

99 學年度大四工工專題摘要

第廿四組	Optimization of RFID's Allocation system by Dynamic Programming
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摘 要	
Radio frequency identification (RFID) has become a hot topic in the fields of manufacturing and logistics. It has emerged as part of a new form of inter-organizational system that aims to improve the efficiency of the processes in the supply chain. The efficient and effective performance of the system is a most in order to maximize their benefits, therefore the importance of an optimal allocation system. The main goal of this research is to generate a dynamic programming model that will optimize the allocation of the readers in a RFID system. The system that concerns to as is the one where there are a fixed number of readers and a budget limit. With this considerations and research objective in maid we first have to understand the RFID detection system as a whole with all the factors that may have a positive or negative effect in it to incorporate them into the research. The methods applied along the research were literature reviews, and process modeling. The information obtained from the literature was analyzed and considered for the development of the objective functions and the different constrains affecting the allocation system to finally generate the optimal dynamic programming model. We created a new approach to the RFID allocation problem by generated a dynamic programming model that optimizes the RFID system. This model takes into consideration the range of all possible readers and their cost in order to maximize the total coverage area, but within their budget limits.	