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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/953,886	07/30/2013	Howell Hollis	1202-065/IS-0466	1027
10904	7590	09/04/2020	EXAMINER	
Lockheed Martin and Withrow & Terranova 106 Pinedale Springs Way Cary, NC 27511			LONG, ANDREA NATAE	
			ART UNIT	PAPER NUMBER
			2175	
			NOTIFICATION DATE	DELIVERY MODE
			09/04/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HOWELL HOLLIS, MICHAEL C. SEMENIUK,
ROBERT CHARLES McCARTHY, ZACHARY JAMES HEYLMUN,
and HONG PHUOC NGUYEN¹

Appeal 2019-003131
Application 13/953,886
Technology Center 2100

Before JASON V. MORGAN, DEBORAH KATZ, and JOHN A. EVANS,
Administrative Patent Judges.

EVANS, *Administrative Patent Judge.*

DECISION ON APPEAL
STATEMENT OF THE CASE

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of Claims 1–10, 13–18, and 20. Final Act. 1. Claim 19 is allowed. *Id.* Claims 11 and 12 are objected to. *Id.* We have jurisdiction over the pending claims under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). The Appeal Brief identifies Lockheed Martin Corporation, as the real party in interest. Appeal Br. 1.

Invention

The invention is directed to a method for implementing a multi-monitor full screen mode in an application module. *See* Abstract. Claims 1, 16, and 19 are independent. Claim 1, reproduced below, is representative of the invention.

1. A computer-implemented method for implementing a multi-monitor full screen mode in an application module executing on a device comprising a processor, the method comprising computer-implemented operations for:

determining, by the application module, that the multi-monitor full screen mode is requested;

determining a number (N) of monitors that are coupled to a plurality of video ports of the device, wherein N is greater than one, the N monitors each having a respective maximum display area based on a corresponding monitor screen;

directing, by the application module, a window management module (WMM) that is independent of the application module to display at least one cover window that has dimensions coextensive with all dimensions of the respective maximum display areas of the N monitors combined;

determining at least one primary monitor of the N monitors;

determining a full screen display area associated with the at least one primary monitor;

sizing a main application window of the application module to have dimensions that are at least coextensive with dimensions of the full screen display area; and

directing the WMM to display the main application window on the at least one primary monitor.

Prior Art

Name²	Reference	Date
Clark	US 5,835,090	Nov. 10, 1998
Butler	US 6,018,340	Jan. 25, 2000
Orsolits	US 2003/0079032 A1	Apr. 24, 2003
Eastman	US 2005/0020238 A1	Jan 27, 2005
Nickell	US 2007/0016867 A1	Jan. 18, 2007
Purcell	US 2007/0024645 A1	Feb. 1, 2007
Miyagi	US 2013/0022292 A1	Jan. 24, 2013
Frederickson	US 2014/0351722 A1	Filed May 23, 2013
Daniel Dilger, <i>Inside 05 X 10.8 Mountain Lion GM: Go Full Screen on any display</i> , http://appleinsider.com/articles/12/07/21/inside_os_x_108_mountain_lion_gm_go_full_screen_on_any_display.html (July 21, 2012) (last visited Sept. 1, 2020).		

Rejections³ at Issue⁴

1. Claims 1–6, 13, 16–18, and 20 stand rejected under 35 U.S.C. § 103 over Dilger, Purcell, Nickell, and Eastman. Final Act. 2–7.
2. Claim 7 stands rejected under 35 U.S.C. § 103 over Dilger, Purcell, Nickell, Eastman, and Miyagi. Final Act. 8.
3. Claim 8 stands rejected under 35 U.S.C. § 103 over Dilger, Purcell, Nickell, Eastman, and Frederickson. Final Act. 9.

² All citations herein to the references are by reference to the first named inventor/author only.

³ The present application is being examined under the first inventor to file provisions of the AIA. Final Act. 2.

⁴ Throughout this Decision, we refer to the Appeal Brief (“Appeal Br.”) filed November 20, 2018, the Reply Brief (“Reply Br.”) filed March 11, 2019, the Final Office Action (“Final Act.”) mailed May 2, 2018, the Examiner’s Answer (“Ans.”) mailed January 11, 2019, and the Specification (“Spec.”) filed July 30, 2013.

4. Claims 9 and 10 stand rejected under 35 U.S.C. § 103 over Dilger, Purcell, Nickell, Eastman, and Orsolits. Final Act. 10–11.
5. Claim 14 stands rejected under 35 U.S.C. § 103 over Dilger, Purcell, Nickell, Eastman, and Clark. Final Act. 11.
6. Claim 15 stands rejected under 35 U.S.C. § 103 over Dilger, Purcell, Nickell, Eastman, and Butler. Final Act. 12.

Allowable Subject Matter

The Examiner indicates that claim 19 is allowable and that claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Final Act. 13.

ANALYSIS

We have reviewed the rejections of Claims 1–10, 13–18, and 20 in light of Appellant’s arguments that the Examiner erred. We provide the following explanation to highlight and address specific arguments and findings primarily for emphasis. We consider Appellant’s arguments as they are presented in the Appeal Brief and the Reply Brief.

CLAIMS 1–6, 13, 16–18, AND 20: OBVIOUSNESS OVER
DILGER, PURCELL, NICKELL, AND EASTMAN.

*A window management module (WMM) that is independent
of the application module.*

Independent Claim 1 recites, *inter alia*, “directing, by the application module, a window management module (WMM) that is independent of the application module to display at least one cover window that has dimensions

coextensive with all dimensions of the respective maximum display areas of the N monitors combined.” Independent Claims 16 and 19 recite commensurate limitations.

Appellant argues this limitation can be analyzed into two components, a first part relates to who directs the WMM, and a second part relates to what the WMM is being directed to do. Appeal Br. 6. Appellant explains operating systems often provide a window manager monitor (WMM) component with which application modules may interact to display windows on a monitor. Appeal Br. 6. Appellant continues, instead of the application modules having to understand the nuances and complexities of the many different graphics cards that may be used on different computing devices, as well as maintaining window coordination among different application modules that may be unaware of one another, the application modules interact with the WMM which interacts with the graphics hardware. *Id.* Appellant explains various operating systems implement full screen modes where a window associated with a single application covers an entire monitor. Unlike conventional systems wherein full screen mode requires the application module to handle the various interactions with the graphics cards that would otherwise be handled by the WMM, Appellant’s invention relates to an application-implemented, multi-monitor full-screen mode. Appeal Br. 6.

The Examiner finds Dilger essentially teaches the claimed system, except Dilger does not teach where the application module directs a window management module that is independent of the application module. Final Act. 4. The Examiner finds Nickell teaches where the application module

directs a window management module that is independent of the application module. *Id.* (citing Nickell Fig. 1, ¶¶ 22, 23).

Appellant contends Nickell discloses communication between an application and a window manager, but that Nickell teaches the operating system, not the application, implements the full-screen mode. Appeal Br. 7. Moreover, Appellant argues Dilger discloses a full-screen mode in the Apple OS X 10.8 operating system for multiple monitors. *Id.*

The Examiner finds:

Nickell teaches the user application (application module) sends a message to the window manager that it is entering full screen mode. As can be seen, the determining of full screen request is made by the application module and then presented to the window manager. The combined teaching of Dilger and Nickell teaches “determining, by the application module, that the multi-monitor full screen mode is requested.”

Ans. 17.

Appellant replies that the Examiner’s finding that the application module determines the full screen request was made, and then presents the determination to the window manager supports Appellant’s position. Reply Br. 3 (citing Ans. 17). Appellant argues that determining a request for multi-monitor, full-screen mode and presenting that request is not the same as directing the WMM to display a cover window. *Id.* That is, Appellant argues that in the claimed invention, the WMM is merely used as a tool that responds to instructions from the application module, which is responsible for determining *how* to respond to the multi-monitor full-screen request. Appellant argues that, in contrast, an application module in Nickell merely

passes the full-screen mode request to the WMM and that the WMM is responsible for determining *how* to respond to the full-screen request.

Appellant's arguments accord with the Specification's disclosed distinctions among the terms "determine," "request," and "direct."

Appellant discusses the prior art:

The creation, movement and closing of windows is typically managed by the operating system in response to requests from the application module.

Spec. ¶ 3.

For performance purposes and other reasons, most graphic cards and operating systems allow an operating mode wherein the application module, rather than the operating system, is responsible for what is drawn (sometimes referred to as "displayed") on the monitor. This mode is sometimes referred to as "full screen mode."

Spec. ¶ 5. Appellant next distinguished the claimed invention:

The application module 14-5 *determines* that a multi-monitor full screen mode is requested (Figure 4, block 1000). The application module 14-5 may make this determination in response to receiving input from the user 20, or, for example, based on a configuration file that indicates a default execution mode of the application module 14-5 is the multi-monitor full screen mode.

Spec. ¶ 38 (emphasis added).

The application module 14-5 directs the WMM 16 to display at least one cover window 52 that has dimensions that are at least coextensive with dimensions of the maximum display areas 24 of the monitors 22-1 – 22-2.

Spec. ¶ 40.

In response to the direction from the application module 14-5, the WMM 16 generates a window entry 28-6 that contains

information identifying the cover window 52-1, and a window entry 28-7 that contains information identifying the cover window 52-2. The WMM 16 displays the cover windows 52-1, 52-2.

Spec. ¶ 40. Appellant’s Figure 4, which is reproduced below, clearly distinguishes “determine” from “direct.”

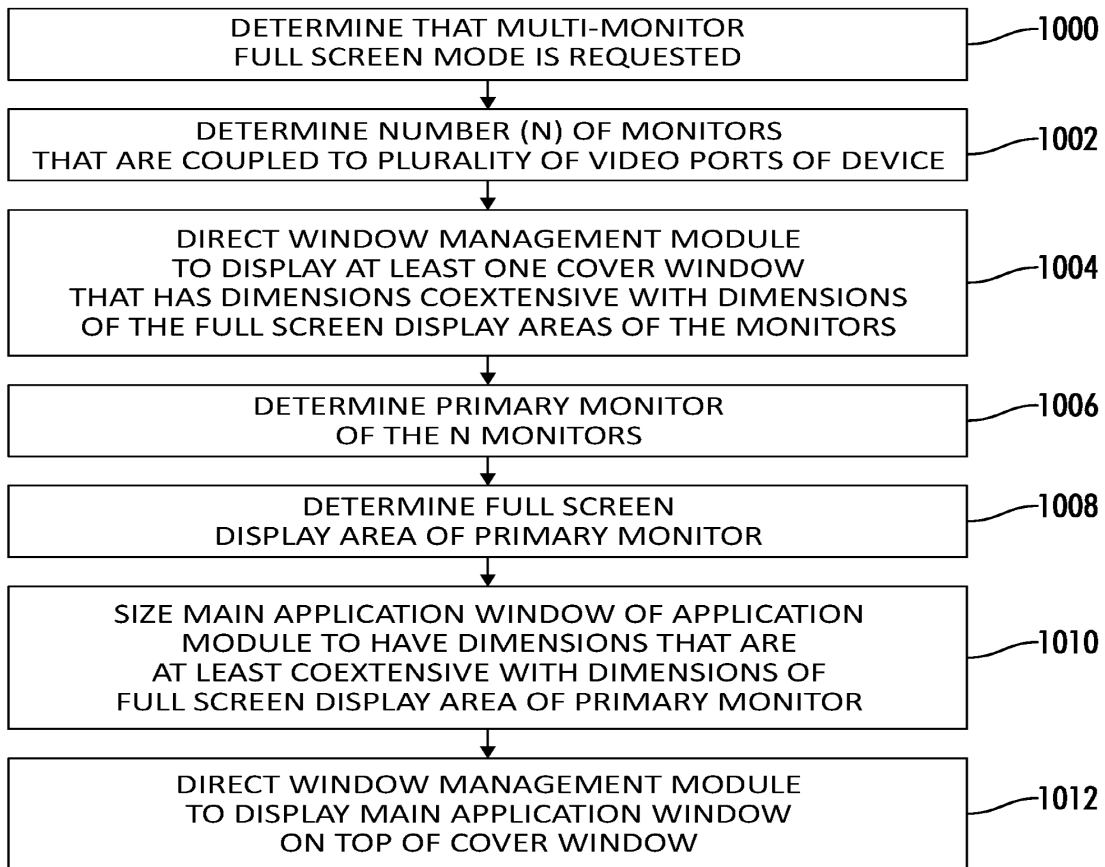


FIG. 4

Figure 4 is a flowchart of a method for implementing a multi-monitor full screen mode.

Appellant discloses the application module determines that a multi-monitor full-screen mode is requested and further determines the number of

monitors connected to the video ports. Spec. ¶ 38 (citing Fig. 4, block 1000); Spec. ¶ 39. Appellant discloses the application module directs the WMM 16 to display at least one cover window that has dimensions that are at least coextensive with dimensions of the maximum display areas of the number of monitors. Spec. ¶ 40. Appellant discloses:

In response to the direction from the application module 14-5, the WMM 16 generates a window entry 28-6 that contains information identifying the cover window 52-1, and a window entry 28-7 that contains information identifying the cover window 52-2. The WMM 16 displays the cover windows 52-1, 52-2.

Spec. ¶ 41.

The Examiner finds the application module determines that a full screen request has been made and then presents that request to the window manager (WMM). Ans. 17. The Examiner further finds the combined teaching of Dilger and Nickell teaches “determining, by the application module, that the multi-monitor full screen mode is requested.” However, there is no finding that the prior art applications determine the number and combined areas of the monitors and directs the WMM to display upon the combined windows.

In view of the foregoing, we decline to sustain the rejection of Claims 1–6, 13, 16–18, and 20.

Claim 7: Obviousness over Dilger, Purcell, Nickell,
Eastman, and Miyagi.

Appellant contends Claim 7 is patentable by virtue of its dependence from Claim 1. Appeal Br. 15.

The Answer finds Claim 7 is rejected in view of Claim 1. Ans. 21.
In view of the foregoing, we decline to sustain the rejection of Claim
7.

Claim 8: Obviousness over Dilger, Purcell, Nickell,
Eastman, and Frederickson.

Appellant contends Claim 8 is patentable by virtue of its dependence
from Claim 1. Appeal Br. 15–16.

The Answer finds Claim 8 is rejected in view of Claim 1. Ans. 21.
In view of the foregoing, we decline to sustain the rejection of Claim
8.

Claims 9 and 10: Obviousness over Dilger, Purcell, Nickell,
Eastman, and Orsolits.

Appellant contends Claims 9 and 10 are patentable by virtue of their
dependence from Claim 1. Appeal Br. 16.

The Answer finds Claims 9 and 10 are rejected in view of Claim 1.
Ans. 21.

In view of the foregoing, we decline to sustain the rejection of Claims
9 and 10.

Claim 14: Obviousness over Dilger, Purcell, Nickell,
Eastman, and Clark.

Appellant contends Claim 14 is patentable by virtue of its dependence
from Claim 1. Appeal Br. 16.

The Answer finds Claim 14 is rejected in view of Claim 1. Ans. 22.
In view of the foregoing, we decline to sustain the rejection of Claim
14.

Claim 15: Obviousness over Dilger, Purcell, Nickell,
Eastman, and Butler.

Appellant contends Claim 15 is patentable by virtue of its dependence from Claim 1. Appeal Br. 17.

The Answer finds Claim 15 is rejected in view of Claim 1. Ans. 22.

In view of the foregoing, we decline to sustain the rejection of Claim 15.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	References	Affirmed	Reversed
1-6, 13, 16-18, 20	103	Dilger, Purcell, Nickell, Eastman		1-6, 13, 16-18, 20
7	103	Dilger, Purcell, Nickell, Eastman, Miyagi		7
8	103	Dilger, Purcell, Nickell, Eastman, Frederickson		8
9, 10	103	Dilger, Purcell, Nickell, Eastman, Orsolits		9, 10
14	103	Dilger, Purcell, Nickell, Eastman, Clark		14
15	103	Dilger, Purcell, Nickell, Eastman, Butler		15
Overall Outcome				1-10, 13-18, 20

REVERSED