

基于 Cortex_A8 的智能云家居 Web 控制系统设计

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摘要: 针对目前智能家居成本昂贵以及用户访问不够灵活的问题, 将 Arm 控制器与云端服务器相结合, 融入新兴的云计算技术, 在 Cortex_A8 处理器上构建嵌入式 Web 服务器, 设计了一种新型的智能家居控制系统. 该系统基于 Cortex_A8 和嵌入式 Linux 操作系统, 以 Web 编程(CGI)为核心技术, 采用 B/S 架构模式, 通过 HTML 调用 CGI 应用程序, 用户能够在 PC 端或移动终端通过 Web 浏览器与嵌入式硬件进行交互, 实现对智能家居设备状态的访问与控制. 测试表明, 该系统数据响应及时, 运行稳定, 用户访问灵活, 能够以低成本满足智能家居的应用需求.

关键词: 智能家居; Web 服务器; CGI 编程; 云服务器; Linux 操作系统; B/S 架构

Design of Intelligent Cloud Home Web Control System Based on

Cortex_A8

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Abstract: Focused on the issue that intelligent home is too expensive and poor user experience, Arm processor was combined with cloud server, joining the emerging cloud computing technology, building embedded Web server on CortexA8 processor, researching and designing a new type of smart home control system. The system was based on Cortex_A8 and embedded Linux operating system, using Web programming (CGI) as core technology, using B/S architecture model as the design structure and call CGI application through HTML. Users could interact with embedded hardware through Web browser in the PC or the mobile phone side, implementing the access and control intelligent household equipment status. The experiment result showed that: the data responds in time, the system runs stably, user accesses flexibility and it meets the demand for intelligent household with low cost.

Key words: smart home; Web server; CGI programming; cloud server; linux operating system; B/S architecture

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