

商场智能安全管控调度系统研究与设计

摘 要

本文首先，对某商场在目前的安全管理方面所存在的问题进行了分析，明确了系统研发的必要性，通过阅读文献，了解了类似系统当前的研究现状，根据实际情况需要，确定系统主线，并对常用的软件开发技术进行对比分析确定了系统的技术选型。

其次，将系统所涉及到的相关业务进行梳理，确定了在整个的业务处理过程中所涉及到的人员，并将这些用户分为不同的角色，因为这些角色所负责的业务不同，所以将整个系统按照业务分为不同的模块。并从安全性，可靠性，稳定性，扩展性等角度来对系统，占非功能性方面的需求进行了阐述。

然后，明确了系统的设计原则，在遵循相关原则的基础上对系统的体系架构展开详细的设计，按照业务将系统分为不同的模块，在业务逻辑处理的过程中，采用接口互相调用，在对系统的网络架构进行部署的时候，为了能够确保商场设备能够实时的连接服务器，采用无线网络的形式进行传输。采用模块化的思想将整个系统分为不同的功能模块，针对每一个模块进行了类图和时序图的设计，这样可以确保每一个业务内部的逻辑紧密性，并且能够通过结果确保系统的完整性。采用 SQL Server 2017 来对业务数据信息进行统一规范的管理。

最后，基于 ASP.NET 的架构、MVC 设计模式来对商场智能安全管控调度系统进行编实现，对每一个模块中的核心功能的运行效果给出了展示。针对不同的阶段，设计了不同的测试用例，通过测试结果可知，论文研究的系统达到了预期的效果。

关键词：商场安全管理；安全预警管理；管控调度；ASP.NET

ABSTRACT

In this paper, first of all, on a certain market existing in current safety management problems are analyzed, and clear the necessity of the system research and development, through reading literature, understand the current research status, a similar system according to the actual situation, determine the main line, and the commonly used software development technology comparative analysis to determine the technology selection of the system.

Secondly, the relevant businesses involved in the system are sorted out to determine the personnel involved in the whole business process, and these users are divided into different roles. Because these roles are responsible for different businesses, the whole system is divided into different modules according to the business. And from the security, reliability, stability, expansibility and other aspects of the system, accounting for the non-functional requirements are described.

Then, the design principles of system, on the basis of the relevant principles of the architecture of the system detailed design, according to the business system can be divided into different modules, in the process of business logic processing, with interface call each other, in the network architecture of system deployment, in order to ensure the store equipment can real-time a connection to the server, in the form of a wireless network for transmission. The idea of modularization is adopted to divide the whole system into different functional modules, and the class diagram and sequence diagram are designed for each module, which can ensure the logic tightness within each business and ensure the integrity of the system through the results. SQL Server 2017 is adopted to manage business data information in a unified and standardized way.

Finally, the ASP.NET based architecture and MVC design pattern are used to compile and implement the shopping mall intelligent security control and scheduling system, and the operation effect of the core functions in each module is demonstrated. Different test cases are designed for different stages, and the test results show that the system studied in this paper achieves the expected effect.

Keywords: Shopping mall safety management; Safety early warning management; Control and scheduling; ASP.NET

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