



ROBOT
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ROBOT OLYMPICS

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As the audience files into their seats, the lights dim slightly, as the flags on the walls of the theatre begin to flutter majestically against the background of Aaron Copland's "Fanfare for the Common Man." One at a time, projected videos of tight close-ups of robots begin to surround the audience. On the monitors mounted on stage, we see a montage of robots passing the Olympic torch, from hand to clamp, traversing difficult terrain far and wide to bring the fire to its resting place here in Pittsburgh...



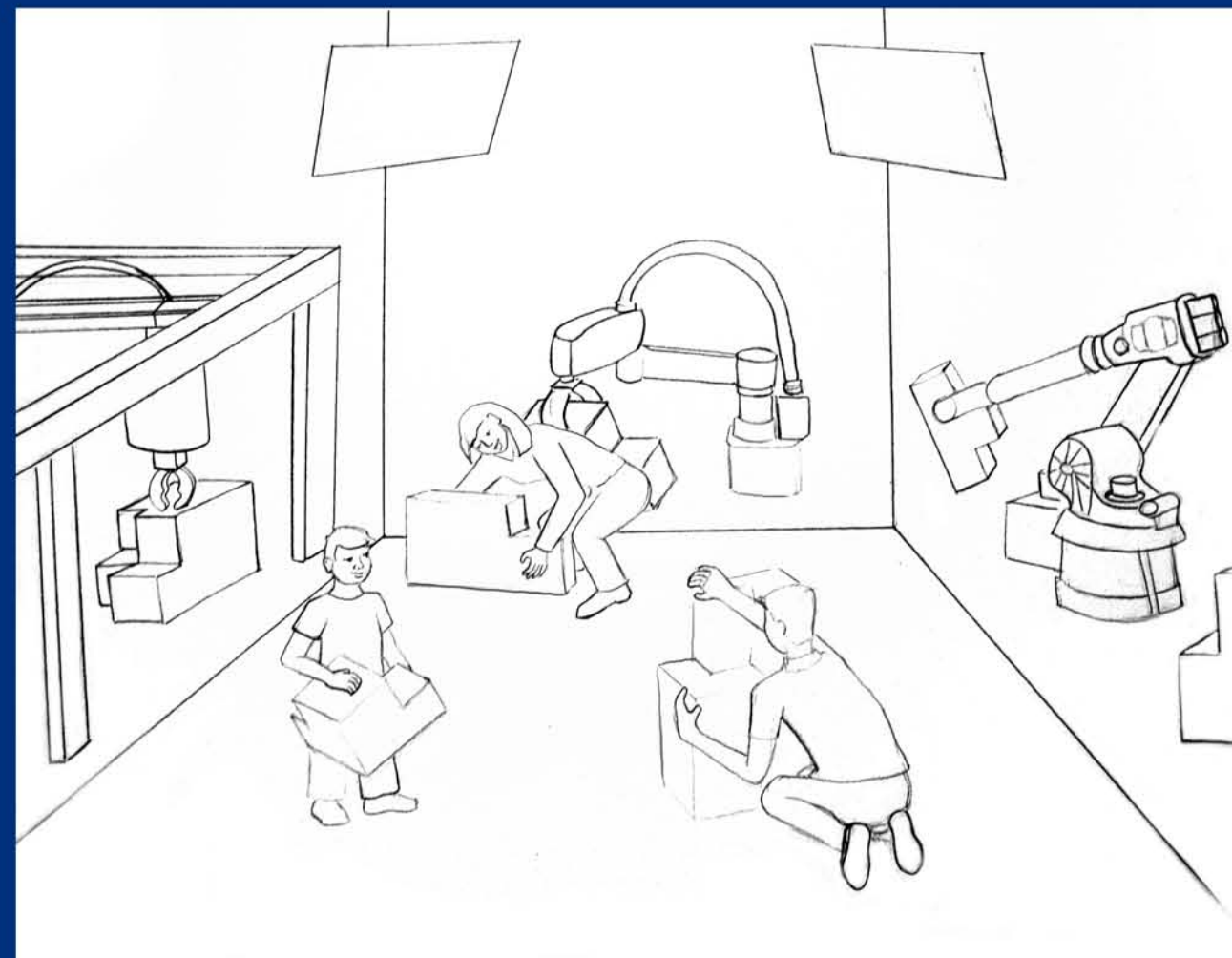
The curtain opens, revealing a canon of robots, each standing majestically on a different podium. At center is a large torch, the final receptacle for the flame. It looks as though it has been constructed out of a heap of scrap robot parts, and it is marvelous in its complexity—seemingly built by robots themselves.

Out on stage walks ASIMO, the torchbearer on the fire's fantastic journey. The robot ceremoniously carries the torch out and passes it to Shakey to light the gargantuan torch. Suddenly, he quakes, and the torch falls to the ground and blows out. "Fanfare" comes to a screeching halt. The other robots look at each other awkwardly... Finally, R2D2's arm extends tentatively, and sends a zap of electricity at the torch, lighting the receptacle. The music resumes...The Robot Olympics have begun!

A "voice of God" narrator begins to speak of the vision of the Olympics: "Swifter, Higher, Stronger." Through a scrim upstage, the symbol of the Robot Olympics slowly fades into view: at first appearing to be the five intersecting rings, but revealed to be five gears, belts, and hoops of wire. Next is a short video presentation which introduces all of the robots that the guest will see in the Hall of Fame. At the conclusion, we file out into the exhibit space. Once in the exhibit hall, we come upon a bustling Olympic Village, where many events are happening simultaneously. From here, the guest is encouraged to go forth, challenging robots in tests of strength, speed, and logic.

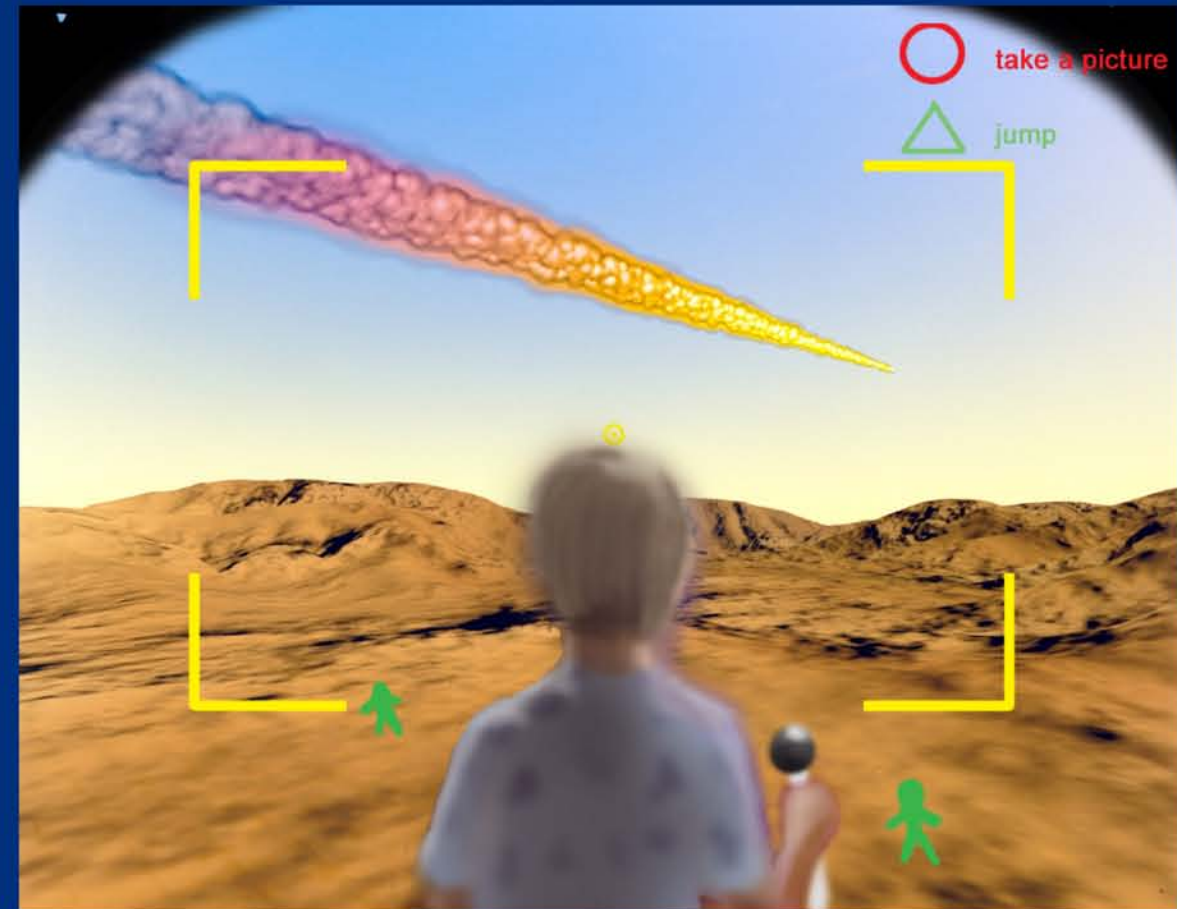
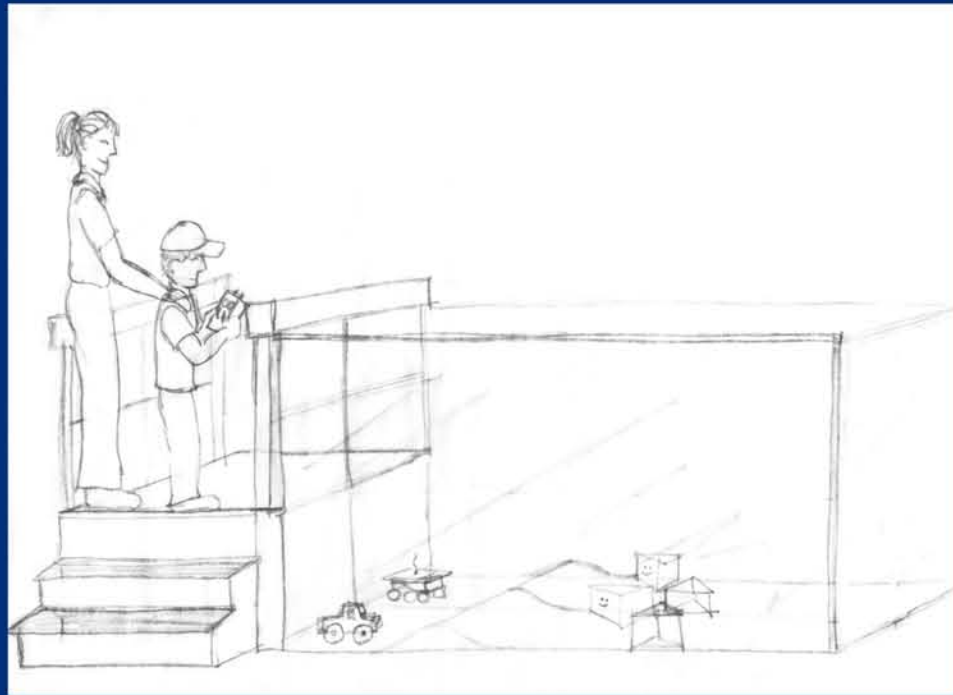
AXIS AND ASSEMBLY

The guest approaches a three walled chamber. Surrounded by video displays, he can select a robot to challenge. The options are a Cartesian robot, a four-axis SCARA, and a six-axis KUKA arm. Once the guest has made a selection, he enters the center of the space. He is surrounded by dimensional puzzle pieces. As he looks around, one of the three panels around him fades to transparency, and behind the wall we see the robot he selected poised to assemble the very same puzzle, with the exact pieces. On the video monitors in the corners of the room, Gort appears as the MC of the contest. His visor raises, and with three flashes of his laser beam eyes, the countdown begins and the race is on. The guest, as an individual or as a team, must orient and fit together the pieces of this giant three-dimensional puzzle of a Metropolis. They can look into the next room to see the robot performing the exact same task, with robotic efficiency. At the end of the contest, a projection of text and video reveals to the guest information about the type of robot they were competing against, and how the number of axes either helped or hindered the robot in the competition. With that, Gort laser-beams the city to reset the pieces, and the player is encouraged to challenge the other robots.



ROBOT SLALOM

Pit remote-controlled robots against the Mars Pathfinder to see how you can navigate steep, bumpy terrain and avoid obstacles. Follow the movement of the robot on live video feeds from an internally mounted camera. However, this is more than a challenge of speed and navigation: you also have to take pictures along the way to send back to mission control. Perhaps you'll run across some little green men!



ROBO-BOWL

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It's the World Cup of the robot world! In shows which take place throughout the day, watch teams of AIBOs duke it out to be world champions.

Learn about Natural Language Processing by helping HAL 9000 call the RoboBowl. In a stadium full of robots, how can we make sure they understand you? Experiment with natural language, text, code, and binary to reach the widest possible audience of robots.



LASER BIATHLON

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Test your accuracy and endurance with Gort's Biathlon. Most know the biathlon as a combination of cross-country skiing and marksmanship, but what happens when you compete against someone as slow as Gort, but with deadly accuracy? Visualize a traditional shooting-arcade midway game.

However, you have to charge up your raygun by skiing on an exercise machine before you're can shoot at the moving targets. Gort may be more accurate than you, but he can't move as fast! Who will triumph?

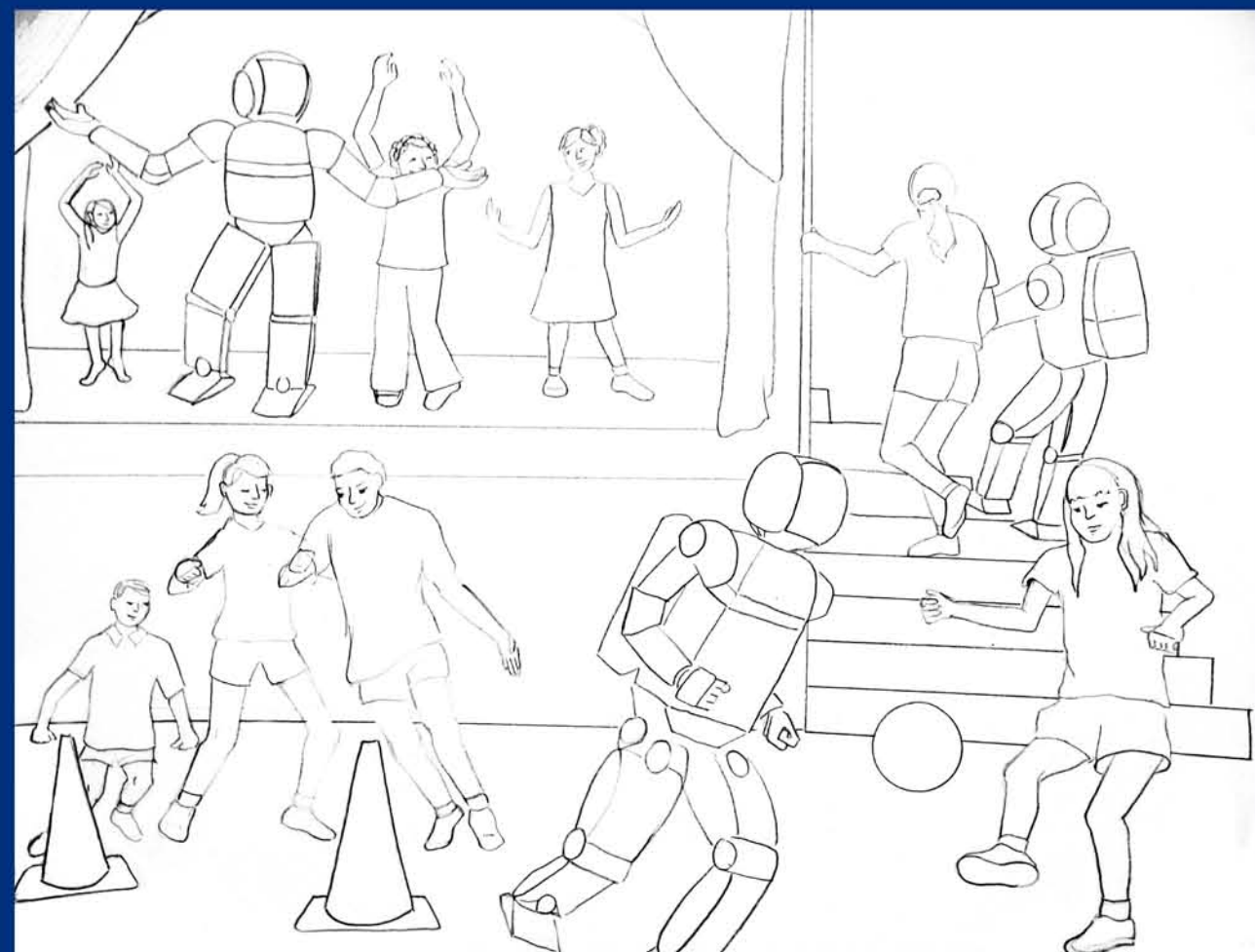


ASIMO'S AWESOME OBSTACLE COURSE

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Guests soon come upon an active-sounding exhibit; it's ASIMO's Awesome Obstacle Course. We can see through the gate that children are running around and responding to the environment as they would a fun-house. Outside the arch, ASIMO gives us a pre-show account of his long development and his current capabilities: through two decades of development, Asimo can now run, balance, climb and descend stairs, avoid obstacles, kick a ball, dance the hula, and mimic. That's why he's going to host an obstacle course to get these guests into shape for the Robot Olympics!

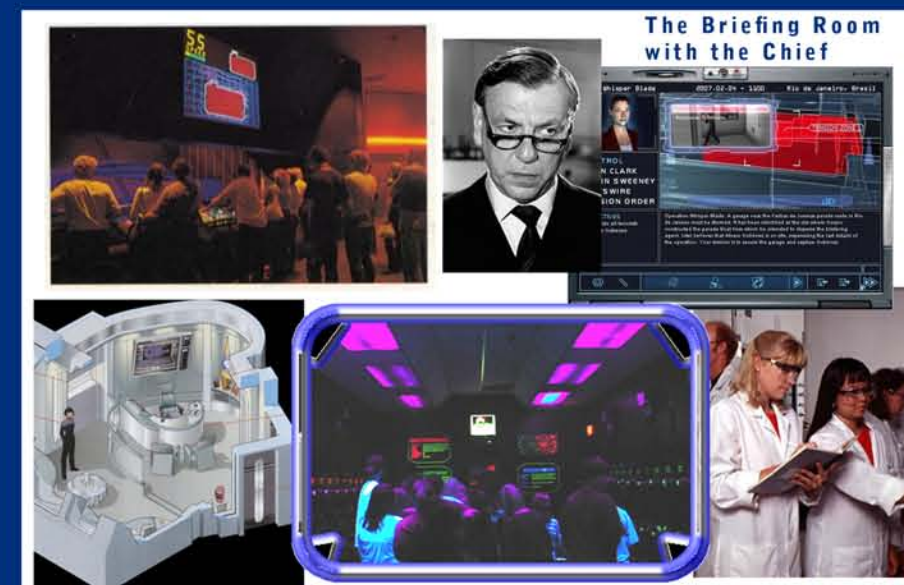
Once inside, the guests are surrounded with full-scale projection, so that they can see in real-time how they are doing compared with ASIMO. Try relays with your friends to beat ASIMO through the cone obstacles. Try the balance beam or trampoline to see how your muscles and nervous system help you keep your balance, and see ASIMO's mechanical equivalents. Try ASIMO's Soccer Camp, where ASIMO teaches you to corner and kick the ball—but watch out for Gort the Goalie because he'll just vaporize the ball! See how you can run up and down stairs compared to ASIMO. And at the very end, you can have a dance party with ASIMO, where you can do the hula or Saturday Night Fever!



ROBOTICS MISSION

ROBOTICS MISSION

As guests turn the corner from the foyer of the Science Center, they are greeted with the façade of a highly classified government laboratory. Flashing lights and sirens give a visual warning that the experience that they are about to undergo is top secret—inside contains the most sensitive research and development of robots. As the guests step through the steel, vault-like doors, they are greeted by an agent in a lab coat, who explains that they have been granted clearance to tour the finest robotics facility in the country. The agency serves as a museum of the finest robot specimens—and it contains the likes of R2D2, SCARA, and the Mars Pathfinder. Scientists, engineers, and programmers are busy researching and developing robots in this special lab, which the agent explains is an über-secret joint effort of NASA and the CIA. The agent explains that the guests are a new class of roboticists, which must aid the agency.



PERSONAL MISSION

The agent directs the attention of the "Roboticists" towards the screens for a briefing by the Chief about their mission. The Chief explains that each guest will be receiving a Transmitter, through which they can record data and observations. Codes can be collected using the device. From there, the codes can be passed to his contact, Dr. Frankenbot, who will issue you the necessary parts to build the robot you need. As each guest receives their transmitter, the Chief appears on the screen and issues a personalized mission for each guest.



David
NASA
Roboticist Intern
A4058

Mission: Homework Robot

Body Function	Code
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*do laundry # _____

*put away toys # _____

*do homework # _____

*calculate # _____

MISSIONS

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The Science Fiction Robot

In this mission, the guest will be briefed that the Earth is under attack from a hostile alien species from Planet 134340 (Pluto), angry about a recent snub by Earth's astronomers. In this mission, the guests will collect traits from the various robots in the Robot Hall of Fame to create the ultimate robot to save the world from certain destruction.

The Space Travel Robot

In this mission, the guest must help prepare for a deep space mission by collecting traits from the robots in the Robot Hall of Fame. The guest will construct the perfect traveling companion for a dangerous mission to the far reaches of the galaxy. Guests must create a robot with the ability to navigate difficult terrain as well as the infinite space. The Robot must be efficient in its duties, as well as be an amiable companion for the long trip.

The Homework Robot

In this mission, the guests will have to create a robot that does their mundane, everyday chores so that they can take a vacation to Mars. The robot must be able to do laundry, put away their toys, and even do their homework!

The Rescue Robot

In this mission, the limits of current science are pushed, encouraging the guest to think big about the future possibilities of how robots can replace human lives put into danger, as well as assist in saving lives in situations too precarious for humans. This Robot's traits must include the ability to rescue a human being from a dangerous coal mine entrapment and be able to provide medical treatment to the victim before humans can get to him.



COLLECTING INFORMATION

Now that the guests have been informed of their mission, the agent guides them into the laboratory, where they encounter the robot specimens. All of these robots are current inductees into the Robot Hall of Fame. Guests can encounter each robot, which exists in a holding "tank," where, like a zoo, they are surrounded by their natural environment. Here we see R2D2 and C3PO in a sand-filled diorama of Tatooine, the background mural displaying the expansive environment. Plasma screens on either side of the tank display scenes from Star Wars, exhibiting the robots in action. In front of the tank is a graphic panel explaining the significance of the robots, including all of their unique traits. Adjacent to the "tank" is a laboratory station. It is here that the guest "Roboticist" syncs his Transmitter to the graphical display. Using a huge touch-screen interface, the Roboticist interviews the robots and views the possible traits he can collect to build his own robot to complete the mission. Here, he collects the code to transmit to Dr. Frankenbot, corresponding to a specific trait.

The Roboticist must investigate each specimen to determine the perfect traits to build the robot which will accomplish his mission. The guests travel from exhibit to exhibit, viewing multi-sensory media which explains the function of each of the robots. They frantically collect the codes to transmit to Dr. Frankenbot.



DR. FRANKENBOT

The guest is directed to Dr. Frankenbot's laboratory lair. The area is a cross between a mad scientist's laboratory, a garage workshop, and a mechanics shop. The place is strewn about with widgets, actuators, servos, arms, hands, monitors, and any other part imaginable which might make up a robot. It is here that Dr. Frankenbot, appearing from a remote location through video feed, reveals the parts which the guest has earned from the codes. Dr. Frankenbot issues the guest's their earned parts on a giant screen with shadow projection, and the Roboticist assembles the parts to create the robot which will complete the mission.

Once the robot is assembled, it instantly animates. The screen becomes a platform for the guest to interact as the robot, fighting off aliens like an old arcade game, or rescuing a miner remotely and performing life-saving surgery. The Roboticist sees their robot in action, and can step into the robot's shoes. Upon accomplishing the mission parameters, the Roboticist enters their name into a dynamic "Canon of Robotics" wall and receives an honorary badge and certificate.



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ROBOTICS CHANNEL

TELEVISION STUDIO

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As we move into the atrium area of the Carnegie Science Center, the décor dramatically shifts from our world to that of a world created by robots for robots. It is an open space and the style is distinctly “early electro-mechanical.” Giant gears, levers, and pulleys have been used to create objects that seem oddly familiar to us. The space feels like an oversized television studio, the main studio of the Robotics Channel: television for robots by robots. The Robotics Channel has been around for years and in that time managed to produce some pretty remarkable programming along with legendary stars. For robots, the opportunity to step into this studio is a tremendous thrill, not unlike humans stepping onto a Hollywood soundstage. The studio is everything our imaginations pictured it to be...

The usual television studio equipment is present: cameras, microphones, lighting gear, though it of course has a mechanically “built” style. Amongst the studio gear we find small interactive stations encouraging future roboticists to explore basic principles of robotics as they relate to the work done at the Robotics Channel. For example, guests could take on the role of “casting director” and choose the robots best suited for a particular role. They could find themselves in the role of a “director” guiding robots through a scene by drawing their path of travel through a set. Or, they might even have an opportunity to step in front of the Robotics Channel green screen to share strange robot news stories from around the world.



THE ROBBIE AWARDS

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If this is a thriving television studio, shouldn't there be a dozens of robots scurrying about working on various programs? Of course, we haven't noticed the call-board and dozens of notes and posters around the studio announcing today's live broadcast of the Robbie Awards. Every robot at the studio is currently involved in this star-studded event.

Looking down, we realize that the red carpet extending through the entire studio leads to the twinkling entrance of the main theatre space. This isn't just any other day at the Robotics Channel. Like the Oscars, the Robbie Awards recognize the best of the best in the robot world. Along with the award itself, winners are inducted into the Robot Hall of Fame. The awards ceremony is about to begin and we're asked if we would like to be a part of the studio audience for the broadcast. Well, one can't turn down an opportunity like that. And with great excitement a crowd quickly gathers in front of the theatre doors. A strangely familiar-looking robot is doing "red-carpet duty" commenting on the attire of various guests in the crowd. If Joan Rivers were a robot, surely this is her. A minute or two passes when a section of the theatre marquee slides back and a small usher-bot springs to mechanical life to remind us of a few ground rules prior to entering the theatre.. "No eating, drinking, smoking, or dismantling allowed in the theatre. Laser death rays must be turned off and communication gear should be set to silent or vibrate." With that, the theatre doors swing open and we're ushered inside.

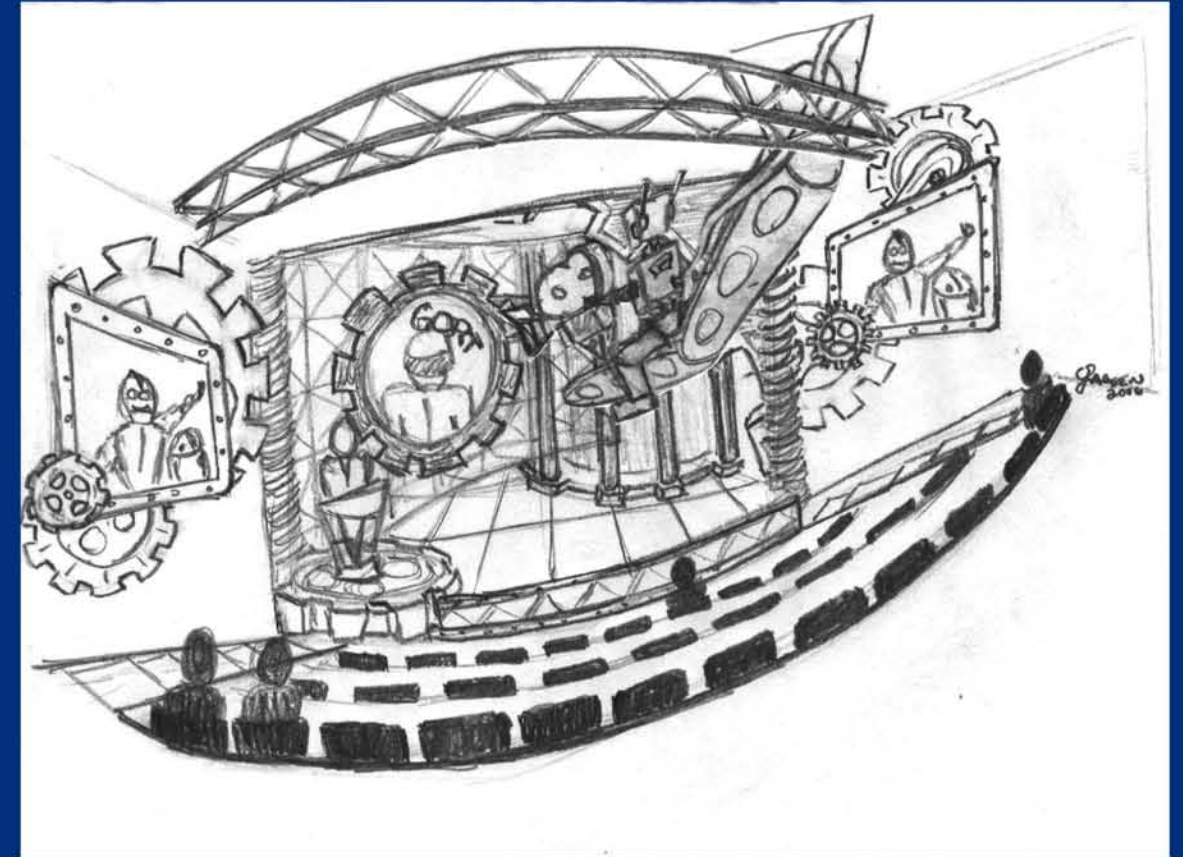


SHOWTIME

ROBOT HALL OF FAME

Inside the theatre a few humans have been hired by the studio to help keep things running smoothly. As we look around, we notice various robotic production personnel busy checking connections and camera angles. In one of the box seats we find a curmudgeonly pair of robots reminiscent of Statler and Waldorf, perhaps Crow and Tom Servo from Mystery Science Theater, who never miss an opportunity to heckle the humans in the audience and, as we'll find out later, occasionally interrupt the show itself. Robotic camera equipment pans through the space, operated by SCARA's and other recognizable robot personalities. Large screens display the live broadcast feed that the rest of the robot world will be watching. Audience members occasionally spot themselves on the big screen.

In typical "award show" fashion, the studio "orchestra" launches into the opening anthem for the show. Our host and long-time friend of the robot community, Anthony Daniels holographically appears onstage and welcomes us to the show. He also informs us that WE will be selecting the winners of this year's Robbie Awards by using small voting devices attached to our chairs. Mr. Daniels announces the first category: "Most Influential Fictional 'Bot." There are three nominees and after a short introduction to each, it's our turn to select the winner for this category. After tallying the votes, Maria from "Metropolis" is the clear winner. The curtains dramatically part to reveal Maria onstage. She accepts her award and gracefully departs.



VOTE FOR THE WINNERS

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Anthony Daniels introduces the duo that will present the award for "Robotic Achievement in Industry" as C3P0 and R2D2 take the stage. C3P0 introduces us to the nominees in this prestigious category and again, we are asked to vote for the winning 'bot. A sophisticated assembly line robot unexpectedly wins the category by an overwhelming majority. Alas, this 'bot was unable to attend the presentation, but accepts the award via video from the factory floor with its operator. An industrial 'bots work is never done.

At last, it is time for the most anticipated presentation of the broadcast... the coveted "Excellence in Robotics" award. Anthony Daniels returns to the stage to introduce the nominees. Two are remarkable scientific/engineering achievements that have revolutionized robotics as we know it; the third is a fictional 'bot that has profoundly influenced/inspired today's roboticists. We are asked to vote for the third and final time to choose the winner of this very important distinction. With great fanfare from the orchestra, one of the robots is declared the winner and accepts the award. Anthony Daniels thanks us for being a part of the experience and reminds us that robots play very important roles in our everyday lives. Credits begin to roll on the broadcast monitors and the studio robots begin shutting down their equipment as we exit the theatre through the upper level doors.



BROADCASTS

ROBOT HALL OF FAME

As we leave the theatre and begin our journey along the curved ramp ways that connect each floor of the science center, we find ourselves strolling through a gallery of Robotics Channel achievements. The walls present a vibrant timeline of the robotics world. Plasma screens along the way introduce us to the various inductees to the Hall of Fame and showcase their unique contributions to robotics through the lens of various programs on the Robotics Channel. Along with these wall mounted displays, the legends of robotics are suspended in the cavernous space beyond the railings. These 'bots are recognized celebrities throughout the robot world, each of them a Hall of Fame inductee. They represent an incredible cross section of robotics from science fiction stars to scientific breakthroughs. While there are a number of robots present, there is still plenty of room to present future inductees.

Over the course of our day at the science center, we pass through this Hall of Fame several times as we move from one floor to the next. On each trip we might see different television programs, or stop to see a different robot, or possibly return to the awards show broadcast to vote for a different favorite 'bot. But, more importantly, and whether we know it or not, we've learned more about the world of robotics and seen how entertainment has inspired the world of science and science has influenced the world of entertainment.

