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A SYSTEM FOR DECENTRALIZED CUSTOMER SERVICE

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"A SYSTEM FOR DECENTRALIZED CUSTOMER SERVICE"

VISA

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TECHNICAL FIELD

[0001] The present subject matter is, in general, related to the field of financial services, and particularly, but not exclusively to a system and method for a decentralized customer service for automating complaint resolution.

BACKGROUND

[0002] In general, with advancement in online financial services, demand for digital transactions is increasing. With the increase in digital transactions, banking customers are facing transaction related issues. Because of which the online complaints related to transaction issues are also increasing, the banking customers, when they raise any complaint, the time consumed to revert or resolve such complaints are consuming large amount of time, which results in delays and customer dissatisfaction. The conventional customer service models often involve manual processes that can become a reason for delay. Moreover, such conventional customer service models are proven to be inconsistent. To be precise, in the era of digital transactions, the banking customers are seeking transparency, speed, efficiency, especially when it comes to resolving complaints and issues. For any financial institution (like Visa), which deals with a vast number of cross-border transactions, these challenges can result in customer dissatisfaction, negatively impacting brand's reputation and customer loyalty.

[0003] Thus, as discussed above, the conventional customer service models are inefficient and inconsistent. To overcome the above-mentioned shortcomings, the present invention introduces a system and method for a decentralized customer service for automating complaint resolution.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] 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 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:

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[0005] FIG. 1 illustrates an environment for a decentralized customer service system for resolving customer complaints, in accordance with some embodiments of the present disclosure.

[0006] FIG. 2 shows a flowchart illustrating a method for resolving customer complaints using a decentralized customer service in accordance with some embodiments of the present disclosure.

[0007] FIG. 3 illustrates a detailed block diagram of a computing system for implementing a decentralized customer service system, in accordance with some embodiments of the present disclosure.

[0008] 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

[0009] It is to be understood that the present disclosure may assume various alternative variations and step sequences, except where expressly specified to the contrary. It is also to be understood that the specific devices and processes illustrated in the attached drawings and described in the following specification are simply exemplary and non-limiting embodiments or aspects. Hence, specific dimensions and other physical characteristics related to the embodiments or aspects disclosed herein are not to be considered as limiting.

[0010] 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.

[0011] 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.

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[0012] 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 proceeded by "comprises… a" does not, without more constraints, preclude the existence of other elements or additional elements in the device or system or apparatus.

[0013] 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.

[0014] The terms "including", "comprising", "having" and variations thereof mean "including but not limited to" unless expressly specified otherwise.

[0015] As used herein, the terms "communication" and "communicate" may refer to the reception, receipt, transmission, transfer, provision, and/or the like of information (e.g., data, signals, messages, instructions, commands, and/or the like). For one unit (e.g., a device, a system, a component of a device or system, combinations thereof, and/or the like) to be in communication with another unit means that the one unit is able to directly or indirectly receive information from and/or transmit information to the other unit. This may refer to a direct or indirect connection (e.g., a direct communication connection, an indirect communication connection, and/or the like) that is wired and/or wireless in nature. Additionally, two units may be in communication with each other even though the information transmitted may be modified, processed, relayed, and/or routed between the first and second unit. For example, a first unit may be in communication with a second unit even though the first unit passively receives information and does not actively transmit information to the second unit. As another example, a first unit may be in communication with a second unit if at least one intermediary unit (e.g., a third unit located between the first unit and the second unit) processes information received from the first unit and communicates the processed information to the second unit. In some non-limiting embodiments, a message may refer to a network packet (e.g., a data packet and/or the like) that includes data. It will be appreciated that numerous other arrangements are possible.

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[0016] As used herein, the term "computing device or customer service system" may refer to one or more electronic devices that are configured to directly or indirectly communicate with or over one or more networks. A computing device may be a mobile or portable computing device, a desktop computer, a server, and/or the like. Furthermore, the term "computer" may refer to any computing device that includes the necessary components to receive, process, and output data, and normally includes a display, a processor, a memory, an input device, and a network interface. A "computing system" may include one or more computing devices or computers. An "application" or "Application Program Interface" (API) refers to computer code or other data sorted on a computer-readable medium that may be executed by a processor to facilitate the interaction between software components, such as a client-side front-end and/or server-side back-end for receiving data from the client. An "interface" refers to a generated display, such as one or more graphical user interfaces (GUIs) with which a user may interact, either directly or indirectly (e.g., through a keyboard, mouse, touchscreen, etc.). Further, multiple computers, e.g., servers, or other computerized devices, such as an autonomous vehicle including a vehicle computing system, directly or indirectly communicating in the network environment may constitute a "system" or a "computing system".

[0017] As used herein, the term "mobile device" may refer to any electronic device that may be transported and operated by a user (e. g. a customer), which may also provide remote communication capabilities to a network. Examples of remote communication capabilities include using a mobile phone (wireless) network, wireless data network (e.g., 3G, 4G or similar networks), Wi-Fi, Wi-Max, or any other communication medium that may provide access to a network such as the Internet or a private network. Examples of mobile devices include mobile phones (e.g., cellular phones), PDAs, tablet computers, net books, laptop computers, personal music players, hand-held specialized readers, wearable devices (e.g., watches), vehicles (e.g., cars), etc. For example, when a device has remote access to a network by tethering to another device - i.e., using the other device as a relay - both devices taken together may be considered a single mobile device.

[0018] **FIG. 1** illustrates an environment for a decentralized customer service system for resolving customer complaints, in accordance with some embodiments of the present disclosure.

[0019] As shown in FIG. 1, the decentralized customer service system 104 for resolving customer complaints may be implemented in an environment 100 comprising, without limiting to, a customer 102, a customer service system 104, a notification to customer 120. In one implementation, the customer service system 104 may further comprise a customer authentication unit 106, an issue logging unit 108, a smart contract activation unit 110, a validation & execution unit 112, a resolution communication unit 114, a transaction closure unit 116, and a learning unit 118. The customer service system 104 may resolve customer complaints, using smart contracts and a block chain to automate customer complaint resolution.

[0020] In a non-limiting example, Fig. 1 is shown in context to a scenario where a customer 102 complains about an issue related to a digital transaction. The customer service system 104 receives the issue, logs it with a blockchain and executes it with a smart contract, resolves the issue and communicates the resolution via a notification to the customer.

[0021] In an embodiment, the customer 102 may include, without limitation, a banking customer, a creditor, a debtor, a payee, a borrower, a depositor, a cardholder, an account holder., who wants to perform a digital transaction. The customer 102 may face some issue while performing online or digital transactions and the customer wants to resolve it. In one non-limiting example, the banking customers may face several issues such a delay in an online service such as receiving a receipt of a payment, delay in receiving a card which is ordered online, excess amount debited for a transaction, loan related issues such as an EMI debited but not recorded, Levy of charges without any notice or information, lack of coordination from bank etc. In an embodiment, the customer 102 may need a resolution for an issue, customer may own a mobile device (e.g., User device 310 of Fig. 3, not shown in Fig. 1) which is in communication with the customer service system 104 to receive the abovementioned resolution. In one non-limiting example, a mobile application is installed on the mobile device 310 which may communicate with the customer service system 104 to receive such issue resolved notification.

[0022] In an embodiment, the customer service system 104 may be the computing system as described in earlier embodiments, which may receive an issue or complaint from the customer 102. The customer authentication unit 106 may be any of the hardware or software component (e.g., processor 302 of Fig. 3) to authenticate the customer 102 before receiving the issue or complaint, to ensure that only an authorised or legitimate customers can log a complaint. In

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one non-limiting example, the customer authentication unit 106 may authenticate the customer 102 based on any of the known authentication techniques such as standard login credentials, cryptographic keys, single factor, two-factor, password based, biometric based authentication.

[0023] In an embodiment, the issue logging unit 108 may include, without limitation, a combination of hardware, software components. The issue logging unit 108 may receive the complaint from the customer 102 from an online interface 306 of the user device 310. The issue logging unit 108 may further receive all the relevant details, without limiting to type of complaint, time, transaction ID, nature of complaint, other comments, requested resolution. The issue logging unit 108 may utilise blockchain to create a permanent record of the complaint along with a timestamp, timestamping aids in tracking response times and ensuring timely resolution.

[0024] In an embodiment, the smart contract activation unit 110 may include, without limitation, a combination of hardware and software components. The smart contract activation unit 110 may trigger a smart contract associated with the complaint type once the complaint is logged and validated. The smart contract may be a program stored on blockchain that can run when predetermined conditions are met. The smart contracts can execute an agreement automatically so that all the participants can receive an outcome without any delay, without any involvement of an intermediary. In one non-limiting example, if the complaint relates to a cross-border transaction that exceeded the stated processing time, the smart contract activation unit 110 may initiate a refund of the transaction fee.

[0025] In an embodiment, the validation and execution unit 112 may include, without limitation, a combination of hardware and software components. The validation and execution unit 112 may check the validity of the complaint against the blockchain recorded transaction data, using the smart contract. Upon checking, if the complaint is valid, the smart contract may further automatically execute the agreed-upon resolution. In the previous example as described in earlier embodiment, it would trigger a refund of the transaction fees.

[0026] In an embodiment, the resolution communication unit 114 may include, without limitation, a combination of hardware and software components. The resolution communication unit 114 may send a notification regarding the resolution of the complaint once the smart contract is executed. The notification, without limitation, may include sending

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notification via an email, SMS, push notification or direct notification within the software application or website.

[0027] In an embodiment, the transaction closure unit 116 may include, without limitation, a combination of hardware and software components. The transaction closure unit 116 may add a completion timestamp to the record on blockchain. The status of the transaction complaint will be marked as resolved on the blockchain. The closed or resolved complaint will be stored for further analysis or audit purposes.

[0028] In an embodiment, the learning unit 118 may include, without limitation, a combination of hardware and software components. The learning unit 114 may over time, analyse the logged complaints and their resolutions to identify trends, patterns and recurring issues. May generate reports or summaries to identify areas with high volume of complaints with nature types etc., to improve those aspects of their service. Thereby to reduce the complaint volume over time and improve overall customer satisfaction. In yet another embodiment, notification to the customer 120 may be sent as described in the above embodiment of resolution communication unit 114.

[0029] FIG. 2 shows a flowchart illustrating a method for resolving customer complaints using a decentralized customer service in accordance with some embodiments of the present disclosure.

[0030] In an exemplary scenario, a customer (e. g. a banking customer) may face an issue while performing online or digital transactions and the customer may be in need of resolving it. In one non-limiting example, the banking customers may face several issues such a delay in an online service such as receiving a receipt of a payment for an online bill, exceeded time limit for a cross border transaction, delayed response for a banking query, credit or debit card related issue etc. In an embodiment, the customer 102 may need a resolution for the issue, customer 102 may complain using their mobile device, which is in communication with the customer service system 104. The customer service system 104 may resolve the issue and communicate with the customer in an automated manner without involvement of any intermediary or delay.

[0031] At step 202, the customer authentication unit 106 of the customer service system 104 may authenticate or verify the customer 102 before receiving the issue or complaint, to ensure that only authorised or legitimate customers can log a complaint. In one non-limiting example,

the customer authentication unit 106 may authenticate or verify the customer 102 based on any of the known authentication techniques such as standard login credentials, cryptographic keys, single factor, two-factor, password based, biometric based authentication.

[0032] At step 204, the issue logging unit 108 of the customer service system 104 may receive the complaint from the customer 102 from an online interface 306 of the user device 310. The issue logging unit 108 may further receive all the relevant details, to create a permanent record of the complaint along with a timestamp on a blockchain. In one non-limiting example, the use of blockchain may create an immutable and permanent record for achieving transparency in digital transactions.

[0033] At step 206, the smart contract activation unit 110, validation and execution unit 112 of the customer service system 104 may trigger a smart contract associated with the complaint type once the complaint is logged and validated. Upon validation, if the complaint is valid, the smart contract may further automatically execute the agreed-upon resolution. Thereby avoiding delays in manual processing and improving availability of 24/7 for customer service, consistent handling of customer complaints. In one non-limiting example, the smart contract can initiate refund of the excess transaction fees collected.

[0034] At step 208, the resolution communication unit 114 of the customer service system 104 may notify the customer or user about the resolution once the smart contract is executed to proactively deliver the outcome of the resolution without any delay in communication. This creates reliability and improves trust of the customer in the customer service.

[0035] At step 210, the transaction closure unit 116 of the customer service system 104 may add a completion timestamp to the record on blockchain. The status of the transaction complaint will be marked as resolved on the blockchain. The closed or resolved complaint will be stored for further analysis or audit purposes. Thereby, creating accountability of the customer service without any weak points.

[0036] At step 212, the learning unit 118 of the customer service system 104 may over time, analyse the logged complaints and their resolutions to identify trends, patterns and recurring issues. May generate reports or summaries to identify areas with high volume of complaints with nature types etc., to improve those aspects of their service. Thereby to reduce the

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complaint volume over time and improve overall customer satisfaction. Therefore, aiding to create positive impact on the brand's reputation and customer loyalty.

General computing system:

[0037] FIG. 3 illustrates a detailed block diagram of a computing system in accordance with some embodiments of the present disclosure.

[0038] In an embodiment, FIG. 3 illustrates a block diagram of an exemplary computer system 300 that may be used to implement the customer service system 104. In some embodiments, the computer system 300 is used to operate the customer service system 110 for resolving transaction related issues in accordance with some embodiments of the present disclosure. In some embodiments, the computer system 300 may include a central processing unit ("CPU" or "processor") 302. The processor 302 may include at least one data processor for executing processes in Virtual Storage Area Network. The processor 302 may include at least one data processor for executing program components for executing user (e. g. a banking customer) or system-generated resolution processes. A user (e. g. a banking customer) may include a person such as an account holder using the user device 310 that may receive one or more notification for transaction issue resolution. The processor 302 may include specialized processing units such as integrated system (bus) controllers, memory management control units, floating point units, graphics processing units, digital signal processing units, etc.

[0039] The processor 302 may be disposed in communication with one or more Input/Output (I/O) devices (312 and 313) via I/O interface 301. The I/O interface 301 employ communication protocols/methods such as, without limitation, audio, analog, digital, monoaural, Radio Corporation of America (RCA) connector, stereo, IEEE-1394 high speed serial bus, serial bus, Universal Serial Bus (USB), infrared, Personal System/2 (PS/2) port, Bbayonet Neill-Concelman (BNC) connector, coaxial, component, composite, Digital Visual Interface (DVI), High-Definition Multimedia Interface (HDMI), Radio Frequency (RF) antennas, S-Video, Video Graphics Array (VGA), IEEE 802.11b/g/n/x, Bluetooth, cellular e.g., Code-Division Multiple Access (CDMA), High-Speed Packet Access (HSPA+), Global System for Mobile communications (GSM), Long-Term Evolution (LTE), Worldwide Interoperability for Microwave access (WiMax), or the like, etc.

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[0040] Using the I/O interface 301, the computer system 300 may communicate with one or more I/O devices such as input devices 312 and output devices 313. For example, the input devices 312 may be an antenna, keyboard, mouse, joystick, (infrared) remote control, camera, card reader, fax machine, dongle, biometric reader, microphone, touch screen, touchpad, trackball, stylus, scanner, storage device, transceiver, video device/source, etc. The output devices 313 may be a printer, fax machine, video display (e.g., Cathode Ray Tube (CRT), Liquid Crystal Display (LCD), Light-Emitting Diode (LED), plasma, Plasma Display Panel (PDP), Organic Light-Emitting Diode display (OLED) or the like), audio speaker, etc.

[0041] In some embodiments, the processor 302 may be disposed in communication with a communication network 309 via a network interface 303. The network interface 303 may communicate with the communication network 309. The network interface 303 may employ connection protocols including, without limitation, direct connect, ethernet (e.g., twisted pair 10/100/1000 Base T), Transmission Control Protocol/Internet Protocol (TCP/IP), token ring, IEEE 802.11a/b/g/n/x, etc. The communication network 309 may include, without limitation, a direct interconnection, Local Area Network (LAN), Wide Area Network (WAN), wireless network (e.g., using Wireless Application Protocol), the Internet, etc. Using the network interface 303 and the communication network 309, the computer system 300 may communicate with a database 314, which may be the enrolled templates database 313. The network interface 303 may employ connection protocols include, but not limited to, direct connect, ethernet (e.g., twisted pair 10/100/1000 Base T), Transmission Control Protocol/Internet Protocol (TCP/IP), token ring, IEEE 802.11a/b/g/n/x, etc.

[0042] The communication network 309 includes, but is not limited to, a direct interconnection, a Peer-to-Peer (P2P) network, Local Area Network (LAN), Wide Area Network (WAN), wireless network (e.g., using Wireless Application Protocol), the Internet, Wi-Fi and such. The communication network 309 may either be a dedicated network or a shared network, which represents an association of the different types of networks that use a variety of protocols, for example, Hypertext Transfer Protocol (HTTP), Transmission Control Protocol/Internet Protocol (TCP/IP), Wireless Application Protocol (WAP), etc., to communicate with each other. Further, communication network 309 may include a variety of network devices, including routers, bridges, servers, computing devices, storage devices, etc.

[0043] In some embodiments, the processor 302 may be disposed of in communication with a memory 305 (e.g., RAM, ROM, etc. not shown in Fig. 3) via a storage interface 304. The

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storage interface 304 may connect to memory 305 including, without limitation, memory drives, removable disc drives, etc., employing connection protocols such as, Serial Advanced Technology Attachment (SATA), Integrated Drive Electronics (IDE), IEEE-1394, Universal Serial Bus (USB), fiber channel, Small Computer Systems Interface (SCSI), etc. The memory drives may further include a drum, magnetic disc drive, magneto-optical drive, optical drive, Redundant Array of Independent Discs (RAID), solid-state memory devices, solid-state drives, etc. Memory 305 may store a collection of program or database components, including, without limitation, user interface 306, an operating system 307, a web browser 308 etc. In some embodiments, computer system 300 may store user/application data, such as, the data, variables, records, etc., as described in this disclosure. Such databases may be implemented as fault-tolerant, relational, scalable, secure databases such as Oracle or Sybase.

[0044] The operating system 307 may facilitate resource management and operation of the computer system 300. Examples of operating systems include, without limitation, Apple™ Macintosh™ OS X, UNIX™, Unix-like system distributions (e.g., Berkeley Software Distribution (BSD), FreeBSD™, Net BSD™, Open BSD™, etc.), Linux distributions (e.g., Red Hat™, Ubuntu™, K-Ubuntu™, etc.), International Business Machines (IBM™) OS/2™, Microsoft Windows™ (XP™, Vista/7/8, etc.), Apple iOS™, Google Android™, Blackberry™ operating system (OS), or the like. The User interface 306 may facilitate display, execution, interaction, manipulation, or operation of program components through textual or graphical facilities. For example, user interfaces may provide computer interaction interface elements on a display system operatively connected to the computer system 300, such as cursors, icons, checkboxes, menus, scrollers, windows, widgets, etc. Graphical User Interfaces (GUIs) may be employed, including, without limitation, Apple® Macintosh® operating systems' Aqua®, IBM® OS/2®, Microsoft® Windows® (e.g., Aero, Metro, etc.), web interface libraries (e.g., ActiveX®, Java®, Javascript, AJAX, HTML, Adobe® Flash®, etc.), or the like.

[0045] In some embodiments, the computer system 300 may implement web browser 308 stored program components. Web browser 308 may be a hypertext viewing application, such as Microsoft™ Internet Explorer™, Google Chrome™, Mozilla Firefox™, Apple™ Safari™, etc. Secure web browsing may be provided using secure hypertext transport protocol (HTTPS), Secure Sockets Layer (SSL), Transport Layer Security (TLS), etc. Web browsers 308 may utilize facilities such as AJAX, DHTML, Adobe™ Flash, Javascript, Application Programming Interfaces (APIs), etc. In some embodiments, the computer system 300 may

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implement a mail server stored program component. The mail server may be an Internet mail server such as Microsoft Exchange, or the like. The mail server may utilize facilities such as ASP, ActiveX, ANSI C++/C#, Microsoft .NET, Common Gateway Interface (CGI) scripts, Java, JavaScript, PERL, PHP, Python, WebObjects, etc. The mail server may utilize communication protocols such as Internet Message Access Protocol (IMAP), Messaging Application Programming Interface (MAPI), Microsoft Exchange, Post Office Protocol (POP), Simple Mail Transfer Protocol (SMTP), or the like.

[0046] In some embodiments, the computer system 300 may implement a mail client stored program component. The mail client may be a mail viewing application, such as APPLE® MAIL, MICROSOFT® ENTOURAGE®, MICROSOFT® OUTLOOK®, MOZILLA® THUNDERBIRD®, etc.

[0047] 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., be non-transitory. Examples include Random Access Memory (RAM), Read-Only Memory (ROM), volatile memory, non-volatile memory, hard drives, Compact Disc (CD) ROMs, DVDs, flash drives, disks, and any other known physical storage media.

[0048] The described operations may be implemented as a method, system or article of manufacture using standard programming and/or engineering techniques to produce software, firmware, hardware, or any combination thereof. The described operations may be implemented as code maintained in a "non-transitory computer readable medium", where a processor may read and execute the code from the computer readable medium. The processor is at least one of a microprocessor and a processor capable of processing and executing the queries. A non-transitory computer readable medium may include media such as magnetic storage medium (e.g., hard disk drives, floppy disks, tape, etc.), optical storage (CD-ROMs, DVDs, optical disks, etc.), volatile and non-volatile memory devices (e.g., EEPROMs, ROMs, PROMs, RAMs, DRAMs, SRAMs, Flash Memory, firmware, programmable logic, etc.), etc.

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Further, non-transitory computer-readable media may include all computer-readable media except for transitory. The code implementing the described operations may further be implemented in hardware logic (e.g., an integrated circuit chip, Programmable Gate Array (PGA), Application Specific Integrated Circuit (ASIC), etc.).

[0049] 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. Also, the words "comprising," "having," "containing," and "including," and other similar forms are intended to be equivalent in meaning and be open ended in that an item or items following any one of these words is not meant to be an exhaustive listing of such item or items or meant to be limited to only the listed item or items. 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.

[0050] 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.

[0051] 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

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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.

[0052] 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 the sake of clarity.

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"A SYSTEM FOR DECENTRALIZED CUSTOMER SERVICE"

ABSTRACT

The present disclosure provides a system and a method for resolving customer 102 complaints using a decentralized customer service. The disclosure proposes a customer service system 104 which receives complaints from the banking customer and resolves them without any involvement of an intermediary in an automated manner. In particular, the customer service system 104 may resolve the complaint using smart contracts and blockchain and stores them for further analysis or learning.
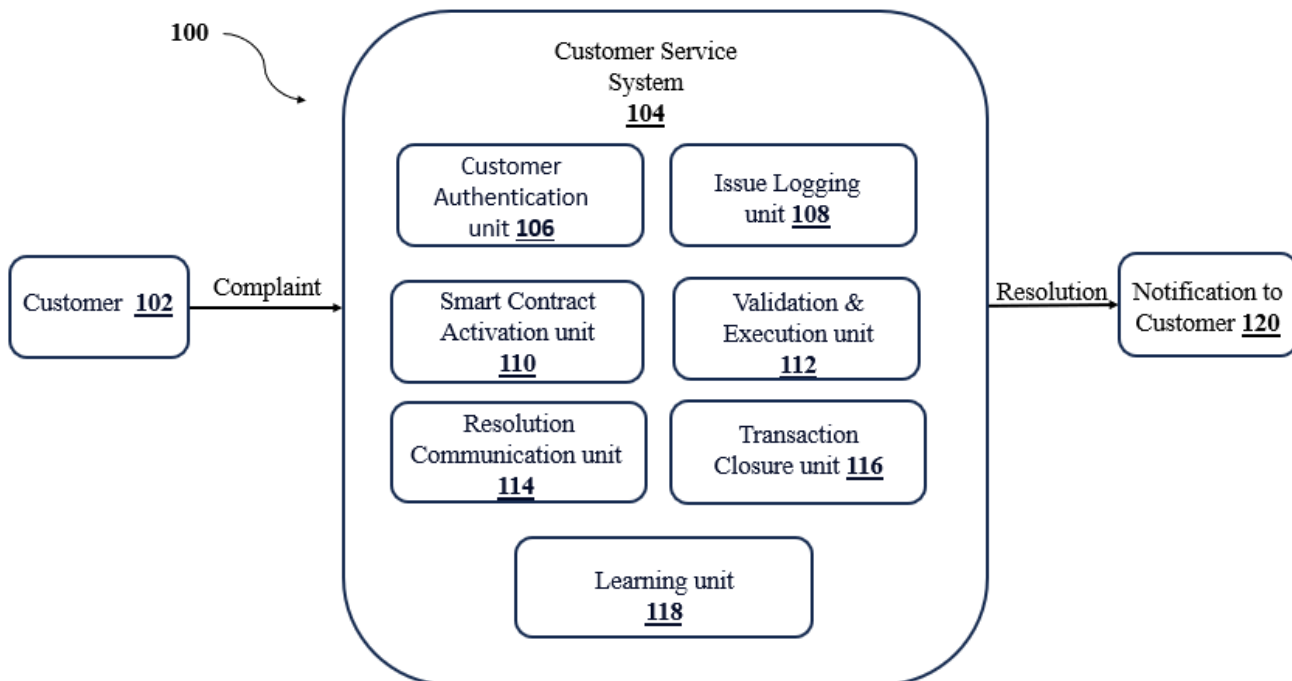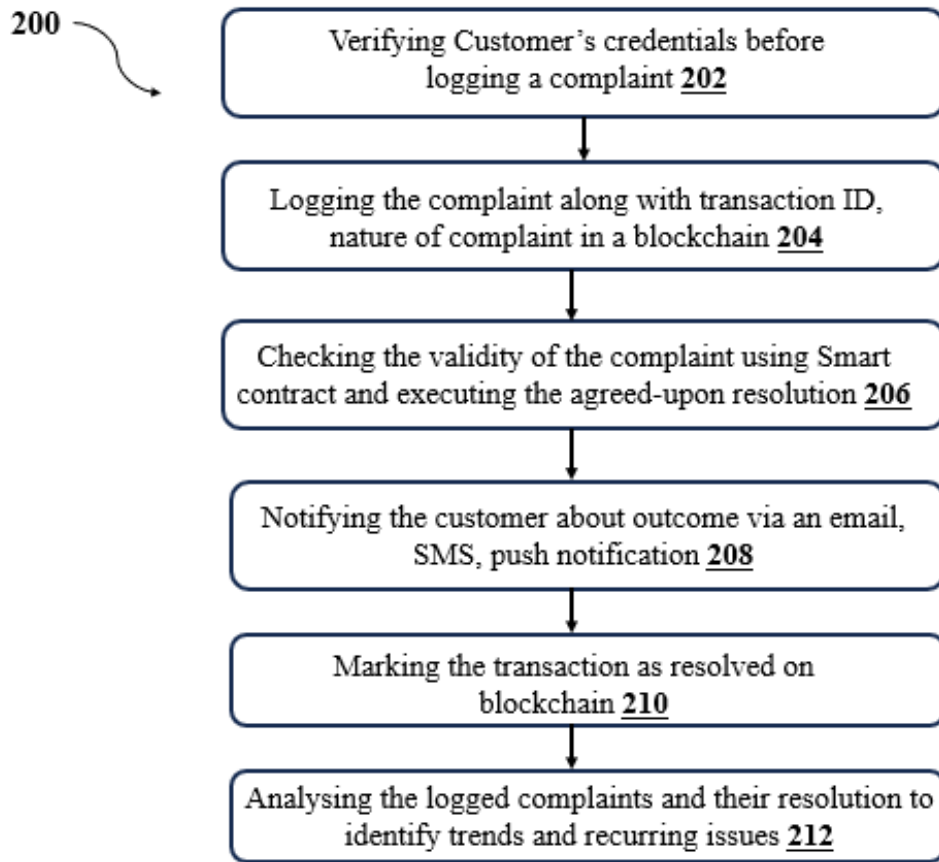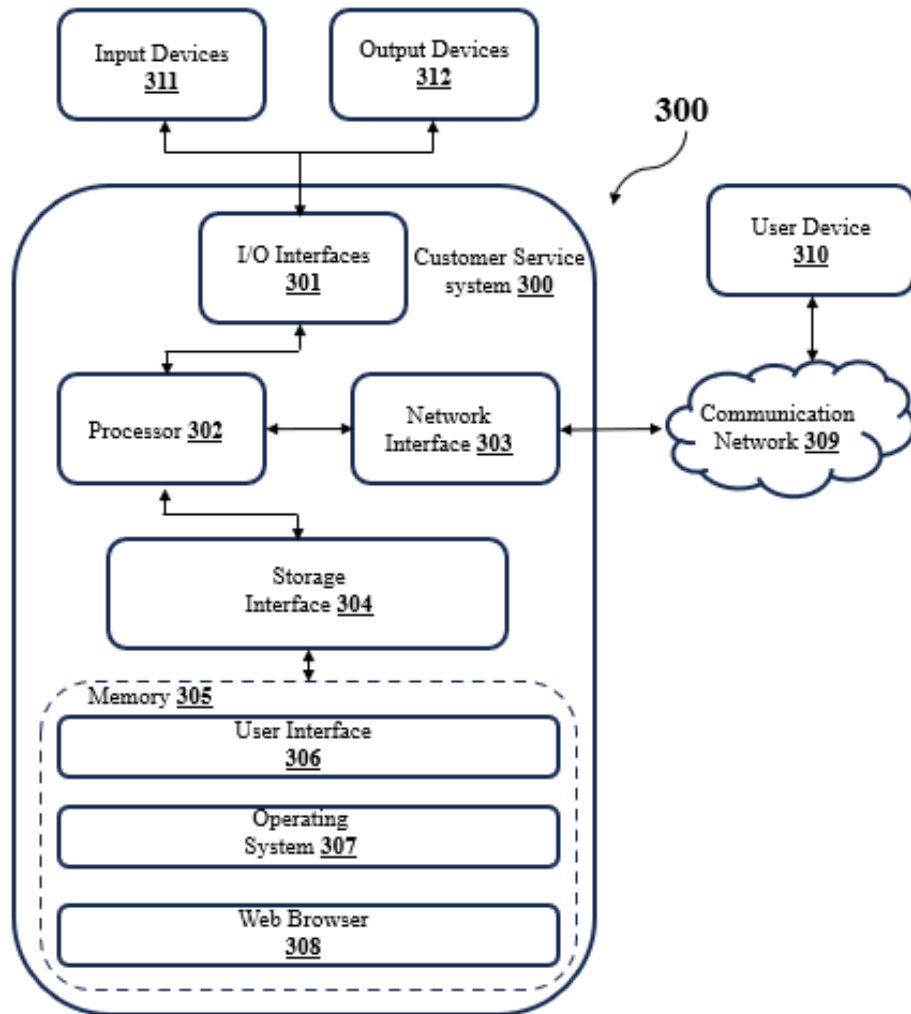
FIG. 1

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200 —

Verifying Customer's credentials before logging a complaint **202**

↓

Logging the complaint along with transaction ID, nature of complaint in a blockchain **204**

↓

Checking the validity of the complaint using Smart contract and executing the agreed-upon resolution **206**

↓

Notifying the customer about outcome via an email, SMS, push notification **208**

↓

Marking the transaction as resolved on blockchain **210**

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Analysing the logged complaints and their resolution to identify trends and recurring issues **212**

FIG. 2

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FIG. 3

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