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(54) **SMART ASSIST FOR REPEATED ACTIONS**

(57) Systems and methods enable a computing system to recognize a sequence of repeated actions and offer to automatically repeat any such recognized actions. An example method includes determining a current sequence of user actions is similar to a previous sequence of user actions, determining whether the previous sequence is reproducible and, when reproducible, initiating display of a prompt that requests approval for completing the current sequence based on the previous sequence and, responsive to receiving an indication of ap-

proval, completing the previous sequence. Another example method includes determining that a first current sequence of user interactions is complete and is not similar to any saved sequence of user interactions, saving the first current sequence as a previous sequence, identifying a second current sequence as satisfying a similarity threshold with the previous sequence, and initiating display of a prompt that requests approval for saving the previous sequence as a shortcut.

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EUROPEAN SEARCH REPORT

Application Number

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2006/141990 A1 (ZAK ROBERT A [US] ET AL) 29 June 2006 (2006-06-29) * abstract * * paragraph [0008] - paragraph [0018]; figures 1,2 *	1-13	INV. G06F3/0481 G06Q30/0601 G06Q50/12 G06F9/451 G06V40/10
A	US 2009/183124 A1 (SRIDHAR MURALIKRISHNA [GB] ET AL) 16 July 2009 (2009-07-16) * paragraph [0015] - paragraph [0039]; claims 1,2; figures 2-5 *	2, 3, 8, 10	
A	WO 2010/088217 A1 (NTT DOCOMO INC [JP]; ZHOU DONG [US] ET AL.) 5 August 2010 (2010-08-05) * paragraph [0009] - paragraph [0018] *	6	

TECHNICAL FIELDS SEARCHED (IPC)

G06F
G06K
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The present search report has been drawn up for all claims

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Date of completion of the search

Examiner

The Hague

29 September 2023

Schröter, Marcel

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CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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.....
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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29-09-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006141990 A1	29-06-2006	CN 101233477 A	30-07-2008
		EP 1831772 A1	12-09-2007
		JP 2008526101 A	17-07-2008
		JP 2013059083 A	28-03-2013
		JP 2015038753 A	26-02-2015
		US 2006141990 A1	29-06-2006
		WO 2006071264 A1	06-07-2006

US 2009183124 A1	16-07-2009	NONE	

WO 2010088217 A1	05-08-2010	US 2010198768 A1	05-08-2010
		WO 2010088217 A1	05-08-2010

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