ABSTRACT

PT XYZ is a joint venture between the synergistic some of Indonesia's largest enterprise groups and international investment group which has one of the services, such as transport and distribution. One of these services is the process of transportation and distribution of both raw materials and finished goods from the warehouse to the customer which is located especially Jabodetabek area. Poblems owned by PT. XYZ is unloading time consumes 30% of the total transportation process time. Unloading time occupied the second largest after the travel time. Previous research has minimized travel time by determining the route. Therefore, Therefore in this study do the arrangement of boxes in the container to reduce loading time using Genetic Algorithm. Genetic algorithm used to solve the problem of arrangement box in container based on delivery order, orientation constraint, stability constraint and product type. Then, calculate unloading time to know the impact of the arrangement of box on unloading time. The results obtained from the arrangement of the boxs using genetic algorithm is the visualization of the arrangement of boxs in 3D and the results obtained from unloading time calculation indicate the impact of the arrangement of boxs is the decrease unloading time, it's about 19% from 39.84 minutes to 32.33 minutes.

Keywords : Container Loading Problem, Genetic Algorithm, Unloading Time