Solution Design Document

JCCHENDEMO

<http://jcchendemo.azurewebsites.net>

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Version History

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| --- | --- | --- | --- |
| **Author** | **Version** | **Date** |  |
| Jung Chen | V0.1 | 15/05/2017 | Initial draft |
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# Introduction

Programming test from AGL.

## Purpose of Document

This document defines the technical design and implementation needed for displaying the pets ownership filtering.

This solution design document outlines the design process to the system and external interfaces that is used to achieve this functionality.

# Problems/Assumptions

Couple of main problems/assumptions that has to be taken care before deployment is outlined as below:

|  |  |  |
| --- | --- | --- |
| Assumption | Description | Impact |
| Logging | Log4net for file logging  SumoLogic for web status/report | TBA |
| Security | Token exchange could enhance the security | TBA |
| Database | Reduce network latency or error 500 on Web API | TBA |
| Caching | Depends on the frequency of the data update | TBA |
| Mobile | Currently it is mobile responsive and no mobile app required | TBA |

# Solution

I will implement the Asynchronous method so the client can send multiple request to request web api.



The following diagram illustrates the solution architecture and framework proposed and implemented.



## Logical Diagram:

### HTML/CSS/Javascript/Knockout

Is the front end client complemntne which is rendered on the users browser. Mainly compressing HTML5, CSS bootstrap, Jquery. It is also movie friendly.

I am using knockout to create a simple client so it can responsiviblely display data received from the web services. And the the benefit of being one of the libraries that microsoft has started including in the ASP.NET example application and templates shows it is perfect for such demo.

### ASP.NET MVC

The middle layer that binds the data returned from the db and renders the frontend.

### WebAPI

A RESTful service that interact with the AGL API in cloud and is primarily responsible for sending and receiving data, the api will be divided into publically exposed interface.

### Model

Model is a result of a web service call and encapsulated data result set to the external interface and web AJAX calls.

### Input/Output

Input

[{"name":"Bob","gender":"Male","age":23,"pets":[{"name":"Garfield","type":"Cat"},{"name":"Fido","type":"Dog"}]},{"name":"Jennifer","gender":"Female","age":18,"pets":[{"name":"Garfield","type":"Cat"}]},{"name":"Steve","gender":"Male","age":45,"pets":null},{"name":"Fred","gender":"Male","age":40,"pets":[{"name":"Tom","type":"Cat"},{"name":"Max","type":"Cat"},{"name":"Sam","type":"Dog"},{"name":"Jim","type":"Cat"}]},{"name":"Samantha","gender":"Female","age":40,"pets":[{"name":"Tabby","type":"Cat"}]},{"name":"Alice","gender":"Female","age":64,"pets":[{"name":"Simba","type":"Cat"},{"name":"Nemo","type":"Fish"}]}]

Output

[{"gender":"Male","pets":[[{"name":"Garfield","type":"Cat"}],[{"name":"Tom","type":"Cat"},{"name":"Max","type":"Cat"},{"name":"Jim","type":"Cat"}]]},{"gender":"Female","pets":[[{"name":"Garfield","type":"Cat"}],[{"name":"Tabby","type":"Cat"}],[{"name":"Simba","type":"Cat"}]]}]

## Server Components:

### Web Server

The website for jcwj will be an external facing site under the following URL: <http://jcwj2.azurewebsites.net/> , this URL can be accessible soon.

### Screenshots



