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(54) Title: APPARATUS, METHODS AND ARTICLES TO FACILITATE MOTION PLANNING IN ENVIRONMENTS HAVING DYNAMIC OBSTACLES

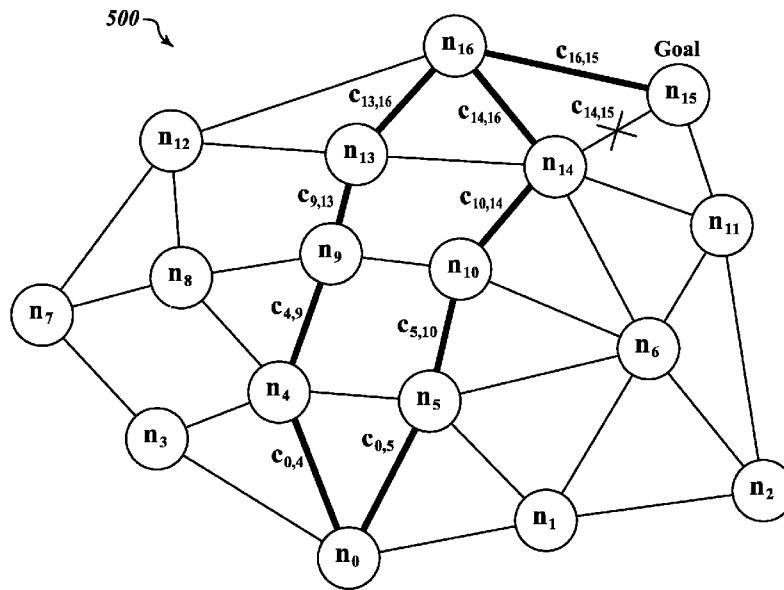


FIG. 5

(57) Abstract: A motion planner performs motion planning with collision assessment, using a motion planning lattice that represents configuration states of a primary agent (e.g., autonomous vehicle) as nodes and transitions between states as edges. The system may assign cost values to edges, the cost values representing probability or likelihood of collision for the corresponding transition. The cost values may additionally or alternatively represent a severity of collision, for example generated via a parametric function with two or more parameters and one or more weights. A primary agent and/or dynamic obstacles may be represented as respective oriented bounding boxes. Some obstacles (e.g., road markings, edge of road) may be represented as curves. A trajectory of a primary agent and/or dynamic obstacle may be represented by respective sets of fitted polynomial functions, edges on the planning graph, which represent transitions in states of the primary agent, the system sets value representing a probability of collision, and optionally representing a



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