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$$\begin{array}{l} \text{mat-} \\ \text{ri-} \\ \text{cally} \\ \text{re-} \\ \text{fines} \\ \text{a,} \\ \text{given} \\ \text{ab-} \\ \text{strac-} \\ \text{tion} \\ \text{high-} \\ \text{fidelity} \\ \text{q-} \\ \text{sim-} \\ \text{la-} \\ \text{tion} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{?} \\ \text{sens-} \\ \text{ing} \\ \text{tran-} \\ \text{si-} \\ \text{tions} \\ \overline{B} \\ |B| \\ \overline{B} \\ \mathcal{P}(B) = \\ \{B'\} \\ B' \subseteq \\ B \} \\ \overline{B} \\ |\mathcal{P}(B)| = \\ 2^{|B|} \\ \overline{N} \\ N > 0 \\ L \\ \text{surveil-} \\ \text{lance} \\ \text{game} \\ \text{struc-} \\ \text{ture} \\ (G = \\ (s, s', \mathcal{M},) \\ \overline{L} \times \\ L \\ \text{set} \\ \text{of} \\ \text{states} \\ (l_a, l_t) \in \\ S \\ l_a \in \\ L \\ l_t \in \\ L \\ S = \{l_a, l_t\} \in \\ S \\ \subseteq \\ \overline{\times} \\ \text{tran-} \\ \text{si-} \\ \text{tion} \\ \text{q-} \\ \text{la-} \\ \text{tion} \\ \overline{B} \times \\ (\mathcal{P}(L) \cup \\ \{\perp\}) \\ \text{sens-} \\ \text{ing} \\ \text{func-} \\ \text{tion,} \\ (l_a, l_t) \\ (b, U) \\ b \\ \text{true} \\ \text{q-} \\ \text{ca-} \\ \text{tion} \\ l_t \\ \text{can} \\ \text{be} \\ \text{sensed} \end{array}$$

$$\begin{array}{l} L_a \\ l'_p \in \\ L_a \\ ((l_a,B_t),(l_a,B'_t)) \in \\ \psi \\ (l'_a,B'_t) \end{array}$$

$$\begin{array}{l} (G,p_k) \\ \text{con-} \\ \text{cretiz-} \\ \text{able} \\ (G,p_k) \\ (l_a,A_t) \\ (l_a,B_t) \\ B_t \subseteq \\ \gamma(\overline{A_t}) \end{array}$$

$$\begin{array}{l} (4,\{18\}) \\ (3,\{Q_4,Q_5\}) \\ (9,\{Q_4,Q_5\}) \\ (4,\{18\}) \\ (3,\{17,23\}) \\ (9,\{17,23\}) \\ ?? \\ \quad ?? \\ (\alpha(G),p_1) \\ G \\ ?? \\ ?? \\ ?? \\ 17 \\ 23 \\ A_t = \\ \{Q_4,Q_5\} \\ p_1 \\ \{17,23\} \subseteq \\ \gamma(\{Q_4,Q_5\}) \\ ?? \end{array}$$

$$\begin{array}{l} (G,p_k) \\ () \\ T \\ T \\ G \\ T \\ (l_a,A_t) \\ (l_a,B_t) \\ T \\ B_t \subseteq \\ \gamma(\overline{A_t}) \\ T \\ p_k \\ () \\ all \\ of \\ its \\ leaf \\ nodes \\ (l_a,B_t) \\ (l_a,B_t) \not\models \\ p_k \quad \text{Remark:} \\ () \\ (l_a,B_t) \\ G \\ (C) \\ (C) \\ (C) \end{array}$$

$$\begin{array}{l} s \\ \psi \\ (l_a,B_t) \in \\ \psi' \\ (l'_a,A'_t) \\ G \\ (l'_a,B'_t) \\ ((l_a,B_t),(l'_a,B'_t)) \in \\ T \\ \overline{B'} \subset \end{array}$$

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