

(10) International Publication Number
WO 2017/105579 A3(43) International Publication Date
22 June 2017 (22.06.2017)(51) International Patent Classification:
H04L 9/30 (2006.01)(21) International Application Number:
PCT/US2016/054186(22) International Filing Date:
28 September 2016 (28.09.2016)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
14/925,769 28 October 2015 (28.10.2015) US
14/931,613 3 November 2015 (03.11.2015) US

(72) Inventor; and

(71) Applicant : **NI, Min** [US/US]; 1050 Creekdale Dr., Clark-
ston, Georgia 30021 (US).(74) Agent: **VAZQUEZ, Rene**; 18296 St. Georges Ct., Lees-
burg, Virginia 20176 (US).DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, 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, SM, ST, SV, SY, TH, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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).

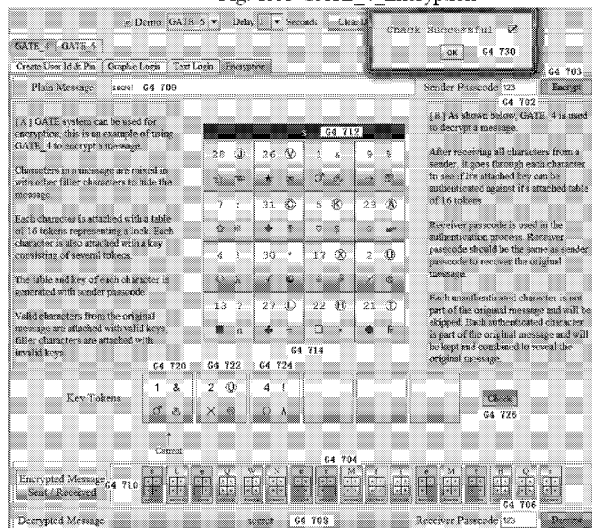
Published:

— with international search report (Art. 21(3))

(88) Date of publication of the international search report:
21 September 2017(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,

(54) Title: INTERCEPTION-PROOF AUTHENTICATION AND ENCRYPTION SYSTEM AND METHOD

Fig. 15A GATE_4 Encryption



(57) Abstract: An interception-proof authentication and encryption system and method is provided that utilizes passcodes with individual pins that are made up of symbols from a set of symbols, and tokens that contain at least two symbols from the set of symbols used for the passcode. Multiple tokens (a token set) are presented to a user, with some or all of a users pre-selected pins (symbols) randomly inserted into some or all of the tokens. The user selects a token from the token set for each pin position in the passcode. The user is authenticated based on the selected tokens. Because each selected token may or may not contain one of the pre-selected pins in the users passcode, and also contains other randomly generated symbols that are not one of the pre-selected pins in the users passcode, someone that observes which tokens the user has chosen cannot determine what the users actual passcode is.