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(54) Title: METHODS AND SYSTEMS FOR SHARED CONTROL OF GOAL DIRECTED WHEELCHAIR NAVIGATION

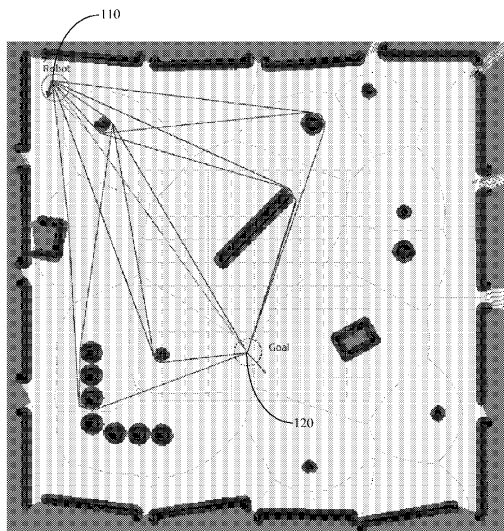


FIG. 1B

(57) Abstract: Methods, systems and computer readable memory for shared control of goal directed wheelchair navigations are provided. According to another aspect of the present embodiments, a shared control of goal directed navigation system is provided. The shared control of goal directed navigation system includes a user control device and a shared navigation controller. The shared navigation controller coupled to the user movement control device and generates a set of user intentions for navigating a plurality of paths to a predetermined goal. The shared navigation controller also predicts one of the set of user intentions as a preferred path in response to computing a probability of various ones of the plurality of paths to the predetermined goal and uses the preferred path as a guide for a shared dynamic window approach (DWA) based local path planning, the shared DWA based local path planning recognizing user input received from the user movement control device. Further, the shared navigation controller determines a final control command based on the user input.

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