

# Randomized Heuristics Algorithm For Container Loading Problem : A Case Study

Djoni Haryadi Setiabudi  
Petra Christian University  
Siwalankerto 121-131  
Surabaya, Indonesia  
+62318439040

djonihs@petra.ac.id

Gregorius Satya Budhi  
Petra Christian University  
Siwalankerto 121-131  
Surabaya, Indonesia  
+62318439040

greg@petra.ac.id

Alex Chandra Suryana  
Petra Christian University  
Siwalankerto 121-131  
Surabaya, Indonesia

## ABSTRACT

At a cargo company the problem is how the process of loading can be made efficiently in order to include as many items as possible. To make the cargo loading process more swiftly, our research is to create an application to simulate the process of cargo loading. This simulation is performed on one of the cargo company, namely PT SLI as a case study. This company need a cargo loading simulation application which is at the end can help the company in the day to day cargo loading process.

The Process from this application starts from entering the data of container and goods. The next step is the process of simulating cargo loading using Randomized Heuristics algorithm, which will produce a picture layout of goods clearly. This application is made by using 3 kinds of software, there are Microsoft Visual C# 2010, Microsoft Visual C++ and Microsoft SQL Server 2008 as data storage.

From the test results of the application, can be concluded that the application can determine the number and the type of container needed in the cargo loading process. The number of container used can be minimized so that it can reduce the shipping cost and also be able to solve the multi-drop destination.

## Categories and Subject Descriptors

H.4.2 [Information Systems Applications] : Types of Systems – *decision support, logistics.*

## General Terms

Algorithms

## Keywords

Cargo loading, randomized heuristics algorithm, Container Loading Problem (CLP)