

**Shopalot, Inc.**  
1234 Dairyaisle Road  
Don'tforgetthemilk, FL 32930

Dear Design Groups,

We need your help – your problem solving, your creativity, your organization, your planning, and your fabulousness.

In a recent survey of our customers, we gathered data which brought to our attention several problems which our customers experience on a regular basis. We would like to hire your organization to help us resolve the problems by designing a new shopping cart which will have enhancements which will rectify as many of the problems as possible.

Enclosed you will find the results of our customer survey. Please work to resolve as many of the issues as possible. You will also find articles which feature shopping carts which are already coming into the marketplace. Your carts might include some of those technologies, but should go beyond those ideas.

Please be prepared to present your design plans to our Improvement Specialist, Miss Gotta Findasolution. She will arrive at your offices at 11:00 today.

We are presenting this problem to several design teams and looking forward to seeing the result of your hard work.

Thank you for taking on this challenge. Your skills as problem solvers are well known throughout the world.

Sincerely,

*Ima Shopper*

Ima Shopper  
President  
Shopalot, Inc.

## Data Collection: Grocery Shopping

Our store used a survey to collect data from our shoppers. Here is a summary of the results. What does it tell you about how our shoppers feel about their shopping experience with us?

Question: How long does it take you to do your weekly grocery shopping?

Answers: Average answer = 75 minutes

Comments: "I wish I could do my shopping in 30 minutes."

"Sometimes I wonder around for 15 minutes trying to find the next thing on my list."

"Grocery shopping is so boring for my kids!"

Question: How much money do you save from sales?

Answer: Average answer = approximately \$6.00

Comments: "The sales prices should be less expensive. I hardly save anything!"

"I never know which things are on sale."

Question: How many times a week do you go grocery shopping?

Answer: Average answer = 3 times per week

Comments: "I want to only go once a week, but I forget things and have to go back to get them."

Question: What's the average amount of money you spend on groceries each week?

Answer: Average answer = \$120.00 per week

Comments: "I always seem to go over my budget."

"Sometimes I run out of money and have to tell the cashier to keep things."

Question: How many times in each shopping trip do you not find what you are looking for?

Answer: Average answer = 3 times each trip

Comments: "It seems I always need something that's off the shelves."

"Last week, I went to the store looking for some roast beef and when I got there, it was all gone!"





# 1.

## An Intelligent Grocery Cart

Have you ever been afraid when you go grocery shopping that you won't have enough money to pay the bill? Have you ever forgotten items because you had trouble finding your way around a large supermarket?

### **A very practical optical reader**

One day, supermarkets will have carts that can read a grocery list, set up the best itinerary through the maze of aisles and show you specials on your favourite items. No more unpleasant surprises at the checkout counter, since the optical reader will calculate the total as you place items in the cart. Ideal for those with small budgets ... and those who can't add!



Designed by a company in Ontario, Concierge will revolutionize the "art" of grocery shopping. It is equipped with a positioning device, an optical reader and a touch screen connected to a computer. It reads the grocery list entered on a customer card or a USB key, and shows the consumer the aisles where the items are found. Concierge can even keep a record of the customer's buying habits and indicate reductions on the customer's favourite items!

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<http://www.mdeie.gouv.qc.ca/index.php?id=744>*

# 2.

In less than a decade the retail shopping environment has changed dramatically. Wireless handheld devices, online shopping and self-serve checkout lanes are only a few examples of the way that retailers have addressed their customers' desire for speed, convenience and instant access to information.

Now, with the introduction of Concierge by Springboard Retail Networks, the retail shopping experience is transformed - with a single touch.

Integrated into the shopping cart handle, Concierge is an interactive touch-screen computer that uses a wireless in-store network. Our shopping cart tracking system and customer web interface improves your customers' shopping experience. This will boost store loyalty, facilitate up-sell and gather invaluable data on customer behavior.

*Taken within fair use, but without permission from:  
<http://springboardnetworks.com/index.php?action=concierge,overview>*

# 3.

## A Grocery Cart That Checks Itself Out

**Researchers are designing ways for RFID-enabled carts to improve the shopping experience**

Lines at the supermarket are always longest when you have the least time, or that's the way shopping seems for many people.

This is one reason why stores want to improve the check-out and shopping experience for consumers. With shorter lines, customers have more time to select the items they want, and employees can more readily advise customers on their purchases.

With RFID-enabled shopping carts, shorter check-out times may soon be reality for busy consumers.

A European group working on the MyGrocer project is developing so-called intelligent shopping carts that use RFID to keep track of what is in a cart and allow shoppers to wheel their carts right through the check-out line. The amount a shopper spends is then deducted from a shopper's bank account electronically.

In addition, by using RFID tags and readers placed throughout the store and on the carts, the carts can help shoppers locate the items they want on the shelves.

In giant hypermarkets, with dozens of aisles of food and non-food items and just as many checkout lanes, consumers will surely welcome both of these RFID-based innovations.

*Taken within fair use, but without permission from:  
<http://www.discoverrfid.org/what-is-possible/get-what-you-want/intelligent-shopping-carts.html>*

## New computers make grocery carts smarter

By Steven Senne, AP

CHICAGO (AP) — Just what do you think you're doing, Dave?

Supermarkets are trying out new computers that make grocery carts more intelligent. They won't take over your trip to the store, as HAL took over the mission in "2001: A Space Odyssey." But they will help shoppers find lemon cake mix or light bulbs, let them order ahead to avoid the deli line and keep a running tally of the bill.

The touch-screen devices are on display at the Food Marketing Institute's convention here this week.

"It's the utility of being able to create value and get you around the store quicker," said Michael Alexandor, spokesman for Springboard Retail Networks Inc., which makes a smart cart computer called the Concierge.

Canadian stores will test the Concierge in June and July. A competing device, IBM's "shopping buddy," has been test-marketed at Stop & Shop stores in Massachusetts and is being rolled out this summer.

Neither device tells you how many fat grams or calories are in your cart, but they will flash you with items on sale. The idea is to make it easier for consumers to buy, not to induce second thoughts that maybe you should put something back on the shelf.

"The whole model is driven by advertisers' need to get in front of consumers," said Alexandor. "They're not watching 30-second TV ads anymore."

People can use a home computer to make their shopping lists. Once at the store, a shopper can use a preferred customer card, or a key that fits on a keychain, to log into a system that will organize the trip through the aisles.

If you're looking for toothpicks, you type in the word or pick it from a list, and the screen will display a map showing where you are and where you can find them.

The Concierge and IBM's cart are equipped with a miniature equivalent of GPS, the global positioning satellite system. Sensors can track the devices to see right where your cart is, so that as you turn into an aisle, the screen can show what's there and which items are on sale.

The systems also keep a running tally of what you buy. Many stores do so already by signing shoppers up for preferred customer cards. What's new is that the store can offer special discounts based on your buying habits or tell you while you're in the store that one of your favorite products is on sale.



You scan the bar codes on items you are buying as you drop them into your cart. When you're finished, the device figures out your bill. Then you swipe your card or key and hand it to the grocery checker or insert it into a self-checkout stand and pay. All that's left is bagging the groceries.

The buddy won't advertise things that don't fit with a shoppers' buying habits. "We don't want it to become a yakky box, or customers will tune out in a heartbeat," said Ken Lawler, an IBM executive. "It's all about making it easy for you."

There are differences between the Concierge and the shopping buddy. The Concierge is mounted on the handle of a shopping cart. With the buddy, shoppers get their carts first and then pick up a buddy as they walk into the store. It fits into a holder on the cart.

The Concierge has a barcode scanner on the bottom of the panel, while the buddy has a detachable wand to scan your items.

Shoppers already say they like using the self-checkout stand, said Michael Sansolo, senior vice president of FMI. It's fast as well as entertaining — a parent can have the kids help bag the items, he said. FMI research indicates self-checkouts will outnumber checkouts with grocery clerks in the next 10 years, he said.

Like self-checkouts, a smart grocery cart is a way to help stores make shopping trips more convenient, which, along with discounts and other incentives, can cultivate loyalty, Sansolo said.

That's vital in an industry that has very narrow profit margins and intense competition among different types of stores, from traditional supermarkets to supercenters, discount stores, limited assortment stores and warehouse clubs, as well as natural or organic stores and convenience stores.

The new computerized shopping assistants don't come cheap. To buy the buddy devices and install sensors and charges will cost the average store about \$160,000, Lawler said. Alexandor said the Concierge will cost stores about \$500 for each device.

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