Accelerating Information Technology Innovation

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Nigeria Summer 2012
Lecture DJ01 – Introduction to Django
The Big Picture

Google App Engine

Your Django app

Android OS

Your Android app
Development Tools

• Operating system
  – Windows (Optimally Linux)

• Integrated Development Environment
  – Eclipse (Pydev)

• Version Control
  – git, GitHub
Web Application Framework

• A framework (a.k.a. code libraries) that provides functionality for common components in a website, web app, or web service.

• Eases coding for
  – Working with forms
  – Handling HTTP requests
  – Templates for common HTML layouts
  – URL mapping
  – Database communication
  – Session management
  – Site security

• Allows you to focus on design and functionality rather than small details.
Model-View-Controller (MVC)

- A paradigm for organizing code often seen in web app frameworks
- Main idea is
  1. Separate the storage and manipulation of data (the model) and the presentation of data (view)
  2. Use the Controller to communicate between the model and view
- Advantages
  - Easier to develop and test model and view independently
  - Easier for others to understand
- Exact roles of model, view, and controller depend on who you ask!
Model-View-Controller (MVC)
(news site example)

Controller

Send request for a story

View
• Layout of stories on mobile phone or desktop browser

Serves requested story

Model
• News stories and images in a database
• User comments

Asks the model for the story and its user comments
Google App Engine

- Google’s cloud computing platform to develop and host web applications
- Distributed data storage service (The Datastore)
- Free up to 500 MB of storage and 5 million page views
- Saves the hassle and initial costs of setting up your own server equipment and software
- Supports Java and Python
What is Django?

- Web application framework, written in Python
- Released 2005
- Began with World Online, that needed to rapidly develop applications for news sites.
- Named after gypsie jazz guitarist Django Reinhardt (1910-53)
- Follows the Model-View-Controller paradigm
Why Django?

• Fast and easy development of web applications
  – Modular and re-useable. Don’t Repeat Yourself (DRY) principle
  – Hides database details

• Active development and wide community support

• Successful Django sites http://djangosites.org/

• Supported by Google App Engine
Download Django

• Go to
• [http://www.djangoproject.com/download/](http://www.djangoproject.com/download/)
• Download and extract
Add Python to your System Path

- For Windows 7 / Vista
- Right Click on Computer -> Properties -> Advanced System Settings -> Environment Variables -> System Variables -> Path
- Add the following line to the current value there ..
  
  C:\Python27;C:\Python27\Scripts

- Go to command prompt and type python .. Should work now ... (or restart your machine and try again)
Install Django

• Go to command prompt

• Navigate into the just extracted django directory and type:
  python setup.py install.

• This command will copy the Django files into the Python’s installation directory (probably into <C:\Python26\Lib\site-packages>).
Run Your First Django App

- Create a folder to store your projects e.g C:\pyprojects\'
- Create a django application
django-admin.py startproject mysite
- Start the server within the mysite folder on port 86
  python manage.py runserver 127.0.0.1:86
- You should see a page ... You are ON!!