**REVIEW**

on the thesis of the master’s student: Primzhanov Zanggar Galymuly

Kazakh-British Technical University

Major: 7M06106 Software Engineering

Graduation project: « **HAPTIC FEEDBACK RESEARCH IN VIRTUAL REALITY** »

**Remarks on the Thesis**

The dissertation research conducted by Zanggar Primzhanov addresses a highly relevant topic dedicated to the study of systems and algorithms for haptic feedback in virtual reality (VR). The master's thesis is structured into an abstract in three languages, an introduction, a main body comprising three chapters, a conclusion, a list of references, and an appendix.

Primzhanov has conducted a detailed analysis of existing haptic feedback systems and algorithms. The author explores various methods and approaches for incorporating haptic feedback in VR, including neural networks. The algorithms were thoroughly analyzed and evaluated, highlighting the strengths and weaknesses of each approach. The main findings of the dissertation have been published in several scientific papers, attesting to the high academic level of the research.

In addition, the dissertation proposes recommendations for the refinement and enhancement of existing haptic feedback systems, which could facilitate their broader application across various industries.

The work exhibits some minor stylistic inaccuracies, which, however, do not affect the overall assessment of the dissertation.

**Evaluation of the Work**

The research presented in this master's thesis demonstrates the scientific and practical skills of the graduate student. The results of the study will be valuable for future research in the fields of information security and haptic feedback in VR.

In conclusion, Zanggar Primzhanov's thesis is a commendable and thorough work that makes a valuable contribution to the field of virtual reality and haptic feedback. It stands out for its innovative integration of technology and comprehensive analysis of haptic feedback systems, enhancing user experience and immersion in VR environments. The research is timely and offers important implications for improving the realism and effectiveness of VR applications across various sectors, including gaming, medical training, and rehabilitation therapy. The thesis is recommended for final defense.

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| **Reviewer**  PhD ,  Associate Professor of the Department of Computer Engineering in JSC IITU | **Full name of Reviewer**  S.Z.Sapakova  **“\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2024** |