1. Table users

Purpose: Manages authentication, authorization, and user-specific settings within the system.

- user_id: A unique identifier for each user, serving as the primary key.
- username: Identifies the user within the system, used for login and display.
- password_hash: Stores a secure hash of the user's password to protect their security.
- role: Defines the user's role in the system, which affects their access levels and permissions.
- created_at: Records the time when the user account was created, automatically set by the system.

2. Table components

Purpose: Catalogs all interchangeable and configurable components that can be attached to the robot.

- component_id: A unique identifier for each component, used as the primary key.
- type: Describes the type of component, such as wheel, camera, or sensor.
- model: The specific model of the component, useful for identification and support.
- specifications: Flexible text field that stores detailed specifications in JSON format.
- manufacturer: The manufacturer of the component, important for warranties and support.
- user_id: Links to the users table to show who registered or manages the component.
- created_at: Timestamp of when the component was added to the system.

3. Table journeys

Purpose: Tracks each journey undertaken by the robot, including planning and execution details.

- journey_id: A unique identifier for each journey, serving as the primary key.
- start_point: The geographical start point of the journey.
- end_point: The geographical end point of the journey.
- status: The current status of the journey (e.g., ongoing, completed).
- current_speed: The robot's speed at any given moment during the journey.
- expected_duration: The expected time the journey should take.
- actual_duration: The actual time the journey took.
- user_id: Indicates the user responsible for the journey.
- created_at: The time when the journey was created or logged.

4. Table journey_components

Purpose: Links components to specific journeys, indicating what equipment was used during any given journey.

- journey_id: Connects to the journeys table, part of the composite primary key.
- component_id: Connects to the components table, part of the composite primary key.
- created_at: The timestamp when this specific component was assigned to a journey.

5. Table event_logs

Purpose: Records significant events that occur during journeys, providing a log for analysis and troubleshooting.

- event_id: A unique identifier for each event, serving as the primary key.
- journey_id: Links the event to a specific journey.
- user_id: Optionally links the event to a specific user involved in or responsible for the event.
- timestamp: The exact time when the event occurred.
- event_type: Categorizes the event, such as sensor alert, system failure, etc.
- description: Provides a detailed description of the event, including what happened and any immediate consequences.