

Replay to Play: Creating Accessibility in VR with Reused Motion Input
(Technical Report)

The Self: Unique Advantages and Disadvantages of Virtual Reality
(STS Research Paper)

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Preface

How can virtual reality (VR) be made more accessible? VR is still a very young medium; more research is needed to improve its inclusiveness, safety, and usability.

How can existing VR games and hardware be made more accessible for people with physical limitations? In-home VR games require significant gross motor function, and players have few or no means to adapt these motions to their abilities. Software can remap effective motion ranges and “play” pre-recorded motions at the press of a button, making VR more accessible and comfortable to users with constrained physical abilities. This software successfully allows users to create custom solutions to overcome their unique limitations and reduces strain in all users, removing the need for strenuous motions performed rapidly.

How have users responded to VR? VR’s exceptional immersiveness offers users unique transportational and transformational properties. While with VR a person can virtually go anywhere or be anyone, VR also has limits, both in terms of what experiences it can offer and to whom it can offer them. Such possibilities and limitations are considered. To offer users a stronger, safer, and more inclusive experience, VR developers need a better appreciation of users’ experiences and of the constraints they face.