

# Technical Disclosure Commons

---

Defensive Publications Series

---

February 19, 2016

## GLOBAL REWARD SEARCH AND REDEMPTION PLATFORM

Hassan Abolhassani

Follow this and additional works at: [http://www.tdcommons.org/dpubs\\_series](http://www.tdcommons.org/dpubs_series)

---

### Recommended Citation

Abolhassani, Hassan, "GLOBAL REWARD SEARCH AND REDEMPTION PLATFORM", Technical Disclosure Commons, (February 19, 2016)  
[http://www.tdcommons.org/dpubs\\_series/162](http://www.tdcommons.org/dpubs_series/162)



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

## **GLOBAL REWARD SEARCH AND REDEMPTION PLATFORM**

### **ABSTRACT**

A global reward search and redemption platform allows consumers to redeem rewards points to purchase products. A consumer registers with multiple rewards programs and accumulates rewards points. The consumer also registers with a search provider and enables the search provider to access the rewards points balances associated with the rewards program accounts of the consumer. The search provider communicates with multiple redemption systems to identify products associated with a search query of the consumer. The search provider determines a price for the consumer to purchase each product, where at least part of the price is expressed in rewards points associated with one or more of the rewards program accounts of the consumer. The consumer selects a search result and initiates a transaction to purchase a product using the consumer's rewards program account balances.

### **BACKGROUND**

In conventional technology, rewards point systems act as both a rewards points program account manager and a rewards point redeemer. A consumer must access a website of an associated rewards program system, or otherwise contact the rewards program system, to redeem rewards points for items of interest to the consumer. The rewards points system may then communicate directly with redemption systems – for example, hotels, restaurants, airlines, vacation services, and/or other applicable merchants or service providers that accept rewards points – to directly negotiate the acquisition of an item for the consumer redeeming the rewards points.

Current applications for redeeming rewards points do not allow for a search provider system to communicate both with rewards points program systems and with redemption systems to optimize potential redemptions of combinations of the consumer's rewards points programs to purchase an item of interest. Additionally, current applications for redeeming rewards points do not allow the consumer to apply multiple rewards points program account balances to purchase an item of interest offered by a redemption system.

### **OVERVIEW**

The examples described herein provide computer-implemented techniques to provide a global reward search and redemption platform. A consumer registers with one or more rewards program systems and accumulates rewards points. The consumer also registers with a search provider system and enables the search provider system to access the rewards points balances associated with rewards program accounts of the consumer. The search provider system communicates with the rewards points systems to determine associated consumer rewards program account balances and stores each received rewards program account balance.

The search provider system also communicates with redemption systems to identify products or services (collectively, “products”) associated with a search query from the consumer. Example redemption systems include a hotel chain, a restaurant chain, a merchant, an online merchant, an airline, or other merchant system or service provider system that provides goods or services to consumers. The search provider system determines a price for the consumer to purchase each identified product, wherein at least part of the price for the product is expressed in rewards points associated with the rewards program accounts of the consumer applicable to the purchase. The search provider system may determine a price for a product including rewards points from multiple consumer rewards program accounts.

The search provider system also provides search results ranked based on customizable consumer preferences. For example, if the consumer prefers to rank search results by price, the ranking may include a value comprising the sum of the estimated cash value of the rewards points and/or cash component of the price previously determined by the search provider system. Other ranking examples include the percent of the price the consumer is able to pay using rewards points or redemption system reliability and/or ratings.

The consumer selects a search result and initiates a transaction to purchase an item of interest using account balances associated with the consumer’s rewards program accounts.

## **EXAMPLE PROCESSES AND ARCHITECTURE**

With reference to Figure 1, a global reward search and redemption platform will be described.

Exemplary rewards program systems include a credit card rewards points system, a debit card rewards points system, a bank account rewards points system, a merchant rewards points system, or other appropriate rewards program system. A consumer registers with

multiple rewards program systems. For example, a consumer registers for an account with a financial institution and registers with a rewards points system associated with the financial institution. In another example, the consumer registers for a credit account with a credit issuer system and registers with a rewards program system associated with the credit issuer system or a credit acquirer system associated with the credit account. In another example, the consumer registers with a rewards program system associated with a merchant, such as an airline, a restaurant, a hotel, or other applicable merchant.

After the consumer registers with the rewards program systems, the consumer accumulates rewards points with the rewards program systems. For example, the consumer accumulates rewards points by performing actions specified by each rewards program system, such as earning rewards points for every currency unit spent or charged to the consumer account, earning rewards points for every dollar the consumer spends using the consumer account, earning rewards points for purchasing particular items or purchasing items from particular merchants, and earning rewards points for donating to a certain charitable organization.

The consumer may download a rewards program application onto a consumer computing device associated with the consumer for each rewards program system with which the user is registered. For example, the consumer accesses a website associated with a rewards program system via the consumer computing device and downloads the rewards program application over a network. The consumer may establish a username and/or password that the consumer may use to access the rewards program application on the consumer computing device. When the consumer is signed in to the rewards program application, the rewards program application may communicate with the associated rewards program system over the network. The consumer may check the consumer's rewards program account balance by consulting the rewards program application. The rewards program application may communicate with the rewards program system to retrieve one or more rewards program guidelines to display to the consumer. The consumer may view or search the displayed rewards program guidelines to determine how to earn rewards points with the rewards program. In another example, the rewards program application associated with a particular rewards program system may be downloaded onto the consumer computing device prior to the consumer registering for a rewards program account or during the registering for the rewards program account. In certain other examples, the consumer does

not download a rewards program application on the consumer computing device. For example, the consumer may access the consumer's awards program account using a website of the rewards program account via a web browser of the consumer computing device.

The consumer also registers with a search provider system. The search provider system includes a search engine or search service that receives search queries and provides search results to consumers. The consumer accesses a web site of the search provider system via the consumer computing device, or downloads an application associated with the search provider system on the user computing device to communicate with the search provider system via the network.

The consumer enables the search provider system to access the rewards points balances associated with the consumer's rewards program accounts. For example, the consumer inputs information into a website of the search provider system or application of the search provider system on the consumer computing device to identify a rewards program system name and corresponding rewards program account identifier, username, and password for each rewards program account for which the consumer desires to grant the search provider system access to an associated rewards account balance. Alternatively, the consumer individually configures the settings associated with each of the consumer's rewards program accounts via an associated rewards program application, website, or other interaction with the rewards program system. In this example, the consumer configures the settings associated with each rewards program account to allow the rewards program account to share the consumer's corresponding rewards account balance with the search provider system.

The consumer submits a search query to the search provider system for an item of interest. For instance, the consumer submits the search query via a search application executing on the consumer computing device or via a web site associated with the search provider system via the web browser of the consumer computing device. An example search query includes an indication of a product that the consumer desires to purchase. The consumer may select via the search application or search provider system website to conduct a general search, a shopping search, a rewards points redemption search, or other appropriate search offered by the search provider system.

The search provider system communicates with the rewards points systems to determine associated consumer rewards program account balances. The search provider

system communicates with the rewards points systems in response to receiving the consumer's search query. Alternatively, the search provider system may have previously communicated with the rewards points systems and already obtained the corresponding consumer rewards account balances before the consumer submits the search query. For example, the search provider system periodically receives or otherwise periodically requests and receives via the network, from each particular rewards program system associated with each of the consumer's particular rewards program accounts, a balance associated with the particular rewards program account of the consumer. In such cases, the search provider system receives a most recent consumer rewards program balance at appropriate time periods or intervals from the rewards program systems. The search provider system may transmit a request for a rewards program account balance of the consumer including a consumer identifier, user name, and/or password associated with the consumer rewards program account received from the consumer when the consumer registered with the search provider system. In this example, the rewards program system receives the balance request, identifies the consumer account based on the received consumer identifier or user name, and verifies the password. The rewards program system then retrieves the current balance associated with the consumer's rewards program account and transmits to the search provider system an indication of the current balance plus a timestamp that shows the time at which the rewards program system retrieved the current balance. In other examples, the consumer configures settings associated with the rewards program account directly with the associated rewards program system. For example, the consumer grants permission to the rewards program system to periodically share the consumer's current balance associated with the rewards program account with the search provider system. Accordingly, the rewards program system periodically transmits the consumer's current balance associated with the rewards program account to the search provider system without the search provider system having to request the current balance.

The consumer also may configure settings of the consumer's rewards program account and/or search provider system account to revoke the rewards program system's permission to transmit the consumer's current rewards program balance and/or the search provider system's permission to request and receive and/or otherwise periodically receive the consumer's current rewards program balance from the corresponding rewards program system. The consumer also may allow sharing of current rewards program account balances

for certain of the consumer's rewards program accounts and may not allow sharing of current rewards program account balances for other rewards program accounts of the consumer. In these examples, in response to receiving the consumer search query or at another appropriate time, the search provider system may retrieve consumer account settings configured by the consumer that control permission to access consumer account balances to determine which rewards program systems the search provider system may contact to request the current balance for corresponding consumer rewards program account balances.

The search provider system stores each received rewards program account balance in response to receiving the account balance from a rewards program system. For example, the search provider system includes a table, database, or other appropriate organizational system to organize and associate rewards program account balances of the consumer. For example, for each consumer search provider system account, the search provider system may comprise a table relating, for each of the consumer's rewards program accounts, a rewards program system identifier, a consumer awards program account identifier, and an associated current rewards program account balance. In this example, a first entry in the table may show that consumer A has a rewards program account balance of 1400 points with rewards program system B, a second entry in the table may show that consumer A has a first rewards program account balance of 500 points with rewards program system C, and a third entry in the table may show that consumer A has a second rewards program account balance of 600 points with the rewards program system C. Upon receiving an updated current account balance from a rewards program system for a particular consumer rewards program account, the search provider system updates the table, database, or other organizational tool to reflect the current account balance of the particular consumer rewards program account.

The search provider system also communicates with one or more redemption systems to identify products associated with the consumer's search query. Exemplary redemption systems include a hotel chain, a restaurant chain, a merchant system having a physical sales presence, an online merchant system, an airline system, or other merchant system that provides products to consumers. In an example, the search provider system communicates with redemption systems that cooperate with the rewards program systems associated with the rewards program accounts of the consumer. The redemption systems may register to participate with a rewards program system. The registered redemption systems may periodically transmit to the search provider system, or the search provider system may

otherwise request and receive, a list of products for which rewards points may be accepted and a list of rewards points systems from which rewards points may be accepted for each product. Alternatively, rewards program systems may periodically transmit to the search provider system, or the search provider system may otherwise request and receive, a list of products for which rewards points may be accepted. The received information also may include a rewards points pricing chart that enables the search provider system to determine the value of each product offered and the value of rewards points associated with the rewards program accounts.

The search provider system determines, for each redemption system product, a price for the consumer to purchase the product. At least a portion of the price for the product is expressed in rewards points associated with rewards program accounts of the consumer applicable to the purchase. The search provider system may determine a price for a product comprising rewards points from two or more consumer rewards program accounts. For example, the search provider system may determine the following prices for a certain hotel room for one night: 8,000 rewards points corresponding to rewards program A; 4,000 rewards points corresponding to rewards program A plus 10,000 rewards points corresponding to rewards program B; 4,000 rewards points corresponding to rewards program A plus 20 dollars payable by the consumer; and/or 4,000 rewards points corresponding to rewards program A, plus 2,000 rewards points corresponding to rewards program B, plus 20 dollars payable by the consumer.

To determine a price for the product, the search provider system may take into account an actual cash price of the product, an estimated monetary value of rewards points, an offer of a rewards program system and/or a redemption system expressing a specific price for the product in rewards points of specific rewards program systems, and rewards points balances associated with corresponding awards program accounts of the consumer. For example, rewards program system A's rewards points are valued at 100 rewards points to a dollar. If a product offered by a redemption system participating in rewards program system A's rewards program is priced at \$20, the search provider system may determine a price for the product as 2,000 rewards program system A rewards points.

The search provider system may further determine the price for a product further based on consumer preferences. For example, the consumer prefers to use rewards points from rewards program A before using rewards points from rewards program B. The search



provider system determines a price for a product such that all rewards points from the consumer's rewards program A account are used before adding rewards points from the consumer's rewards program B account. In another example, the consumer prefers to maintain a minimum rewards points balance in a certain rewards program account. The consumer may also configure other appropriate preferences, and the search provider system may take those preferences into account when determining the expression of a price for a product.

The search provider system provides search results ranked based on customizable consumer preferences. For example, the consumer prefers to rank search results by price. Price may comprise a value comprising the sum of the estimated cash value of the rewards points and/or cash component of the price previously determined by the search provider system. In another example, the consumer prefers to rank the search results by the percent of the price the consumer is able to pay using rewards points. In another example, the consumer prefers to rank search results based on redemption system reliability and/or ratings. In this case, the search provider system accesses and or receives ratings data from a ratings system corresponding to each redemption system for which product and/or service offers were retrieved. A search result comprising a product offered by a first merchant with a first satisfaction rating will be displayed above a result comprising the same product offered by a second merchant with a second, lower satisfaction rating than the first merchant. Other consumer preferences and/or standard criteria determined by the search provider system may be considered in ranking and displaying the search results.

The consumer selects a search result and initiates a transaction to purchase a product using account balances associated with one or more of the consumer's rewards program accounts. In an example, search results comprising products that the consumer may purchase are displayed to the consumer. The search results may include both informational search results and products for purchase. Alternatively, the search results include only search results associated with products that the consumer may purchase. The search provider system may display at least the name of the product and the determined price of the product, where at least a portion of the price is expressed in rewards points associated with one or more rewards program system accounts of the consumer. Each displayed result associated with a product that the consumer may purchase includes a purchase link.

For example, the consumer views a search result that reads “Merchant A hotel suite for June 15, 2015 to June 16, 2015, price: 2500 rewards program A rewards points, or 3000 rewards program B rewards points, plus 5 dollars. Click here to purchase.” In this example, the “click here” includes a hyperlink and/or other consumer interface object that the consumer may actuate to initiate a purchase of the product advertised in the search result. In this example, the consumer selects the hyperlink or other appropriate purchase link via the consumer computing device, and the search provider system receives an indication of the consumer selection of the purchase link. In response to receiving an indication of a selection of a purchase link associated with a search result, the search provider system contacts each of the one or more rewards program systems corresponding to the determined price of the product and/or the redemption system offering the product for sale. For example, if the search result offers a merchant A product for 2000 rewards program system A rewards points plus 1500 rewards program system B rewards points, the search provider system communicates with merchant A, rewards program system A, and rewards program system B to process a transaction for the product using the amounts of rewards points associated with the quoted price.

In another example, the search provider system also communicates with an issuer system associated with a consumer financial account to fund at least a portion of the purchase of the product. For example, the search result offers a merchant A product for 2000 rewards program system A rewards points, plus 1500 rewards program system B rewards points, plus 10 dollars. In this example, for the 10 dollars cash amount, the search provider system may communicate with an issuer system associated with a consumer credit account, consumer bank account, consumer account associated with a merchant, or other appropriate account of the consumer to process the transaction. The search provider system may request payment account information from the consumer, and the consumer may provide the requested payment account information to the search provider system via the consumer computing device and the network. In certain examples, the redemption system offering the product may render the product to the consumer and receive reimbursement from the one or more rewards program systems and/or issuer system associated with a consumer financial account involved in the transaction.

By using and relying on the methods and systems described herein, the search provider system, one or more redemption systems, and one or more rewards program systems

with whom the consumer has a rewards points account enable the consumer to apply rewards points associated with one or more rewards program systems to purchase a product offered by a redemption system. As such, the systems and methods described herein may reduce the inputs required by the consumer via the consumer computing device.

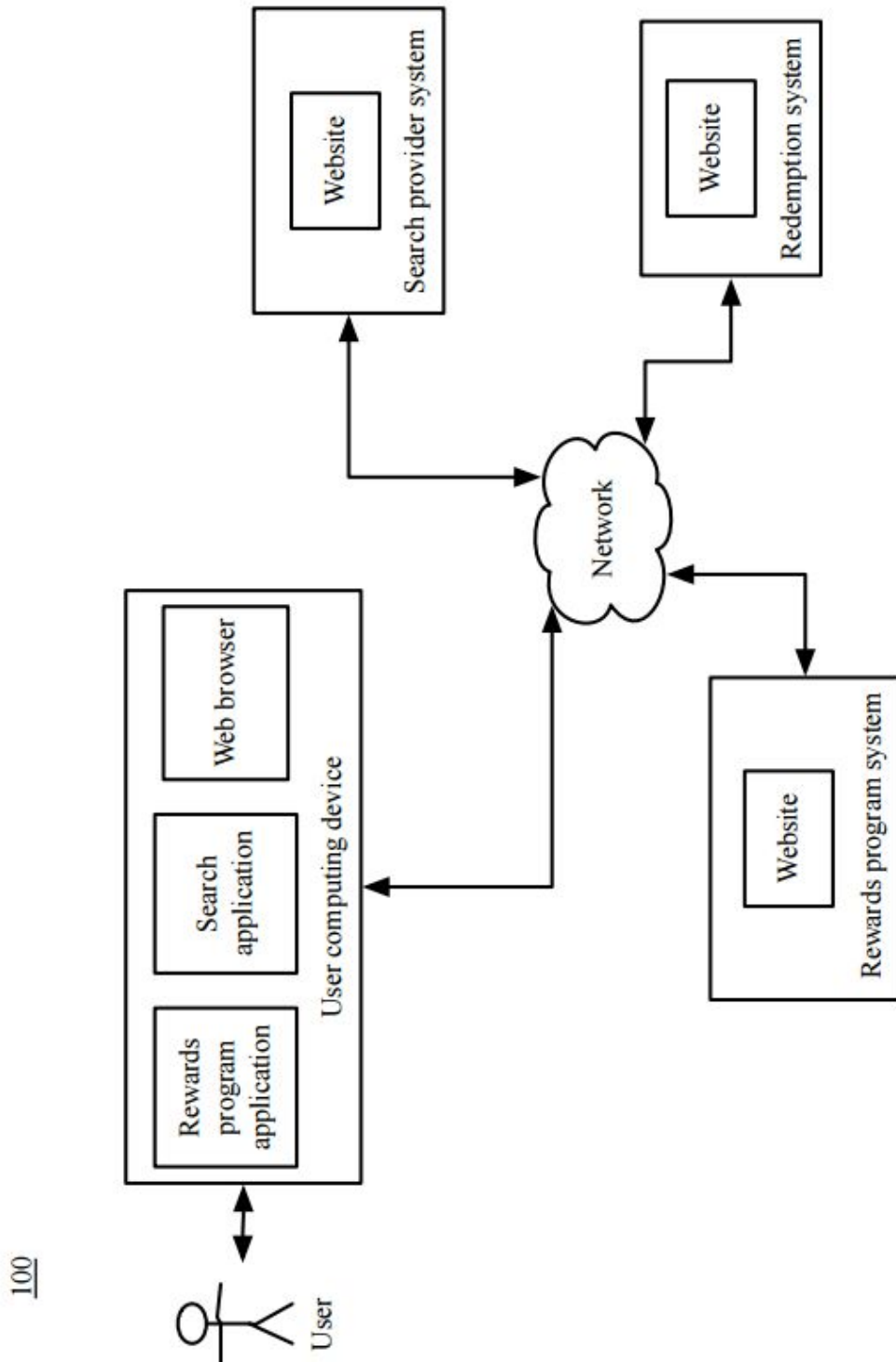


Figure 1

