

# The concept behind VTubing and its potential for the streaming and design community in relation to Austria

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## Introduction

The term "VTuber" stands for "Virtual Youtuber" and was mentioned in Japan in the year 2016 by VTuber called Kizuna Ai.<sup>1</sup> With VTubing, a PNG- image, an 2D- or 3D-avatar is shown instead of one's own face, which follows the movements of the streamer in real time and thus creates the illusion of a living animated character. Using motion, face, hand and eye tracking and special software, entire streams can be performed in complete anonymity and still generate large audiences.

## The problem

The concept of streamers on Twitch or other online platforms is no longer a novelty and is used by artists of the most diverse genres. The digitalization of the entertainment industry is progressing steadily and is basically unstoppable, as in most sectors. With the Corona crisis in 2019, the entire world had to switch to online mode, which led, among other things, to the establishment of a new branch of entertainers called "VTuber". However, it seems that this development has not made it to Austria yet. The reasons for this may lie in the strongly diverging cultural backgrounds of Japanese and Austrian streamers. While there are some well-known American and endless Asian protagonists and agencies around the topic of virtual streaming, the Austrian V-Tuber scene is apparently still in its infancy.

VTubing is a still very new form of streaming using a generated avatar. The technologies and areas of application developed for it are far from being fully explored and at their limits.

Nevertheless, there has been initial work on virtual reality and real-time animation since the early 2000s. Since the concept only gained notoriety and popularity with the appearance of the self-declared "first official" VTuber "Kizuna Ai" in 2016, only a few research with

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<sup>1</sup> Kurby 2021.

"VTubing" at the center of the work are known. There are articles, thesis, and books around the topics of "VTubing", "Animation", "Virtual Reality", "Japanese Pop Culture" and "Anonymity on the Internet". Liudmila Bredikhina is a name that showed up very often during my research. She wrote a few articles on the topic such as "Avatar Driven VR Society Trends in Japan" and others mentioned in the section "material". Another relevant study is "Body and Mind: A Study of Avatar Personalization in Three Virtual Worlds" by Nicolas Ducheneaut et. al. About the Austrian V-Tuber scene is little further research given. Therefore, I must follow the outcome of my interviews with Austrian V-Tuber.

## The question

I would like to deal with the theoretical as well as practical creation of a virtual character, from conception and design of the appearance to rigging the model, tracking the body and facial areas to real-time animation during a stream. A topic I will address are the technical aspects. Interesting here is the use of various 3D modelling programs, so called "V-Tuber" applications as VTube studio and tracking devices for the motion capture part. Therefore, I also want to consult Austrian designer who create the models for the streamer or themselves. I also want to think about the question of how much the VTuber landscape in Austria will change in the next years and if there will be a niche for designers in that field. In what way will Designer contribute to the development of the next generation of VTuber?

A main part of my master's thesis will be the question: What does it mean to become an Austrian VTuber and how does the current Austrian VTuber scene look like. Why is the amount of Austrian V-Tuber lower than Asian Countries? How are anonymity and culture related? In what way does the aspect of surveillance influence the decision of becoming a VTuber nowadays? Following on from this theme, I am also interested in the questions of why most of the avatars of VTubers usually have high-pitched voices and big eyes. To what extent do characters represent gender conservatism and what contradictions does this create with current role models? This topic can of course be followed by the general question of why "cute" is often automatically considered attractive in countries like Japan. An exciting question is whether this kind of fiction can only express itself where it has its place, and that would be a possibility in VTubing. During this, I also want to take a closer look at Japanese mainstream pop culture in comparison to Austrian culture and explore its influence on the concept of VTubing. I will address the question of whether there are certain disadvantages or advantages that VTubers in general enjoy due to their anonymity on the internet compared to "normal" streamers or whether it ultimately just depends on the habits of viewers from different cultural backgrounds.

## **The hypothesis resp. the objective**

The centerpiece of my master's thesis will be my own virtual character. I will design this character myself, from personal behavior to external appearance, and model, rig and animate it using Blender and other software to finally "bring it to life". With my work, I want to create a step-by-step guide for all those who would like to take a step into the VTubing scene themselves, but don't know where to start. Another concern of mine is to point out the possibilities that arise for users and producers of virtual avatars through this form of streaming. I will use a large part of the work to inform and educate about the current VTuber community and VTuber artists.

I also want to include the Japanese background to dispel prevailing prejudices and misconceptions about the mainstream pop culture surrounding anime and show the similarities and differences in comparison with Austrian perceptions.

## **The reference to theory**

In my studies, I deal with the new media of our time. For me, VTubing is like a kind of real anime and thus links my interest in moving images and my penchant for Asian pop culture. But it is much more than Japanese-style animated illustrations, it offers the possibility of gaining popularity on the internet while ensuring anonymity and privacy on the net. What seems to sound paradoxical is, in my opinion, a future model for entertainers of all kinds. Tracking is already used in many live film and game productions to generate body movements as naturally and realistically as possible. The application in live streaming opens endless possibilities for the user in terms of character and content. My personal goal is to create a Guidebook with a practice example to make it easier to get into the VTubing scene for interested beginners in Austria.

## The method

My main research method will create two questionnaires with the option of a personal interview. One target group will be Austrian VTubers and the other target group will be Modell-Designer. To pursue my research, I will write an introductory theory section on the topic and demonstrate it with a practical 2D, or 3D character as a work piece. To implement this, I will use the information from the interviews and questionnaires in combination with literature on topics such as live streaming, character creation and motion capture.

For the theoretical parts I will also use the given information from the Austrian interviews and additionally use literature about Japanese Pop-culture and virtual avatar related topics.

To make the thesis more attractive to read I am planning on using my own virtual avatar as a companion through the whole thesis. That means as soon as it is created it will explain or talk about my thesis in YouTube Videos or simple Twitch Streams. In that way I can test the character and show the whole process of the development at once.

## The material

To create my virtual character, I will follow the recommended software from my interviews. For the 2D model I will start with pen and paper and create a first draft which I will then transfer to a painting programme to draw it on different layers. Following that I will start the rigging process and tracking. I also planning on promoting my character on a few social media platforms.

The 3D character will be created with VRoid Studio for the beginning, later I will maybe switch to a completely self-made model in Blender. There are many programs I will possibly use, depending on the outcome of my interview and questionnaire.

The two surveys will each consist of two parts: A questionnaire (1) with basic facts about the person, which will be filled out in advance. And an interview (2) with more specific questions, which I will conduct personally with the respective V-Tubers and artists.

## **(preliminary) structure**

1. Introduction
2. The concept of VTubing and its development in Japan
  - 2.1. Definition and Background
3. The current Austrian VTuber scene and its characteristics
  - 3.1. The problem of the lack of VTubing in Austria and possible reasons
  - 3.2. The influence of Japanese pop culture on VTubing and its potential in Austria
4. Theoretical and practical aspects of creating a virtual character for VTubing
  - 4.1. The role of storytelling and character design in VTubing
  - 4.2. Technical aspects of VTubing, including 3D modeling and motion capture
  - 4.3. Designing and bringing to life a virtual character for VTubing using Blender and other software
5. Conclusion and possible future directions for VTubing in Austria

## **(preliminary) bibliography in compliance with the rules of citation**

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