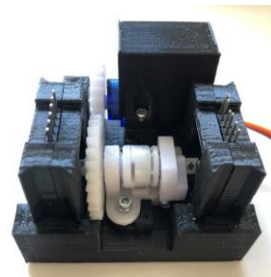
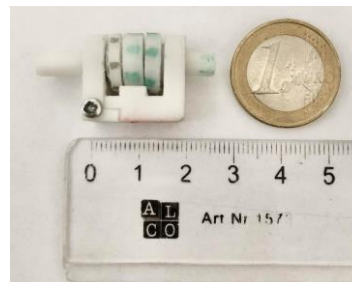
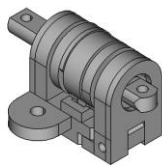


Diplomarbeit/Studienarbeit

„Design improvement and Analysis of clutch mechanism for haptic feedback applications“



Summary:

Force feedback gloves, applied in Virtual and Augmented Reality applications (VR/AR) present several challenges, as systems that apply force to the fingers are limited by various issues, such as to the high dexterity of the hand, its force capabilities, and the reduced available space. One approach is to use actuators with additional mechanisms that increase their performance in specific aspects, such as force or motion range. In the Chair of Acoustics and Haptics a novel clutch design, that adds coupling/decoupling capabilities to the attached actuator by using sliding magnets, has been designed. However, this mechanism requires further design improvements and analysis in terms of force capabilities and motion range, being these tasks the focus of this proposal. Therefore, this topic would be of interest for students with a mechanical background, that would like to work on mechanical characterization, simulation and design (CAD/3D Printing), with the option of doing both theoretical and practical work, depending on the student's interests.

Supervision by the Chair of Acoustics and Haptics

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