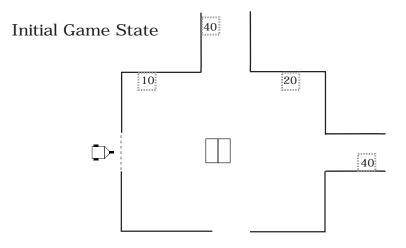# Contest Five: *Navigator/Exhibition*

ROBOTIC AUTONOMY
Summer 2002

One of the biggest challenges in robotics has always been autonomous navigation. Since you are rapidly becoming CMUcam experts, you can use this knowledge to join in the problem-solving effort with autonomous navigation solutions of your own. It is also time for you to design your own exhibition of what you can make your robot do and show the world.

Navigator

Your job is to create a reliable adjustable autonomy navigation system for the TrikeBot. Launching from the starting position, your trikebot will use this system to navigate in and out of four goal zones inside Building 17. Zones are worth varying numbers of points based on their distance from the starting position. With a mixture of good programming and strategy, you can rack up points by having your robot autonomously navigate to as many zones as possible in 15 minutes. To score the same zone twice, you must visit another zone before going back. Weíve placed color landmarks in the halls for your use and *not* put additional obstacles in your Trikebotís path. Note that, in this race, it is almost certain that slow and steady will win the day! You will also demonstrate *adjustable autonomy* in this contest. You may use Teleoperation to guide your robot to a scoring zone. But if you do so, you score only 1/5 of the points available (i.e. 2, 4 or 8 points).

Initial Game State

Exhibition

This is your first chance to design and then demonstrate your very own robotic exhibition or talent. You can use one or more of your robots, one or more of your team members, and just about anything else you want to involve and include. Your exhibition *must* be practiced beforehand and your exhibition *must* be approved prior to Friday!