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craftNcode

Team name - Bare Fox

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Problem Statement:

Create an automated system to streamline file movement and manage inventory for IIITBhubaneswar.

The problem revolves around inefficiencies in managing two key areas at IIIT Bhubaneswar: file movement between departments and inventory management

Currently, these tasks involve a lot of manual tracking, approvals, and handling, which creates delays, reduces transparency, and increases administrative burden.

The goal is to create an automated system to :

1. **Track file movements in real-time,** making it easy to locate files and track requests between departments .
2. **Streamline inventory processes by automating tasks** like purchase orders, tender status tracking, sales orders, and managing out-of-stock items .

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Solution Overview

To tackle these challenges, the proposed solution is a digital system that automates key processes, tracks data in real time, and provides role-based access to maintain security

Key Components of the Solution

1 File Movement Management

- Automated File Tracking
- Request and Approval Workflow
- Access Controls
- File Movement Analytics
- File security

2 Inventory Management

- Automated Purchase Orders and Tender Tracking
- Request andApproval for Inventory Items
- Backordering System
- Sales Orders and Tender Status
- Stock Monitoring and Automatic Reordering

Methodology

1. User Authentication & Access Control
Role-based access for secure user permissions.
Ensures access to relevant data for Admins, Departments, and Inventory Managers.
2. Dashboard Setup
Role-specific dashboards for tracking and management.
Admins, Departments, and Inventory Managers can efficiently handle tasks.
3. Automated File Movement
Automated routing and approval tracking for faster file movement.
Reduces manual handling and ensures transparency.
4. Inventory Management Automation
Automated stock updates, purchase orders, and tender checks.
Prevents stockouts and delays with timely inventory replenishment.
5. Real-Time Status Updates
Notifications for file/inventory status changes (approvals, low stock, order confirmations).
Improves communication and reduces delays.
6. Final Approval and Archiving
Final approval before automated archiving of completed files.
Ensures organized record-keeping and accountability.
7. Central Tracking & Logging
Centralized log system for tracking all file and inventory movements.
Enhances transparency and accountability.
8. Analytics & Reporting
Real-time reports on file movement and inventory trends.
Data-driven insights for process optimization.
9. Continuous Monitoring
Regular user feedback for system improvements.
Ensures long-term efficiency and system updates.
10. User Training
Documentation and training sessions for all users.
Ensures smooth adoption and effective system usage.

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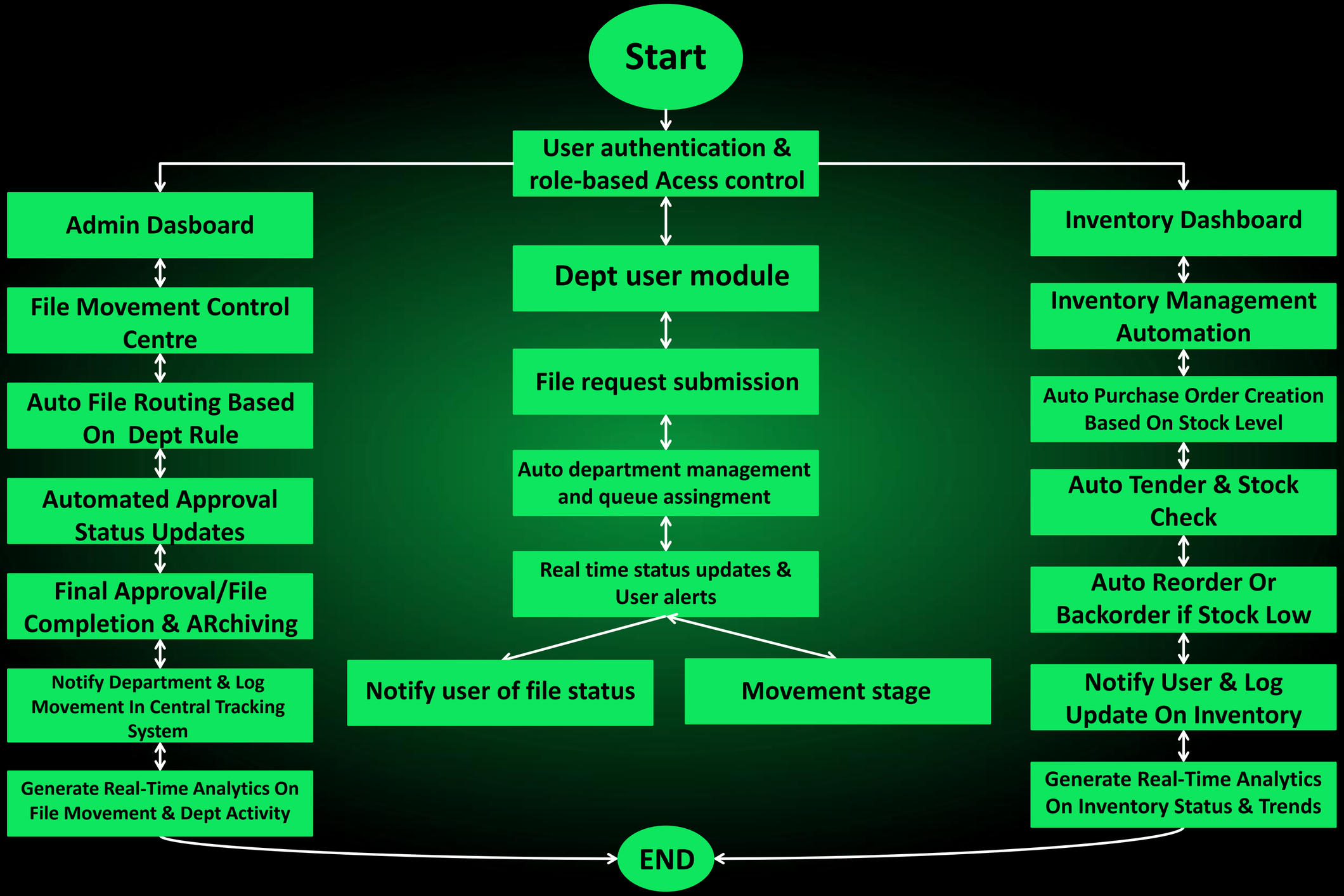
Start
User authentication & role-based Acess control
Admin Dasboard
File Movement Control Centre
Auto File Routing Based On Dept Rule
Automated Approval Status Updates
Final Approval/File Completion & ARchiving
Notify Department & Log Movement In Central Tracking System
Generate Real-Time Analytics On File Movement & Dept Activity
Dept user module
File request submission
Auto department management and queue assingment
Real time status updates & User alerts
Notify user of file status
Movement stage
Inventory Dashboard
Inventory Management Automation
Auto Purchase Order Creation Based On Stock Level
Auto Tender & Stock Check
Auto Reorder Or Backorder if Stock Low
Notify User & Log Update On Inventory
Generate Real-Time Analytics On Inventory Status & Trends
END

Feasibility

Technical Feasibility
- •Infrastructure Compatibility
- •Modern, Reliable Technologies
- •Cost-Effectiveness

•Operational Feasibility
- •User-Friendly Design
- •Enhanced Productivity
- •Scalability

Financial Feasibility
- •Reduced Development and Maintenance Costs
- •Long-Term Savings

Visibility

Institutional Visibility
- Transparency
- Analytics & Reporting
- Accountability

User Visibility
- Role-Based Access
- Real-Time Updates
- Self-Service Dashboard

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Impact

1. **Streamlined Operations**
    1. The automation of file and inventory processes reduces processing times, making workflows more efficient across departments.
2. **Enhanced Transparency and Accountability**
    1. Real-time tracking provides clear oversight, enabling stakeholders to monitor file movements and inventory status, which fosters accountability.
3. **Data-Driven Decision Making**
    1. Analytics on file movement and inventory usage help identify bottlenecks and resource needs, supporting better planning and optimization.
4. **Improved Security**
    1. Role-based access controls ensure sensitive files and inventory data are managed securely, protecting institutional information.

Benefits

1. **Time and Cost Savings**
    1. Reduces administrative tasks and paperwork, leading to long-term savings on labor and material costs.
2. **Ease of Use and Adoption**
    1. With a user-friendly interface, the system is easy for staff to learn, promoting quick adoption and reducing the training burden.
3. **Scalability for Growth**
    1. The modular design allows for easy expansion, accommodating new departments or features as needs evolve.
4. **Efficient Inventory Management**
    1. Automated restocking and tracking help prevent stockouts and overstock, ensuring resources are available when needed.

References

- Research on **Document Management Systems (DMS)** such as **SharePoint** or **DocuSign** for automated tracking of files.
- Look into **Business Process Management (BPM)** tools like **Trello**, **Asana**, or **Jira**, which allow for automating workflows with request and approval systems.
- Explore **ERP systems** like **SAP**, **Oracle**, or **Zoho Inventory** for automating purchase orders and tender management.
- Research tools that support **backordering**, such as **QuickBooks Commerce** or **Fishbowl Inventory**, which automate the process of backordering when stock levels run low.
- ChatGpt, Gemini.

•*"Business Process Management: Concepts, Languages, Architectures" by Mathias Weske* provides a comprehensive understanding of automating business processes, including file and inventory management.
•*"Process Automation Handbook: A Guide to Theory and Practice" by Jonathan Love* covers key methods for automating workflows in businesses.

Thank You

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