

Hypergoal

Workflow in a hypermedia world



<https://www.flickr.com/photos/88933162@N00/481541343>

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My love affair with hypermedia started in 2010

Taking HTTP support in WCF to the next level

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 The Real Glenn Block October 25, 2010

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If you are building for the web and the cloud, then you know that HTTP is important. WCF is no stranger to HTTP. Since .NET 3.5, we've been continually delivering capabilities in the platform to enable developers to expose services as resources over HTTP. Now we're looking to raise the bar several notches.

At PDC, I'll be showing work we are doing to unlock the full richness of HTTP within your network based applications.

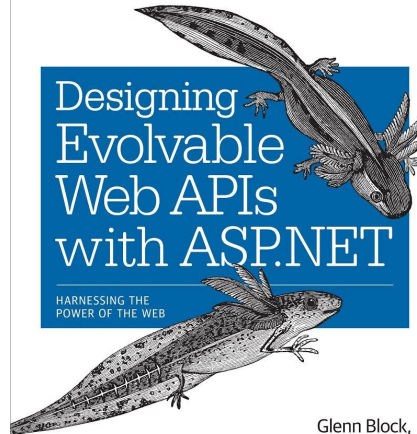
- We're going to let you have complete control over HTTP.
- Support a multitude of media types (formats) i.e XML, JSON, ATOM, OData, and custom formats including those that are hypermedia driven
- Give you full access to your Uri and headers,
- Provide richer support for web frameworks like JQuery
- Provide a more simplified configuration story.

That is just the beginning. We want you to have it your way with HTTP!

O'REILLY

Designing Evolvable Web APIs with ASP.NET

HARNESSING THE POWER OF THE WEB



Glenn Block,
Pablo Cibraro, Pedro Félix,
Howard Dierking & Darrel Miller

CollectionJson.NET

MyGet Successful

This library provides support for using the [Collection+JSON](#) hypermedia mediatype authored by [Mike Amundsen](#).



Identity made simple for developers

<https://auth0.com>

Traditional Workflow

- Some work / business process needs to be performed
- The steps to complete the work are well defined as part of a workflow i.e. Order Processing, Inventory restocking, etc.
- The workflow is initiated
 - An event is sent
 - A client / component kicks off the process
- A centralized agent / orchestrator coordinates and drives execution.
- The initiator is notified of the result once the workflow completes or if it fails

The client who initiated the workflow is basically out of the picture until the workflow completes.

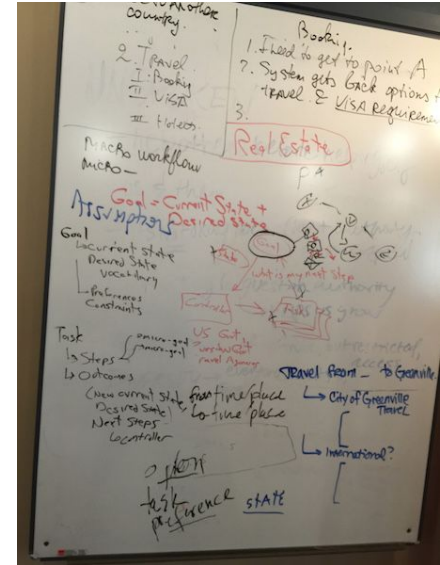
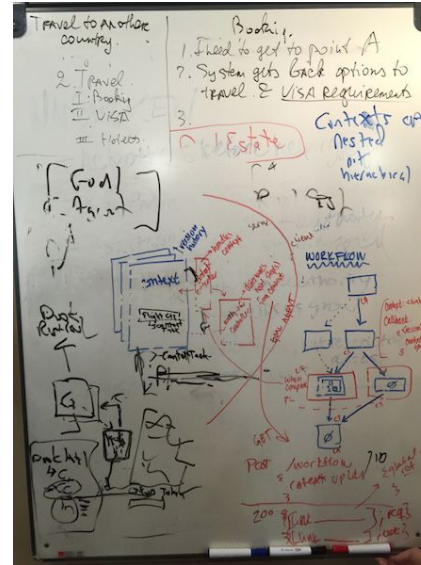
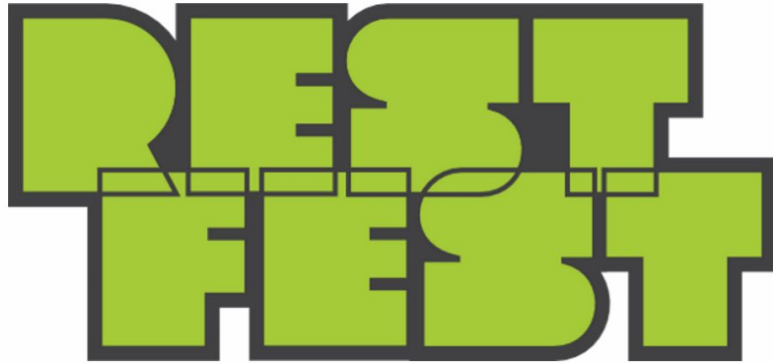
Could this be reimagined as
client-driven?

The catalyst for this journey:

Mike Amundsen
@mamund



And then this happened....



Goal driven Workflow

- A client needs to achieve a goal, “I want to attend an event”
- The client communicates the goal to an agent
- The agent guides the client toward achieving the goal, returning the client the possible next steps at each stage of the journey.
- The client chooses the step, executes it, and reports the result
- The agent continues helping the client progress toward the goal until it is achieved

The client is central to the execution of the workflow and handles all the decisions.

What benefits can this approach yield?

- Empowers clients / m2m
- Reduces bottlenecks
- Open
 - Open World Assumption
 - Flexible and evolving schemas
 - Every data element is uniquely identified.
- Enables new possibilities

Miss Grants Controller

- You are in a room
- You need to:
 - Close the door
 - Turn the light on
 - Open the drawer
 - Open the panel

<https://github.com/mamund/miss-grants-controlller>



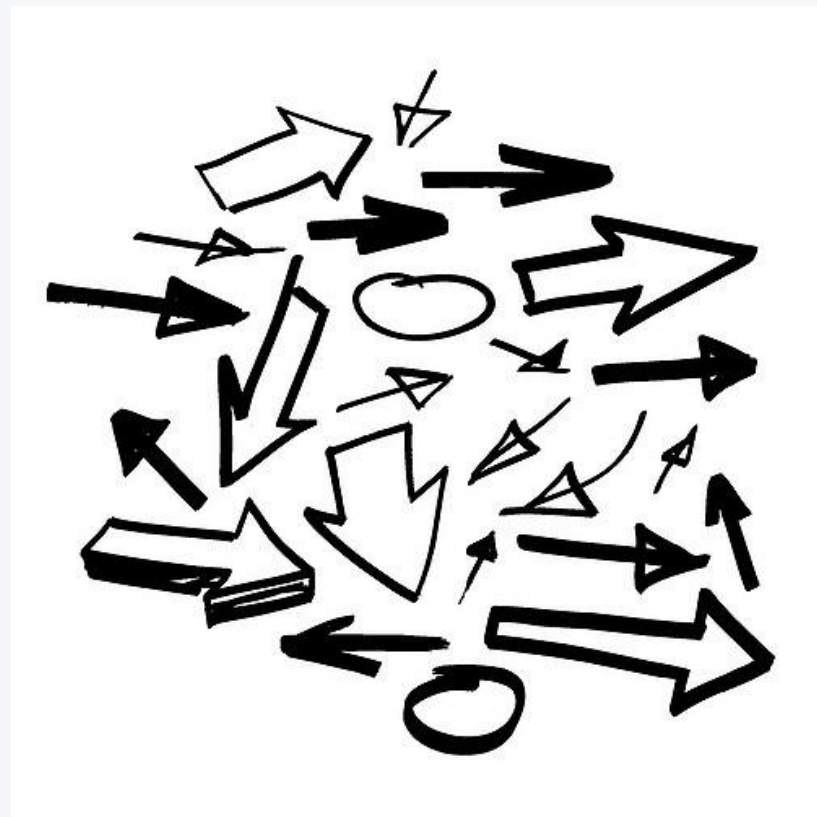
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A generic approach to client driven workflows.

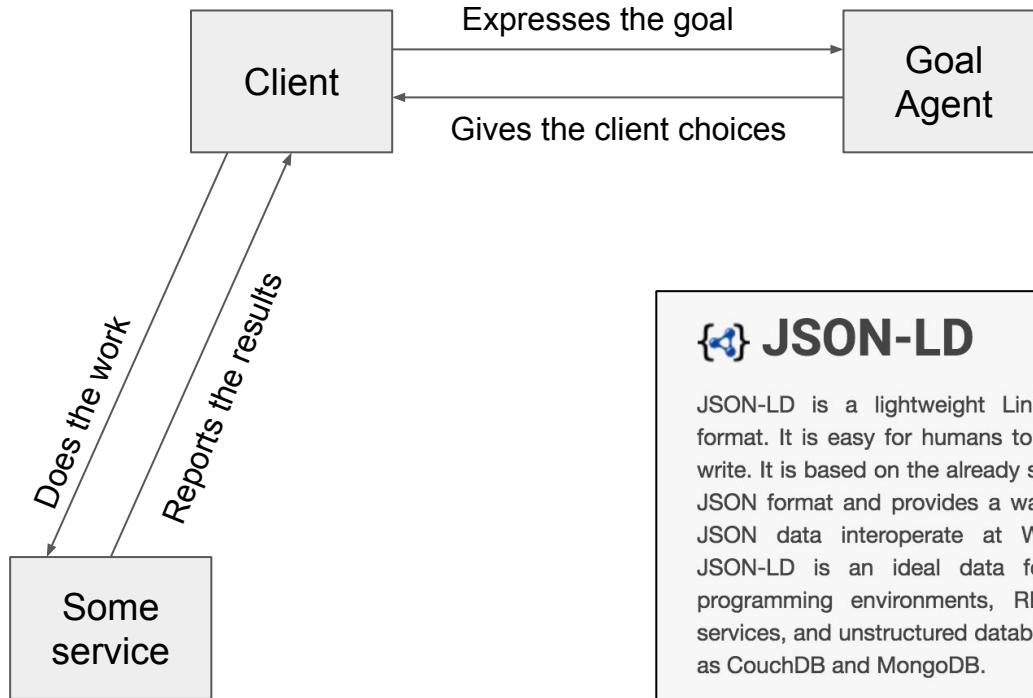
Open ended

Uses JSON-LD

https://github.com/hypergoal/hypergoal_docs



How it (might) work



{JSON} JSON-LD

JSON-LD is a lightweight Linked Data format. It is easy for humans to read and write. It is based on the already successful JSON format and provides a way to help JSON data interoperate at Web-scale. JSON-LD is an ideal data format for programming environments, REST Web services, and unstructured databases such as CouchDB and MongoDB.

https://github.com/hypergoal/hypergoal_docs