

Robot Design/Build/Program Journal

Robot Name: _____

Robot Description

(not color, etc. but what it is supposed to do; its mission. Example: "Go down a small tunnel to the end, get the scroll , take the scroll back to the tunnel entrance.")

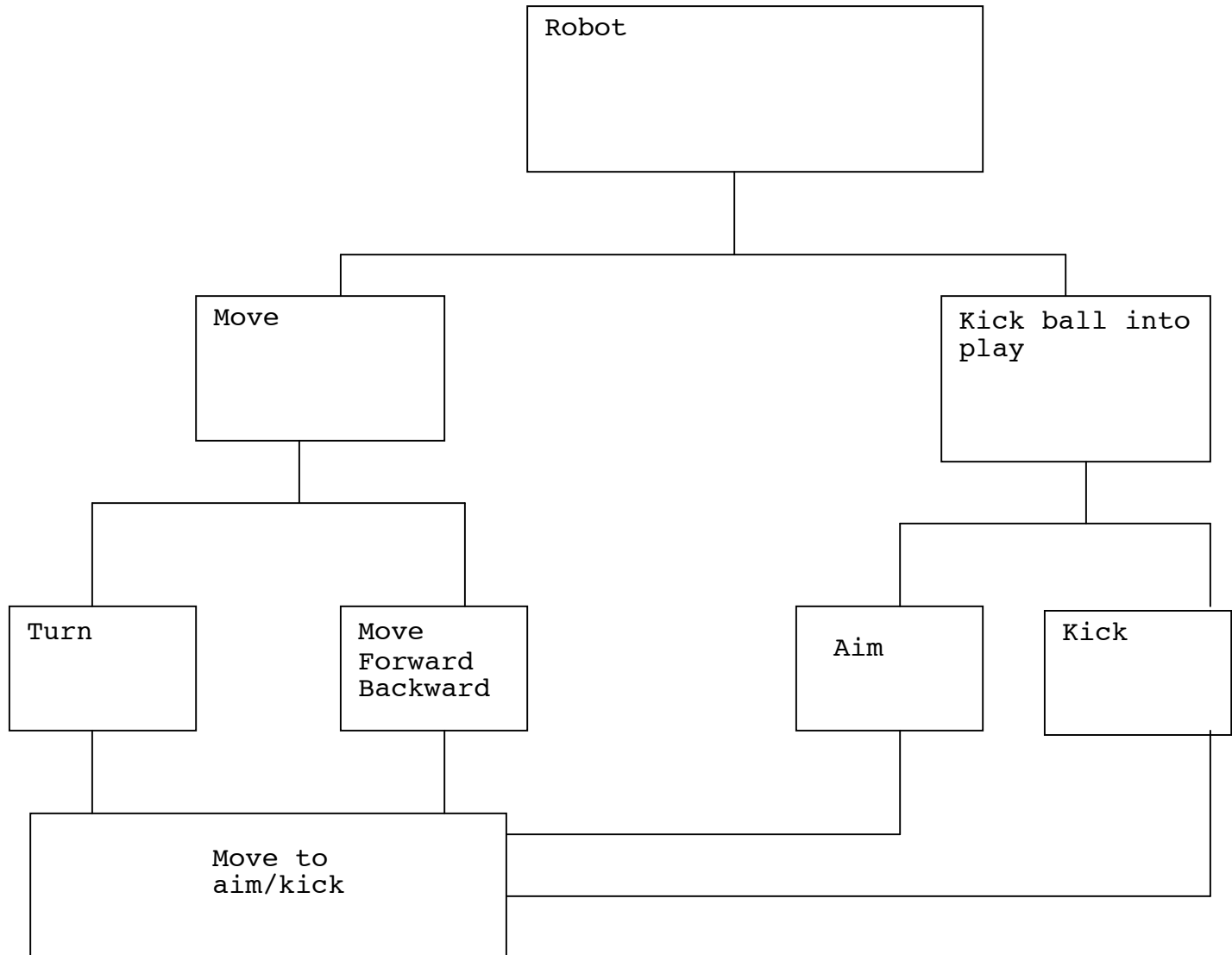
Robot Tasks – Basic functions. Basic behaviors (one-action behavior)

(Ex.

1. Move forward. 10 ft.
2. Stop before hitting wall.
3. Turn left.
4. Move forward 6ft.
5. Stop before hitting wall)

You can use a diagram for organizing/listing behaviors if you wish.

Sample: Soccer playing Robot Requirements Diagram



Limitations and Constraints

(Example:

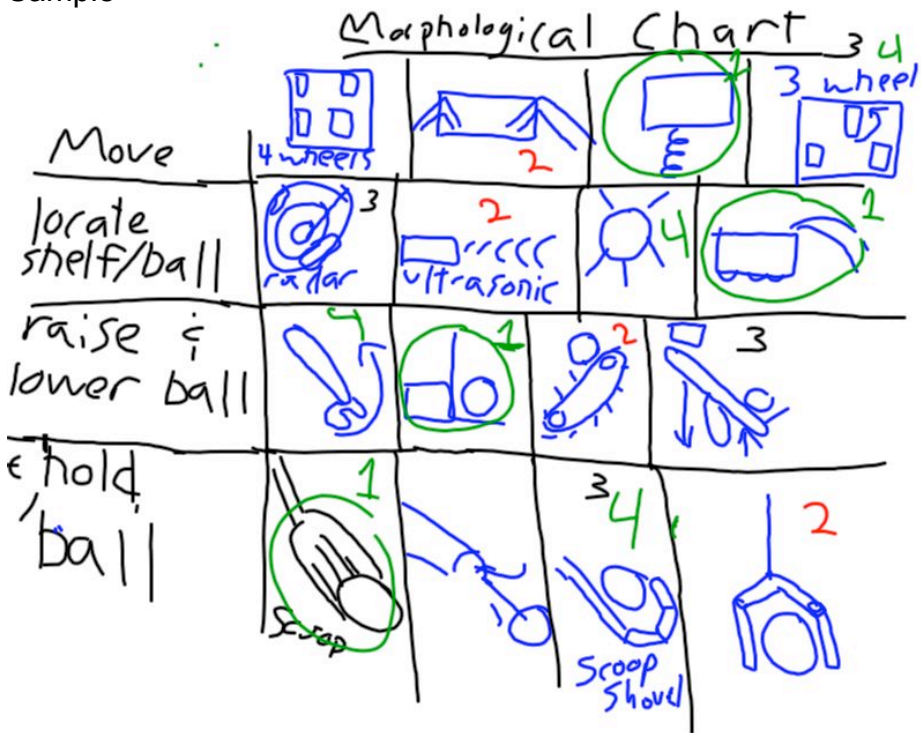
1. # of parts and sensors available.
2. Robot size and weight (not big enough to move a bookcase)
3. Weather and lighting
4. Floor or surface
5. Movement requirements. – up, down, etc.)

Brainstorm ideas for design

Write down each idea your team has, even ones that don't seem realistic.

Sketches

Morph Table for Design Options
Sample





Design Option (sketches)				
Kick (Sketches)				
Move (Sketches)				

Design Decision Matrix/Evaluation Tree

Rank order each design in each category. 1 is the lowest and 5 is the highest.
Sample

Analyze

	Importance		
Ease of program	4	x	+4
robustness	2	x	+2
How well it works	7	x	+7
Speed	1	x	+1
Doesn't break	6	x	+6
Maneuverability	5	x	-
Ease of build	3	x	+3
Total		0	23

Criteria	Importance of criterion 1-5, 5= most important	Design 1	Design 2	Design 3	Design 4
How well it works					
Robustness (Dependability even in changing conditions)					
Ease of build					
Ease of programming					
Will not break					
Speed					
Maneuverability					
Total points					

Build

Program

Pseudocode (on separate sheet, then attach to journal)

Flowchart (on separate sheet, then attach to journal)

Test your robot.

Modify design and program as needed and retest until the robot achieves the performance you wanted. Record your test runs on the Challenge Test Run Record.

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