

Abstract

Many women feel pain and discomfort when wearing high heels to certain events. This is a problem because it can lead to a variety of health issues. It would be beneficial and convenient if a woman could remove the heelpiece from her shoe while still wearing the same product. However, there is currently no popular high heel that can convert to a flat shoe on the market today. Our goal was to perform an in depth human factors analysis with regards to high heel use and formulate a solution to these problems. After reviewing literature, conducting a survey, and analyzing current materials used in shoe making, we proposed a solution and created a prototype that demonstrates how a heelpiece can detach from a shoe converting it into a flat. This proposed design had to be durable, convenient, and aesthetically pleasing in order to realistically expect demand for such a product. We discovered solutions that address these issues along with a viable mechanism for connecting and disconnecting the heelpiece. Further research in the manufacturing of such materials could definitely lead to the production of an exceptional product.