



# Accelerating Information Technology Innovation

<http://aiti.mit.edu>

Sri Lanka Summer 2012  
Lecture DJ01 – Web Frameworks



# The Big Picture



Google App Engine

Your Django app

Android OS

Your Android app

# Development Tools

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

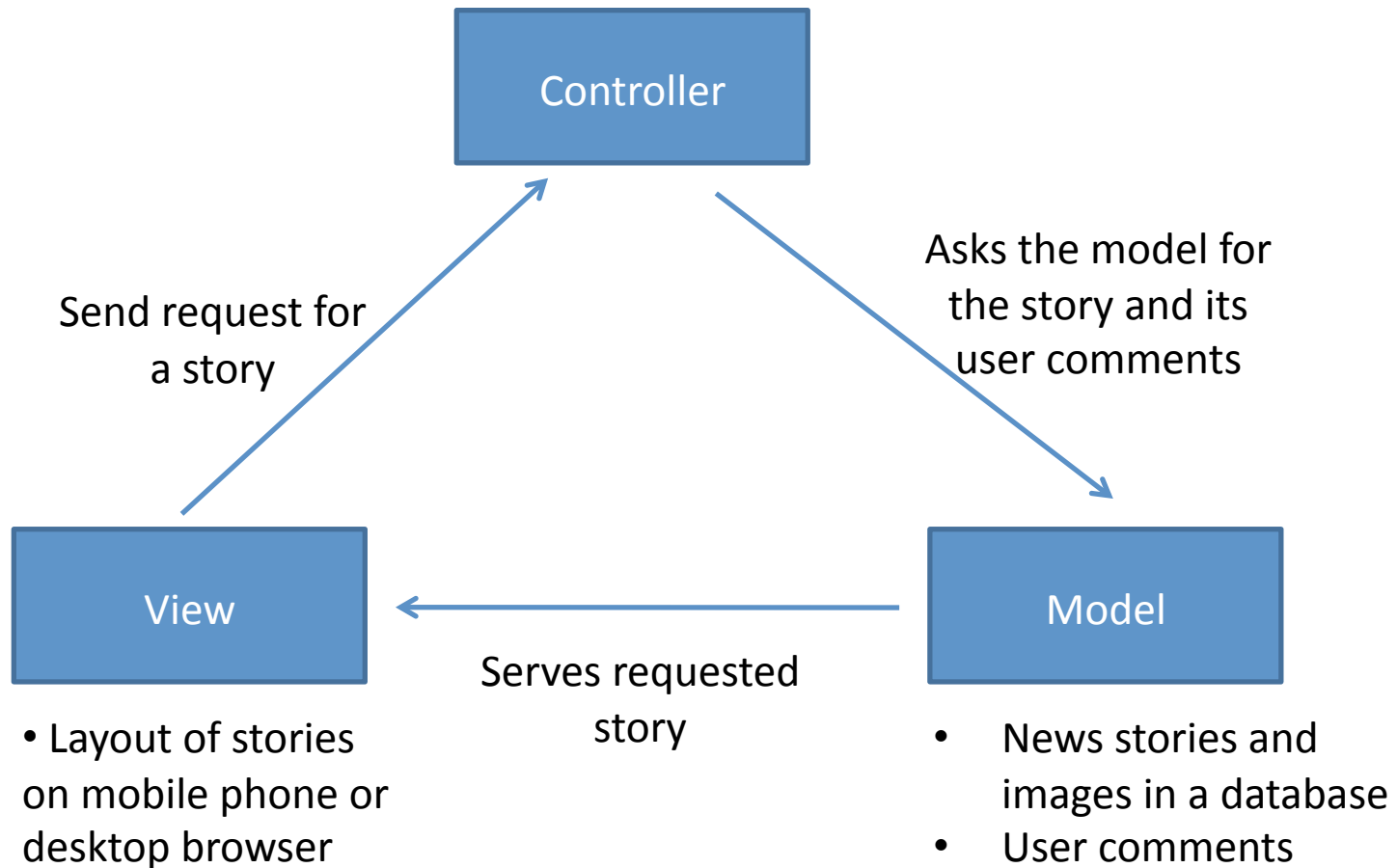
# Web Application Framework

- 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