Errata for *Unifying modal interface theories and compositional input/output conformance testing*

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Our publication titled *Unifying modal interface theories and compositional input/output conformance testing* [1] requires the following corrections.

Section 3.1, page 32. In particular, p is *quiescent*, denoted $\delta(p)$, iff $init(p) := \{\alpha \in (I \cup O) \mid p \xrightarrow{\alpha}\} \subseteq I$ and $p \not\xrightarrow{\tau}$ hold.

Section 3.2, page 34. Definition 4 needs to be changed as follows.

Definition 4. *Let Q be a MIA_Φ over I and O, $p \in Q$ and $\sigma \in (I \cup O \cup \{\delta, \varphi\})^*$.*

- $init_\gamma(p) := \{\mu \in (I \cup O) \mid p \xrightarrow{\mu}_\gamma\}$,
- *p is* may-quiescent*, denoted by $\delta_\Diamond(p)$, iff $init_\Box(p) \subseteq I$, $p \not\xrightarrow{\tau}_\Box$, and $p \neq q_\Phi$,*
- *p is* must-quiescent*, denoted by $\delta_\Box(p)$, iff $init_\Diamond(p) \subseteq I$, $p \not\xrightarrow{\tau}_\Diamond$, and $p \neq q_\Phi$,*
- *p is* may-failure*, denoted by $\varphi_\Diamond(p)$, iff $p = q_\Phi$ or $\exists p' \in Q, i \in I : (p' \xrightarrow{i}_\Diamond p$ and $p' \not\xrightarrow{i}_\Box p)$,*
- *p is* must-failure*, denoted by $\varphi_\Box(p)$, iff $p = q_\Phi$,*
- $p\,\mathbf{after}_\gamma\,\sigma := \{p' \mid p \overset{\sigma}{\Longrightarrow}_\gamma p'\}$,
- $Out_\gamma(p) := \{\mu \in O \mid p \xrightarrow{\mu}_\gamma\} \cup \{\delta \mid \delta_\gamma(p)\} \cup \{\varphi \mid \varphi_\gamma(p)\}$, *and*
- $Straces_\gamma(p) := \{\sigma \in (I \cup O \cup \{\delta, \varphi\})^* \mid p \overset{\sigma}{\Longrightarrow}_\gamma\}$, *where $p \xrightarrow{\delta}_\gamma p$ if $\delta_\gamma(p)$, and $p \xrightarrow{\varphi}_\gamma p$ if $\varphi_\gamma(p)$.*

References

[1] L. Luthmann, S. Mennicke, and M. Lochau. Unifying modal interface theories and compositional input/output conformance testing. *Science of Computer Programming*, 172:27–47, 2019.