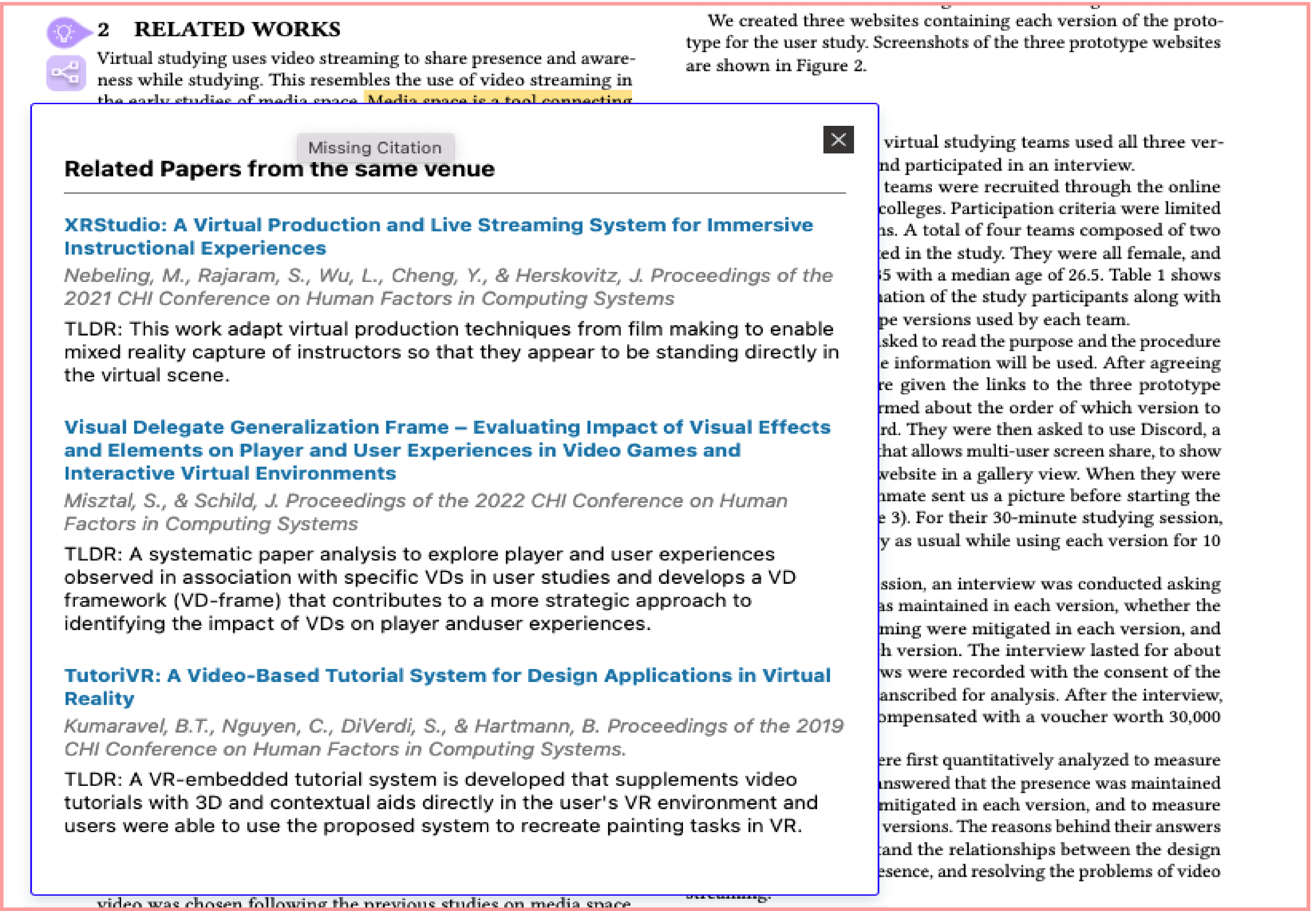
C



2 RELATED WORKS

Virtual studying uses video streaming to share presence and awareness while studying. This resembles the use of video streaming in the early studies of media space. Media space is a tool connecting

video was chosen following the previous studies on media space

We created three websites containing each version of the prototype for the user study. Screenshots of the three prototype websites are shown in Figure 2.

virtual studying teams used all three ver-
nd participated in an interview.
teams were recruited through the online
colleges. Participation criteria were limited
ns. A total of four teams composed of two
ed in the study. They were all female, and
5 with a median age of 26.5. Table 1 shows
ation of the study participants along with
pe versions used by each team.
sked to read the purpose and the procedure
e information will be used. After agreeing
re given the links to the three prototype
rmed about the order of which version to
rd. They were then asked to use Discord, a
hat allows multi-user screen share, to show
website in a gallery view. When they were
nmate sent us a picture before starting the
e 3). For their 30-minute studying session,
y as usual while using each version for 10

ssion, an interview was conducted asking
as maintained in each version, whether the
ming were mitigated in each version, and
h version. The interview lasted for about
ws were recorded with the consent of the
anscribed for analysis. After the interview,
ompensated with a voucher worth 30,000

re first quantitatively analyzed to measure
nswered that the presence was maintained
mitigated in each version, and to measure
versions. The reasons behind their answers
and the relationships between the design
esence, and resolving the problems of video
streaming.

Missing Citation

Related Papers from the same venue

XRStudio: A Virtual Production and Live Streaming System for Immersive Instructional Experiences

Nebeling, M., Rajaram, S., Wu, L., Cheng, Y., & Herskovitz, J. Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems

TLDR: This work adapt virtual production techniques from film making to enable mixed reality capture of instructors so that they appear to be standing directly in the virtual scene.

Visual Delegate Generalization Frame – Evaluating Impact of Visual Effects and Elements on Player and User Experiences in Video Games and Interactive Virtual Environments

Misztal, S., & Schild, J. Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems

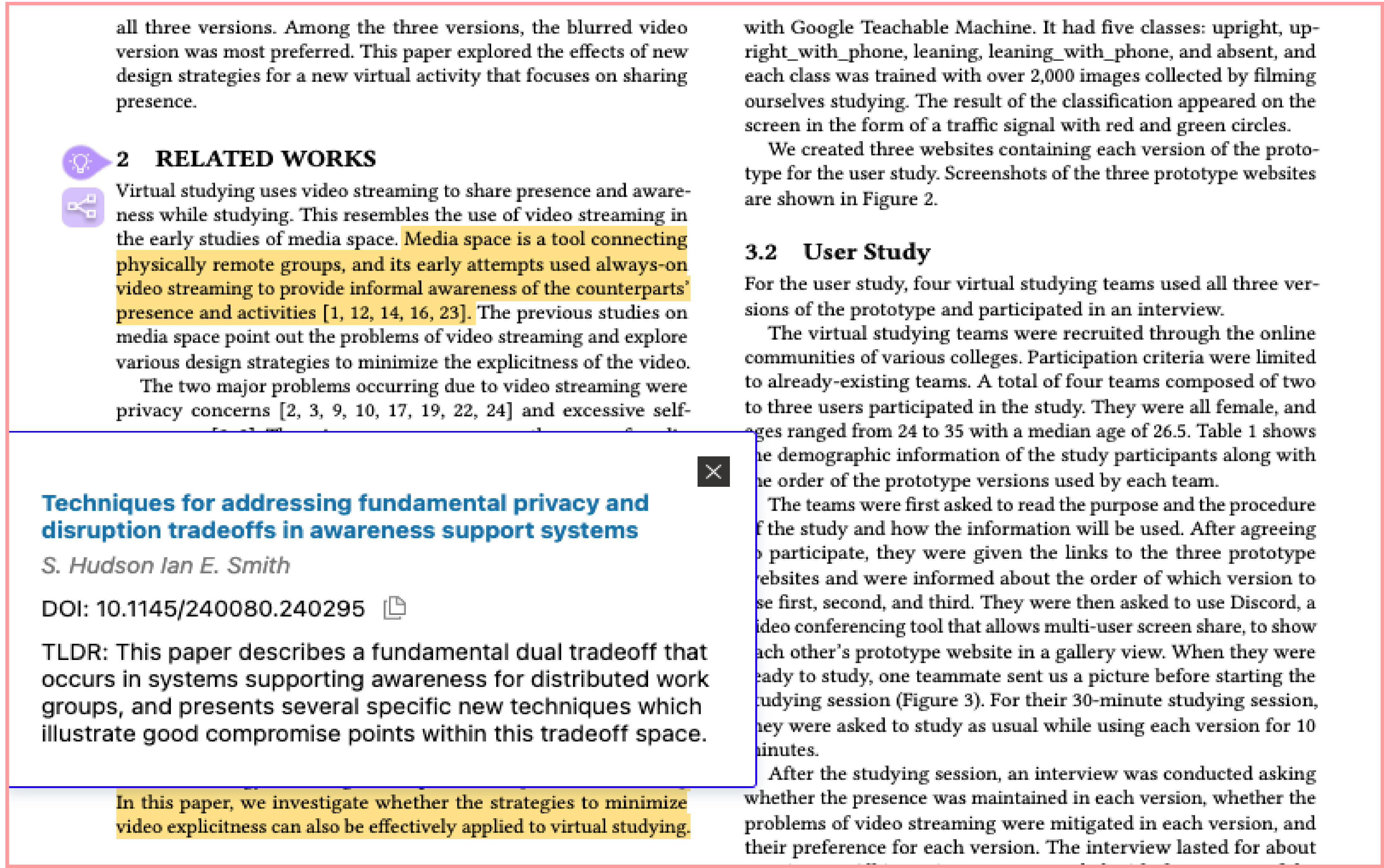
TLDR: A systematic paper analysis to explore player and user experiences observed in association with specific VDs in user studies and develops a VD framework (VD-frame) that contributes to a more strategic approach to identifying the impact of VDs on player anduser experiences.

TutoriVR: A Video-Based Tutorial System for Design Applications in Virtual Reality

Kumaravel, B.T., Nguyen, C., DiVerdi, S., & Hartmann, B. Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems.

TLDR: A VR-embedded tutorial system is developed that supplements video tutorials with 3D and contextual aids directly in the user's VR environment and users were able to use the proposed system to recreate painting tasks in VR.

D



all three versions. Among the three versions, the blurred video version was most preferred. This paper explored the effects of new design strategies for a new virtual activity that focuses on sharing presence.

2 RELATED WORKS

Virtual studying uses video streaming to share presence and awareness while studying. This resembles the use of video streaming in the early studies of media space. Media space is a tool connecting physically remote groups, and its early attempts used always-on video streaming to provide informal awareness of the counterparts' presence and activities [1, 12, 14, 16, 23]. The previous studies on media space point out the problems of video streaming and explore various design strategies to minimize the explicitness of the video.

The two major problems occurring due to video streaming were privacy concerns [2, 3, 9, 10, 17, 19, 22, 24] and excessive self-

In this paper, we investigate whether the strategies to minimize video explicitness can also be effectively applied to virtual studying.

with Google Teachable Machine. It had five classes: upright, upright_with_phone, leaning, leaning_with_phone, and absent, and each class was trained with over 2,000 images collected by filming ourselves studying. The result of the classification appeared on the screen in the form of a traffic signal with red and green circles.

We created three websites containing each version of the prototype for the user study. Screenshots of the three prototype websites are shown in Figure 2.

3.2 User Study

For the user study, four virtual studying teams used all three versions of the prototype and participated in an interview.

The virtual studying teams were recruited through the online communities of various colleges. Participation criteria were limited to already-existing teams. A total of four teams composed of two to three users participated in the study. They were all female, and
ages ranged from 24 to 35 with a median age of 26.5. Table 1 shows
he demographic information of the study participants along with
he order of the prototype versions used by each team.
The teams were first asked to read the purpose and the procedure
f the study and how the information will be used. After agreeing
o participate, they were given the links to the three prototype
ebsites and were informed about the order of which version to
se first, second, and third. They were then asked to use Discord, a
ideo conferencing tool that allows multi-user screen share, to show
ach other's prototype website in a gallery view. When they were
eady to study, one teammate sent us a picture before starting the
tudying session (Figure 3). For their 30-minute studying session,
hey were asked to study as usual while using each version for 10
inutes.

After the studying session, an interview was conducted asking whether the presence was maintained in each version, whether the problems of video streaming were mitigated in each version, and their preference for each version. The interview lasted for about

Techniques for addressing fundamental privacy and disruption tradeoffs in awareness support systems

S. Hudson Ian E. Smith

DOI: 10.1145/240080.240295

TLDR: This paper describes a fundamental dual tradeoff that occurs in systems supporting awareness for distributed work groups, and presents several specific new techniques which illustrate good compromise points within this tradeoff space.