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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JAGADISH KUMAR AGRAWAL, DEEPAK CHANDRA, JOHN J. GORSICA, and JAGATKUMAR V. SHAH

Appeal 2018-002741
Application 14/312,813[1]
Technology Center 2100

Before DEBRA K. STEPHENS, SHARON FENICK, and PHILLIP A. BENNETT, *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1–8, 10, 12–14, 25, and 26, which are all of the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b). Claims 9, 11, 18, and 21–23 are canceled. Claims 15–17, 19, 20, and 24 are indicated as allowable subject matter (Final Act.).

We REVERSE.

CLAIMED SUBJECT MATTER

According to Appellants, the claims are directed to detecting, in a low-power state, environmental variances indicating proximity with an

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[1] According to Appellants, the real party in interest is Google Technology Holdings LLC (App. Br. 3).

NFC-enabled device with which to authenticate (Abstract). Claim 1, reproduced below, is exemplary of the claimed subject matter:

1. A method comprising:

detecting, via sensors and a low-power processor of a device that is in a sleep state, a combination of two or more environmental variances identifying a user of a near-field communication-enabled (NFC-enabled) entity, the low-power processor having a reduced instruction set and not capable of authenticating the NFC-enabled entity;

activating, responsive to detecting the combination of two or more environmental variance via the sensors and the low-power processor, an application process, an application processor of the device that is capable of authenticating the NFC-enabled entity, the application processor implemented as a component separate and disparate from the low-power processor and having an instruction set greater than that of the low-power processor;

receiving, via a near-field communication (NFC) interface of the device, authentication information from the NFC-enabled entity; and

authenticating, via the application processor and based on authentication information, the NFC-enabled entity effective to wake the device from the sleep state.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Nrusimhan	US 2011/0154078 A1	June 23, 2011
Ryu	US 2013/0237153 A1	Sept. 12, 2013
Smith	US 2014/0181535 A1	June 26, 2014

REJECTIONS

Claims 1–8, 10, 12–14, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ryu and Smith (Final Act. 2–9);

Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ryu and Smith and Nrusimhan (*id.* at 9).

Our review in this appeal is limited to the above rejections and the issues raised by Appellants. Arguments not made are waived (37 C.F.R. § 41.37(c)(1)(iv); MPEP § 1205.02).

ANALYSIS

35 U.S.C. § 103(a): Claims 1-8, 10, 12–14 and 25

Independent Claim 1:

Appellants assert the Examiner has not shown Ryu teaches or suggests "detecting, via sensors and a low-power processor of a device that is in a sleep state, a combination of two or more environmental variances identifying a user of a near-field communication enabled (NFC-enabled) entity," as recited in claim 1 (App. Br. 11–12). Specifically, Appellants contend "[n]ot activating the Application Processing Unit or the Display [as in Ryu] is not at all analogous to . . . a device in a 'sleep state'" (*id*. at 12).

Initially, Appellants provide description of the sleep state from a Wikipedia website (*id.* at 12 n.8). We agree with the Examiner that this description is not sufficient to show how an ordinarily skilled artisan would have interpreted "sleep state" at the time of the invention given the broad discussions in Wikipedia (Ans. 3). We additionally note this reference lacks a date when posted and thus, is not evidence of what an ordinarily skilled

artisan would have understood "sleep state" to mean at the time of the invention.

Appellants' Specification does not define explicitly, the term "sleep state"; however, the Specification does describe

> When entering a sleep state, a computing device typically locks *(e.g.,* screen lock) to protect user data or prevent unintentional activation of one of the device's functionalities. Once in the sleep state, various components or subsystems of the computing device are powered down to reduce the device's power consumption and extend battery life

(Spec. ¶ 2). The Examiner, using a broad, but reasonable interpretation in light of the Specification, construes the "sleep state" as "any state where 'various components or subsystems of the computing device are powered down to reduce the device's power consumption'" (Ans. 3, citing Spec. ¶ 2). Appellants have not persuaded us of error in the Examiner's interpretation.

In light of this interpretation, the Examiner finds Ryu's Figure 6 discloses "a device in sleep mode with the 'NFC unit, [the] application processor, and [the] display deactivated in step s704 when two geomagnetic sensor values are detected.'" (Final Act. 2).

Specifically, Figure 6 of Ryu teaches when the mobile processing unit 100, which processes radio communication, is activated, a first geomagnetic sensor drive unit is activated (Ryu, ¶ 57, Fig. 6, step S701–S702). First and second geomagnetic sensor values A and B are then read and compared (*id.* at ¶ 57, Fig. 6, steps S703–S704). Ryu further describes if the geomagnetic sensor values are equal, the modem processing unit is deactivated (*id.* at ¶ 57, Fig. 6, steps S704–S705). Step S705, that puts the device into a sleep state, is followed by activating the modem (step S701) (*id.* at Fig. 6). Thus, the modem processing unit is not in a sleep state when the combination of

environmental variances are detected. Rather, when the detected geomagnetic sensor values (environmental variances) are detected, the modem processing unit is activated, not in a sleep mode (*id.* at Fig. 6, steps S701 and S703). It is not until the two geomagnetic sensor values are determined to be equal that the modem processing unit is deactivated, i.e., put into a "sleep" state, if certain conditions occur (*id.* at Fig. 6, steps S704 and S705).

We agree with the Appellant that the Examiner has not shown how the combination of Ryu and Smith teaches "authenticating, via the application processor and based on authentication information, the NFC-enabled entity effective to wake the device from the sleep state" (Appeal Br. 14–15). The Examiner finds Ryu teaches "authenticating via an application processor and based on authentication information, the NFC-entity effective to wake the device from the sleep state," but then that "Ryu doesn't teach waking in response to authentication" (Final Act. 3). We agree, based on the Examiner's finding that in Ryu, the device is in a sleep state if "NFC unit, application processor and display [are] deactivated" (Final Act. 2). Ryu teaches that the application processor is active, and thus, the device not in a sleep state when performing the authentication (Ryu ¶ 57, Fig. 6, step S708).

The Examiner then finds that Smith teaches such waking (*id.*). However, we agree with the Appellants that the application processor is activated in Smith in order to perform the authentication (Appeal Br. 14). Therefore, similarly, the combination of Ryu and Smith does not teach "authentication . . . effective to wake the device from the sleep state," as required in claim 1.

Because we agree with at least one of the arguments advanced by Appellants, we need not reach the merits of Appellants' other arguments. Accordingly, the Examiner has failed to show the combination of Ryu and Smith fails to teach or suggest claim 1. Claims 2–9 and 25, which depend directly or indirectly from independent claim 1, thus fall with independent claim 1.

Independent Claim 10

Appellants assert the combination of Ryu and Smith does not teach "the application processor . . . configured to . . . wake, responsive to the signal, from the sleep state to the active state to implement the authentication operations" and "attempt to authenticate with the NFC-enabled entity," as recited in independent claim 10 (App. Br. 17–19). (Ans. 4). As noted by Appellants, the Examiner seems to equate a "Modem Processing Unit of Ryu" as the "low-power processor" and an "Application Processing Unit (200) of Ryu" as an "Application processor" (App. Br. 11).

The Examiner relies on Ryu's step S707 to teach activating (waking) the application processor and step S708 to teach activating the NFC unit (Final Act. 6). The Examiner further relies on Ryu's teaching that the "card information is read so that 'the card reader receives the information from the smart phone [(the device)] so as to perform payment'" (*id.* (quoting Ryu ¶ 27)). The Examiner points to application processor 200 as being "the only chip used for NFC authentication data" (*id.*); however, Ryu discloses the authentication occurs in the card reader (Ryu ¶ 27, Fig. 3, element 2000).

The Examiner additionally relies on Smith to teach "waking in response to authentication" (Final Act. 7). Specifically, the Examiner relies on Smith's paragraph 76 *alone* to teach the limitation:

> In a block **408,** in response to authentication the method **400** changes the power state of the computing device platform. In one or more implementations, the method **400** determines whether the host/CPU **128** is in a power-gated state. If the host/CPU **128** is in a power-gated state, the management module **120** issues the wake up signal **126** to the host/CPU **128** to wake up the host/CPU **128** sufficiently to permit the host/CPU **128** to assist in the login process for the user **104.**

(*id.* (quoting Smith ¶ 76); Ans. 4–5)). The Examiner then asserts "Ryu and Smith are both power managers. It would have been obvious . . . to wake based on authentication in order to control access to the device" (Final Act. 4; Ans. 4–5).

Appellants argue "[t]he method of Smith authenticates (step 406) and then subsequently changes a power state of the CPU ([ ] step 408)" in contrast to the claim, as recited, which "activates the application processor and then performs the authentication" (App. Br. 14). According to Appellants, "the order of operations in Smith is opposite to that of claims 1 and 10, because authentication is done prior to power state change" (Reply Br. 5).

We agree the paragraph of Smith relied on by the Examiner teaches authentication (Smith ¶ 76). We further find this paragraph teaches waking up the host/CPU once authentication has occurred (*id.*). The Examiner has not, however, explained sufficiently, why an ordinarily skilled artisan would have combined Smith's authentication into Ryu's system. More specifically, paragraph 76 of Smith describes authenticating and then waking (Smith ¶ 76). The Examiner has not explained with particularity why an ordinarily

skilled artisan would have moved Ryu's authentication from the card reader to the device, where that authentication would have occurred in Ryu's system, and how Smith's teaching of authenticating and then waking the device would have been incorporated into Ryu's system to teach the disputed limitation.

Accordingly, we are constrained to find the Examiner has not persuaded us an ordinarily skilled artisan would have combined the teaching of Ryu and Smith. Because we agree with at least one of the arguments advanced by Appellants, we need not reach the merits of Appellants' other arguments. Therefore, the Examiner has failed to show the combination of Ryu and Smith teaches or suggests claim 10. Claims 12–14, which depend directly or indirectly from independent claim 10, thus fall with independent claim 10.

Conclusion

The Examiner has not shown the combination of Ryu and Smith teaches or suggests claims 1–8, 10, 12–14, and 25. Accordingly, we are constrained to reverse the rejection of claims 1–8, 10, 12–14, and 25 under 35 U.S.C. § 103(a) as being unpatentable over Ryu and Smith.

35 U.S.C. § 103(a): Claim 26

Appellants contend their invention as recited in claim 26, is patentable over Ryu and Smith and Nrusimhan (App. Br. 20–21). As set forth above, we find the combination of Ryu and Smith teaches claim 1. Claim 26 depends from claim 1. The Examiner has not shown the additional reference, Nrusimhan, cures the deficiencies of Ryu and Smith.

Accordingly, the Examiner fails to show the combination of Ryu and Smith and Nrusimhan teaches or suggests the limitations as recited in claim 26. Therefore, we do not sustain the rejection of claim 26 under 35 U.S.C. § 103(a) as being unpatentable over Ryu and Smith and Nrusimhan.

DECISION

The Examiner's rejection of claims 1–8, 10, 12–14, and 25 under 35 U.S.C. § 103(a) as being unpatentable over Ryu and Smith is reversed.

The Examiner's rejection of claim 26 under 35 U.S.C. § 103(a) as being unpatentable over Ryu, Smith, and Nrusimhan is reversed.

REVERSED