

CS460: Capstone Experience  
Spring 2003  
DC Pankratz  
Project Definition

## MOBILE ROBOT WITH SONAR

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**Project Description:** Construct a mobile robot that simulates the robotic vacuum cleaners currently on the market designed to navigate a room containing obstacles.

### General Requirements:

1. The vacuum must cover the entire room and also use its edging tool around obstacles and the room's walls.
2. Redesign the mobile robot *Kasper* constructed by Joe Anderson and revised by Bryant Coughlin that used Legos as brawn and the Handyboard for brains.
3. Include a sonar detector in *Kasper*'s design.
4. *Kasper* must be able to react to its environment using more than two input detectors using a preemptive priority based scheduling algorithm.

### Detailed Requirements:

1. Handyboard and Interpretive C documentation.
2. Robotic books in dcp office.
3. Documentation from Anderson and Coughlin.