

Task	Products
<i>Mechanical modeling of robot structure, drive mechanism, and extinguishing device</i>	
M1. Design 2-3 possible solutions for robot structure and drive mechanism	CAD technical drawings, cardboard models and specifications
M2. Place sensors on each of possible robot structures	Sensor and extinguishing device; substitutes attached to the cardboard models
M3. Design a special extinguishing device for each of possible robot structure solutions	
<i>Sensors and control</i>	
C1. Develop a control method for robot motion along maze hallways with a given distance from its walls	A sensor configuration and control algorithms
C2. Develop a method for detecting the position and orientation of threshold white lines on the maze floor	
C3. Develop a method for detecting obstacles	
C4. Develop a method for detecting fire	
<i>System software</i>	
S1. Develop a navigation program for robot motion from each room to any other room in the maze	Interactive C modules tested on the standard mobile robot
S2. Develop a program for identifying each room of the maze	
S3. Develop a program for avoiding obstacles	
<i>Robot implementation</i>	
I1. Build the robot platform including motors, sensors, and the extinguishing device	A physical robot platform
I2. Adapt the system software modules to the project robot	The Interactive C modules tested on the project robot
I3. Integrate the algorithms of specific robot behaviors into an entire procedure for the contest assignment	Robot system software
<i>Contest presentation</i>	
P1. Provide robust performance of the contest assignment in diverse situations	A reliable robot system
P2. Fashion an aesthetic outward appearance of the robot	An aesthetically fashioned robot