Abstract:

Quponer (QR) is a mobile application based marketing and shopping discount generator tool. The solution is utilizing its own social portal’s inner community, plus other well-established social communities, such as Facebook, Twitter, Google+ to enable users to receive instant discounts for their purchase in exchange for putting “advertisement” on their own newsfeed site. This is what QR calls “virtual word of mouth” effect where users share the main information about a great deal they made on a purchase with their online friends in social networks. The operation principle is very simple: user checks into a store, takes a selfie/product photo prior to the purchase with a mobile device, identifies the product via barcode scanning tool, converts the photos into a "QR pqon", post the automatically generated "QR flyer" to his/her messaging wall, and after this marketing activity he/she gets an instant discount coupon to his mobile device which can be utilized at cashier for the product purchase. The process runs in real time with the help of integrated IT solution which eliminates the coupon usage problem of today where all customers are annoyed with lost/forgotten coupons of last shopping.

Title: MOBILE APPLICATION BASED DISCOUNT COUPON MANAGEMENT SOLUTION (QUPONER) BUSINESS & TECHNICAL SPECIFICATION

(51) International Patent Classification:
G06Q 30/00 (2012.01)

(21) International Application Number:
PCT/IB2015/053460

(22) International Filing Date:
11 May 2015 (11.05.2015)

(25) Filing Language: English

(26) Publication Language: English

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Mobile Application Based Discount Coupon Management Solution
(Quponer) business & technical specification

General overview

Quponer (QR) is a mobile application based marketing and shopping discount generator tool. The solution is utilizing its own social portal's inner community, plus other well established social communities, such as Facebook, Twitter, Google+ to enable users to receive instant discounts for their purchase in exchange for putting "advertisement" on their own newsfeed site. This is what QR calls "virtual word of mouth" effect where users share the main information about a great deal they made on a purchase with their on-line friends in social networks.

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The landscape of the solution is presented in picture below:

where the main components are

1. Mobile Application
2. Selfie/product photo
3. Product identification - bar code (QR code) scan
4. Facebook (Twitter/Goggle+/---) interface for publishing posts as advertisements/flyers
5. Cashier coupon code for special discount
6. Messaging and Content Management System (CMS)
7. Data Warehouse for reporting
8. Partner Shop databases
9. Desktop Client for managing all content of CMS

The core database and CMS infrastructure are managed and operated by QR Company in a partnership with Facebook (Twitter/Google+/---) and contracted Partner Store companies.

Business Concept behind the solution

System integrates social media platforms and smart phone application. All actions made by smart phone application are connected to social media platform and Partner Store databases.

The business workflow shown in picture below:

Component's detailed description

1. Mobile Application

The mobile application developed with easy to use, clear navigation and quick to learn approach for customer use in wide age range. The app's main functionalities are "take a selfie", "create shopping coupon" and "share the post/flyer with friends", and defined detailed in business specification document beside other minor capabilities like "news feed", "hot deals nearby", "statistics" and others.
The application can be used after client login where:
- Facebook
- Twitter
- Google+
or other future popular social portal logins are used for user authentication. Inside the application these authentication mechanism are programmed with applicable social portal API.

The application interfaced to QR CMS & DB backend system hosted in cloud with a special messaging system capable of handling the required amount of parallel client connection without significant delay.

The application is utilizing the customer's mobile device built-in camera for shooting selfie photo and also for bar code (QR code or similar) scanning while the device's display will be used providing the created bar code (QR code or similar) for cashier scan at the point of purchase with special discounts for the Facebook (Twitter/Google+/---) flyer posting.

The target mobile device platforms the application is developed are:
- iOS (mobile and tablet - 7.0 and newer versions)
- Android (mobile and tablet - 4.0 and newer versions)
- Windows Phone (mobile and tablet 8.x and newer versions)
- The application uploaded to different stores under QR account and version management.

Creating a new "q-pon" that enables user to receive an instant discount for the selected item is done within 6 easy steps:
1. Store check in
2. Create selfie/product picture
3. Product identification by barcode/QR code scan
4. Converting
5. Using new q-pon to receive instant discount at cashier
6. Automatically sharing the QR „flyer” with social portal friends

Besides enabling Users to create instant "QR q-pon"s for selected items they desire to purchase with a discount the app has other functions that help users to manage their q-pons, communicate with other users, share flyers with each other...etc. With these functions QR App creates a community where the members share the same interest that is to purchase with an instant discount.

Open issues:
- Not known

1. Store check-in

First of all user shall select the store where he/she is willing to use the app. Using the mobile device's GPS location and map information the QR application asks the QR backend for listing the nearby (<100m distance) available QR Partner Shops. User has to select the one he/she has entered and shall "check in" similarly to Facebook function. This location function has to be built into the QR application using Android/iOS/Windows Phone SDK (software development kit) or development library which
provides access for device's resources for developers. App shall list all recent "q-pons" created by other users in the selected store in its own newsfeed wall after checking into that particular store.

After the successful "check-in" to the Partner Store the QR App sends information on the selected store to the QR backend and the system will select the associated discount level that is applicable to all items purchasable at the store. QR App backend will send back the discount level information to the user's QR App. The "store discount" shall be not less than 5% but could be higher as well, depending the Partner Store's choice that is pre-defined by Partner Store through the QR admin website. There could be different levels of discount associated with the social portals where user will automatically share the QR flyer.

Store Discount Examples:
- Defaults store discount: 5% (post shared only within QR community)
- Facebook discount: +5% (post shared on Facebook)
- Twitter discount: +2% (post shared on Twitter)

Discounts will add up in case user decides to select multiple options. Several business use case and discount type can be applied in the system according to Partner Store agreements.

Open issues:
- Not known

2. Create selfie/product picture

After successful check-in to a Partner Store the next step is to fill out the pre-defined form that is done by creating two photos. First photo is a selfie/product photo - ideally the photo contains the user and the product to be purchased at once (like dressing room selfie in a new skirt).

After the photo is taken the App will ask for a confirmation by the user. If user confirms the next step is up, that is product identification.

Open issues:
- Camera focus : the product must be in good shape for effective advertisement

3. Product identification through bar code / QR code scan

To identify the selected item QR mobile application is using the device's built in camera for and scanning bar code / QR code or similar ID of selected product for identification purpose. This scanning function has to be built into the QR application itself using Android/IOS/Windows Phone SDK (software development kit) or development library which provides access for device's resources for developers. In case the user's mobile phone camera does not recognize the barcode/QR code, there is a possibility to manually type in the product item number.

After the successful identification procedure the product ID information is sent to the QR backend for identification processing QR backend database is filled up by Partner Shop manager through the Admin...
website that enables Partner Shop to manage discount campaigns by giving the possibility to set "additional discount" to any unique product/item. When a product match is found, the QR backend will associate what "additional discount" is applicable to the selected item and a notification is sent back to mobile device.

The step by step process is presented in picture below:

In case of future developments of consumer product identification technologies e.g. RF-ID implementation and parallel mobile application developments like built-in RF-ID scanner the optical camera based scanning function can be replaced by the new, more quick and accurate technologies.

After identification is done user needs to confirm that step. In case user is willing to add new item to the same q-pon he/she can click "add another item" button and steps 2 and 3 be started again until no more item is added to q-pon by user. At the end of the process user must click on "convert" button in order to generate the "QR q-pon" and the "QR flyer".

Open issues:
- GPS location information: has to be switched on for Partner Shop selection procedure, not all mobile device has this functionality
- Camera resolution: different devices having different camera resolutions providing different picture quality for the scanning algorithm resulting errors or malfunctioning scanner process in poor

4. Converting

After successfully filling out the form by checking in, taking selfie and identifying product, the User shall click on "Convert" button in order to generate simultaneously the "QR q-pon" and the "QR flyer". This mechanism is automatic. QR App received all store discount and additional discount information from QR backend, and incorporates the information into one file that is stored at the user's mobile device. Under the mobile device's q-pon area the QR q-pons are visible, QR flyers are visible on the newsfeed area of the App.
Open issues:
- Not known

5. Using new q-pon to receive instant discount at cashier

After successful conversion the system creates a unique QR q-pon for the given product for the user. It contains the "store discount" and the "additional discount" (if applicable), where all this information is incorporated into a genuine barcode created by the QR App. This barcode will be displayed on the smartphone's display in the size of a regular product tag. The QR q-pon will also contain the selfie picture taken by user in order to be visible when user is trying to redeem the discount at the cashier. The barcode can be scanned by the infrared scanner of the cashier and it shall provide the information to the stores system regarding the discount related to the item(s). In case there are multiple items the QR q-pon will provide barcode for each item.

The q-pon bar code (QR code or similar) function can work in 2 different mode:

1. Discount Coupon mode: where only the amount of discount and a security code are sent to customers for displaying and scanning at cashier. In this mode the cashier scan the product price bar code first and after that the discount coupon for the final customer price.

2. Product price mode: where the discounted final price bar code is sent to customers.

Open issues:
- Cashier bar code scanner and mobile device display can interfering causing difficult scanning process at cashier.

6. Automatically sharing the QR „flyer“ with social portal friends

The other output of the QR app is a flyer that is automatically posted on the user's QR newsfeed and optionally on the pre-set social portals (see point 1). On each social portal's newsfeed an elegant flyer will be posted under the user's name as a post from himself (not as a sponsored post). Flyer will include the following information:

- Store location
- Selfie picture
- Title of the picture (written by user)
- Product information
- Hyperlink to Partner Stores webshop (if applicable) where item could be purchased on-line
- Promotion code
After a successful "QR q-pon" and "QR Flyer" creation and post on social portals as QR portal, Facebook (Twitter/Google+/-) the QR backend stores all the log informations (customer, product, original bar code, coupon, discount, date, time, ...) in a database.

Open issues:
- Not known

7. Messaging and Content Management System (CMS)

The application backend system has 2 main functions:

- delivery of system messages between the peripheral component, and
- managing, process and store data of products, shops, purchases and users.

The solution can be built on cloud service provider or on private hardware and software infrastructure but the on-demand scale up functionality of hardware, bandwidth and storage resources without loss of services is a must. The CMS data model and database design supports quick response time in messaging for time crucial operations of workflow.

8. Data Warehouse for reporting

All data stored in QR backend system should be reported in different ways for several users. Users can be customers, Partner Shop employees and QR admin staff. For quick and responsive reports a dedicated reporting system has to be set and installed. All the pre-defined reports are accessible via the web based desktop client also new report definitions are possible. The DWH and reporting system can be a 3rd party product or developed dedicated to QR system.
9. Partner Shop databases

Contracted Partner Shops working their stock and sales management on own dedicated database systems. All the information are necessary for QR operations are stored in these databases where the information has to be interfaced.

The control of product data is at Partner Shop manager who input/edit product data only once in their own system and the programmed interface will upload the modification into QR CMS automatically.

QR has specified the internal Messaging & CMS data model required for managing the mobile application and social portal communications. All Partner Shop agreement has to define the data has/can to be interfaced in both direction which agreement has technical and business dimensions.

Alternatively QR Admin site offers the possibility for Partner Shop managers to upload product data manually or via Excel import in case Partner Shop does not operate with an own system.

10. Desktop Client form managing all content of CMS

The backend system provides a web based client access for data stored. Three different client access and functions are:

1. Customer access : with the Facebook (Twitter/Google+) login all customers can log in and see his/her activity history, selfie/product photos, Partner Shop websites contacted, Facebook post links generated, etc.

2. Partner Shop access : where the automatic and/or manual uploaded product information can be modified, reports can be accessed. Can be 2 or more authorization level access depending on shop manager, product manager or other responsibility.

3. System administration access : QR staff for managing the infrastructure with all of resources
CLAIMS for Mobile Application Based Discount Coupon Management Solution

Claim #1: A method and apparatus for monetizing individual's marketing activities on social media platforms by discount coupon, comprising:

1. Mobile device with camera,
2. Product identification code,
3. Social media platform(s),
4. Generated Cashier coupon code,
5. Messaging and Content Management System (CMS),
6. Desktop Client for managing all content of CMS,
7. Internet connection.

Claim #2: The business method recited in Claim #1, where the system integrated to

8. Partner Shop databases
INTERNATIONAL SEARCH REPORT

International application No. PCT/IB 2015/053460

A. CLASSIFICATION OF SUBJECT MATTER

G06Q 30/00 (2012.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06Q 30/00-30/02, 50/00, G06F 15/00, 17/00-17/30

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PatSearch (RUPTO internal), USPTO, PAI, K-PION, Esp@cenet, Information Retrieval System of FIPS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>US 2014/021451 1 A1 (COUPONS.COM INCORPORATED) 31.07.2014, abstract, paragraphs [0027], [0028], [0031], [0038], [0052]-[0054], [0058], [0069], [0087], [0088]</td>
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<td>A</td>
<td>US 2004/0107135 A1 (CRAIG DEATHERAGE et al) 03.06.2004</td>
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<td>A</td>
<td>US 5903874 A (TIMOTHY MARK LEONARD et al) 11.05.1999</td>
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"A" document defining the general state of the art which is not considered to be of particular relevance

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□ Further documents are listed in the continuation of Box C. H See patent family annex.

Date of the actual completion of the international search 15 September 2015 (15.09.2015)

Date of mailing of the international search report 24 September 2015 (24.09.2015)

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Form PCT/ISA/210 (second sheet) (January 2015)