



The University of Texas at Austin  
Texas Immersive Institute  
*Moody College of Communication*

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# THINK & DO SUMMIT

BRIEFING BOOK | 2022



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**About MITRE** SOLVING PROBLEMS  
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MITRE was established to advance national security in new ways and serve the public interest as an independent adviser. They continue to deliver on that promise every day, applying their systems-thinking approach to provide solutions that enhance national security and way of life. Consistent with their public service responsibilities, MITRE is discovering ways for how emerging technologies, such as AI, can benefit our local communities and nation. They are looking forward to the showcase of innovations and conversations the Think & Do Summit will support their mission and goals.

**About HEB**



HEB is known for providing healthy, nutritious foods and the company's mission statement emphasizes quality very strongly. HEB's mission states that the company is focused on providing the best service to its customers. To ensure this, it also hires the best and hardworking people. The company promises its customers to provide them the best products. HEB promises to sell only the freshest and safest products. The company wants to benefit both human health and the environment. It is committed and aims to set the standard for food retailers. Quality is a way of life at HEB. Here are the key highlights of HEB Mission.

**About MaceVL**



MaceVL are the authoritative VR and AR experts, they curate the breadth and depth of immersive technology to provide turnkey commercial solutions for customers in training, government, research, medical, and entertainment. They understand the market, pick the best hardware and software solutions, and extensively test products across the immersive technology landscape to find excellent solutions to meet their client's needs.

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## About Texas Immersive Institute

At TXI, we aim to provide access to emerging technology and research to design for artists, industry professionals, and humanists who use storytelling to share solutions to big problems that are responsive, responsible, and remarkable. Our goal is to be a leading voice in the future of communication and media through applied creative and research projects using a mixture of live communication methods and emerging technologies.

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On October 21st participate in our public Think & Do Symposium from 1:30PM - 6PM (reception to follow) and extended to Texas Immersive Institute partners on Saturday from 9am - 4pm for a day of ideation.

Take notes and post photos / videos, ideas and thoughts throughout the two days. Make sure to tag **@texasimmersive** use the **#virtualbeings** and **#ThinkandDo22** tags.

## Welcome!

The metaverse is the building block of a new form of communication being built across digital, physical, and voice environments. As we **embrace the dawn of Web3** there is a growing need to research the disruptions that are happening in our everyday interactions and reshape the way we think about our public and private space, such as exploring how to humanize characters and how they will influence the way we live, learn, and interact with each other through the metaverse.

For our first annual Think & Do Summit at Moody College of Communication's Dealey Center for New Media. Our goal is to encourage you to **learn, play, and ideate** solutions on how Virtual Beings can amplify the hospitality industries. Hospitality encompasses entertainment, accommodations, travel/tourism, and food & beverage, so there is plenty of space for us to think deeply about a particular industry and the overall sector.

To facilitate that, we have organized Day 1 as a symposium, bringing together a diverse community of industry professionals and academics to **offer insights** into what Virtual Beings are, where they are being used, and ponder the relationship of trust with these new characters.

Day 2 (invitation only) is full of discussions, **play, and high-speed creativity**, loosely structured and shaped by the group in the room. Alongside UT Austin professors and students, in attendance will be hospitality industry experts, user experience designers, and virtual being developers, and "wildcards" with an early appetite for imagining things that don't exist yet.

Combined we hope these **two days of inspiration and collaboration** will help our community make sense of the opportunities, challenges and questions surrounding new forms of character design and development across the metaverse.

# Symposium Schedule

- 1:30PM Welcoming Statements
- 1:45PM **Keynote**
- **Cathy Hackl** Chief Metaverse Office and Co-Founder of Journey
- 2:15PM **Creating Virtual Beings: What goes into the making of Virtual Beings?**
- **Marjorie Zielke, Ph.D.** Research Professor, UT Dallas
  - **Michael Kaplan** Director; Global Business Development, Media & Entertainment at NVIDIA
  - **Grant Thomas** Creative Director, Creative Tech at Accenture Song
- 3:00PM Participant Engagement Strategy & Coffee Break
- 3:30PM **Branding and Virtual Beings: How do Virtual Beings and emerging technology integrate within the hospitality sector?**
- **Danny Tomsett** CEO, UneeQ Digital Humans
  - **Minwoo Lee, Ph.D.** Assistant Professor of Business Analytics, Conrad N. Hilton College of Global Hospitality Leadership at University of Houston
  - **Rudy Lee** Chief Strategy Officer, Naver Z
- 4:15PM Participant Engagement Strategy
- 4:30PM **Trusting Virtual Beings: What are future considerations of adopting VB technology?**
- **Tyler Coleman** Founder at Retora Games, Founder at TBDNE
  - **Ann Greenberg** Founder and CEO, Entertainment AI™
  - **Erin Reilly** Professor of Practice, UT Austin Founding Director, Texas Immersive Institute
- 5:15PM Participant Engagement Strategy
- 5:30PM Closing Statements
- 6:00PM Reception

# The Virtual Being Landscape

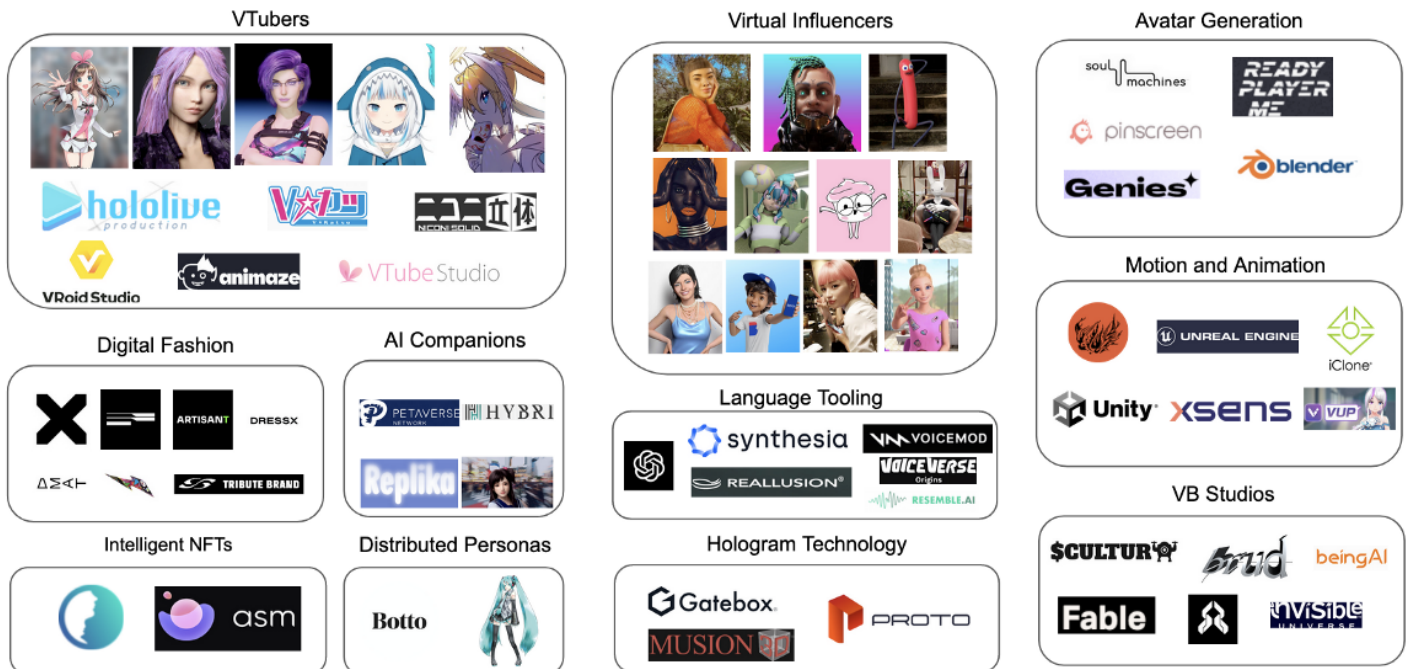
Virtual Beings are embodied characters inhabiting virtual worlds (Gratch et al., 2002; Melo and Paiva, 2007). Home to humans and non-humans alike - think GEICO Gecko and Noodle and Bun - virtual worlds start to break from the physical when we realize just what a variety of beings exist and interact with us in Web3. From anthropomorphic foods, like Nobody Sausage and Good Advice Cupcake, to utterly fantastical creatures, like Any Malu and The Curse, most **virtual beings are humanized and perceived as living beings open to audience interaction**. To be perceived as human characters, virtual humans need to look (appearance, technical dimensions) and behave (interaction, response, emotional expression) like human beings (Aledssi & Huang, 2000; Badler et al., 1993).



## Virtual Beings Ecosystem Map

By: Justin McAfee  
Twitter: @accel\_capital

1k(∞)



## Types of Virtual Beings



**Virtual Influencers** are characters “created in computer graphics software, then given a personality defined by a first-person view of the world, and made accessible on media platforms for the sake of influence.” Virtual influencers can be created and consumed in the virtual world, or shared on social media.

One of the earliest Vtubers, or **Virtual YouTubers**, is Kizuna Ai. Born in late 2017, Kizuna now has more than 3 millions subscribers on YouTube. By the end of 2018, there were more than 8,000 VTubers, most from Japan and East Asia (A.I.Channel 2016; Bryan Lufkin 2018; Shirai, A., 2019)



**Digital doubles** use captured videos of a real person to create a virtual representation of that person through computer graphics (CG). Using hundreds of 3D cameras, digital doubles analyze the 3D shape of a person’s face. Then, through ‘structural analysis’, facial muscle movements are analyzed so that they can move and make expressions like a real person. Unlike **deepfake** (fake video) technology, which stitches 2D shape images, it directly shoots an existential model and analyzes the shape, so a face shape can be realized closer to the real shape. Digital double technology is mainly used in advertising and media fields such as Instagram and YouTube that require a lot of movement or performance.

**Distributed Personas** are digital characters designed, developed and managed by an open and permissionless community. They are often anthropomorphic and autonomous AI offering multiple user-generated versions of the being. One example is [Hatsune Miku](#), a “singing voice synthesizer featured in over 100,000 songs released worldwide.” Everything about this turquoise-haired, twintail pop idol is virtual - even her voice is computer-generated. However, the vocaloid has [2.26 million subscribers on YouTube](#) and has held live concerts by appearing on screen or as a hologram, blending the physical world with the virtual through her performances. Hatsune Miku was even announced as part of the 2020 Coachella Valley Music and Arts Festival lineup.



# Technical Platforms of Virtual Beings

## Virtual Worlds

[Gucci](#) collaborated with Zepeto (Korean tech giant Naver's metaverse platform) in 2021, allowing users to dress their avatar in pieces from the House collections and explore the Gucci Villa inside ZEPETO. In a 2022 event, 9 out of 13 offline Gucci exhibition spaces were displayed in Zepeto, allowing users to imitate the poses of large figure models and join in a treasure hunt.

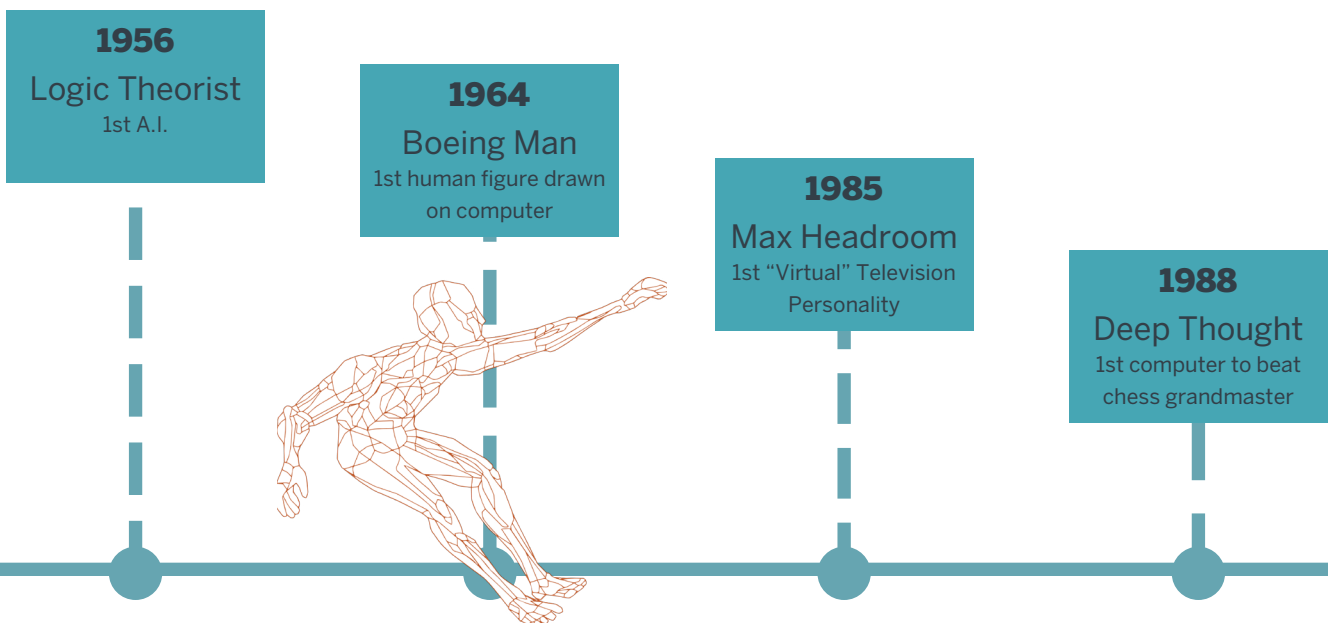
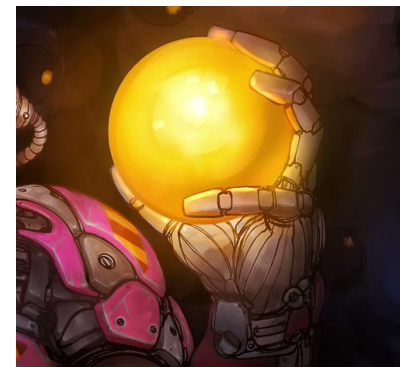


## Immersive Storytelling

8-year-old [Lucy](#) is a character in Neil Gaiman & Dave McKean's *Wolves in the Walls*. Fable Studio brought the story into the world of virtual reality (VR) in 2019 as an AI-driven storytelling experience on Oculus Quest. People can [sign up](#) to have a conversation with Lucy, whose adoption of GPT-3 creates unpredictable, naturalistic interactions.

## Blockchain

Launched by [DuskBreakers](#), the Gribbles NFT collection consists of eggs from an alien species found aboard a derelict spaceship known as the Dusk. Users control the evolution of their Gribble embryos until finally hatching a fully rigged playable 3D asset. Players may complete missions to earn points applicable towards egg evolution, further determining the ultimate look of their adult gribble upon hatching.







### Streaming & Video

[CodeMiko](#) is a YouTube and [Twitch](#) virtual streamer who records videos of her avatar playing games. Her streams are described as a “[quasi-interactive rpg](#)”. She is one of the few virtual streamers who has revealed her human identity and sometimes connects with viewers on her technical and creative process.

### Social Media

[Zero](#) first appeared on March 2, 2022 at SXSW. Living “in a bunker” in the “Nexus” universe, Zero is created by Offbeat Media Group and operated real-time by a studio team based in Atlanta. His movements and facial expression are captured by a motion detector suit and he is voiced by an actor. Zero has a broad social media presence, communicating regularly with followers on [Twitter](#), [Discord](#), [Instagram](#), [TikTok](#), and [Twitch](#).



### VTubers

[Gawr Gura](#) is the top [English VTuber of 2022](#) with approximately 4.13 million YouTube subscribers. Part of Hololive, Gawr Gura streams shark-themed videos where she sings, plays games, and interacts with her followers. Her cute and relatable personality has earned approximately [\\$1 million in Super Chat revenue](#) on YouTube.

### Photography & Advertising

Candy is [Prada's virtual “muse”](#), created to promote a fragrance in the 2021 ReThink Reality campaign. Designed with the Gen-Z in mind, director [Nicolas Winding Refn](#) described Candy as “everything you desire and want to be and at the same time, she’s herself...Candy is both a digital creation and a philosophy.”



**1994**  
ELIZA  
1st A.I. chatbot

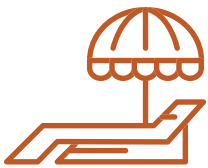
**2007**  
Hatsune Miku  
Vocaloid software  
turned entertainer

**2010**  
Ami Yamato  
1st VTuber

**2016**  
Miquela Sousa  
One of the first virtual  
influencers

# Applications in Hospitality

The concept of hospitality originated in ancient times - think hosts providing travelers protection against robbers or bodily injuries, in tandem with a comfortable bed (King, 1995). As it evolved, hospitality grew to consider **social, psychological, and safety concerns of a guest's experience**. Today, researchers still have not settled on one definition of hospitality (Jones, 1996; Middleton, 1983; Brotherton, 1999). Broadly speaking, the field can be differentiated into private and commercial hospitality. For our Think & Do Summit, we focus on the latter. Modern commercial hospitality seeks to understand the **needs of guests while providing genuine care and comfort**, ready to fulfill "the unexpressed wishes of its guests" (King, 1995, p229). This makes sense - a happy guest is much more likely to be a repeat customer. Focusing on guest services - in all their different forms - opens new avenues for businesses to cater to consumers' conscious and latent needs alike, exchanging care and comfort for long-term business relationships.



**Entertainment** is a service-based super sector aimed at providing services and experiences that "satisfy the cultural, entertainment, and recreational needs" of US consumers and foreign visitors. Focusing on leisure activities such as performing arts, theme parks, and museums, the annual growth of this industry is expected to be 1.8% from 2018-2023.



The **food and beverage industry** is large and diverse, containing all the companies involved in "transforming raw agricultural goods" into edible consumer products. The worldwide revenue of the food and beverage industry is expected to increase from \$506.3 billion this year to \$856.9 billion by 2025. In the hospitality sector, consumers could encounter edible products in various scenarios - during their transportation, in their hotels, within an entertainment event, and so on.



**Accommodation** includes the foundational service of the hospitality industry. Narrowly defined, **accommodation refers to hotel guest accommodation** (Brotherton, 1999) which mainly includes the service provided by the hotel industry.

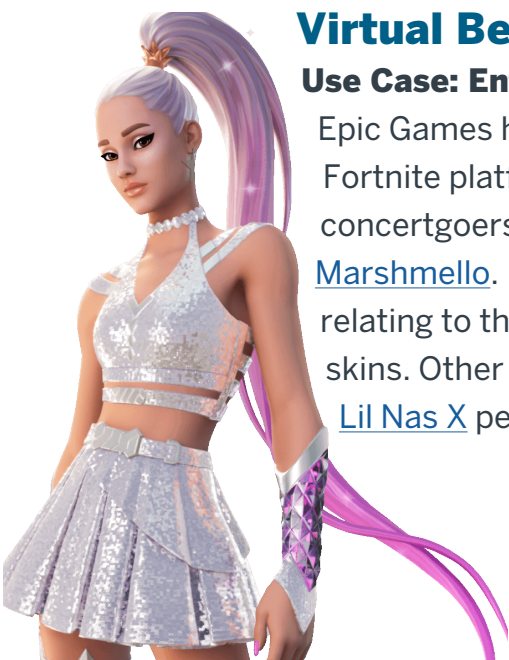


Similar to hospitality, **tourism's** rich and varied history makes the term hard to accurately define. The Standard International Classification of Tourism Activity (SICTA) defines the tourism industry as "the establishments provisioning services and goods to visitors;" this includes transportation, tour operators and travel agents, attractions, and similar branches of the economy supplying visitors (Theobald, 2012).

## Virtual Beings in the Hospitality Industry

### Use Case: Entertainment

Epic Games has partnered with different musical artists to host concerts in their Fortnite platform, allowing for a new level of accessibility and interaction for concertgoers. Performances to date include [Ariana Grande](#), [Travis Scott](#), and [Marshmello](#). In concerts, an avatar of the artist performs. Special merchandise relating to these virtual concerts are also released, including themed avatar skins. Other gaming platforms, like Roblox, have also hosted virtual concerts; [Lil Nas X](#) performed on the platform in 2020.



## Use Case: Accommodations

Hotels are exploring emerging technologies to better connect with customers and provide virtually accessible experiences. [Travel Outlook's Annette](#), the first AI-powered virtual hotel agent, leverages social media conversational data to provide human-like conversations with customers. Some hotels have even begun experimenting with using NFTs that can be redeemed for points, as seen in [Marriott Hotels NFT rewards program](#). [Millennium Hotels and Resorts](#) announced plans to launch a virtual hotel "M Social" in Decentraland, and [Roomza](#) plans to establish a hotels in the metaverse with corresponding hotels in the physical world. Roomza's guests can check-in to their specific room in their physical environment as well as the virtual, using the latter to join in on meetings, conferences, and more.

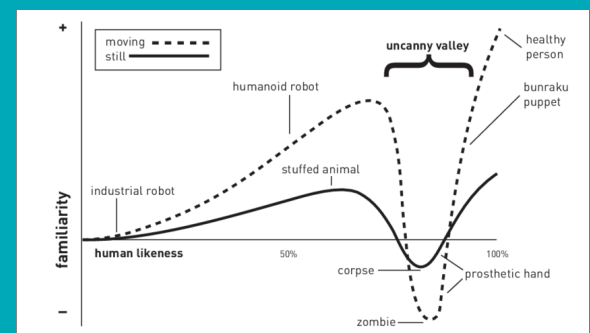
## Use Case: Food and Beverage

Virtual influencers have taken the food industry by storm. Some, like [Chef Jade](#) and [Cawa She](#), share details about their lives as chefs and restaurateurs along with cooking tips. Others, like [KFC's Virtual Influencer Colonel](#) and Totinos' [Pete Zaroll](#), are witty spokespeople promoting their food brands. Some, like [Good Advice Cupcake](#) and [GUMMiBEAR](#), just happen to be food themselves. We are only beginning to see the integration of emerging technology with food industries. [OneRare](#), a food centered metaverse, just partnered with AlterVerse to open a [virtual restaurant](#) where players can purchase NFTs enhancing their gameplay experiences. Immersive food experiences hosted by virtual beings, like [Le Petit Chef](#), can also bring dining in the physical world to a new level.



## Introducing Uncanny Valley

Uncanny valley theory claims that when the robots become more human-like, the acceptance level increases to a point and drops because they are perceived as bizarre and creepy. After that point, as the robots become almost like real humans, the acceptance grows again (Murphy, et al., 2019). One example of an uncanny valley theory in real life is Sophia. This humanoid robot has a realistic face and is able to express emotions, which generates uncomfortableness among many viewers.



Anthropomorphism is an important question and concern for the usage of robots in the hospitality industry. Because it affects the tourist experience and the overall satisfaction with the service. It is the same for virtual beings: uncanny valley theory also applies to them considering their ability to be human-like.



# Final Notes

## Guiding Questions

- Could virtual beings result in cultural appropriation within the digital landscape?
- Will virtual beings reinforce stereotypes by relying on biased cultural associations?
- Will virtual beings have a negative impact on our perceptions of the physical self?
- Can our likeness be used for a virtual being without our consent?
- Can there be too much privacy?

## Stay Connected

We encourage you to stay connected with Texas Immersive Institute throughout and after the Think & Do Summit. Feel free to follow our social media channels listed below and be sure to tag us and use **#virtualbeings** and **#ThinkAndDo22** hashtags!

- [Instagram](#), [Facebook](#), and [Twitter](#) @texasimmersive
- [Youtube](#) Texas Immersive
- Website [immersive.moody.utexas.edu](http://immersive.moody.utexas.edu)
- [Join us on discord!](#)

## Texas Immersive Institute's Virtual Beings Research Group

Erin Reilly	Professor of Practice, TXI Founding Director, Project Lead
Elizaveta (Lee) Kravchenko	Masters Student, TXI Fellow, Project Lead
MJ Johns	Assistant Professor of Instruction, TXI Senior Fellow
Siyan Li	Ph.D. Candidate
Jeongmin Ham	Ph.D. Candidate, TXI Steering Committee
Christopher Davila	Undergraduate Student, TXI Explorer
Joanne Tsao	Masters Student

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