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| <p>           MODULE <i>crackers6</i> </p>   |
| <p>           CONSTANTS <i>Things, People</i><br/>           VARIABLES <i>desires, holds</i> </p>  |
| <p> <math>Init \triangleq \wedge desires = [p \in People \mapsto \{\}]</math><br/> <math>\wedge holds = [p \in People \mapsto \{\}]</math> </p>  |
| <p> <math>Desire(p) \triangleq \wedge holds[p] = \{\}</math><br/> <math>\wedge \exists t \in Things :</math><br/> <math>\wedge desires' = [desires \text{ EXCEPT } ![p] = desires[p] \cup \{t\}]</math><br/> <math>\wedge \text{UNCHANGED } holds</math> </p>          |
| <p> <math>Acquire(p) \triangleq \exists t \in desires[p] :</math><br/> <math>\wedge \neg Held(t)</math><br/> <math>\wedge holds' = [holds \text{ EXCEPT } ![p] = holds[p] \cup \{t\}]</math><br/> <math>\wedge \text{UNCHANGED } desires</math> </p>                   |
| <p> <math>Satiated(p) \triangleq \wedge desires[p] \neq \{\}</math><br/> <math>\wedge \forall t \in desires[p] : t \in holds[p]</math><br/> <math>\wedge desires' = [desires \text{ EXCEPT } ![p] = \{\}]</math><br/> <math>\wedge \text{UNCHANGED } holds</math> </p> |
| <p> <math>TidyUp(p) \triangleq \wedge desires[p] = \{\}</math><br/> <math>\wedge \exists t \in holds[p] :</math><br/> <math>\wedge holds' = [holds \text{ EXCEPT } ![p] = holds[p] \setminus \{t\}]</math><br/> <math>\wedge \text{UNCHANGED } desires</math> </p>     |
| <p> <math>Next \triangleq \exists p \in People :</math><br/> <math>\vee Desire(p)</math><br/> <math>\vee Acquire(p)</math><br/> <math>\vee Satiated(p)</math><br/> <math>\vee TidyUp(p)</math> </p>  |
| <p> <math>TidiesUp \triangleq \neg \exists p \in People :</math><br/> <math>\wedge desires[p] \neq \{\}</math><br/> <math>\wedge \exists l \in holds[p] : l \notin desires[p]</math> </p>  |
| <p> <math>Exclusivity \triangleq \neg \exists p, q \in People : p \neq q \wedge (holds[p] \cap holds[q]) \neq \{\}</math> </p>   |
| <p> <math>Spec \triangleq Init \wedge \Box [Next]_{\langle desires, holds \rangle}</math> </p>   |