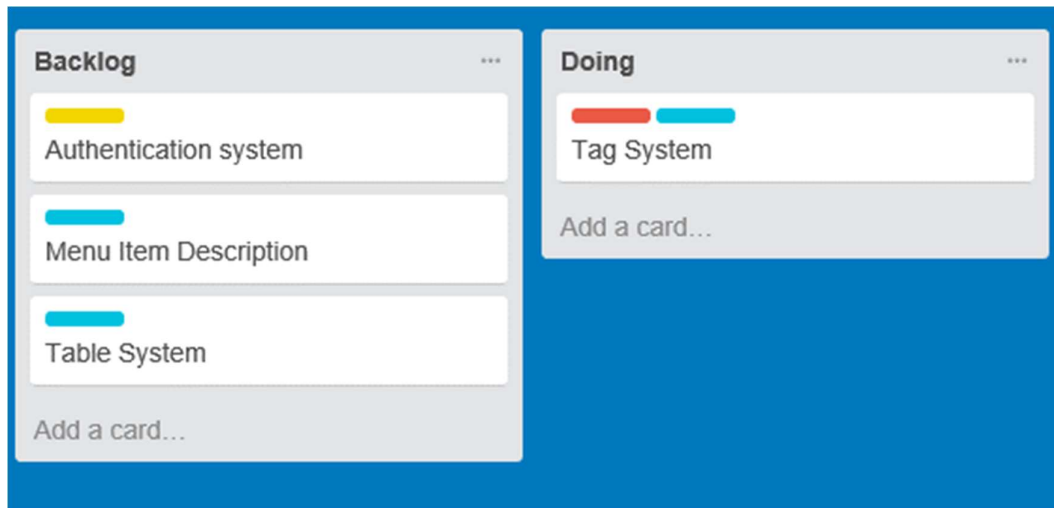


## Test Driven Development – Tag System



Tag is moved from a backlog task to a doing task

```
using Microsoft.VisualStudio.TestTools.UnitTesting;
using RESTFull.Models;

namespace TESTFull
{
    [TestClass]
    public class TagTest
    {
        [TestMethod]
        [DataRow("Chicken", "Caesar Salad")]
        [DataRow("Veggie", "Caesar Salad")]
        [DataRow("Chicken", "Fried Chicken")]
        public void TestNewItem(string a, string b)
        {
            Tag T = new Tag() { TagName = a, MenuName = b };

            Assert.AreEqual(a, T.TagName);
            Assert.AreEqual(b, T.MenuName);

            //Required Attribute
            Assert.IsNotNull(T.TagName);
        }

        [TestMethod]
        public void TestMenuItemRequired()
        {
            Tag T = new Tag() { MenuName="SomeMenu" };

            Assert.IsNotNull(T.TagName);
        }
    }
}
```

## Test Driven Development – Tag System

Kevin has already defined some unit tests to develop around, opening RESTFull I can implement the tag system to satisfy these tests:

```
namespace RESTFull.Models
{
    ///<summary>
    /// Tags are used to link food items with a certain "food based category"
    ///</summary>
    public class Tag
    {
        public string TagName { get; set; }
        public string MenuName { get; set; }
    }
}
```

Running the unit tests with this modified code we get this output:



The screenshot shows the Visual Studio Test Explorer on the left with a single test, 'TestNewMenuItem', which has passed in 35 ms. The main area displays the code for the test class 'TagTest'. The test method 'TestNewMenuItem' is annotated with three data rows: ('Chicken', 'Caesar Salad'), ('Veggie', 'Caesar Salad'), and ('Chicken', 'Fried Chicken'). The test method creates a 'Tag' object with 'TagName' and 'MenuName' properties, asserts that the 'TagName' and 'MenuName' properties are equal to the input parameters, and asserts that 'TagName' is not null.

```
6 [TestClass]
7 public class TagTest
8 {
9     [TestMethod]
10    [DataRow("Chicken", "Caesar Salad")]
11    [DataRow("Veggie", "Caesar Salad")]
12    [DataRow("Chicken", "Fried Chicken")]
13    public void TestNewMenuItem(string a, string b)
14    {
15        Tag T = new Tag() { TagName = a, MenuName = b };
16
17        Assert.AreEqual(a, T.TagName);
18        Assert.AreEqual(b, T.MenuName);
19
20        //Required Attribute
21        Assert.IsNotNull(T.TagName);
22    }
}
```

The following test failed however, as the Tag name isn't necessarily a required field

```
[TestMethod]
public void TestMenuItemRequired()
{
    Tag T = new Tag() { MenuName="SomeMenu" };

    Assert.IsNotNull(T.TagName);
}
```

Due to the structure of a Model in MVC architecture, it isn't good to include a constructor for our model as it is supposed to be as slim as can be; to work around this, I will include "Required" attributes on the model as a means of ensuring the value won't be null in production;

## Test Driven Development – Tag System

```
///<summary>
/// Tags are used to link food items with a certain "food based category"
///</summary>
public class Tag
{
    [Required]
    public string TagName { get; set; }
    public string MenuName { get; set; }
}
```

It is now implied that the Tag will not be valid without a name, meaning we shall change the test to pass;

