

Designing with Layouts and Views



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To-Do List



Reviewing the Design Features of Web Forms

Introducing Layouts and Views in MVC

Demo: Building the Layout in MVC

Demo: Adding Styles and Scripts in MVC

Reviewing the Web Forms Server Controls

Introducing the Razor View Engine

Demo: Building the Navigation with Razor



Design Features of Web Forms



Understanding Master Pages

Cypher Marketing (MVC)

Messages

View Messages

Tasks

Create Task

View Tasks

Master Page

Welcome to the Feedback Application!
Here you can manage the messages and tasks for our customers.

Latest Messages

From	Subject	Sent	Action
mark@sample.com	Concerned Customer	1/17/2016 11:01:39 AM	View
joe@sample.com	Question about shipping	1/17/2016 11:01:39 AM	View
sam@sample.com	Mobile app troubles	1/17/2016 11:01:39 AM	View
alex@sample.com	Poor service	1/17/2016 11:01:39 AM	View
john@sample.com	Like the new site!	1/17/2016 11:01:39 AM	View

See all

Admin Tasks

Title	Description	Due Date	Action
Follow up with marketing about materials	A vendor has not received shipments for an order they placed through the online form.	1/24/2016 11:01:39 AM	View
Vendor issues	A vendor has not received their order, please address this and check that the order was placed.	1/24/2016 11:01:39 AM	View
Poor customer relations	Multiple customer complaints have come through about our phone service - please contact customer relations to verify that procedures are being followed.	1/24/2016 11:01:39 AM	View

See all

ASPX Page

Rep of the Month

You can only vote once!

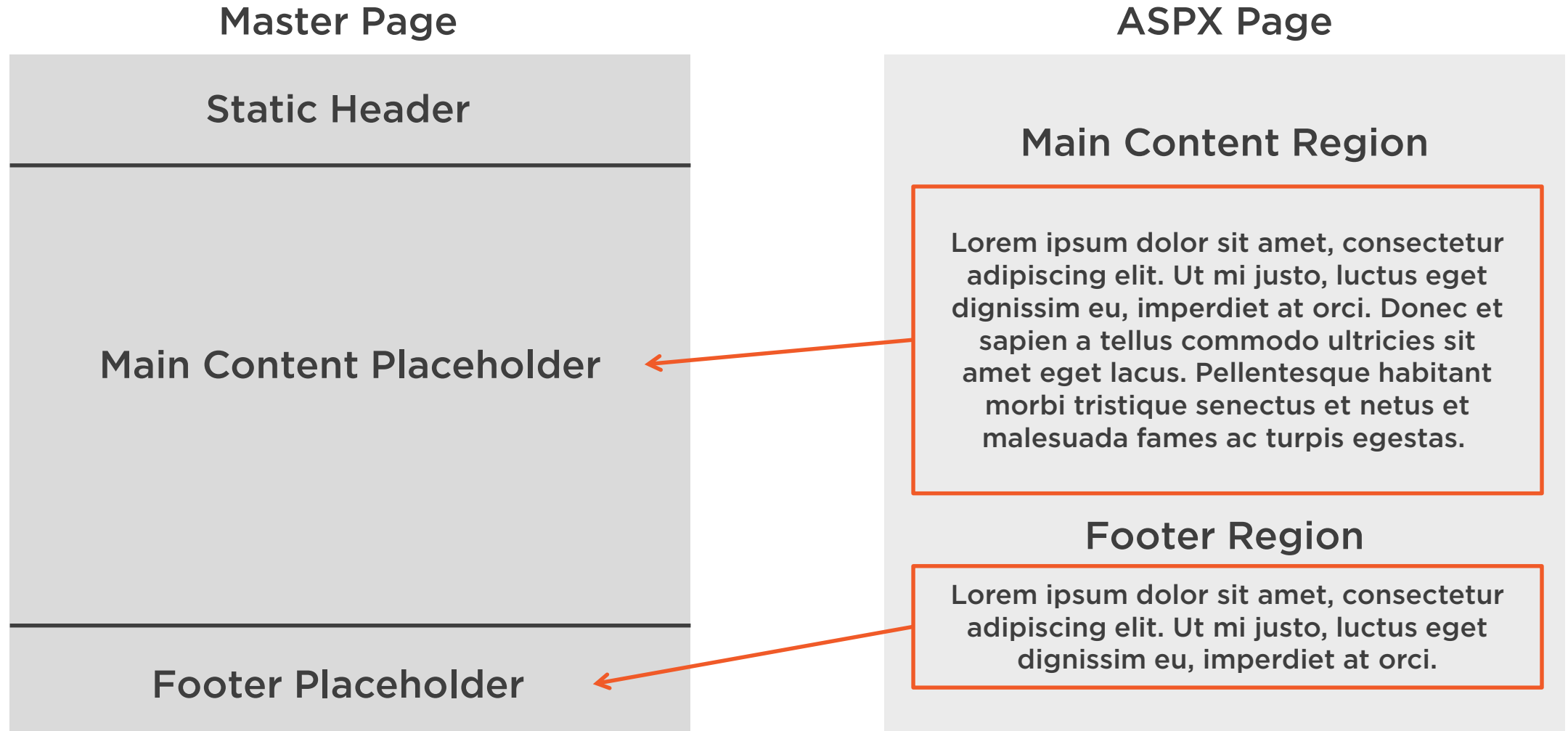
User	Add Vote
Jane	Vote Up
Sarah	Vote Up
Joe	Vote Up
Bob	Vote Up

Continuous Improvement

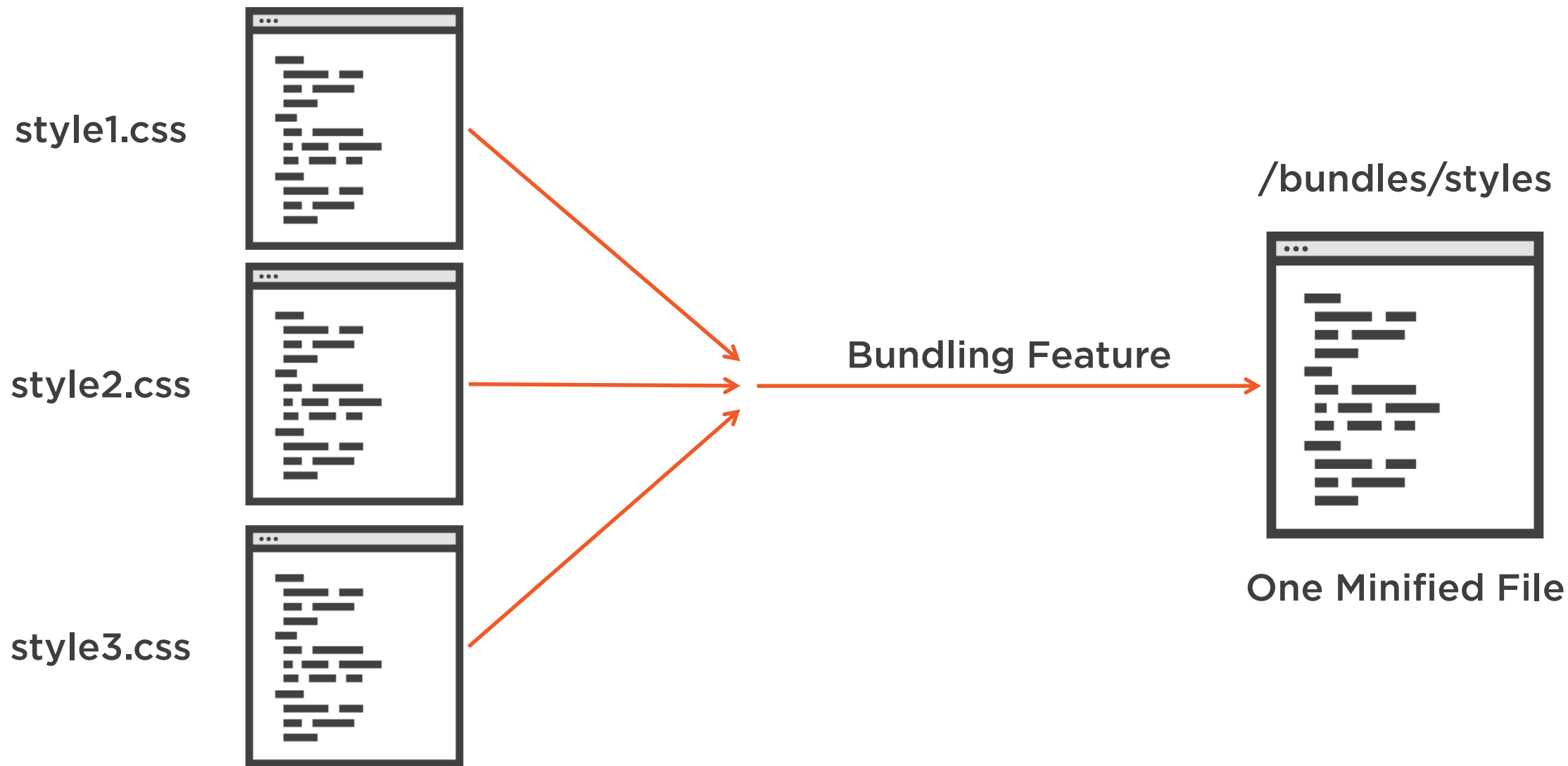
Have a feature request or suggestion for how we can improve this app?
Let us know! Send us a suggestion.

Submit

Master Page Content Regions



Scripts, Styles and Bundling



Organizing and Reusing with User Controls

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**Survey
Widget.ascx**

**Feedback
Widget.ascx**



Revisiting the Legacy Application Design



Layouts, Views, and Partial Views



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Cypher Marketing (MVC)

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View Messages

Tasks

Create Task

View Tasks

Layout

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View

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```
<div id="wrapper">
  <div id="page-wrapper">
    @RenderBody()
  </div>

  @RenderSection("Secondary", false)

  @if (!IsSectionDefined("Footer"))
  {
    <footer>This is the footer.</footer>
  }

</div>
```

◀ Pulls the main view into the Layout

◀ Optional content section that can be overridden from view

◀ Optional footer content section that provides fallback content



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Partial View

Partial View



```
<div id="wrapper">
```

```
<div id="widgets">
```

```
@Html.Partial("SurveyWidget")
```

```
@Html.Action("FeedbackWidget",  
"WidgetController")
```

```
</div>
```

```
</div>
```

- ◀ Inserts a partial view directly
- ◀ Specifies an Action Method on a Controller to execute and inserts the result



Comparing Sections and Partial Views

Sections

Content placeholders in the Layout file that enforce document structure

Partial Views

Individual calls inside of Layouts or Views to inject the contents of an additional View



Comparing Views and Partial Views

Views

.cshtml file



Technically
Equivalent

Partial Views

.cshtml file



Generating Views and Partial Views

Regular Views

From a Controller

```
return View()
```

From another View

Not Applicable

Partial Views

From a Controller

```
return PartialView()
```

From another View

```
@Html.Action  
@Html.Partial
```



The ViewStart File

ViewStart

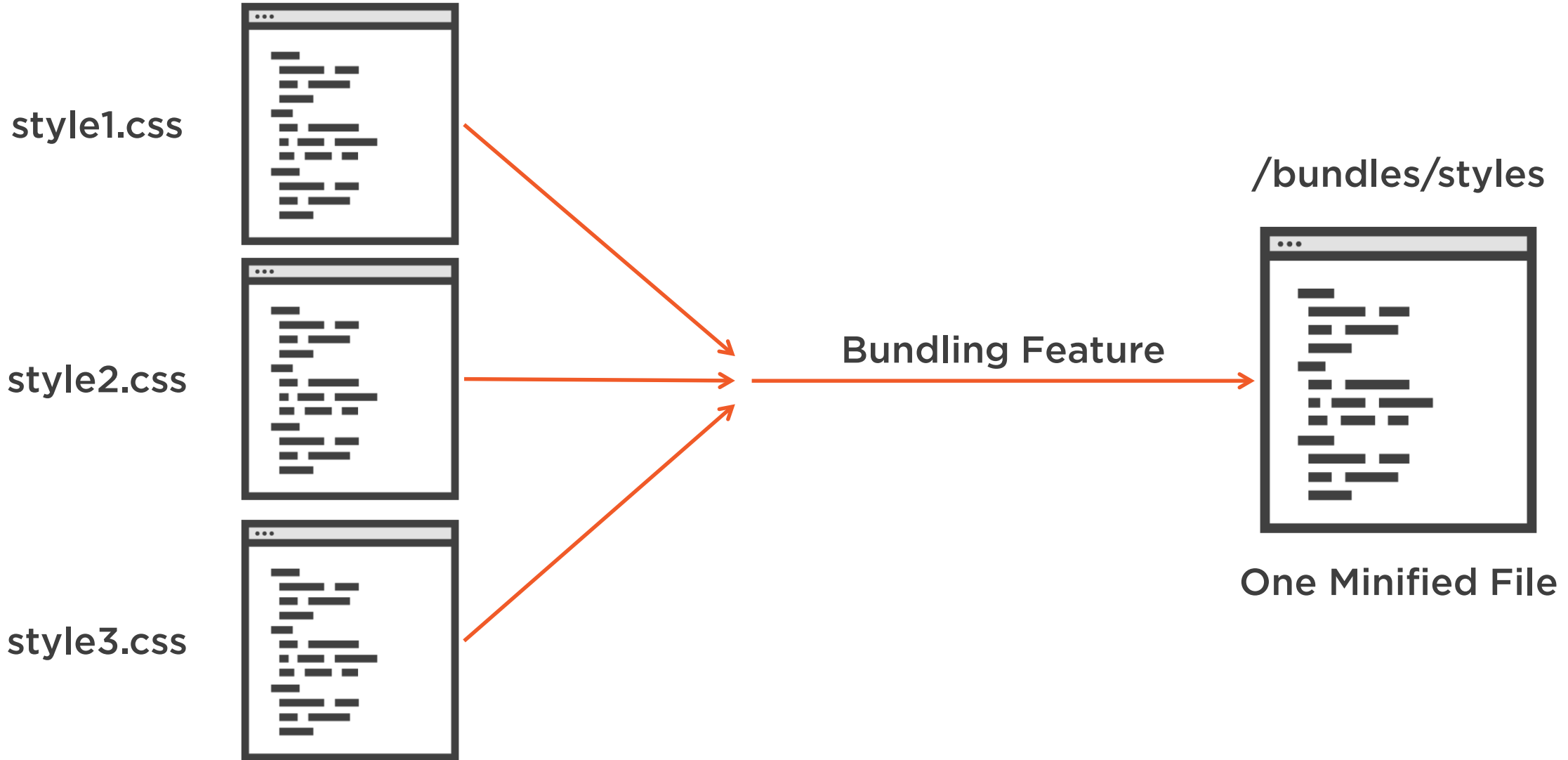
Layout = "~/Views/Shared/_Layout.cshtml"

//Other code and markup

View



Bundling in MVC



Building HTML Components in Web Forms



The Types of Server Controls

HTML Server Controls

Web Server Controls

Validation Controls

User Controls



```
<div class="wrapper">
```

```
    <label ID="subjectLabel" runat="server" for="subject"> </label>
```

```
</div>
```

HTML Server Controls

Regular HTML **empowered** by Web Forms attributes



```
<div class="wrapper">  
    <asp:TextBox ID="Subject" runat="server" CssClass="form-control"></asp:TextBox>  
    <asp:DropDownList CssClass="form-control" runat="server"  
    ID="Category"></asp:DropDownList>  
  
</div>
```

Web Server Controls

Abstraction over HTML, **deeply integrated** with Web Forms framework



```
<div class="wrapper">  
    <asp:RequiredFieldValidator ID="DescriptionValidator" ControlToValidate="Description"  
runat="server">  
    </asp:RequiredFieldValidator>  
</div>
```

Validation Server Controls

Ensures **valid data** is contained in other Server Controls



```
<div id="wrapper">  
    <UserControls:Nav runat="server" id="Nav" />  
  
</div>
```

//Separate File

```
<div class="navbar-header">  
    //Navigation markup  
  
</div>
```

User Controls

◀ User Control embedded in an ASPX page

◀ User Control source file



Controlling HTML Through Code

ASPX Page

```
<asp:TextBox ID="Subject" runat="server"> </asp:TextBox>
```

```
<asp:TextBox ID="Description" runat="server"> </asp:TextBox>
```

Markup

Code Behind Page

```
Subject.Text = task.Title;
```

```
Description.Text = task.Description;
```

C# Logic



The Razor View Engine



```
<div class="wrapper">  
    @foreach(var message in messages){  
        <span class="topic">@message.Subject</span>  
    }  
</div>
```

An Intelligent View Engine

Fluid transitions between **HTML** and **Razor** syntax



```
<div id="wrapper">
```

```
    <div id="widgets">
```

```
        @Html.ActionLink("Create Task", "Create",  
        "Task")
```

```
        @Html.Partial("SurveyWidget")
```

```
        @Url.Content("~/images/cat.png")
```

```
    </div>
```

```
</div>
```

- ◀ Renders a link to the create tasks page
- ◀ Inserts the contents inside of the SurveyWidget partial view
- ◀ Returns a string version of the URL to the specified item



Razor Helpers for Forms Elements

Razor Form Helper	HTML Equivalent
<code>@Html.TextBoxFor()</code>	<code><Input type="text"></code>
<code>@Url.CheckboxFor()</code>	<code><input type="checkbox"></code>
<code>@Url.DropDownListFor()</code>	<code><select>[options]</select></code>



@model Task

```
<div id="wrapper">  
    <div id="widgets">  
        @Html.TextBoxFor(m => m.Subject)  
  
        @Html.TextBoxFor(m => m.Date)  
  
        @Html.CheckBoxFor(m => m.IsDone)  
    </div>  
</div>
```

◀ The Model for the View and Form

- ◀ Strongly typed HTML helpers that render form fields for the Model properties



HTML Helpers generate
MVC friendly form fields.



```
<div id="wrapper">

    @foreach(var item in messages){

        <tr>

            <td> @item.Subject </td>

        </tr>

    }

    @using(Html.BeginForm()) {

        //Form Contents

    }

    @if(@Model.IsDone){

        //Conditionally show

    }

</div>
```

◀ For Each loop to build elements

◀ Using statement for easy form creation

◀ Conditionally render markup




```
<div class="wrapper">  
    @{  
        var task = new Task();  
        task.Subject = "Hello World";  
        //Other Logic  
    }  
</div>
```

C# Code Blocks in Razor

Use with **caution** – is this really necessary?



Working with Razor



Summary



Web Forms and MVC share similar design concepts, but different implementations

Web Forms offers Master Pages, Pages and User Controls

MVC provides Layouts, Views and Partial Views

Web Forms uses Server Controls to work with HTML and framework features

MVC offers lightweight but useful HTML Helpers through the Razor View Engine

