The Magazine for LEGO® Enthusiasts of All Ages!

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Brick Journal

Issue 44 • March 2017

people • building • community

The Theme Park Issue!

Erik Jones displays Cinderella Castle!

John Rudy's Disney Rides!

Guillaume Roussel's Disneyland Paris Model!

Jennifer Lee's Friends Park

Instructions and MORE!

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Constructing Cinderella's Castle!

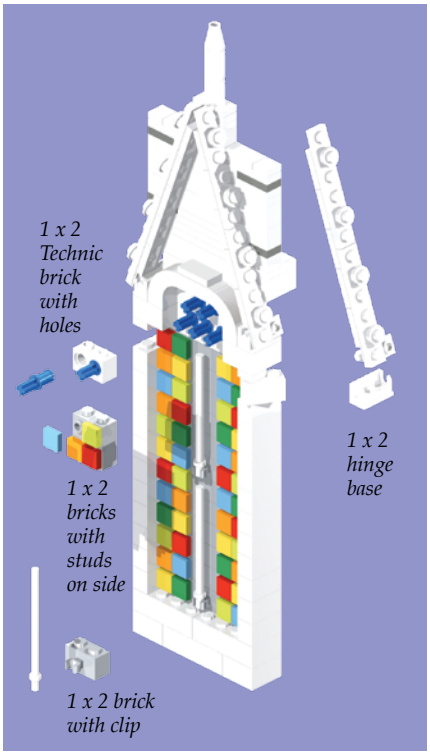
Article and Photography by Erik Jones

It's not very often that a castle simply appears. Such was the case, though, in 2015, when a castle appeared on Reddit. To make things more interesting, it wasn't just any castle—it was Cinderella Castle from Walt Disney World. Made of LEGO bricks and elements, it stood at 6.5 feet tall and was 4.5 feet wide, making it a massive structure. As a result, the Reddit thread got a lot of attention and the castle photos went viral. The builder was Erik Jones, a professor of Choral Music at Shepherd University in Shepherdstown, West Virginia.

He wasn't the only builder on the castle—he was helped by his son, Colin. Both were inspired by a visit to the National Building Museum in Washington, DC and seeing an exhibition of LEGO buildings. For both of them, this marked the beginning of their LEGO obsession when they started with building the Expert Creator and Architecture sets, and decided to make the castle their first MOC. As Erik said and the old saying goes, "Go big or go home, right?"

A bird's eye view of Cinderella Castle.

Here's an example of using Technic bricks and 1x2 plates with 3 teeth to evoke the rail pattern of the real castle.



A breakdown of the window panels (seen at the right) show how the color tiles are mounted as well as the roof. The panels are brick hinged (using a stud) to make the angles needed.

"Just as an example, I found that if I built two identical two-foot walls and then tried to connect them at the top, it almost never worked because each wall would warp and bend slightly, or sometimes be as much as ⅓ of a brick off in height. I tore many things down and learned to connect as I went, making sure that everything in each section connected to everything else early and often." As a result, the exterior of the castle matches the Digital Designer file, but the interior is completely different.

By May, the castle was finished and was posted on Reddit, where it quickly went viral. It was displayed at BrickFair Virginia in summer of 2016. Erik has been considering donating the model to Give the Kids the World, a Disney World-based home for children with illnesses, or Walt Disney World, but has not received a response from either, which is a disappointment.

Building a Tale as Old as Time...

Interview by Joe Meno
Photos by Jamie Lawrence
www.facebook.com/jamielawrencephotography)

Kevin Hall has been in BrickJournal *before, both as a builder and a writer. He worked at LEGOLand Windsor, but has gone on and now builds on his own at his firm, Brick Galleria. His latest build got a lot of attention at the UK BRICK 2016 event.* BrickJournal *got a chance to talk with him about it.*

BrickJournal: ***What inspired you to build Beast's castle?***
Having a love for history and castles, along with my lifetime love for Disney, I have always wanted to build a Disney castle. Now that I have the means and parts, I decided to finally build something that has been with me since I was a child. Living in the UK and before that, in Germany, I have been inspired the last few years from all of the amazing castles I have visited. So it was only natural that I combined all of these passions to create the *Beauty and the Beast* castle.

I take it* Beauty and the Beast *is a favorite film—am I right? It's a favorite of mine, FYI.
I love *all* of the Disney movies, but the ones released in the late '80s and '90s are my favorites, such as *The Little Mermaid, Aladdin, The Lion King, Mulan, Tarzan,* etc. But I think *Beauty and the Beast* is one of my favorites. The story is typical Disney—don't judge a book by its cover—but having it set in such an amazing enchanted castle did it for me.

The Beast's Castle.

How did you plan building the castle?
Starting off, I watched the movie over and over again, pausing certain scenes to see how the castle was laid out and to see the features. I then planned out the layout and size to get the correct dimensions and where all the parts of the castle were located within the model. I also printed out various images of the castle from the movie and from different models of the castle in different Disney theme parks. Combining all of the reference, I tried to design the castle based on the actual movie to make it authentic.

Once I had the layout worked out and knew the size of the footprint, I built the base and mapped out where all the walls were and where the towers were, as well as how the ballroom mechanics worked under the floor. I then started building... UP!

Where did you get the parts?
As I already have an extensive collection from over 36 years collecting, most of the parts came from there. I of course had to order more parts to complete the castle. I had to order a fair amount of parts from LEGO online, with the roofs alone having over 40,000 1x2 tiles in four different colors.

How long did it take to plan and build the castle?
All up, the castle took around six months on and off, with roughly four months of solid building and ordering parts. It took around a month of planning and working out the details of how I was going to build the model. This included working out how the castle would be built modular, so it could be taken apart for transport.

Once the base was built, the mapping out of the castle took a week or so. The mechanics under the ballroom floor took a few days to work out and fit to the size I needed. The main part that probably took the most concentration and time would be the roofs. I spent around two weeks creating the roofs, as each tile was individually placed on a clip, then clipped onto the main frame of the roof.

The last month was designing and building all the details and finishing touches like the gargoyles and the trees, etc. These were all added right at the end and designed so they could be detached easily for packing and shipping.

Each time I move the model, the main two sections are around 1.2 metres long and only 600 millimetres wide, so they can fit through a standard doorway if needed. They are bubble-wrapped and then crated up, and everything else comes apart and fits into boxes. It takes around six hours to put together at each new location.


Building the castle starts at the foundation...


...then continues upward...


...until the structure takes shape.


Another tower under construction.

Ballroom Dancing

Building the ballroom spinning mechanism.

Building the floor and walls.

Belle and Beast dance.

Guillaume Roussel: Building Disneyland Paris, Brick by Brick

Article by Joe Meno
Photography by Guillaume Roussel

Guillaume Roussel is a second-year civil engineering student in France, and LEGO builder that decided to undertake an ongoing building project: to build Disneyland Paris. He started this project when he was 14 years old, inspired by a visit to Disneyland park with his parents in March 2011.

Disneyland quickly became a favorite subject for him to build, as the park has a lot of different themes in its rides, like pirates (Pirates of the Caribbean), western (Frontierland), space (Tomorrowland) and medieval and fantasy (Fantasyland). Still, once he decided to build the park, he would need to gather research. He searched online for reference and watched movies and documentaries about the different Disney parks worldwide, especially Disneyland and California Adventure in Anaheim, California; Walt Disney World and the Magic Kingdom in Orlando, Florida; and of course, Disneyland Paris.

Disneyland's History in Bricks!

Article by John Rudy

In 1955, Walt Disney opened his original Magic Kingdom—Disneyland, the happiest place on Earth. The inspiration came when he was sitting on a bench in Los Angeles' Griffith Park. Walt set out to create a land of yesterday, tomorrow and fantasy which families could play in and explore together. It wouldn't be a cheap roadside carnival. Disneyland was meant to be an immersive place where the outside world could melt away and guests could lose themselves in joy.

In 1955, the LEGO company was still struggling. Godtfred Kirk Christiansen was trying to convince Europe that plastic toys, not wood, were the future of creative play. The name "LEGO" had only been patented the year before. He demonstrated his interlocking plastic bricks at the Nuremberg Toy Fair. But sales were slow going. Christiansen dreamt bigger, though. He introduced a new idea in Nuremberg: the LEGO System of Play.

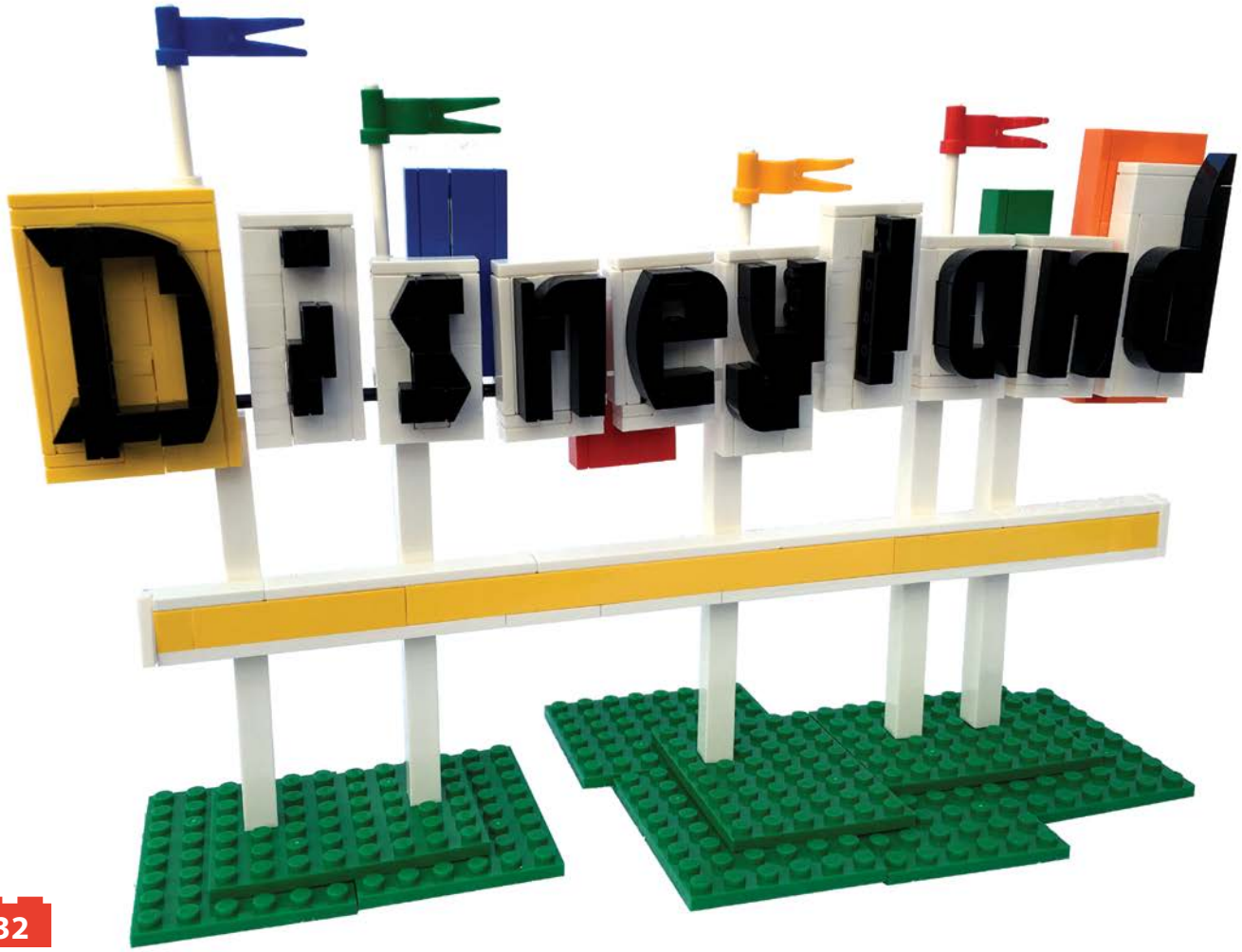
Disneyland has gone on to be a family destination for over five decades. LEGO System has become one of the most beloved toys for generations. Each has achieved status as a world icon. Combining them seems like the obvious next step.

Over the years, Disneyland has evolved, changed with the times, and introduced new experiences. Though the attractions have changed, the vehicles used to experience them have always been iconic, whisking visitors to the lands of fantasy or adventure.

The Disneyland Sign (1958)

Sitting along Harbor Blvd. until the early 1970s, the Disneyland Sign welcomed guests to "the happiest place on Earth."

The LEGO Disneyland Sign is an extremely complex build, each letter presenting its own challenges. It makes good use of cheese slopes (54200) and the newer 1x2 curved slope (11477) to help form the curves and angles of the gothic Disneyland font.

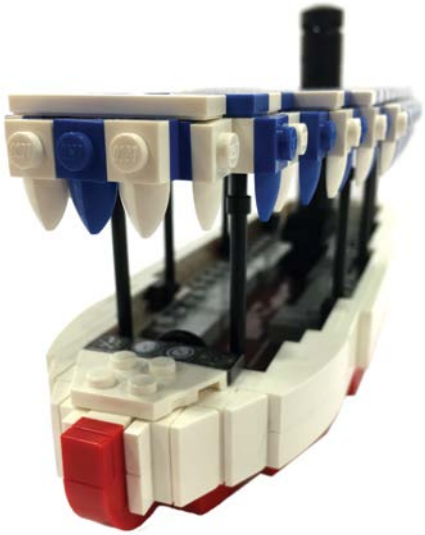


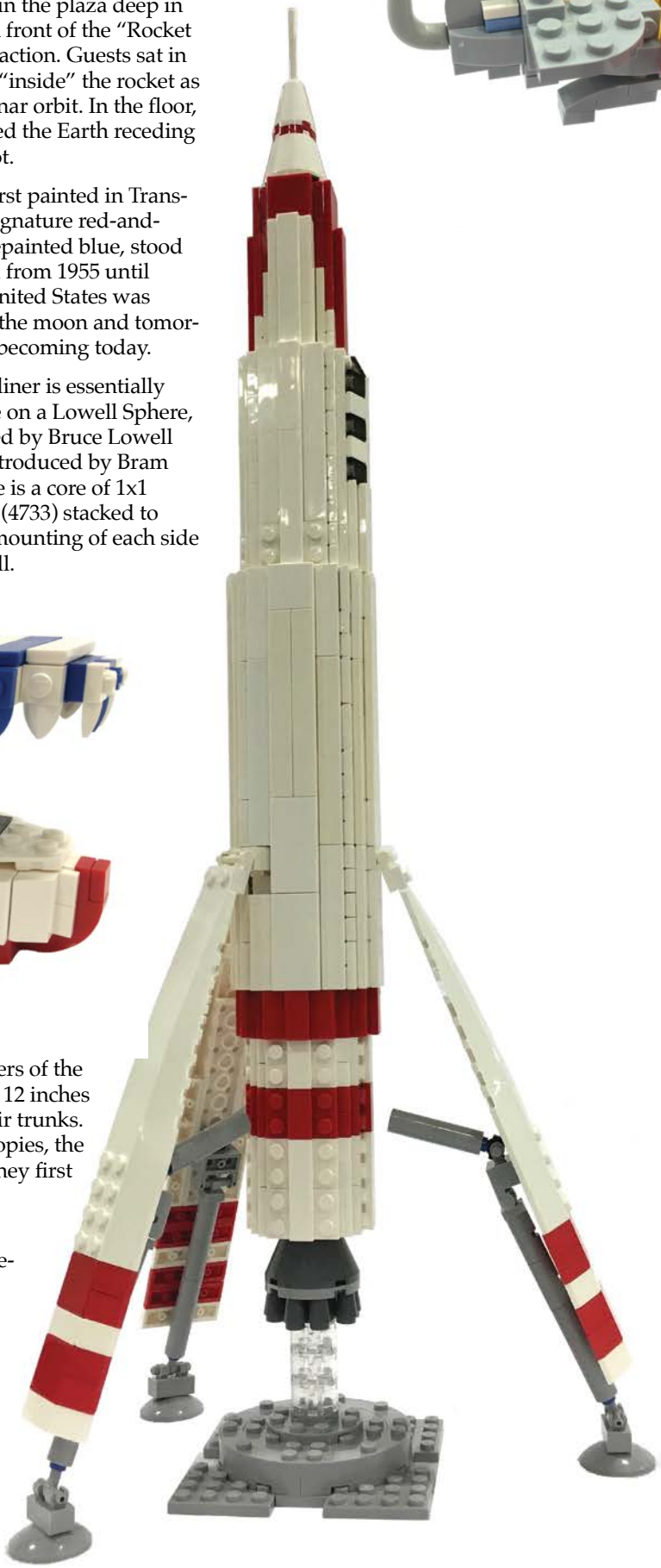
The TWA Moonliner (July 1955)

One of only two opening day attractions in my portfolio, the TWA Moonliner stood in the plaza deep in Tomorrowland in front of the "Rocket to the Moon" attraction. Guests sat in a circular theatre "inside" the rocket as it flew them to lunar orbit. In the floor, a viewport showed the Earth receding to a small blue dot.

The Moonliner, first painted in Trans-World Airline's signature red-and-white and later repainted blue, stood in Tomorrowland from 1955 until 1967, when the United States was actually going to the moon and tomorrow was quickly becoming today.

The LEGO Moonliner is essentially an elongated take on a Lowell Sphere, a design pioneered by Bruce Lowell based on ideas introduced by Bram Lambrecht. Inside is a core of 1x1 Brick W. 4 Knobs (4733) stacked to allow for SNOT mounting of each side of the rocket's hull.





The Jungle Cruise (July 1955)

A trip to Disneyland isn't complete without a tour on the rivers of the world, where giant butterflies have wingspans ranging from 12 inches up to a foot and where the elephants are always wearing their trunks. Though the brightly colored stripes are no longer on the canopies, the Jungle Cruise boats still ply the waves over fifty years after they first set sail.

Originally, the Jungle Cruise wasn't a dad-joke packed float down the Mekong and Amazon, but a take on Disney's "True-Life Adventures" films—a series of nature documentaries highlighting exotic animals from around the world.

Each half of the hull of the LEGO Jungle Cruise boat is built with studs facing out, allowing for tiles to give the gently curving shape of the bow. And just like on the real version in Disneyland, the canopy is fully supported by the poles around the edge of the boat.

Zach Reynolds: Building Disney in Bricks

Interview by Joe Meno
Photography by Jon Grant

At BrickFair Virginia 2016, there were some interesting little creations that were spotted. Little vehicles scaled to the Disney Collectible Minifigures that were released earlier in the year were displayed in a group, looking something like a Disney parade. After some searching and questions, the builder behind them was found, as well as some other Disney-themed models. Zach Reynolds (@BrickZfrom9to5 on Twitter), an 18-year-old builder, built not only the vehicles, but Miniland scale characters and nanoscale park icons for his name badge. BrickJournal *talked to him about his creations and how he started building.*

BrickJournal: ***What got you into building? What got you into Disney—were you a Disney fan before you got into LEGO?***

Zach Reynolds: My love of LEGO and love of Disney are virtually equal. I have been an enormous fan of both, my whole life. My first trip to Walt Disney World was at the age of 3. Our family annually camps at Disney's Fort Wilderness. My goal is to ride every ride and eat at every restaurant on property. One of the things I appreciate most about Disney is the incredible amount of thought, detail and surrounding story they put into absolutely everything. I try to bring the same level of creativity into any MOC I create. My biggest life's dream is to become a LEGO master builder.

Alexis Dos Santos: Ride Builder

A theme park built by Alexis with many of his rides.

Article by Joe Meno

Alexis Dos Santos is a graphic and web designer who rekindled his LEGO hobby when he joined Community 0937, a Portugese LEGO Users Group at the age of 26.

With his favorite themes being Technic, Steampunk, and City (with movement), he combined all of his interests into making a variety of creations. Among his most recognized models are replicas of amusement park rides. He has built a Space-themed spinner ride, a carousel, and a swing ride, to name a few. With all of these rides, he has not only managed to create a ride to scale, he has also done its function. Alexis got into building rides because he enjoys the challenge of building a complex mechanism that is also beautiful.

A rocking pirate ride.

Building a ride takes a few elements. First Alexis starts looking online for visual inspiration based on existing rides. After finding references, he studies the information and then lets it process in his thoughts until he thinks of a mechanism compact enough to be recreated in LEGO. This may take weeks, but it will lead him to begin building a test model. If he's satisfied with the test, Alexis advances the process to build a more robust version, while incorporating the outer details and embellishments.

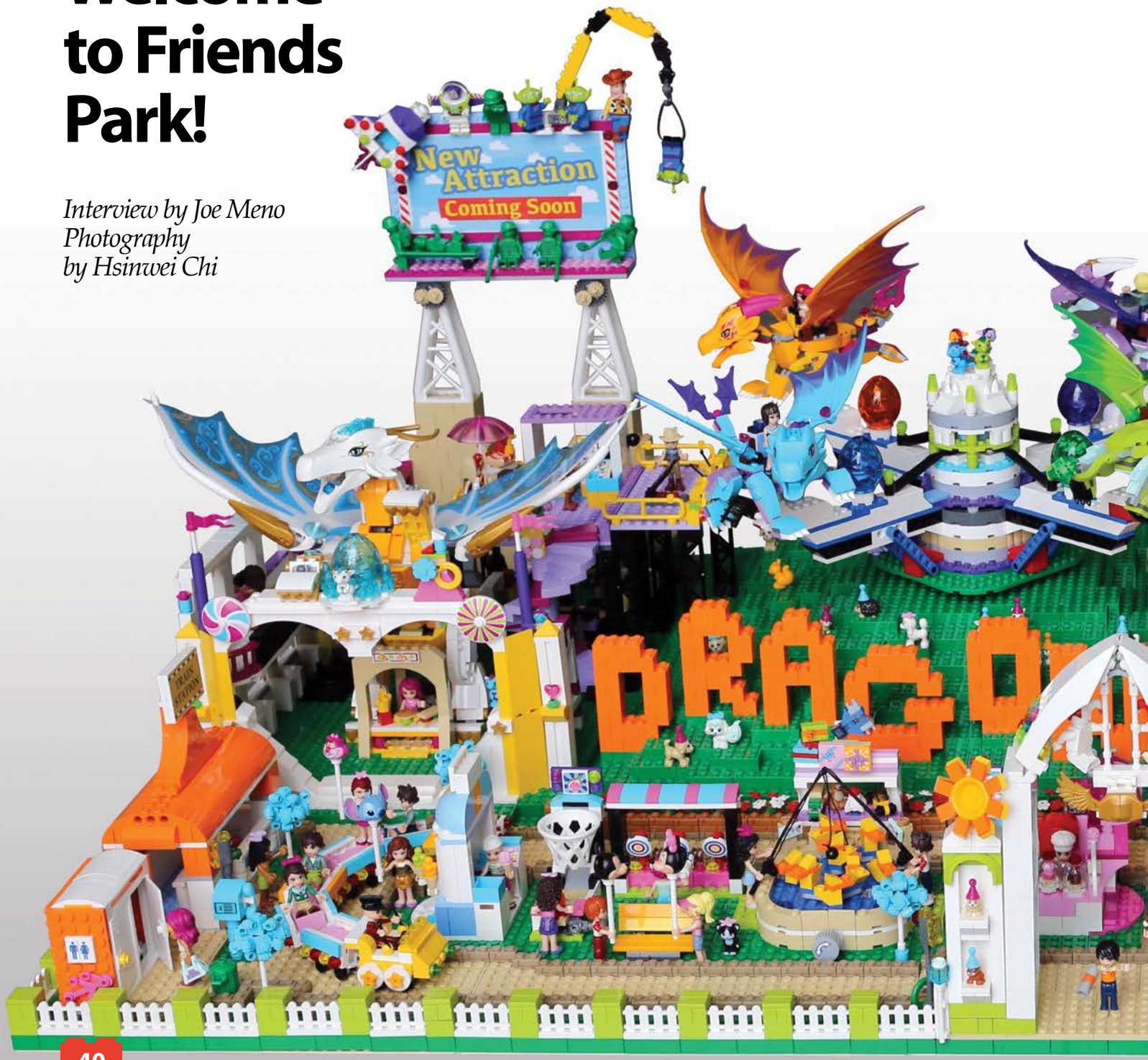
Welcome to Friends Park!

Interview by Joe Meno
Photography by Hsinwei Chi

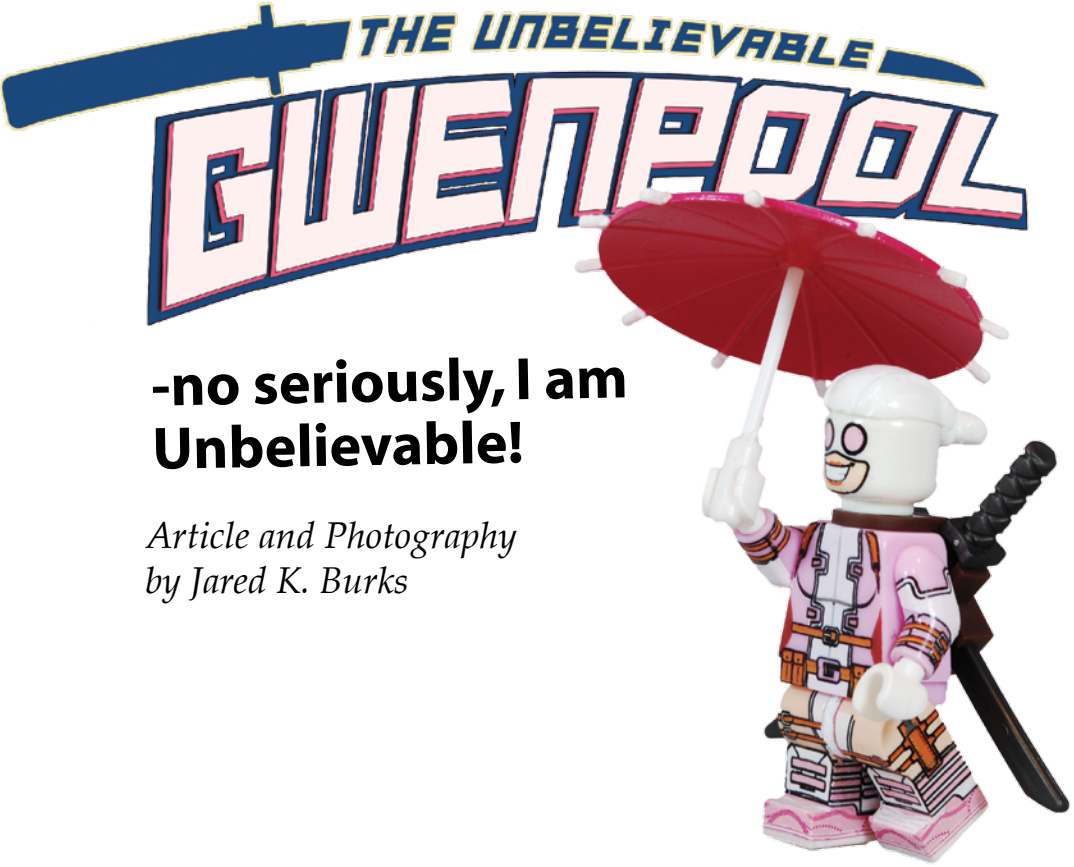
Jennifer Lee is an investor (bonds, equities, shares) that started LEGO building in December 2015. Theme parks and fun fairs were her childhood favorite places, and she wanted to rebuild these memories of the games and rides that she enjoyed most, with LEGO elements available. With the release of the Friends amusement park sets in mid-2016, she had an opportunity to make the park she always wanted. BrickJournal *was given a tour of the park and spoke with Jennifer about it.*

BrickJournal: ***How long did it take for you to build the layout?***
Jennifer Lee: Even though these elements and sets were easily available, it took four weeks to plan and build the layout.

How was the layout planned?
I worked on one ride at a time before joining it all together. I started off with Flying Hot Dog, Sky Drop, Bumper Car and then I thought the dragons would



Minifig Customization 101:



-no seriously, I am Unbelievable!

Article and Photography by Jared K. Burks

So...

...this issue of *BrickJournal* is all about theme parks, and after racking my brain about what to create that would be up to the concept of theme park characters, I have to admit that I came up with nada. The issue is that LEGO has made almost all of the Disney characters that might be wandering around a theme park. So I started thinking about characters that might crash a theme park—literally crash a theme park, uncouple the Ferris wheel, derail the rollercoaster, and throw up on the tilt-a-whirl. This lead me to none other than the Unbelievable Gwenpool.

Who is Gwenpool?

Gwendolyn "Gwen" Poole is an amalgam of Gwen Stacy and Deadpool which started from a variant cover of *Deadpool's Secret Wars* #2 and was drawn due to the popularity of Spider-Gwen, another variant of Gwen Stacy. Due to the popularity of the character, Marvel Comics initially produced two stories featuring Gwenpool. Despite her name, Gwenpool, she is neither related to Deadpool or Gwen Stacy. Her backstory from *Howard the Duck* #1 revealed her name to actually be Gwen Poole. This is the rub; through means yet to be revealed, Gwen Poole arrived in the Marvel Universe from what she claims to be "the Real World" (non-comic book world you and I live in). Unwilling to be an "extra or sidekick," she went to a tailor for super-heroes and requested her own costume. A tailor named Ronnie created her costume, but misread Gwen's application form and thought that Gwen went by the alias of Gwenpool, creating a costume to match her alias. Much like Deadpool, Gwenpool becomes a mercenary who is given news of various freelance opportunities from her tailor Ronnie. Gwen believes her adventures occur in comic books, so she is rarely concerned with the consequences as she believes others will fix her actions till Howard the Duck straightens her out. Gwen commonly crashes other superhero events in her initial comics and ongoing series. So it wasn't a stretch to believe she would crash a theme park rolling in on her Gatling gun-toting dirt bike.

Inspirational art for Gwenpool comes from the cover art for her series, Gwenpool #1, *released in April of 2016.*

This is one of the first parts I cast off the motorcycle mold and as you can see, the larger fill tubes and smaller air vents have been places to allow the part to completely form without voids being created by trapped air. These vents and tubes were simply cut away and the flashing was removed and cleaned up with a razor blade. Above is the part on the mold and below is the part pulled from mold. I liked this image of the part as it reminded me of a Praying Mantis.

War Machine Commission featuring Gatling Guns.

Building Gwenpool's Ride

This figure is a bit of a challenge simply because I wanted to make her motorcycle as well as the figure, so this requires construction of some larger parts. So let's start with the motorcycle. In the reference photo on the previous page, Gwen's motorcycle is the same color pink as her costume, and this represents a challenge as I have yet to find a paint or vinyl dye that matches LEGO pink without some custom mixing, plus I wanted the color to be harder wearing as I imaged taking the figure on and off the bike. This means that I needed to mold and cast the LEGO element so I could construct in the desired color of pink. The custom color matching is the same amount of work, but the end result is a urethane resin plastic part that is pink through and through. The key with molding the motorcycle element is that there are small areas that require air vents to avoid trapped air to allow the mold to fill appropriately and not contain voids. This means attaching many fill tubes and air vents.

The next element I needed was the Gatling gun scaled appropriately for her motorcycle. This was no small feat as I was unable to find one after scouring the secondary market of most every vendor (BrickArms, BrickForge, BrickWarriors, MinifigCat, etc.). Several vendors have very lovely chain guns, but they are simply too large for this application. So I reached back into my memory and recalled a War Machine figure I had constructed.

WARNING: *Now everyone prepare yourself, I am going to say a dirty word to many in the LEGO community in a sentence or two.*

Back when this commission was requested, the Gatling/chain gun was a requirement for the War Machine commission, and much as now, I was unable to find a suitable option and I didn't have time to create one from scratch—so I looked at other (non-LEGO) building toys. I found this very lovely chain gun in a **(ALERT: DIRTY WORD FOLLOWS)** Mega Blok polybag figure. It was too perfect then and it is still too perfect now. There, I said it; I feel better.

You Can Build It

MINI Model

MINI Ferris Wheel

Design and Instructions
by Christopher Deck

Hello everybody, I hope you are prepared for our next mini model building session! In this theme-park oriented issue, I want to take you on a ride in a fully functional mini ferris wheel. It rotates smoothly around a 7L Technic axis, and the fully rotatable gondolas will keep their horizontal position during each complete turn. We need lots of LEGO Technic pieces for this particular model. To make the construction more convenient for you, the wheel's pieces are kept in light gray color which have the best availability compared to other colors. As the building instructions are slightly longer than for a typical mini model, you will need a little more time to build this. Hence I will stop talking now and wish you happy building!

Parts List *(Parts can be ordered from Bricklink.com by searching by part number and color)*

Base

Qty	Color	Part	Description
4	White	3659.dat	Arch 1 x 4
2	White	3024.dat	Plate 1 x 1
4	Light-Gray	3794a.dat	Plate 1 x 2 without Groove with 1 Centre Stud
2	White	3794a.dat	Plate 1 x 2 without Groove with 1 Centre Stud
4	Green	3710.dat	Plate 1 x 4
4	Green	3460.dat	Plate 1 x 8
2	Green	3021.dat	Plate 2 x 3
4	Green	3031.dat	Plate 4 x 4
2	Light-Gray	3027.dat	Plate 6 x 16
8	White	3039.dat	Slope Brick 45 2 x 2
2	White	3684.dat	Slope Brick 75 2 x 2 x 3
2	White	6541.dat	Technic Brick 1 x 1 with Hole
12	Light-Gray	3070b.dat	Tile 1 x 1 with Groove
2	White	3070b.dat	Tile 1 x 1 with Groove
8	Light-Gray	3069b.dat	Tile 1 x 2 with Groove
8	Light-Gray	3068b.dat	Tile 2 x 2 with Groove

Center Axis

Qty	Color	Part	Description
1	Light-Gray	44294.dat	Technic Axle 7
2	Light-Gray	3713.dat	Technic Bush with Two Flanges
1	Light-Gray	4143.dat	Technic Gear 14 Tooth Bevel
6	Dark-Gray	32002.dat	Technic Pin 3/4

Gondolas

Qty	Color	Part	Description
12	Trans-White	3024.dat	Plate 1 x 1
6	Red	3023.dat	Plate 1 x 2
6	Red	32530.dat	Technic Tile 1 x 2 with Two Holes

Outer Wheels

Qty	Color	Part	Description
6	Trans-Green	30153.dat	Rock 1 x 1 Gem Facetted
6	Trans-Red	30153.dat	Rock 1 x 1 Gem Facetted
6	Trans-Light-Blue	30153.dat	Rock 1 x 1 Gem Facetted
6	Trans-Yellow	30153.dat	Rock 1 x 1 Gem Facetted
6	Light-Gray	4262.dat	Technic Plate 1 x 6 with Holes
6	Light-Gray	2711.dat	Technic Rotor 2 Blade with 2 Studs
2	Light-Gray	2712.dat	Technic Rotor 3 Blade

Inner Wheels

Qty	Color	Part	Description
6	Trans-Green	30153.dat	Rock 1 x 1 Gem Facetted
6	Trans-Red	30153.dat	Rock 1 x 1 Gem Facetted
6	Trans-Light-Blue	30153.dat	Rock 1 x 1 Gem Facetted
6	Trans-Yellow	30153.dat	Rock 1 x 1 Gem Facetted
6	Light-Gray	4262.dat	Technic Plate 1 x 6 with Holes
6	Light-Gray	2711.dat	Technic Rotor 2 Blade with 2 Studs
2	Light-Gray	2712.dat	Technic Rotor 3 Blade

BrickNerd DO IT YOURSELF FAN ART!

Mr. Toad's Car

Design and Instructions by Tommy Williamson

Tommy Williamson is no stranger to *BrickJournal*, having been featured previously for his Jack Sparrow miniland scale figure. Since then, he has gone farther into building, making some remarkable *Star Trek* props and other models. He's now doing a column for *BrickJournal:* DIY Fan Art. Here, Tommy takes a little time out from his busy schedule at BrickNerd.com to make a model of his choosing for the magazine.

About this issue's model:

It's no secret I love Disneyland. I don't even have to ride rides or see a parade or show. I'm totally happy just being there. That doesn't mean I don't like rides though, and when I heard of the theme for this issue, I instantly thought of the ride vehicles for Mr. Toad's Wild Ride. I have no idea why, to be honest—I rarely ride it. But you don't get much more Disneyland iconic than these. Hope you enjoy it!

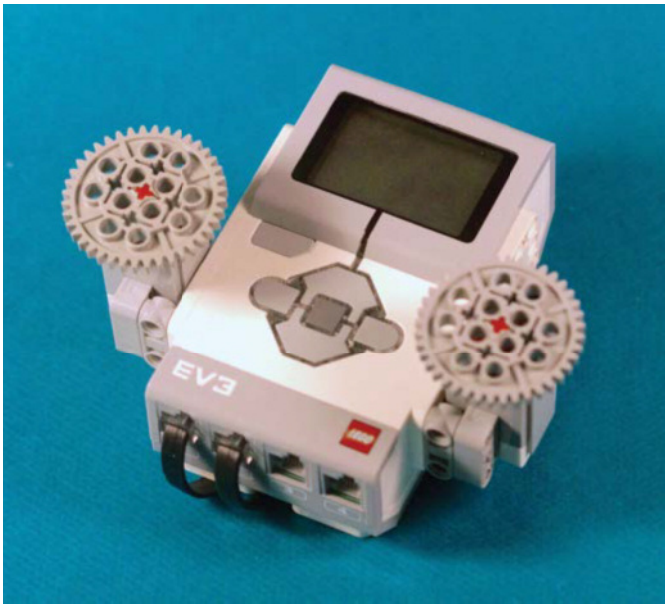
Parts List *(Parts can be ordered through Bricklink.com by searching by part number and color)*

Qty	Part	Color	Description
1	2431.dat	Red	Tile 1 x 4 with Groove
4	2470.dat	Red	Wheel 2.8 x 27 with 8 Spokes
2	2555.dat	Red	Tile 1 x 1 with Clip
2	3005.dat	Red	Brick 1 x 1
2	3010.dat	Red	Brick 1 x 4
4	3024.dat	Red	Plate 1 x 1
4	3068b.dat	Red	Tile 2 x 2 with Groove
4	3069b.dat	Red	Tile 1 x 2 with Groove
1	3666.dat	Red	Plate 1 x 6
1	3710.dat	Red	Plate 1 x 4
4	6005.dat	Red	Arch 1 x 3 x 2 with Curved Top
2	6019.dat	Red	Plate 1 x 1 with Clip Horizontal (Open U-Clip)
1	6081.dat	Red	Brick 2 x 4 x 1 & 1/3 with Curved Top
2	6091.dat	Red	Brick 2 x 1 x 1 & 1/3 with Curved Top
1	6191.dat	Red	Brick 1 x 4 x 1 & 1/3 with Curved Top
1	6636.dat	Red	Tile 1 x 6
4	30039.dat	Red	Tile 1 x 1 with Groove
4	60478.dat	Red	Plate 1 x 2 with Handle on End
2	63864.dat	Red	Tile 1 x 3 with Groove
1	87079.dat	Red	Tile 2 x 4 with Groove
2	4740.dat	Pearl Gold	Dish 2 x 2 Inverted
2	15712.dat	Pearl Gold	Tile 1 x 1 with Clip (Thick C-Clip)
2	2357.dat	Black	Brick 2 x 2 Corner
2	2420.dat	Black	Plate 2 x 2 Corner Black
1	2431.dat	Black	Tile 1 x 4 with Groove
3	3001.dat	Black	Brick 2 x 4
1	3002.dat	Black	Brick 2 x 3
3	3004.dat	Black	Brick 1 x 2
7	3010.dat	Black	Brick 1 x 4
5	3020.dat	Black	Plate 2 x 4
6	3021.dat	Black	Plate 2 x 3
5	3022.dat	Black	Plate 2 x 2
5	3023.dat	Black	Plate 1 x 2
1	3029.dat	Black	Plate 4 x 12
2	3037.dat	Black	Slope Brick 45 2 x 4
1	3622.dat	Black	Brick 1 x 3
3	3623.dat	Black	Plate 1 x 3
3	3660.dat	Black	Slope Brick 45 2 x 2 Inverted
2	3665.dat	Black	Slope Brick 45 2 x 1 Inverted
1	3666.dat	Black	Plate 1 x 6
2	3676.dat	Black	Slope Brick 45 2 x 2 Inverted Double Convex
5	3710.dat	Black	Plate 1 x 4
4	4488.dat	Black	Plate 2 x 2 with Wheel Holder
2	4599a.dat	Black	Tap 1 x 1 with Hole in Spout
1	6191.dat	Black	Brick 1 x 4 x 1 & 1/3 with Curved Top
1	6231.dat	Black	Panel 1 x 1 x 1 Corner with Rounded Corners
1	30383.dat	Black	Hinge Plate 1 x 2 Locking with Single Finger On Top
1	30413.dat	Black	Panel 1 x 4 x 1 with Rounded Corners
1	30553.dat	Black	Hinge Arm Locking with Dual Finger and Axlehole
1	30663.dat	Black	Car Steering Wheel Large
1	50746.dat	Black	Slope Brick 31 1 x 1 x 0.667
2	60481.dat	Black	Slope Brick 65 2 x 1 x 2
2	63864.dat	Black	Tile 1 x 3 with Groove
1	63965.dat	Black	Bar 6L with Thick Stop
8	87087.dat	Black	Brick 1 x 1 with Stud on 1 Side
1	88930.dat	Black	Slope Brick Curved 2 x 4 with Underside Studs
2	99780.dat	Black	Bracket 1 x 2 - 1 x 2 Up

MINDSTORMS 101:

MINDSTORMS Voting Machine

Article by Damien Kee



Damien Kee is the moderator of a large online community of teachers where ideas are often tossed around about how best to use robotics in the classroom. Given that an important election was coming up, one teacher asked how a voting machine could be created. Damien figured that this project would be an excellent way to introduce students to parallel processing.

When one votes for a particular person (or flavo cream, favorite comic book character, policy sta the different options should be totally separate programming, so voting for option A should ha impact on the count for option B. It was also a g introduce variables in programming as a way o track of an abstract amount.

The robot needs to be built first, but it's pretty s assemble. Here are the instructions.

Parts List *(Parts can be ordered through Bricklink.com by searching by part number and color)*

Qty	Part	Color	Description
2	3649.dat	Light Bluish Gray	Technic Gear 40 Tooth
2	32062.dat	Red	Technic Axle 2 Notched
2	43093.dat	Light Bluish Gray	Technic Cross Block 1 x 3 (Pin/Pin/Pin) with 4 Pins
1	95646c01		Electric Mindstorms EV3
1	45507		Electric Mindstorms EV3 Touch Sensor
1	45544	Black	Electric Mindstorms NXT Connector Cable 20cm