

SOEN 387 Web-based Enterprise Application Design

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TS and RDG

- ▶ Last week you should have learned about tunnels
- ▶ Row Data Gateway (RDG) separation from Transaction Script (TS)

Refactored RDG

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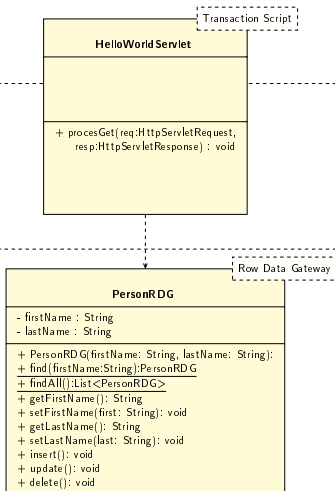
Presentation
Views

It should look a little something like this:

Application / Presentation

Domain

Technical Services



Transaction Scripts with Presentation

The Transaction Script still deals with:

- ▶ presentation
- ▶ incoming requests
- ▶ domain logic
 - ▶ How it responds to this request vs. a similar request in the same servlet
 - ▶ Domain Logic

Types of Presentation Pattern

- ▶ Template Views
- ▶ Transform Views

Template and Transform Commonalities

- ▶ The rest of the application cares little which type of view
- ▶ Generate output for the user
- ▶ Uses data from the domain

Template View

- ▶ Plug data into a pre-defined text template
- ▶ Designers can easily edit the text template
- ▶ JSON and XML are common text templates
- ▶ **You will generate XML for your assignment**
- ▶ Use Template Views to readily changeable data-based rendering

Transform View

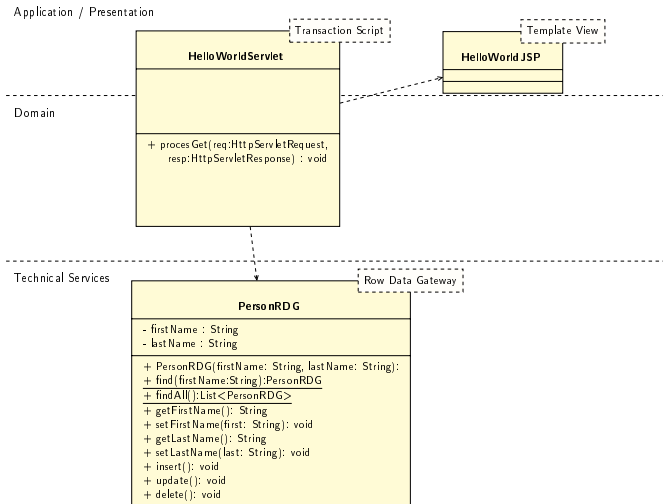
- ▶ Turns one form of presentation into another
- ▶ Usually turns XML into something else
- ▶ Your assignment could use XSLT to transform your XML results to HTML
- ▶ ...but I don't care too much about HTML in this class
- ▶ ...you rarely use XSLT for presentation-heavy material
- ▶ Use Transform Views to do complex procedural rendering

Template Views: Pass Two

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Presentation
Views

You might initially imagine something like this:



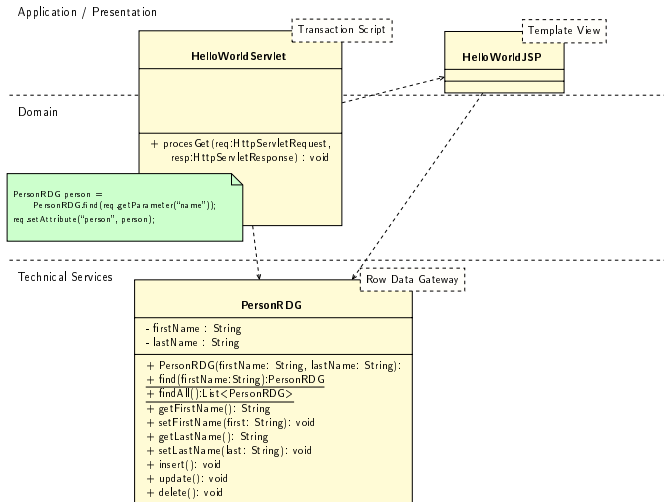
Presentation View Needs Data

- ▶ In MVC, the view needs to see the model
- ▶ Can we pass all Raw Data?
- ▶ How would we do that?
- ▶ Is this a good idea?
- ▶ What else can we try?

Template Views: Pass Two

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Why does this feel wrong?



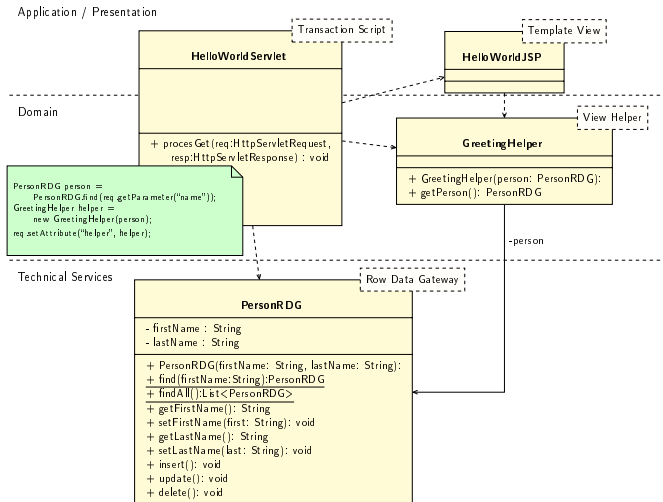
Presentation
Views

Layers and Views

- ▶ We are skipping a layer!
- ▶ What if data source changes?
- ▶ We can make a data “envelope”

Template Views: Pass Three, a

When using RDGs, this is not bad

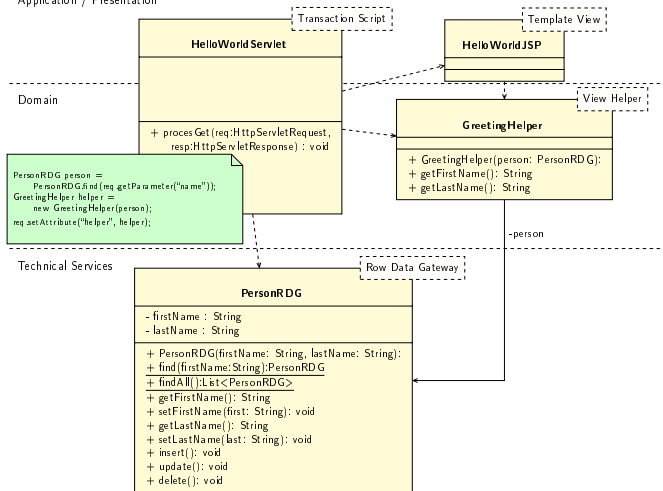


Template Views: Pass Three, b

We can remove the indirect association to PersonRDG.

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Presentation
Views

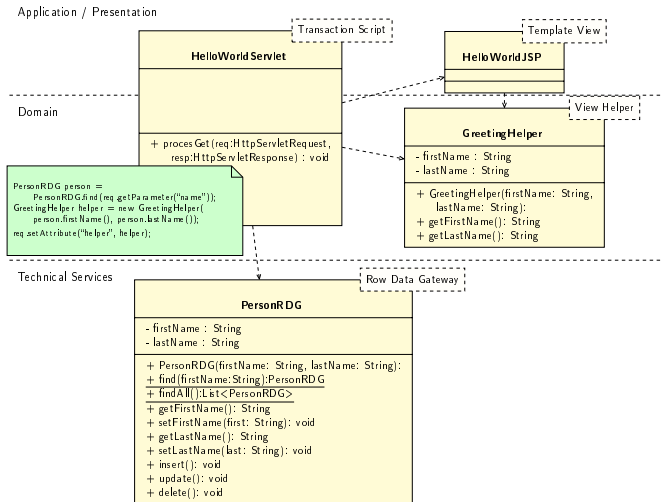


Template Views: Pass Three, c

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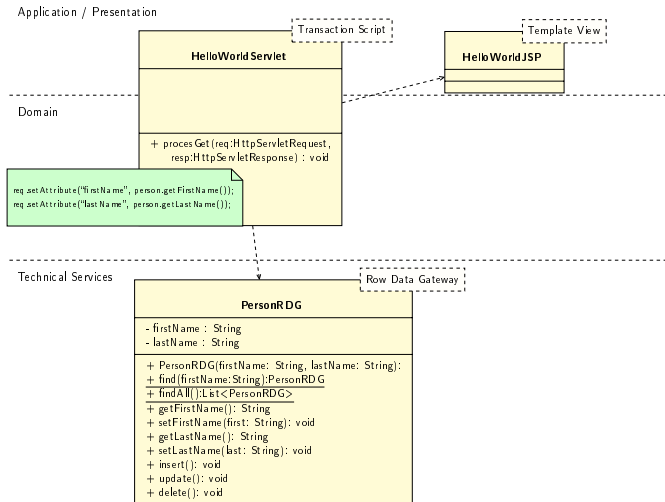
Presentation
Views

We can remove association with the RDG altogether



Template Views: Pass Three, d

Lastly, we can use `HttpServletRequest` as our data envelope.



When to use View Helpers

- ▶ Use View Helpers when you want to make it easier for a Template View to work with the data
- ▶ I may have cautioned against *sketchy* use of View Helpers
- ▶ Avoid abusing language structures, explicit or implied: e.g. java bean notation getters to change behaviour.
- ▶ Paging through data is a good example
- ▶ A View Helper makes it easier for the view to process paging, does not change data

What is Paging?

- ▶ Viewing forum threads, you see n pages of messages, navigate the pages
- ▶ Navigation is part of the UI, but we will see useful techniques for this later on the server-side
- ▶ For now, know that sometimes there is more data than you might want in one request
- ▶ There are many ways, but consider each request indicating a page size and which page they are on
- ▶ I like Page 0 being the first page, but whatever
- ▶ Page Helper does not need to know what it is paging

View Helper Example: Page Helper

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We wouldn't use an RDG, but for simplicity we will here:

Presentation Views

