Django-Style Flask

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Introduction

- Senior Network Engineer at WellAware An oil and gas SaaS and network communications company
- Conference Chairman for the annual Texas Linux Festival
 - Come check us out June 13-14 in Austin, TX!
 - http://texaslinuxfest.org for more information
- Yes, I'm really a Mechanical Engineer
 - Bachelors of Science in Mechanical Engineering at Texas A&M University

Master's student at University of Texas at San Antonio

Outline

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Diango-Style Flask Get Prepared

Get Prepared

- git clone https://github.com/platinummonkey/flask_scale12x.git
- Run the viewer_setup.sh script to setup the helper scripts.
- (Optional*) Setup and Start Titan: run setup_titan.sh and start_titan.sh.
- Optional*) Setup virtualenv:

mkvirtualenv -a <repo_root> \
 -r <repo_root>/requirements.pip \
 flask_scale12x

 Utilize talk_helper.sh during the talk to switch between commits easily.



Django

- "Batteries Included"
- Early Framework led to early adoption
- Monolithic approach
 - Organization Everything is an app
 - Url importing and view routing
 - Models ORM with DB Managers for use with RDBs
 - Admin
 - Builtins
 - Auth & Permissions
 - Testing
 - Configuration
- Documentation
- Templating
- Extensions
- Django-NoSQL project for use with NoSQL DBs [however its just an adapter]

Django-Style Flask
Flask and Django
└─ Flask

Flask

- Flexible by Design
- No forced organization pattern
- URL routing happens at the View Definition
- Documentation
 - Great but could be better
 - Version docs are not separated, but noted explicitly within the latest docs.
- Templating
 - Request object is implicitly context aware
 - Jinja2
 - Done right Doesn't unecessarily limit programmer

- Run python code and use callables
- Extensions
 - Auth Flask-Login
 - Permissions Flask-Principal (if simple enough)
 - Configuration Flask-Environment
 - Testing Flask-Testing

Django-Style Flask └─Flask and Django └─Side-By-Side

Flask and Django Side-by-Side

Django

- "Batteries Included"
- Forced Organization Pattern
- Monolithic approach
- Url importing and view routing
- ORM
- Many Builtins
- Great Documentation
- Okay Templating
- Extensions available

Flask

- No Batteries
- No forced organization pattern
- Modular approach
- URL routing happens at the View Definition
- No ORM forced
- Minimal Builtins
- Good Documentation
- Better Templating
- ► Extensions usually required (=> (=> (=>) =)) <>

Django-Style Flask Django Sugar What We Care About

Django Sugar

What was really nice to have?

- Organization
- Global Application Context

- Configuration
- URL and View Routing
- ORM & Models
- Auth & Sessions
- Testing
- Permissions



Organization

This where you get to decide how everything gets laid out!

Let's just go with Django's "everything is an app" approach for this context. Feel free to do anything sensible (or not).

<project_root>

- app.py, models.py, requirements.pip, server.py, shell.py, urls.py, version.py, views.py
- auth

 __init__..py, decorators.py, models.py, urls.py, views.py
 permissions
 __init__..py, decorators.py, permissions.py
 tests...

 config

 __init__..py, base.py, development.py, production.py, staging.py

 tools

 apps.py, constants.py, login_manager.py, url_tools.py, sessions.py,

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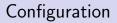
Global Application Context

- The main app.py!
- Pretty common method, with a very slight twist

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- Flask-Environments
- Utilize FLASK_ENVIRONMENT environment variable

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URL and View Routing

- Here is where things get sugary.
- How does Django do it? How do we want it?
 - ► INSTALLED_APPS
 - tooling
- TO THE CODE!

ba95b15727bd4f543e907e4e12d06112d750168f



ORM & Models

- Pick a Database (SQL, NoSQL, Graph, Key-Value, ...)
- Hope that it has a sane ORM, if not...
- CREATE ONE! (challengeaccepted)
- ▶ We'll use bulbs (a really cool OGM) and factory_boy
- How do we want to integrate it! Just the same way! Utilize INSTALLED_APPS loader

 TO THE CODE! a3ca56d346731b9ca953f0c08fda3fb99325d353 Django-Style Flask └─Django Sugar └─Sugar Cube

Auth & Sessions

- Auth and sessions are built-in to Django, not so much in Flask
- Create or own auth app and models
- Implement Authentication with Flask-Login and Flask-Cache!

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TO THE CODE!
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Django-Style Flask
Django Sugar
└─Sugar Cube

Testing

 Django has a TestRunner built-in - creates test database and... Flask doesn't

- We still have nose!
- We also have Flask-Testing!
- TO THE CODE!
 66c2c5b14e52584892d1a28a9dd33f112d57591c



Permissions

 Permisisons are built-in to Django (Though Guardian is way better)

- Create our own or use Flask-Prinicpal
- Preview available in code
 66c2c5b14e52584892d1a28a9dd33f112d57591c

Django-Style Flask └─Wrap it All Up

Wrapping it All Up

Whoa! This looks and feels sorta like Django!

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- What we've done today:
 - Organization
 - Global Application Context
 - Configuration
 - URL and View Routing
 - ORM & Models
 - Auth & Sessions
 - Testing
 - Permissions

Django-Style	
Questions	

Questions? Comments?

Please just wake up.

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