



# Accelerating Information Technology Innovation

<http://aiti.mit.edu>

Nigeria Summer 2012  
Lecture DJ01 – Introduction to Django

# The Big Picture



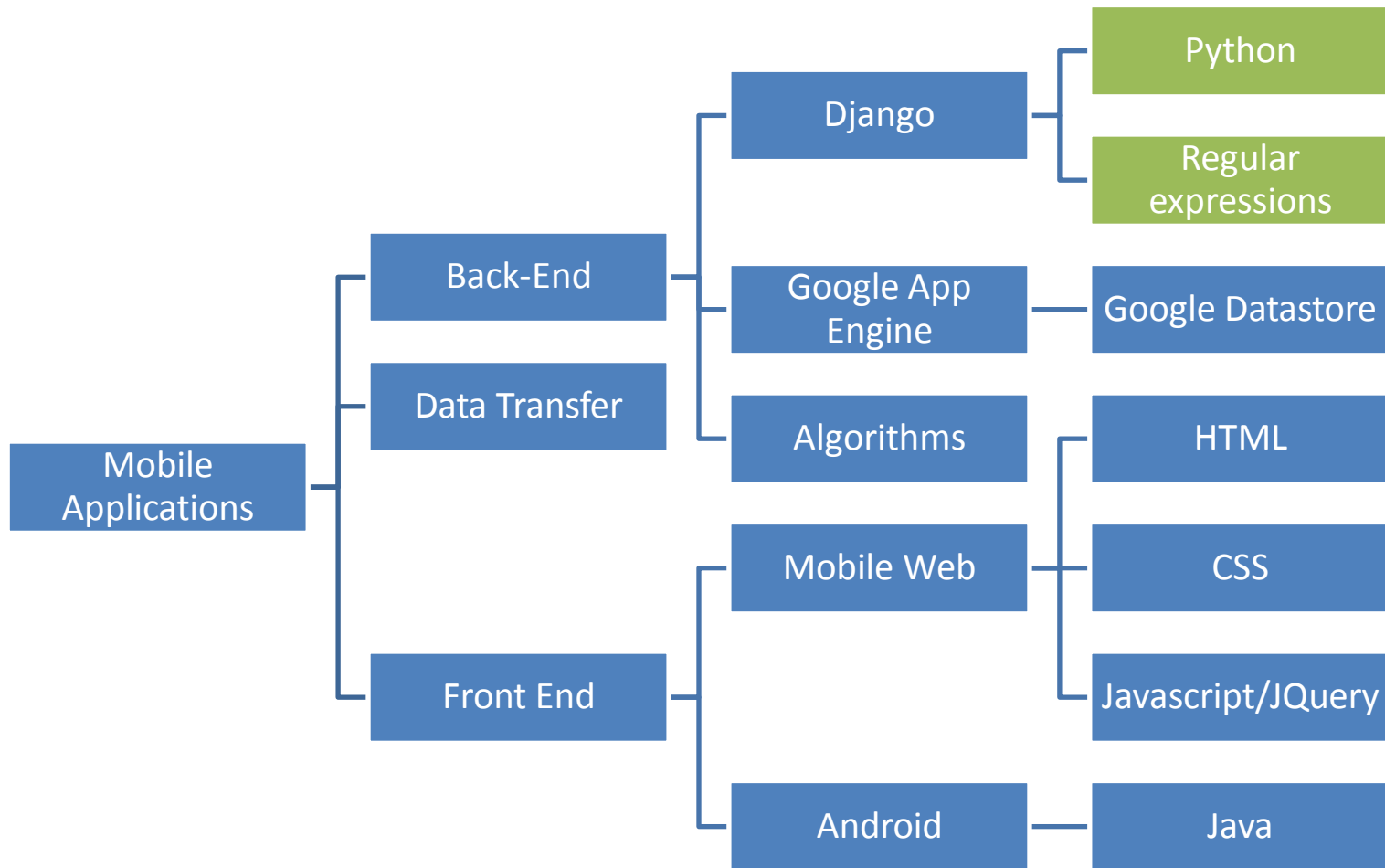
Google App Engine

Your Django app

Android OS

Your Android app

# Course Roadmap



# Development Tools

- Operating system
  - Windows (Optimally Linux )
- Integrated Development Environment
  - Eclipse (Pydev)
- Version Control
  - git, GitHub

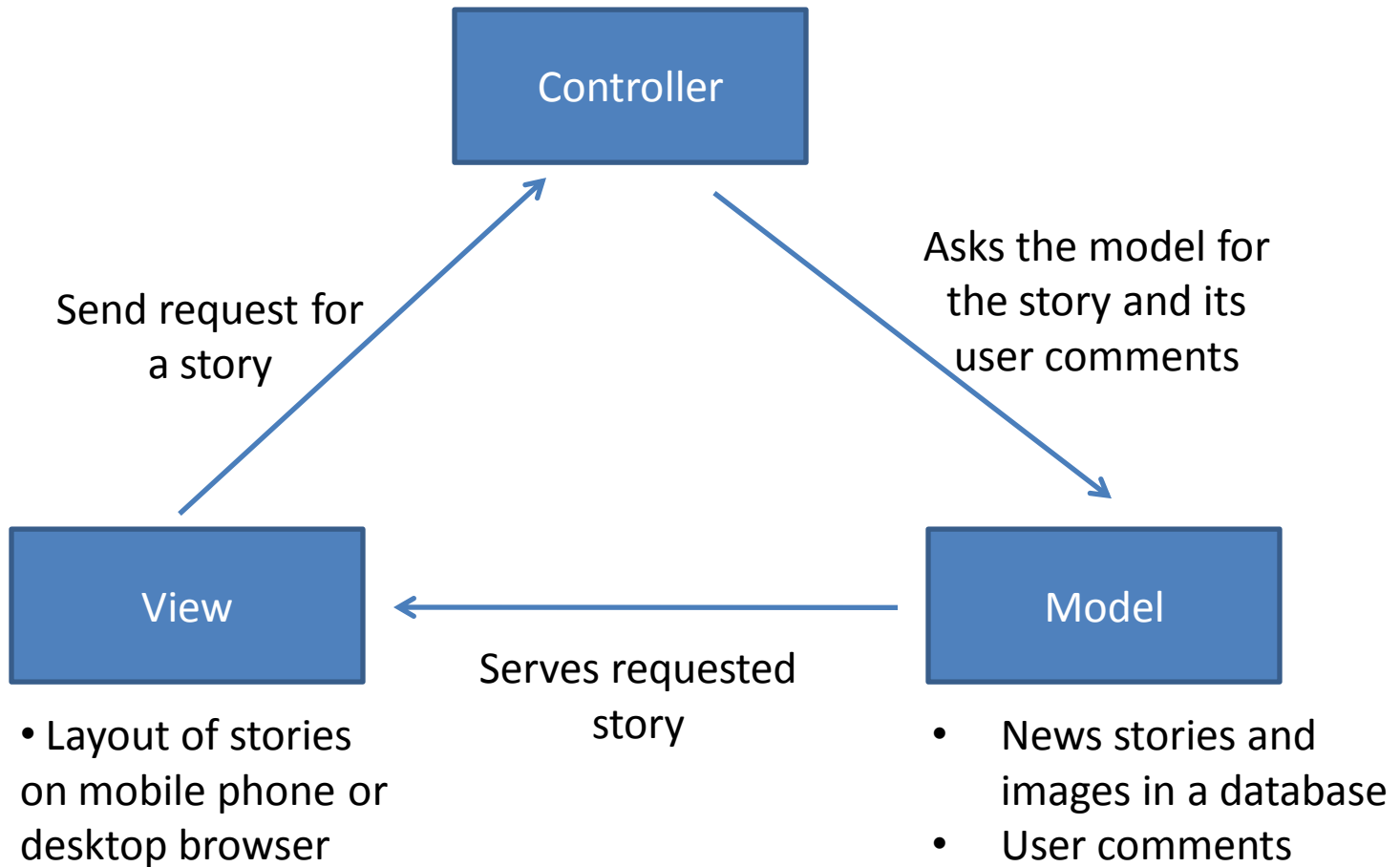
# Web Application Framework

- 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)



# 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 gypsy 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/>
- 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!!

# Course Roadmap

