Patent Search

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Abstract:

The present disclosure relates to systems and methods, and provides a Cloud-Based Autonomous Printing and cloud-based autonomous printing system (100) config enable remote document submission, secure authentication, and flexible print execution through autonomous printer units and integrated xerox/print shop services based autonomous printing system (100) includes a cloud server (104) that stores uploaded documents and generates a session-bound unique authentication code (confirmation by a digital payment module (106). A raspberry pi-based control unit (112) verifies the unique authentication code (108) at the autonomous printer unit fetches the document for print execution without human intervention. A xerox shop management interface (114) supports distributed manual processing. A print job engine (120) and location-based service module (118) direct jobs to user-selected destinations, while a real-time status tracking mechanism (116) updates users throu print job lifecycle.

Complete Specification

Description:TECHNICAL FIELD

[001] The present invention relates to cloud-based printing systems and distributed document processing networks, and more particularly to a Cloud-Based Autonc Printing and Distributed Xerox Shop Integration enabling remote document upload, secure authentication-code-based print execution, and coordination between autonomous printer units and networked third-party print shops.

BACKGROUND

[002] The field of cloud-based printing systems and distributed document processing networks has witnessed considerable development in recent years, driven by demand for remote, on-demand access to printing services in educational institutions, corporate offices, and urban public environments. Conventional printing syst typically require physical proximity between the user and the printing device, and document transfer is ordinarily accomplished through manual methods such as p USB storage devices, local area network connections, or direct cable interfaces. Such approaches may introduce friction in user workflows, increase waiting time, an impose dependency on physical media that may be unavailable, damaged, or incompatible with the target printing device.

[003] Existing document submission mechanisms in conventional printing environments typically lack integration between remote file upload, user identity verificat flexible destination selection. In most conventional arrangements, a user who wishes to print a document at a remote location may be required to physically carry t document in digital or paper form, or rely on proprietary software that is limited to a specific network or device. These systems may not provide any mechanism by user can upload a document from one location and retrieve the printed output from a geographically distinct destination of the user's choosing, thereby limiting operational flexibility in distributed environments

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