Architectural Styles

Reid Holmes

Lecture 10 - Monday, February 4, 2013.

Deliverable #2 discussion

▸ Due Monday Feb 11 @ 0800

▸ Written and oral component

Architectural representations

▸ Characteristics of representations:

  ▸ Ambiguity: Open to more than one interpretation?

  ▸ Accuracy: Correct within tolerances

  ▸ Precision: Exact but not necessarily correct

▸ Architectural models can be overwhelming

  ▸ Model individual concerns with unique views

  ▸ Views overlap and can be consistent on inconsistent

Precision & Recall

Statechart diagram

▸ More formal description of system behaviour.

▸ Poor mapping between states and components.

Component diagram

‣ Captures components and relationships.

   ‣ Required and provided APIs explicitly recorded.

Deployment diagram

▸ Provide mapping between physical devices

Thursday, 14 February, 13

Sequence diagram

▸ Focus on inter-component collaboration.

▸ Capture behaviour for specific scenarios.

Review

Architectural Styles

- Language Based
  - Object-oriented
    - Main program & Subroutines
- Layered
  - Client Server
  - Virtual Machine
- Dataflow
  - Pipe-and-Filter
    - Batch-sequential
- Peer-to-Peer

- Shared Memory
  - Rule-based
    - Blackboard
- Interpreter
  - Interpreter
    - Mobile code
- Implicit Invocation
  - Publish-subscribe
    - Event-based