The Sound of Experience

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Leveraging the psychological effects of music, silence and noise.

By Ben Moorsom and Benan Demir PhD

"Music is the shorthand of emotion." – Leo Tolstoy

Imagine you are in a small concert hall to hear a string quartet playing Johann Sebastian Bach. The audience is silent and respectful. The air is suffused with the sweet sound of violins and cellos. How are you feeling? Calm? Relaxed? Contemplative?

Now imagine you are in a stadium for a rock concert. The venue is massive, the crowd is in the tens of thousands, everyone cheering and screaming and hooting at the top of their lungs as the band comes on stage. Then comes a wall of sound as big as the stadium itself.

How are you feeling? Energized? Awestruck? Ready for anything?

Finally, you are in front of your computer in back to back meetings, listening to a presenter drone on. All the while you are thinking about the deadlines you have to meet, hearing the dog barking and the constant pinging of texts and emails piling up.

How are you feeling? Irritated? Stressed? Overwhelmed?

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We cannot underestimate the role that sound plays in the human experience. When it comes to designing that experience, sound must be as carefully curated as content or ambience. Sound design can be used to manage energy and arousal levels, regulate emotions, enhance the persuasive power of a presenter, improve knowledge retention, and extend the time an audience wants to spend with you before tuning out.

A Unified Soundscape

Sound design is more than just knowing what music to use throughout your virtual, live or hybrid event. It encompasses noise management, sound effects and even silence. Everything needs to be coordinated and in balance. Sustained exposure to noise can lead to fatigue, diminished focus and negative outcomes. Choice of music and sound effects can elevate mood, increase attention, express your brand personality or cause

distraction. Then we have silence, a powerful tool that either has the potential to provide important moments of respite or awkward gaps in a presentation.

A poorly designed soundscape can cause people to spend less time in the online or in-person environment you have created and diminish their understanding of your content. Ultimately, the misuse of sound can make participants, virtual and live, feel less satisfied with the overall experience.

A Soundscape is the creation of a custom combination of sounds (noise, music, sound effects, and silence) for use throughout various zones in an event.

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We need to think about how the integration of noise, music and silence can be used to create a single, unified soundscape. With an effectively designed soundscape we can increase the amount of time spent in areas where the most investment was made. We can increase viewership and attention for key presentations, announcements, breakouts and other zones in order to help attendees enjoy and remember their experience with us.

The Benefits of a Well-designed Soundscape

- Manage energy & arousal levels.
- Improve mood and enjoyment.
- Improve attention.
- Increase participation and other desired behaviors.
- Improve content retention.
- Educate and inform more effectively.
- Extend time spent in virtual, live and hybrid environments.
- Improve attendee satisfaction with the environment & experience.

Zone Optimization

An event doesn't just happen on the main stage or landing page, it happens in different zones. Some are designed for presentation, some for workshops and networking, and some for breaks in the action. You want people to respond to these zones in different ways.

Creating a customized soundscape means that you are strategically selecting the sounds (noise, music, sound effects and silence) that best enhance each of these zones within your event. Understanding the goals, objectives and desired behaviors within each event zone and how they work towards a common outcome will improve overall engagement, retention, and minimize cognitive fatigue.

Think of your event as if it were a shopping mall. The music you hear in the common areas of a mall is always different from the music heard in individual stores. The mall music slows you down, regulates your fatigue and provides restorative moments because let's face it, shopping can tire you out.

The store, on the other hand, hypes you up and gets your adrenaline flowing. It wants you in a state of excitement. A store like Abercrombie & Fitch, aimed at 18 year-olds, tends to play Top 40, House or Hip Hop. And it tends to be loud enough to drown out polite conversation. They don't want you talking to your friends; they want their products talking to you. When you leave, you need the neutralizing effect of the mall music to help you forget what you just experienced and to prepare you for the next store visit.

When creating a zone, it is also important to consider context. Imagine dining in a Classic Italian restaurant with red & white tablecloths, Italian flags and images of Italy. Meanwhile a Mariachi band is playing traditional Mexican music. Your brain has difficulty aligning what it is seeing (Italian) and what it is hearing (Mexican), and it begins to question this discrepancy.

Our brains often run on autopilot, but when we encounter these kinds of unexpected stimuli (sights and sounds) our brain thrusts us into the driver's seat so that we can understand the situation. We ask questions like: "What music am I hearing?" or "Why are they playing THAT music in THIS restaurant? Is it an accident?". Manually processing unexpected sounds like this requires a lot of mental effort which fatigues our audience and causes frustration. That's why it's important to choose music and sounds that match the context.

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The Structure of a Soundscape
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When it comes to creating a soundscape, we are basically dealing with the integration of three ingredients: music, noise and silence. Effectively orchestrating all three is the key to success. Let's consider each ingredient in order.

1. Music

Over 30 years of experimental research has linked the sound of music to greater pleasure and satisfaction ratings (Roschk, Loureiro, & Breitsohl, 2017). This research suggests that music can increase customers' intentions to buy products and evaluate environments more favorably. This includes online environments too. For example, researchers have found that many of our purchasing decisions online are affected by atmospheric cues, like music (Floh & Madlberger, 2012). The right music within a virtual or in-person environment can change our behavior and generate positive emotions and evaluations of the event or environment where we hear music.

Really, we should be shocked at the lack of music in recent online experiences. Too often, we tune in to listen to the voices of several speakers online, unaccompanied by any music, transitions, or other sounds. We have an appreciation for sounds cultivated from our personal experiences with social gatherings and from other mediums both new and old- from television to radio.
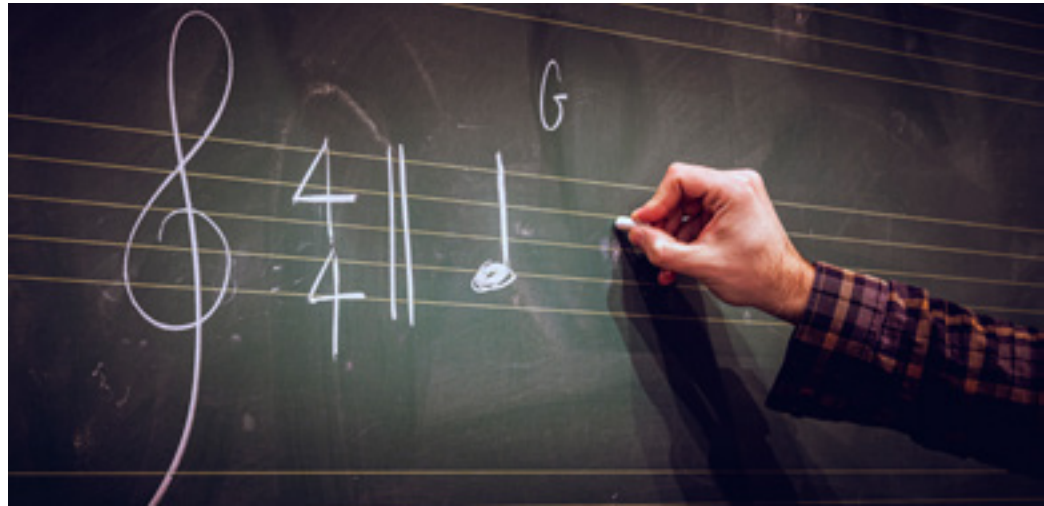
So, how do you select the right music for your virtual, live or hybrid event? That depends on the response you are hoping to elicit from attendees and your overall objectives for the event. Let's consider a few key components.

TEMPO

Researchers say the right tempo (pace or speed of a piece) is key. Research shows that higher BPM (beats per minute) is associated with significantly better mood (Stewart & Koh, 2017). As an obvious example, drum-and-bass-driven music running between 150-180 BPM is going to inspire a more upbeat mood than the blues at 60-90 BPM.

EMOTIONAL AROUSAL

Music has the ability to alter our mood and mindset. Think of how music enhances the experience of a movie. It can put you on the edge of your seat (chase scenes and battle scenes), scare the dickens out of you (suspenseful scenes), give you a nice warm feeling

(love scenes). What's important is to create balance – remember that BPM example above? It doesn't mean that high tempo music is suitable for every area or zone. It's important to match the music type to the event zone, like scenes in a movie, to balance emotional arousal over time.

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MUSIC TYPE

The choice between instrumental music and music with voice and lyrics is significant. The music type needs to be selected with purpose. For example, when we are using a lot of mental energy to process new or complex information, such as during a demo or educational talk, we don't have much mental energy left to process background music and distractions. In these situations, lyrical music and background speech are very distracting and interfere with learning (Vasilev, Kirkby, & Angele 2018).

2. Noise

Noise is known to negatively affect speech comprehension, impairing our ability to learn and understand content. Noise induces feelings of stress, impairs memory and increases symptoms of fatigue (Jahncke et al., 2011). Noise in an event environment can be anything from the hum of an HVAC system, to background speech in an adjoining room, or the sudden bangs, honks and other negative sounds that we encounter on a regular basis – especially now that we are mostly working virtually out of homes and other remote workspaces.

Sustained, excessive noise causes the release of the stress hormones cortisol and epinephrine (adrenaline). In low amounts these hormones are beneficial for memory, but in high amounts they impair the storage and consolidation of recent experiences (Cahill & McGaugh, 1998).

As mentioned above, noise within your event environment needs to be properly managed and with virtual events, we must take into account what we can and cannot control.

As background noise increases, additional cognitive effort is required to process speech (Brown & Strand 2018). This extra mental effort accumulates, negatively affecting the audience experience over time.

It's important to remember that noise absorption enhances content absorption. The more plush, soft objects in a room the less noise can travel. At live events, lining walls with curtains and using thick carpet isn't just cosmetic – it's an aid to engagement. We can't control environmental noise for virtual events , But we can offer tips for the audience to improve their environment on their own.

In the makeshift, distracted world of at-home work sometimes a simple video or announcement asking the audience to wear headphones and find a quiet spot can make a world of difference.

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3. SILENCE

Silence is essential. By doing nothing, something is created: peace of mind and focus. Particularly in areas such as busy expo environments, silence removes external stressors from an environment and improves the attendee experience.

The same bodes for virtual events.

Don't underestimate the art of doing nothing – we know that taking a break improves mood and attention, which allows attendees to better engage with content. For virtual events, this can mean shorter content sessions and more breaks from the virtual environment to process, move and refresh. It can also mean switching zones throughout a virtual event, entering into different soundscapes with specific purposes (learning lounges, networking areas, breakouts, fun zones).

In all presentations, virtual and live, intonation and pace are critical to keeping the attention of an audience. Even an "awkward" silence can be effective. When a speaker has a long, drawn-out pause the audience is placed in an aroused state as they anxiously await the next few words. In this state, we are more open to the highly attention-grabbing stimulus, the speaker's amplified voice, and more likely to ignore less relevant stimuli such as fidgeting in the audience (Sutherland & Mather, 2018) or distractions in the home office environment. Thus, a drawn-out pause both eliminates distraction by using the absence of sound and drives attention to the speaker using an emotionally arousing situation.

Conclusion

Sound is immensely powerful and we must consider its context and qualities, as well as the overall soundscape of an event, to ensure it is contributing to the event's success and is appropriately aligned with individual unique functions.

Music expresses emotions, adds colour to stories and gives life to words. It's like a soundtrack to an experience that triggers a memory, causing you to reflect and reminisce. This is the kind of impact you want to have on your event attendees. The right music will help you leave a positive and lasting impression.

Noise needs to be carefully managed. The more unexpected and unpredictable a noise is, the more difficult (and tiring) it is to ignore. It steals the energy that your brain needs to focus and comprehend what's being presented.

Silence, as they say, is golden. It is an indispensable restorative component of any experience and it can be used in the form of content breaks, pauses in music, or even awkward silences.

A careful balance of these three components of sound is key to all successful event design, be it virtual, live or hybrid.

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About Ben Moorsom
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Ben is the creator of Neuroscaping®. A behavioral communciations practice. Since founding the Debut Group in 1997, Ben has made it his mission to challenge and disrupt ineffective conventions of business communications, pioneering new approaches that strengthen brands internally, engage people more effectively and deeply capture their attention. By applying advances from psychology and neuroscience, Ben and his team turn audiences into active participants. They use Neuroscaping methodolgy to cut through the noise and competition at the gateway to the human mind, placing business messages near the front of the line. Ben is a frequent keynote speaker and co-conspirator at global conferences on communication thought leadership.

About Benan Demir PhD
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Benan has a BA Media Studies and Entertainment Technology from the University of Portsmouth, UK, Graduated from Masters in Cognitive Systems and Interactive Media in Pompeu Fabra University, Spain. Continued her PhD. In Brain, Mind and Computer Science at University of Padova, Italy. Benan has worked as a cognitive scientist and advanced tech research lead for leading companies over the past s8 years... Dedicating her work to improving technologies while focusing on the human brain and human emotions.
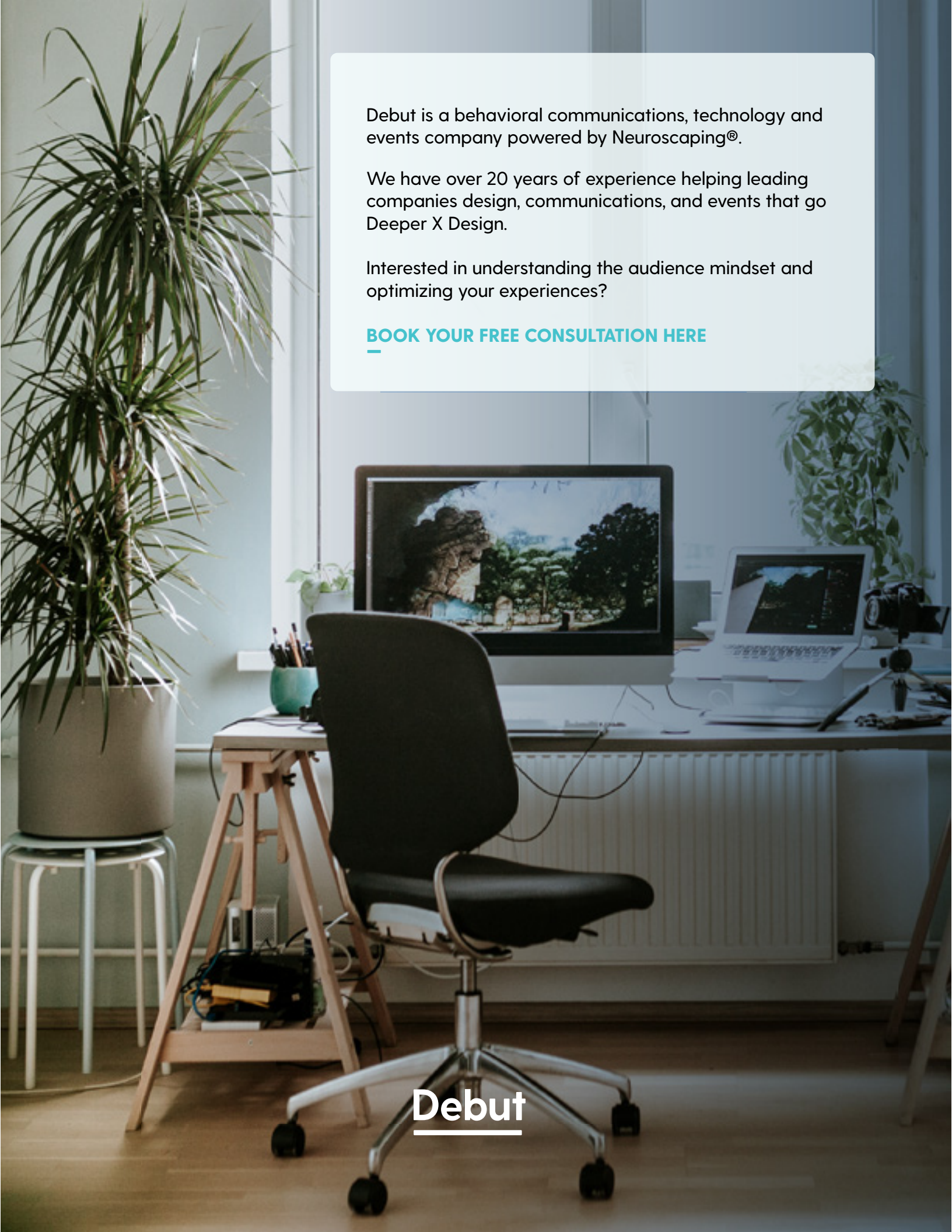
About Neuroscaping®
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Neuroscaping® empowers and enables companies to forge stronger connections with their audiences.

Neuroscaping® is the behavioral insight engine that informs the design communications and experiences. Deconstructing what we perceive as "engagement" into behavioral lenses. Harnessing research from the fields of neuroscience, cognitive psychology, social psychology and data science and beyond - to drive better engagement outcomes.

By approaching design decisions to better align with how people truly think, feel, and act, we can improve an individual's internal state leading to greater satisfaction and retention of messaging. People take more in and have a better experience. This process of Neuroscaping® allows Debut to go deeper by design. Reducing "guesswork" and creating with intent.

Debut manages the largest AI-powered knowledge-base of engagement insights to help guide communication and experiential design for companies that require progressive engagement products and services.

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Debut is a behavioral communications, technology and events company powered by Neuroscaping®.

We have over 20 years of experience helping leading companies design, communications, and events that go Deeper X Design.

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