University of Illinois at Urbana-Champaign
Dept. of Electrical and Computer Engineering

ECE 220: Computer Systems & Programming

Hierarchies of Structures

ECE 220: Computer Systems & Programming

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Bibliographies Reference Many Types of Documents

What if we have a large group of inter-related types?

For example, documents in a bibliography.

For each document, we have a reference.

But some documents are papers, while others are books.

Some papers are conference papers, while others are journal papers.

And some books are textbooks, while others may be part of a series.

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Type Hierarchy Implies Structural Inclusion Relations The basic type is a reference t. It has an author list, a double list t title, and a year of publication. prev, next To organize references, we include a double list t (at the start of the struct). reference t The reference is shown as a child or sub-type of the author list, title, year double list t. The result is called a type hierarchy (or, in other languages, a class hierarchy). slide 3 ECE 220: Computer Systems & Programming © 2018 Steven S. Lumetta. All rights reserved.

Example: A Bibliographic Type Hierarchy double list t prev, next reference t author list, title, year book t paper_t related refs publisher, pages, month address, ISBN conf paper t arti t textbook t series t journal conf name, topic, editor, volume, place, student lvl ser name number **ISBN** slide 4 ECE 220: Computer Systems & Programming © 2018 Steven S. Lumetta. All rights reserved.

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