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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 August 2020 (27.08.2020)

WIPO | PCT

(10) International Publication Number
WO 2020/170081 A1

(51) International Patent Classification:
G06Q 10/08 (2012.01) *G06Q 10/04* (2012.01)
G06Q 10/06 (2012.01) *G06Q 10/10* (2012.01)

(21) International Application Number:
PCT/IB2020/051154

(22) International Filing Date:
12 February 2020 (12.02.2020)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
16/278,709 18 February 2019 (18.02.2019) US

(71) Applicant: **COUPANG CORP.** [KR/KR]; 570 Songpa-daero, Songpa-gu, Seoul, Seoul 05510 (KR).

(72) Inventors: **MO, Wenting**; 570 Songpa-daero, Songpa-gu, Seoul, Seoul 05510 (KR). **GU, Xingzhu**; 570 Songpa-daero, Songpa-gu, Seoul, Seoul 05510 (KR). **ZHU, Xiufang**; 570 Songpa-daero, Songpa-gu, Seoul, Seoul 05510 (KR). **QIN, Ying**; 570 Songpa-daero, Songpa-gu, Seoul, Seoul 05510 (KR). **KIM, Jin Hyun**; 570 Songpa-daero, Songpa-gu, Seoul, Seoul 05510 (KR).

(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, 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))*
— *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

(54) **Title:** SYSTEMS AND METHODS FOR COMPUTERIZED BALANCED DELIVERY ROUTE PRE-ASSIGNMENT

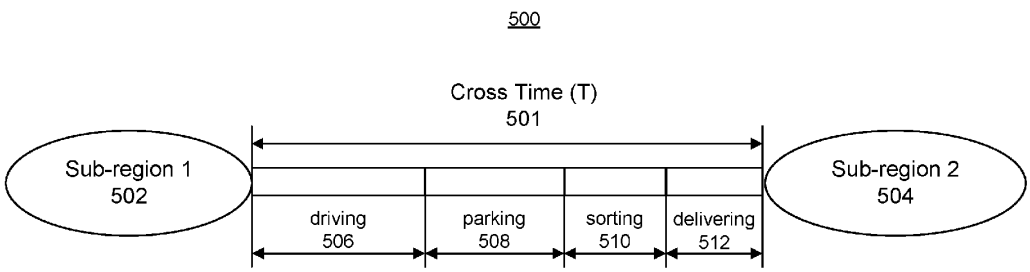

FIG. 5

(57) **Abstract:** A system for attendance pre-assignment. The system may include a memory storing instructions and at least processor configured to execute the instructions to perform operations. The operations may include retrieving, from a database, a plurality of delivery routes and a plurality of delivery sub-routes, wherein the delivery sub-routes are part of the delivery routes; calculating, based on the retrieval, a number of packages allocated to the delivery routes and the delivery sub-routes; receive data comprising groups of pre-assigned workers available for deliveries, the workers being classified into a plurality of categories; comparing, based on the received groups, the pre-assigned workers against the delivery routes and the delivery sub-routes; assigning, based on the comparison, the packages, the delivery routes, and the delivery sub-routes to the pre-assigned workers; generating a plurality of candidate routes associated with the pre-assigned workers; calibrating based on the assignment and the generated candidate routes the delivery sub-routes.

WO 2020/170081 A1