

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
28 January 2021 (28.01.2021)



(10) International Publication Number
WO 2021/015969 A1

(51) International Patent Classification:

H04L 29/06 (2006.01) *H04W* 4/80 (2018.01)
G06F 21/35 (2013.01) *H04L* 29/08 (2006.01)
H04L 9/32 (2006.01)

(21) International Application Number:

PCT/US2020/041624

(22) International Filing Date:

10 July 2020 (10.07.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

16/519,079 23 July 2019 (23.07.2019) US

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

(72) Inventors: **MOSSLER, Lara**; c/o Capital One Services, LLC, 1680 CAPITAL ONE DRIVE, MCLEAN, Virginia 22102 (US). **NEWMAN, Kaitlin**; c/o Capital One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102 (US). **OSBORN, Kevin**; c/o Capital One Services, LLC, 1680 Capital One Drive, McLean, Virginia 22102 (US).

(74) Agent: **RUSSELL, Matthew S.** et al.; Kacvinsky Daisak Blumi 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, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, 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,

(54) Title: FIRST FACTOR CONTACTLESS CARD AUTHENTICATION SYSTEM AND METHOD

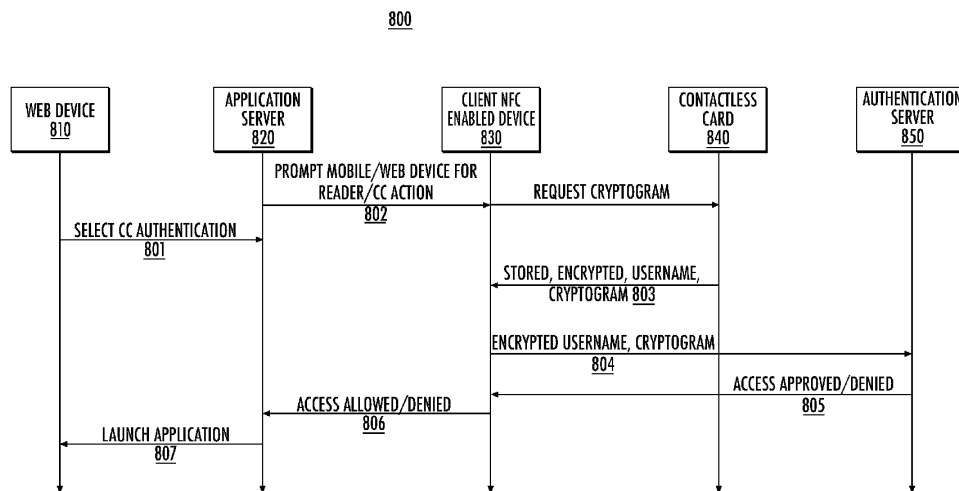


FIG. 8

(57) Abstract: A password-less authentication system and method include registering a contactless card of a client with an application service and binding the contactless card to one or more client devices. The contactless card advantageously stores a username and a dynamic password. Accesses by the client to the application service may be made using any client device, and authentication of the accesses may be performed by any client device that includes a contactless card interface and can retrieve the username and dynamic password pair from the contactless card. By storing the username on the card, rather than requiring user input, application security improved because access to and knowledge of login credentials is limited. In addition, the use of a dynamic password reduces the potential of malicious access.

[Continued on next page]

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))