innovation
- Why API Design is important?
- Pure REST vs Pragmatic
- Getting the API Design Right



What are APIs?



Purpose of APIs



Digital Business Innovation

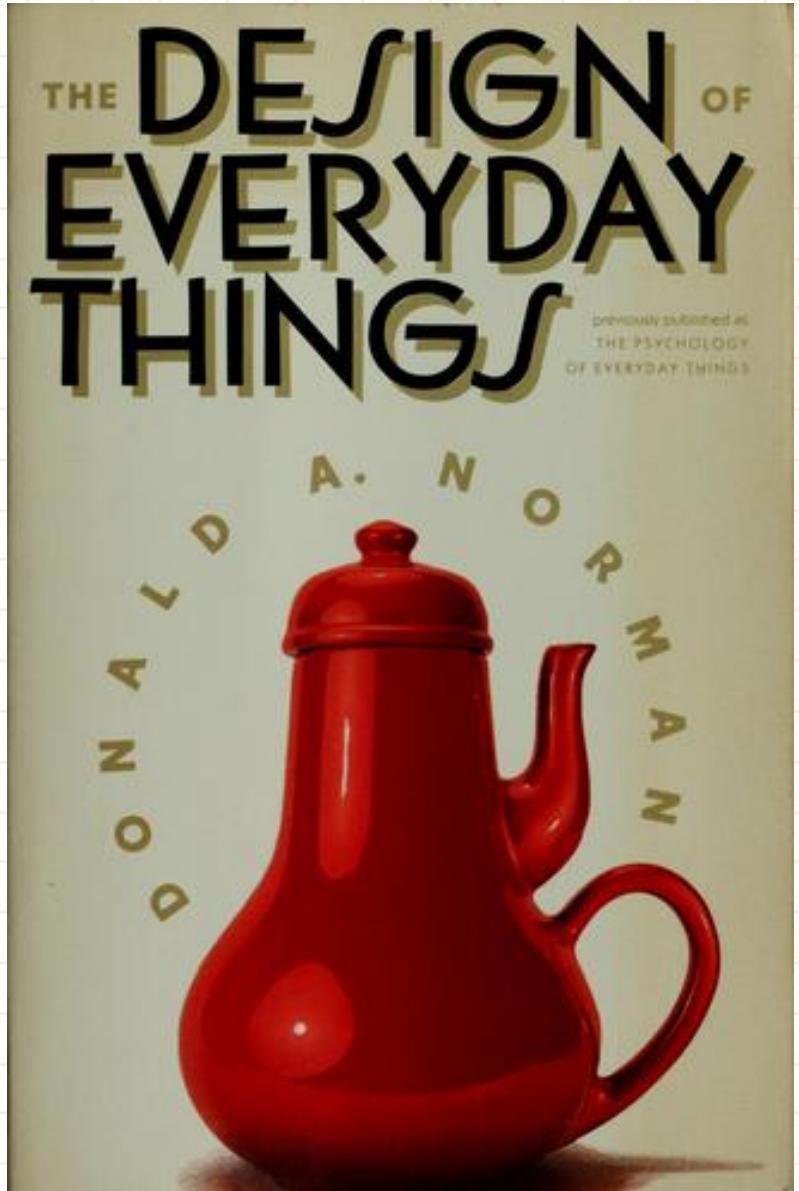
- Agile
- Open & Transparent
- Competitive
- Extend Channels
- Increase Efficiency



Designing APIs

“The value of a well-designed object is when it has such a rich set of affordances that the people who use it can do things with it that the designer never imagined.”

– Donald Norman



Why is API Design important?

- Public APIs are forever
- Company's greatest asset
- Good APIs are hard but a joy to use for consumers
- Make them more usable



Pure REST vs Pragmatic

- APIs without HATEOAS (Hypermedia as the engine of application state)
- Allows API to define control logic
- Neither Twitter or Facebook APIs use Hypermedia

OAuth
JSON
REST
Basic-Auth

PUT
GET
POST
DELETE

XML

API Design - URLs

- Keep base URL simple and intuitive
- 2 Base URLs (Collections and specific element)
- Use HTTP verbs
- Use consistent resource names
- Simplify associations
 - GET /customers/1234/orders



API Design – Error Handling

- Use HTTP status codes
 - 200 – OK – Everything worked
 - 404 – Bad Request – Client error
 - 500 – Internal Server error – Server error
- Make error messages returned as verbose as possible



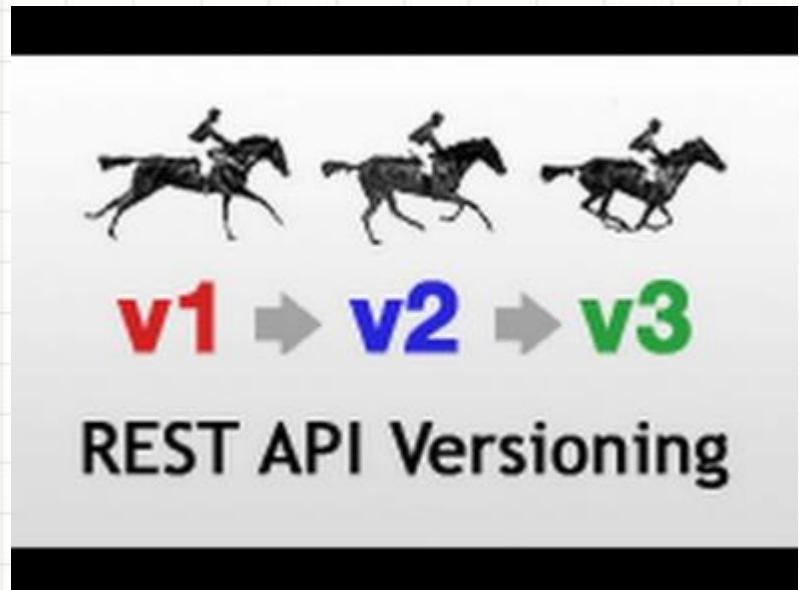
API Design – XML or JSON

- Support multiple formats
- Use JSON as default
- Less verbose than XML
- Parsing JSON is faster than XML
- JSON model structure is easy to interpret and predictable



API Design – Versioning

- Version APIs with ‘v’ prefix
- Place the version number to the left of the URL (e.g. /v1/customers)
- Don’t use dot notation in version numbers instead use v1, v2 etc.



API Design – Pagination and Sort

- Limit the amount of data
- Limit the results using “limit” and “offset” parameters
 - GET /customers?offset=0&limit=25
- Provide ability to include sort columns and sort order.
 - GET /customers?sort=firstname&sortorder=desc
- Limit the number of fields you return

API Design – Few things to consider

- Security
- Caching
- Documentation



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Questions

