Wednesday March 10 Notes

Today we're going over the 4+1 Views paper & the IEEE Recommended Practice for Software Design Descriptions (IEEE 1016) papers we were assigned to read on Monday March 8 (See previous notes).

**Software Design:**

- **IEEE 1016**
  - **Software Design Process**

  4.2 For both new & existing systems, it is important to ensure that the design and implementation used for a software system satisfy the requirements driving that system.

  4.3 Purpose – a translation of requirements into a description of the software structure, software components, interfaces, and data necessary for the implementation phase.

  - **Design entities** – DE$_1$, DE$_2$, DE$_3$, DE$_4$, how they interconnect and data they share.
    1. DE Name/ID:
    2. Type:
    3. Purpose:
    4. Function:
    5. Attributes[1-10]

  - **Entity Attributes**
    1. ID
    2. Type
    3. Purpose
    4. Function ← Features + Functional Requirements
    5. Subordinates
    6. Dependencies
    7. Interfaces
    8. Resources
    9. Processing
    10. Data

  - 6.2 Design Views – Each design view represents a separate concern about a software system.
    IEEE 1016
    **Design Views**
    1. Decomposition
    2. Dependency
    3. Interface
    4. Detail

    Which one of these is the heart? All equally important.
    Corresponding Tools + Notation for each view.
    What is our end objective? Next is the **implementation**.

    “What are the similarities with the 4+1 paper?”... The views are totally different.
Hierarchical Decomposition:
Tree: Top node is the root. Branches out toward the bottom. Lower nodes are leaves.

6.2.3.2 Use - The interface description serves as a binding contract among designers, programmers, customers, and testers. Agreement needed BEFORE proceeding with the detailed design entities.

6.2.3.3 Representation - ...customer should perceive the system should include a functional model, scenarios for use, detailed feature sets, and the interaction language.

Detailed design description:
Scope
Use

Appendices...

**4+1 Views**
SCENARIOS
- Logical
- Development
- Processing
- Physical

The IEEE standard may capture the Logical and Physical views...

**DUE DATE... Draft March 31. Final version April 5th?**