

## ..... البحث الثامن .....

### Simulation Of Pedestrian Circulation In Dinning Halls

#### محاكاة حركة المستخدمين في صالات الطعام

لغة البحث	الإنجليزية	نوع البحث	فردى	تاريخ النشر	فبراير-٢٠٠٤
المشاركون	د.حاتم الشافعى				
جهة النشر	المؤتمر العلمى الأول - العمارة والعمران فى اطار التنمية المستدامة - قسم الهندسة المعمارية - كلية الهندسة - جامعة القاهرة فبراير-٢٠٠٤				

#### Abstract

The ability to test architectural design before it is built and to predict the performance of the building is important for the sustainability of the building. Simulation is used to model and test a design before it is built. A solution for testing designs for pedestrian circulation in busy self-service dinning halls is needed. WalkSim has the potential to fill this gap. WalkSim is a general pedestrian circulation simulation library that takes into account the level of comfort in architectural circulation elements. A study to explore the method of using WalkSim to check the design for pedestrian circulation (circulation of students during meals in particular) in the dinning halls building of an academic campus was proposed. A case study in an academic campus was performed. It started with a survey of input parameters. Several design alternatives were suggested and a simulation model was built for each. Each simulation model was run. Simulated persons were passed through the simulated spaces and circulation elements. Data were collected from simulation blocks to give us statistics about queue accumulation, level-of-service (comfort), service time, waiting time, etc. This enabled the quantitive comparison between the design alternatives and thus choosing one. The value of, and the mode of use of simulation of pedestrian circulation in busy self-service dinning halls with WalkSim is thus demonstrated. This is also true in any case where there is some sort of queue for service. The method also proved valuable in assessing the magnitude of service points that should be provided to achieve appropriate service.