Safety Zip

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People in the United States spent an estimated $2.7 billion replacing lost items in 2017, while identify theft claimed 15.4 million victims, at a cost of $16 billion to the US economy, in 2016. Yet, many people carry expensive electronic devices that contain valuable personal data in crowded cities and on public transportation with little protection for their property or information. The purpose of this project was to design a low-cost method to deter the theft or loss of personal property from backpacks, purses, and other bags that are an easy target for pickpockets. After existing products were examined, a need for a multi-action, low-tech option operable with one hand was identified. A prototype was developed for a two-action locking zipper slider that consisted of a steel pin that locks between zipper teeth using a compression spring and a 3D printed PLA plastic rotating cam, preventing a zipper slider from moving without pushing and rotating the cam. The prototype was manufactured for less than $1 per unit and attached to a common #20 zipper slider on a #20 zipper. The prototype was evaluated and modified until it functioned without error under these conditions. The prototype meets the established constraints and goals for this project, but requires further testing and development for mass production. Even as tested, however, the prototype has the potential to reduce financial loss and identity theft from lost or stolen personal property, and to provide an increased sense of security that belongings and data are safe and secure in people’s bags.

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