

CONOPS Preparation

Team 4

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1 The Current System or Situation

1.1 Background, Objectives, and Scope

Right now the current system uses a traditional check-out system where a store staff person scans each item, collects the payment and bags the groceries.

The objective is to implement a self-service check-out system in all their stores.

In the new system the customer will scan the items and bag them, and they will pay for their groceries by inserting a card or currency or swiping a credit card.

This would make checkout faster since the self checkout system requires less hardware making it easier to install more of these which in return would make the process more efficient.

1.2 Operational Policies and Constraints

You depend on your personal to use your checkout meaning that there are times where the checkouts are idle.

You require two person to operate the checkout (the costumer and the cashier).

The cashier must be present during the entire checkout process.

1.3 Description of the Current System or Situation

The system is operating inside a supermarket, it requires a carrier band, a screen, a printer, scanner gun, scanner panel and a Point-of-Sale.

This Point-of-sale can take cash, credit card (Which are link with different credit card providers system) and also support Apple Pay and Google pay.

The cashier needs to use the carrier band to bring the items near her so she can use either the scan panel or the scan gun to get the pricing of the item and add it to the POS.

The carrier band has a fixed amount of items it can carry at a particular time, the speed depends on the expertise of the cashier, the amount of items of the customer and the current availability from the remove payment providers.

The cost of operation requires to maintain all the hardware and also the cashier salary.

1.4 Modes of operation for the current system or situation

The regular mode of operation would be that the cashier scans and creates a final bill for the customer and the customer paid, but there are some cases that the cashier requires to return a transaction or requires to open the cash drawer.

In this case the cashier would require to call a supervisor that can overwrite this transaction or gain more access to the cash drawer.

1.5 User classes and other involved personnel

In the current system exists there types of user, most of the time the user are going to be:

- **Cashier:** Who can control the carrier band, add items to the bill, create the bill and confirm payment.
- **Costumer:** Who manually add items to the band and pay the bill

If a situation arises there is another that has access to the system which is the supervisor who has access to overwrite instructions created by the cashier.

1.6 Support environment

For this system there are three companies that take care of the different parts of the system, one company maintains the carrier band, the other takes care of the POS and the last one takes care of the payment provider.

2 Justification For and Nature of Proposed Changes

2.1 Justification for changes

The reason to update this system is because the Partial Foods is having too much checkout IDLE on regular days you usually do not need to operate all of the checkouts but there are cases that get saturated and there are too many clients to supply the demand.

From a business perspective also doesn't make sense to all of the cashiers operating the checkout if there is not enough demand.

The new system would require less hardware, not need a cashier to be operated since the users are the ones who would be doing the checkout, since it takes less space we could add more of them and also the lines would be faster.

2.2 Description of desired changes

The capabilities that are going to be added is to enable customers to operate the machine itself, since the users are doing the entire checkout workflow we are going to remove the carrier band.

We are going to add a bagging area and a security scale, we are going to remove the cash registers and we are only going to accept credit/debit cards, smart-cards and NFC/Mobile Payment methods, we are not going to accept cash.

Initially we are going to keep the two systems and gradually will be replacing the previous system with self-checkout machines, in the end we are going to have 4 cash registers with the old system and the rest is going to be replaced with the new system.

We are going to start with 5 people to monitor the self-checkout system and also assist customers with the new system but gradually they are going to be 3 people monitoring.

Two times during the month a company is going to come to do maintenance to the machines, the first time is going to maintain half of the machines and the second time will take care of the rest.

2.3 Priorities among changes

2.3.1 Essential features

- Accept payments (Credit/Debit Card, Magnetic Stripe Cards)
- Support for the bagging area
- Support for the security scale
- Overwrite system

2.3.2 Desirable features

- NFC/Mobile Payment Options
- Vouchers/Coupons/Deposits

2.3.3 Optional Features

- Integration with loyalty System
- Support for Smart-cards

2.4 Changes considered but not included

We consider installing a face-recognition software to speed up the process for the loyalty card system but the development and cost wouldn't make it cost effective.

We consider asking the users their email address so we can send the receipt via email and also collect their emails for marketing campaigns but it would require that we have a reliable internet connection and we would have to maintain the infrastructure.

2.5 Assumptions and constraints

2.5.1 Assumptions

- The costumers knows how to operate the system
- The cashiers know how to use the system
- There is always going to be at least 1 staff member to help the customers use the system
- We will always going to have a reliable connection with the credit card providers
- The customers will not shoplift
- The system will know how to apply discounts and promotions

2.5.2 Constraints

- The maximum weight that the scale supports its 60kg
- The SCO (Self-checkout) system do not support refunds
- The SCO do not accept cash
- The SCO will not work if the scale do not work

3 Concepts for the Proposed System

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4 Operational Scenarios

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5 Summary of Impacts

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