

Food Inventory System for IUT Cafeteria

CSE 4408

Group : 10% SAD

Lab - 03

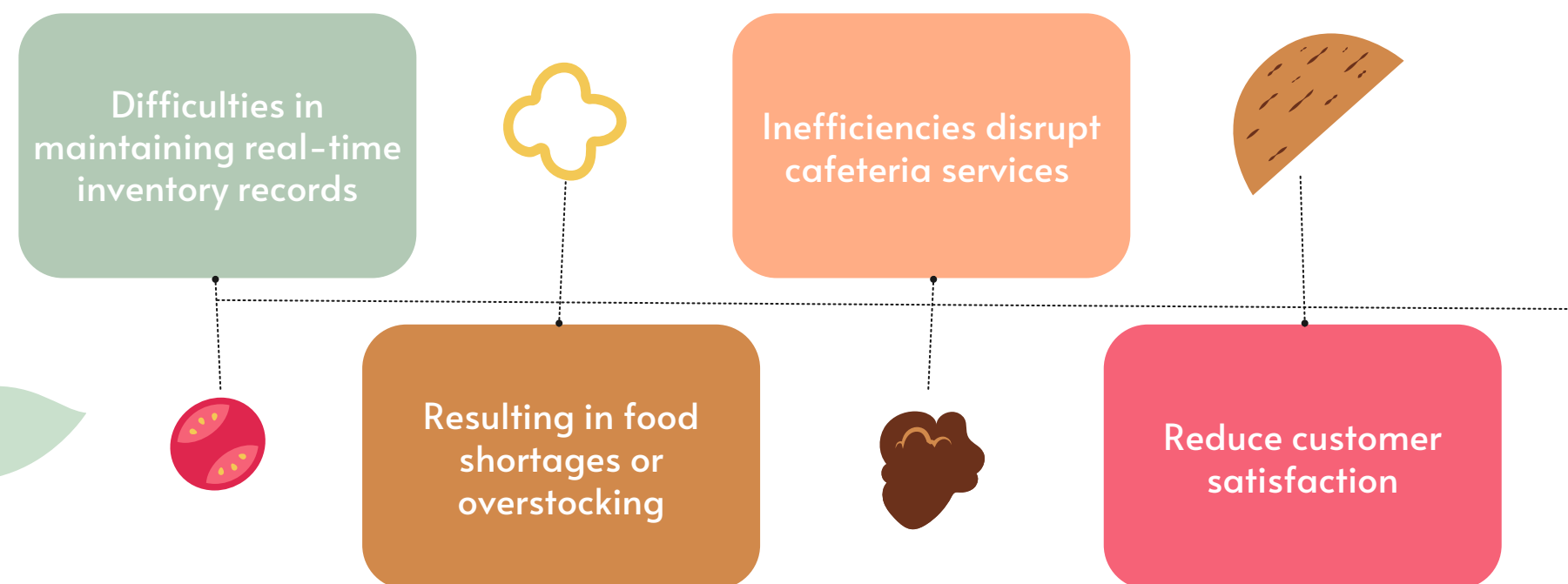
DATE : 2*.05.2025



Brief Overview

The Food Inventory System for the IUT Cafeteria will help manage inventory more efficiently. Currently, staff track stock manually, which causes errors and delays. The new system will automate stock tracking, send alerts and generate reports to make inventory management easier and faster.

Problem Statement:



An automated inventory system is required to track daily usage and manage stock levels efficiently

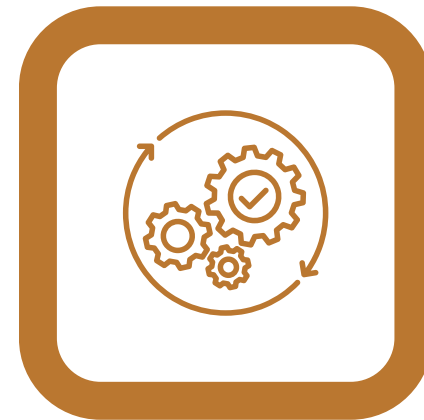
Key Objectives & Scopes

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Objectives

- Automate inventory updates
- Alert staff when stock levels are low
- Reduce manual dependency
- real-time dashboards



Scopes

- Inventory tracking
- Allows input of daily stock usage
- Set threshold levels
- Sends restocking alerts
- Financial documentation



Out of Scope

- Meal preparation workflows
- Customer-facing order systems
- Supplier communication or integration
- Staff attendance, payroll
- AI-based analytics

Technical Feasibility

EXPERTISE AND TEAM

- Knowledge of full-stack technologies(React, Node.js, MongoDB)
- Experience with similar academic or freelance projects
- Developers for integration and support

TOOLS AND FRAMEWORKS

- Frontend: React
- Backend: Node.js + Express for scalable API services.
- Database: MongoDB Atlas (cloud-hosted)
- Hosting/Deployment: Firebase or Rende for hosting

SYSTEM COMPATIBILITY

- Browser-based and compatibility across platforms
- Minimal local system dependencies



Economic Feasibility

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Full System Study

- Most requirements are already identified through cafeteria operations.
- Interviews and observation with staff are sufficient—no need for expensive data collection methods.
- Can be conducted internally without hiring external consultants.



Software

- Backend and frontend are free and open-source.
- Firebase/MongoDB Atlas offer generous free tiers suitable for this scale.
- No licensing costs required for core stack.



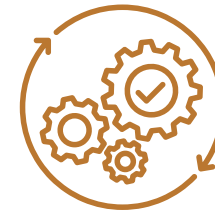
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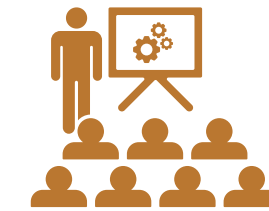
Economic Feasibility

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Hardware

- System is web-based; works on existing PCs, laptops, or mobile devices.
- No need for new servers or dedicated infrastructure.
- Cloud-based deployment reduces hardware dependency significantly.



Training and Transition

- Minimal training needed due to intuitive web-based interface.
- Staff can learn during short hands-on sessions or with a basic manual.
- No major disruption to current workflow during transition



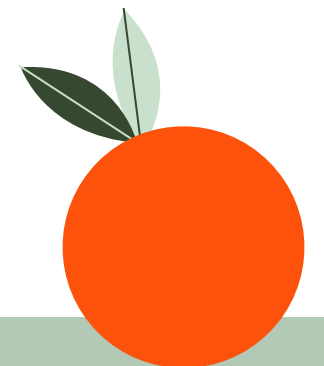
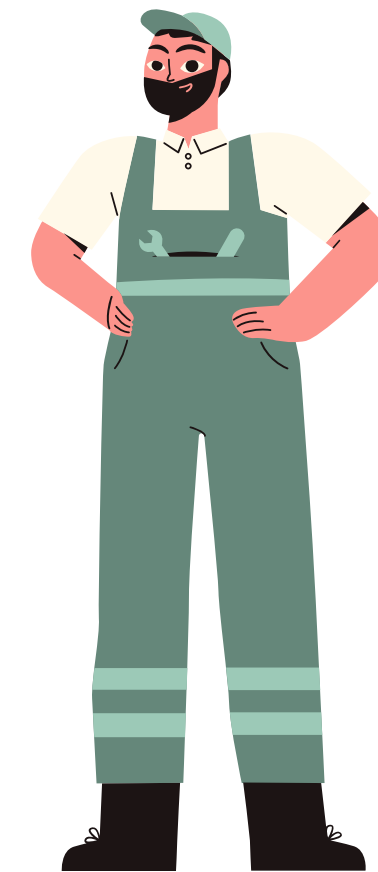
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Operational Feasibility

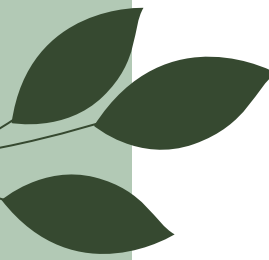
- Staff are likely to accept the change as it reduces manual work
- System can be integrated into daily stock routines with basic training.
- Change management will include training sessions and phased rollout.



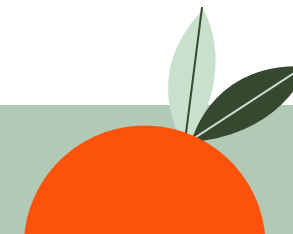
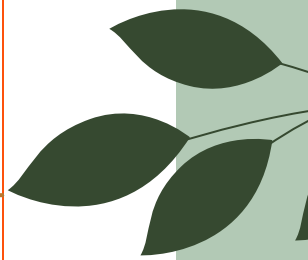
Cost Vs Benefits

Tangible

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Tangible Costs	Tangible Benefits
Software development and testing	Reduced food wastage
Hardware setup	Time saved in report generation
Internet subscriptions	Faster stock updates



Cost Vs Benefits

Intangible

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Intangible Costs	Intangible Benefits
Potential resistance	Better decision-making by cafeteria management
Risk of data entry errors	Improved staff morale and clarity of duties
Temporary drop in productivity during training	Enhanced customer satisfaction

Thanks!

Do you have any questions?
Feel free to ask now

Contributors



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