

SPORTSWONDERLAND – Capelli Sports All-Star Pickup.

1. Mission Narrative / Spirit of the Challenge

Your team is called to an emergency match day. Some key athletes and essential gear are still scattered around the sports complex.

Your robot's job: enter the arena, locate the required players/equipment, and “secure them for the team” before kickoff.

Each item on the field represents:

- either an athlete role (footballer, tennis player, basketball player, runner, goalkeeper)
 - or a key piece of kit (ball, jersey, cones, whistle, water bottle).
- Teams are given 5 specific items before the match. Your robot must navigate, reach, and touch each assigned item. After a valid touch, the referee removes that item from the field (the idea is: “collected”).

At the end, your robot must regroup on the **Team Huddle Pad** to show the team is “ready for the game.”

This challenge celebrates:

- strategy and planning,
- precision in navigation,
- clean driving / clean code,
- fast team readiness (Capelli spirit).

2. Match Format

2.1 Field

- The official field is the **SPORTSWONDERLAND – Capelli Sport** map (see provided image).



- The map is printed on a flat surface on the competition table.

- A visible coordinate grid (letters × numbers) is overlaid for refereeing, token placement, and coaching reference.
 - Columns: A, B, C, D, E, F, G, H... (left → right)
 - Rows: 1, 2, 3, 4, 5... (top → bottom)
(Exact letters/numbers depend on final print crop; the principle is fixed: each square is a ref zone.)
- Key themed zones on the map:
 - Central football stadium (green pitch with lion mascot).
 - Basketball / tennis courts (left side).
 - Water / pool / splash park (right side).
 - Park / playground / sand / skate / tech area (bottom).
 - “MAKE X Lebanon” area with dashed rectangle at the bottom center: this is the **Start & Huddle Pad**.

2.2 Start & Huddle Pad

- The dashed white rectangle at the bottom center (under the basketball court / near “MAKE X Lebanon”) is used for:
 1. Robot initial placement at START.
 2. End-of-run PARK bonus (“Team Huddle Pad”).
- The whole robot must be inside this dashed zone at:
 - T=0 (before match start), and
 - End of match (for PARK bonus).

2.3 Tokens (Athletes / Items)

- Tokens are physical markers (2D chips, mini-stands, or 3D prints) representing:
 - Athlete roles: Footballer, Tennis Player, Basketballer, Runner, Goalkeeper.
 - Gear / kit: Ball, Jersey, Cones, Whistle, Water Bottle.
- Before each match, 5 tokens are assigned to the team (their “Pickup List”).

2.4 Robot

- 1 robot per team on the field.

- Only that robot may move during the match.

2.5 Duration

- Match time: **120 seconds**.
 - Countdown is verbal.
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3. Categories / Control Modes

There are two allowed control modes (organizers may split them into sub-rankings or run them together, based on registration volume):

1. Autonomous Mode (Programmed Run)

- The robot runs purely on preloaded code / sensors.
- No driver input after the referee says “GO”.

2. Card-Command / Assisted Mode

- Movement is controlled step-by-step by showing allowed command cards or by a limited approved controller.
- Still: after “GO,” **no direct hand contact** with the robot is allowed.
- Human steering is logic-based, not physical touching.

In both modes, touching the robot with a human hand or moving it manually after the “GO” signal cancels the **Clean Run Bonus** (+5).

4. Match Procedure

Step 1 – Random Draw & Setup

1. The team draws 5 items from the common pool (e.g. Footballer, Jersey, Water Bottle...).
2. The referee notes this list on the score sheet.
3. Each drawn item has a printed point value (1–5). These point values are public/visible.

Step 2 – Token Placement

1. The referee places the 5 drawn tokens on the map, one per pre-marked “Placement Spot.”

- Placement Spots are fixed circles / icons on the official map (ex: near basketball court, near pool, near sand pit, etc.).
 - Which exact spot gets which token is randomized each match to stop pure memorization.
2. The referee announces: “Robot ready?”

Step 3 – Robot Positioning

1. Team places the robot fully inside the Start & Huddle Pad (dashed rectangle bottom center).
2. After this step, no one may touch the robot except to press START if allowed.

Step 4 – Start Signal

1. Referee gives 3-2-1... GO.
2. Match timer (120 sec) starts.

Step 5 – Collecting Tokens

1. The robot navigates to a token from the Pickup List.
2. A “Valid Collection” = any clear physical touch between the robot and the token’s base/stand.
 - Bumping, pushing, or making contact counts.
 - Driving over/knocking it down also counts as long as contact is obvious.
3. Once the referee sees valid contact, they immediately remove that token from the field (to show it’s secured).
4. Each collected token scores according to its printed value.

Step 6 – End of Match

1. When time expires OR the team shouts “STOP,” the robot must stop moving.
2. Extra bonus is available if, at STOP, the robot is fully back inside the Start & Huddle Pad (Team Huddle Pad bonus).
3. Referee finalizes score.

5. Scoring System

Below is the standard Season 1 scoring model. Values can be confirmed in the event briefing on competition day.

5.1 Token Collection

- Each assigned token has a point value from +1 to +5 printed on it.
- Only the 5 drawn tokens for that match count.
- Example:
 - Footballer (4 pts)
 - Water Bottle (2 pts)
 - Goalkeeper (5 pts)
 - Jersey (3 pts)
 - Cones (1 pt)→ If robot touches all 5, team earns $4+2+5+3+1 = 15$ pts.

5.2 Clean Run Bonus

- +5 pts if:
 - After “GO,” no human hand touches the robot, the field, or any token.
 - No illegal resets.
 - Referee judges the run “clean.”
(This matches the brief’s “+5 clean run (no human touch after GO)”.)

5.3 Team Huddle Pad / Park Bonus

- +5 pts if, at END OF MATCH, the robot is entirely inside the Start & Huddle Pad (dashed zone bottom center).
- Wheels, chassis, and attachments must all be inside or touching inside the line (ref takes final call).

5.4 Maximum Score Example (illustrative)

- All 5 tokens collected (assume total printed value = 15 pts)
- Clean Run Bonus = +5 pts
- Huddle Pad Bonus = +5 pts
→ Total example score = 25 pts

The actual token values will define the theoretical max.

6. Robot Technical Rules

These rules are meant to keep fairness between teams and align with typical MakeX beginner categories.

1. Robot Base

- Must be a wheeled classroom robot or a DIY robot using educational controllers (mBot2 / CyberPi / LEGO Spike / etc.).
- Max footprint at START: must fully fit in the Start & Huddle Pad without touching outside the dashed line.

2. Dimensions During Match

- Robot may extend during play (arm, scoop, bumper...) but must remain safe and not damage the field.

3. Height

- No official hard cap for Season 1, but if the robot is dangerously tall or unstable, head ref can ask for modification.

4. Actuators

- Wheels / tracks / omni / mecanum all allowed.
- Servo arms / grabbers allowed, but note: grabbing or picking up the physical token is NOT required. Only touch is required.

5. Sensors

- Distance sensors, line sensors, color sensors, etc. are allowed.
- Vision modules are allowed if already part of the educational kit.

6. Power

- Internal batteries only.
- No external tether cables, no external power banks lying on the field.

7. Communication

- Bluetooth / 2.4G allowed ONLY if it's part of the approved control mode (card-command / assisted mode).
- Wi-Fi remote driving is allowed only if declared and approved by head ref as equivalent to "card commands."

- Absolutely no live joystick-style driving by hand contact with the robot after GO.

8. Field Interaction

- Robot may touch walls/zones.
- Robot may bump tokens.
- Robot may NOT intentionally rip, scratch, or fold the printed mat.

9. Safety

- No sharp edges.
- No cutting tools, hot surfaces, projectiles, liquids, or flame sources.

7. Allowed / Forbidden Actions

Allowed

- Touching (bumping) a target token to claim it.
- Accidentally pushing a non-target token (no score for it, but no penalty unless aggressive).
- Driving through any part of the map.
- Minor contact with field décor as long as nothing is damaged.

Forbidden (Penalties)

- Human hand moving the robot, a token, or the map after GO.
- Lifting or carrying tokens off the field with a hand.

- Resetting robot position mid-match by hand (unless you sacrifice Clean Run Bonus AND accept a –5 penalty; see below).
- Damaging the field (tearing the mat, breaking props).
- Blocking / tampering with referee.

Reset Rule Option (Event Director may enable)

If the robot is stuck, team may ask for a **Manual Reset**:

1. Timer keeps running.
2. Referee returns robot to Start & Huddle Pad.
3. –5 pts penalty AND loss of Clean Run Bonus.

4. Already collected tokens stay collected.

This keeps beginners in the game without 0 score, but punishes heavy intervention.

8. Refereeing Details

8.1 Validation of Token Touch

- Ref must SEE robot clearly contact the correct token.
- The touch must happen while the robot is under legal motion (not while a human is dragging it).
- After confirmation, ref immediately removes that token from the field and marks it "Collected."

8.2 Timekeeping

- 120-second official timer.
- Audible "STOP."
After STOP:
 - Robot should stop moving.
 - If robot keeps moving dangerously, ref can disqualify Huddle Pad Bonus.

8.3 Scoring Sheet

Ref records:

1. Tokens assigned (5 items).
2. Which ones were successfully collected.
3. Clean Run Bonus yes/no.
4. Huddle Pad Bonus yes/no.
5. Any reset penalties.

The final signed score goes to the ranking table.

9. Ranking & Awards

1. **Match Score** = (Sum of collected token points) + Clean Run Bonus + Huddle Pad Bonus – Penalties.
2. Teams get multiple attempts in Qualification (number of attempts decided by organizer).
3. **Ranking** in Qualification = highest single Match Score.
4. Top X teams advance to Finals / Stage (X set by organizer depending on total teams).
5. Finals follow same rules; best Finals score wins the **Capelli Sport Cup – Season 1 Champion** title.
 - The award ceremony includes explicit sponsor mention, logo on background, and branded photocall with winners.

Tie-breakers (in order):

1. Highest Clean Run score (i.e. did both teams keep clean runs? If only one did, they win tie).
 2. Highest number of collected tokens in Finals run.
 3. Fastest time when last token was collected (earlier timestamp wins).
 4. Head Ref decision.
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10. Quick Summary Sheet (what teams must remember)

1. You'll randomly get 5 items (players / gear). Those are YOUR mission.
2. Referee places those 5 tokens on preset map spots.
3. Put robot in the Start & Huddle Pad.
4. 3-2-1 GO → robot moves.
5. Touch each assigned token. Ref removes it = collected.
6. Come back and park fully on the Huddle Pad before time ends.
7. Don't touch the robot with your hands after GO if you want the Clean Run Bonus.

11. **official tokens** you'll need on the field.

1. Footballer

- **Code:** FB (5pts)
- **Role meaning:** Offensive player on the field.

2. Goalkeeper

- **Code:** GK (4pts)
- **Role meaning:** Defense / protection.

3. Basketball Player

- **Code:** BB (3pts)
- **Role meaning:** Court sport / agility.

4. Tennis Player

- **Code:** TN (2pts)
- **Role meaning:** Precision / racket sport.

5. Runner

- **Code:** RN (1pt)
- **Role meaning:** Speed / endurance.



6. Ball

- **Code:** BL (5pts)
- **Use meaning:** Core match equipment.

7. Jersey

- **Code:** JS (4pts)
- **Use meaning:** Team uniform / readiness.

8. Cones

- **Code:** CN (3pts)
- **Use meaning:** Field setup / practice.

9. Whistle

- **Code:** WH (2pts)
- **Use meaning:** Referee / start of match.

10. Water Bottle

- **Code:** WB (1pt)
 - **Use meaning:** Recovery / stamina.
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