

Development of Detachable Brake System for Moving Apparatus

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Abstract : The aim of this study was to investigate usability of detachable brake system for moving apparatus such as baby strollers, manual wheelchairs or walkers. The current brake system was proposed to prevent that moving apparatus slip on sloping roadways when unattended as current built-in manual brake for the moving apparatus is not able to react for the matter. The developed detachable brake system enacted by force sensor on the hand grip showed the possibilities to prevent unexpected accident due to uncontrolled stroller or wheelchair use. To investigate the quality and acceptance of this new technology, standard stroller testbed was built and the use of moving apparatus which attached to the proposed brake system was analyzed through video recording. Additional usability questionnaires were given to test users for measuring usability issues.

Keywords : brake system, stroller, wheelchair, usability test

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