Software Engineering
Errata for the Course Slides

September 7, 2015

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Lecture 7: DTs, Uselessness

Slide 21 (new!)

A couple of ticks (’) went astray. The second bullet point should read:

- A rule \( r = \varphi \rightarrow \alpha \) is called useless (or: redundant) if and only if there is
  another (different) rule \( r' \) whose premise \( \varphi' \) subsumes \( \varphi \) and whose effect is
  the same as \( r \)'s, i.e. if

\[
\exists r' = \varphi' \rightarrow \alpha', r' \neq r \bullet |(\varphi' \implies \varphi) \wedge \alpha = \alpha'.
\]

\( r \) is called subsumed by \( r' \).
Lecture 9: Live Sequence Charts

Slide 20

The correct definition of active for local invariants:

Local invariant \((l_0, \iota_0, \phi, l_1, \iota_1)\) is active at cut \(q\) if and only if \(l_0 \preceq l \prec l_1\) for some front location \(l\) of cut \(q\) or \(l = l_1 \land \iota_1 = \bullet\).

Slide 22 (new!)

In the handwritten annotations, a couple of places which should have \(F\) (consistently) obtained an erroneous \(F!\) instead; namely all transitions originating at \(q_4\) or below.

The correct annotations are shown on Slide 17.

Lecture 12: Structural Software Modeling

Slide 29

The second argument of the interpretation function for the 4th bullet point of the semantics is missing.

\[
\mathcal{I}[\forall c : C \bullet F](\sigma, \beta) = \ldots
\]

Lecture 15: Software Quality Assurance

Slide 28

The first and second bullet points of the second list have an \(x\) where there should be an \(r\), i.e. they should correctly read:

- \(\{(q + 1) \cdot y + r = x \land r \geq 0\} \quad q := q + 1 \{P\} \text{ by (A2)},\)
- \(\{(q + 1) \cdot y + (r - y) = x \land (r - y) \geq 0\} \quad r := r - y \{(q + 1) \cdot y + r = x \land r \geq 0\} \text{ by (A2)},\)

Slide 30

The error was (at least consistently) copied over to slide 30. There the lowest triple labelled with “A2” should read:

\[
\{(q + 1) \cdot y + r = x \land r \geq 0\}
\]
- \(q := q + 1\)
  
\[
\{q \cdot y + r = x \land r \geq 0\}\]
Tutorial 4: TBA Annotation

Slide 30 (new!)

The annotation of the self-loop of $q_2$ should read

$$\varphi_1 \land \ldots$$

i.e. without logical negation (“¬”).

Fun fact: conditions of *hot* conditions and local invariants never appear negated in a TBA annotation constructed from an LSC as introduced in the lecture.