Я-*store*™

Patent No. US 8,695,872

**Apparatus Improving Item Transactions
with Real-time Controls and Navigation**

**REV 2
April 14, 2014**

NOTE: FIGURES – ARE NOT TO SCALE, AND ARE FOR ILLUSTRATION PURPOSES ONLY.

1.0 GENERAL

ADVS-technologies ("ADVS") is a young and ambitious company specializing in the development of innovative proprietary technologies with an extensive portfolio of Patented technology in the areas of illumination systems, power distribution systems, pharmacy, store automation, and transport systems.

The objective of ADVS is to provide effective and efficient environmentally friendly solutions with the intent of improving quality of services.

The next several paragraphs include:

- Introduction to patented and patent-pending products being developed by ADVS

- Brief description of deficiencies of old technologies previously installed, and inefficiencies of some of technologies being currently used

- Proposal to resolve numerous noted problems by introducing innovative technologies in-process of being developed by ADVS

2.0 INTRODUCTION

2.1 CURRENT Shopping SEQUENCES

For majority of grocery stores, the purchase SEQUENCE, or TRANSACTION PROCESS, consists of the following STEPS:

1. Visit the STORE
2. Pick-up shopping CART
3. Locate the PRODUCT
4. Wrap the desired PRODUCT (as needed for OPEN items: apples, tomatoes, etc.)
5. Place desired product into the CART
6. Repeat steps (3-5), as needed
7. Unload desired PRODUCTS at CASHIER
8. Pay for the purchased PRODUCTS
9. Load purchased PRODUCTS back into the CART
10. Leave the STORE
11. Unload purchased PRODUCTS from the CART

Brief review of the above SEQUENCE:

- **Inadequate SAFETY of OPEN PACKAGE FOOD PRODUCTS**
  The PRODUCTS, such as: tomatoes, apples, etc. are directly accessible to any VISITOR of the STORE

- **Too many time-consuming SHOPPING STEPS**, taking up significant amount of TIME
  Each PRODUCT is handled at least 4 times (in-out-in-out the CART).
  Increased PROBABILITY of "BOTTLE-NECKS" in-between the STEPS, such as waiting in-line at the CASHIER station for other CUSTOMERS in-front to complete the TRANSACTION

The most recent improvement of the SEQUENCE implemented by some stores consists of the following STEPS:

1. Visit the STORE
2. Pick-up shopping CART and BARCODE SCANNER
3. Locate the PRODUCT
4. SCAN PRODUCT BARCODE
5. Place desired product into the CART
6. Repeat steps (3-5), as needed
7. Pay for the purchased PRODUCTS at the CASHIER station
8. Pass EXIT INSPECTION
9. Leave the STORE
10. Unload purchased PRODUCTS from the CART

Brief review of the above SEQUENCE:

- **Improved SAFETY**
  Majority of consumable PRODUCTS are wrapped. Still, access to OPEN PACKAGE PRODUCTS, is available to any VISITOR of the STORE

- **Reduced SHOPPING TIME**
  Only in-person INSPECTION at the EXIT of the store potentially being a "BOTTLE-NECK"

- **Opportunity for real-time INVENTORY management**
  Use of the built-in SCANNER and addition of in-STORE NAVIGATION – can potentially further optimize the TRANSACTIONS

- **Potential DELAYS in the PROCESS**
  Some stores tendency to re-arrange the location of PRODUCTS on the floor, as part of forcing the customers to learn about new products, etc.

QUESTION: *Is there sufficient OPPORTUNTIY to further improve the TRANSACTION PROCESS described above?*

2.2 WELCOME to Patented Я-*store*™

The objectives are clear:

1. **Maximize SAFETY**

2. **Present CUSTOMER with better CHOICES in respect to TRANSACTION PROCESS**

3. **Provide FAIR balance between the business objectives of the STORE and the CUSTOMER interests**

4. **Support cost-efficient scalable AUTOMATION of any STORE, regardless size, location, etc.**

These are very important objectives, as explained in more details below.

Objective #1: Maximize SAFETY

All CUSTOMERS:

a) Require to REGISTER, and open an ACCOUNT within standard SECURITY and PRIVACY agreements.
NOTE: Some large stores allow only CUSTOMERS with MEMBERSHIP ID to SHOP

b) Have FLEXIBILITY in setting the ACCOUNT, including such features as:
- Purchase HISTORY
- SHOPPING LIST

All consumable PRODUCTS (NOTES below):

a) Pre-packed by the STORE, with an INFORMATION TAG containing at least a barcode label, and are stored inside MODULES with real-time monitoring by CONTROLLER, including: ambient environment and due dates for PRODUCTS present inside the MODULE

b) Access to a PRODUCT inside a MODULE is available only by using patented iSHOP-card™, issued by the STORE at the point of ENTRY into the STORE, and unlocking the ACCESS to the MODULE where desired PRODIUCT in located by inserting the iSHOP-card™ and obtaining real-time authorization to proceed

c) Each TRANSACTION from the MODULE is verified by CONTROLLER by matching the BARCODE of the PRODUCT with the anticipated change in WEIGHT of the MODULE from which the PRODUCT was removed

d) For each TRANSACTION, CONTROLLER based on PRODUCT BARCODE data and the STATUS history of the MODULE where the PRODUCT was stored, will confirm compliance of the PRODUCT to its original SPECIFICATIONS, and will prevent a TRANSACTION on a PRODUCT out of SPECIFICATIONS

NOTES:

1. Requires pre-packaged PRODUCTS, if grouped together, to be limited in size and weight, to avoid very bulky and heavy packaging. Example: 35 container water bottle package would be maximized to only 20 container, same applies to items: apples, oranges, etc.

2. Since iSHOP-card™ can be configured with a BARCODE reader, then some PRODUCTS, which are bulky by their nature, will be placed outside PRODUCT MODULES, and PROCESSED by scanning their BARCODE using the iSHOP-card™.

Objective #2: Present CUSTOMER with better CHOICES in respect to TRANSACTION PROCESS

All CUSTOMERS will have the following selections of configuring the iSHOP-card™:

a) Recall the SHOPPING HISTORY or the previously stored SHOPPIG LISTS

b) Select-EDIT the SHOPPING LIST, with real-time STATUS of the INVENTORY in respect to each PRODUCT

c) Select the SHOPPING OBJECTIVE, which can include:
   - DEFAULT – "freelance" shopping
   - MINIMUM TIME with or without real-time NAVIGATION
   - ALTERNATE PRODUCTS to the ones currently not available with or without NAVIGATION
   - NEW PRODUCTS in the STORE with or without NAVIGATION

d) Method of PAYMENT based on previously set ACCOUNTS (checking, credit card, etc.)

The patented iSHOP-card™ includes powerful features such as:

a) Real-time INTERACTION with the HOST CONTROLLER in respect to:

   - **INVENTORY management**
     Based on projected and executed TRANSATIONS

   - **NAVIGATION within the STORE**
     Based on SHOPPING LIST, MODULE status, INVENTORY status

b) Real-time UPDATES for the CUSTOMER in respect to selected by the CUSTOMER configuration of the iSHOP-card™

Objective #3: Provide FAIR balance between the business of the STORE and CUSTOMER interests

a) STORE is "free" to re-arrange the PRODUCTS floor plan, as needed, with CUSTOMERS "avoiding" any impact using real-time updated NAVIGATION features of the iSHOP-card™

b) CUSTOMER via iSHOP-card™ has choices to select the desired SHOPPING PROCESS based on the latest status of PRODUCTS within the STORE

c) Each PRODUCT TRANSACTION is confirmed at the point of execution taking place at the MODULE, by the SYSTEM verifying the BARCODE and the change in WEIGHT

NOTE: PRODUCT TRANSACTIONS are verified and confirmed in real-time by the STORE Host CONTROLLER. As result, once PRODUCTS are paid for by a CUSTOMER, there is no need to inspect or verify the purchased PRODUCTS at the EXIT of the STORE.

Objective #4: Support cost-efficient scalable AUTOMATION of any STORE, regardless size, location, etc.

NOTE: This is essential feature of the patented **Я-store™**, as it is configurable scalable AUTOMATION, is providing even small stores, in particular located in a busy down-town areas, to offer its CUSTOMERS the most SAFEST and user-friendly experience, while sustaining competitive PRODUCT pricing based on highest level of efficiency using the patented technology.

EXAMPLE: Customer shopping experience inside a small grocery STORE, using the patented **Я-store™** technology (SYSTEM).

NOTES:

a) **COST EFFICIENCY**
The SYSTEM is configured to be operated by a single OPERATOR at the ENTRY-EXIT of the STORE, and one or two SUPPORT person(s) maintaining INVENTORY of PRODUCTS inside the MODULES, as needed.

b) **VERSATILITY**
The PRODUCT MODULES are configured as a multi-section carousel, with each section allocated to a different PRODUCT

SHOPPING STEPS:

1) Upon entry select iSHOP-card™, sign-in and activate the card via wireless LAN

2) Using iSHOP-card™ download from the SYSTEM database desired shopping LIST, and edit the LIST as needed.

   NOTE: Customers have an option to use DEFAULT configuration of the iSHOP-card™, which is equal to a "freelance" shopping with access to MODULES via activated iSHOP-card™, and linking the selected PRODUCTS for purchase to an account on record at the Payment Station.

3) Select mode of operation for minimum TIME with real-time NAVIGATION

4) Approach available PRODUCT MODULE, as directed by NAVIGATION

5) Insert iSHOP-card™ into the card validation slot to gain access to the PRODUCTS inside the MODULE

6) Select and scan BARCODE on PRODUCTS removed from the MODULE

NOTES:

    a) Each MODULE has a scale component, which will detect addition or removal of an item from the MODULE. Each TRANSACTION of a PRODUCT is verified and confirmed by the CONTROLLER to ensure the PRODUCT is within SPECIFICATIONS

    b) Bulky PRODUCTS located outside MODULES will be PROCESSED by scanning their BARCODE directly by the iSHOP-card™

7) Place selected PRODUCTS into shopping CART

8) Remove iSHOP-card™ to close access to the PRODUCT MODULE and complete TRANSACTIONS at the MODULE

9) Repeat (4 – 8) until all desired PRODUCTS are selected

10) Following NAVIGATION proceed to a Payment Station

11) Insert iSHOP-card™ to gain access to Payment Station, allowing CONTROLLER to identify the CUSTOMER and provide required real-time interactions to complete the purchase of selected PRODUCTS

    NOTE: The Payment Station will support review/return/purchase type of activities, including displaying the active record of PRODUCTS selected for purchase.

12) Receive receipt for all purchased PRODUCTS and proceed to EXIT the STORE, as needed

    NOTES:

    a) Upon completion of all TRANSACTIONS, the iSHOP-card™ used by the CUTOMER will be de-activated, and made available by the SYSTEM for other CUSTOMERS visiting the STORE.

    b) The CUSTOMERS with an activated iSHOP-card™ will be ALARNED by the SYSTEM if attempted to EXIT the STORE.

    c) The only OPERATOR inside the STORE is assigned to assist the CUSTOMERS, as needed, and monitor operation of the STORE, as needed.

3.0 SUMMARY

The patented **Я-store™** technology provides:

- A "balanced SYSTEM", where each process/transaction related steps are implemented with great level of efficiency and with far less probability of creating a system "bottle-neck" in-between the steps

- The QUALITY of PRODUCTS is guaranteed

- The SAFETY of PRODUCTS is guaranteed

- Operating costs are reduced

- The technology is provider and customer friendly

- The technology is configurable to allow scalable cost-efficient automation, and installations at stores to achieve the business objectives and retain market competitiveness based on store size and location

Win-win situation for both the provider and the customer.