

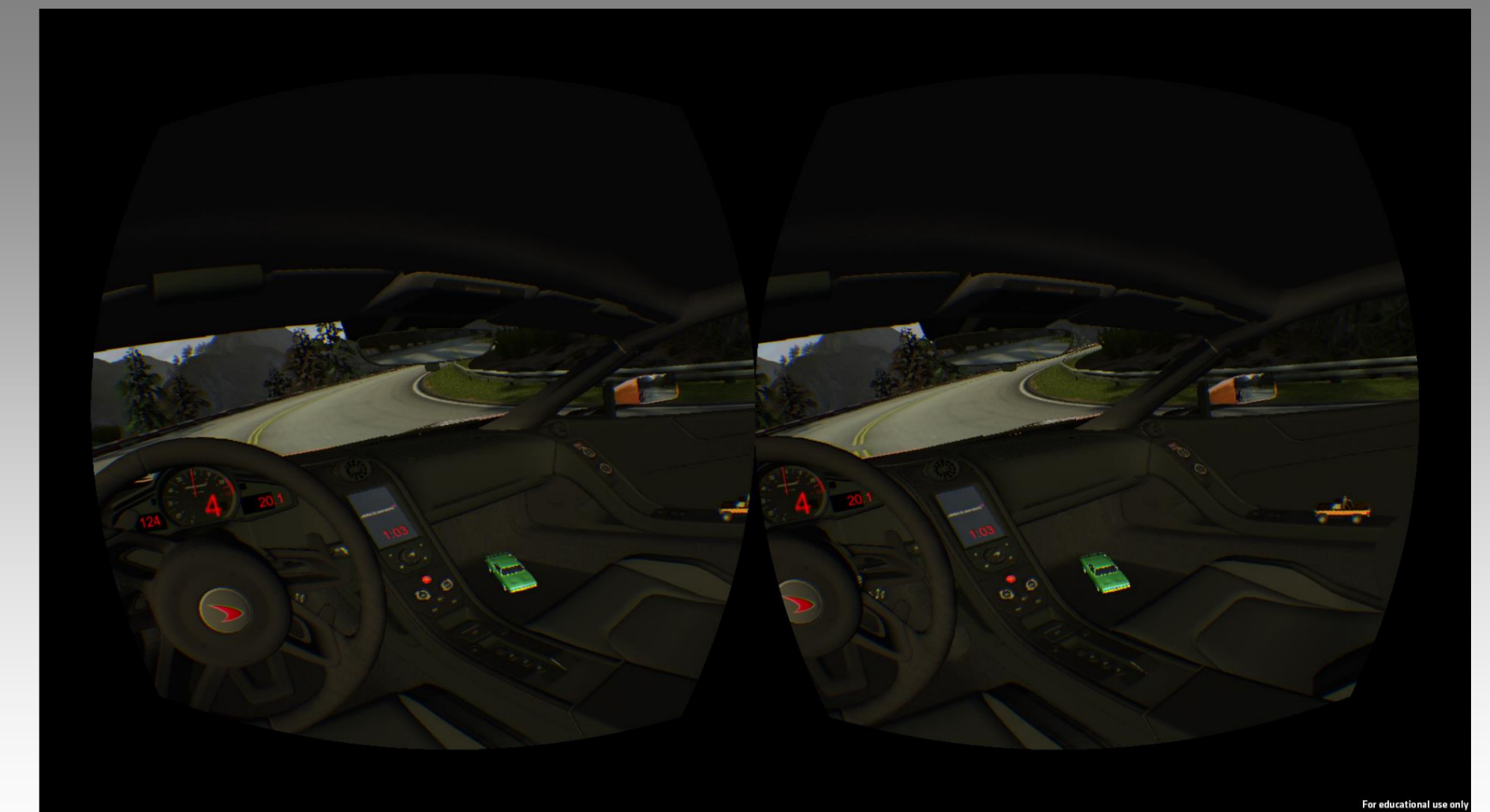
IS VIRTUAL REALITY THE FUTURE OF THE VIDEO GAMES INDUSTRY?

Markus Rapp
Stuttgart Media University
mr113@hdm-stuttgart.de

Stefan Radicke
Stuttgart Media University
radicke@hdm-stuttgart.de



Screenshot of display prototype.



Screenshot of Oculus Rift prototype.

INTRODUCTION

Oculus VR tries to conquer the video games market place with their Head-Mounted Displays (HMD). Is the time right for VR games or is another failure of HMDs unavoidable?

The Oculus Rift Development Kit was utilized in order to answer this question. Two versions of a racing game prototype were developed to be able to compare a classical racing game with an Oculus Rift version, respectively. Since the degree of immersion in video games is a highly subjective and largely varies for each individual, a user test was conducted involving 40 people in order to find out if the gaming experience with VR is indeed more enjoyable. Furthermore, the user test was aimed to identify weaknesses of the Oculus VR hardware, which negatively affect immersion.

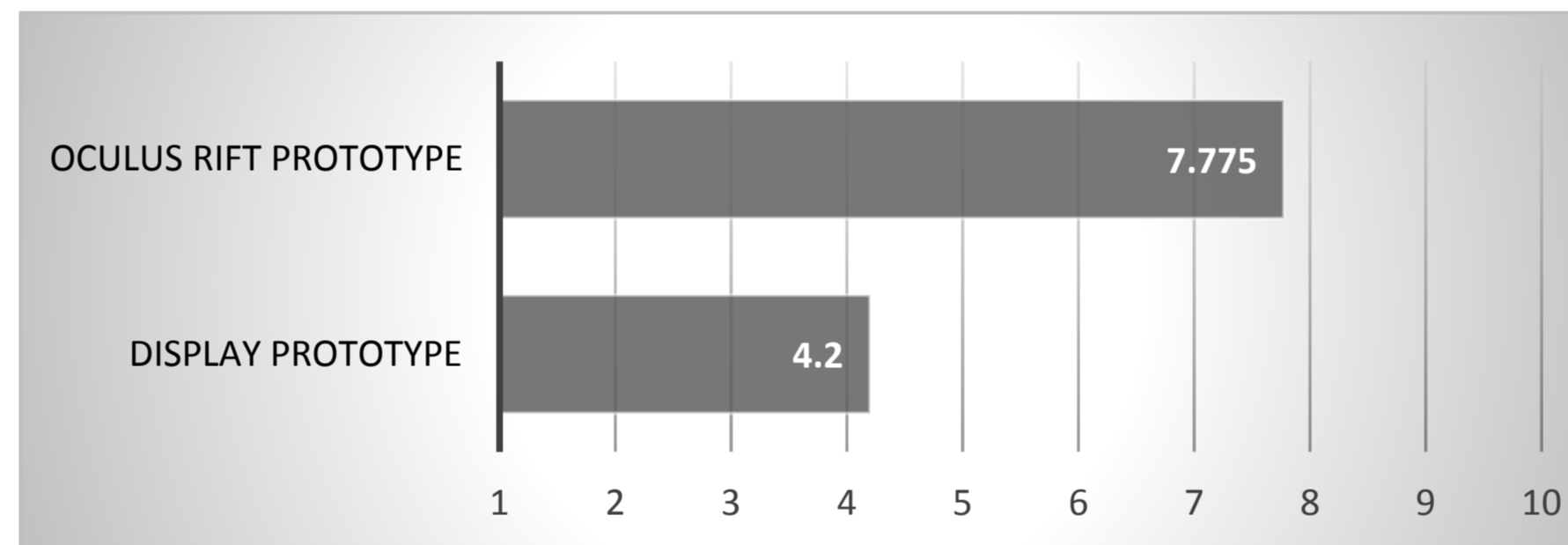


Test setup with Oculus Rift Development Kit.

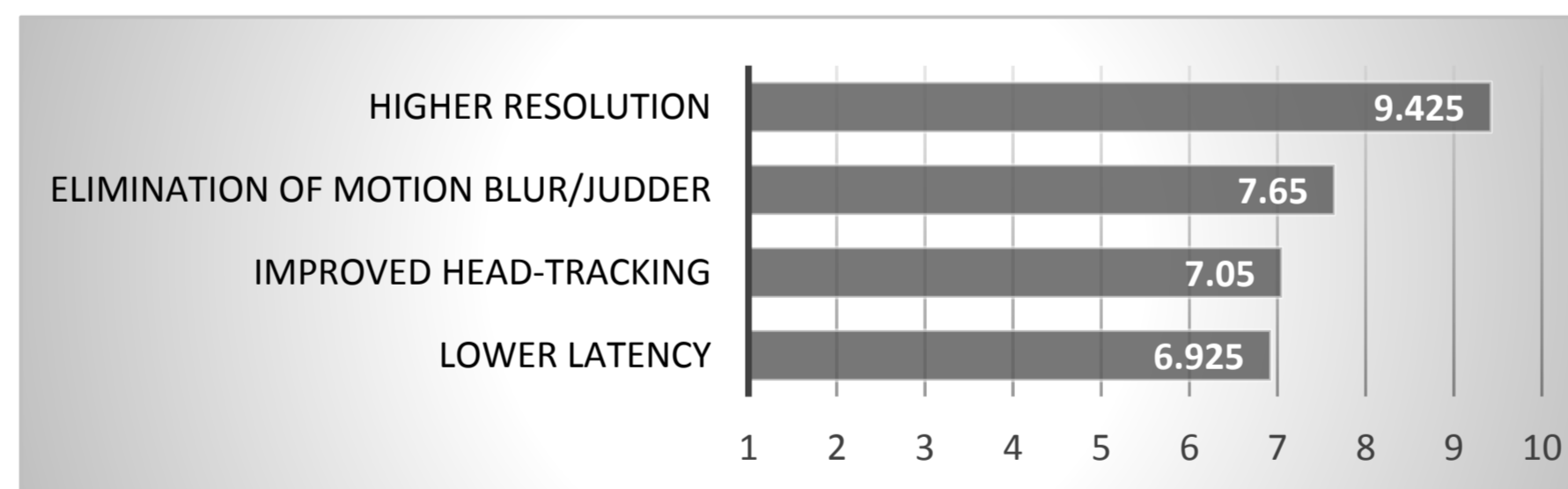
USER TEST

Each participant of the user test played both prototype versions. Half of the participants started the Oculus Rift version first and the other half began with the classical display version. Each participant played each version for up to 9 minutes. At the end the participants filled out a survey for statistical evaluation.

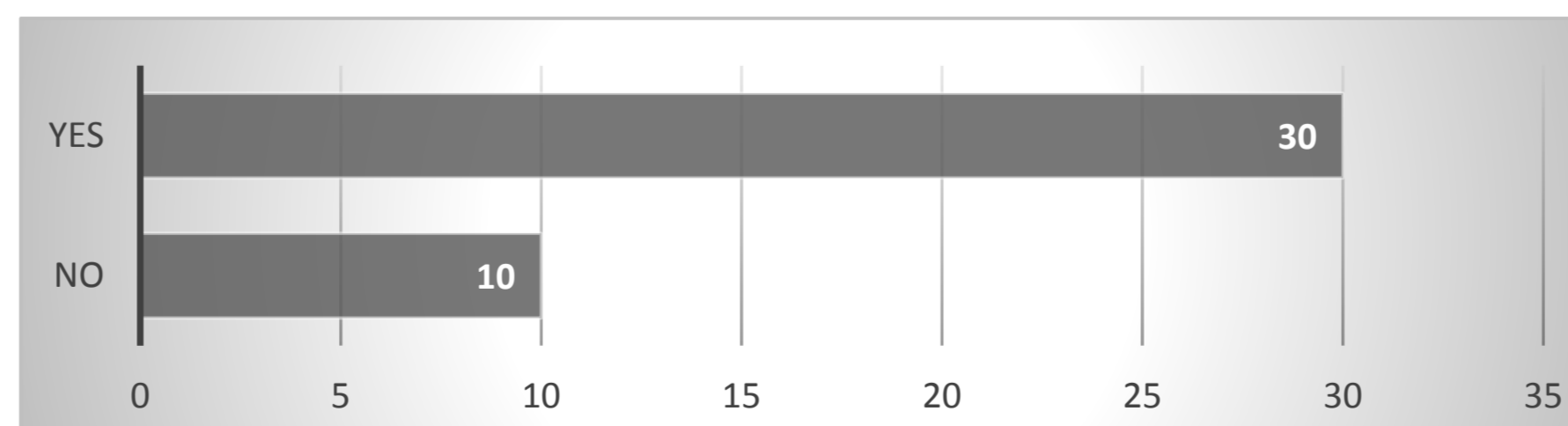
RESULTS



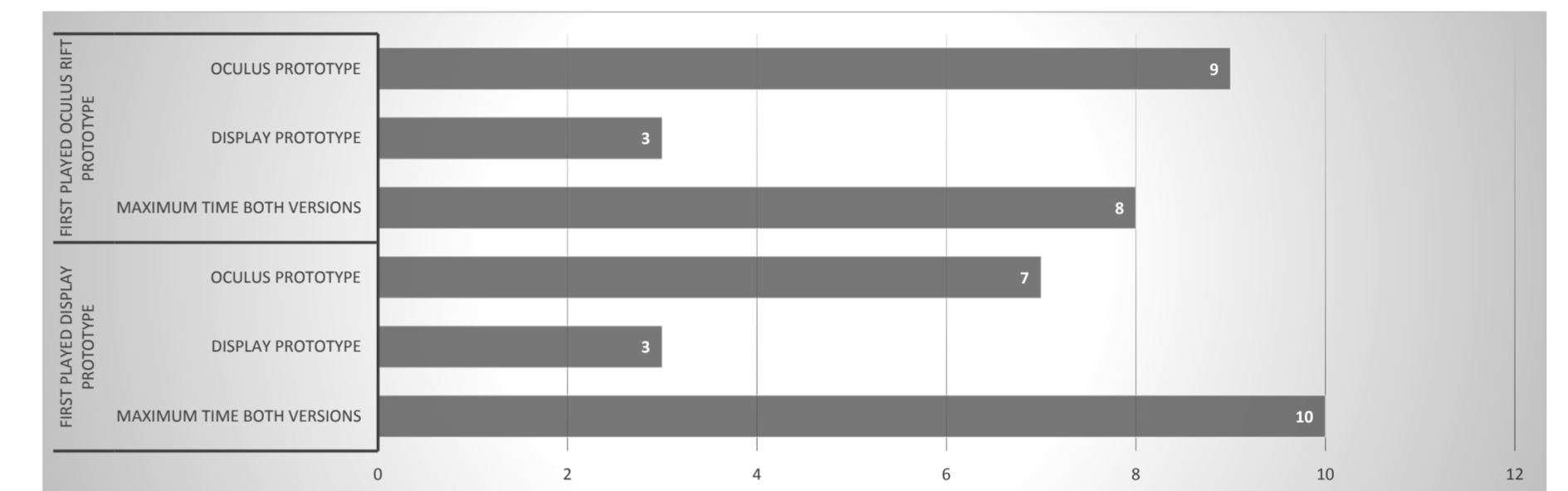
Immersion of prototypes (average result with a scale from 1 to 10).



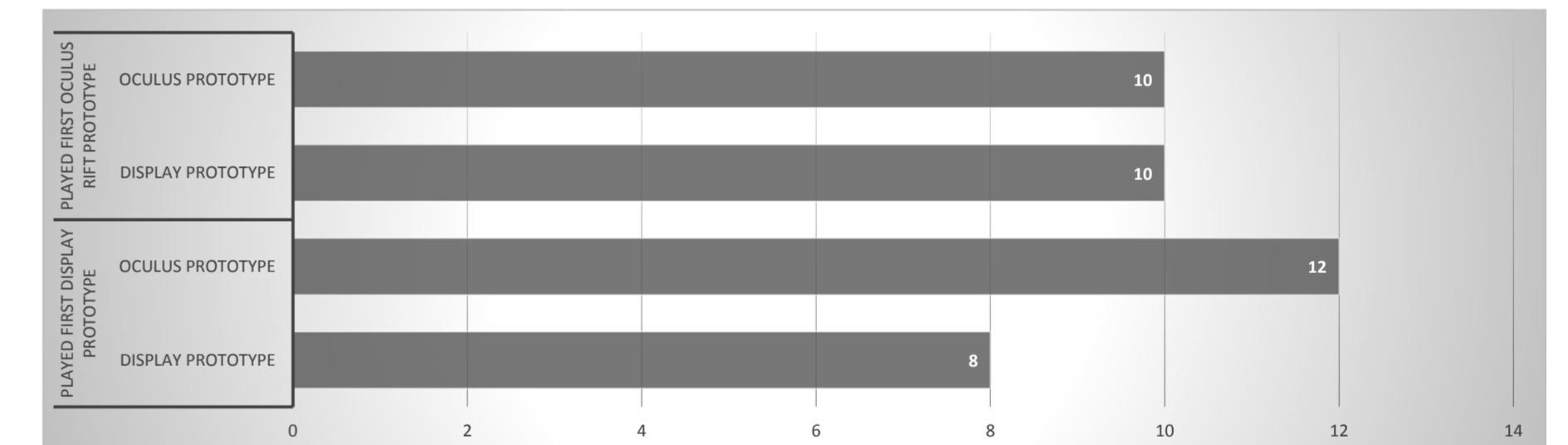
Possible Oculus Rift hardware improvements (average result with a scale from 1 to 10).



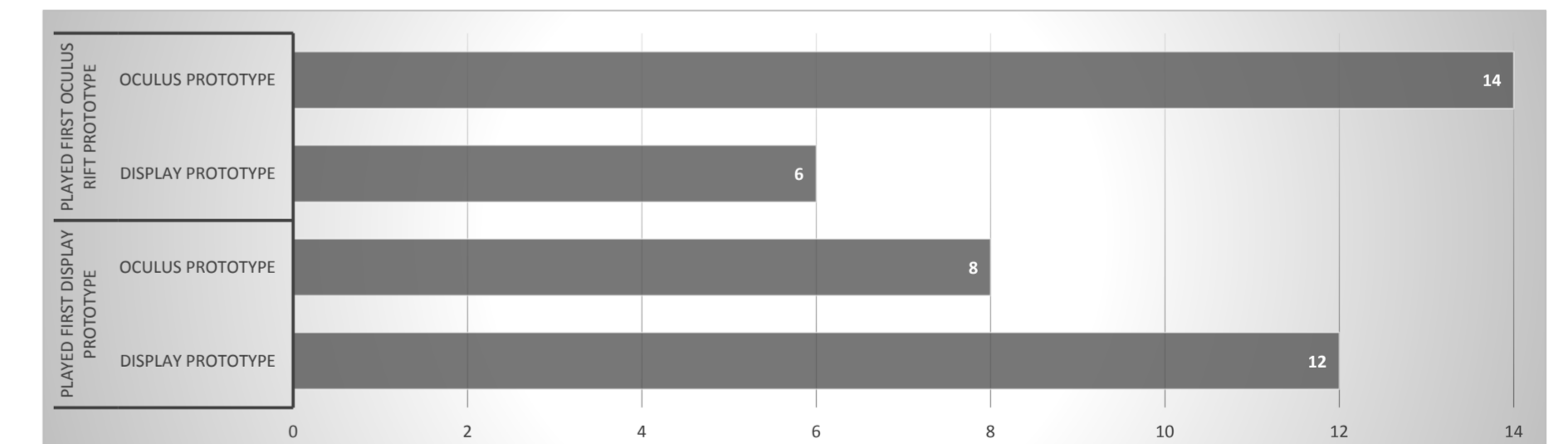
Number of participants, who suffered from motion sickness.



Number of participants, who played the maximum play time.



Number of participants, who set their personal fastest lap time with which prototype version.



Number of participants, who set their personal slowest lap time with which prototype version.

CONCLUSION

VR has made huge steps forward. However, there are still technical problems and motion sickness that need to be solved before VR will be a commercial success. Despite all the technical issues the majority of the participants prefer VR. In taking to account that Oculus VR and their competitors are working on improved HMDs, it is likely that VR gaming experience will improve in the future.