

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

K/S HIMPP
Petitioner

v.

BRAGI GmbH
Patent Owner

Case IPR2023-00901

REPLY DECLARATION OF BRIAN W. ANTHONY, PH.D.

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I, Brian W. Anthony, declare as follows:

I. INTRODUCTION

1. I submitted a prior Declaration in this matter, which I understand was filed as Exhibit 1002 on May 10, 2023. My background and qualifications remain as stated in paragraphs 1-11 and Appendix A of my first Declaration (Ex.1002).

2. Since my prior Declaration, I have reviewed the Board's Institution Decision ("DI"), Patent Owner's Response ("POR"), the exhibits referenced in the POR, and the exhibits referenced in this Declaration.

3. I confirm that the technical analysis included in my first Declaration (Ex. 1002) remains true to the best of my knowledge, as does my understanding of the relevant legal principles stated in paragraphs 14-21 of my first Declaration.

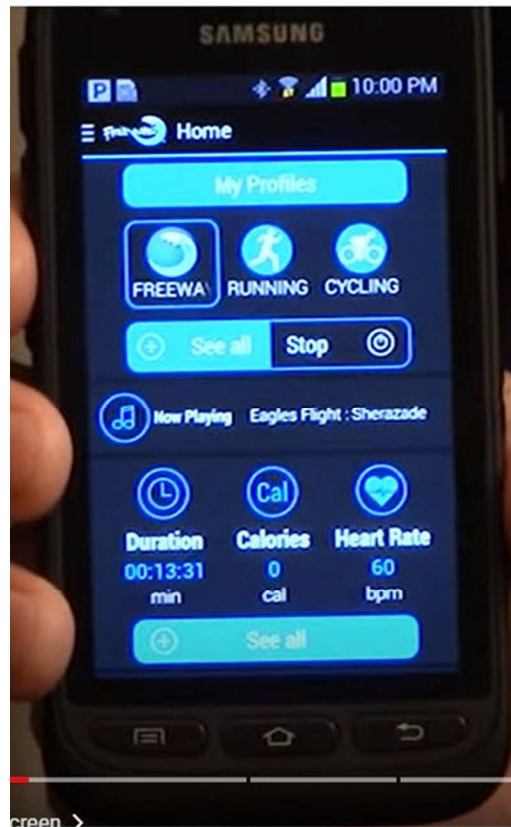
II. PRIOR ART EXCEPTION

4. I have been informed and understand that a disclosure, made 1 year or less before the priority date of the patent, may not be prior art (even if it would otherwise qualify as prior art) if the same subject matter had previously been publicly disclosed by the inventor of the patent or by another who obtained the subject matter disclosed directly or indirectly from the inventor. Under this framework, the relevant inquiry for determining whether the prior art exception applies involves comparing the intervening disclosure with the inventor's prior

disclosure to determine whether they are the same. If there are any differences, even if those differences involve trivial or obvious variations, then they are not the same and the prior art exception does not apply. This means, for example, that although the inventor's prior disclosure and the intervening disclosure can describe the same subject matter using different words, they cannot disclose alternative species of the claimed invention for the prior art exception to apply.

III. COMPARISON OF FREEWAVZ'S AND THE DASH'S DISCLOSURES OF THE CLAIMED "SOFTWARE APPLICATION"

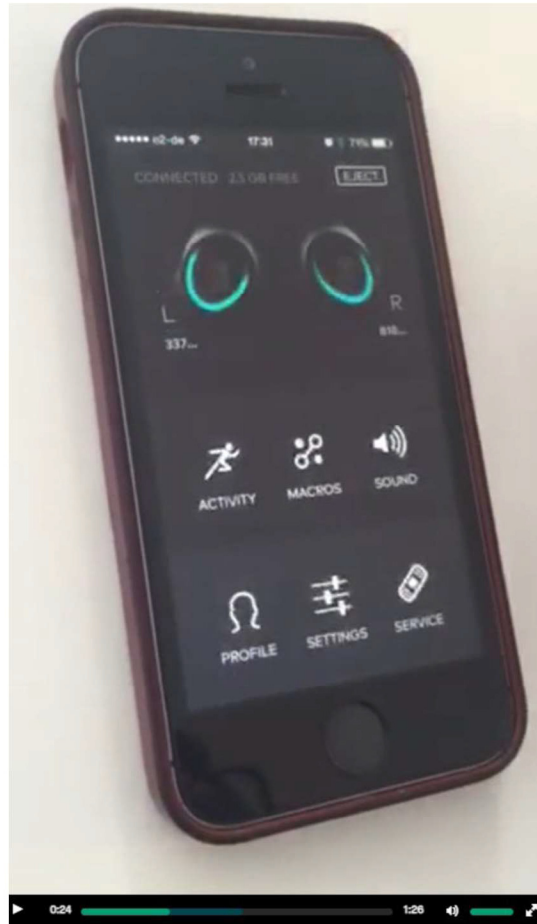
5. As I explained in my first declaration, Hensen-Video and Hensen-Kickstarter each describe a system called FreeWavz, which includes a pair of wireless earpieces equipped with physiological sensors and a companion smartphone application. Ex.1002, ¶¶32-33. The smartphone application is used to interact with the wireless earpieces and provides a user interface, shown below.



Ex-1004-Hensen-Video, 0:47 (cropped). As detailed in the Petition and in my first Declaration, a POSITA would have understood the FreeWavz smartphone application shown above to correspond to the claimed “software application.”

6. In the Patent Owner’s Response, the Patent Owner identifies what it contends is the ’385 patent inventor’s prior public disclosure of the same subject matter. Specifically, the Patent Owner relies on a series of purported public disclosures describing The Dash wireless earbud system. POR, 20-24 (citing Exhibits 2005, 2017, 2018, and 2022), 27-29 (citing Ex.2006). As shown below,

The Dash includes a smartphone application, which the Patent Owner contends corresponds to the claimed “software application.”

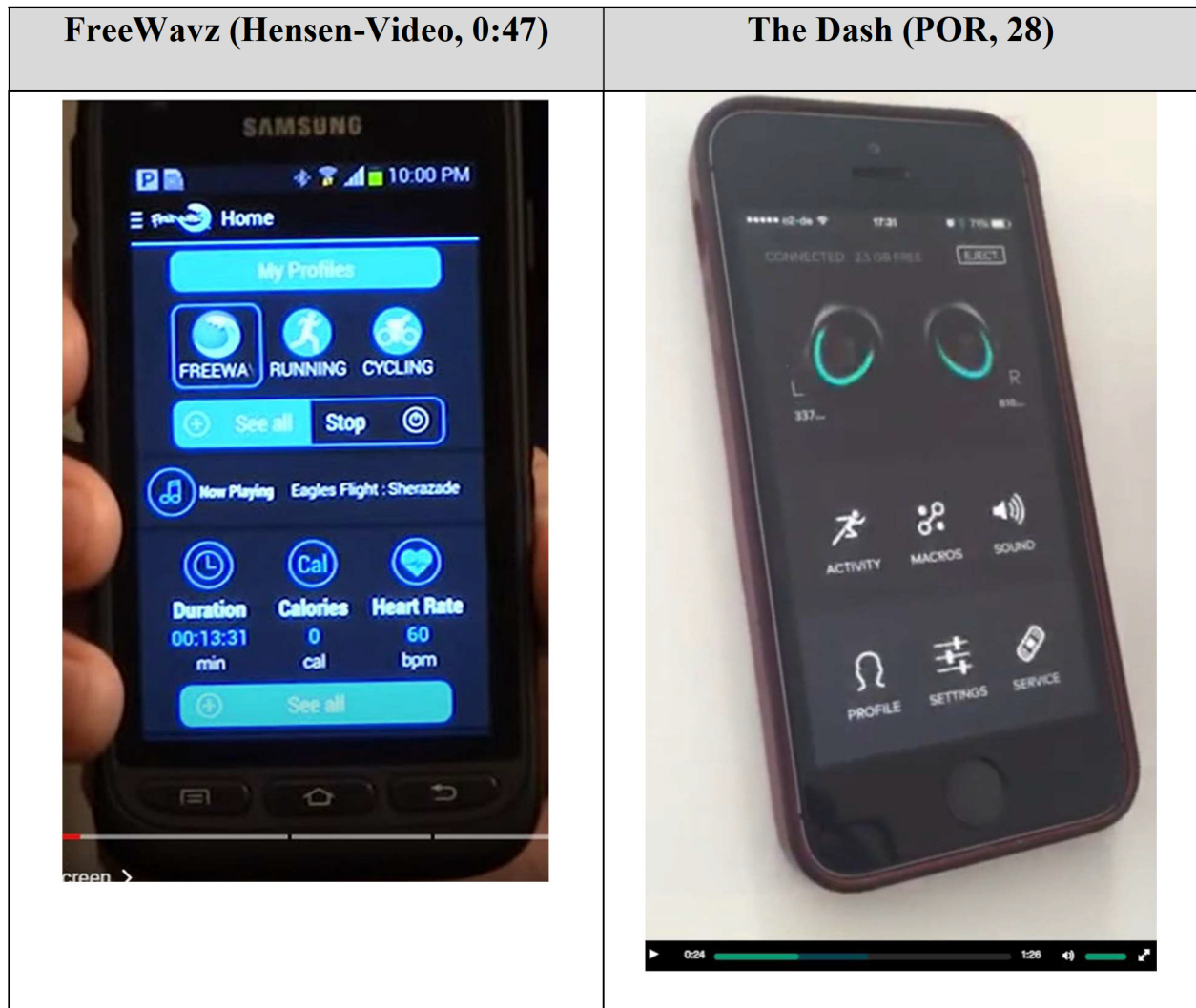


POR, 28 (citing Ex.2006).

7. The Patent Owner contends that The Dash’s smartphone application discloses the same subject matter as the FreeWavz’s smartphone application such that the relied-upon FreeWavz disclosures are not prior art to the ’385 patent. However, the Patent Owner never compares The Dash’s smartphone application to FreeWavz’s smartphone application.

8. In fact, there are many differences between The Dash's smartphone application and FreeWavz's smartphone application. These differences mean that they do not disclose the same subject matter and that the prior art exception that the Patent Owner is relying on to disqualify Hensen-Video and Hensen-Kickstarter as prior art does not apply.

9. A side-by-side comparison of The Dash's smartphone application and FreeWavz's smartphone application is shown below.



10. My comparison of The Dash's smartphone application and FreeWavz's smartphone application starts with the basic observation that they are different software applications. Their overall appearance is different, their user interfaces are different (e.g., different arrangements and types of menus and graphical elements, different color schemes, etc.), they are associated with different brands, and they do not appear to have been designed or developed by the same individuals. They also do not appear to be different versions, branches or

“forks” of the same underlying software application. The available indicia suggests that they are independently developed, distinct, software applications.

11. These differences alone establish that The Dash’s smartphone application and FreeWavz’s smartphone application do not disclose the same subject matter. But there are other notable differences between The Dash’s smartphone application and FreeWavz’s smartphone application. One particularly significant distinction is that they are different types of smartphone applications, i.e., they are iOS and Android applications, respectively. That is, The Dash’s smartphone application was developed for the iOS operating system and runs on an iPhone. Ex.2006, 2 (“A nice feature is the integrated help function in The App. Martin shows you how this works inside the iOS app”); Ex.2022, 21 (Bragi explaining that The Dash’s smartphone application “[w]as made for iphone 5s for demo purposes”). Meanwhile, FreeWavz’s smartphone application was developed for the Android operating system and runs on an Android device. Ex.1007-Hensen-Kickstarter, 3 (“The Android app is just about finished. Here are some sample page screen shots to demonstrate their appearance”); Ex.1004-Hensen-Video, 0:17 (showing Dr. Hensen demoing FreeWavz’s smartphone application on what appears to be a Samsung Galaxy Rugby Pro, a type of Android device); *see*

also Ex.1038 (specification sheet for Samsung Galaxy Rugby Pro, identifying it as an Android device running the Android 4.0 operating system).

12. The '385 patent acknowledges that iOS applications and Android applications are distinct embodiments of the claimed software application, i.e., they are alternative species of the claimed invention. For example, the '385 patent specification explains that certain embodiments of the claimed software application may be “developed for the iOS operating system for an Apple mobile device such as an iPhone or iPad.” Ex.1001-USP385, 7:1-10. Alternatively, the '385 patent specification explains that embodiments of the claimed software application may be “developed for the Android operating system for an Android device.” *Id.*

13. The differences between iOS and Android applications impact the software applications as a whole, from the look and feel of their user interfaces to their low-level software including software libraries and other implementation details. For example, Android and iOS applications run on different operating systems, which impacts the overall design of the applications and their implementation details. Fundamental differences include the fact that applications that run on Android and iOS operating systems are typically written in different programming languages (Java versus Objective-C, respectively) and use different code libraries (Google’s Java libraries versus Apple’s Cocoa Touch library,

respectively). Ex.1037, 3 (“Android is an open source mobile operating system based on the Linux kernel and facilitates developers to write managed code in Java using Google developed Java libraries”), 4 (“Applications for iOS are written in Objective-C using the Cocoa Touch library”). The choice of operating system also affects the underlying hardware, which in turn impacts many aspects of the software application including its user interface (e.g., the characteristics of the touchscreen interface and any hardware buttons), the processor specifications, and the execution environment for the software. *See, e.g., id.*, 4 (“iOS is the operating system for several Apple devices (Fig. 3), one of the most important of which is the iPhone. The iPhone was released in 2007 and changed the smartphone market. It included a large touch screen and, at least for that time, impressive hardware specifications.”).

14. In view of these differences, it is my opinion that The Dash’s software application is not the same as FreeWavz’s software application and does not disclose the same subject matter. It nevertheless remains my opinion that FreeWavz’s software application satisfies the same claim limitations that the Patent Owner contends are satisfied by The Dash’s software application. These opinions are consistent because I understand two disclosures can disclose different

subject matter but still disclose alternative species of the claimed invention that satisfy the same claim limitations.

IV. COMPARISON OF FREEWAVZ’S AND THE DASH’S DISCLOSURES OF THE CLAIMED “VISUAL REPRESENTATION”

15. As I explained in my first declaration, FreeWavz’s smartphone application provides a user interface that includes various screen displays. Ex.1002-Anthony-Decl., ¶¶37-40. The “home” screen display is shown below.



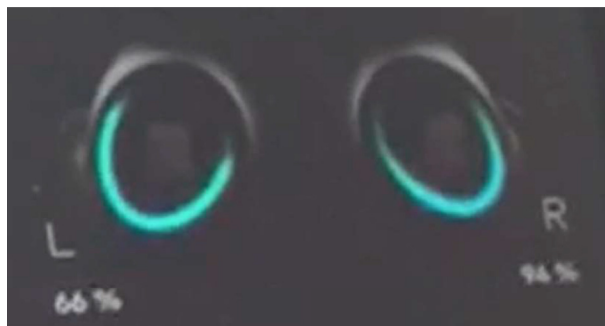
Ex-1004-Hensen-Video, 0:37. As detailed in the Petition and in my first Declaration, a POSITA would have understood the graphical elements at the top of

the home screen display, reproduced below, to correspond to the claimed “visual representation.”



Ex-1004-Hensen-Video, 0:37 (cropped).

16. In the Patent Owner’s Response, the Patent Owner appears to identify the portion of The Dash’s user interface reproduced below as corresponding to the claimed “visual representation.”

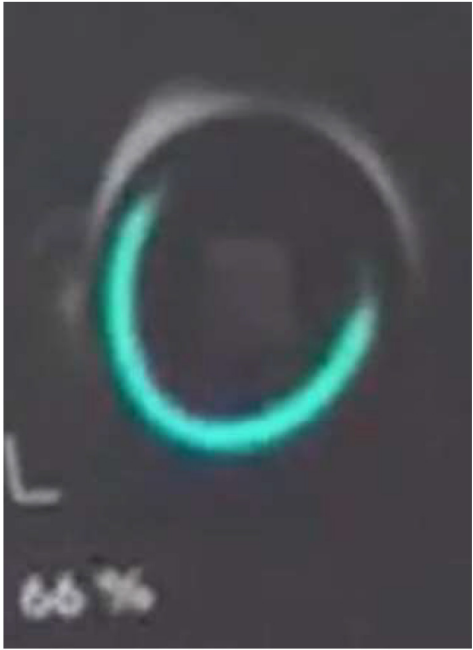


Screenshot from the video embedded in Ex.2006 (cited at POR, 32-33).

17. The Patent Owner’s argument that The Dash’s visual representation discloses the same subject matter as FreeWavz’s visual representation has many of the same problems as its arguments for the “software application” limitation discussed above. For example, the Patent Owner never compares The Dash’s

visual representation with FreeWavz's visual representation, and therefore the Patent Owner's analysis does not establish that they disclose the same subject matter, nor does it address the possibility that they are merely alternative embodiments of the claimed invention. Moreover, The Dash's visual representation and the FreeWavz's visual representation have a different outward appearance (e.g., their constituent graphical elements have different sizes, shapes, colors, orientation, etc.). In addition, the visual representations are part of the software application, so my analysis from the previous section explaining the differences between The Dash's software application and the FreeWavz's software application applies equally to the visual representations.

18. Beyond these distinctions, there are other differences between The Dash's visual representation and the FreeWavz's visual representation. A particularly notable difference is that The Dash's visual representation includes a photorealistic depiction of each wireless earpiece, whereas the FreeWavz's visual representation is representative line-art that includes an outline or silhouette of each earpiece, as shown below.

FreeWavz	The Dash
<u>Outline/silhouette (Ex.1010)</u> 	<u>Photorealistic depiction (Ex.2006)</u> 
<u>Physical earpiece (Ex.1010)</u> 	<u>Physical earpiece (Ex.2005)</u> 

The side-by-side comparison above shows that whereas The Dash's visual representation models the exterior surface of The Dash's physical earpiece in a photorealistic manner, FreeWavz's visual representation is simply an outline having the general shape of FreeWavz's physical earpieces.

19. The '385 patent acknowledges that a visual representation that uses a photorealistic depiction of the earpiece and a visual representation that uses an outline/silhouette of the earpiece are distinct embodiments of the claimed visual representation, i.e., they are alternative species of the claimed invention. For example, the '385 patent specification explains that certain embodiments of the claimed visual representation may (optionally) include "a photo or photo-realistic representation of the ear pieces." Ex.1001-USP385, 4:53-55. By making the photorealistic representation an optional feature, the '385 patent specification contemplates that alternative embodiments of the claimed visual representation can use other types of depictions of the earpieces, such as outlines or silhouettes. *Id.*

20. In view of these differences, it is my opinion that The Dash's visual representation is not the same as FreeWavz's visual representation and does not disclose the same subject matter. It nevertheless remains my opinion that FreeWavz's visual representation satisfies the same claim limitations that the Patent Owner contends are satisfied by The Dash's visual representation. These

opinions are consistent because I understand two disclosures can disclose different subject matter but still disclose alternative species of the claimed invention that satisfy the same claim limitations.

V. AVAILABILITY FOR CROSS EXAMINATION

21. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross examination in the case. If cross examination is required of me, I will appear for cross examination during the time allotted for cross examination.

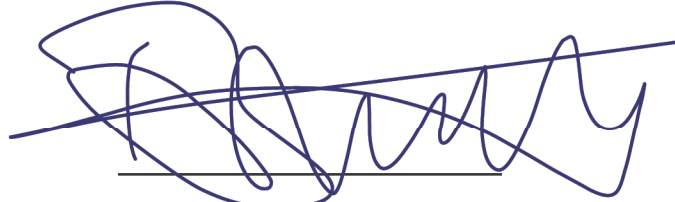
VI. RIGHT TO SUPPLEMENT

22. I reserve the right to supplement my opinions in the future to respond to any arguments that the Patent Owner raises and to consider new information as it becomes available to me.

VII. JURAT

23. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further 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.

Dated: April 29, 2024

A handwritten signature in blue ink, consisting of a series of loops and a long horizontal stroke, positioned above a horizontal line.

Dr. Brian W. Anthony