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SIMULATION IN CONTAINER TO REDUCE WASTED SPACE WITH FIRST FIT DECREASING AND LARGEST AREA FIRST FIT METHODS

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ABSTRACT

Delivery of goods using large containers requires a large cost. One way that can be done to reduce the cost is to fill the container as much as possible so the numbers of containers needed for a delivery can be reduced as well as the cost needed. This study will describe a way to optimize the use of space in a container with three different shapes of items such as a box, cylinder, and sphere, then build a 3D simulation in the arrangement of items in containers with two different sizes which are 20 feet and 40 feet container. The results of this study will be presented in the form of a 3D simulation built using the PHP language and use two methods of packaging goods such as first fit decreasing and largest area first-fit. FFD algorithm will be used in determining the order of items that will fit into a container with a sort by the largest size. LAFF algorithm will be used in arranging the item's position in the container.

KEYWORDS: *Three-Dimensional Simulation, Largest Area First-Fit, First Fit Decreasing*

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