INTELLIGENT ELEVATOR CONTROL AND SAFETY MONITORING SYSTEM

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Annotatsiya: *Hozirgi kunda O'zbekiston jahon lift sanoatining eng yirik bozori sifatida bir-biri bilan chambarchas bog'liq bo'lgan vertikal transport vositasiga aylandi. Liftlarning aql-idroki, xavfsizligi va ishonchliligi davlat, lift ishlab chiqaruvchilari va foydalanuvchilari orasida umumiy tashvishga aylanmoqda[1-3]. So'nggi yillarda an'anaviy texnologiyaga haddan tashqari ishonish tufayli, foydalanuvchi noto'g'ri ishlash tufayli haqiqiy foydalanishda qurbonlar keltirdi. Biroq, liftlardan foydalanish ko'plab qurbonlarga olib keladi, bu texnik nuqtai nazardan oldini olish mumkin. Shu sababli, ushbu maqolada an'anaviy Internet texnologiyasi asosida mikroprotsessor texnologiyasini, avtomatik zondlash texnologiyasini, masofadan boshqarish texnologiyasini, nutqni aniqlash texnologiyasini va lift xavfsizligini boshqarish tizimini yaratishni ko'paytirish, "aqlli lift" kontseptsiyasini ilgari surdi. "tizim, bu tizim amalda odamlarning kundalik sayohatini sezilarli darajada osonlashtiradi va liftning xavfsizligi va ishonchliligini oshiradi, lift yanada aqlli, jamiyatga yaxshi xizmat qiladi.*

Kalit so'zlar: *Sug'orish tizimi, Harorat monitoringi, motor nasosi, Arduino, nasos, AVR mikrokontrolleri, harorat sensori (LM35), Arduino platasi.*

Annotation: *Nowadays, Uzbekistan, as the largest market in the global elevator industry, has become a closely related vertical transportation tool. The intelligence, safety and reliability of elevators are becoming a common concern among the state, elevator manufacturers and users[1-3]. In recent years, due to the excessive reliance on traditional technology, the user has caused casualties in the actual use due to improper operation. However, the use of elevators causes many casualties, which can be avoided from a technical point of view. Therefore, in this paper, on the basis of the traditional Internet technology, increase the microprocessor technology, automatic sensing technology, remote control*

technology, speech recognition technology and the establishment of the elevator safety operation regulation system, put forward the concept of "intelligent elevator" system, this system in practice, will greatly facilitate People's Daily travel and improve the safety and reliability of the elevator, the elevator more intelligent, better service to the society..

Keywords: *Irrigation system, Temperature monitoring, motor pump,Arduino, pump, AVR microcontroller, temperature sensor (LM35), Arduino board.*

Аннотация: *В настоящее время Узбекистан, как крупнейший рынок мировой лифтовой индустрии, стал тесно связанным инструментом вертикальной транспортировки. Интеллектуальность, безопасность и надежность лифтов становятся общей заботой государства, производителей лифтов и пользователей[1-3]. В последние годы из-за чрезмерной зависимости от традиционных технологий пользователь стал причиной несчастных случаев при фактическом использовании из-за неправильной эксплуатации. Однако использование лифтов приводит к многочисленным жертвам, которых можно избежать с технической точки зрения. Поэтому в этой статье на основе традиционной интернет-технологии, увеличения микропроцессорной технологии, технологии автоматического распознавания, технологии дистанционного управления, технологии распознавания речи и создания системы регулирования безопасности работы лифта выдвинута концепция «интеллектуального лифта». «Система, эта система на практике значительно облегчит ежедневное путешествие людей и повысит безопасность и надежность лифта, сделает лифт более интеллектуальным, улучшит обслуживание общества.*

Ключевые слова: *система полива, мониторинг температуры, мотопомпа, Arduino, насос, микроконтроллер AVR, датчик температуры (LM35), плата Arduino.*

Introduction. Today, the elevator has been one of the important tool of People's Daily travel, but how to make the elevator is more convenient, smart, has plagued the people. Therefore, in this paper, we put forward the concept of "intelligent elevator".

Fundamental theories

- Design objectives

The elevator control system can achieve the following three objectives.

- Automatic induction of elevator doors. Using infrared induction technology,

users can only make a stop at the automatic sensing area in front of the elevator, and the doors of the elevator can be opened automatically without manual manipulation.

- Speech control. After the user enters the elevator, the elevator door shut down automatically triggers the elevator speech control system, voice guide users to select floor, according to user's voice response decisions and perform the corresponding instruction, it is also without any difficulty[4].
- Remote control technology. On the base of ordinary elevator, the elevator call function and elevator arrival feedback function are added. Before the user goes out to take the elevator, through the common mobile terminal (e.g. app). The device can remotely call the elevator, and when the elevator reaches the designated floor, the terminal will receive feedback (for example: vibration or ring tones), alert the user in real time, and avoid a long wait[5].
- Elevator safety operation supervision system. Inside and outside the system software in e- government construct multiple application subsystem, network and Internet to the competent department of industry, the lift owner, pipe unit, the elevator manufacturing unit, elevator maintenance unit and the social public to provide information about the elevator operation and management of all kinds of services[6].

Design scheme: In the elevator control system based on the original add a set of infrared sensor systems, a voice control system, a remote control system and a set of remote monitoring system for the above four target can be realized, as shown in fig.1[7].

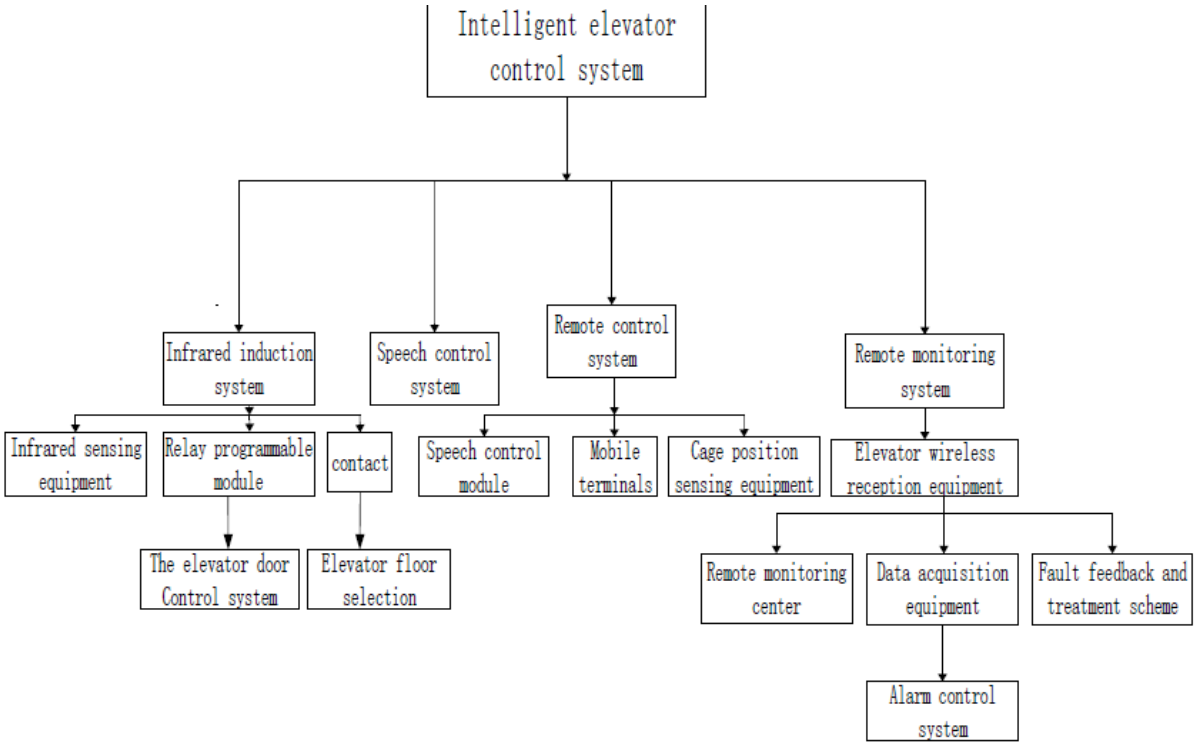

Figure 1. block diagram of intelligent elevator control system

- Infrared sensor system. Programmable infrared sensing system by relay module and original elevator of elevator door machine system to achieve seamless docking, voice control system via voice control module and original floor choice of elevator system achieve seamless docking, remote control system through the relay and original elevator elevator system achieve seamless docking[8].
- Speech control system.At the moment when the elevator door is closed, can trigger the elevator floor voice control system began to work, until you receive the two effective signal or close the door after more than 20 seconds (mainly first come), elevator floor voice control system to stop working. The workflow of the speech control system, as shown in Fig.2[9].

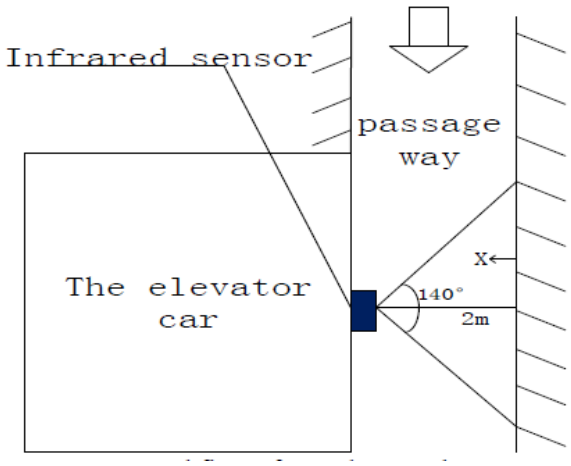

Figure 2. workflow of speech control system

Conclusion: It can hereby seen that the combination of hardware and software provides a economic irrigation controlling system which is extremely user friendly because it requires very less human interference for it operations once it is manufactured and implemented. It not only saves the most precious gift of the nature, i.e., water. It also helps the farmers to grow their crops under controlled conditions and under continuous observation by temperature monitoring. Hence, this project “Automatic Irrigation System with temperature monitoring” also helps in increased and good quality production.

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