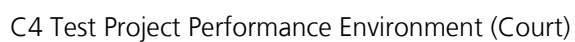


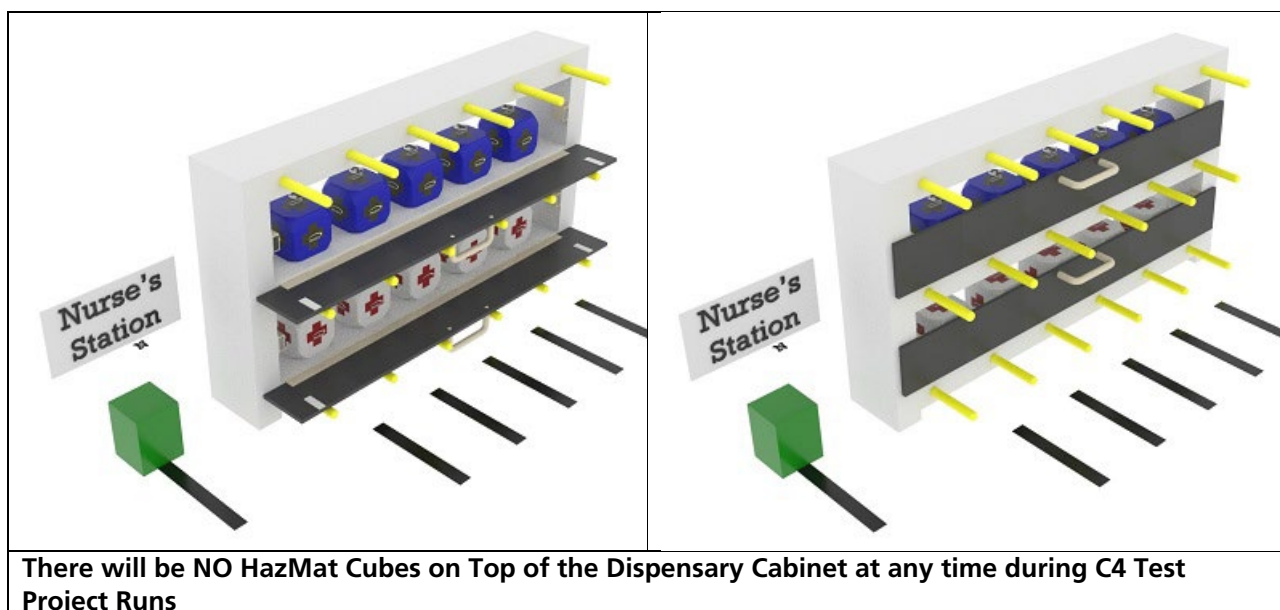
Test Project

Mobile Robotics

Day four – Competitor information



C3 includes a CORE Performance Evaluation Element based on managing the Dispensary Cabinet Doors.



Managing the Dispensary **Doors** has a **Mark Value of 0.8** and is set using a **CIS Range from 0 to 4**

CIS Entry

- **0** = 0 Marks Awarded - NO Doors Opened
- **1** = 0.2 Marks Awarded - ONE Door Opened
- **2** = 0.4 Marks Awarded - ONE Door Opened/ONE Closed, or, two Doors Opened/NONE Closed
- **3** = 0.6 Marks Awarded - Two Doors Opened/ONE Closed
- **4** = 0.8 Marks Awarded - Two Doors Opened/TWO Closed

Work Order ONE

	R1	R2	R3	R4	R5	NS
D			+	+		
e	+			+		
l						
i						
v						
e						
r						
R						
E						
T						

Work Order TWO

	R1	R2	R3	R4	R5	NS
D	+	+				
e		+		+		
l						
i						
v						
e						
r						
R						
E						
T						

Work Order THREE

	R1	R2	R3	R4	R5	NS
D	+			+		
e		+	+			
l						
i						
v						
e						
r						
R						
E						
T						

	R1	R2	R3	R4	R5	NS
D			+	+		
e		+		+		
l						
i						
v						
e						
r						
R						
E						
T						

Work Order FOUR

	R1	R2	R3	R4	R5	NS
D		+		+		
e	+	+				
l						
i						
v						
e						
r						
R						
E						
T						

Work Order FIVE

	R1	R2	R3	R4	R5	NS
D	+		+			
e		+		+		
l						
i						
v						
e						
r						
R						
E						
T						

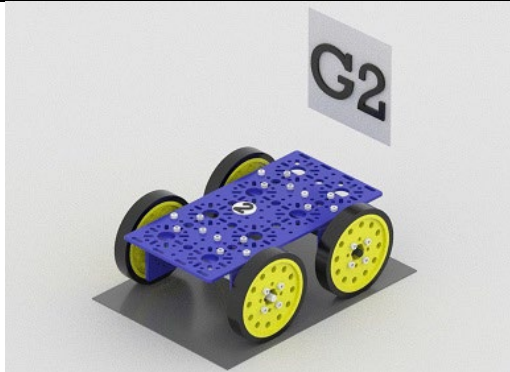
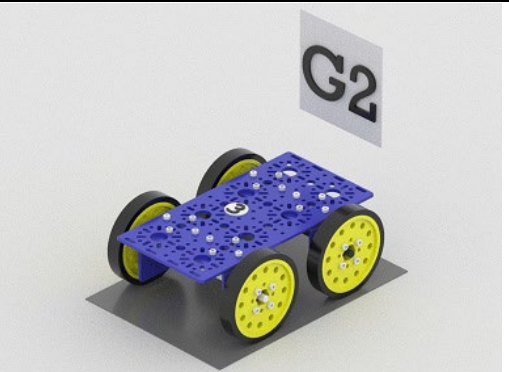
Work Order SIX

Robots will receive ALL Test Project Work Order Information related to Blue and White Medicine Cubes through the Work Order Board.

Robots will receive NO Test Project Work Order Information related to HazMat Cubes or Gurneys through the Work Order Board.





Robots have the following Work Orders, related to HazMat Cubes or Gurneys, that will remain In Effect at ALL Times during their THREE C4 Evaluated Test Project Runs:

1. Robots are to 'Search the Hospital Environment' and,
 - (a) (a) Take Possession every HazMat Cube the Robot finds then
 - (b) (b) Deliver ALL HazMat Cubes it takes possession of INTO the HazMat Bin located in the Central Area of the court.
2. Robots are to 'Search the Hospital Environment' and,
 - (a) (a) Take Possession every Gurney the Robot finds then
 - (b) (b) Deliver EACH Gurney it takes possession of ONTO it's Assigned Gurney Pad located in the Central Area of the court.
3. Gurney Position regarding being ON or OFF a Gurney Pad is defined by the position of ALL Four Gurney Wheels. There must not be any White Court Floor showing between the wheels point of contact and the Gurney Pad.

	
Full Gurney Marks Awarded The Gurney is ON the Gurney Pad The Gurney Number Matches the Gurney Pad Number	NO Gurney Delivery Marks Awarded The Gurney is ON the Gurney Pad However, the Gurney Number Does NOT Match the Gurney Pad Number

Gurney Management Marks are based on a CIS Range of 0 to 2

1. A **CIS Entry of 0 = 0 Marks Awarded** given the robot neither Retrieved the Gurney from it's starting position nor Delivered the Gurney to it's destination location
2. A **CIS Entry of 1 = ½ of the Available Marks** Awarded given the robot Retrieved the Gurney from it's starting position but did NOT Successfully Deliver the Gurney to it's destination location
3. A **CIS Entry of 2 = All of the Available Marks** Awarded given the robot Retrieved the Gurney from it's starting position and Successfully Delivered the Gurney to it's destination location

C4 Round 1 Work Order One Competitor Reads	C4 Round 1 Work Order One Robot Reads	C4 Round 1 Work Order Five Competitor Reads	C4 Round 1 Work Order Five Robot Reads
			

Work Order Selection

- A set of SIX Work Order Board Patterns will be at the courts.
 - AFTER ALL Competitors at the SIX Courts have their Robots in position and ready to start the Evaluated Test Project Run a Die will be rolled to identify the Work Order Pattern that will be used in the Evaluated Test Project Run
 - The **COMPETITORS** will set the Work Order Plates in position on the Work Order Board
 - The Competitors and the Experts Supervising each court **MUST Agree** that the Work Order Board is setup correctly BEFORE the Evaluated Test Project Run can start.
 - The **COMPETITORS** will set the HazMat Cubes and Gurneys in position in the performance Environment based on the 'Competitor Reads' image selected.
 - The **Competitors and the Experts** Supervising each court **MUST Agree** that the HazMat Cubes and Gurneys in position in the performance Environment based on the 'Competitor Reads' image selected.
- NOTE: The Work Orders displayed in the picture above are ONLY SAMPLES and Will NOT be used to set any Evaluated Test Project Runs.

	R1	R2	R3	R4	R5	NS
D			+	+		
e	+			+		
i						
v						
e						
r						
R						
E						
T						

- The Robot must 'Read' the Work Order Board to determine the specific Medicine Cubes the Robot must manage.
- White Cubes are identified on the First Row of the WOB and are positioned on the Dispensary Cabinet's Bottom Shelf
- Blue Cubes are identified on the Second Row of the WOB and are positioned on the Dispensary Cabinet's Middle Shelf
- There are **NO Restrictions** regarding **how many times a Robot returns to the Dispensary and 'Reads the WOB'**

Comparing Individual Task Elements:

- Multiple Sets of Work Order Tasks are considered to be of EQUAL difficulty.
- Retrieving a Cube from the Bottom, or Middle Cabinet Shelves are EQUAL Tasks.
- Retrieving a Gurney from Patient Rooms 1, 2, 3, or 4 are EQUAL Tasks.
- Delivering a Cube of ANY Color to Patient Rooms 1 or 2 are EQUAL Tasks
- Delivering a Cube of ANY Color to Patient Rooms 3 or 4 are EQUAL Tasks
- Delivering a Cube of ANY Color to Patient Room 5 are EQUAL Tasks
- Retrieving a HazMat Cube from the Nurse's Station or from Patient Room 5 and Delivering it to the HazMat Bin are EQUAL Tasks
- Retrieving a HazMat Cube from Patient Rooms 1, 2, 3, or 4 and Delivering it to the HazMat Bin are EQUAL Tasks

Restrictions

- The Hospital has a Very Strict Policy regarding Robot's Management of Contaminated HazMat Cubes.
- AFTER a Robot has been In Possession of a Contaminated HazMat Cube it **MUST** Complete the Sanitation Process at the Sanitation Station **BEFORE** it comes into **CONTACT** with a Medicine or Clean HazMat Cube or a Gurney.
- IF a Robot is Observed Breaking this policy then their Evaluated Test Project Run will be Terminated Immediately. Competitors **WILL** be awarded **ALL** Marks earned by their Robot prior to being Dis-qualified.
- After a Robot has been In Possession of a Contaminated HazMat Cube it **MAY** proceed to taking possession of another Contaminated HazMat Cube **WITHOUT** completing the Sanitation Process.
- Sanitation Process Completion Marks will **ONLY** be **AWARDED** for the Sanitation Process completed as the Final Performance Element of a C4 Evaluated Test Project Run.
- IF the Strategy Implemented by Competitors requires the Sanitation Process to be completed additional times **NO MARKS** will be awarded for these additional executions of the Sanitation Process.
- Gurneys **CANNOT** be used to transport Cubes of any type

Patient Room Support Robot Evaluated Test Project Run Round One



Round One will involve managing 1 White and 1 Blue Medicine Cubes, 1 HazMat Cube and 1 Gurney.

C4 EVALUATION ROUND ONE		RANGE	MARK
1	Medicine Cube One Management	0 to 2	0.40
2	Medicine Cube Two Management	0 to 2	0.40
3	HazMat Cube Management	0 to 2	1.00
4	Gurney Management	0 to 2	1.30
5	Robot Sanitation	0 or 1	0.30
6	Unknown Inadvance Element One and Two	0 to 4	0.80
7	Time: (Fastest Team Time / Team Time) X 1.0	0 to 600	1.00
		Total	5.20

Note: The "Unknown In advance Elements One and Two are the Cabinet Doors

Patient Room Support Robot Evaluated Test Project Run Round Two



Round Two will involve managing 3 Medicine Cubes (at least 1 of each color), 2 HazMat Cubes and 2 Gurneys.

C4 EVALUATION ROUND TWO		RANGE	MARK
1	Medicine Cube One Management	0 to 2	0.40
2	Medicine Cube Two Management	0 to 2	0.40
3	Medicine Cube Three Management	0 to 2	0.40
4	HazMat Cube One Management	0 to 2	1.00
5	HazMat Cube Two Management	0 to 2	1.00
6	Gurney One Management	0 to 2	1.30
7	Gurney Two Management	0 to 2	1.30
8	Robot Sanitation	0 or 1	0.30
9	Unknown Inadvance Element One and Two	0 to 4	0.80
10	Time: (Fastest Team Time / Team Time) X 1.0	0 to 600	1.00
		Total	7.90

Note: The "Unknown In advance Elements One and Two are the Cabinet Doors

Patient Room Support Robot Evaluated Test Project Run Round Three



Round Three will involve managing 4 Medicine Cubes (at least 1 of each color), 3 HazMat Cubes and 2 Gurneys.

C4 EVALUATION ROUND THREE		RANGE	MARK
1	Medicine Cube One Management	0 to 2	0.40
2	Medicine Cube Two Management	0 to 2	0.40
3	Medicine Cube Three Management	0 to 2	0.40
4	Medicine Cube Four Management	0 to 2	0.40
5	HazMat Cube One Management	0 to 2	1.02
6	HazMat Cube Two Management	0 to 2	1.02
7	HazMat Cube Three Management	0 to 2	1.02
8	Gurney One Management	0 to 2	1.32
9	Gurney Two Management	0 to 2	1.32
10	Robot Sanitation	0 or 1	0.30
11	Unknown Inadvance Element One and Two	0 to 4	0.80
12	Time: (Fastest Team Time/Team Time) X 1.0	0 to 600	1.00
		Total	9.40

Note: The "Unknown In advance Elements One and Two are the Cabinet Doors