

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
16 December 2021 (16.12.2021)



(10) International Publication Number
WO 2021/249070 A1

- (51) International Patent Classification:
G06F 8/36 (2018.01)
- (21) International Application Number:
PCT/CN2021/092066
- (22) International Filing Date:
07 May 2021 (07.05.2021)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
16/946,227 11 June 2020 (11.06.2020) US
- (71) Applicant: **INTERNATIONAL BUSINESS MACHINES CORPORATION** [US/US]; New Orchard Road, Armonk, New York 10504 (US).
- (71) Applicant (for MG only): **IBM (CHINA) CO., LIMITED** [CN/CN]; 7F, Bldg 10, Zhangjiang Innovation Park, 399 Keyuan Road, Zhangjiang High-Tech Campus Pudong New Area, Shanghai 201203 (CN).
- (72) Inventors: **PARISA, Venkata Vinay Kumar**; Mindspace, Hi-Tech City, Building: 12D, Floor: 11 Madhapur, Hyderabad TS 500 081 (IN). **TAYLOR, Bruce G.**; c/o IBM Corporation, Intellectual Property Law Department, 1701 North St Bldg 256, Endicott, New York 13760-5553 (US). **ROY**

CHOUDHURI, Debasis; c/o India IPLaw Dept., IBM India PVT LTD, Embassy Golf Links, Embassy Cypress PT, D Block, Ground Floor, Indiranagar-Koramangala Intermediate Ring Rd, Bangalore, KA 560 071 (IN). **SWIFT, Laurence**; 6303 Barfield Road, Atlanta, Georgia 30204 (US). **ALLEN, Corey**; 745 West New Circle Rd, Building 200 & Building 202, Lexington, Kentucky 40511-1846 (US). **MOHAPATRA, Biswajit**; Tech Park One (Panchshill) Off Airport Road Yerwada Pune, MH 411 006 (IN).

(74) Agent: **CCPIT PATENT AND TRADEMARK LAW OFFICE**; 8th Floor, Vantone New World Plaza, 2 Fuchengmenwai Street, Xicheng District, Beijing 100037 (CN).

(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, 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.

(54) Title: AUTOMATING AN ADOPTION OF CLOUD SERVICES

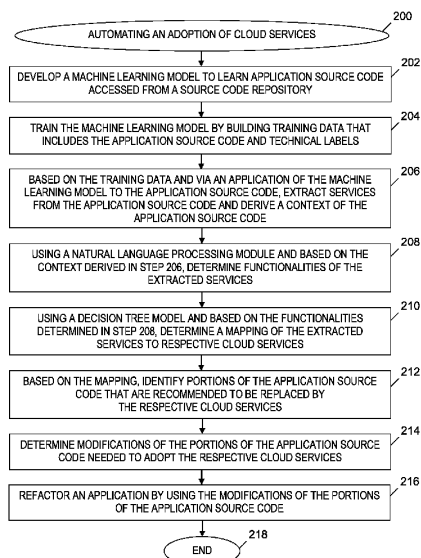


FIG. 2

(57) Abstract: An approach is provided for automating an adoption of cloud services. A machine learning model is developed to learn application source code accessed from a source code repository. The machine learning model is trained by building training data that includes the application source code and technical labels. Services are extracted from the application source code and a context of the application source code is derived. Using a decision tree model, a mapping of the extracted services to respective cloud services is determined. Based on the mapping, portions of the application source code are identified that are recommended to be replaced by the respective cloud services.

WO 2021/249070 A1

[Continued on next page]

(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))