SAP, barcode supported systems and applications

Krisztián Kolozsvári and Géza Nagy

University of Óbuda/ Alba Regia University Center/ Hungary

kolozsvari.krisztian@hok.uni-obuda.hu, nagy.geza@arek.uni-obuda.hu

Abstract—**How can help barcode systems the social and business development. The Art of SAP systems and related business processes supported barcode development and presentation of aims.**

These systems, the most important application area of storage processes. The warehouse technology and its associated information transfer systems enormous changes at the last few years. This development is mainly to stimulate the quality and reliability of the merging easier, more error-free work. After all, the store's service quality index is determined by two factors.

The speed and accuracy of work. The big question of the recovery of costs. Because human labor is cheaper than the cost of mechanization, however, allows for more accurate work, such as computer systems. The warehouse logistics information transmission planning objectives of the tools and methods are being developed, which establishes the connection to the warehouse as directed system and IT system. The closeness of the relationship serves as an indicator, since it is directly proportional to the percentage towards the objective value of the number. The closer the relationship, the more I realized the goal. The goal, which is to achieve the major question is whether the data stored in the SAP system and real-time reflections show. Thus, the user who looks into the system and get a true picture of the current state. These advanced systems, processes takes place in the warehouse supplies, storage and dispatch of. The barcode is scanned into the system, the ERP system will perform the duties of each shipment. Processes within the warehouse prepare documents, delivery notes, orders, invoicing. The traffic and financial data supplied via interfaces to the SAP system. All goods on a pallet barcode supply of workers. As part of the SAP system have been incorporated into the standard transaction processes. Thus, the program is in fact a row by calling subroutines manage the commodity-related processes. Thus, the barcode scanning application handles transactions consisting of all warehouse processes. Entries, overstore, delivery, inventory. Thus, these methods will be easy to follow for each manufactured product serial number, as a consequence of food for retrieval of the finished product be manufactured all the raw materials used, all information, date of production, location. As far as a possible salmonella infection is a vital issue to identify the supplier from whom the infection originated. Of course, every consignment expiration date is stored. The implementation of real-time data connection is perfectly feasible radio contact and through these procedures can be performed in the order picking. While the company's management system to

report on the actual movements of goods and inventory data. The bar code is known in many forms. There may be one or two-dimensional. The two-dimensional bar codes are only now beginning to spread very slowly, despite being able to store much more information than the one-dimensional barcodes. The length and height of bar codes is not a constant value, or on all barcodes be different. The reading when drafting the safety of non-encoded characters are used throughout the volume. Characters will be chosen so that they differ from each other as much in the code. There is therefore a printing error, or bad if reading is unlikely to data error detection. Traditional bar code structure is not different. Parallel black and white lines form. The information in the standard predetermined change in the width of lines and spaces carries. Each barcode type is made up of all standard bar code structure is based on the same structure. The bar code begins with a quiet zone, then follows the start bit, followed by the data bits. After the data bits are located in the check bits, which closes the stop character. The last part of the bar code is also similar to the beginning of the quiet zone makes up.

The characters can be encoded in the bar code character set. Since the EAN and UPC codes of commercial and logistical processes are very important in the general media are fast and accurate data collection.

Figure 1. General barcode

The use of cheap and reliable bar codes, scan tools for high-speed processing in a high reliability and ease of use. The

technical development has started to increase at the same time the need to increase the amount of stored information without increasing the size of the media.

Figure 2. Type of barcodes

But in many cases, the traditional bar code types can be generated only larger than the available space. The fulfillment of these demands have been developed for two-dimensional barcodes. Of these, the most prevalent of the QR code that in 1994 the Japanese company Denso-Wave developed. translated into Hungarian abbreviation for quick response.

Figure 3. QR code structure

The most important advantage that can shoot from any direction, does not need to worry about the correct orientation, as the decoding of the code three programs placed a special corner of the sample are able to decide what direction to read the code points. The ability of QR codes, fault-tolerant large photo so you can be placed in the middle, without the content of the information carried him to suffer damage.

The readers of the most prevalent of the RF radio frequency terminals. These antennas are usually placed within the store, through which the terminals communicate with the SAP system.

These terminals are very common despite the high price, as fast and accurate work permit without a fixed place of work would be. So, the bar code data entry work to significantly improve the efficiency and accuracy. The SAP contains a wide range of application possibilities barcode materials management, production, asset management, and other functions of the different modules.
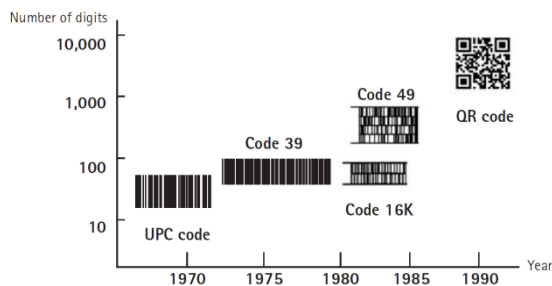
Figure 4. The history of symbols

Today, there are already too high warehouse SAP software scheduler.

The warehouse management system, SAP WM module is built in the system and the resulting high storage, transport and warehousing, picking orders in terms of implementation schedules, and divides the tasks are distributed in the material handling equipment. The barcode-based system. Each task is done by reading the barcode and position. The system is using 30-40% efficiency can be achieved, so that the error-free service is also an order of magnitude improvement in treatment using barcodes.

The introduction of the bar code system in the plants significantly reduced operating costs. The barcode enabled business processes on surfaces with commercially available systems that provide an SAP-related radio scanner units available and custom built business processes. In the past few years, the SAP systems fit great and fast barcode scanners have evolved. For

SAP independent software development companies also offer the SAP systems integration solutions. Each of these devices to their wireless readers or mobile terminals, the current radio standards today are fully satisfied, ie. open systems, wireless devices applies suppliers comply with legal requirements. The unit of work, R reader collects data relating to the goods, the device stores the information required to complete the task. The data exchange between the data points make it possible for mobile devices. A wireless network is a wired data processing system is turned on. The wireless unit and the data points and the range of mobile devices between the architectural features and the technologies used are determined. The mobile RF equipment manufacturing and warehouse logistics application of multiple mating surface, there is also equipped with a fork-lift truck. The employees of these devices to the data can be collected without the occurrence of an error and can continue to interact directly with SAP. In doing so, data can be transferred to the functioning of the automatic entry and start as well. The mobile terminal screen, of course, much less information is displayed, such as computers used in SAP systems. But this is not a problem, because employees with only the information necessary for them to provide the unit's display. The working unit of the RF transaction device selects the menu, for example. entry, overstore, removal. A transaction contains multiple screen plan, of which, separated from the worker performs the process. The study also licensed to write some implementation processes as well. Warehouse storage such as identification or document ordering data recording. In order to avoid this error, the device working on the display screen of the order to see the actual data and the read data is retrieve a logistics unit. The study of any data you enter in the radio unit, immediately placed in the SAP database, you will immediately be revised. In this way, all the data stored in the SAP demand for workers. Incorrect entries when the

device shows an error warning is displayed, so the inclusion of erroneous data, the system can be avoided.
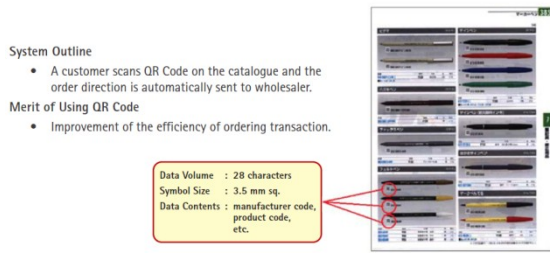
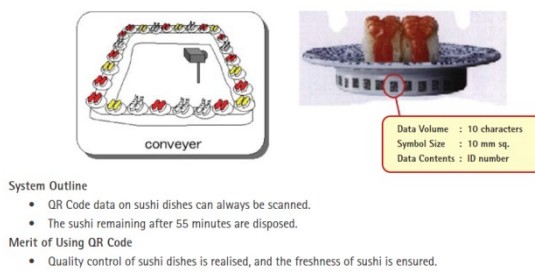Examples of QR code applications

Figure 5. Stationery Order System

Figure6. QR Code Used For Sushi Freshness Control System
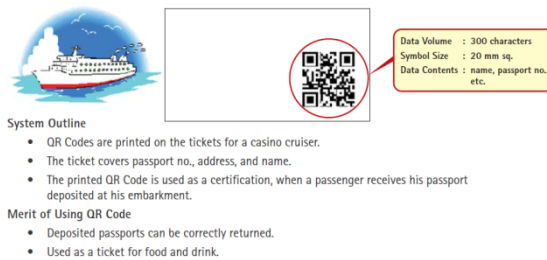

Figure 7. QR Code Used For Passenger Management

Figure 8. QR Code Used For Patient Identification in Japan, Hong Kong and Singapore

REFERENCES

[1] http://qrbcn.com/imatgesbloc/Three_QR_Code.pdf

[2] http://www.sarkany.hu/feltoltes/file/barcodetypes.DOC

[3] http://www.puszika.hu/mobilkod/generator.php

[4] http://www.miau.gau.hu/miau/28/rl2.ppt

[5] http://www.szapporta.hu/megoldasaink_2-hu.html

[6] http://dokutar.omikk.bme.hu/ collections/mgi_fulltext/logisztika/2002/06/0605.pdf