

## ECOCHILDCLO: A MOBILE APPLICATION FOR CUSTOMISATION OF CHILDREN'S CLOTHING TOWARD SUSTAINABILITY

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**Abstract.** Some retailers provide global platforms for customised women's and men's clothing; however, the fit size of children's clothing remains a concern. This research attempted to find sustainable solutions to design problems affecting non-fit children's clothing based on an awareness of the need to reduce post-consumer waste. EcoChildClo is a clothing design mobile application that will help to quickly and easily create designs for children aged one to 12 years old. The EcoChildClo mobile application was developed using MIT App Inventor. This research reported the six phases of the Multimedia Development Life Cycle: concept, design, obtaining content material, assembly, testing, and distribution. The mobile multimedia was built using the JavaScript ES2015 programming language as the authoring tool during the assembly phase. This application can show previews of clothing samples, flat sketches, and made-to-measure flat patterns. Comparative analysis between various apps currently available on the market and the developed application determined that EcoChildClo is properly-suited and better equipped for making the basic blocks of custom children's clothing. Anybody using this application would be able to customise children's clothing according to an individual's height, body measurement, and body shape. Moreover, improved customisation of children's design and fitted garments would reduce the amount of children's clothing going to household waste.

**Keywords:** *Childrenswear, clothing mobile application, post-consumer waste, customised clothing, sustainability, apparel industry.*

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### 1. Introduction

In the clothing and apparel business, production is fast evolving into a high-tech activity because of the rapid growth of technology, so design, pattern making, cutting, and manufacturing are improving. These are some of the fastest-growing sectors of the clothing manufacturing industry. As a result, clothing industry experts and researchers must have the necessary resources to match the rapid pace of change required to produce truly competitive garments. Nowadays, clothing manufacturing companies can easily use mobile applications to sell finished products. Moreover, most of these applications are easily discovered with Google Play Market's search engine, making them easy to access (Jalil & Shaharuddin, 2021; Zhylenko *et al.*, 2019). Zhylenko *et al.* (2019) investigated the categories of clothing industry mobile applications. According to their findings, the percentages of these apps supporting the fashion distribution

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