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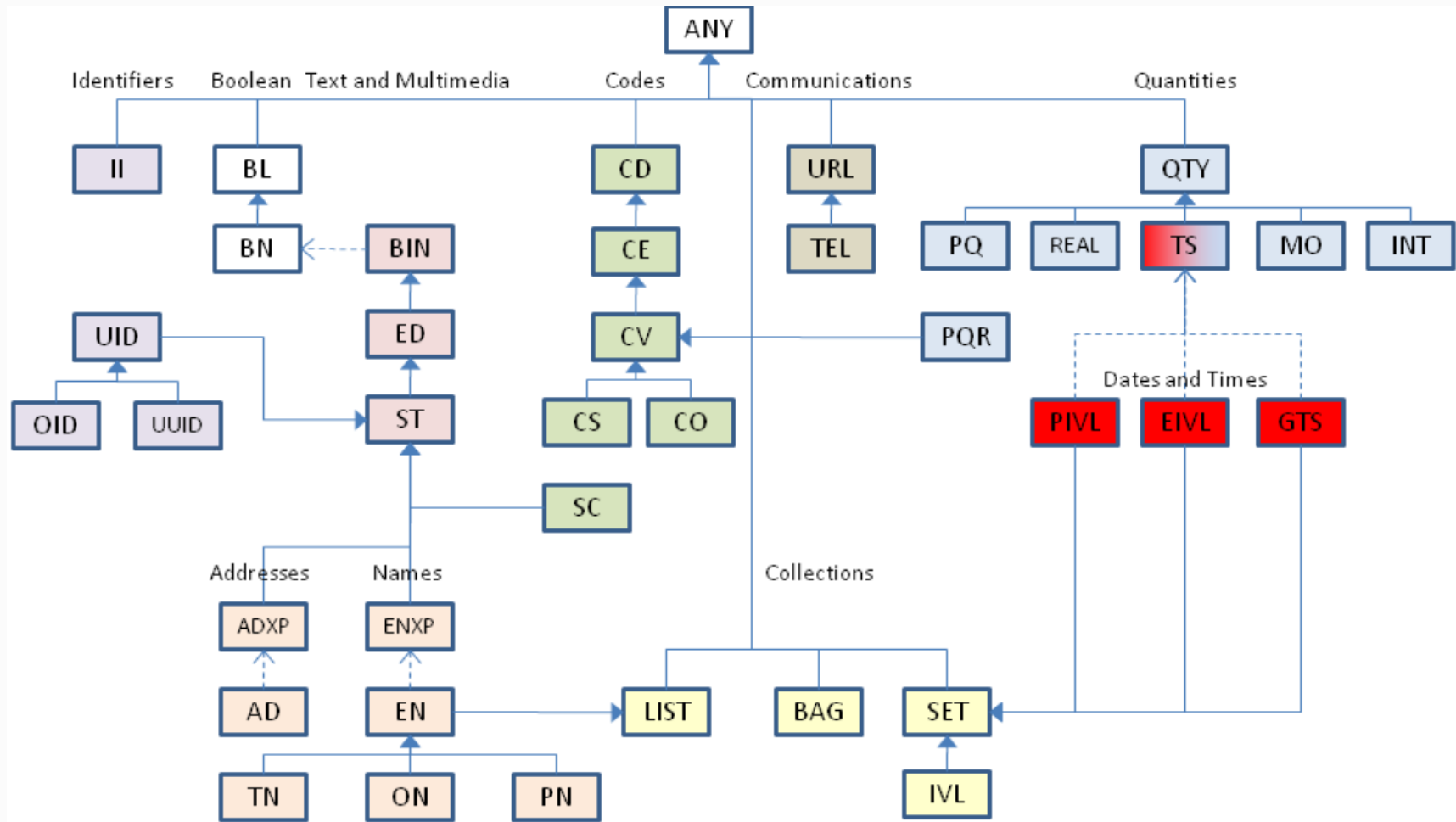
JOHNS HOPKINS  
UNIVERSITY

## Section C

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HL7 Data Types

# HL7 Data Types



# Basic Types

- BL Boolean
  - true or false
- TS Time Stamp
  - YYYYMMDDhhmmss.SSS+/-hhmm
  - Optional Precision and Timezone
- INT and REAL
- ST String



# Null Flavors (9 Different Ways to Say “I don’t know”)

- NI - No Information
- UNK - I don’t Know
  - ASKU - I asked but still don’t know
  - NASK - I don’t know and didn’t ask
  - NAV - Temporarily Not available
- NA - Not Applicable
- OTH - Not in allowed Range
  - PINF - Positive Infinity
  - NINF - Negative Infinity

Supported on all data types

# Identifiers

- II - Instance Identifier
- Two required parts:
  - Extension: locally unique identifier
  - Root: part to make it globally unique
    - ▶ Uses either an ISO Object Identifier or a UUID
  - Extension may be omitted



# Codes

- CD - Concept Descriptor, supports post-coordination
- CV - Coded Value, no support for post-coordination
- CE - Coded Element, no alternate codes
- Two required parts:
  - code: identifies concept
  - codeSystem: an OID identifying the coding system
- Think of code as an identifier for a concept in a code system
  - code is like extension
  - codeSystem is like root

# Quantities

- PQ - Physical Quantity
- Used to record most measurements; two main parts:
  - Value - records the measurement
  - Unit - records the units
- PQ is like a vector with magnitude (value) and direction (unit)
- Two PQs can be operated on mathematically according to those rules with a few exceptions



# Dates and Times

- IVL\_TS - Interval of Time
- EIVL\_TS - Event driven Interval of Time
  - Morning, noon, night, meals, sleeping, etc.
- PIVL\_TS - Periodic Intervals
  - BID (twice a day), TID (three times a day), Q12H (every twelve hours), Q6H (every six hours), etc.
  - Phase can be specified (starting at 9:00 am)
  - Duration can be specified (for twelve minutes)
- GTS - General Timing Specification
  - Supports every Monday at 1:00 pm and every Wednesday at 11:00 am between Labor day and Memorial day

# Communications

- TEL - Telecommunications Address
- Based upon URLs
  - http: - the Web
  - mailto: - e-mail
  - tel: - telephone numbers
  - im: - instant messaging

# Addresses

- ADDR supports address with multiple parts
  - streetAddressLine (can repeat)
  - city
  - state
  - postalCode
  - country
  - county

# Names

- PN - Personal Name
  - prefix
  - given
  - family
  - suffix
  
- Appears in display order
  
- Western concepts of “first” and “middle” are equivalent to “given”
  - My second given name is my middle name
  
- Other attributes of names and name parts can be specified
  - e.g., Preferred, Legal, Alias, or Birth names; type of prefix/suffix (academic or professional)

# Collections

- BAG - collection with unordered members that can repeat
- LIST - collection with ordered members that can repeat
- SET - collection with unordered members that cannot repeat
- IVL - interval
  - A range (set contained) between two quantities

## Additional Resources

HL7	<a href="http://www.hl7.org">www.hl7.org</a>
HITSP C32	<a href="http://www.hitsp.org">www.hitsp.org</a>
CDA standards	<a href="http://www.hl7.org/implement/standards/cda.cfm">www.hl7.org/implement/standards/cda.cfm</a>
CDA mailing list	<a href="http://lists.hl7.org/read/?forum=strucdoc">lists.hl7.org/read/?forum=strucdoc</a>
CCD list	<a href="http://lists.hl7.org/read/?forum=ccd">lists.hl7.org/read/?forum=ccd</a>
Implementers mailing list	<a href="http://groups.google.com/">http://groups.google.com/</a>
IHE PPC mailing list	<a href="http://ihe-pcc-implementors?lnk=iggc">ihe-pcc-implementors?lnk=iggc</a>
HITSP education	<a href="http://www.hitsp.org/archived_webinars.aspx">www.hitsp.org/archived_webinars.aspx</a>
Keith Boon—blog	<a href="http://motorcycleguy.blogspot.com">http://motorcycleguy.blogspot.com</a>
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