

# B345 Internet Science and Technology

Week 3 lecture 1

# Prelude

- Tutorials

# This lecture's Learning Objectives

- Know the different ways of using the term "Software Architecture"
- Understand the IEEE Standard 1471 for Software Architecture.

# Defining "Software Architecture"

- <http://www.bredemeyer.com/definiti.htm>
- <http://www.sei.cmu.edu/architecture/definitions.html>

# Defining "Software Architecture"

- Term inconsistently used.
- Still, there is a growing body of work under the umbrella of this term.

# IEEE Standard 1471

- It is about *how to describe* a software architecture - ie. the practice of software architecture *description*.
- Does NOT standardize architectures, nor the process of developing an architecture.

# IEEE Standard 1471

- Influence from civil engineering concepts.
- The job of an architect in building construction.  
Deals with
  - Owners
  - Final occupants
  - Builders
  - City council
  - Decorators
  - Gardeners
  - Etc...

# Usefulness of IEEE 1471

- What IEEE 1471 shows us is:
  - Separation of *architecture* from *architecture description*.
  - Separation of *architecture* from *process of developing the architecture*.
  - Separation of *description* from *process of developing the description*.
  - All systems are multi-viewed.

# Content Requirements of IEEE 1471

- Must identify stakeholders.
- Must identify their concerns. Eg.
  - Functionality.
  - Performance.
  - Security.
  - Feasibility.
- Organize into multiple *views*.
- Provide rationale.