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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SHIMIN CUI and RAUL E. SILVERA

Appeal 2015-005405
Application 13/545,649[1]
Technology Center 2100

Before ERIC S. FRAHM, LARRY J. HUME, and JOYCE CRAIG, *Administrative Patent Judges*.

CRAIG, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] According to Appellants, the real party in interest is IBM Corporation. App. Br. 1.

INVENTION

Appellants' disclosed and claimed inventions relate to managing aliasing constraints. Abstract. Claim 1 is illustrative and reads as follows:

> 1. A computer-implemented process for managing aliasing constraints, the computer-implemented process comprising:
>
> identifying an object to form an identified object;
>
> identifying a scope of the identified object to form an identified scope;
>
> assigning a unique value to the identified object within the identified scope;
>
> demarcating an entrance to the identified scope;
>
> demarcating an exit to the identified scope;
>
> optimizing the identified object using a property of the identified scope and associated aliasing information;
>
> tracking the identified object state to form tracked state information; and
>
> using the tracked state information to update the identified object.

REJECTIONS[2]

Claims 1, 2, 5, 7–9, 12, 14, 15, 18, and 20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Robison (US 2003/0074655 A1; published Apr. 17, 2003) and Bustelo et al. (US 2006/0080639 A1; published Apr. 13, 2006) ("Bustelo").

Claims 3, 4, 10, 11, 16, and 17 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Robison, Bustelo, and Lee et al. (US 8,181,168 B1; issued May 15, 2012) ("Lee").

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[2] In the Answer, the Examiner withdrew the rejection of claims 8–14 under 35 U.S.C. § 101.

Claim 6, 13, and 19 stands rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Robison, Bustelo, and Stoodley et al. (US 2009/0235240 A1; published Sept. 17, 2009) ("Stoodley").

ANALYSIS

We have considered Appellants' arguments, but do not find them persuasive of error. We agree with and adopt as our own the Examiner's findings of facts and conclusions as set forth in the Answer and in the Action from which this appeal was taken, to the extent consistent with our analysis below. We provide the following explanation for emphasis.

In rejecting claim 1, the Examiner found that Robison teaches or suggests all of the recited limitations, except "tracking the identified object state to form tracked state information; and using the tracked state information to update the identified object," for which the Examiner relied on Bustelo. Final Act. 3–5 (citing Robison ¶¶ 31, 35, 36, 63; Bustelo ¶¶ 34, 35).

Appellants contend the cited portions of Robison do not disclose the limitation "identifying an object to form an identified object," recited in claim 1. App. Br. 13. Appellants argue that "[a]n object is a location in memory having a value and referenced by an identifier" and differs from object code. *Id.*

Appellants' arguments do not persuade us of Examiner error. The Examiner found that Robison's program unit teaches or suggests the recited "object to form an identified object," where the "identified object" is the executable version of the program unit. Final Act. 3 (citing Robison ¶ 31); Ans. 10. The Examiner further found that Robison illustrates in Figure 2 that "program unit 202 includes a program, module, subroutine, or function

considered as an object, because Robison's disclosure describes object-oriented programming (i.e. C++ or Java)." Ans. 10 (citing Robison ¶ 31). Appellants present no persuasive explanation or evidence in the Reply Brief to rebut the Examiner's findings. *See* Reply Br. 2–3. Nor do Appellants provide persuasive support for their proposed interpretation of "object." *See* App. Br. 14. Moreover, Appellants acknowledge that, in the context of object-oriented programming, such as that disclosed in Robison, "a program, module, subroutine or function of a given program could be considered an object." *Id.*

Appellants next contend the Examiner erred in finding that Robison teaches the limitation "identifying a scope of the identified object to form an identified scope," recited in claim 1. App. Br. 14. Appellants argue Robison fails to teach that the scope of a particular identified object is identified. *Id.* at 15.

Appellants' arguments do not persuade us the Examiner erred. The Examiner found that Robison teaches that "scope" is the portion of the program to which a declaration applies. Final Act. 3; Ans. 10–11. In particular, the Examiner found that Robison teaches "outer scope beginning with open brace on line 410 and ending with closed brace on line 494 as an identified a scope of the identified object (i.e. executing program 400)." Ans. 11 (citing Robison Fig. 4, ¶ 35). Thus, the Examiner made a specific finding that Robison teaches the scope of the identified object, contrary to Appellants' assertions. Moreover, Appellants present no persuasive explanation or evidence to rebut the Examiner's findings. *See* Reply Br. 3–4.

Appellants next contend the Examiner erred in finding that Robison teaches the limitation "assigning a unique value to the identified object within the identified scope," recited in claim 1. App. Br. 16–17. Appellants argue that "float b=a-k," taught in Robison, is not a "value," and, even if it were, there is no evidence that "float b=a-k" is a "unique value," as claim 1 requires. *Id.* at 17.

Appellants' arguments do not persuade us of Examiner error. The Examiner found Robison teaches that **float* restrict b=a-k** in Figure 4 of Robison contains a unique value to restricted pointer b within the identified scope beginning with the open brace on line 420 and ending with the closed brace on line 445. Ans. 11–12. The Examiner further find that float* restrict b=a-k is a declaration in C programming that means the value pointed to by restrict pointer b will be a float, and that the value a-k is unique value within the identified scope. *Id.* at 12. Appellants present no persuasive explanation or evidence in the Reply Brief to rebut the Examiner's findings. *See* Reply Br. 4. Appellants argue that the Examiner relies on "unique line 420," which is merely a line number within program code, but Appellants have misstated the Examiner's explanation in the Answer. *See id.* The Examiner stated that "float* restrict b=a-k is a unique value to restricted pointer b with the scope of identified scope beginning with the open brace on line 420 and ending with the closed brace on line 445." Ans. 11–12. Thus, the Examiner does not rely on a program code line number as the recited "unique value," as Appellants contend.

Appellants next contend the Examiner erred in finding that Robison teaches the limitation "optimizing the identified object using a property of the identified scope and associated aliasing information," recited in claim 1.

App. Br. 17. Appellants argue the Examiner relies on what Robison considers to be prior art and not what is described in the Detailed Description of Robison. *Id.* at 17. Appellants further argue the Examiner failed to specifically identify what portion of Robison teaches the limitations "a property of the identified scope" and "associated aliasing information," recited in claim 1.

Appellants' arguments are unpersuasive. The Examiner found that, in the Detailed Description of the Invention section, Robison teaches "restrict" pointers within the identified scope as properties of the identified scope. *Id.* at 13 (citing Robison ¶¶ 62, 63). The Examiner also found that Robison teaches alias analysis. *Id.* Appellants do not address the Examiner's findings in the Reply Brief, and present no persuasive explanation or evidence to rebut them.

For these reasons, we are not persuaded that the Examiner erred in finding that Robison teaches or suggests the limitations of claim 1.

Accordingly, we sustain the 35 U.S.C. § 103(a) rejection of independent claim 1, as well as the 35 U.S.C. § 103(a) rejection of independent claims 8 and 15, which Appellants argue are patentable for similar reasons. *See* App. Br. 13. We also affirm the 35 U.S.C. § 103(a) rejections of dependent claims 2–7, 9–14, and 16–20, for which Appellants offer no additional arguments. *See id.* at 18, 19.

DECISION

We affirm the decision of the Examiner rejecting claims 1–20.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED