Shaping Virtual Interactions: F-formations in Social VR

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Abstract

Social virtual reality (VR) platforms allow users to interact in a shared space using avatars. Space in these environments is used in a similar way to face-to-face conversation. In particular, people create conversational clusters or *F-formations* that help to manage who is participating in a conversation and manage roles such as speaker and listener. However, virtual environments also allow people to reconfigure their bodies and the environment in ways that go beyond what is possible in face-to-face interaction. We explore this potential through a detailed qualitative analysis of a corpus of social interactions recorded on the platform VRChat. We make two main observations i) people actively transform both their (virtual) bodies and their environment in order to build and sustain F-formations, ii) they create new kinds of *layered* F-formations that combine virtual avatar space with virtual mirror space. We propose that people make these transformations in order to create qualitatively distinct kinds of interpersonal *communication space*. We explore the implications for the design of virtual environments for social interaction.

1 Introduction

In recent years, an increasing proportion of social interactions have moved into immersive online spaces (Markiewicz, 2019). The consumer VR market has been developing since the release of the Oculus Rift and HTC Vive in 2016 (Xi and Hamari, 2021) and a key application area targeted by these tools is social interaction. Platforms such as Meta Horizon (Meta, 2021), VRChat (VRChat Inc, 2014), and Resonite (Yellow Dog Man Studios, 2023) facilitate multi-user experiences where individuals can interact using embodied avatars in a shared virtual world. The popularity of these platforms increased during the COVID pandemic and, for example, VRChat reached a peak of over 136,000 concurrent users on January 1st 2025 (tupper, 2025). These users are able to find communities, listen to musicians perform live, compete or collaborate in games, or explore in one of many hangout worlds. A distinctive feature of these social platforms is the focus on user generated content, with users able to create customised worlds, avatars, and tools for the platform.

Although virtual environments allow people to reproduce aspects of embodied, face-to-face communication such as facial expressions, gestures and proximity, they also provide opportunities for people to reconfigure their interactions in ways that are not possible in the physical world. In game environments this may be forms of transport or special abilities that overcome physical laws. In social environments this can be forms of communication that overcome the restrictions of face-to-face interaction e.g., conducting simultaneous conversations with different groups of people who are not mutually aware of each other (Healey et al., 2008). This potential to build alternative infrastructures and conventions for social interaction is interesting, in part, because it can shed light on the basic organising principles of human communication (Healey et al., 2008).

The most obvious way in which people transform their interactions in social VR environments is by changing their appearance (see Figure 4 and Figure 5). People take advantage of the potential to select or create avatars with diverse sizes, colours, textures and morphologies. These do not appear to be arbitrary choices. Rather, they are used to establish persistent social identities that are recognised by others in the community - sometimes as specific individuals and also sometimes as instances of recognisable socio-cultural identities (Virtual Girl Nem and Liudmila Bredikhina, 2024). Experimental evidence shows that these adopted identities can change both how people interact and how others respond to them, also referred to as the *proteus effect* (Yee et al., 2009; Christou and Michael, 2014).

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A second salient feature of interactions in social VR is that they are frequently conducted in front of (virtual) mirrors as illustrated in Figure 7 and Figure 9 below (Fu et al., 2023; Krell and Wettmann, 2023; Chen et al., 2025). Although interactions in mirrors can also occur face-to-face -e.g. in bathroom mirrors, shop windows, and hairdressing salons it is primarily treated in the literature as incidental to the conversation (Schroder, 1974; Katz, 1996; Horlacher, 2022; Vom Lehn, 2006)[1]. By contrast, the use of mirrors to conduct conversations in social VR is pervasive.

The use of mirrors for virtual conversations is well documented in the social VR literature but is primarily analysed in non-conversational terms. One common explanation of interacting in mirrors is it provides a way to enhance people's sense of ownership of the social identity associated with their chosen avatar (Fu et al., 2023; Krell and Wettmann, 2023; Chen et al., 2025). Another explanation is it allows people to check avatar performance including movement tracking fidelity (Gonzalez-Franco et al., 2010; Hamilton-Giachritsis et al., 2018; Heinrich et al., 2022; Chen et al., 2025) (although see Mottelson et al. (2023) for a review questioning the reliability of these effects).

One specifically communicative function attributed to virtual mirrors is to help mediate inter-personal touch (Fu et al., 2023; Krell and Wettmann, 2023). Most end-user VR systems do not support tactile feedback. So, for example, a pat on the head will not be sensed directly through touch and, depending on angle, might go unnoticed by the recipient. However, if a pat on the head is performed in a mirror it can be mutually observed (see example in Figure 8). Participants report that this enhances the sense of touch and may enhance the *phantom* sensations people sometimes experience when they have a strong sense of embodiment (Krell and Wettmann, 2023; Chen et al., 2025).

Mirrors may also help to compensate in general for the limited field of view available on most commercial headsets. The wider field of view available in a mirror can potentially improve peripheral awareness of other participants (Chen et al., 2025).

2 Aims and Approach

While recent work on social VR has identified important ways in which virtual environments are transforming social interaction they have not directly analysed the detailed conduct of the interactions themselves (Fu et al., 2023; Krell and Wettmann, 2023; Chen et al., 2025; Schroeder, 2002; Benford et al., 1993). The general question we address here is how do users of social VR use the resources available to them to manage their communication?

We introduce a corpus of embodied interactions in an established social VR community recorded by nine users over a total of 24 hours. We use ethnographic and detailed interaction analysis to explore the ways in which people form, join and leave conversational clusters in the virtual worlds they inhabit. Our analysis of these processes uses the framework of *Facing-formations* (or F-formations) developed by Adam Kendon ((Kendon, 1990, 2010).

We proceed by outlining the basic features of physical F-formations and then introduce the corpus of virtual interactions used. We highlight the ways people in social VR reproduce the key features of F-formations and the ways in which they transform them to produce new kinds of layered F-formations in which people use combine the virtual world and the mirror world.

F-formations

In face-to-face interaction physical space plays a key organising role. People use the relative position and orientation of their bodies in space to manage, amongst other things: who is -and is not- part of a conversation, who is the current speaker, who is the addressee, who are side participants or overhearers, who plans to leave the conversation, who wants to join and what kind of conversation it is e.g. hostile, amicable, neutral (Kendon, 1977, 1990) (see section 2)

These spatial patterns, termed *facing-formations* or F-formations were first systematically described by Adam Kendon in 1977 (Kendon, 1977). He defined an F-formation as:

> "whenever two or more people sustain a spatial and orientational relationship in which the space between them is one to which they have equal, direct, and exclusive access"

The most important part of the body in determining an F-formation is the torso. Kendon defines a *transactional segment* of approximately 30° from the manubrium (mid point of the upper chest where

[1]We are indebted to Prof. Jon Hindmarsh and Prof. Dirk vom Lehn for drawing our attention to these papers

the clavicles meet). This is the area into which we typically reach, look, and carry out most of our ordinary activities. When two or more people are facing each other these transactional segments naturally intersect and this creates an *overlap space* or O-space. During an interaction people normally gesture and talk into the O-space. The points outside the O-space where the participants forming the O-space are positioned is called the *periphery* (or P-space) and the space outside the P-space where non-participants are typically positioned is called the *reference space* or R-space see Figure 1.

People typically respect the spaces created by the F-formation. For example, people will not normally cross an o-space without mitigating their action (e.g., bowing their head briefly or apologising). Also, when people wish to join a conversation they will typically wait in the R-space until they are acknowledged and before moving to the P-space. As they join the other participants will adjust their relative positions to maintain an even spacing.

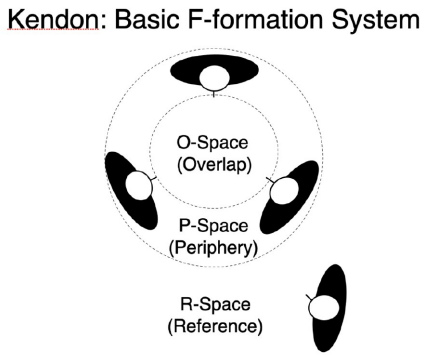


Figure 1: Schematic illustration of a basic F-formation

If there are no physical constraints from furniture or walls etc. nearby people will, by default, create a circular F-formation as shown in Figure 1. The shape of the F-formation also correlates with the type of interaction. For example:

Circular: Where participants are evenly positioned in the P-space and typically have equal speaking rights.

Vis-a-Vis: Where participants face each other. Used for greetings but also confrontations.

Side-by-Side: Where participants are placed aside from one another typical of collaborative relationships.

The Virtual World: VRChat.

Although social VR employs a strong face-to-face metaphor, standard consumer social VR still only approximates embodied face-to-face interaction. Full body tracking and natural facial expressions are not yet widely adopted and different users have different configurations of input devices and processing capacity. These limitations affect how users represent themselves on the platform and what behaviours they can actually produce.

In addition, the limited FOV offered by most consumer VR headsets means peripheral vision is restricted (e.g. Meta Quest 2 & 3 offer a horizontal FOV of 97°(VRCompare, 2020) and 110°(VRCompare, 2023) respectively). This affects how easy it is to see people to your left or right. VRChat is one of the most popular platforms for informal, public social interaction and has more active public lobbies than platforms such as Meta Horizons or Resonite. Communities and events on VRChat are primarily formed for the purposes of socialisation based on mutual interests or hobbies. The VRChat platform is a configurable platform and includes a library of avatars, the ability to throw emoji's as particles, and a voice substitution text box to include those who don't have a microphone or who cannot speak.

One important constraint on the platform is the computational demands created by avatars. The avatar SDK is open to a lot of experimentation and a full lobby of poorly optimized avatars can become computationally expensive to render. Due to this, the default experience for the majority of users on the platform is to have avatars hidden until explicitly enabled on a per-user basis. It also means that different users will often see different subsets of avatars and will not automatically know how they appear to others. There are several options:

Distance Culled The avatar is replaced by a generic see through diamond

Hidden The avatar is replaced by a generic robot model

Imposter An algorithmically generated low quality version of their avatar

Fallback A handcrafted fallback provided by the platform

CustomFallback A handcrafted fallback model that shows a hyper-optimised version of their avatar

CustomAvatar without custom shaders The user's avatar using officially authenticated shaders

CustomAvatar with shaders The user's avatar using custom shaders

The degree to which a user sees another user's avatar is often dictated by the relationship between those users and the performance rank of the avatar. As a result, the majority of avatars typically seen inside VRChat are not the full versions of an avatar see e.g. Figure 7.

3 Methods

An ethnographic, observational approach is used informed by the first author's own experience in creating and hosting events in VRChat (Boellstorff et al., 2024).

Recruitment

A group of expert participants were recruited using adverts posted on community discord channels with the prior approval of the admin/moderator (see Appendix A and Appendix B). This included the SONAR music group which the first author is a co-founder of. This was supervised and signed off by the other admins on the server to reduce the risk of coercion or bias in those signing up. A second group of naïve participants were recruited from the postgraduate community at QMUL. These users had not experienced VRChat. The two groups were recruited to sample both people who had established patterns of socializing with people and places that they know and users meeting new people and attempting to engage in conversation. These helped to explore the effects of familiarity with the technical platform and its social culture.

Procedure

Participants were asked to film a regular play session for an hour per day for three days. They were shown how to use the in-game camera and how to record with OBS. Additionally, they were instructed to place the camera so that the whole interaction was captured, not just their point of view. They were asked to use only public worlds and public lobbies but there was no other restriction on locations so that participants could use the virtual settings they are most familiar with.

Some of the participants were recorded remotely and some were recorded locally in the Human Interaction Lab at Queen Mary University of London. This is a sound insulated room with a side control room where the experimenter sat. Participants used a Meta Quest Pro headset and connected to VRChat through a server. Once an introductory explanation of the controls and how to navigate the menus was concluded they were left to explore the platform themselves. In addition to the participant recordings, the experimenter made notes on the interactions and captured screenshots.

Ethics

The study was audited by the Ethics Committee at Queen Mary University London (Ethics Referral Number: QMERC20.565.DSEECS24.065). The legal basis for the recordings is provided by the terms of use of VRChat (VRChat Terms of Service 8.1) available in Appendix C. These terms allow that user generated content from the environment (including video) can be published and displayed. This is to allow short videos from inside the environment to be published on public video and streaming platforms. The primary ethical consideration for this study was the capture of video and audio. Given that these are naturalistic interactions there is a risk that private or sensitive matters might be captured. To ensure people who interacted with the recruited participants were aware they were being recorded the in-game camera feature was used which is visible to anyone in the virtual environment. Filming only took place in *Public* or *Group-Public* environments (instances) where no general expectation of privacy is encouraged. Sensitive data, such as real names, addresses or phone numbers, that were discovered in the recordings were deleted.

Dataset

To ensure a wide sample of different environments data was collected over three hours, covering three different play sessions (McVeigh-Schultz et al.; Handley et al.). In total, nine different users agreed to participate and over 24 hours of usable footage. 4 sessions were required to be cut from the footage due to corruption, recordings in private instances, the presence of the first author or an unusable camera angle.

4 Observations

The online spaces in the sample are predominantly organised in the same way as face-to-face conversations. Recognisable F-formations are seen in almost every environment and, despite the diverse visual identities, the arrangement of bodies in space is similar to face-to-face interaction in public

spaces. An example of this can been seen in Figure 2 where the participant encounters a circular F-formation.

Figure 2: An example of a circular F-formation occurring in social VR

Participants also demonstrate their orientation to the norms described in 2. This is most clearly demonstrated by cases where they are violated. In example Figure 3 the anthropomorphic avatars on the right are talking to the humanoid on the left. He enters the R-space with “Sorry to interrupt your conversation” before moving to the P-space. However, following a short conversation the humanoid displays their hostility to the two anthropomorphic avatars by insulting them (“faggots") and crossing the O-space between them laughing. This deliberate violation of the O-space highlights its relevance for interaction in the virtual environment. A similar deliberate violation of the F-formation is seen again in Figure 12, discussed below.

Having emphasised some of the ways in which virtual environments reproduce familiar features of face-to-face interactions we turn to some of the ways in which they are different.

Phenomena 1: Manipulating the Environment

The ability to select arbitrary avatar heights and morphologies creates a practical barrier to creating working F-formations. When users of significantly different sizes encounter each other they use a variety of strategies to manipulate the environment in the service of maintaining F-formations. The simplest strategy is to use portions of the environment to adjust their height to eye-level with their interlocutors. For example, standing on a table, chest of draws, shelf, or even a raised portion of the terrain, as can be seen in Figure 4.

In another example, two smaller avatars moved to the top of a raised platform in the environment, while one taller avatar stayed on the lower portion, creating an F-formation across two different elevations seen in Figure 5a. As more users join they

(a) Humanoid avatar standing in an F-formation with two other avatars

(b) Humanoid avatar running through the other two members of the F-formation

Figure 3

Figure 4: Two small avatars standing on a desk to elevate their eye level

choose locations appropriate to their height and adjust their positions to maintain the basic circular F-formation, see Figure 5 and Figure 5b. A more distinctive way of manipulating the environment to support F-formations is by either directly scaling avatars within the game or using third party software to alter their VR playspace to trick the game into offsetting their avatar and view to a location different from their tracked location.

Phenomena 2: Playspace Dragging

This first and third party spatial manipulation is colloquially named "Playspace Dragging". In effect, users pull and push the world around them. This offsets their headset’s position relative to their calculated position in the world. This offset enables some interesting behaviours. For example, if a user sits down in real life, but the user they are in conversation with is standing up, the seated user can use playspace drag to levitate up to the height

(a) One tall avatar talking to two small avatars set on a raised platform

(b) Two tall avatars conversing with three small avatars on the same raised platform.

Figure 5: An example of small avatars utilising the virtual environment to get a better eye line match

of the standing user. This gives the effect of the user floating in mid-air, while still appearing to be seated. Conversely, a taller avatar can sink into the floor to talk with smaller avatars instead of bending down to see them.

People's willingness to break the coherence of the virtual space and in order to create and sustain F-formations, suggests that the structure of the communicative space created by an interaction is more important that the integrity of the virtual space (Healey et al., 2008). It also demonstrates participant's commitment to their ability to present widely differing visual identities.

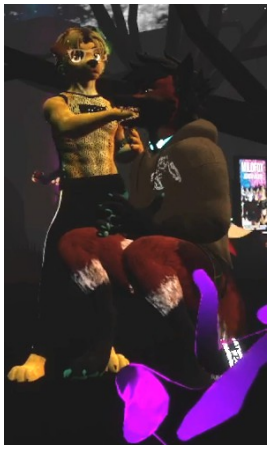
Phenomena 3: Mirror Conversations

As noted above, participants in VRChat frequently congregate around mirrors for the specific purpose of holding conversations.

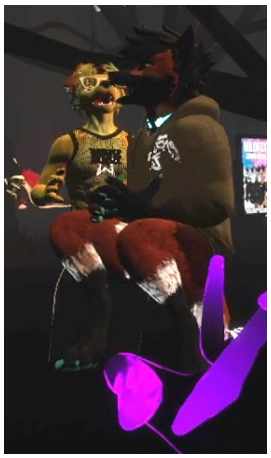
Mirrors are not always automatically visible and people often have to switch them on to see the reflections. However, experienced users are able to identify where mirrors are in the virtual environments due to the positioning of other players.

> "If you see a bunch of players starring at the same wall, there is probably a mirror there." - Karl

As noted, there are multiple possible explanations for this behaviour including users being able to check their own appearance and actions and getting a better field of view on the wider environment



(a) Golden Avatar Standing and Brown Avatar Seated



(b) Golden Avatar 'play-space dragged' down to eye contact

Figure 6: In this instance the golden avatar play-space dragged to the eye level of the brown avatar in order to laugh directly in their face. Although a change of probably 20-30cm difference it offers an interesting comparison.

Figure 7: Users sitting in front of a mirror (generic avatars)

(see introduction). These explanations are consistent with our observations, however we also find evidence that virtual mirrors are specifically used as a novel spatial resource for the management of F-formations that goes beyond what is documented for real-world interactions.

When users communicate with each other through mirrors they are, in effect, simultaneously participating in two F-formations. For example in Figure 7 the avatars are standing in a side-by-side F-formation in front of the mirror but they are addressing each other vis-a-vis in the mirror.

As noted, vis-a-vis and side-by-side F-formations are typically used for different functions; roughly side-by-side is used where there is a shared focus of attention whereas vis-a-vis is used where direct communication and mutual attention is required.

Data from the corpus show that participants actively combine these two F-formations in the way

Figure 8: An orange fox patting a smaller blue avatar

they use the mirrors. In particular we observe cases where, during a conversation, participants switch between the mirror image of an avatar and the avatar itself to deliver a turns that are part of the same conversation. Consider the example in Figure 9a and Figure 9b

(a) A hyena avatar talking to a Pokemon avatar through a mirror

(b) A hyena avatar talking to a Pokemon avatar directly, outside of a mirror

Figure 9: An example of users speaking in and out of mirrors

In Figure 9 a conversation is ongoing about avatar animation. The hyena has just reacted to some problems caused by a complex avatar loading. Facing the (yellow) Pokemon character in the mirror the Hyena says "Your avatar's load-in animation just fucking killed my frames". The Hyena then takes a step toward the mirror, turns to face the Pokemon avatar who also turns to face the Hyena. The Hyena then says "You were an impostor the whole time" (an impostor is a poorly rendered, low quality version of their avatar used to save performance on lower spec machines -see above).

A similar sequence is observed in Figure 10

(a) An orange fox talking with a smaller blue avatar, and a white and red avatar sitting behind them

(b) An orange fox turning to wave at the white and red avatar sitting behind them

Figure 10: Another example of speaking inside and outside of mirrors

where another user enters a conversation. The joiner waits in the R-space to be ratified as a participant before joining the conversation. Although the joiner is visible in the mirror the smaller blue avatar acknowledges them by turning to their avatar in virtual space and announcing "Pointbreak is one of my friends". The orange fox then also turns towards them in virtual space and enables their avatar before looking back to the mirror. A few seconds later, once Pointbreak's avatar has loaded, they turn back to "Pointbreak" to make a verbal and gestural greeting.

In Figure 11 we can see an illustrated situation where user A finds themselves with multiple options to interact with user B, in the P-space and C in the R-space. A is given four options: self-look where they will view their own actions A -> A(Mirror); A can see and ratify mirror C in the R-space to bring them closer into the P-space A -> C(Mirror); A can talk to mirror B as a Vis-a-Vis through the mirror A -> B(Mirror); A can talk to B directly Vis-a-Vis in the avatar space A -> B. Furthermore, this diagram shows how the O-space extends into the mirror space, allowing for interaction through the mirror.

These patterns of switching between talk 'inside' and 'outside' the mirror are recurrently observed in our VRChat corpus. They suggest that users make systematic use of the virtual mirrors to extend the structure of the F-formation beyond what

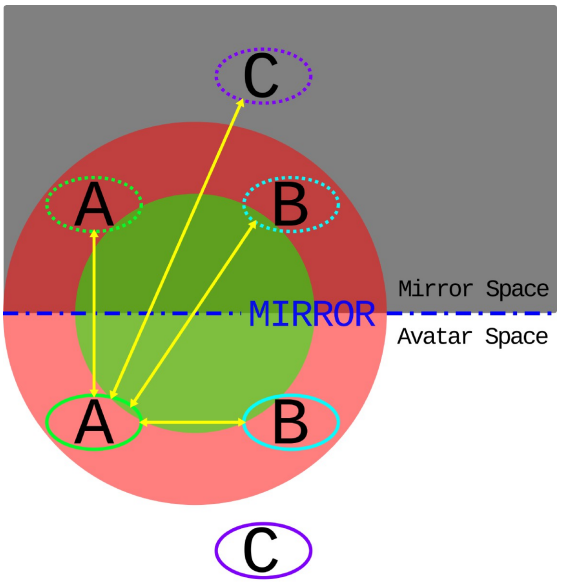


Figure 11: A diagram to illustrate the options presented to person A in a typical mirror interaction.

has been previously documented for face-to-face interactions.

Importantly, the addressee does not change in these examples when participants switch between inside and outside the mirror. It is clear that the users can interact effectively in the mirror and, counter-factually, they could deliver the same comments or greetings without turning from the mirror space to the virtual space.

Another example of the coordinated use of the two F-formations is provided by a deliberate violation of an O-space Figure 12. In Figure 12a two avatars are sitting talking to each other in the mirror when a third party then enters their O-space (with, it turns out, deliberately disruptive intentions). This intrusion is visible in the mirror but they turn to respond to it in the virtual space while returning to the mirror space to comment on the violation Figure 12b.

Field of view does not account for these adjustments since when participants turn away from the mirror they are switching to more restricted views of each other. However, turning changes the F-formation from the simultaneous side-by-side (visible in the mirror) and vis-a-vis (through the mirror) to a single vis-a-vis F-formation.

5 Discussion

The data presented above indicate that the use of F-formations to support conversational interaction in social VR is commonplace. This is consistent with previous studies of social VR. In many respects virtual communication reproduces patterns of interaction that are familiar from face-to-face encounters. Users self-organise into small groups or pockets of conversation where turn taking and exchange occur, naturally transfering strategies and patterns of communications from the real world to the virtual. However, physical space imposes hard constraints on how bodies are located in space. These constraints are loosened or removed in virtual worlds and this is leading to the emergence of new resources and conventions for interaction.

(a) Two avatars talking inside a mirror

(b) Two avatars talking outside a mirror to a third member violation

Figure 12: An example of a violation of an F-formation triggering a shift from in mirror speak to out of mirror speak

Three phenomena in particular demonstrate how people adapt the resources around them in the service of communication: manipulating the environment, playspace dragging, and mirror conversations. Users modify their virtual bodies, points of view and environment to facilitate interaction.

We speculate that these modifications are principally driven by people's interest in creating qualitative differences in levels of intimacy or engagement (see Healey et al. (2008); Krell and Wettmann (2023)). Intuitively, the pattern of switching from interactions inside to outside the mirror enhances the sense of mutual attention and focus. By talking (vis-a-vis) through a mirror, users are talking to a (virtual) reflection of an avatar who is beside them. We hypothesise that this is experienced as less direct than talking vis-a-vis with an avatar; even though both are only partial graphical proxies for the actual participants.

These innovative uses of the environment to create new kinds of communication space are also driving the development of third party tools such as "OVR Advanced Settings" (OVRAS Team, 2016) to allow for playspace dragging. People are also exploring how the size, position, resolution, depth and field of view provided by virtual mirrors can be adapted to enhance interaction (Chen et al., 2025).

A useful direction for future research would be to use virtual environments to gather more comprehensive, quantitative data on the use of space in general and F-formations in particular. Similar to prior research on proxemics in social VR (Williamson et al.), a deeper look with a larger dataset could help uncover more robust generalisations about social interactions in VR. Furthermore, investigation into how the environment's scenography can affect these F-formations could help create environments that push users to actively engage with other users in a pro-social manner.

These observations also reflect back on face-to-face interaction in the real world. Some of what we observe in virtual mirrors could, in principle, happen in physical mirrors. However, as far as we are aware the use of mirrors to create parallel or layered F-formations has not been studied. People have been observed to act and talk into mirrors as a means of communication in contexts such as hairdressing (Schroder, 1974; Horlacher, 2022). There are other environments, such as the use of rear-view mirrors in cars that are, at least cinematically, associated with switches between mirror-based interaction to turning to face people at moments of surprise or stress. These forms of combined F-formation could represent an interesting extension of current accounts of F-formations.

Although in the real world mirrors typically reflect everything in front of them digital rendering of mirrors is much more flexible. The usual method for creating perfect mirrors is using a flipped duplication of the world, other camera based techniques can create unusual orthographic perspectives and change the perception of eye gaze just as the gaze in some portraits seems to follow you as you move, so too can an avatar's eyes if the mirror is setup in this way. There are also choices about depth of field and how much background detail is rendered. Moreover, mirrors are not always visible and may be localised to the client, leading to asynchronous access to a mirror. Global mirrors are enabled on a client by client basis whereas personal mirrors allow asynchronous access to a mirror that only the client can see and position, and synced mirrors that are serialized to all users allow for each user to have access to the same mirror, enabled or disabled for every user in the lobby.

Technical specifications about how mirrors are rendered create questions as to the use of mirrors and their service in the world of social virtual environments. The fact that the depth of field in a virtual mirror is not infinite raises design questions about what they should show. From the perspective of F-formations people's approach to the R-space and attempts to join the P-space provide one set of guidelines for how much of what is going on behind the person using the mirror should be shown.

A practical question that arises is whether SVEs should limit a users ability to scale their avatar according to preference, or create environments that allow arbitrary sizes. The concept of tiered environments that allow characters of all statures to coexist and collocate is a concept that is rarely explored. One exception is the train at the beginning of the film Zootopia (Rich Moore and Bryan Howard, 2016). It envisages compartments for every sized animal to be transported safely. Users in social VR are also creating worlds that can be experienced at different scales creating interesting design challenges.

5.1 Limitations

The study primarily samples groups focused around virtual music event goers and/or clubbing. This provides naturalistic data from people who routinely interact in social VR. However, it is an open question how well it generalises to other communities. It is also worth noting that any social VR sample is biased towards Furthermore, although the availability of VR headsets is getting better, and the platforms that VRChat is available on has increased, it is still a hurdle to participation in these types of spaces.

6 Conclusion

To conclude, the argument is not that the way people use physical space to create F-formations has been incorrectly characterised. Rather, it is that physical space incorporates a number of contingent constraints that, once removed, lead people to reconfigure the available resources in ways that are organised -first and foremost- by the needs of human communication (Healey et al., 2008). The study of social VR may help us to distill the principles that underpin these adaptations and help us to design richer, more engaging and more effective environments for human interaction.

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A List of Communities

SONAR a music and rave community https://vrc.group/SONAR.2654

RiftVR a music and rave community https://vrc.group/RIFTVR.3036

Club Dark a music and rave community https://vrc.group/CLUBDA.3809

VRAllience a music and rave community https://vrc.group/VRALLY.6659

Quest Compatible Clubbing a music and rave community https://vrc.group/QCC.7449

Protofox Network an events and meetup community https://vrc.group/PRTOFX.8843

Chaotic Rose a social meetup group https://vrc.group/CHAOS.5822

Seamen a social meetup group https://vrc.group/SEAMEN.6593

MetaverseDegen a podcast creator https://www.youtube.com/@metaverse_degen

B Recruitment Message

"Hello everyone, I am a PhD researcher looking into how we socialise in virtual environments and the type of conversations that go on during interactions. I would like to invite you to participate in a study that asks users to record uninterrupted discussions in public lobbies. By participating in this study you will be contributing to the academic literature available to researchers surrounding the niche that is social VR, particularly the literature based on VRChat. The study itself asks users to record 1 hour sessions of VRChat using the ingame camera and OBS 3 times over 3 days. 1 hour of footage per day. If this is something that interests you or you would like to contribute to this study. Please message me for more information."

C VRChat Terms of Service 8.1.

Any User may leverage certain features of the Platform to develop content on or submit, upload, publish, broadcast, perform, or otherwise transmit content to or via the Platform (directly, through any automated process, or through a third party acting on their behalf or at their direction) ("Post"), including software code, messages, photos, video, images, folders, data, text, performances, and other types of works (all such content, "User Content"). As between you and VRChat, you retain copyright and any other proprietary rights in the User Content you Post, subject to the licenses granted in these Terms or in any other agreement between you and VRChat.