ABSTRACT

Backpacks are one of the essential items for various outdoor activities as well as daily routines. They are generally designed to help users carry multiple items in a single container that is ergonomic and comfortable to wear on the back. Most backpacks on the market are rectangular or have flat surfaces, which provides the potential for additional functions or features. Therefore, this study aims to develop the backpack into a multifunctional product that not only serves as a storage solution but can also transform into a portable mini table. The development process adopts a reverse engineering approach by analyzing the structure and components of conventional backpacks to identify potential modifications. The main focus is on utilizing the flat and rigid front surface of the backpack while ensuring stability and comfort in both functions. By incorporating a lightweight support mechanism or a foldable system, the backpack can be easily converted into a small table that is stable enough to hold items such as a water bottle, snacks, or small devices like a smartphone. This backpack-to-table innovation represents a design solution that aligns with the demands of today's practical and flexible lifestyles.

Keywords: Backpack, Multifunctional, Portable mini table, Reverse engineering