



(51) International Patent Classification:

G06Q 20/12 (2012.01) G06Q 20/32 (2012.01)
G06Q 20/38 (2012.01) G06Q 20/34 (2012.01)
G06Q 20/40 (2012.01)

(21) International Application Number:

PCT/US2020/015546

(22) International Filing Date:

29 January 2020 (29.01.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

16/265,974 01 February 2019 (01.02.2019) US

(71) Applicant: **CAPITAL ONE SERVICES, LLC** [US/US];
1680 Capital One Drive, McLean, Virginia 22102 (US).

(72) Inventors: **RULE, Jeffrey**; c/o Capital One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102 (US). **MORETON, Paul**; c/o Capital One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102 (US). **CODY, Lea**; c/o Capital One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102 (US). **HART, Colin**; c/o Capital One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102 (US). **LUTZ, Wayne**; c/o Capital One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102 (US).

(74) Agent: **CARR, Nick et al.**; Kacvinsky Daisak Bluni PLLC, 2601 Weston Parkway, Suite 103, Cary, North Carolina 27513 (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,

(54) Title: ONE-TAP PAYMENT USING A CONTACTLESS CARD

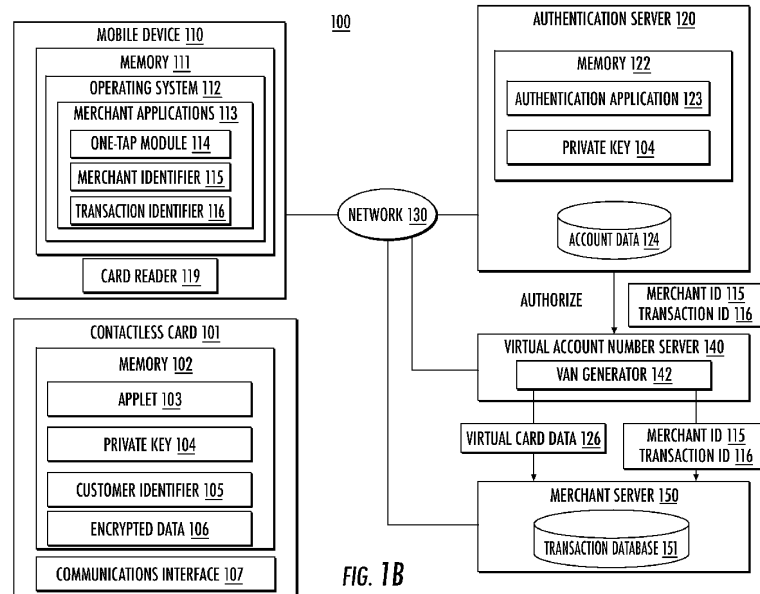


FIG. 1B

(57) Abstract: An authentication application may receive, from a merchant application of a client device, a merchant identifier, a transaction identifier of a transaction, encrypted data, and a location of the client device. The authentication application may decrypt the encrypted data based at least in part on a private key. The authentication application may determine that the contactless card has been used to make a previous purchase with the merchant and that the location of the client device is within a threshold distance of a known location associated with a contactless card. A virtual account number generator may generate a virtual account number and transmit the merchant identifier, the transaction identifier, the virtual account number, an expiration date, and a card verification value (CVV) to a merchant server associated with the merchant to process the transaction using the transaction identifier, the virtual account number, the expiration date, and the CVV.

[Continued on next page]

DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, 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, 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))