

<p>MODULE <i>crackers4a</i></p> <p>CONSTANTS <i>Things, People</i></p> <p>VARIABLES <i>desires, holds</i></p> <p>$Init \triangleq \wedge desires = [p \in People \mapsto \{\}]$ $\wedge holds = [p \in People \mapsto \{\}]$</p>
<p>$Desire(p) \triangleq \wedge desires[p] = \{\}$ $\wedge holds[p] = \{\}$ $\wedge \exists t \in Things :$ $\wedge desires' = [desires \text{ EXCEPT } ![p] = \{t\}]$ $\wedge \text{UNCHANGED } holds$</p>
<p>$Acquire(p) \triangleq \exists t \in desires[p] :$ $\wedge t \notin holds[p]$ $\wedge holds' = [holds \text{ EXCEPT } ![p] = holds[p] \cup \{t\}]$ $\wedge \text{UNCHANGED } desires$</p>
<p>$Satiated(p) \triangleq \wedge desires[p] \neq \{\}$ $\wedge \forall t \in desires[p] : t \in holds[p]$ $\wedge desires' = [desires \text{ EXCEPT } ![p] = \{\}]$ $\wedge \text{UNCHANGED } holds$</p>
<p>$TidyUp(p) \triangleq \wedge desires[p] = \{\}$ $\wedge \exists t \in holds[p] :$ $\wedge holds' = [holds \text{ EXCEPT } ![p] = holds[p] \setminus \{t\}]$ $\wedge \text{UNCHANGED } desires$</p>
<p>$Next \triangleq \exists p \in People :$ $\vee Desire(p)$ $\vee Acquire(p)$ $\vee Satiated(p)$ $\vee TidyUp(p)$</p>
<p>$TidiesUp \triangleq \neg \exists p \in People :$ $\wedge desires[p] \neq \{\}$ $\wedge \exists l \in holds[p] : l \notin desires[p]$</p>
<p>$Spec \triangleq Init \wedge \Box [Next]_{\langle desires, holds \rangle}$</p>