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Interactive digital receipt

Abstract

A technique is disclosed for generating an interactive digital receipt on a device associated with a customer, where the receipt offers transaction information associated with a transaction and one or more interactive components. In one embodiment, one or more servers of a payment service generates the interactive digital receipt. The interactive digital receipt includes an interactive feedback component as one of the one or more interactive components. A determination can be made by the one or more servers that feedback was received within a timeframe satisfying a timeframe criterion. Based on determining that the feedback was received within the timeframe, a reward can be transmitted by the one or more servers to the device associated with the customer.

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Background/Summary

PRIORITY CLAIM (1) This application claims priority to U.S. patent application Ser. No. 16/588,997, filed Sep. 30, 2019, which claims priority to U.S. patent application Ser. No. 14/088,113, filed Nov. 22, 2013, which claims priority to U.S. Provisional Patent Application No. 61/901,986, filed on Nov. 8, 2013, the entire contents of which are incorporated herein by reference.

BACKGROUND
(1) Due to the increasing popularity and acceptance of the computer and mobile devices, more and more financial transactions between merchants and customers are being conducted electronically. Many merchants have started to provide their customers with receipts electronically to maintain record of the financial transactions. For example, some merchants may provide a receipt through delivery of an electronic mail (i.e., e-mail). In another example, some merchants may make the receipt available through an online customer account on a merchant website. Various solutions are currently available to provide such receipt electronically, such as building an internal solution specific to a merchant's point of sale (POS) system or integrating with a third party solution into the merchant's POS.
(2) The existing receipt solutions, however, are often limited in functionality and present many issues for both merchants and customers. For a customer, the receipts from the different merchants often get delivered in different ways (e.g., format, delivery method, etc.), and as such the customer is unable to manage the receipts digitally. For a merchant, a highly customized infrastructure change to existing POS system is needed in order to have a receipt solution that fits the merchant's needs; the merchant may not be ready to make such changes based on the business size, the cost, and/or the required technical knowledge. Further, the efforts required for such changes do not translate well in terms of a return on investment; the existing digital receipt solutions merely

provide a record for the transactions, and nothing more.
(3) Accordingly, a more robust, versatile system for providing a receipt electronically is needed.

Description

BRIEF DESCRIPTION OF THE DRAWINGS
(1) One or more embodiments of the present invention are illustrated by way of example and are not limited by the figures of the accompanying drawings, in which like references indicate similar elements.
(2) FIGS. **1**A-**1**B illustrate a first embodiment of an interactive digital receipt technique implemented on a user device.
(3) FIGS. **1**C-**1**E illustrate a second embodiment of an interactive digital receipt technique implemented on a user device.
(4) FIGS. **1**F-**1**H illustrate a third embodiment of an interactive digital receipt technique implemented on a user device.
(5) FIG. **1**I illustrate a fourth embodiment of an interactive digital receipt technique implemented on a user device.
(6) FIG. **2** illustrates a flow diagram of a process for implementing an interactive digital receipt technique on a user device.
(7) FIG. **3** illustrate a screenshot of a receipts dashboard for managing interactive digital receipts implemented on a user device.
(8) FIG. **4** illustrates a screenshot of an engagement dashboard for managing merchant engagements with customers.
(9) FIG. **5** illustrates a screenshot of a feedback dashboard for managing customer feedback.
(10) FIG. **6** illustrates an environment in which the techniques disclosed herein may be implemented.
DETAILED DESCRIPTION
(11) Introduced herein is a technique to provide an interactive digital receipt implemented on a user device, where the receipt offers an interactive platform for merchants and customers to interact on a continuous basis. The interactive digital receipt can be embodied in a text message, an electronic mail (e-mail), or a mobile software application. The interactive digital receipt is generated in response to an occurrence of a particular financial transaction between a merchant and a customer, such as a payment transaction conducted at a completion of service and/or goods provided by the merchant. The financial transaction may be an electronic transaction conducted over the Internet or a card present point-of-sale (POS) transaction where the customer/buyer/payer makes the purchase at a store front, other “brick-and-mortar” location, or simply in the presence of a merchant/payee.
(12) Once the financial transaction takes place (i.e., the payer tenders payment to the payee), the interactive digital receipt is generated to provide the customer with an electronic record of the transaction. In addition to providing the transaction record, the interactive digital receipt provides one or more time-based engagements, or interactive components, to enable the merchant and the customer to engage, or interact, with one another. The time-based engagements include one or more features that are configured to be available (i.e., offered via the interactive receipt) to the user for a limited, predefined time period, allowing the engagements, or the interactions, to take place only until the expiration of the time period.
(13) In some instances, the disclosed technique provides a time-based engagement that includes a gratuity payment feature to allow the customer to add a gratuity amount (i.e., “tip”) on top of a payment amount for a purchase from a particular merchant. The gratuity payment feature allows the customer to tip the merchant after the time of the actual transaction, or purchase. The merchant may set the time limit at which the interactive receipt (for the purchase) is open for receiving the

gratuity amount from the customer. The customer may set a nominal gratuity amount to operate as a default amount to be paid to the merchant if no gratuity is added after a predefined time limit. For example, such nominal gratuity amount may be set for a particular favorite merchant of the customer; that is, the customer desires to always tip a nominal amount even he/she forgets to add such amount after a transaction. The time-based gratuity payment feature is beneficial, for example, when the customer has forgotten to tip and desires to tip after he/she has already made the payment and left the merchant's store. The nominal gratuity amount may also be set by the merchant. This is beneficial in scenarios involving special services and/or goods. For example, a restaurant merchant sets a default 25% tip for any transaction involving 10 or more parties dining at the restaurant.

(14) In some instances, the disclosed technique provides a time-based engagement that includes a feedback feature to allow the customer to leave a review (e.g., a write-up, a rating, etc.) for a particular merchant after a transaction is completed. The feedback feature is offered to the customer only within a predefined time period. The merchant may configure the predefined time period. For example, the time period can be an hour, a day, or a week after a payment transaction (e.g., a restaurant visit) has completed. The merchant may configure the predefined time period to be tied to an incentive. For example, the customer is rewarded a 20% Off Coupon via the interactive receipt for submitting a review within an hour of the transaction completion time. Such time-based feedback feature is beneficial, for example, when the merchant wants to increase visibility of the merchant venue (i.e., through reviews), to incentivize the customer to act more quickly in submitting the feedback, and/or to manage the collection of feedback more effectively and in a timely manner (e.g., allowing a review six days after the service is likely ineffective).

(15) In some instances, the disclosed technique provides a time-based engagement that includes a time-based promotion feature to incentivize the customer to interact with a particular merchant within a predefined time period. The time-based promotion feature offers the customer a particular promotional reward associated with the merchant and/or the purchase, where the promotional reward reduces, or decreases in value, corresponding to a decrease in a passage of time. For example, a promotional $10 coupon is generated via the interactive receipt the moment a particular payment transaction has occurred between Store A and Customer X, where the coupon is redeemable at Store B, which is affiliated with Store A, if the coupon is redeemed at Store B within 24 hours. In such example, the $10 value of the promotional coupon decreases based on how long it has been since the transaction at Store A has completed; the value ultimately decreases to $0 in accordance with the passage of time. In this example, the sooner the customer redeems the $10 coupon, the higher the value he/she gets to redeem.

(16) The customer may redeem the time-based promotional reward by completing various redemption (or “promotional”) activities. Some promotional activities include simply revisiting the merchant to make another purchase for goods and/or services. Some promotional activities include participating in a game via the user device. Some promotional activities include visiting another affiliated merchant (e.g., affiliated store, affiliated website, etc.). The promotional activity and the decreasing rate of the promotional reward may be configured by the merchant offering the reward. Such time-based promotional reward feature is beneficial, for example, when the merchant wants to promote certain products or services and/or to engage the customers by offering certain incentives to act more quickly. The customer, on the other hand, benefits, for example, by getting more relevant merchant rewards (e.g., discounts at the merchant's store or affiliated stores).

(17) In some instances, the disclosed technique provides a time-based engagement that includes a loyalty rewards record for the customer, where the loyalty rewards record is associated with every transaction conducted over time between the customer and a particular merchant. The loyalty rewards record (or “rewards record”) tracks the purchases and/or services made by the customer from the particular merchant, and uses the tracking to log reward points for the customer being a “loyal customer.” The rewards record enables the merchant, for example, to reward the customer for purchases (e.g., a free beverage for every 10 beverages bought) and enables the customer, for

example, to receive an elite membership status for purchases made within a predefined time period (e.g., 10 beverages bought within a week).

(18) In some instances, the disclosed technique provides a particular customer an interactive transaction record containing all interactive digital receipts of transactions between the particular customer and one or more merchants. The interactive transaction record organizes the interactive digital receipts based on time, location, and merchant. The interactive transaction record is updated along with each new interactive digital receipt that gets generated and or updated. Further, the interactive transaction record allows the customer to access each interactive digital receipt. This can be beneficial when the customer wants to revisit a record for a particular transaction. For example, if a customer wants to review and add a gratuity amount to a payment transaction completed recently, he can access the interactive transaction record to search for the particular transaction and add on a tip to the payment authorization for that transaction.

(19) In some instances, the disclosed technique provides a user interface for a particular merchant to configure various time-based engagements that may be offered via the interactive digital receipts on the user devices of one or more customers. In some instances, the interface allows the merchant to create one or more customized templates for the interactive digital receipts of particular customers. As such, the disclosed technique allows the merchant to dynamically change what is being offered, or displayed, on the user device of the frequent customer.

(20) Other aspects and advantages of the disclosed technique will become apparent from the following description in combination with the accompanying drawings, illustrating, by way of example, the principles of the claimed technique.

(21) FIGS. **1**A-**1**B illustrate a first embodiment of an interactive digital receipt technique implemented on a user device **100**. As used herein, the term “user device” refers to any general-purpose computing device capable of data processing. In one example, the user device can be a mobile device, such as a smartphone (e.g., iPhone®, Android®-enabled phone, etc.), a personal digital assistant (PDA), a tablet, an e-reader, or other mobile or portable computing devices. In another example, the user device can be a personal computing device, such as a desktop, a laptop, or other wired and wireless personal computers. The user device **100** is equipped with a display screen **102** for displaying various user interfaces to enable a user to interact with content generated by the user device **100**.

(22) The user device **100** can implement an application, such as an interactive receipt mobile application for use by a mobile user, where the interactive receipt mobile application includes one or more customer interface components. As used herein, a “customer interface component” is a component of a user interface intended for a customer to view and interact with an interactive digital receipt **104**. The interactive digital receipt **104** is generated for the customer after an occurrence of a financial transaction between the customer and a merchant (e.g., payment that occurs at the completion of a service and/or tendering of goods), where the interactive digital receipt **104** is displayed on the display screen **102** of the user device **100**. It is noted that the interactive digital receipt **104** may take up an entirety or any portion of the display screen **102**.

(23) Referring to FIGS. **1**A and **1**B, the interactive digital receipt **104** includes various interactive components, such as a customer transaction interface component **106** (“transaction component”) and one or more customer engagement interface components **108** (“engagement component”). The transaction component **106** displays details associated with a particular transaction between the customer and the merchant, where the transaction details are displayed in real time in response to an occurrence of the particular transaction (e.g., payment transaction at the completion of a service). For example, when the customer has made a payment to the merchant, the interactive digital receipt is automatically generated on the user device **100**, and included on the receipt are details of the purchased items and prices generated by the transaction component **106**.

(24) The one or more engagement components **108** displays in real time one or more features for the merchant and the customer to interact or engage with one another. The features generated are

configured to be available via the interactive digital receipt only within a predefined time period. The predefined time period is configurable by the merchant and allows the merchant to provide time-based incentives to engage the customer to interact with the merchant. Further details regarding the engagement components and the transaction component will be discussed in FIGS. **1**C-**1**H.

(25) FIGS. **1**C-**1**E illustrate a second embodiment of an interactive digital receipt technique implemented on a user device **100**. As illustrated in FIG. **1**C, the interactive digital receipt **104** includes an engagement, or interactive, component for generating a tipping feature **110**. The tipping feature **110** allows the customer the option to add a gratuity amount (i.e., "tip") after the occurrence of a particular transaction with a merchant (e.g., tendering or completion of a payment for goods and/or service); such a transaction may be, for example, payment for a meal at a restaurant visit, where the customer is able to leave a tip after he/she has left the restaurant. The tipping feature enables any tip added by the customer to be directly transmitted to the payment system, without any human interference. For example, after the customer has tendered his credit card to the merchant to pay for a meal, the interactive digital receipt is generated on the customer's mobile device. Using the mobile device, the customer can then proceed to add a tip, and such tip (e.g., credit card authorization of the tip) is directly sent to the payment system to be added together with the already authorized payment amount, without the merchant having to physically enter and submit the tip authorization to the payment system.

(26) The tipping feature **110** may be embodied in the interactive digital receipt in a variety of ways, as illustrated in FIG. **1**D. In one example, the interactive digital receipt is a text message **120**. In such example, upon receiving the receipt via text, a user can add on a tipping amount to the transaction by replying to the text message **120** and entering a number (e.g., "2.00" for a $2.00 tip). In another example, the interactive digital receipt is displayed as part of a user interface associated with a mobile application ("App"). In such example, the tipping feature **110** is a text box **122**A within the interactive receipt (e.g., interactive receipt **104**), and the user can add on a tipping amount by entering a number directly in the text box. The tipping feature **110** embodied within the App may also be a user interface component **122**B with default tip amounts displayed to the user. The default amounts can be configured to change based on the payment amount associated with the transaction (e.g., an amount equivalent to 15%, 20%, etc.). The user can quickly add the tipping amount by clicking on any of the default amounts displayed. In yet another example, the interactive digital receipt is a Uniform Resource Locator (URL) link **124** which takes the user to a web page to allow adding of the tipping amount. The link **124** can be a part of the text message **120**, a part of the text box **122**A, the component **122**B, or an electronic mail (e-mail).

(27) The tipping feature **110** is configurable in various ways to implement various functionalities. In one embodiment, the tipping feature is configured to be available at any time, and for an unlimited time period, starting after a time instance when payment has been authorized (e.g., after the customer has authorized the payment amount using his/her credit card to pay the merchant). In one embodiment, the tipping feature **110** is configured to be available only for a limited, predefined time period, or timeframe, after the authorization for the payment amount has been granted by the customer. As used herein, the term "timeframe" refers to a time limit during which the tipping feature remains available for receiving a gratuity amount authorization from the customer. The timeframe may be, for example, an hour, a day, a week, or any other desired time period (e.g., unlimited). In some embodiments, the timeframe is configured by the merchant. In other embodiments, the timeframe is configured by an operator of the interactive digital receipt system.

(28) The timeframe of the tipping feature **110** is initialized, or started, at a time instance at which the transaction between the customer and merchant has occurred (i.e., a tender of payment has been completed). The timeframe decreases incrementally, from this time instance, at a rate that corresponds to an ordinary passage of time. For example, once a customer submits a payment (e.g., authorizes payment amount via a debit card), an interactive digital receipt is generated for the

customer and the timeframe for tipping associated with that receipt is initialized (i.e., the countdown starts) at the moment the receipt is generated. At the expiration of the timeframe (i.e., the countdown reaches 0), the tipping feature becomes unavailable to the customer (e.g., the feature becomes an invalidated feature). In a real-world setting, such time limitation helps the merchant manage its financial transactions more efficiently. For example, a merchant often processes its financial transactions in batches and would not want to keep any particular transaction open indefinitely.

(29) In one embodiment, the timeframe of the tipping feature **110** may be configured to incorporate a user definition of a default gratuity amount. In particular, a user of the user device **100**, such as a customer, may define a nominal gratuity amount to be automatically paid to certain merchants if no gratuity amount is submitted at the expiration of the timeframe. For example, a customer defines the gratuity amount to be $10 for the customer's favorite restaurant. In such example, the $10 tip is automatically authorized for any transaction with that restaurant whenever no gratuity amount is added at the timeframe expiration. The customer can also define the nominal gratuity amount to be zero. In some embodiments, the default gratuity amount may be defined by the merchant. For example, a restaurant merchant may want to configure a nominal gratuity amount to be defined for restaurant services to groups of six parties or more. In such example, when no tip is added to the payment amount at the end of a timeframe (e.g., 2 hours), an automatic 20% of the payment amount is authorized on the customer's payment card as the tip amount, and the 20% tip amount gets added in the final transaction payment.

(30) Referring to FIG. **1**E, the interactive digital receipt **104** can include two transaction components **106**A, **106**B, in addition to the tipping feature **110**. The transaction component **106**A includes an overview of the transaction completed between the customer and the merchant, such as the total amount of the transaction, the payment card used for the transaction (e.g., last four digits of a credit card), the date, or the like. The transaction component **106**B includes the details of the transaction, such as the name of the items purchased, the quantity, the price, or the like.

(31) FIGS. **1**F-**1**H illustrate a third embodiment of an interactive digital receipt technique implemented on a user device **100**. As illustrated in FIG. **1**F, the interactive digital receipt **104** can include an engagement, or interactive, component that contains a feedback feature **112**. The feedback feature **112** allows the customer (i.e., payer, consumer, or the like) to submit feedback after the completion of a particular transaction with a merchant (i.e., payee). The feedback may include submitting, for example, a rating (e.g., **5** stars), a review, a suggestion, or the like, on various aspects of the transaction (e.g., store cleanliness, service, products, overall visit satisfaction, etc.). In some embodiments, the feedback is submitted directly to the merchant. In some embodiments, the interactive digital receipt system coordinates, communicates, and links with third party services associated with the merchant in implementing the feedback feature **112**. In such embodiments, the feedback is transmitted to the third party services upon submission via the interactive digital receipt. The third party services aggregate the feedback in association with other feedback provided by the merchant. Such third party services may include, for example, Yelp.com, Urban Spoon, YP.com, and the like. In an illustrative example, the feedback feature **112** provides an option for the customer to submit indirectly a write-up review to Yelp.com by using the feedback feature **112**. In such example, the customer can write the review in a text box within the interactive receipt and the review is transmitted to Yelp® when the customer clicks Submit.

(32) In one embodiment, the feedback feature **112** is configurable to be available only for a predefined time period, or timeframe. In some embodiments, the timeframe associated with the feedback feature **112** (“feedback timeframe”) is configured to be the same as the timeframe associated with tipping feature **110** (“tipping timeframe”). For example, the timeframe may be set at one hour and at the expiration of the hour, both the tipping feature and the feedback feature are made unavailable to the customer. In some embodiments, the feedback timeframe is configured to be different from the tipping timeframe. For example, the feedback timeframe may be set at one

week while the tipping timeframe may be set at one hour. In such example, at the expiration of the tipping timeframe, a customer may still be able to submit feedback for the corresponding transaction.

(33) In some embodiments, the feedback timeframe is configured by an operator of the interactive digital receipt system. For example, the feedback timeframe can be configured to be the same for all participating merchants of the interactive digital receipt system. In other embodiments, the feedback timeframe is configured by a particular merchant. For example, the merchant can configure the feedback timeframe to be one day, one week, or any desired amount.

(34) In one embodiment, a particular merchant may configure the feedback timeframe to be tied to an incentive (i.e., "feedback reward") for encouraging submission of a feedback. The incentive may be based on a time of submission of the feedback. For example, the customer is rewarded a "20% Off Coupon" incentive, or feedback reward, if a written review is submitted before expiration of the feedback timeframe, e.g., within an hour after the time of completion of a transaction. In another example, if the feedback is submitted within 10 minutes after the completion of the payment transaction between the user and the remote user, the reward is a 20% Off coupon; on the other hand, if the feedback is submitted within 12 hours, but not exceeding the transaction timeframe allowed for the feedback (e.g., 24 hours), the reward is a 5% coupon.

(35) The feedback feature **112** may be provided in the interactive digital receipt **104** in various configurations, as illustrated in FIGS. **1**F-**1**G. Referring to FIG. **1**G, the feedback feature **112** can be provided along with contents from the transaction component **106** and another engagement **108**. Referring to FIG. **1**H, the feedback feature **112** can be provided along with the tipping feature **110**. The features **110**, **112** may be configured according to a particular merchant's needs. For example, a merchant in the business of selling household supplies can configure the interactive digital receipt to generate the feedback feature **112** without generating the tipping feature **110**. In another example, a merchant in the business of operating a restaurant can choose to have both the tipping feature **110** and the feedback feature **112** be generated in the interactive digital receipt **104**. One of ordinary skill in the art will appreciate that other configurations are possible.

(36) FIG. **1**I illustrate a fourth embodiment of an interactive digital receipt technique implemented on a user device. As illustrated in FIG. **1**I, the interactive digital receipt **104** includes an engagement, or interactive, component for generating a promotional reward feature **114**. The promotional reward feature **114** allows a particular merchant to engage and incentivize a customer to interact with the merchant within a predefined time period, or timeframe. In some embodiments, the timeframe associated with the promotional reward feature **114** ("promotion timeframe") is configured to be the same as the timeframe associated with the feedback feature **112** ("feedback timeframe"), or the timeframe associated with the tipping feature **110** ("tipping timeframe"), or both. For example, the timeframe may be set at one hour, and at the expiration of the hour, the promotional reward feature, the feedback feature, and the tipping feature are all made unavailable to the customer. In some embodiments, the promotion timeframe is configured to be different from each of the feedback timeframe and the tipping timeframe.

(37) The time-based promotional feature **114** offers the customer a particular promotional reward (or "promotion") associated with the merchant and/or the transaction completed, where the promotional reward reduces, or decreases in value, corresponding to a decrease in the passage of time associated with the timeframe. For example, a $10 coupon is generated via the interactive digital receipt the moment a restaurant payment transaction occurs (e.g., authorization of payment amount is completed). The coupon promotes the restaurant by offering the customer $10 off on a next meal at the restaurant. Such $10 coupon decreases in value from the moment the coupon is generated; ultimately, the coupon decreases to a $0 value unless the customer redeems the coupon (e.g., by buying another meal at the restaurant). As such, the sooner the customer redeems the time-based coupon, the higher the value he/she gets to redeem.

(38) The merchant may configure the rate of the reduction in value and/or the timeframe associated

with the promotional reward. In one example, the restaurant sets the $10 coupon to expire after a week, with no reduction in value at all as long as the coupon is redeemed at the end of the week. In another example, the restaurant sets the $10 coupon to expire after 3 days, where the value reduces each day until the value reaches $0 at the end of the third day. The value may reduce in accordance with the passage of time or it may reduce according to a rate set by the merchant. For example, the value decreases at an exponential rate.

(39) In some embodiments, the customer may redeem the time-based promotional reward by completing various redemption, or promotional, activities. Some redemption activities include simply revisiting the merchant to make another purchase for goods and/or services, as discussed in the example above. Other redemption activities include participating in a game via the user device. Some redemption activities include participating in activities with other merchants affiliated with the merchant that offers the promotional reward. For example, the original merchant may offer a 15% Off Coupon, yet that coupon is redeemable only at the original merchant's affiliated store. The redemption activity and the decreasing rate of the time-based reward may be configured by the merchant offering the reward. Such configurations are beneficial as they allow the merchant to customize the promotions according to the merchant's business, such as tailoring to an advertising campaign or a targeted customer demographic.

(40) The promotional feature **114** may be provided in the interactive digital receipt **104** in various configurations. As illustrated in FIG. **1**I, the promotional feature may be combined with the tipping feature **110** and the feedback feature **112**. One of ordinary skill in the art will appreciate that other configurations are possible.

(41) Other engagements, or interactive components, not shown in FIGS. **1**-**1**I may also be implemented via the interactive digital receipt displayed on the user device. In one embodiment, the engagement includes an interactive transaction record. The interactive transaction record includes one or more interactive digital receipts that has resulted from one or more financial transactions belonging to the customer. A particular interactive record may be configured to include only interactive digital receipts associated with a particular merchant. A particular interactive record may be configured to include all interactive digital receipts associated with the customer, including receipts associated with different merchants with whom the customer has transacted. The interactive transaction record allows the customer to organize his/her interactive digital receipts and provides a comprehensive view of all payment transactions.

(42) In one embodiment, the engagement includes an interactive advertisement component (e.g., promotion for product and/or service) to catch the user's attention using advertisement with various content. Such advertisement may include, for example, the promotional reward feature **114** to entice the user to “click-on” or select a particular offering being displayed on the display screen. In yet another example, the advertisement may be a plain display with no interaction required from the customer, where the interaction comes from the advertisement content changing to attract the customer's attention. The advertisement content may be related to the completed transaction for which the receipt **104** is generated. For example, for a coffee purchase transaction, the advertisement includes information about a sustainable coffee alliance organization. The advertisement can also include information about nearby merchants associated with the venue where the completed transaction has taken place. In some embodiments, the interactive advertisement component is coupled to the interactive transaction record, where advertisement content is changed based on details extracted from the interactive transaction record.

(43) The engagement, in another example, can include a loyalty rewards record associated with the customer and a particular merchant. The loyalty rewards record (or “rewards record”) tracks and updates purchases and/or services completed with the merchant over time and maintains a membership status of the customer in relation to the merchant. Reward points are stored and updated in the rewards record for purchases and/or services transacted with the merchant within a predefined time period. For example, the rewards record tracks the number of baked goods bought

from a bakery and updates the customer to an “elite status” in relation to that bakery for buying 10 items within 5 days. The customer, with the elite status evident on his/her rewards record, can redeem for a reward with the bakery. Other customer engagements (or interactive components) not discussed above, but consistent with the techniques discussed throughout, may also be envisioned by one of ordinary skill in the art.

(44) FIG. **2** illustrates a flow diagram of a process **200** for implementing an interactive digital receipt technique on a user device. The user device may be the user device **100** of FIGS. **1**A-**1**I. In some embodiments, the process **200** is implemented by the user device. In some embodiments, the process **200** is implemented by an interactive digital receipt system, such as the system **602** of FIG. **6**. The interactive digital receipt system may be implemented as a mobile application on the user device, such as a smartphone.

(45) At step **202**, the user device receives a signal indicating that a financial transaction, such as a payment transaction, between a user of the user device (e.g., a customer, a payer, a buyer, etc.) and a remote user (e.g., a merchant, a seller, etc.). The signal may be communicated, or transmitted, from the remote user's POS system to indicate that the user has made a payment to the remote user (i.e., to indicate that the transaction has been completed). At step **204**, the user device generates an interactive digital receipt to provide an electronic record of the transaction that has been completed between the user and the remote user. The interactive digital receipt may be the receipt **104** of FIGS. **1**A-**1**I. The interactive digital receipt is configured to be a “living” digital receipt that continues to be maintained and updated on the user device. The receipt allows the user to engage in one or more engagements, or interactions, associated with the transaction, even after the transaction has been completed (i.e., payment has been tendered). The one or more engagements provided on the receipt are time-based and may be configured by the remote user, the user, or a combination thereof, as discussed above in the descriptions of FIGS. **1**A-**1**I.

(46) At step **206**, the user device initializes a transaction timeframe to count down in response to the interactive digital receipt being generated; that is, the transaction timeframe starts decreasing incrementally until it reaches a null value once the receipt is generated. At step **208**, the user device displays the interactive digital receipt on a display screen of the user device. The interactive digital receipt includes one or more engagements being displayed to the user on the display screen.

(47) In one embodiment, the engagements includes a gratuity option that allows the user the capability to authorize a gratuity amount (or “tip”) after the payment amount has been tendered, such as a credit card authorization of the payment amount (i.e., at step **202**). The gratuity option allows any tip added by the user to be directly transmitted to the payment system. For example, once a restaurant patron has given the waiter her credit card to pay for the meal, the patron can add the tip amount by herself without needing the waiter to physically enter the additional tip amount into the payment system. In such example, the patron can simply add the tip on top of the original meal amount via the interactive digital receipt, and the additional credit card authorization is directly sent to the payment system; with the gratuity option available, the patron may choose to add the tip while she is still present at the restaurant or after she has left the restaurant.

(48) As discussed above, in one embodiment, the gratuity option is available to the user for an indefinite time. In another embodiment, the gratuity option is limited by the transaction timeframe. In such embodiment, the user must utilize the gratuity option within the transaction timeframe, i.e., before the timeframe reaches the null value. When the timeframe reaches the null value, the gratuity option is disabled and the user is no longer able to authorize an additional transaction amount for gratuity. The timeframe may be configured to be an unlimited time period (i.e., no expiration).

(49) As discussed above in FIGS. **1**A-**1**I, the gratuity option may be provided, or displayed, via the interactive receipt along with other engagements, or interactive components, such as a time-based feedback option, a time-based promotional reward, and/or a rewards record. Accordingly, as discussed above, the transaction timeframe associated with the engagement(s) provided via the

receipt may include one or more different timeframes for each type of engagement being displayed on the interactive digital receipt (e.g., tipping timeframe, promotion timeframe, feedback timeframe, etc.).

(50) At step **210**, the user device determines whether the transaction timeframe has reached a null value, i.e., “0” time left. If time still remains, then the device continues to display the engagements to engage the user, as indicated in step **208**. If no time remains, the user device processes the transaction, as indicated in step **212**. Processing the transaction may include updating the interactive digital receipt based on the user's interactions with the one or more engagements displayed on the display screen.

(51) In one embodiment, processing the transaction at step **212** may include transmitting to the remote system (e.g., payment system) an additional payment authorization for a gratuity amount (or “tip”) submitted by the user. In one example, the user may have chosen to interact with the gratuity option displayed at step **208** to add the gratuity amount to the transaction. In another example, the user may have predefined a nominal gratuity amount to be automatically authorized when no gratuity amount is added for a transaction with the remote user. However, if the user does not choose to interact with the gratuity option and/or to define a nominal gratuity amount, no additional payment authorization step is carried out in step **212**.

(52) In one embodiment, processing the transaction at step **212** may include updating the remote user's database with feedback completed by the user via the interactive digital receipt. The processing may also include transmitting to the user an incentive reward for completing (i.e., submitting) the feedback. As discussed above, the incentive reward may be based on a time of submission of the feedback.

(53) In one embodiment, processing the transaction at step **212** may include processing for the user (e.g., customer) a time-based reward for completing a redemption activity associated with the remote user (e.g., merchant). The time-based reward may be maintained and accessed via the interactive digital receipt, where the user may choose to use the reward at any time after the redemption activity has been completed.

(54) In one embodiment, processing the transaction at step **212** may include updating one or more records associated with the user. Updating the records may include updating the user's loyalty rewards record and updating the user's interactive transaction record. The interactive transaction record includes one or more interactive digital receipts resulting from one or more financial transactions belonging to the user. A particular interactive record may be configured to include only interactive digital receipts associated with a particular merchant. A particular interactive record may be configured to include all interactive digital receipts associated with the user, including receipts associated with different merchants with whom the user has transacted.

(55) Updating the user's loyalty rewards record may include analyzing details of the transaction between the user and the remote user (i.e., the completed transaction of step **202**). Analysis of such details allows the user device to update the quantity of a particular item the user has transacted with the remote user (e.g., **3** purchased beverages) and update the user's membership status.

(56) Updating the user's interactive transaction record may include adding the interactive digital receipt associated with the completed transaction to a list of existing interactive digital receipts. The interactive transaction record may be stored on the user device.

(57) FIG. **3** illustrate a screenshot of a receipts dashboard **300** for managing interactive digital receipts. The receipts dashboard **300** may be embodied as the interactive transaction record discussed above. The receipts dashboard **300** may be implemented on a user interface of a user device (e.g. user device **100** of FIGS. **1**A-**1**I) to allow a user (e.g., a customer, a payer, a buyer, etc.) to view a list of interactive digital receipts. The interactive digital receipts are associated with one or more completed financial transactions between the user and one or more merchants.

(58) Referring to FIG. **3**, the receipts dashboard **300** includes a search feature **302** and a selection feature **304**. The interactive digital receipts may be viewed and/or organized by using the selection

feature **302** to select an organization based on a time, a merchant, an item type, or a transaction amount. The user may search for a particular interactive digital receipt using the search feature **304**.
(59) FIG. **4** illustrates a screenshot of an engagement dashboard **400** for managing merchant engagements with customers. The engagement dashboard **400** may be part of a user interface implemented on a merchant computing system, such as the merchant transaction system **606** of FIG. **6**. The engagement dashboard **400** is connected to an interactive digital receipt system (e.g., the system **602** of FIG. **6**) that is configured to generate one or more interactive digital receipts on a user device of a customer.
(60) The engagement dashboard **400** enables the merchant to customize various time-based engagements that may be offered via the interactive digital receipt to the customer. Using the engagement dashboard **400**, the merchant may dynamically change the engagement type that is generated, or displayed, to a particular customer at the completion of every transaction. Further, the merchant may choose between different templates of a particular engagement type to be displayed. Such dynamic capability enables the merchant to utilize the interactive digital receipt according to the business needs of the merchant. For example, for a frequent customer, the merchant may choose to generate a coupon in place of a feedback invitation, which is customarily offered as the default engagement to customers. In such example, the coupon is more suited for the frequent customer who may have already submitted many feedbacks.
(61) FIG. **5** illustrates a screenshot of a merchant feedback dashboard **500** for managing customer feedback. merchant feedback dashboard **500** may be part of a user interface implemented on a merchant computing system, such as the merchant transaction system **606** of FIG. **6**. The merchant feedback dashboard **500** is connected to an interactive digital receipt system (e.g., the system **602** of FIG. **6**) that is configured to generate one or more interactive digital receipts on a user device of a customer. The merchant feedback dashboard **500** collects and analyzes data extracted from the feedback submitted through one or more interactive digital receipts. A particular merchant may utilize content from the feedback dashboard **500** to improve the merchant's business needs. For example, the feedback dashboard **500** may be integrated with the merchant engagement dashboard **400** to automatically generate appropriate engagements for the interactive digital receipts.
(62) FIG. **6** illustrates an environment **600** in which the techniques disclosed herein may be implemented. The environment **600** includes an interactive digital receipt system **602**, a customer device **604**, and a merchant transaction system **606**. As illustrated in FIG. **6**, the interactive digital receipt system **602** is operatively coupled, via a network **608**, to the customer device **604** and the merchant transaction system **606**. In this way, the interactive digital receipt system **602** can send and receive information, to and from the merchant transaction system **606** and the customer device **604**, to facilitate generating an interactive digital receipt for one or more financial transactions between the merchant and the customer. It is noted that FIG. **6** illustrates only one example of an embodiment of the environment **600**, and it will be appreciated that in other embodiments, the environment may include more or fewer components and that the components may have a different configuration. Further, the various components shown in FIG. **6** may be implemented by using hardware, software, firmware or a combination thereof, including one or more signal processing and/or application specific integrated circuits.
(63) Referring to FIG. **6**, the network **608** may be a communication network based on certain communication protocols, such as TCP/IP protocol. Such network may include, but is not limited to, Internet, Intranet, wide area network (WAN), local area network (LAN), wireless network, Bluetooth, WiFi, and mobile communication network. The physical connections of the network and the communication protocols are well known to those of skill in the art.
(64) The interactive digital receipt system **602** includes a processor **610**, communications circuitry **612**, an input/output interface **614**, and a memory **616**. These components may be coupled by one or more communication buses or other signal lines. It is noted that the system **602** can include more or fewer components.

(65) The processor **610** includes one or more processors. The processor **610** is operatively coupled to the communication circuitry **612** and the memory **616**. The processor **610** may include a digital signal processor, a microprocessor, and various analog-to-digital converters, digital-to-analog converters, and other support circuits and/or combinations thereof. The processor may be configured to execute computer/machine readable and executable instructions stored in the local memory **616** or in a remote device memory (not shown). Such instructions are implemented by the processor **610** to perform one or more functions described above. In performing such functions, the processor **610** uses the communication circuitry **612** to communicate with the network **608** and other devices on the network **608**, such as the merchant transaction system **606** and the customer device **604**.
(66) The communications circuitry **612** includes RF circuitry and/or port for sending and receiving information. The RF circuitry permits transmission of information over a wireless link or network to one or more other devices and includes well-known circuitry for performing this function. For example, the RF circuitry may enable WiFi, cellular, Bluetooth, Bluetooth low energy, global positioning system (GPS), near field communication (NFC), or other types of long range or short range communication. The port permits transmission of information over a wired link. The communications circuitry may communicate, for example, with the merchant transaction system **606**.
(67) The memory **616** includes one or more memories. The one or more memories may be, for example, cache memory, main memory and secondary memory. The memory **616** includes computer-readable instructions **618**, where the computer-readable instructions may be executed by the processor **610** to implement a mobile application on the customer device **604**, such as an interactive digital receipt application. In some embodiments, the memory **616** may include data storage (not shown) for storing data created and/or used by to the interactive digital receipt application.
(68) The customer device **604** may be, for example, mobile devices and computing devices that can communicate with the interactive digital receipt system **602** and the merchant transaction system **606** through the network **608**. The customer device **604** can be the user device **100** of FIGS. **1**A-**1**I. The customer device **604** includes a processor **630**, communications circuitry **632**, an input/output (I/O) interface **634**, and a memory **636**. These components may be coupled by one or more communication buses or other signal lines. It is noted that the device **604** can include more or fewer components.
(69) The processor **630** includes one or more processors. The processor **630** is operatively coupled to the communication circuitry **632** and the memory **636**. The processor **630** may include a digital signal processor, a microprocessor, and various analog-to-digital converters, digital-to-analog converters, and other support circuits and/or combinations thereof. The processor **630** may be configured to execute computer/machine readable and executable instructions stored in the local memory **636** or in a remote device memory (not shown). Such instructions are implemented by the processor **630** to perform one or more functions described above. In performing such functions, the processor **630** uses the communication circuitry **632** to communicate with the network **608** and other devices on the network **608**, such as the interactive digital receipt system **602** and the merchant transaction system **606**.
(70) The communications circuitry **632** includes one or more mechanisms that enable the interactive digital receipt system **602**, the customer device **604**, and/or the merchant transaction system **606** to engage in communications over the network **608**. The communications circuitry **632** may include RF circuitry and/or port for sending and receiving information. The RF circuitry permits transmission of information over a wireless link or network to one or more other devices and includes well-known circuitry for performing this function. The RF circuitry may enable WiFi, cellular, Bluetooth, Bluetooth low energy, global positioning system (GPS), near field communication (NFC), or other types of long range or short range communication. The port

permits transmission of information over a wired link. The communications circuitry **632** can be configured, for example, to aid in the handling, receipt and transmission of secured financial data sent between two or more network devices, such as the interactive digital receipt system **602** and the customer device **604**, and/or the interactive digital receipt system **602** and the merchant transaction system **606**.

(71) The I/O interface **634** includes one or more user input and output device interface mechanisms. The interface **634** may include a computer keyboard, touchpad, touchscreen, mouse, display device, and the corresponding physical ports and underlying supporting hardware and software to enable communications with other network devices in the system **600**. Such communications include, but are not limited to, accepting user data input (e.g., authorization of payment) and providing output information to a user, programming and administering one or more functions to be executed by the corresponding device and the like.

(72) The memory **636** includes one or more memories. The memory **636** may include, but are not limited to, cache memory, main memory and secondary memory. The memory **636** may include computer-readable instructions, where the computer-readable instructions may be executed by the processing system **630**. In some embodiments, the memory **636** may include data storage (not shown) for storing data created and/or used by to the customer device **604**.

(73) The merchant transaction system **606** may be, for example, mobile devices and computing devices that can communicate with the interactive digital receipt system **602** and the customer device **604** through the network **608**. The mobile devices include, but are not limited to, smartphones (e.g., Android®-enabled phones), personal digital assistants (PDAs), portable computers with wired or wireless wide-area-network and/or telecommunication capability such as tablet personal computers and “netbook” personal computers. The computing devices include, but are not limited to, personal computers, electronic point-of-sale cash registry machines, and electronic kiosks.

(74) The merchant transaction system **606** includes a processor **640**, communications circuitry **642**, an input/output (I/O) interface **644**, and a memory **646**. These components may be coupled by one or more communication buses or other signal lines. It is noted that the system **606** can include more or fewer components.

(75) The processor **640** includes one or more processors. The processor **640** is operatively coupled to the communication circuitry **642** and the memory **648**. The one or more processors may include a digital signal processor, a microprocessor, and various analog-to-digital converters, digital-to-analog converters, and other support circuits and/or combinations thereof. The processor **640** may be configured to execute computer/machine readable and executable instructions stored in the local memory **648** or in a remote device memory (not shown). Such instructions are implemented by the processor **630** to perform one or more functions described above. In performing such functions, the processor **640** uses the communication circuitry **642** to communicate with the network **608** and other devices on the network **608**, such as the interactive digital receipt system **602** and the customer device **604**.

(76) The communications circuitry **642** includes one or more mechanisms that enable the interactive digital receipt system **602**, the customer device **604**, and/or the merchant transaction system **606** to engage in communications over the network **608**. The communications circuitry **642** may include RF circuitry and/or port for sending and receiving information. The RF circuitry permits transmission of information over a wireless link or network to one or more other devices and includes well-known circuitry for performing this function. The RF circuitry may enable WiFi, cellular, Bluetooth, Bluetooth low energy, global positioning system (GPS), near field communication (NFC), or other types of long range or short range communication. The port permits transmission of information over a wired link. The communications circuitry **642** can be configured, for example, to aid in the handling, receipt and transmission of secured financial data sent between two or more network devices, such as the merchant transaction system **606** and the

customer device **604**, and/or the merchant transaction system **606** the interactive digital receipt system **602**.
(77) The I/O interface **644** includes one or more user input and output device interface mechanisms. The interface may include a computer keyboard, touchpad, touchscreen, mouse, display device, and the corresponding physical ports and underlying supporting hardware and software to enable communications with other network devices in the system **600**. Such communications include, but are not limited to, accepting user data input (e.g., credit card payment data via a POS device) and providing output information (e.g., communicating with the receipt system **602** to deliver an interactive digital receipt) to a user (e.g., user of the customer device **604**), programming and administering one or more functions to be executed by the corresponding device and the like.
(78) The memory **648** includes one or more memories. The one or more memories may be, for example, cache memory, main memory and secondary memory. The memory **648** includes computer-readable instructions, where the computer-readable instructions may be executed by the processor **640**. In some embodiments, the memory **648** may include data storage (not shown) for storing data related to the financial transaction between the customer and the merchant.

Claims

1. A method comprising: receiving, by one or more servers of a payment service from a point-of-sale (POS) device associated with a merchant, an indication of a transaction between the merchant and a customer of a plurality of customers of the merchant, wherein the indication includes a transaction amount; generating, by the one or more servers of the payment service, an interactive digital receipt that includes: (i) transaction information associated with the transaction, and (ii) one or more interactive components; transmitting, by the one or more servers of the payment service and to a device associated with the customer, the interactive digital receipt; receiving, by the one or more servers of the payment service, feedback via an interactive feedback component of the one or more interactive components of the interactive digital receipt; determining, by the one or more servers of the payment service, that the feedback was received within a timeframe satisfying a timeframe criterion; and based on determining that the feedback was received within the timeframe, transmitting, by the one or more servers of the payment service and to the device associated with the customer, a reward.
2. The method of claim 1, wherein the reward is a fixed amount throughout the timeframe.
3. The method of claim 1, wherein the reward decreases in value based on a time, within the timeframe, of receiving the feedback from the customer.
4. The method of claim 1, wherein the timeframe corresponds to a setting set by the merchant and stored via a merchant profile maintained by the one or more servers of the payment service.
5. The method of claim 1, further comprising: causing presentation of, by the one or more servers of the payment service and via a display of the POS device, a user interface, wherein the user interface displays aggregated feedback received from the plurality of customers, and wherein the user interface is interactable to at least one of analyze or respond to the feedback.
6. The method of claim 1, further comprising: transmitting, by the one or more servers of the payment service, the feedback to a computing device of a third-party service provider.
7. The method of claim 1, wherein the feedback comprises at least one of a rating, a review, or a suggestion associated with at least one aspect of the transaction.
8. The method of claim 1, wherein the one or more interactive components further include an interactive tipping component.
9. The method of claim 1, wherein the one or more interactive components further include an interactive promotion component for the customer to redeem the reward or another reward.
10. The method of claim 1, wherein the one or more interactive components further include an

interactive advertisement component.
11. The method of claim 1, wherein the one or more interactive components further include a loyalty rewards record associated with the customer and the merchant, wherein the loyalty rewards record includes a record of historical transactions between the customer and the merchant, and the method further comprising: transmitting, by the one or more servers of the payment service, information to the device associated with the customer in response to a request associated with a selected historical transaction from the record of the historical transactions.
12. The method of claim 1, wherein the transaction information includes at least a merchant name, a customer name, a payment amount of the transaction, and a date of the transaction.
13. The method of claim 1, wherein the interactive digital receipt further includes an interactive transaction record comprising a record of one or more historical interactive digital receipts for historical transactions between the customer and the merchant.
14. One or more non-transitory computer-readable media storing instructions executable by one or more processors, that, when executed by the one or more processors, cause the one or more processors to perform acts comprising: receiving, by one or more servers of a payment service from a point-of-sale (POS) device associated with a merchant, an indication of a transaction between the merchant and a customer of a plurality of customers of the merchant; generating, by the one or more servers of the payment service, an interactive digital receipt that includes: (i) transaction information associated with the transaction, and (ii) one or more interactive components, wherein the one or more interactive components include an interactive feedback component; transmitting, by the one or more servers of the payment service and to a device associated with the customer, the interactive digital receipt; receiving, by the one or more servers of the payment service, feedback via the interactive feedback component; determining, by the one or more servers of the payment service, that the feedback was received within a timeframe satisfying a timeframe criterion; and based on determining that the feedback was received within the timeframe, transmitting, by the one or more servers of the payment service and to the device associated with the customer, a reward.
15. The one or more non-transitory computer-readable media of claim 14, wherein the reward decreases in value based on a time of receiving the feedback from the customer.
16. The one or more non-transitory computer-readable media of claim 14, the acts further comprising: causing presentation of, by the one or more servers of the payment service and via a display of the POS device, a user interface, wherein the user interface displays aggregated feedback received from the plurality of customers, and wherein the user interface is interactable to at least one of analyze or respond to the feedback.
17. The one or more non-transitory computer-readable media of claim 14, the acts further comprising: transmitting, by the one or more servers of the payment service, the feedback to a computing device of a third-party service provider.
18. A system comprising: one or more processors; and one or more non-transitory computer-readable media storing instructions executable by the one or more processors, wherein the instructions cause the one or more processors to perform acts comprising: receiving, by one or more servers of a payment service from a point-of-sale (POS) device associated with a merchant, an indication of a transaction between the merchant and a customer of a plurality of customers of the merchant; generating, by the one or more servers of the payment service, an interactive digital receipt that includes: (i) transaction information associated with the transaction, and (ii) one or more interactive components, wherein the one or more interactive components include an interactive feedback component; transmitting, by the one or more servers of the payment service and to a device associated with the customer, the interactive digital receipt; receiving, by the one or more servers of the payment service, feedback via the interactive feedback component; determining, by the one or more servers of the payment service, that the feedback was received within a timeframe satisfying a timeframe criterion; and based on determining that the feedback was received within the timeframe, transmitting, by the one or more servers of the payment service

and to the device associated with the customer, a reward.

19. The system of claim 18, wherein the reward decreases in value based on a time of receiving the feedback from the customer.

20. The system of claim 18, wherein the feedback comprises at least one of a rating, a review, or a suggestion associated with at least one aspect of the transaction.