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LOYALTY NFT ENGAGEMENT SOLUTION

David Nissly
VISA

Edmar Soriano
VISA

Todd Sawyer
VISA

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**TITLE: “LOYALTY NFT ENGAGEMENT
SOLUTION”**

VISA

**DAVID NISSLY
EDMAR SORLANO
TODD SAWYER**

TECHNICAL FIELD

[0001] The present subject matter is, in general, related to providing loyalty and offer programs to transaction card holders.

BACKGROUND

[0002] Loyalty Non-Fungible Token (NFT) Engagement Solution is a web3/NFT engagement solution that is powered by supplier technologies, to support issuer and merchant next generation consumer engagement programs. Through this solution, NFTs can be earned, redeemed, collected, cherished, viewed in Augmented Reality (AR) and picked up on a map. NFTs may be considered as a new currency of engagement and are used to drive deeper cardholder engagement and loyalty across a digital, mobile-first and gamified generation. For example, for a transaction performed, the currency of engagement includes NFT tickets and entries that may be earned by the cardholder for entries into sweepstakes or a virtual or live event, loyalty coins that may be earned and redeemed by the cardholder for physical and digital offers and experiences, tokenized NFTs for VIP Access NFTs to unlock perks and benefits or digital coupons that may include tokenized coupons, collectibles or offers.

[0003] The loyalty non-fungible token engagement solution is a white label Web3/NFT engagement platform for issuers, merchants and internal programs and is managed in a Web3 application. It is a full stack, partner provided solution. The loyalty non-fungible token engagement solution empowers AR, Virtual Reality (VR), 3D, and geo-located events. The solution has controls in place to manage interoperability across blockchains and enables public or private hosting. It is a self-service portal for clients to manage program directly. Further, the solution is General Data Protection Regulation (GDPR) and Central Consumer Protection Authority (CCPA) data management compliant. Further, the loyalty non-fungible token engagement solution has active Know Your Customer (KYC) and Anti-money Laundering (AML).

[0004] Visa Offers platform is a card-linked purchase verification system that provides clients access to qualified transaction data of enrolled cardholders. Further, the offers platform utilizes data in real-time to identify eligible transactions for loyalty programs. The eligible transactions are determined using rules-based process. Consumer may opt-in for Permanent Account Number (PAN) enrollment. The offers platform requires the consent from both the consumer

and merchant sides for non-issuer programs. For authorization and settlement events Application Programming Interfaces (API) deliver end-point messages with relevant transaction details to consumers. Further, API documentation is available on development platform.

[0005] By integrating with the offer's platform, clients can enhance their own loyalty and offer programs in new and powerful ways. The offers platform accesses the transaction provider's authorization stream to qualify enrolled cardholder transactions and send relevant notifications to clients in real time. Additionally, the offers platform may qualify settled transactions and send relevant notifications to clients. Using one or more APIs, clients may integrate offers platform capabilities to enhance their own web and mobile applications.

[0006] However, to provide enhanced features to the existing engagement solution, there exists a need for identifying and integrating other solutions with the existing engagement solution.

[0007] The information disclosed in the background section of the disclosure is only for enhancement of understanding of the general background of the invention and should not be taken as an acknowledgement or any form of suggestion that this information forms the prior art already known to a person skilled in the art.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The accompanying drawings, which are incorporated in and constitute a part of this disclosure, illustrate exemplary embodiments and, together with the description, explain the disclosed principles. In the figures, the left-most digit(s) of a reference number identifies the figure in which the reference number first appears. The same numbers are used throughout the figures to reference like features and components. Some embodiments of device or system and/or methods in accordance with embodiments of the present subject matter are now described, by way of example only, and with reference to the accompanying figures, in which:

[0009] **Figure. 1** shows an exemplary system **100** where the proposed technique of providing enhanced loyalty NFT engagement solution may be implemented, in accordance with some embodiments of the present disclosure.

[0010] **Figure 2** shows an exemplary block diagram **200** of the system **100** as illustrated in **Figure 1**, in accordance with some embodiments of the present disclosure.

[0011] **Figure 3** illustrates a process flow diagram representing an exemplary method **300** of registering a user with the loyalty NFT engagement solution, in accordance with some embodiments of the present disclosure.

[0012] **Figure 4** illustrates a process flow diagram representing an exemplary method **400** of executing campaigns and facilitating a user to earn digital rewards, in accordance with some embodiments of the present disclosure.

[0013] The figures depict embodiments of the disclosure for purposes of illustration only. One skilled in the art will readily recognize from the following description that alternative embodiments of the structures and methods illustrated herein may be employed without departing from the principles of the disclosure described herein.

DESCRIPTION OF THE DISCLOSURE

[0014] In the present document, the word "exemplary" is used herein to mean "serving as an example, instance, or illustration." Any embodiment or implementation of the present subject matter described herein as "exemplary" is not necessarily to be construed as preferred or advantageous over other embodiments.

[0015] While the disclosure is susceptible to various modifications and alternative forms, specific embodiment thereof has been shown by way of example in the drawings and will be described in detail below. It should be understood, however that it is not intended to limit the disclosure to the particular forms disclosed, but on the contrary, the disclosure is to cover all modifications, equivalents, and alternative falling within the spirit and the scope of the disclosure.

[0016] The terms "comprises", "comprising", or any other variations thereof, are intended to cover a non-exclusive inclusion, such that a setup, device, or method that comprises a list of components or steps does not include only those components or steps but may include other components or steps not expressly listed or inherent to such setup or device or method. In other words, one or more elements in a device or system or apparatus preceded by "comprises... a"

does not, without more constraints, preclude the existence of other elements or additional elements in the device or system or apparatus.

[0017] The terms "an embodiment", "embodiment", "embodiments", "the embodiment", "the embodiments", "one or more embodiments", "some embodiments", and "one embodiment" mean "one or more (but not all) embodiments of the invention(s)" unless expressly specified otherwise. The terms "including", "comprising", "having" and variations thereof mean "including but not limited to", unless expressly specified otherwise.

[0018] The present disclosure relates to a system and a method of providing enhanced loyalty NFT engagement solutions using Non-Fungible Tokens (NFT) and web 3 technologies. In an exemplary embodiment or aspect, the enhanced loyalty NFT engagement solution is provided by integrating a real-time transaction tracking system (offers platform) with a loyalty engagement solution to immediately engage users who make specific transactions. The specific transactions may include purchases made in a specific category, at a specific merchant, in a specific location etc. When the user makes the specific transactions, the enhanced loyalty engagement solution may reward the user. The rewards may include rewards such as gift with purchase, digital mementos or receipts or follow-up offers or games, but not limited thereto. In the present disclosure, a user may refer to a person who is a cardholder and may perform online transactions using the card. The card may be a physical or virtual payment card and the physical or virtual payment card may be a debit card, a credit card, a prepaid card, a virtual card, and the like.

[0019] Referring now to **Figure 1**, which illustrates an exemplary system **100** where the proposed techniques of providing enhanced loyalty NFT engagement solution may be implemented, in accordance with some embodiments of the present disclosure. The system **100** may include a user mobile device **110** and a loyalty NFT engagement solution provider system **120** communicatively connected over a network. The user mobile device **110** includes a merchant program enabled with web3 mobile application. In one embodiment, the web3 mobile application is installed in the user mobile device **110**. In another embodiment, the web3 mobile application is available as an extension for web browsers. The web3 mobile application provides an easy way for smartphone users to register, collect and own digital objects, tokens and NFTs. The user mobile device **110** may include a mobile phone, a tablet, a laptop or any other device that may support the web3 mobile application. In some implementations, the user

may register with the web3 mobile application to create a personal account in the web3 mobile application. The user may perform the registration using the user's email address.

[0020] In one non-limiting embodiment, to register, the user may open the web3 mobile application installed in the mobile device **110**. Upon opening the web3 mobile application, the mobile device **110** may receive a request from the web3 mobile application to enter the user's e-mail address. The user may enter the user's e-mail address in the text field provided and may submit the e-mail address as response. For example, the user may submit the e-mail address by clicking a "continue" button displayed in the user's mobile device. In response to submitting the e-mail address, the user may receive a verification link in the user's e-mail address to complete the registration process. Further, the user may receive a request in the mobile device **110** to verify the user's e-mail address by clicking on the verification link received in the user's e-mail address. Upon clicking the verification link, the mobile device **110** may receive a notification confirming the verification of user's email address. The user may then proceed to access user's account.

[0021] In one non-limiting embodiment, the user may receive a request in the mobile device **110** to enroll user's one or more payment cards with the user's account in the web3 mobile application. The user may opt-in to enroll user's one or more payment cards to enable card-linked services. To enroll the user's one or more payment cards, the user may click a button displayed in the screen of the mobile device **110**. Upon clicking the button, the user may receive a request to enter card details of each card of the user. The card details may include name of the user, card number, security code, expiration data and the like. Upon entering the card details, the user may accept the terms of use and privacy policy associated with the web3 mobile application and may confirm selection by clicking a button displayed in the screen of the mobile device **110**. When the one or more payment cards are enrolled and transactions are performed with the payment cards, the user may receive notifications based on qualified purchases and transactions that are targeted down to a merchant.

[0022] In one non-limiting embodiment, the enrolled one or more payment cards may be incentivized as part of sweepstakes or giveaway. Based on the user's transactions the user may receive custom offers and experiences and may experience curated, personalized and gamified redemption of the offers and experiences. Further, the user may gain exclusive access to various

items only redeemable by holding or burning tokens and NFTs. Further, offers can be redeemed using the program's existing loyalty points or web3 powered coins and tokens.

[0023] In one non-limiting embodiment, the enhanced loyalty NFT engagement solution provider system **120** includes the loyalty NFT engagement solution and the offers platform. In one non-limiting embodiment, the loyalty NFT engagement solution may execute campaigns. To execute campaigns, campaigns are created in the loyalty NFT engagement solution by an algorithm. The campaign details are sent to merchant programs associated with the the loyalty NFT engagement solution and are displayed in the merchant programs. Further, the loyalty NFT engagement solution may also load campaign constructs into the offer platform. The loyalty NFT engagement solution also sends an Effective User Identity (EUID) of the user to the offer platform. The offer platform may create offers from the campaign constructs and may monitor for eligible transactions made by the user towards the campaign. When the user makes an eligible transaction towards the campaign the loyalty NFT engagement solution may receive notification from the offer platform along with real-time transaction detail. The notification includes real-time transaction details of the user. Further, the loyalty NFT engagement solution may track the progress of the user towards completing the campaign and may send the campaign details to the user. Further, the progress of the campaign may be stored by the loyalty NFT engagement solution.

[0024] In another non-limiting embodiment, the loyalty NFT engagement solution may facilitate the user to earn digital rewards. The loyalty NFT engagement solution may create offers for users who have enrolled their payment cards and may send the offer details to the offer platform to load the offer in the offer platform. The offer platform identifies the qualifying transactions from the user and sends transaction details to the loyalty NFT engagement solution. For example, the transaction criteria is "offer" or specific transaction criteria that would trigger a matched transaction, such as merchant, amount, and date).

[0025] From the transaction details received, the loyalty NFT engagement solution may calculate if the transaction is eligible for a digital reward. If the loyalty NFT engagement solution determines that a digital reward is earned by the user, then the loyalty NFT engagement solution informs the user about the digital reward earned. The loyalty NFT engagement solution may inform each user in real-time about the digital reward each user has received, based on the offer constructs, determined by the merchant program. In one non-limiting

embodiment, user may access available digital rewards via the Web3 mobile application hosted by the loyalty NFT engagement solution i.e., the Web3 mobile application that is installed in the user’s mobile device.

[0026] The fields included in the transaction notification received by the loyalty NFT engagement solution from the offer platform are shown in Table. 1.

Table. 1: Transaction Notification Details (with appropriate merchant agreement in place by program)

Transaction.MerchantAcquirerBin (*Merchant Identifier - CAID/BIN)
Transaction.MerchantCardAcceptorId (*Merchant Identifier - CAID/BIN)
Transaction.MerchantDateTimeGMT
Transaction.MerchantGroup
Transaction.MerchantLocalPurchaseDate
Transaction.SettlementAmount (only populated for Settlement messages)
Transaction.SettlementBillingAmount (only populated for Settlement messages)
Transaction.SettlementCurrencyCodeNumeric (only populated for Settlement messages)
Transaction.SettlementDate (only populated for Settlement messages)
Transaction.TimeStampYYMMDD (GMT)
Transaction.TransactionAmount (Merchant Currency)
Transaction.CurrencyCodeNumeric (Merchant Currency)
Transaction.BillingAmount (Issuer Currency)
Transaction.BillingCurrencyCode (Issuer Currency)
Transaction.USDAmount
Transaction.VipTransactionId

Transaction.VisaMerchantId
Transaction.VisaMerchantName
Transaction.VisaReceivedDateTimeGMT
Transaction.VisaStoreId
Transaction.VisaStoreName
Transaction.CardId (generated by VOP)
User.EUID (assigned by client)

[0027] In one non-limiting embodiment, the key data privacy considerations may include collecting email and phone number and passing the email and phone number to the issuer/merchant client but not stored by the partner. Terms and conditions of the client are presented to the cardholder. Interactions with the cardholders will include:

Event	Required Feature	Product	Approval/Opt-in or Opt-out	Presented/Sent by
T&Cs presentation	Yes		Approval	Supplier Issuer/merchant
Marketing emails	No		Opt-in	Issuer/merchant
SMS communications	No		Opt-in	Issuer/merchant
Email alerts	No		Opt-in	Issuer/merchant

[0028] Referring now to **Figure 2** that shows an exemplary block diagram **200** of the system **100** as illustrated in **Figure 1**. As shown in **Figure 2**, the user mobile device **110** may include a memory **212**, a processor **214**, and a transceiver **216**. The transceiver **216** is configured to facilitate exchange of data between the user mobile device **110** and the loyalty NFT engagement solution provider system **120**. The memory **212** is configured to store necessary commands needed from the user end to initiate registering with the web3 mobile application and for performing subsequent steps required for completing the registration and for enrolling one or more payment cards of the user with the web3 mobile application. This enables the user to

collect and own digital objects, tokens and NFTs. The processor **214** is communicatively coupled to the memory **212** and to the transceiver **216**. The processor **214** processes or performs various operations of the system **100**. In an exemplary embodiment, the processor **214** may execute the instructions to run mobile applications (for example, the web3 mobile application) and may initiate registering the user with the application and to enroll the payment cards with the web3 mobile application. The processor **214**, may also respond to the requests received from the enhanced loyalty NFT engagement solution provider system **120**.

[0029] The mobile device may communicate with the enhanced loyalty NFT engagement solution provider system **120** via a network **210**. The network **210** may comprise a data network such as, but not restricted to, the Internet, Local Area Network (LAN), Wide Area Network (WAN), Metropolitan Area Network (MAN), etc. In certain embodiments, the network **210** may include a wireless network, such as, but not restricted to, a cellular network and may employ various technologies including Enhanced Data rates for Global Evolution (EDGE), General Packet Radio Service (GPRS), Global System for Mobile Communications (GSM), Internet protocol Multimedia Subsystem (IMS), Universal Mobile Telecommunications System (UMTS) etc. In one embodiment, the network **210** may include or otherwise cover networks or subnetworks, each of which may include, for example, a wired or wireless data pathway.

[0030] As illustrated in **Figure 2**, the enhanced loyalty NFT engagement solution provider system **120** may include a memory **222**, at least one processor **224**, and a transceiver **226**. The memory **222** stores instructions executable by at least the processor **224**. The processor **224** may execute user-generated or system-generated requests. In an exemplary embodiment, the processor **224** may run an algorithm to create campaigns. Further, the processor **224** may send the campaign details to merchant programs associated with the loyalty NFT engagement solution and may also load campaign constructs along with EUID to the offer platform. Further, the processor **224** may receive notification from the offer platform when the user makes an eligible transaction towards the campaign. Further, the processor **224** may track the progress of the user towards completing the campaign and may send the campaign details to the user.

[0031] In an exemplary embodiment, the processor **224** may create offers for users who have enrolled their payment cards and may load the offer in the offer platform. When the processor **224** identifies a qualifying transaction from the user, the processor **224** may calculate if the

transaction is eligible for a digital reward. If the processor **224** may calculate that a digital reward is earned by the user, then may inform the user about the digital reward earned.

[0032] The memory **222** may be communicatively coupled to the processor **224**. In some non-limiting embodiments, the memory **222** is configured to store necessary commands needed from the loyalty NFT engagement solution provider system end to execute campaigns and for the user to earn digital rewards for qualifying transactions.

[0033] Further, the digital payment system **120** may include a transceiver **226** configured to receive at least the transaction details from the mobile device **110**. Further, the transceiver **226** is configured to inform the mobile device **110** about the campaign details and the digital reward earned by the user.

[0034] The memory **212**, **222** may include a Random-Access Memory (RAM) unit and/or a non-volatile memory unit such as a Read Only Memory (ROM), optical disc drive, magnetic disc drive, flash memory, Electrically Erasable Read Only Memory (EEPROM), a memory space on a server or cloud and so forth. For the sake of illustration, it is assumed here that the memory is a non-volatile memory. Examples of the processor may include, but not restricted to, a general-purpose processor, a Field Programmable Gate Array (FPGA), an Application Specific Integrated Circuit (ASIC), a Digital Signal Processor (DSP), microprocessors, microcomputers, micro-controllers, digital signal processors, central processing units, state machines, logic circuitries, and/or any devices that manipulate signals based on operational instructions.

[0035] Referring now to **Figure 3** that depicts a process flow diagram illustrating a method **300** of registering a user with the loyalty NFT engagement solution, in accordance with some embodiments of the present disclosure. The various operations of the method **300** are performed by the user mobile device **110** and in particular, by the processor **214** of the mobile device **110**. The method comprises, at step 1, registering the user with a merchant program enabled with web3 technologies. In one embodiment, the merchant program is presented as a web3 mobile application. In another embodiment, the merchant program is accessed through the browser. In some implementations, the user may place a request to register with the merchant program. The user is registered through the user's e-mail address. Upon placing a request, the user may receive a response from the merchant program, requesting the user to

enter the user's e-mail address. The mobile device **110** may prompt the user to enter the user's email address, to register with the merchant program. Upon submitting the user's e-mail address, the user may receive a verification link in the user's e-mail address. Upon clicking the received link, the user is registered with the merchant program.

[0036] In one non-limiting embodiment, after the user is registered with the merchant program, the user may opt-in to enroll the user's one or more payment cards with the merchant program. The user may receive a request from the merchant program requesting for payment card details like the name of the user, Permanent Account Number (PAN), security code, expiration data and the like, through the mobile device **110**. The user may enter the requested details through the mobile device **110** and may also accept the terms of use and privacy policy associated with the merchant program. The user may then submit the requested details to the merchant program to enroll the user's one or more payment cards. The merchant program may receive the details and may send the PAN and Effective User Identity (EUID) of the user to an offer platform. At step 2, at the offer platform, the payment cards of the user are enrolled using one or more Application Programming Interfaces (APIs). Further, the payment cards are linked with the EUID. At step 3, the EUID is sent to the loyalty NFT engagement solution for enrolling the user's payment cards. Further, using the EUID as the identifier, the loyalty NFT engagement solution may receive end-point messages with real-time transaction details from the offer platform. At step 4, the user receives a confirmation message confirming the enrollment of the user's payment card with the loyalty NFT engagement solution.

[0037] Referring now to **Figure 4** that depicts a process flow diagram illustrating a method **400** of executing campaigns and facilitating a user to earn digital rewards, in accordance with some embodiments of the present disclosure. The method is performed by the loyalty NFT engagement solution provider system **120**, and in particular, by the processor **224** of the loyalty NFT engagement solution provider system **120**. The method comprises, at step 1, creating a campaign by the loyalty NFT engagement solution provider system **120**. The campaign is unique to each user and is displayed in the user's account. The loyalty NFT engagement solution may load offer constructs and the EUID at the offer platform to create offer for the user. Further, the user transactions are monitored for any eligible transactions, at step 2. At step 3, upon loading the offer platform with EUID, the EUID is linked with PAN and the loyalty NFT engagement solution may accept end-point messages with real-time transaction detail notifications from the offer platform when the user makes eligible transactions towards the

campaign. Further, loyalty NFT engagement solution may also track the progress of the cardholder toward completing the campaign and may send details of the progress to the user.

[0038] At step 4, the loyalty NFT engagement solution may create offers for the user. Further, the offer is loaded in the offer platform and the user transactions are monitored for any eligible transactions. At step 5, when the user makes an eligible transaction the loyalty NFT engagement solution receives a notification along with transaction details. At step 6, the loyalty NFT engagement solution determines if a digital reward is earned by the user in real-time, based on the offer constructs that is determined by the merchant program. If the user has earned the digital reward, then the cardholder is informed of digital reward by loyalty NFT engagement solution, at step 7. Further, the loyalty NFT engagement solution updates the reward site with the digital reward details.

Advantages of the proposed disclosure

[0040] The proposed techniques may increase utility. Further, the combined functionality enables deeper consumer engagement. Further, users will gain exclusive access to various items only redeemable by holding or burning tokens and NFTs.

[0041] The illustrated steps are set out to explain the exemplary embodiments shown, and it should be anticipated that ongoing technological development will change the manner in which particular functions are performed. These examples are presented herein for purposes of illustration, and not limitation. Further, the boundaries of the functional building blocks have been arbitrarily defined herein for the convenience of the description. Alternative boundaries can be defined so long as the specified functions and relationships thereof are appropriately performed. Alternatives (including equivalents, extensions, variations, deviations, etc., of those described herein) will be apparent to persons skilled in the relevant art(s) based on the teachings contained herein. Such alternatives fall within the scope and spirit of the disclosed embodiments. It must also be noted that as used herein, the singular forms “a,” “an,” and “the” include plural references unless the context clearly dictates otherwise.

[0042] Furthermore, one or more computer-readable storage media may be utilized in implementing embodiments consistent with the present disclosure. A computer readable

storage medium refers to any type of physical memory on which information or data readable by a processor may be stored. Thus, a computer readable storage medium may store instructions for execution by one or more processors, including instructions for causing the processor(s) to perform steps or stages consistent with the embodiments described herein. The term “computer readable medium” should be understood to include tangible items and exclude carrier waves and transient signals, i.e., are non-transitory. Examples include Random Access Memory (RAM), Read-Only Memory (ROM), volatile memory, non-volatile memory, hard drives, CD ROMs, DVDs, flash drives, disks, and any other known physical storage media.

[0043] Finally, the language used in the specification has been principally selected for readability and instructional purposes, and it may not have been selected to delineate or circumscribe the inventive subject matter. Accordingly, the disclosure of the embodiments of the disclosure is intended to be illustrative, but not limiting, of the scope of the disclosure.

[0044] With respect to the use of substantially any plural and/or singular terms herein, those having skill in the art can translate from the plural to the singular and/or from the singular to the plural as is appropriate to the context and/or application. The various singular/plural permutations may be expressly set forth herein for sake of clarity.

LOYALTY NFT ENGAGEMENT SOLUTION

ABSTRACT

The present disclosure relates to a system and method of providing enhanced loyalty NFT engagement solution using Non-Fungible Tokens (NFT) and web3 technologies. The enhanced loyalty NFT engagement solution is provided by integrating a real-time transaction tracking system (offers platform) with a loyalty engagement solution to immediately engage users who make specific transactions. The method includes registering a user with a loyalty NFT engagement solution via a merchant program enabled with web3 mobile application. The user is registered using the user's email address. Further, the user may opt-in to enroll the user's payment cards with the loyalty NFT engagement solution. Upon enrolling the user's payment cards, the user may receive campaigns and offers via the merchant program. When the user makes the specific transactions, the enhanced loyalty engagement solution may reward the user. The rewards may include rewards such as gift with purchase, digital mementos or receipts or follow-up offers or games.

Figure. 4

100

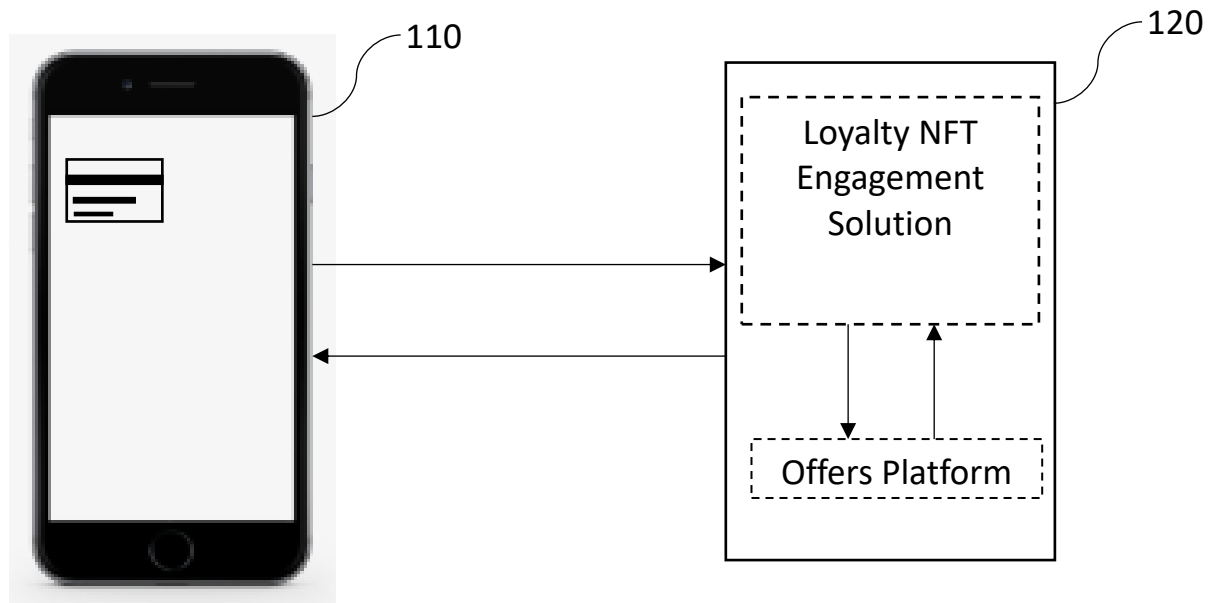


Figure 1

200

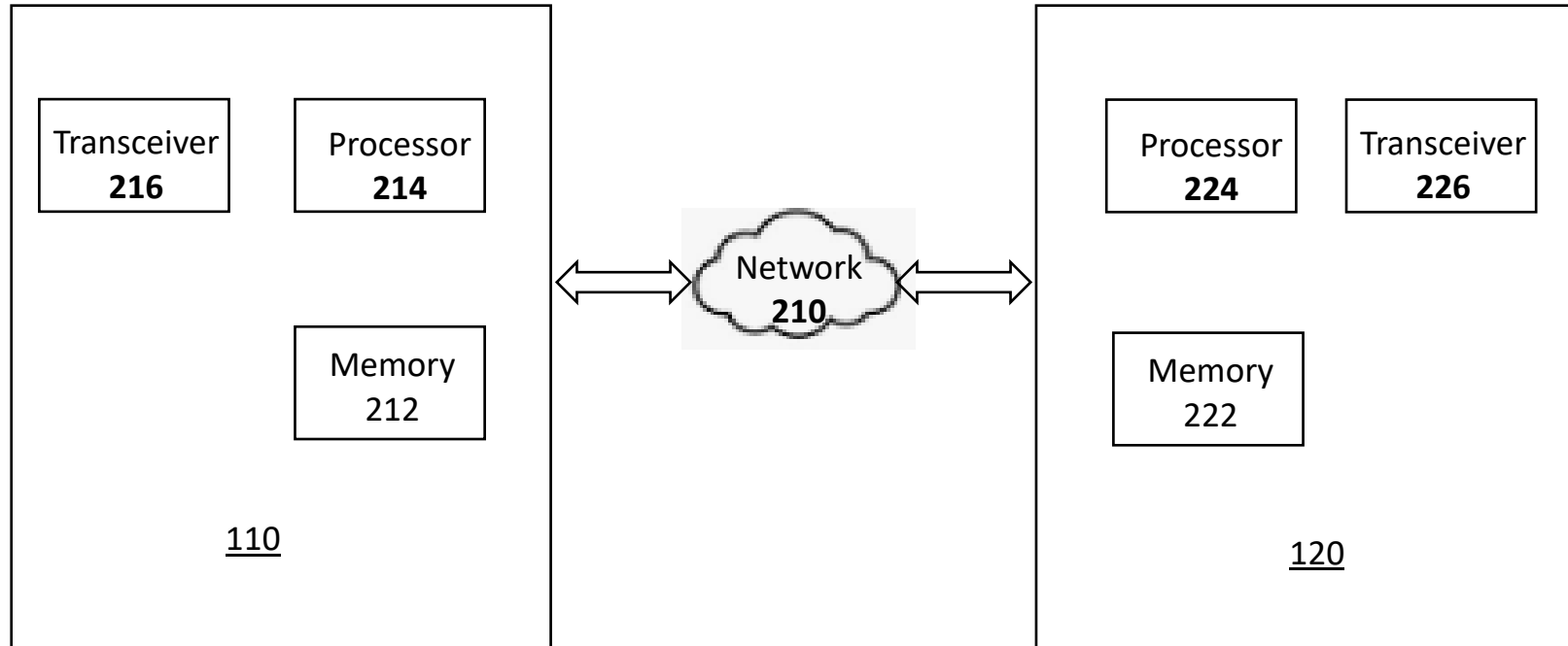


Figure 2

300

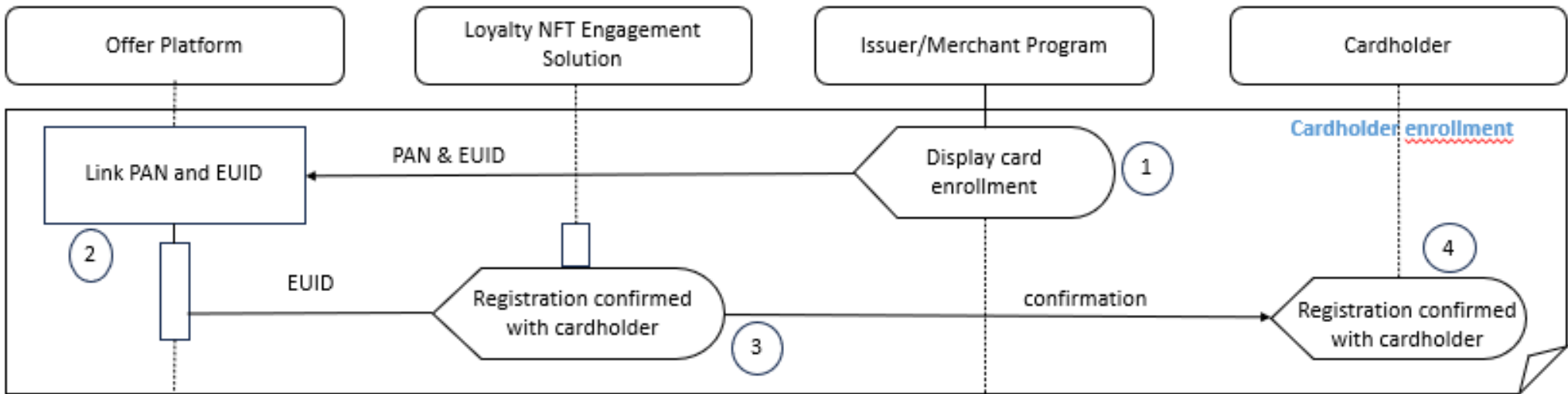


Figure 3

400

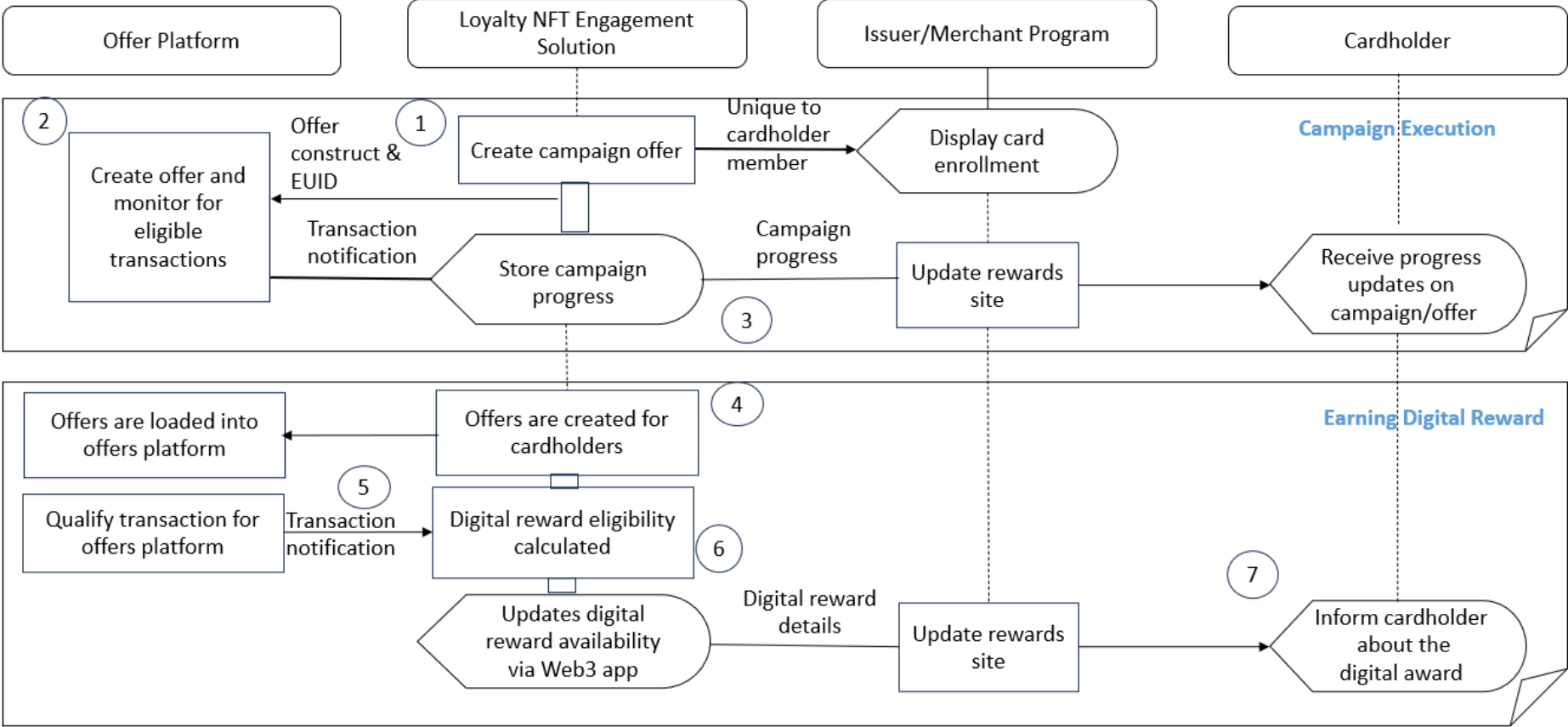


FIGURE 4