

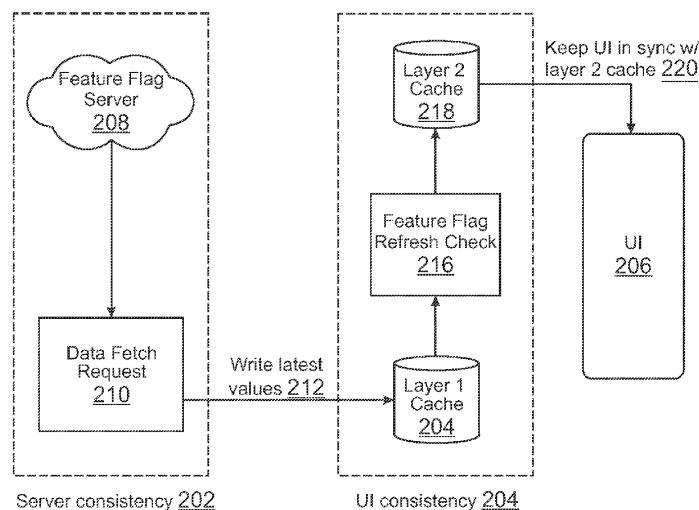


- (51) **International Patent Classification:**  
*H04L 67/566* (2022.01) *G06F 3/0481* (2022.01)  
*G06F 12/0802* (2016.01)
- (21) **International Application Number:**  
PCT/US2022/051575
- (22) **International Filing Date:**  
01 December 2022 (01.12.2022)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
17/564,641 29 December 2021 (29.12.2021) US
- (71) **Applicant: BREX INC.** [US/US]; 12832 Frontrunner Blvd., Suite 500, Draper, Utah 84020 (US).
- (72) **Inventors: XIAO, Ming;** 12832 Frontrunner Blvd., Suite 500, Draper, Utah 84020 (US). **OCHU, Kingsley;** 12832 Frontrunner Blvd., Suite 500, Draper, Utah 84020 (US).
- (74) **Agent: CHEN, Tom;** 2323 Victory Avenue, Suite 700, Dallas, Texas 75219 (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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, 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,

(54) **Title:** MULTI-LAYER DATA CACHE TO PREVENT USER EXPERIENCE INTERRUPTS DURING FEATURE FLAG MANAGEMENT

FIG. 2

200



(57) **Abstract:** There are provided systems and methods for a multi-layer cache to prevent user experience interrupts during feature flag management. A service provider may provide applications to computing devices of users including mobile applications. Use and availability of features in an application may be configured using feature flags, however, change of these feature flags may initiate an application refresh that affects user experiences with the application. To prevent interruptions, a multi-layer data cache may be used where feature flag data for the feature flags may initially be loaded, after a time period, to a first layer cache that is not used to update the application. When conditions exist for updating the application without affecting the user experience, such as if the user is no longer using a workflow, the feature flag data may be loaded to a second layer cache. The second layer cache may then be used for updating.

[Continued on next page]

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, CV, 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, ME, 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))