Cognitive Dimensions Evaluation of Django

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What is Django?

• A framework for building database-backed web sites
  – Model-View-Controller engine
  – Object-Relational Mapping
  – Template system

• Python!

• Similar stuff in other languages
  – Ruby on Rails
  – Several options in Java (e.g., Struts2 + Hibernate + Freemarker)
Why did I evaluate Django?

• I’ve used Ruby on Rails extensively
  – Love the usability
  – Love the Ruby language
  – Hate the Ruby libraries

• Is there an equally usable tool with a better standard library?
Daddy, where do web pages come from?

- **URL Mapping** maps URLs to views
- Views: python callbacks that generate responses
- Views delegate to *templates* for HTML
URL Mappings

urlpatterns = patterns('',
    (r'^polls/$', 'mysite.polls.views.index'),
    (r'^polls/(?P<poll_id>\d+)/$', 'mysite.polls.views.detail'),
    (r'^polls/(?P<poll_id>\d+)/results/$', 'mysite.polls.views.results'),
    (r'^polls/(?P<poll_id>\d+)/vote/$', 'mysite.polls.views.vote'),
)

How does Django handle the URL /polls/216?

- callback to mysite.polls.view.detail(poll_id=216)
Views

def detail(request, poll_id):
    p = get_object_or_404(Poll, pk=poll_id)
    return render_to_response('polls/detail.html', {'poll': p})

View delegates to “polls/detail.html” template.
Templates

<h1>{{ poll.question }}</h1>
<ul>
{% for choice in poll.choice_set.all %}
  <li>{{ choice.choice }}</li>
{% endfor %}
{% endfor %}
</ul>
Thoughts?
Cognitive Dimensions Evaluation

• Hard mental operations
• Good *role expressiveness*
• Opportunity for abstraction
• Low *visibility* of common steps
  – Rails eliminates some steps