

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
06 October 2022 (06.10.2022)



(10) International Publication Number
WO 2022/213061 A1

(51) International Patent Classification:
G06Q 20/10 (2012.01) *G06Q 20/38* (2012.01)
G06Q 20/06 (2012.01)

(21) International Application Number:
PCT/US2022/071397

(22) International Filing Date:
29 March 2022 (29.03.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
17/219,450 31 March 2021 (31.03.2021) US

(71) Applicant: **PAYPAL, INC.** [US/US]; 2211 North First
Street, San Jose, California 95131 (US).

(72) Inventor: **DALTON, Charles Gabriel Neale**; 2211 North
First Street, San Jose, California 95131 (US).

(74) Agent: **MUNYON, Dean M.**; Kowert, Hood, Munyon,
Rankin & Goetzel, P.C., 1120 S. Capital of Texas Hwy,
Building 2, Suite 300, Austin, Texas 78746 (US).

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH,
KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA,
MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU,
RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM,

(54) Title: USING AN INTERNAL LEDGER WITH BLOCKCHAIN TRANSACTIONS

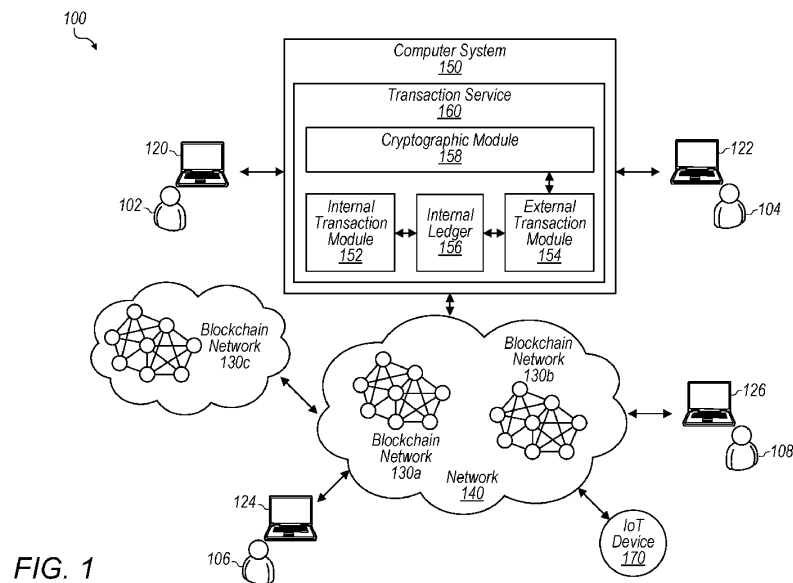


FIG. 1

(57) **Abstract:** Disclosed techniques relate to reducing computations for certain blockchain-related transactions. Software algorithms and architecture allow some transactions to avoid the need for recordation on a blockchain, which can be computationally expensive both for a requesting device and for various nodes on the blockchain. A computer system may receive indications of incoming transactions transferring digital assets to particular user accounts, and in response to requests from user accounts, the computer system facilitates one or more internal transactions between those accounts. In response to a request from a particular internal user account, the computer system may perform an outgoing transaction that transfers one or more digital assets to an external user account from one or more internal user accounts. The incoming transactions and outgoing transaction are recorded on the blockchain, but the internal transactions are recorded on an internal ledger rather than the blockchain, saving computational power and improving computer operations.

[Continued on next page]

TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
 - *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
-