**ABSTRACT**

The ability to hear is essential for receiving auditory signals, which serve as warnings and alerts in many situations, including fire evacuation. However, people with hearing impairments may miss out such signals and can be exposed to dangerous situations. This is particularly relevant in scenarios where audible alarms are the primary form of alert, such as in fire scenarios, natural hazards, or home security systems. The development of an effective alarm system for people with hearing impairments is crucial to ensure their safety and protection. The use of tactile cues can provide an alternative form of alert, which can be just as effective as audible signals.
Therefore, it is important to investigate the design and implementation of alarms that can cater to the needs of people with hearing impairments and ensure that no one is left behind in fire emergency situations. This thesis introduces a prototype of a tactile alarm in which a set of key features of the vibrations can be customized. It is developed using Arduino program and is presented in two prototypes, based on either a motor or magnet system. This device is designed to facilitate testing of the effectiveness of tactile alarms for people with hearing impairments.

Keywords
Alarm system, Deaf people, Hard-of-hearing people, Fire safety.