Home Security Innovation: Designed a Prototype to Access High Spaces in the Kitchen

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Falls cause serious injury and even death, according to the World Health Organization (2021). According to CHUBB (2020) most falls in the home occur when climbing on a chair or ladder. This project focuses on falls in the kitchen by older adults or people with a height of less than 160cm. Recent research has identified that 75% of deaths are due to accidents in adults over 75 years of age (Caiza, 2021). A step was created which is safe and easy to store. It is made of wood and metal in a collapsible form. It is made to be stored under the cabinet, on the floor, which can be manually removed from the cabinet and remains as a step. Data was collected by weight testing with standardized mass and then with humans to give their opinion on its safety. The results were satisfactory it has withstood 181.437 kilograms without shattering. In addition, according to the surveys it is 100% safe, 92% stable, 100% comfortable, 88% intuitive, 88% aesthetically pleasing and 92% cost effective. Although it is manual, it is easy to use and does not require much effort. It allows people to reach high kitchen cabinets. It is installed in the kitchen anchored to the floor for stability, it cannot be moved to other places. In conclusion, the folding step is better for storage, and it is safe for reaching high cabinets. In the future it would be improved to be electric, so it does not require so much effort.

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