Cover Languages

- Given

  - a set of selected words: a.x.y.z.w.b, and

  - the schema {a.x.y.z.w.b, a.r.s.t}.

- We are checking words from the schema only against the set of selected words.

- It's possible to use a.(x|y|z|w)*.b as an alternative set of selected words. Why?

Path Expressions With Iterated Wild Cards

- An abstraction mechanism over structural details.

- Examples:

  - XPath: //para

  - AOP: call(void n()) && cflow(call(void m())

  - AP: from A to B

Path Expression

- from a to b

- Schema: {a.x.y.z.w.b, a.r.s.t}

- APE: $\quad a \cdot \diamond^* \cdot b$

- EAPE: $\quad a \cdot (x|y|z|w|r|s|t)^* \cdot b$

- SEL = EAPE $\cap$ Schema = $\ a \cdot x \cdot y \cdot z \cdot w \cdot b$

Question

- Applicability to XML processing?

WYSIWYG Semantics

- Wild cards can be replaced only with symbols not mentioned in the path expression.

- Efficiency (Determinism).

- Non-ambiguity.

- Modularity. (Order Guarantee)

  - BR-> LoB -> Bus -> LoP -> Passenger -> Pass -> BR.

  - BR -> Passenger.

CDAP

- <book> ... <author> <name> <first> <\first> <last> <\last> ...

- <first> & <last> are interchangeable.

- Print author first name followed by last name regardless of their order in the XML document.