

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

YEALINK (USA) NETWORK TECHNOLOGY CO., LTD., and
YEALINK NETWORK TECHNOLOGY CO., LTD.
Petitioners,

v.

BARCO N.V.
Patent Owner

U.S. Patent No. 11,258,676
IPR2024-01438

**Declaration of Kevin C. Almeroth, Ph.D in Support of Petitioner's Reply in
the Inter Partes Review of U.S. Patent No. 11,258,676**

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LIST OF EXHIBITS

EXHIBIT	DESCRIPTION
EX-1001	U.S. Patent No. 11,258,676
EX-1002	Declaration of Kevin C. Almeroth, Ph.D.
EX-1003	Curriculum Vitae of Kevin C. Almeroth, Ph.D.
EX-1004	File History of U.S. Patent No. 11,258,676
EX-1005	U.S. Patent Application Publication No. 2005/0210390 (“Ono”)
EX-1006	U.S. Patent Application Publication No. 2008/0074560 (“Ichieda”)
EX-1007	U.S. Patent Application Publication No. 2006/0069840 (“Corbett”)
EX-1008	U.S. Patent Application Publication No. 2011/0096138 (“Grimshaw”)
EX-1009	English Translation of Japanese Patent Application Publication No. 2008-165007 (“Uchida”)
EX-1010	Japanese Patent Application Publication No. 2008-165007
EX-1011	Certification for English Translation of Japanese Patent Application Publication No. 2008-165007
EX-1012	U.S. Provisional Application No. 61/255,326 (“Grimshaw Provisional”)
EX-1013	WIPO International Patent Application Publication No. 2010/025557 (“Hill 557”)
EX-1014- EX-1019	RESERVED
EX-1020	U.S. Patent Application Publication No. 2010/0087139 (“Glass”)
EX-1021	U.S. Patent Application Publication No. 2009/0198839 (“Banerjee”)
EX-1022	U.S. Patent Application Publication No. 2011/0115689 (“Sugiyama”)

EXHIBIT	DESCRIPTION
EX-1023- Ex-1025	RESERVED
EX-1026	U.S. Patent Application Publication No. 2009/0172219 ("Mardiks")
EX-1027	U.S. Patent Application Publication No. 2010/0295994 ("Kaplan")
EX-1028- Ex-1029	RESERVED
EX-1030	EP Patent Application Publication No. 2107463 ("Deforche")
EX-1031	English Translation of Japanese Patent Application Publication No. 2007-208606 ("Maeda")
EX-1032	RESERVED
EX-1033	U.S. Patent Application Publication No. 2002/0196378 ("Slobodin")
EX-1034	U.S. Patent Application Publication No. 2002/0174254 ("Kita")
EX-1035- EX-1049	RESERVED
EX-1050	Imation Wireless Projection Link User Guide
EX-1051	EZAir Press Release, "EZAir Wireless PC to TV Solutions Now Available Across Europe," March 16, 2011
EX-1052	Warpia Product Brief, "Wireless USB PC to TV Audio/Video Display Adapter," 2009
EX-1053	Q-Waves Product Overview, "Quicklink TV," November 2010
EX-1054	IOGear Installation Guide, "Wireless USB to VGA Kit," 2008
EX-1055	JP Patent Application Publication No. 2007-208606
EX-1056	Certification for English Translation of JP Patent Application Publication No. 2007-208606
EX-1057	U.S. Patent Application Publication No. 2005/0036509 ("Acharya")
EX-1058	U.S. Patent Application Publication No. 2011/0038005 ("Ochai")

EXHIBIT	DESCRIPTION
EX-1059- EX-1065	RESERVED
EX-1066	Portion of ctrl. no. 90/014,087 file history
EX-1067	CSE-800 User Guide
EX-1068	'237 Brogioli report
EX-1069	Clickshare CSE-200 base unit firmware
EX-1070	'002 Brogioli Deposition Transcript
EX-1071	'237 Brogioli Deposition Transcript
EX-1072	'676 Brogioli Deposition transcript
EX-1073	'951 Brogioli Deposition transcript
EX-1074	What is a driver?
EX-1075	ClickShare Button connection issues
EX-1076	ClickShare C-5 Base Unit Datasheet
EX-1077	https://www.barco.com/en/inspiration/news-insights/2019-05-03-different-ways-to-share-your-content-with-clickshare (retrieved September 24, 2025).
Ex-1078	Erwin Six depo. transcript
Ex-1079	Barco Driver Version Installed 18-7-2025 (https://www.barco.com/en/support/knowledge-base/12770-clickshare-windows-driver-version-installed)
Ex-1080	"Why is ClickShare Windows Driver required and how can I install/update it on my PC?" (https://www.barco.com/en/support/knowledge-base/5676-clickshare-windows-driver-requirements-and-installation)
Ex-1081	Minidrivers, Miniport drivers, and driver pairs (https://learn.microsoft.com/en-us/windows-hardware/drivers/gettingstarted/minidrivers-and-driver-pairs)

EXHIBIT	DESCRIPTION
Ex-1082	Yealink Press Release (https://www.yealink.com/en/product-detail/wireless-presentation-wpp30-eol)
Ex-1083	Second Declaration of Declaration of Kevin C. Almeroth, Ph.D.
Ex-1084	Dr. Brogioli Dist. Ct. Transcript
Ex-1085	USB Audio Class System Driver (Usbaudio.sys) (https://learn.microsoft.com/en-us/windows-hardware/drivers/audio/usb-audio-class-system-driver--usbaudio-sys-)
Ex-1086	U.S. Patent No. 10,762,002
Ex-1087	U.S. Patent No. 11,403,237
Ex-1088	RESERVED
Ex-1089	U.S. Patent No. 11,422,951
Ex-1090	Deposition transcript of Andrew Ludke, Crestron
Ex-1091	Deposition transcript of William Scally, Barco's damages expert

I. INTRODUCTION

1. I have reviewed the Patent Owner's Response ("POR," Paper 15) and the associated exhibits. Below are my opinions concerning the POR.

II. GROUND I – THE COMBINATION OF ONO AND DEFORCHE RENDERS OBVIOUS CLAIMS 1, 5, 8, 18, AND 20.

2. In my opinion, the Petition explained how and why a person of ordinary skill in the art (POSA) would have combined Ono and Deforche. For example, someone skilled in the art would have known that it was possible to use widely available, pre-installed generic drivers to enable a USB interface, as described by Deforche. Pet, 15, referencing EX-1005, ¶¶2, 53-55; EX-1030, ¶¶9, 30; and EX-1002, ¶¶116-17. Deforche supports this understanding by stating, "HID and MSD drivers are known per se in the art and therefore need not be described in detail herein." EX-1030, ¶10; see also *id.*, ¶37. The '676 patent itself also acknowledges the use of "the well-known USB interface of the computer for extracting the display content of the computer" (EX-1001, 4:55-60; *see also* 12:18-21). In my view, using the pre-installed generic driver of an operating system would not only have been obvious, but likely the first option considered by someone skilled in the art because these drivers were so common and widely available as of the priority date of the '676 patent.

A. The POSA Would Have Had a Reasonable Expectation of Modifying Ono to Use a Zero-Footprint Application Like Deforche's.

3. A POSA would have had a reasonable expectation of success modifying Ono to use a zero-footprint application like the one described in Deforche. Deforche teaches a preference for using a zero-footprint application that relies on existing USB class drivers. EX-1030, ¶¶29-43, 50-51, and FIG. 4a. Deforche also explains that the zero-footprint application can be any type of application. *Id.*, ¶14; *see also* EX-1072, 6:11-24, where Dr. Brogioli testified that he did not analyze what “Ono may or may not look like for a zero-footprint software solution”).

4. In my opinion, there is nothing that would prevent implementing Ono's application as a zero-footprint application. The only evidence the Patent Owner identifies is Ono's use of the word “install,” which, according to the Patent Owner, means that installation is “required.” POR, 25-26. However, Dr. Brogioli testified that installing *some* software would still meet the claim limitations. EX-1070, 20:11-24:23. I agree with that assessment. In my view, the Patent Owner's approach of requiring all limitations to be in a single reference does not reflect how someone skilled in the art would approach the problem. Instead, it makes sense to apply Deforche's zero-footprint advantages to Ono's system, which would have been an obvious improvement.

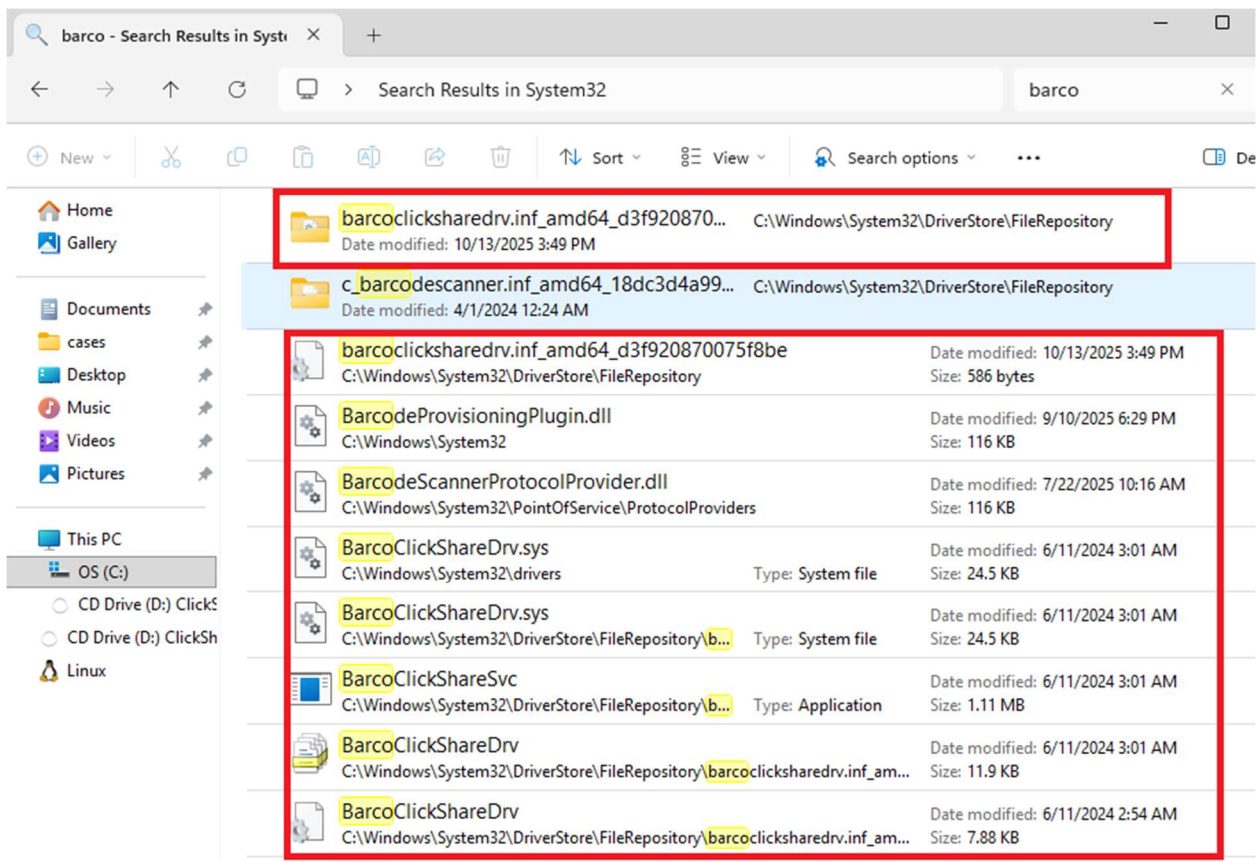
5. There is no real dispute that Deforche teaches “setting up, by means of a pre-installed generic driver of the operating system, a means for communication between the peripheral device and the processing device.” Dr. Brogioli admitted that Deforche teaches this limitation. EX-1072, 72:13-73:13; *see also* EX-1030, abstract. So, the only real question is whether it would have been obvious to use Deforche’s standard pre-installed USB drivers, which are found in every major operating system, to allow communication between the peripheral device and the processing device in Ono’s system.

6. I believe this combination would have been obvious and likely the first choice for someone skilled in the art because these drivers are so common. The Patent Owner argues that Ono does not teach “a pre-installed generic driver” (POR, 26-27), but this ignores the Petition’s argument that, if Ono’s driver is not a pre-installed generic driver, it would have been a simple substitution to use such a driver as taught by Deforche. Patent Owner does not address this point and, in my view, overlooks the clear obviousness analysis presented in the Petition. Swapping Ono’s driver for Deforche’s would have been a straightforward substitution using known methods to achieve the predictable result of communication between a processing device and a peripheral device.

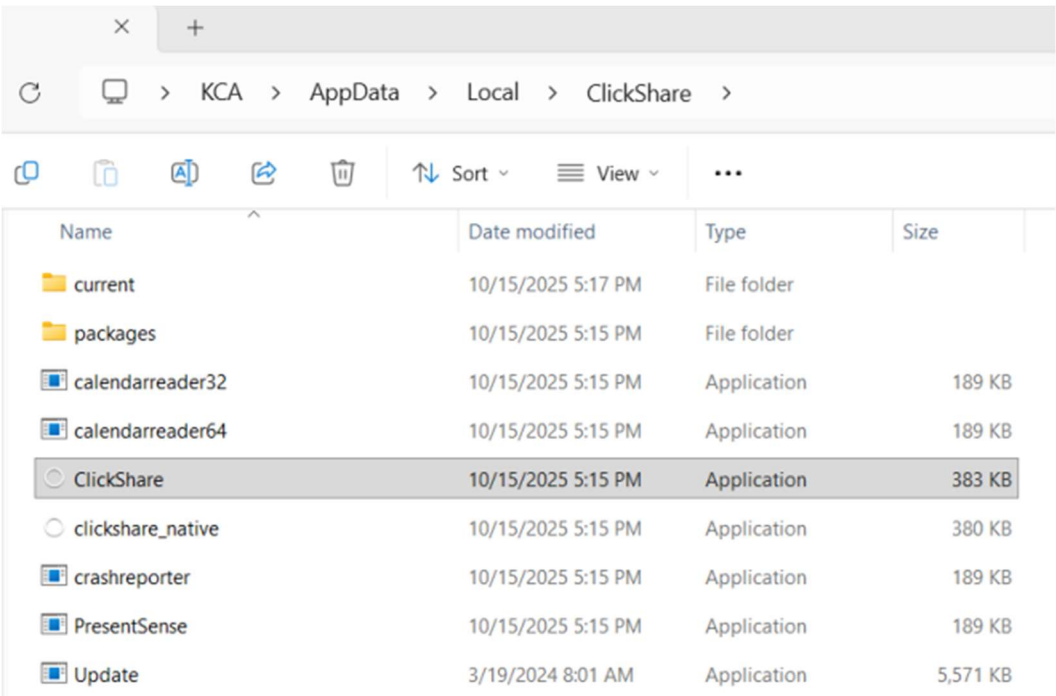
7. Overall, based on my review of the prior art and my experience in the field, it is my opinion that a POSA would have found it obvious to combine Ono and

DeForche in the ways described in the Petition. The technical reasons for doing so are clear, and the solutions are well-supported by both the prior art and the admissions in the '676 patent itself.

8. I also note that Barco characterizes its ClickShare product as zero-footprint, but it also permanently installed special purpose software after I connected a ClickShare dongle to my PC; below is a screenshot of the files I identified:



9. The Barco ClickShare dongle also attempted to create a launch-on-boot application and installed special-purpose software in my ../AppData/Local/ directory:



10. Dr. Brogioli’s report for the ’237 patent included one of these driver files. EX-1068, ¶125 (including BarcoClickShareDrv.cab). I also determined that the Barco website discusses permanently installing files. *See* Ex-1079 (“Barco Driver Version Installed”); Ex-1080 (“Why is ClickShare Windows Driver required and how can I install/update it on my PC? ... Once a ClickShare Button is plugged into the PC, the Microsoft Driver Update mechanism will attempt to automatically

download and install / update the ClickShare Windows Driver”); Ex-1069, 1 (“ClickShare driver is needed.”). Therefore, it is my opinion that whether to use a zero-footprint implementation is a matter of obvious design choice that can be changed due to design considerations, for similar reasons that Barco’s commercial implementation chose ultimately to also install special purpose software like some other prior art references.

B. Deforche teaches, “*setting up, by means of a pre-installed generic driver of the operating system, a means for communication between the peripheral device and the processing device*”

11. Dr. Brogioli has already admitted that Deforche teaches this limitation. For example, in the cited deposition (EX-1072, 72:13-73:13) and in the Deforche reference itself (EX-1030, abstract), it is clear that Deforche describes “*setting up, by means of a pre-installed generic driver of the operating system on the computer device, a modem/host communication interface.*” Because of this, the only real dispute seems to be whether it would have been obvious to use Deforche’s standard pre-installed USB drivers, which are present in every major operating system, to allow communication between the peripheral device and the processing device in Ono’s system. In my view, this combination would have been obvious and, in fact, would likely have been the first choice for a person of ordinary skill in the art for at least the following reasons:

12. First, pre-installed generic USB drivers, such as those for Human Interface Devices (HID) or Mass Storage Devices (MSD), were routinely included by default in all major operating systems, including Windows, macOS, and Linux as of the priority date of the '676 patent. *See* Ex-1074 (“What is a driver?”). The '676 patent certainly did not invent the concept of pre-installed generic USB drivers. Therefore, as of the relevant time period, any standard computer would already have these drivers available without the need for the user to install additional software. This is a significant advantage because it greatly simplifies the user experience. Users could simply plug in the peripheral device and have it work immediately, which is often referred to as “plug and play” functionality, which was also known. *See, e.g.*, EX-1021.

13. Second, using pre-installed drivers avoids the need for administrative privileges or special permissions to install new drivers or software. In some environments, such as corporate or educational settings, users may not have the ability to install new software on their computers due to security policies. By relying on drivers that are already present, a POSA would have known that they could ensure that the device will work in a wide range of environments without requiring IT support or changes to system settings.

14. Third, pre-installed generic drivers are well-documented, stable, and widely tested. This reduces the risk of compatibility issues or unexpected behavior.

A POSA would have recognized that using these drivers would allow for faster and more reliable product development, since the communication protocols and behaviors were standardized and well-understood in the industry.

15. Fourth, a POSA would have understood that the use of generic drivers would help ensure compatibility across different hardware and operating system versions. Since these drivers are part of the operating system, they are maintained and updated by the OS vendor, ensuring ongoing support and reducing the maintenance burden for the device manufacturer.

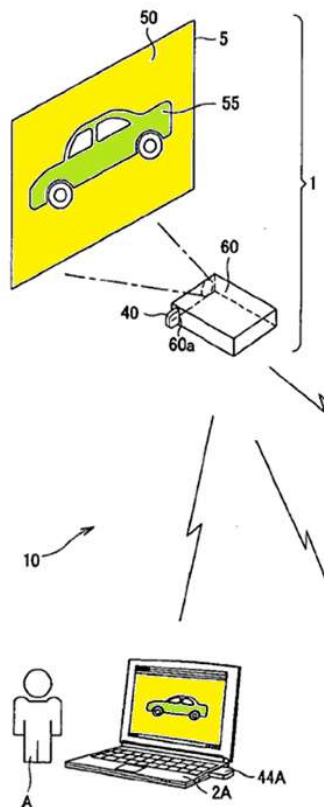
16. Finally, the technical literature and prior art consistently describe the use of pre-installed generic drivers as a best practice for achieving broad compatibility and ease of use. *See, e.g.*, EX-1030, ¶¶9, 28. In my experience, when faced with the problem of enabling communication between a peripheral and a host computer, the most straightforward and reliable solution is to leverage what is already available in the operating system, rather than requiring custom drivers or additional installation steps.

17. Based on my review, the Patent Owner's argument is simply that Ono does not teach "a pre-installed generic driver." POR, 26-27. However, in my opinion, this argument overlooks the main point made in the Petition. The Petition explains that, even if Ono's driver is not a pre-installed generic driver, it would have been a straightforward and simple substitution to use such a driver as taught by

Deforche. The Patent Owner does not address this point at all and instead ignores the clear obviousness analysis that was presented. Swapping Ono's driver for Deforche's would have been a routine substitution using well-known methods, and it would achieve the predictable result of enabling communication between a processing device and a peripheral device. This type of substitution is exactly the kind of design choice that a POSA would make.

C. Ono Renders Obvious “*screen scraped data*” at Least because Patent Owner Admits It Was Known

18. In my opinion, the Petition explained that Ono teaches a peripheral device that stores a client application “*to obtain screen scraped data.*” Pet., 24-25. Ono describes obtaining a car image from information terminal 2a and displaying it on image display apparatus 1. *Id.*, 25, citing EX-1005, ¶¶41, 54-55, 58, 73, 76, 88, FIGS. 1 and 4.)



EX-1005, FIG. 1

19. Ono also discusses “the information terminal apparatus whose image is to be shown on the screen 5,” which is possible because of Ono’s screen scraping algorithm. *Id.*, ¶161. In my review, I did not see any analysis from Dr. Brogioli about whether Ono discloses this limitation. EX-1072, 5:23-6:4. If “*screen scraped data*” is limited to a specific way of obtaining media data from a screen, the ’676 patent itself admits that screen scraping was already known in the art. EX-1001, 13:59-62, citing EX-1033 (Slobodin). In addition to describing screen scraping, Slobodin explains that its screen scraping logic can be implemented on a system like Ono’s. EX-1033, ¶73.

20. In my opinion, a POSA would have found it obvious to apply the known screen scraping logic of Slobodin to Ono's system. This would yield the predictable result of scraping, for example, a car image from a computer display for use on a larger display. *See* EX-1005, FIG. 1 (reproduced above). Because Ono teaches displaying a car and reproducing the same image on a projector, I believe it would have been obvious that Ono discloses screen scraping like that described by Slobodin. Pet., 24-25, citing EX-1033.

D. The Combination of Ono and Deforche Renders Obvious, “*running a client application stored on the peripheral device to obtain screen scraped data*”

21. Deforche clearly describes “*running a client application stored on the peripheral device*” that also includes the transmitter. EX-1030, ¶34 (emphasis added); *see also* ¶¶15-19, 25-34, 41, 45, and 47-52; and Pet., 24-27. For example, Deforche explains that, at a certain point, the USB modem presents itself as a USB Mass Storage Device, which appears as a CD-ROM exposing flash memory. The CD-ROM contains an autorun feature that launches a launcher. This launcher gives the user the option to start various applications, such as a web browser (like Firefox) or a Connection Manager. Deforche specifically notes that this launcher is based on portable application principles, similar to how other applications are handled. *Id.*

22. When combining Ono and Deforche, it would have been obvious to launch an application stored on a peripheral device that contains an application.

Deforche makes it clear that the application could be any application, including the screen scraping application described in Ono. EX-1030, ¶34. This combination would simply require placing Ono's screen scraping application on the peripheral device, as Deforche teaches. *Id.*

23. This is a straightforward and predictable modification. The technical steps are well within the abilities of a POSA. Deforche's approach of using portable applications stored on a peripheral device was already known, and applying this to Ono's screen scraping application would not present any technical challenges. In my opinion, the Patent Owner has not provided any credible reason why this combination would not have been obvious. The prior art supports the conclusion that running a client application from a peripheral device to obtain screen scraped data was well within the knowledge and abilities of someone skilled in this field.

E. The Combination of Ono and Deforche Renders Obvious a Program that “*Does Not Require Installation*,” as Recited by Claims 18 and 20.

24. In my opinion, Ono's use of the word “install” does not mean that installation is actually required. The Patent Owner's only argument for why a POSA would not modify Ono to use Deforche's teaching of a portable application is that Ono uses the word “install.” However, Deforche provides substantial technical teachings, suggestions, and motivations for modifying a device like Ono's by using

Deforche's known portable application approach. This would achieve the predictable result of changing Ono's application to be zero-footprint.

25. For example, Deforche clearly defines the problem as providing USB (or other interface) modem functionality on any computer, regardless of operating system, without leaving a footprint. EX-1030, ¶¶28-29. In other words, Deforche's goal is to avoid the need to install drivers or applications on the PC to provide USB modem connectivity. This also means that the end user does not need administrator rights on the computer. In my view, this is a significant advantage because it makes USB modem products much easier to use, even in restricted environments, as described above. Deforche's approach allows the end user to get connectivity on any personal computer without interfering with the PC itself.

26. Deforche's preferred solution is to combine existing standard methods found in current operating systems to achieve this zero-footprint objective. For example, Deforche states, "As used herein, this effect is termed a 'zero footprint', i.e. the wireless modem device leaves no trace or a 'zero footprint' on the computer device." EX-1030, ¶16. Deforche also explains that the zero-footprint concept does not impose any special requirements on the storage used. *Id.*, ¶40. In fact, Deforche prefers to use portable applications that run from the modem device without the need to install anything on the host computer, ideally not even making any registry changes. *Id.*, ¶50.

27. Dr. Brogioli does not identify any compelling teaching away argument or substantial technical hurdles, other than Ono's use of the word "install." In fact, Dr. Brogioli testified that installing *some* software would still meet the claim limitations. EX-1070, 20:11-24:23. I also do not see any technical challenges that would prevent this modification.

28. Therefore, in my opinion, Deforche's teachings on portable applications provides clear technical incentives to modify Ono so that the software is installed on USB memory instead of local storage. This approach would allow the application to run without leaving a footprint on the host computer, which is exactly what Deforche teaches and what a POSA would recognize as an obvious improvement.

III. GROUND II – ONO RENDERS OBVIOUS CLAIM 14

29. According to my review, claim 14 is similar to independent claims 1 and 16 but lacks the "*pre-installed generic driver*".

A. Ono Renders Obvious "screen scraped data."

30. *See* § III.B, above.

IV. GROUND III – THE COMBINATION OF ONO, DEFORCHE, AND GRIMSHAW RENDERS OBVIOUS CLAIMS 4, 16, AND 19.

31. Patent Owner's referenced arguments from Ground 1 are addressed in § III.A, above.

A. It Would Have Been Obvious to Combine Ono, Deforche, and Grimshaw.

32. In my opinion, Ono and Grimshaw both describe similar ways to achieve the same goal of transmitting screen scraped data to a larger display. EX-1005, ¶2, EX-1008, ¶19. Ono describes using a remote control or buttons on a projector to select the source of the screen scraped data. EX-1005, ¶78. Grimshaw, meanwhile, describes using buttons on peripheral devices to do the same thing. ¶19. A POSA would have found it obvious to transfer screen scraped data using either of these known methods. There are only a limited number of ways to trigger the transfer, and each approach would predictably result in transmitting the screen scraped data for display.

33. Ono also acknowledges that it is possible “for each presenter to carry out output on/off operations at each information terminal apparatus.” EX-1005, ¶161. The full quote from Ono is as follows:

since the information terminal apparatus whose image is to be shown on the screen 5 can be switched merely by operations from the remote controller 69 of the image display apparatus 1, even in cases, for example, where there are a plurality of presenters who are to present in a given order, it is unnecessary for each presenter to carry out output on/off operations at each information terminal apparatus in accordance with the order, and therefore, the gap in time until the next presentation is eliminated, and presentations can be conducted speedily.

Id. (emphasis added); *see also* ¶144.

34. This disclosure from Ono does not teach away from the claimed invention. According to my understanding, the fact that the prior art might describe a “better” or more preferred alternative does not mean that a different, possibly less efficient, combination is not obvious. Instead, a reference only teaches away if it actually criticizes, discredits, or discourages the use of the claimed invention.

35. Ono discusses a “gap in time” when switching the display by using on/off operations at each information terminal apparatus. This gap in time does not teach away from allowing the presenter to switch control using the peripheral device. Using the peripheral device to switch control would not make Ono’s system inoperative for its intended purpose, which is to allow multiple computers to share their screens. Instead, both approaches are just different ways to achieve the same result.

B. The Combination of Ono, Deforche, and Grimshaw Renders Obvious “*an input device... that triggers transfer of said user selected arbitrary media content from said processing device to a transmitter and to the wireless communications network*”

36. In my opinion, the Patent Owner’s arguments focus too narrowly on Ono and Grimshaw individually, and do not address the combination of references as proposed in the Petition. The Patent Owner makes two main points: first, that Ono’s remote does not trigger content transfer, and second, that Grimshaw does not include peripheral devices that trigger transfer of content. POR, 39-40. I do not agree

with either argument, but more importantly, I believe these arguments miss the point because they do not consider how the references work together.

1. Ono Discloses the “*an input device... that triggers transfer...*”

37. Ono clearly discloses an “*input device... that triggers transfer.*” For example, Figure 9 of Ono shows a process where a user presses a button, and this is followed by an “image transfer” from a PC to a projector. The fact that a connection might fail in some cases is not relevant. Even the '676 patent explains that its own connection can fail under certain conditions. For example, when the base unit is in a “full” state, the connection will not be made. *See* EX-1072, 31:19-34:22; EX-1067, 43-44; EX-1075 (“ClickShare Button connection issues”). As such, the claims of the '676 patent do not require that actuating the input device always triggers a successful transfer every time.

38. Ono also describes the possibility of using a button for each presenter to carry out on/off operations at each information terminal apparatus. EX-1005, ¶161. Grimshaw supports the idea that Ono's system could have a button at each information terminal apparatus. In my opinion, this shows that the concept of using an input device to trigger transfer was already known and would have been obvious to a person of ordinary skill in the art.

2. Grimshaw Confirms that It Would Have Been Obvious to Modify Ono to Move Its “*input device*” to Its “*peripheral device*.”

39. Grimshaw also confirms that it would have been obvious to modify Ono so that the “*input device*” is located on the “*peripheral device*.” EX-1008, ¶19. Grimshaw describes peripheral devices, such as user modules 14-20, that have input devices, such as buttons 344-374. EX-1008, ¶19. The Patent Owner argues that in Grimshaw, pressing the button does not trigger data transfer from the transmitter, but only instructs the switch controller which data signal to route. POR, 40. In my opinion, this argument is not persuasive for several reasons.

40. First, the Petition relies on Ono's disclosure of triggering the “*transfer*” rather than relying on Grimshaw. Pet., 39-40. Second, there is no technical reason why Grimshaw could not be implemented so that pressing the button triggers transfer of the user-selected media content from the processing device to a transmitter and to the wireless communications network, especially since Ono already describes this option. In addition, Grimshaw states that its disclosure is non-limiting and describes additional embodiments where the controller could operate differently. EX-1008, ¶¶19, 20, 26, 43, and claim 9.

41. Third, Grimshaw's FIG. 4 also shows a process where a user pushes a button on a user module, and after a series of steps, a communication session can proceed. EX-1008, ¶¶34 (referring to step 402), 39 (referring to step 422), FIG. 4. In

my view, this means that pressing the button in that example directly results in the triggering limitation regardless of downstream components in the data flow path.

42. To summarize, the Petition relies on Ono's teaching of "*an input device ... that triggers transfer*", and on Grimshaw for the teaching that the peripheral device may include the input device. Pet., 39-41. In my opinion, the Patent Owner is misrepresenting the arguments by focusing on the references individually and not considering how they work together as described in the Petition. When the references are combined, as a POSA would be motivated to do, the limitation is clearly met.

V. GROUND IV – THE COMBINATION OF UCHIDA, DEFORCHE, AND GRIMSHAW RENDERS OBVIOUS CLAIMS 1, 4, 5, 8, 16, AND 18-20.

43. The Patent Owner makes similar arguments for the Ono- and Uchida-based grounds and wrongly focuses on teachings of individual limitations rather than the combination presented in the Petition.

A. The POSA Would Have Had a Reasonable Expectations of Modifying Uchida to Use a Zero-Footprint Application Like Deforche's.

44. In my opinion, the Patent Owner is making the same arguments here as with the Ono-based ground discussed earlier in §§ III.A-B. The Patent Owner focuses on Uchida's discussion of installing software and argues that Uchida does not disclose how it would function in combination with Deforche. POR, 42. However, there is nothing in Uchida that would prevent implementing it as a zero-

footprint application. The only evidence the Patent Owner points to is Uchida's use of the word "install." According to the Patent Owner, this means that installation is "required." *Id.*

45. The Patent Owner is applying an overly rigid and incorrect formula by seeming to require that all limitations must be found in a single reference. This does not reflect how a person of ordinary skill in the art would approach the problem. In my opinion, it would be common sense to look at the advantages of Deforche's zero-footprint approach and recognize that these could be achieved by applying this approach in Uchida's system, especially if Uchida's system is ready for improvement.

B. Uchida's Disclosed Example Implementations Are Not a "Teaching Away"

46. The Patent Owner's arguments do not show that Uchida teaches away from a zero-footprint implementation. According to my understanding, a clear discouragement of the proposed combination is required to teach away, rather than just a preference for one approach. Even if Uchida's embodiment did discourage a zero-footprint, which I do not believe it does, the claims here do not recite any discovery beyond what was already known to the art.

C. The Combination of Uchida and Deforche Renders Obvious “*setting up, by means of the pre-installed generic driver of the operating system, a means for communication between the peripheral device and the processing device.*”

47. Uchida specifically discloses using a driver to set up communication between the peripheral device and the processing device. *See* EX-1009, ¶¶9, 48, 79-83, 153, 165-65, FIGS. 7 and 18. There is no technical reason why that driver could not be Deforche's pre-installed generic driver. In my opinion, it would have been obvious to use Deforche's teaching of setting up communication “*by means of a pre-installed generic driver*” in Uchida's system.

D. It Would Have Been Obvious to Apply Grimshaw's Known Technique of Placing an “*input device*” on a “*peripheral device*” to Uchida's Image Projection System Ready for Improvement to Yield the Predictable Result of a “*peripheral device*” comprising “*an input device... that triggers transfer of said user selected arbitrary media....*”

48. In my opinion, it would have been obvious to apply Grimshaw's known technique of placing an input device on a peripheral device to Uchida's image projection system. This would yield the predictable result of a peripheral device that includes an input device, which triggers transfer of user-selected arbitrary media. The Patent Owner argues that Uchida implements its system in one way and that there is no reason to alter it. POR, 47-48.

49. In systems like those described in the '676 patent, Uchida, and Grimshaw, there are only a finite number of places to put an input device. Uchida

shows it as an image transfer stop switch on the peripheral device, while Grimshaw supports this positioning by showing a similar peripheral device with the input device also on a peripheral device. In both cases, pressing the input device triggers transfer from the processing device to a transmitter and to the wireless communications network. Grimshaw gives an example of pressing a button on a user module (the peripheral device) to cause transfer of media content to the display module (the base unit). In my opinion, there is no reason to limit Grimshaw to just one embodiment. The combination of Uchida and Grimshaw would require only ordinary skill, which is set at the high level of at least a M.S.E.E. or C.S. and five years of work in a related field. In my experience, this modification would be immediately evident and straightforward to implement for a POSA with this skill level or even of a lower skill level.

a. Uchida's transfer stop switch does trigger content transfer

50. The Patent Owner also argues that Uchida's transfer stop switch does not trigger content transfer. POR, 47. I do not agree. First, the Patent Owner's own expert, Dr. Brogioli, admitted that when the toggle is turned back to "off," the image data from the wireless device is projected again. EX-1072, 3:3-12.

51. Second, Uchida explains that after activating the image transfer stop switch, the client computer executes an image transfer application and sends a request to the image projection device to project a specific image. Pet., 57-58; EX-

1009, ¶71. The Petition combines Uchida with Grimshaw to show that multiple users can push a button on user modules to trigger transmission of image data. Pet., 47–49; EX-1008, ¶¶19-20; EX-1012, 5:8-6:17. In my opinion, this combination clearly renders obvious the input device limitation.

E. The Combination of Uchida and Deforche Renders Obvious a Program that “Does Not Require Installation,” as Recited by Claims 18 and 20.

52. The combination of Uchida and Deforche would make it obvious to have a program that does not require installation, as recited by claims 18 and 20. The Patent Owner's argument here is the same as with Ono and Deforche, and for the same reasons, I do not agree. *See* § III.E, above. Uchida's use of the word “install” does not mean installation is required, and Deforche's work on portable applications provides clear technical motivation to modify Uchida's image transfer application so it can be installed on USB memory instead of local storage. In my opinion, this would allow the application to run without leaving a footprint on the host computer, which is exactly what Deforche teaches and what a person of ordinary skill in the art would recognize as an obvious improvement.

VI. GROUND V – THE COMBINATION OF UCHIDA AND GRIMSHAW RENDERS OBVIOUS CLAIM 14.

53. I understand that the Patent Owner did not address Ground V.

VII. CONCLUSION

54. My opinions are based upon the information that I have considered to date. I am unaware of any evidence of secondary considerations with respect to the '951 patent that would render any of the asserted claims non-obvious. I reserve the right, however, to supplement my opinions in the future to respond to any arguments raised by the owner of the '951 patent and to consider new information that becomes available to me.

55. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

By: Kevin C. Almeroth
Kevin C. Almeroth, Ph.D.

Date: October 15, 2025