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Brief Summary: The video explores Nebula, an open-source olfactory display, highlighting its compact design, innovative operation, and versatile applications with VR technology. Scientific validation, user satisfaction, and mobility are showcased, emphasizing the device's capability to create diverse odor intensities while remaining comfortable and user-friendly. It concludes with a call to action, inviting viewers to explore Nebula further.

Video Plan:

Time	Content (very short summary of what this part of the video is)	Script (the dialog that will be recorded to communicate content)	Visual (visual elements represented on the screen)	Justification (refer to audience, and choice of content and visuals)
0-15s	From human nose to olfactory VR headsets	Human nose is a miracle of nature. It influences many aspects of our daily lives, from choosing preferred foods to even alerting us to potential dangers. Current olfactory generation technologies are often bulky and inefficient, limiting their application areas. But here, Nebula come!	depicting early humans relying on their sense of smell. Show a historical progression, including ancient perfumes, incense, and early scent reproduction devices.	This approach provides context and a historical perspective on the evolution of olfactory technology. It emphasizes the significance of the human sense of smell throughout history and how we've attempted to reproduce scents artificially. By doing so, it engages the audience's curiosity about how technology has progressed and where we stand today with Nebula. The visuals support this narrative by taking the audience on a journey through time, showcasing the innovations and challenges faced by olfactory technology. The introduction of Nebula becomes a natural progression in this story, making it even more intriguing for viewers. This perspective may be particularly appealing to an audience interested in the history of technology or sensory

				experiences.
15-25s	Introduce an open source wearable olfactory display—Nebula	Imagine a world without scent in virtual reality. Until now, it's been a missing piece of the puzzle, limiting the depth of our experiences. But now, a transformation is here. Nebula, an open-source wearable olfactory display, is changing the game. It brings the power of scent to your virtual world, enhancing your immersion and taking your experiences to a whole new level."	Begin with a clean, high-resolution image or video clip of the Nebula olfactory display headset. Highlight the key features of Nebula, such as its compact size, open-source nature, and its ability to diffuse scents. Use on-screen text to emphasize the affordability and versatility of Nebula. Perhaps include an animation or infographic illustrating the nebulization process and how Nebula diffuses scents at different	of transformation and the power of Nebula to revolutionize experiences. Here's why it's effective: Storytelling Element: This approach tells a story, starting with a problem (absence of olfactory feedback in VR) and introducing Nebula as the solution. Storytelling captures the audience's attention and emotions.

25-30s	Nebula's key features	"When it comes to Nebula, it's all about design and form factor. This olfactory headset is a marvel of miniaturization, lightweight construction, and flexibility. Let's take a closer look."	Start with a close-up shot of the Nebula headset, highlighting its compact and sleek design. Show the headset from different angles to emphasize its miniaturized and lightweight features. Use a brief animation to demonstrate the headset's flexibility, perhaps by showing it fitting comfortably on a variety of head shapes and sizes.	practicality. Here's why this approach is effective: Visual Emphasis on Design: Starting with close-up shots and different angles of Nebula showcases its design, which can be

31-40s	Operating Principles of Nebula	"Let's dive into the innovative technology behind Nebula's operation. To deliver scents, we've adopted a liquid phase, with micro-droplets of water carrying the odor. The secret lies in the ultrasonic atomizer, a small marvel with micro perforations (~80 m). When powered, it creates an elegant dance of oscillation, forming a scented mist that enhances your olfactory experience."	Begin with a visual animation or schematic representation of Nebula's internal components, highlighting the ultrasonic atomizer and micro-droplets of water. Show how the ultrasonic atomizer works, including the microperforations and the oscillation of the water's surface, using detailed animations and close-up visuals. Incorporate on-screen text or graphics to label key components and processes for clarity. Conclude with a visual that portrays the creation of a scented mist within Nebula.	This perspective delves into the technological aspects of Nebula's operation, appealing to viewers interested in the science and mechanics behind the product. Here's why this approach is effective: Visualizing Complex Mechanisms: The use of detailed animations and visual representations simplifies complex technical operations, making it easier for viewers to grasp how Nebula operates. Educational Component: Explaining the operation principles of Nebula can enhance the audience's understanding of the technology, creating a sense of credibility and trust. Highlighting Innovation: By describing the use of a liquid phase and ultrasonic atomizer, this approach emphasizes the innovative nature of Nebula's technology, which can be appealing to tech enthusiasts and innovators. Engaging the Curious: Viewers interested in the inner workings of technology and science are likely to find this perspective intriguing, as it provides insights into the

				unique features of Nebula.
41-50s	Core Technologies of Nebula	The mist produced by the atomizer is guided to the nose by a small fan. This fan is always active and forces a constant air flow to be able to smell the odor more rapidly after its diffusion. The extraction fan is responsible for expulsing the remaining odor material when the diffusion is over. Evacuating the remaining scent prevents short-term persistence in the system, helping making the olfactory display and the perception of the smell more reactive in the VR scene.	Start with a computer-generated animation or 3D model demonstrating Nebula's internal components, including the atomizer, fans, and airflow. Show how the atomizer diffuses scents and how a small fan guides the mist toward the user's nose, using animations or graphics to make the process clear. Visualize the concept of short-term scent persistence and its impact on the user's experience, perhaps through a graphical representation. Conclude with a visual comparison between a standard VR experience and one with Nebula, illustrating the heightened reactivity in the latter.	Visualizing Complex Concepts: The use of animations and graphics helps break down complex technical concepts into easily digestible visuals. This aids in conveying how Nebula's core technologies work. Understanding the Benefits: By explaining how Nebula eliminates short-term scent persistence, the visual element provides a clear understanding of why this technology is beneficial for VR users. Comparative Visual: Showing a side-by-side comparison of a standard VR experience and one with Nebula provides a powerful before-and-after effect, demonstrating the practical impact of Nebula's core technologies.
51-60s	Meta Quest 2 is cheap, easy to use and fast to set up	When it comes to compatibility and accessibility, Nebula and Meta Quest 2 are a perfect match. Meta Quest 2 is not only cost-effective but also user-friendly and quick to set up. Paired with Nebula, it opens doors to a wide range of environments where traditional VR setups often fall short. With complete freedom of movement,	Begin with a comparison graphic or animation, showcasing the key features of Meta Quest 2, such as its affordability, user-friendliness, and ease of setup. Transition to a scenario where Nebula is seamlessly integrated with Meta Quest 2, creating an immersive VR experience. Show diverse environments where	This perspective focuses on the compatibility and accessibility of Nebula with Meta Quest 2, targeting an audience interested in practical applications and ease of use. Here's why this approach is effective: Highlighting Compatibility: By showcasing the compatibility of Nebula with Meta Quest 2, you

		you can take your experiments to a whole new level."	2 can be used, including classrooms, laboratories, or other non-standard VR settings.	reassure potential users that this technology works seamlessly with popular VR equipment. Appealing to Practical Users: This perspective is likely to resonate with users who prioritize costeffectiveness, ease of setup, and versatility, making it a practical choice for various environments. Visualizing Possibilities: The visuals provide a clear image of where Nebula can be used, expanding beyond traditional VR settings. This sparks imagination and shows viewers the real-world applications of the technology. Emphasizing Immersion: Demonstrating the freedom of movement within a VR experience enhances the perception of immersive possibilities, which can be a major selling point for those interested in advanced VR applications. By highlighting compatibility and versatility, you're addressing a practical audience interested in the real-world applications of Nebula and Meta Quest 2, making the technology more accessible and appealing.
61-70s	Related researches on Nebula's capability	Scientific validation is at the heart of Nebula's capabilities. The device was meticulously calibrated to diffuse scents at three different	Present a series of graphs or charts that illustrate the calibration process and the three diffusion rates: no diffusion, low,	This perspective emphasizes the scientific and research-based approach to Nebula's development, catering to viewers who appreciate

		rates: no diffusion, low, and high. The results speak for themselves. Nebula excels in creating significantly different odor intensities without any noticeable smell persistence, all while ensuring minimal noise and discomfort for users."	and high. Show a side-by-side comparison of the results obtained, demonstrating how Nebula successfully created different odor intensities. Incorporate visual representations of user feedback and satisfaction ratings to support the positive outcomes. Overlay text or graphics to highlight key findings, such as the absence of smell persistence, limited noise, and discomfort.	data-driven validation. Here's why this approach is effective: Visual Data Presentation: Graphs and charts provide a visual representation of the calibration process and results, making it easy for viewers to grasp the scientific aspect of Nebula. Highlighting Positive Outcomes: By showcasing the device's capability to create different odor intensities without unwanted side effects, you build credibility and trust in Nebula's effectiveness. User Satisfaction: Including feedback and satisfaction ratings visually supports the claim that Nebula's capabilities have been well-received by users. Catering to the Inquisitive: Viewers with an interest in research, data, and the scientific approach to product development are likely to find this perspective engaging and informative.
71-80s	Application Prospects of Nebula	"Nebula's versatility knows no bounds. Whether you're in a classroom, a museum, or any unique setting, Nebula is right at home. It's compatible with both PC VR and autonomous headmounted displays, making it a truly mobile olfactory experience. Say goodbye to cumbersome	Showcase Nebula being used in various settings, such as a classroom, a museum, and other non-traditional VR environments. Demonstrate how Nebula seamlessly integrates with different VR setups, including PC VR and autonomous headmounted displays.	This perspective focuses on the versatility and mobility of Nebula, appealing to viewers interested in the practical applications of the technology. Here's why this approach is effective: Visual Variety: By showing Nebula in various real-world scenarios, you engage viewers by

		hardware and hello to limitless possibilities."	Include animations or graphics showing the mobility of Nebula and its portability without the need for an external computer. Use on-screen text or labels to identify the different application scenarios.	helping them imagine how the technology can be used in their own settings or areas of interest. Emphasizing Compatibility: Highlighting Nebula's compatibility with different VR setups underscores its adaptability, catering to a broader audience of potential users. Addressing Practical Concerns: Many viewers may be interested in the convenience of Nebula, and this perspective reassures them that it's easily transportable and doesn't require extra hardware. Expanding Use Cases: By suggesting use in places like schools, museums, and other nontraditional VR environments, you introduce viewers to new and exciting prospects for Nebula's application.
81-90s	Product Contact Information	If you're looking for a low-cost, open-source, olfactory display, why not consider Nebula! To find out more, contact any of our representatives.	Display Nebula's logo or branding prominently on the screen to reinforce its identity. Show contact information options, including a website URL, email address, and phone number. Use animation or effects to highlight the call to action, such as an arrow pointing to the contact information. Include a brief animation of a cursor clicking on the website link	Now that you've discovered the incredible potential of Nebula, it's time to take action. If you're looking for a low-cost, opensource olfactory display, why not consider Nebula? To find out more and explore the possibilities, contact any of our representatives today." Justification: This perspective serves as a concluding call to action, directing viewers on how

	or an email icon for added interactivity.	to learn more and get in touch. Here's why this approach is effective: Branding Reinforcement: By displaying Nebula's logo or branding, you reinforce the product's identity and help viewers remember the name and its association with the technology. Providing Clear Contact Information: Offering multiple contact options (website, email, phone) ensures that viewers can choose the method they're most comfortable with, increasing the likelihood of follow-up. Visual Engagement: The use of animation or effects draws attention to the call to action and adds an interactive element, making it more likely for viewers to take the next step. Encouraging Engagement: This perspective encourages viewers to take concrete steps, such as visiting the website or reaching out to representatives, making it more likely that they'll explore Nebula further.
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Charcpter1: From Human Nose to Olfactory VR Headsets

The human nose is a remarkable creation of nature, influencing our daily lives and alerting us to potential dangers. Olfactory technology has come a long way since the early days of ancient perfumes, incense, and early scent reproduction devices. But current olfactory generation technologies are often bulky and inefficient, limiting their applications.

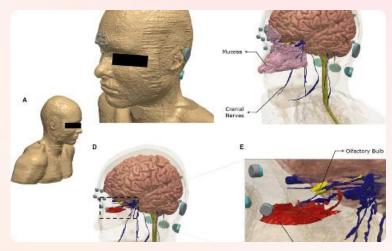
Introducing Nebula, the evolution of olfactory technology that will change the game! Come with us on a journey through time, showcasing the innovations and obstacles encountered by olfactory technology.



Chapter 2: Introducing the Nebula Nebula: Enhancing Virtual Reality with Scent

Imagine a virtual reality world devoid of scent. Until now, the absence of olfactory feedback has limited the depth of our experiences. But fear not, because Nebula is here to transform your virtual reality





The Problem: No Scent

The Solution: Nebula

3

Compact Size

Nebula's open-source wearable olfactory display is light and easy to use.

Diffusing Scents

Taking your immersion to a whole new level.

Animated Nebulisation Process

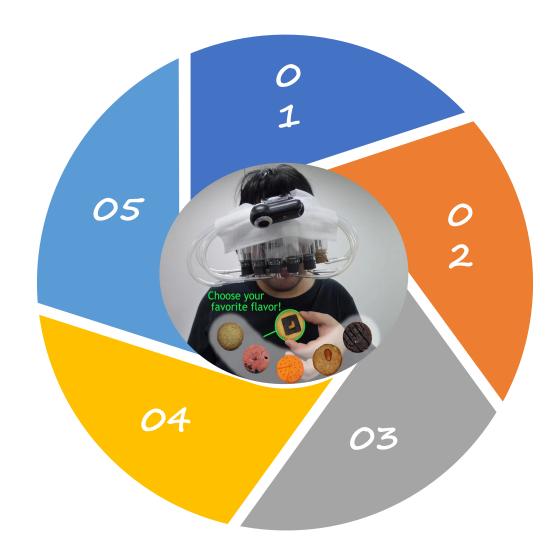
Display Nebula's unique process of diffusing scents.

By introducing Nebula, we address the absence of olfactory feedback in situ, provide a unique opportunity for research applied to olfactory neuroscience and offer a new sensorial layer to a vast amount of industries such as broadcasting, tourism, video games, among others.

2

Chapter 3: Nebula's Key Features

It is open-source and customizable.



Nebula is a wearable olfactory display.

It provides a sensory experience by releasing scents.

Compact and lightweight design.

Can be integrated with virtual reality headsets.

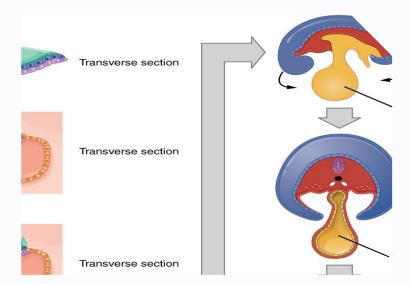
Nebula: Enhancing Virtual Reality with Scented Immersion

1 Scent Technology Evolution

Show the progression of scent technology, from ancient perfumes to modern devices.

2 Virtual Reality limitations

Discuss the limitations that affect the virtual world, mostly the absence of scent.



3 Nebula's Role in VR

Introduce Nebula: the wearable olfactory display that brings scent to the virtual world.

Chapter 5: Core Technologies of Nebula

Nebula: A Wearable, Open-Source, and Versatile Olafactory Display

Nebula diffuses scents at three rates: low, high, or none. Using animations and graphics will aid in the understanding of Nebula's core technologies.

3 Scent Diffusion Rates

Begin with a computergenerated animation or a 3D model showcasing the internal components, such as the atomizer, fans, and airflow

Open-Source Technology

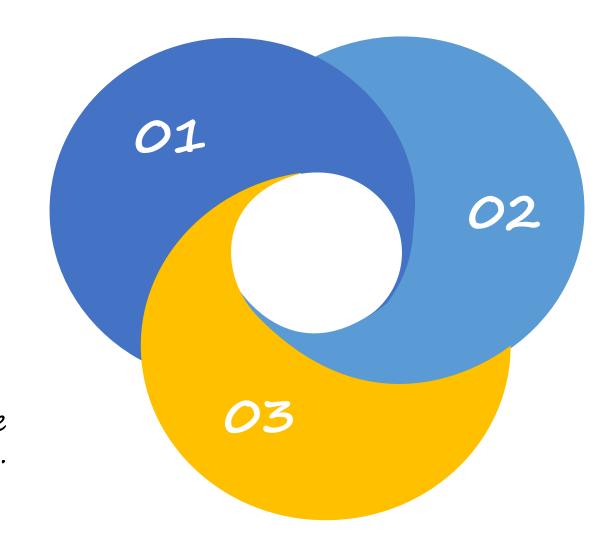
Nebula's open-source technology allows developers to create content and integrate the olfactory display.

Low-Cost Affordability

Nebula is more affordable than other olfactory display devices with a much simpler and more intuitive user interface.

Related Researches on Nebula's Capability

Exploring immersive scent experiences in gaming.



Enhancing virtual reality with olfactory displays.

Applications in healthcare and therapy.



Chapter 6: Meta Quest 2 - Cheap, Easy to Use, and Fast to Set Up

Meta Quest 2 is cost-effective, user-friendly, and quick to set up, making it a perfect match for Nebula. They both enhance VR experiences in various environments.

1 Meta Quest 2

Meta Quest 2 is a popular and cost-effective VR device with a broad appeal.

2 Quick and Easy Setup

Meta Quest 2 is quick and easy to set up and works well with Nebula.

3 Nebula Integration

Integrating the Nebula olfactory display with the Meta Quest 2 is simple and quick to set up.

Chapter 7: Related Research on Nebula's Capability

Comparative Visual

A side-by-side visual comparison between a standard VR experience and one with Nebula will showcase its practical impact.

VR Experience Without Nebula VR Experience with Nebula

Experience virtual reality with limited sensory input on sight and sound.

Experience virtual reality with the inclusion of olfactory feedback.

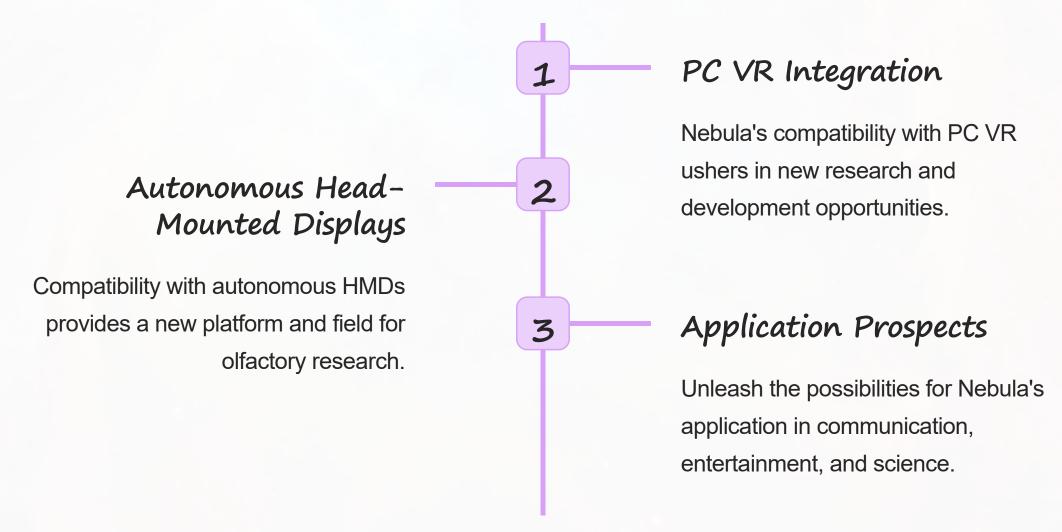


Characper8:Application Prospects of Nebula

- Enhancing virtual reality simulations and training.
- Enriching multimedia content and entertainment.
- Improved accessibility for visually impaired individuals.
- Potential applications in marketing and advertising.

Chapter 9: Product Contact Information Application Prospects of Nebula

The versatility of Nebula knows no bounds. It seamlessly integrates with PC VR, autonomous head-mounted displays, making it a truly mobile olfactory experience.



The Perfect Match: Nebula and Meta Quest 2





Meta Quest 2: cost-effective, user-friendly and quick to install.



Nebula integration with VR

Nebula brings the added sense of smell to VR and gives immersive experiences to a wide range of environments.