



Ant Robotic Control System

Introduction *1*

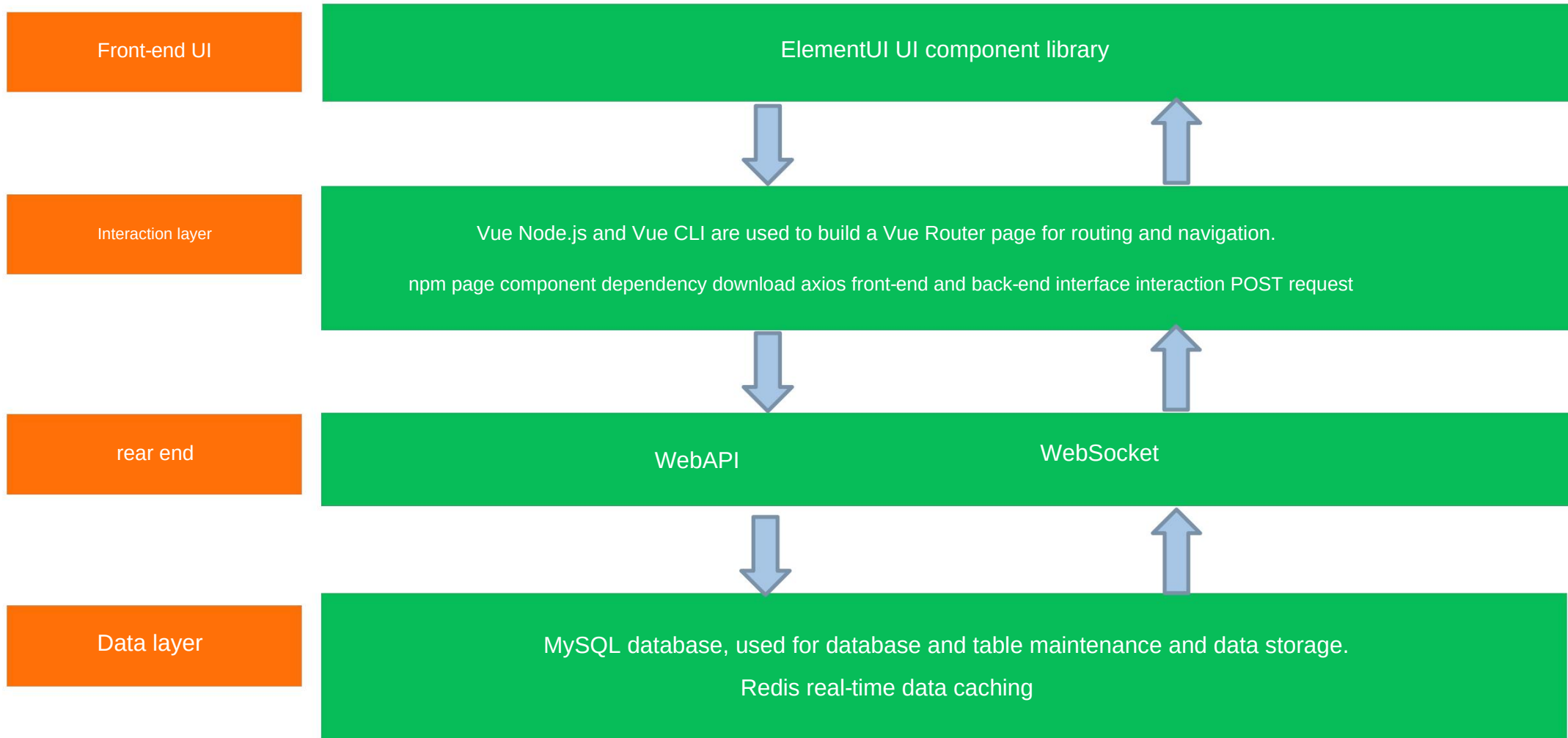
About



Figure 1 Login Page

Figure 2 Homepage

The Yifei Ant Colony Scheduling System (RCS) is a software solution that supports real-time management of AGV operation scenarios using various types and brands of controllers. Through centralized management and AGV route optimization, it improves the efficiency and accuracy of material transportation. Its rich strategy configurations and optimized multi-vehicle avoidance solutions can cover various complex application scenarios at customer sites.

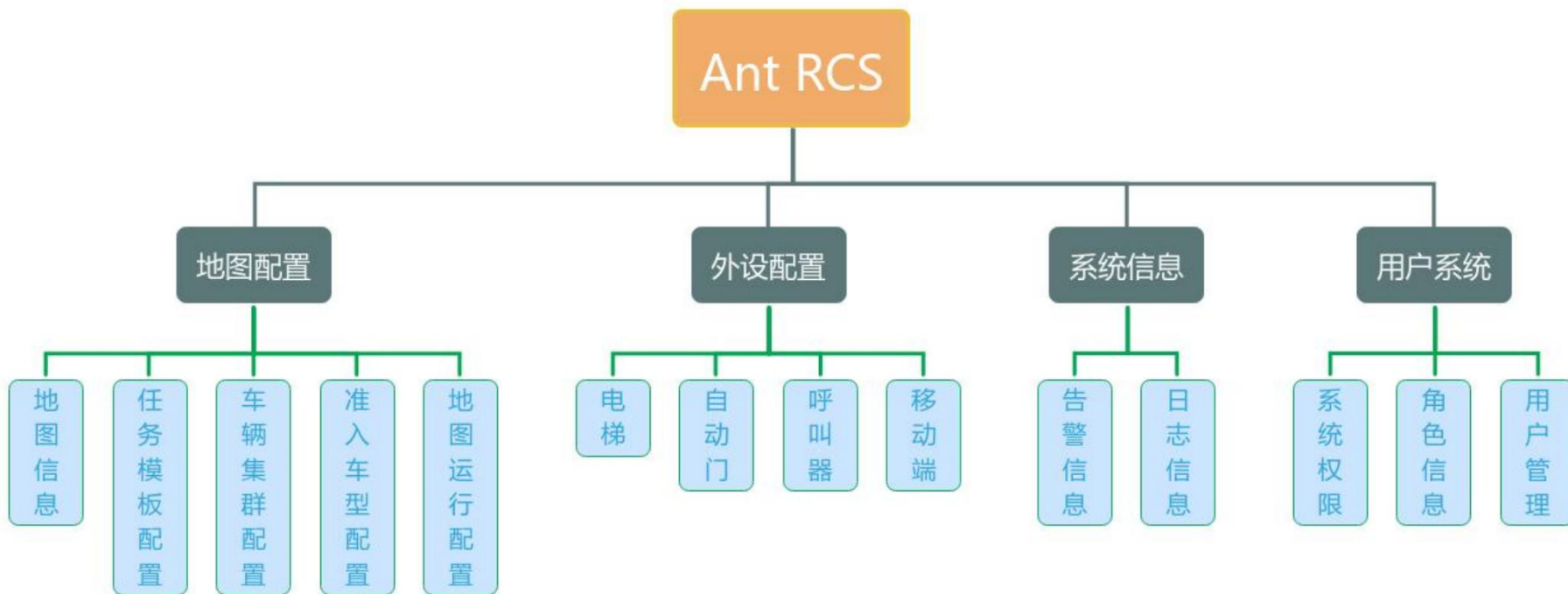




Main Function Introduction 2

Main function introduction

Functional overview



1. Map editor

地图名称	地图编码	运行状态	行驶地图面积	列数/地图宽	地图创建时间	创建人	操作
JJ	JJ	运行中	300行300(M)	300行300(M)	2024-06-14 16:31:14	Admin	运行 停止 详情 编辑 删除 导出
NT	南通	未运行	500行500(M)	500行500(M)	2024-06-13 09:00:00	Admin	运行 停止 详情 编辑 删除 导出

层数	层名称	Status	操作
1	一楼地图		导入/删除
2	二楼地图		导入/删除
3	三楼地图		导入/删除

TT	TT	未运行	500行500(M)	500行500(M)	2024-06-12 11:03:02	Admin	运行 停止 详情 编辑 删除 导出
BBB	BBB	未运行	200行200(M)	300行200(M)	2024-06-11 17:27:01	Admin	运行 停止 详情 编辑 删除 导出
5675	567	未运行	300行300(M)	300行300(M)	2024-06-04 17:11:09	Admin	运行 停止 详情 编辑 删除 导出
GGG	GGG	未运行	200行200(M)	200行200(M)	2024-05-29 09:21:59	Admin	运行 停止 详情 编辑 删除 导出
HW_Test	HW_Test	未运行	50行50(M)	50行50(M)	2023-10-02 09:18:40	Admin	运行 停止 详情 编辑 删除 导出

Figure 1 Map List

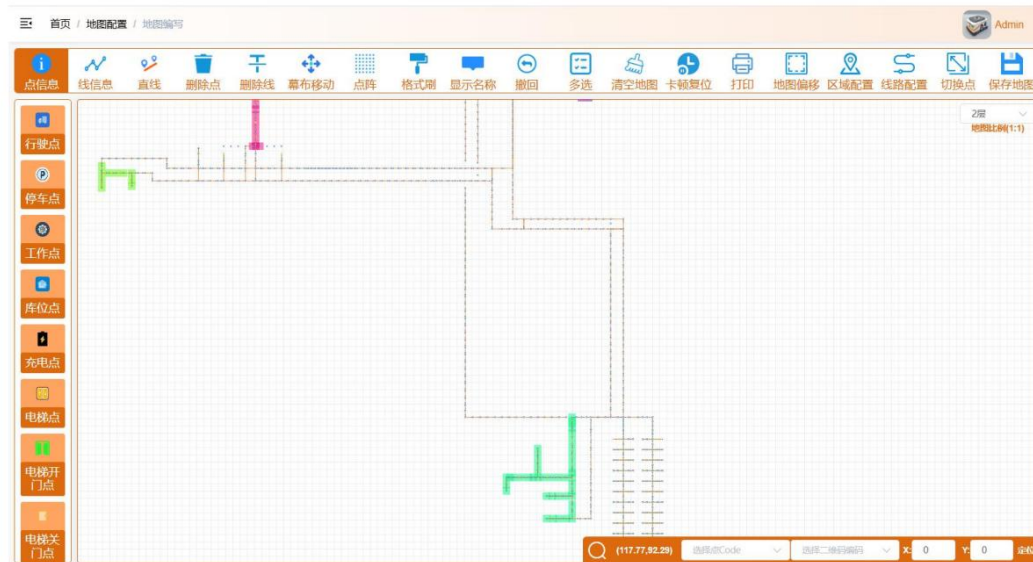


Figure 2 Map Editing

The map can be configured with multiple floors and supports multiple maps running simultaneously. It supports one-click import of maps from the Yifei controller and other mainstream controllers on the market (Xiangong, Ruixinxing). It offers 12 point types, enabling automatic charging, automatic door and elevator docking, and human-computer interaction for work points.

2. Task template configuration

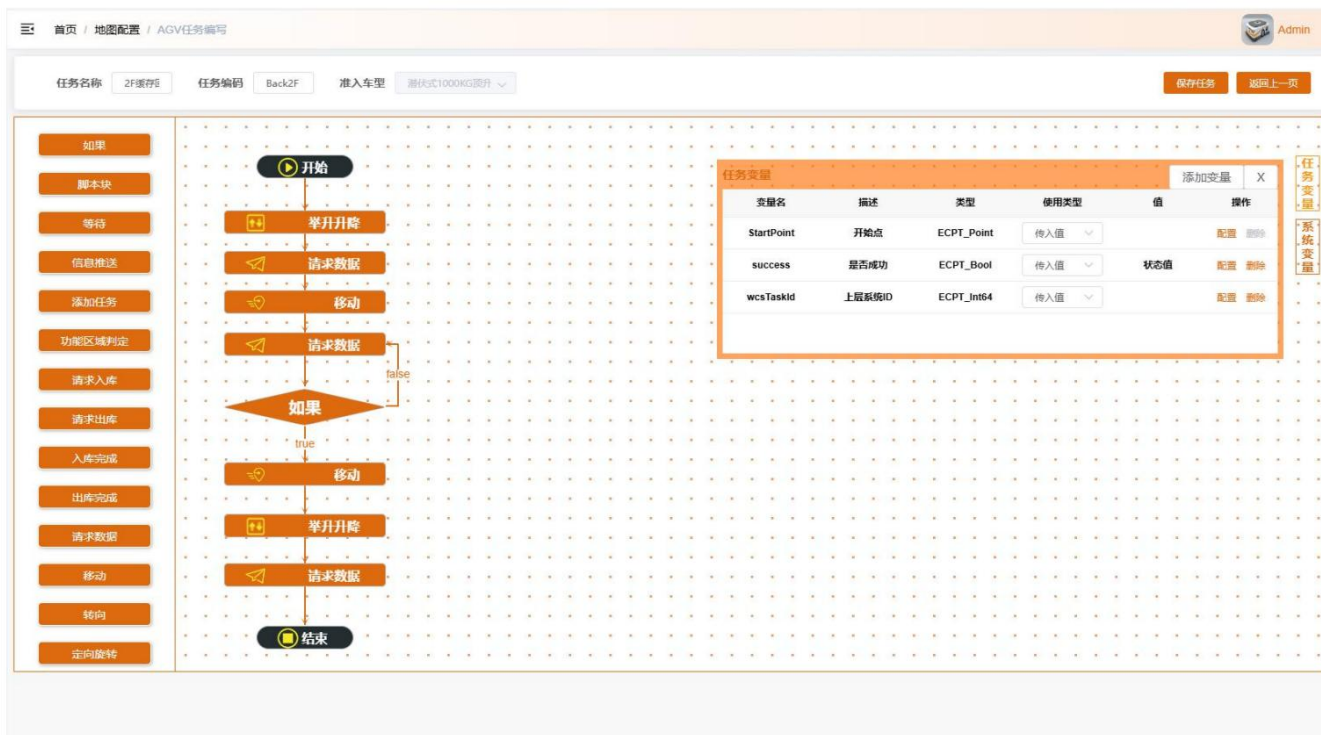


Figure 1 Task Configuration



Figure 2 Instruction Details

Supports graphical configuration, allowing task logic to be implemented through drag and drop. Supports task variables and system variables, with variable values passed in from the upper-level system. System variables enable execution interaction between multiple tasks. Includes 21 built-in instruction types, basically covering all operating actions of vehicles such as stealth trucks and forklifts. Adds support for logic instruction blocks, allowing real-time control of task execution through interaction with the upper-level system.

3. Peripheral configuration (elevator, automatic door)

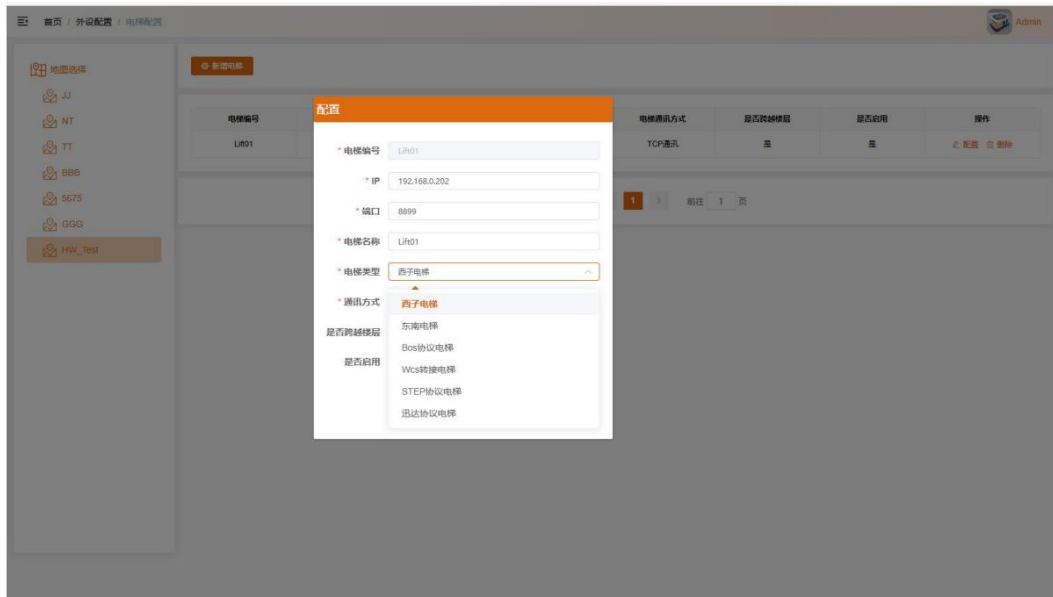


Figure 1 Elevator Configuration

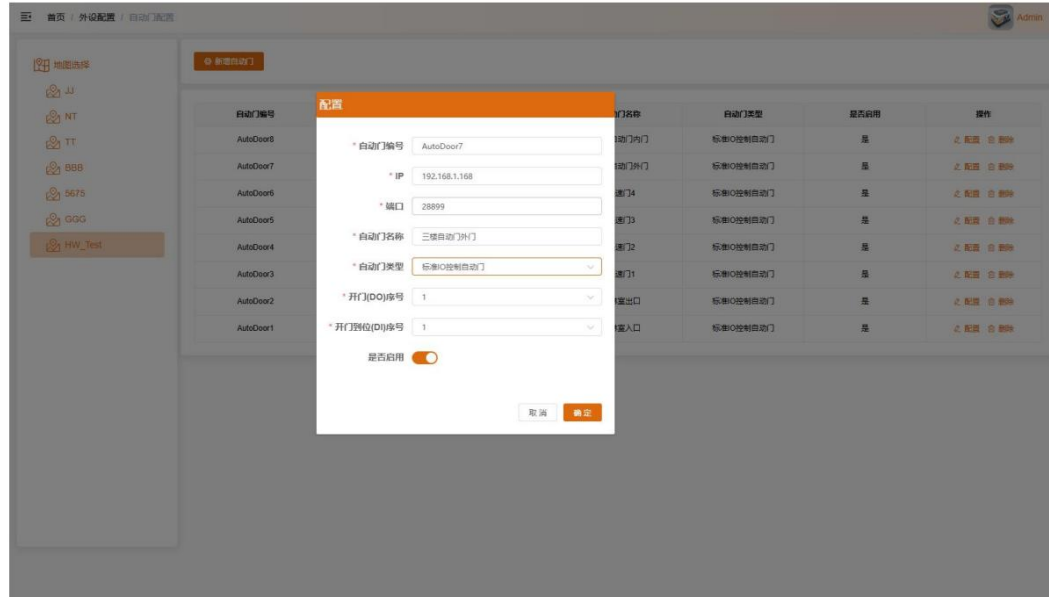


Figure 2 Automatic door configuration

I Elevator configuration: Integration with Xizi Elevator, Southeast Elevator, and BOS, STEP, and Schindler protocols has been completed. Compatible protocol versions can be directly configured and used within RCS. I

Automatic doors and air showers use IO modules to issue door opening and closing commands and confirm door opening status.

4. Human-Machine Interaction (Caller)

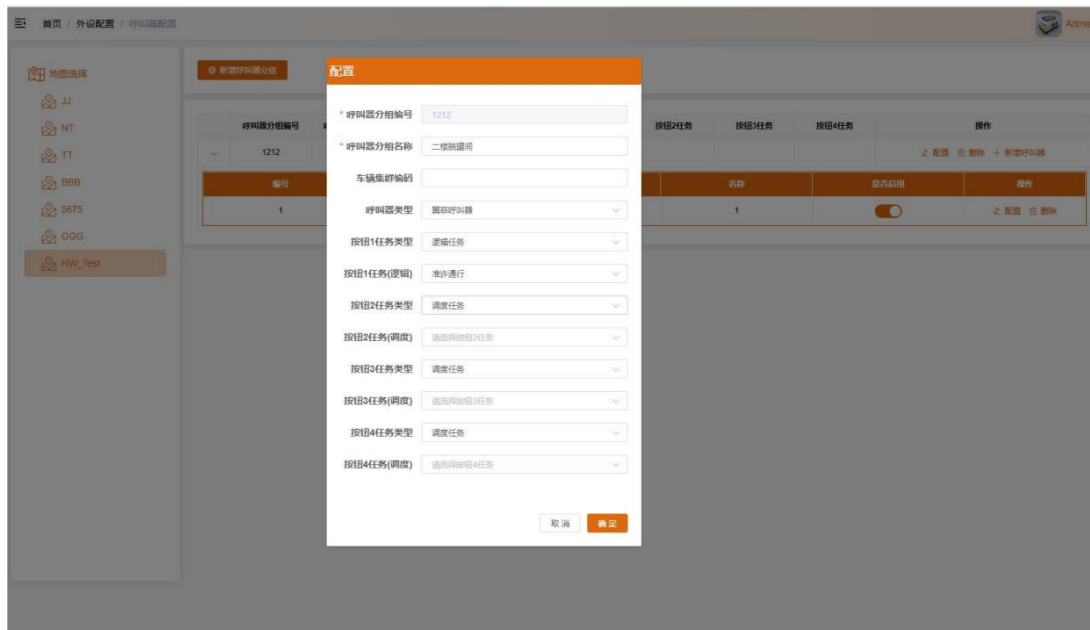


Figure 1 Pager Configuration



Figure 2. Actual pager

The system configures pager groups and allows for custom task associations within each group. The RCS communicates with pagers using the Modbus protocol to obtain pager status.

When there is a high demand for on-site pager devices, a concentrator can be added. All pagers connect to the concentrator, which then reports the status to the RCS.

4. Human-Machine Interaction (Mobile)

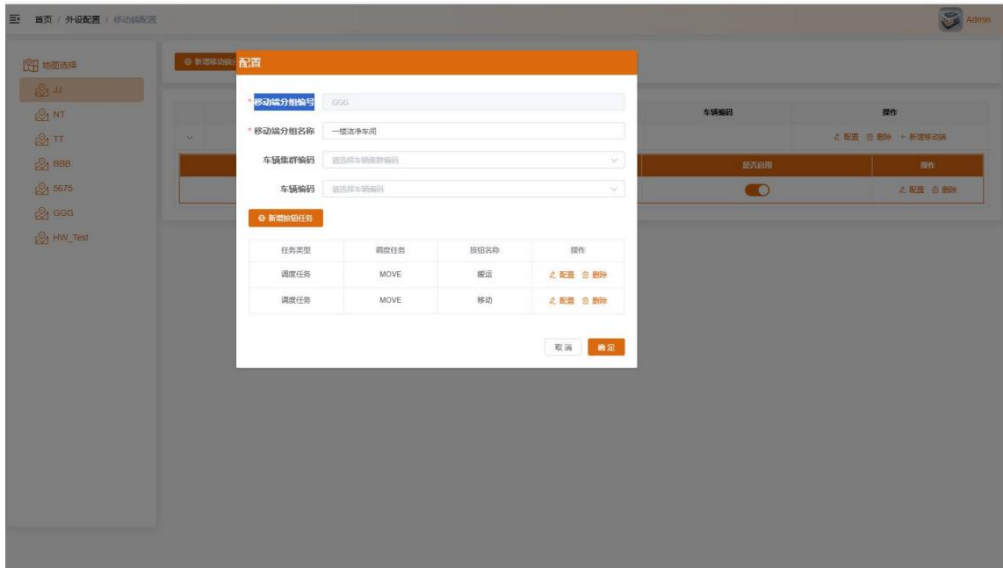


Figure 1 Mobile Configuration



Figure 2 Mobile login

RCS allows configurable mobile client groups, enabling task configuration for mobile clients within a group. After logging in, mobile clients load the configuration content based on their identifier. Mobile clients within the same group share task data; a call from one client synchronizes across multiple devices. Mobile clients support database location status management and can issue point-to-point database transfers.

4. Human-Machine Interaction (Mobile)

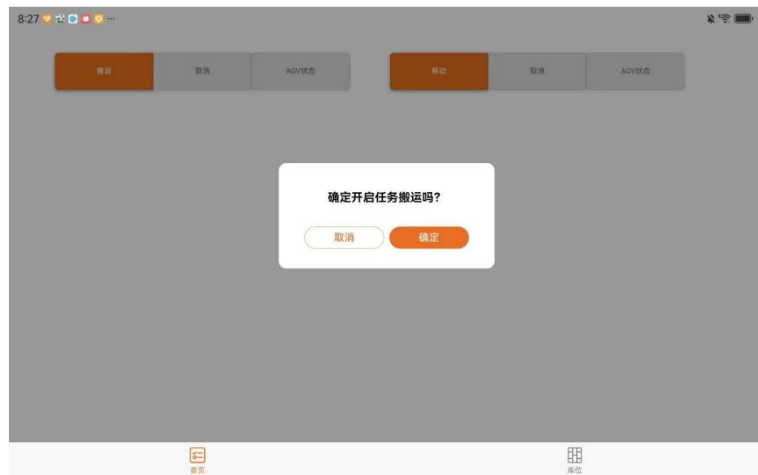


Figure 1 Task Call



Figure 2 AGV Information Viewing



Figure 3. Storage area and location display



Figure 4. Warehouse location configuration and handling task assignment

5. External system interaction



RCS supports seamless integration with external systems such as ERP, MES, WMS, and WCS via standard WebAPI, TCP, and Modbus protocol interfaces.

It connects to and interacts with PLC devices to achieve intelligent task scheduling.

When combined with other software systems from Yifei, it can realize full-process dynamic simulation of AGV applications, generate simulation data, and empower the early-stage planning of projects.



THANKS!

Thanks