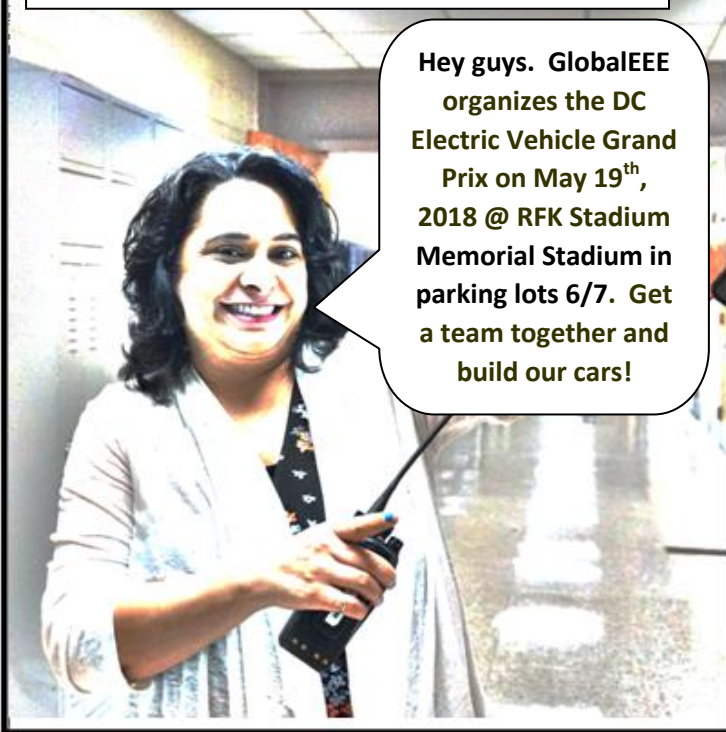




LARGO HS ELECTRIC VEHICLE TEAM



Largo High School prepares for its Electric Vehicle Team selection...



Hey guys. GlobalEEE organizes the DC Electric Vehicle Grand Prix on May 19th, 2018 @ RFK Stadium Memorial Stadium in parking lots 6/7. Get a team together and build our cars!

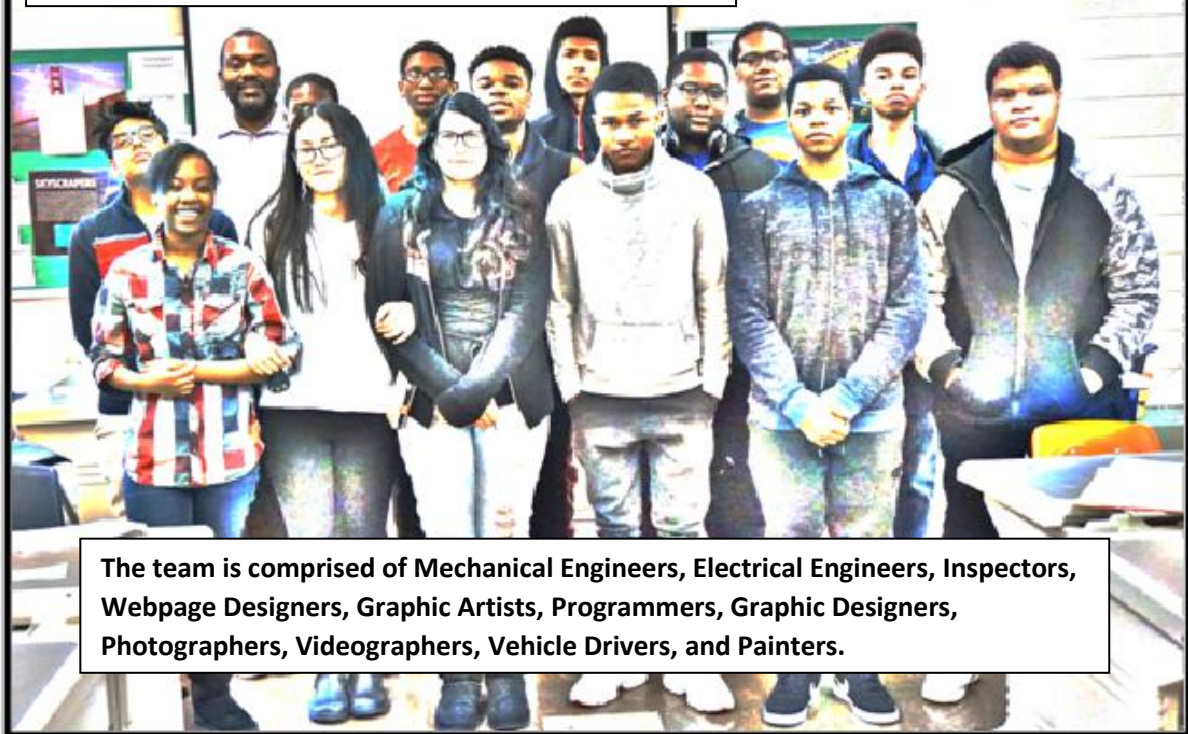
The announcement is made...



I hope I get selected for the EV Team!!

Me too.

A team is finally selected from a total of 66 applicants.



The team is comprised of Mechanical Engineers, Electrical Engineers, Inspectors, Webpage Designers, Graphic Artists, Programmers, Graphic Designers, Photographers, Videographers, Vehicle Drivers, and Painters.



We know you can do it! We came in 17th place out of 32 vehicles in last year's competition. ***This is our year!*** Make every effort to come in 1st place this year. You have the entire school's support.

Our Assistant Principal, Mr. Lewis wishes us well...

Good Luck EV Team!

Even Mrs. Johnson and the counseling staff...

Go EV Team!



Did you hear? The EV Team has two cars!!

Man, they got a serious job to do!

Why is this boy in my face? Go to class...*dang!*



Let's do it Largo Lions! We have a vehicle to build. Let's check all of the parts, divide into teams, and begin the journey. The faster we finish, the more driving practice time we'll gain. Goggles, masks, gloves, and aprons PLEASE.

OK!

This is going to be fun...again.

About time!

Same old speech...

I'm ready to start the car body artwork!

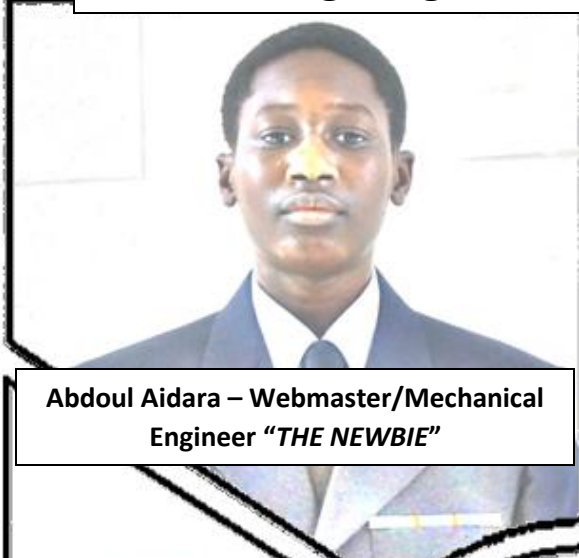
The vehicle body will not arrive for another two weeks.

Why?

GlobalEEE is making the body cuts for us...YAY right?

As the Electric Vehicle team begins, Caleb, Kyrei, Damon, and Taylor separate all of the parts and start to peel the plastic from the frame.

Meet Largo High School's Electric Vehicle Team



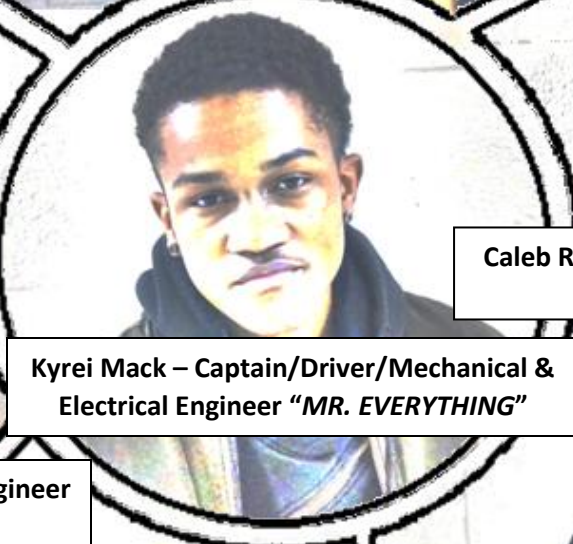
Abdoul Aidara – Webmaster/Mechanical Engineer *"THE NEWBIE"*



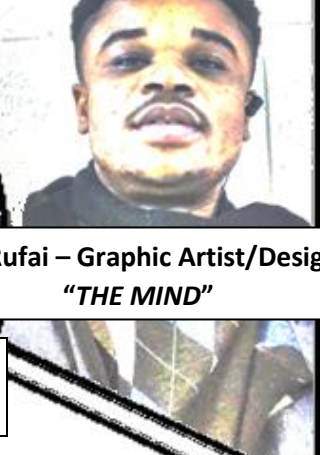
Taylor Johnson – Graphic Artist/Designer *"THE HIGHLIGHTER"*



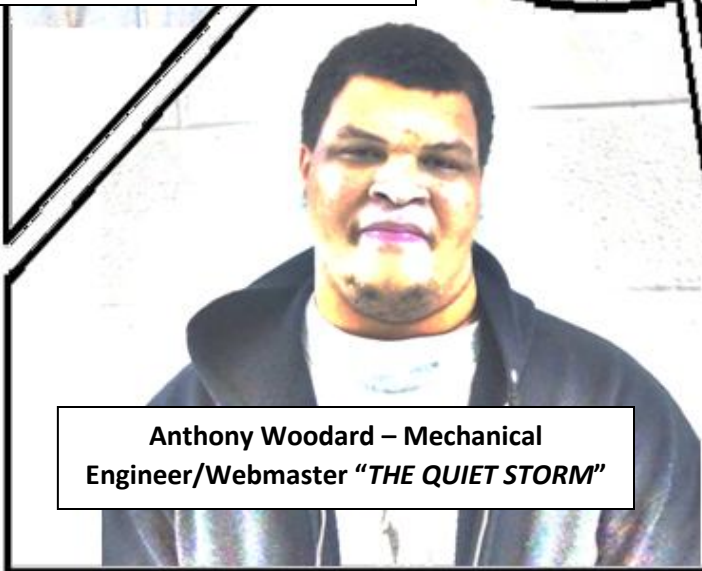
Tayron Lucas – Mechanical Engineer *"THE MUSCLE"*



Kyrei Mack – Captain/Driver/Mechanical & Electrical Engineer *"MR. EVERYTHING"*



Caleb Rufai – Graphic Artist/Designer *"THE MIND"*



Anthony Woodard – Mechanical Engineer/Webmaster *"THE QUIET STORM"*



Kelvin Mammah – Mechanical Engineer *"THE SLEEPER"*



**Yen Nguyen – Videographer/
Photographer “THE ANALYZER”**



**Giovanni Munoz Hernandez – Driver/Electrical
& Mechanical Engineer “THE ERASER”**



**Damon Butcher – Mechanical
Engineer/Designer “THE BUTCHER”**



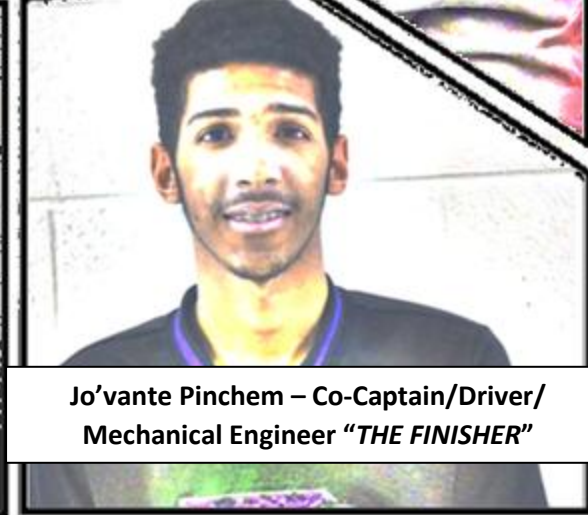
**Juana Venegas – Videographer/
Photographer “THE WATCHER”**



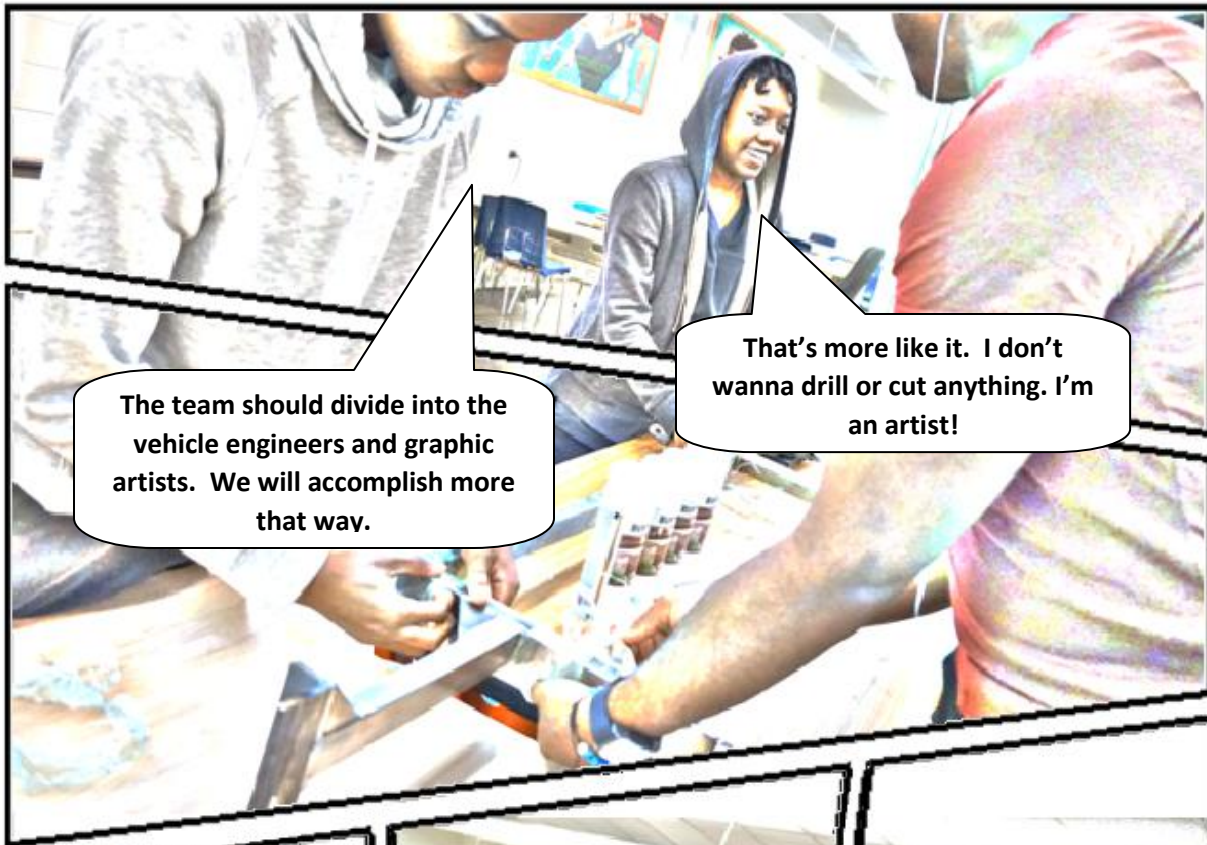
**Kailell Scott – Mechanical Engineer
“THE BIG HAND”**



**Kijana Parker – Graphic Artist/Designer
“THE SKETCHER”**

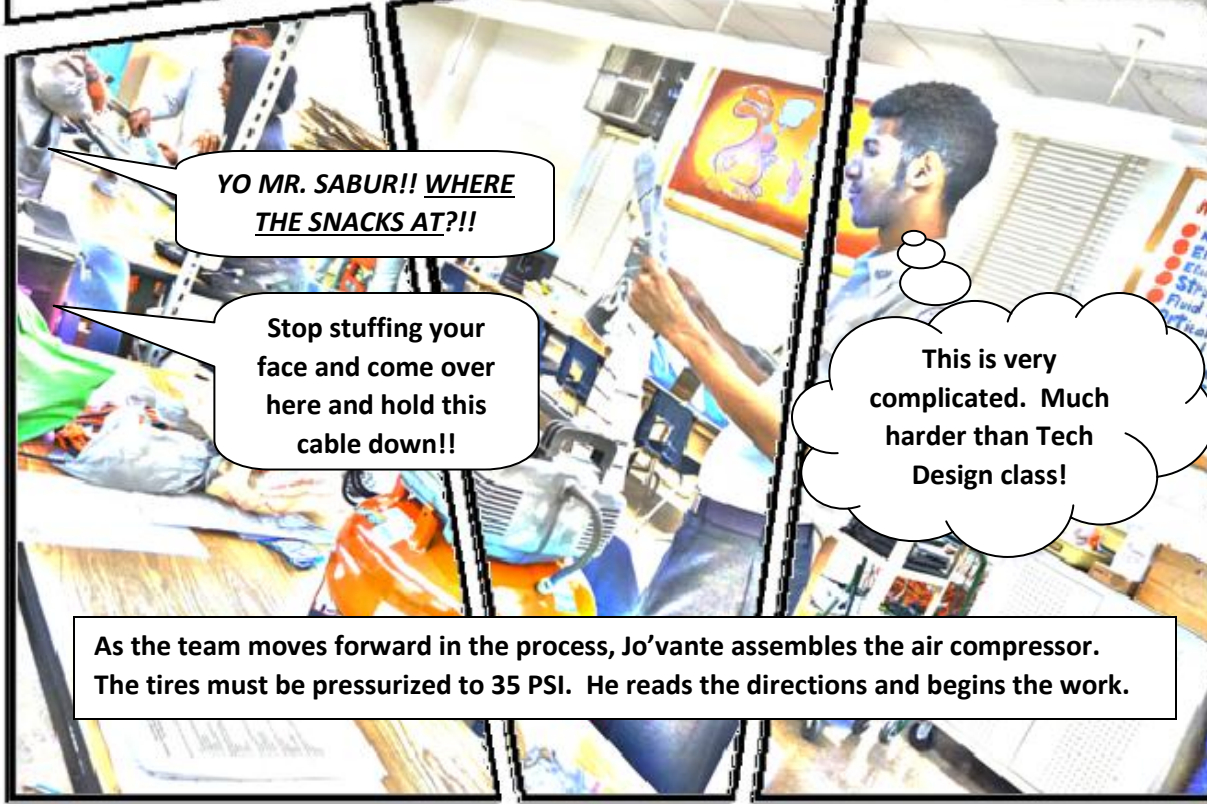


**Jo’vante Pinchem – Co-Captain/Driver/
Mechanical Engineer “THE FINISHER”**



The team should divide into the vehicle engineers and graphic artists. We will accomplish more that way.

That's more like it. I don't wanna drill or cut anything. I'm an artist!



YO MR. SABUR!! WHERE THE SNACKS AT?!!

Stop stuffing your face and come over here and hold this cable down!!

This is very complicated. Much harder than Tech Design class!

As the team moves forward in the process, Jo'vante assembles the air compressor. The tires must be pressurized to 35 PSI. He reads the directions and begins the work.



Tire pressure is paramount to running a good race. Get this compressor operational. You got this right?



No problem Mr. Sabur. This is a piece of cake.

A piece of cake? *Sheeesh!*



Jo'vante realizes that this is no small task. He buckles down and keeps at it.



Giovanny and Tayron assemble the band saw...



What does it say?

"Align the 1/4" blade with the saw wheel and rotate around..."

The team advances in their tasks and dive into the learning of the assembly process, design, teamwork, and energy conservation.



"The Sketcher" designs the logo for the car and helmet quickly...

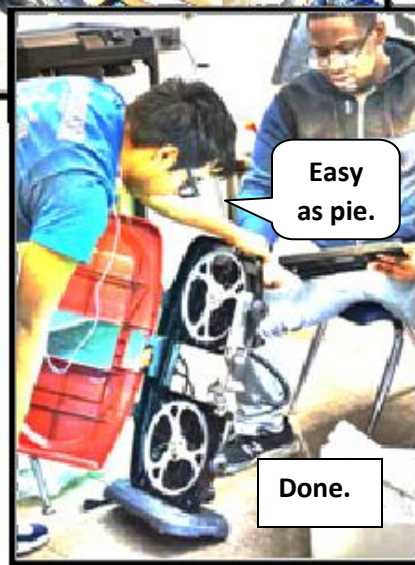


Tayron "The Muscle" Lucas and "The Eraser" assemble the band



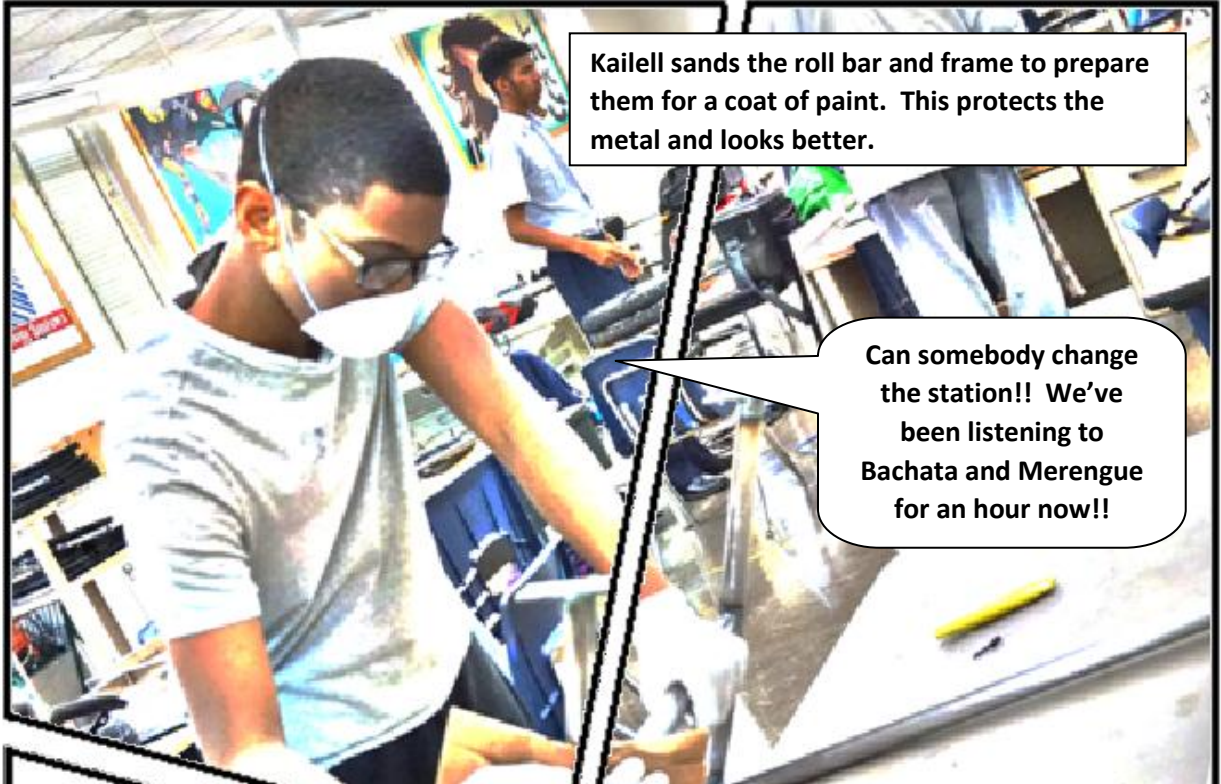
The logo should display the name "LARGO" instead of "LHS". We don't want to be confused with Laurel.

Back to work...



Easy as pie.

Done.



Kaillell sands the roll bar and frame to prepare them for a coat of paint. This protects the metal and looks better.

Can somebody change the station!! We've been listening to Bachata and Merengue for an hour now!!

Meanwhile, Kijana calls a team meeting to discuss the logo style, position, size, and color. The team weighs in on the decision. Collaboration between departments proves to be important.



What do y'all think?

Sure...crayons and stuff.

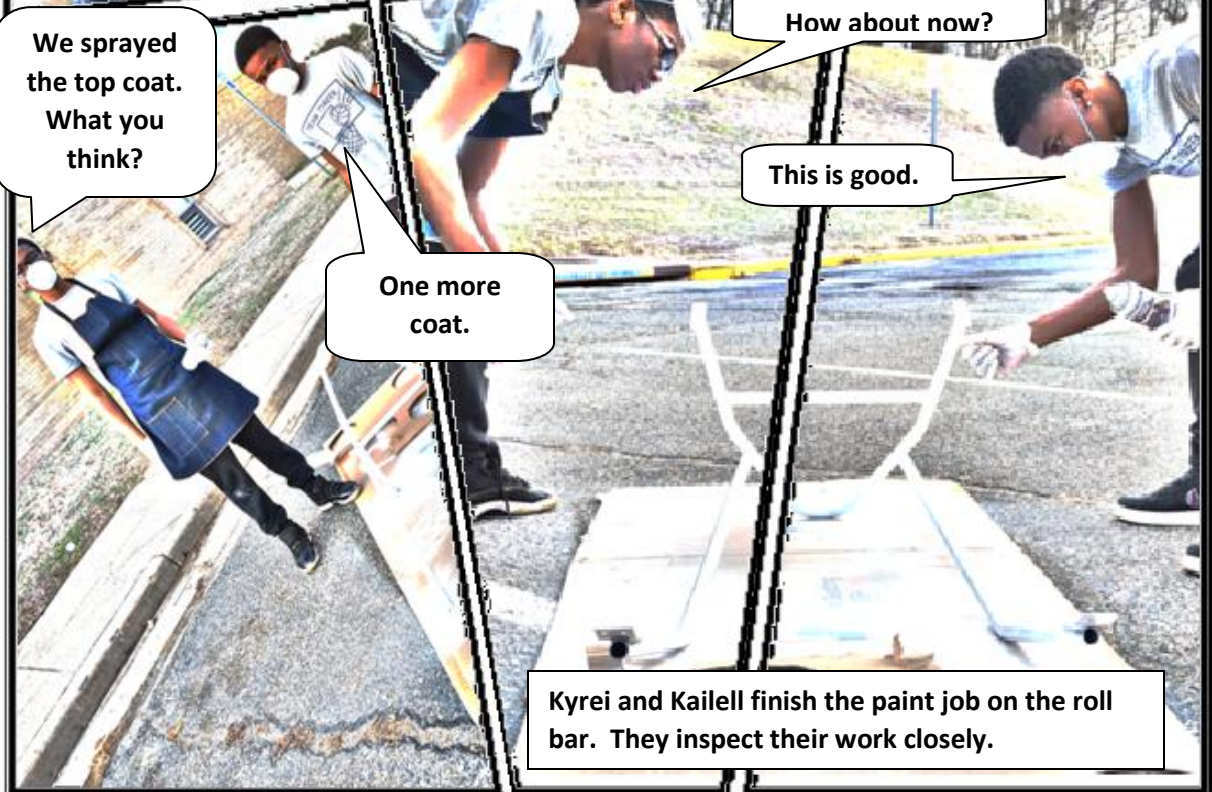


Sounds good.

That's fine with me.

Mmm-hmm.

During practice, Mr. Sabur explains to the team that each team member is expected to complete their tasks. If they have problems, seek help immediately from another team member. If they succeed...the team succeeds...then, Largo succeeds. Measure twice...then cut once.



We sprayed the top coat. What you think?

How about now?

This is good.

One more coat.

Kyrei and Kailell finish the paint job on the roll bar. They inspect their work closely.

Kijana listens to Caleb about design considerations. Each helmet should match the design of the vehicle. He senses the subtle competition between the designs. He plans his masterpiece.



First sand it, then apply Gesso, then...



Are we using acrylic paint?



Yes we are.



May the best artist win.



You're on.



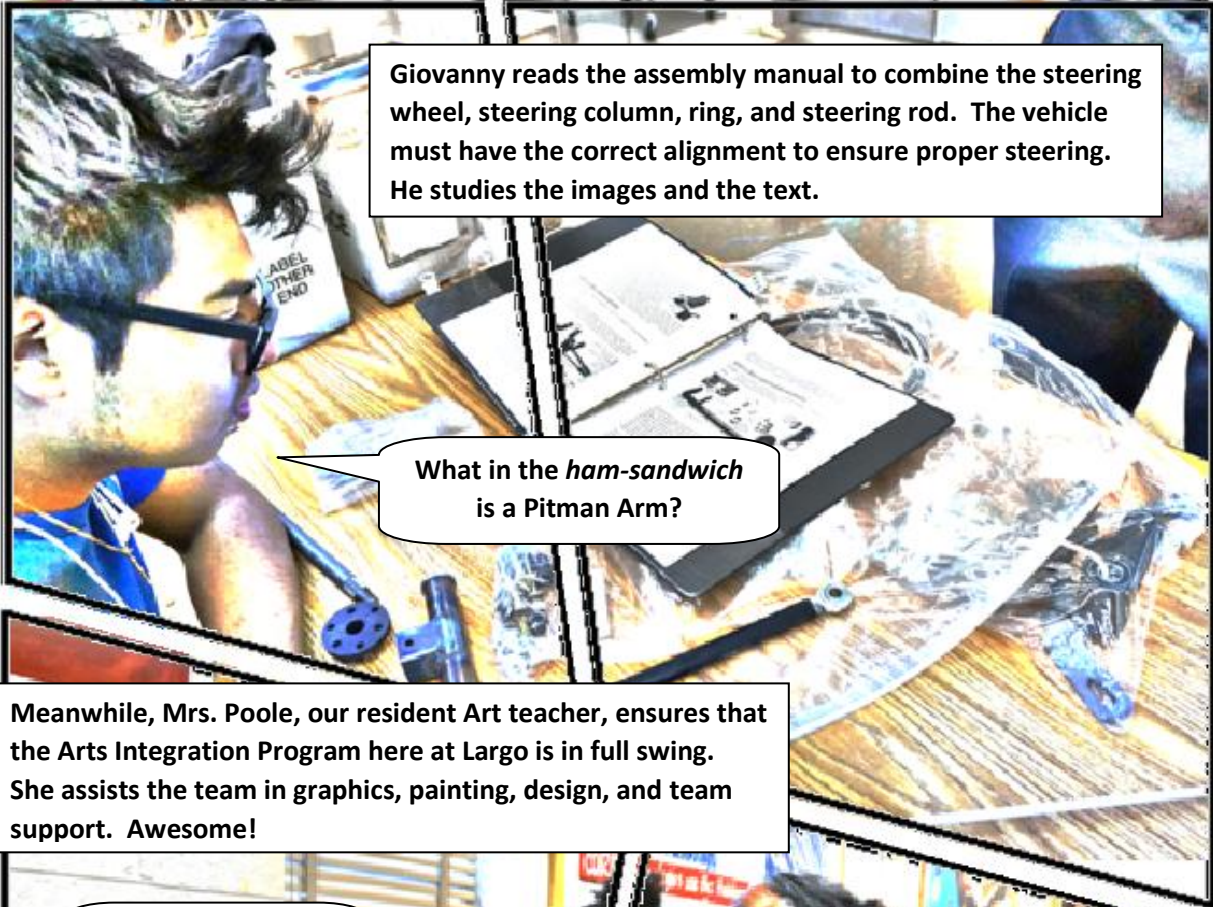
Making it smooth.



Like a baby's butt!



The old body needs to be scraped, sanded, and then coated with Gesso. Taylor "The Highlighter" Johnson, Damon "The Butcher" Butcher", and Yen "The Analyzer" Nguyen use fine sandpaper to remove old paint and glitter from the car body.



Giovanny reads the assembly manual to combine the steering wheel, steering column, ring, and steering rod. The vehicle must have the correct alignment to ensure proper steering. He studies the images and the text.

What in the *ham-sandwich* is a Pitman Arm?

Meanwhile, Mrs. Poole, our resident Art teacher, ensures that the Arts Integration Program here at Largo is in full swing. She assists the team in graphics, painting, design, and team support. Awesome!



This is just the first sketch of the lion.

This looks great!

Uggh. It looks very sloppy. Is this the final one?



Teamwork seemed to be required to decipher the text in the manual, so Jo'vante "*The Finisher*" Pinchem comes to aid.



This is like Mrs. Arazosa's class...Foreign Language!!



"The lower collar should be snug against the Pitman arms and against the bottom bushing, while the upper collar should be snug against the top bushing. Tighten the set screws on both collars to keep the steering column from moving up and down, but it should rotate freely."



Finished!



With a little work, Giovanni "*The Eraser*" Munoz-Hernandez erases all mistakes and completes the steering wheel. Inspection is done by other team members to ensure a correct assembly.

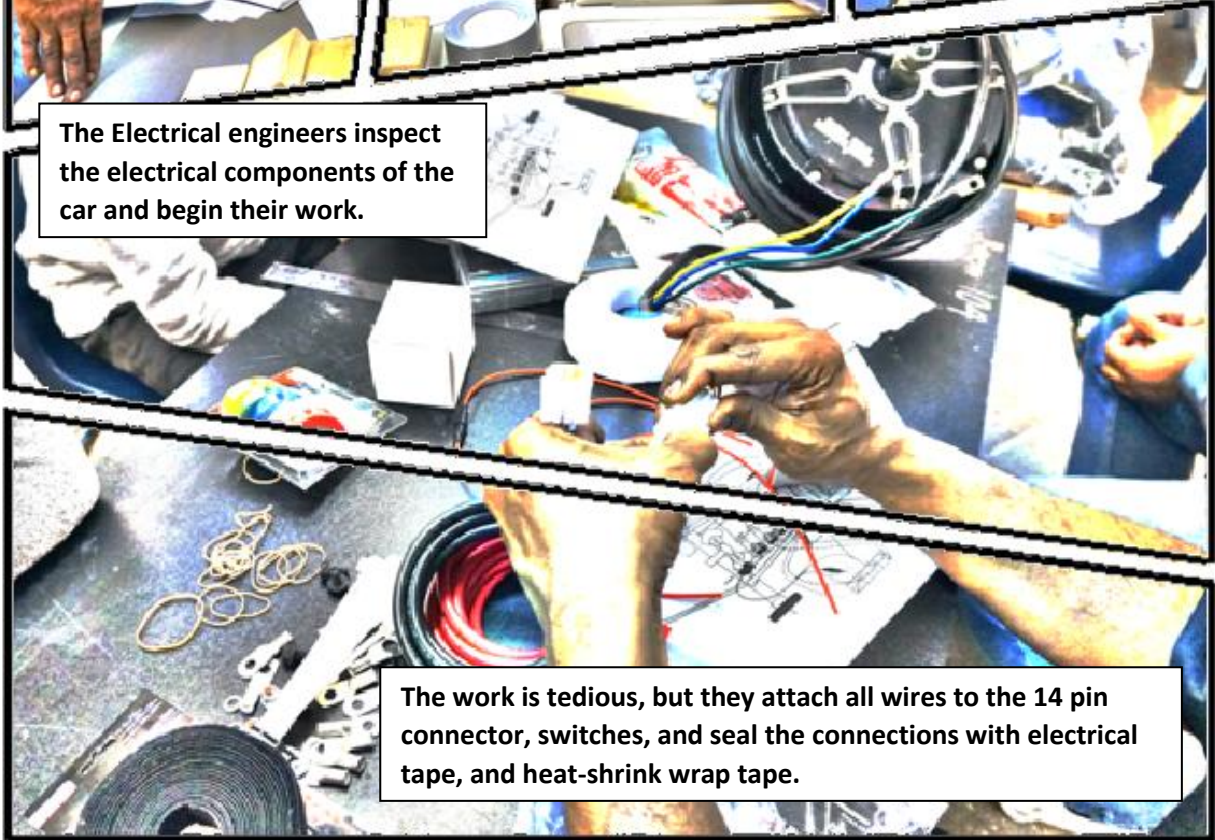


Your designs will be voted on by the team. The winning design will paint the new body.

Wait...what?

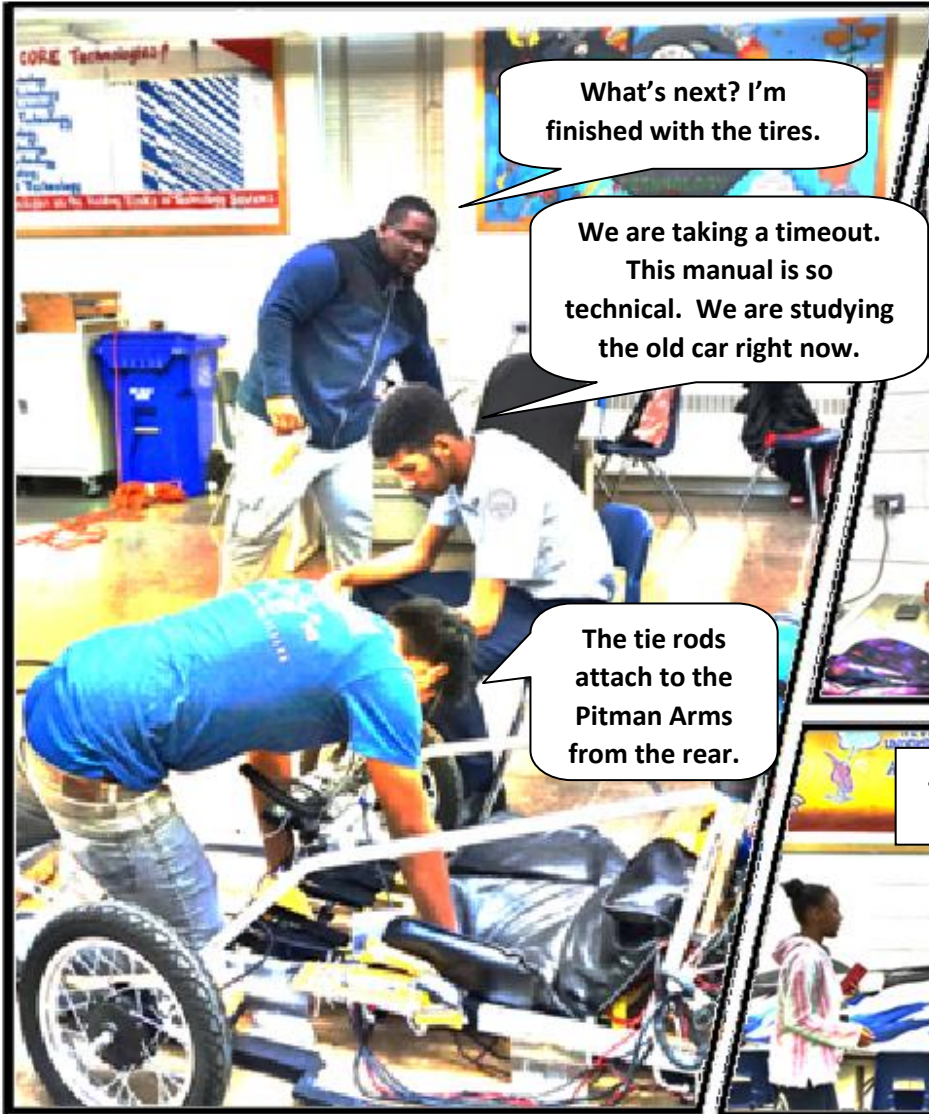
Mmm-hmm!

This is just what I need. A little competition. After my snack, I'll knock this challenge out!



The Electrical engineers inspect the electrical components of the car and begin their work.

The work is tedious, but they attach all wires to the 14 pin connector, switches, and seal the connections with electrical tape, and heat-shrink wrap tape.



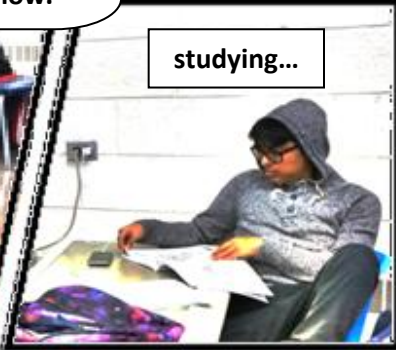
What's next? I'm finished with the tires.

We are taking a timeout. This manual is so technical. We are studying the old car right now.

The tie rods attach to the Pitman Arms from the rear.



Focus...



studying...



...and diligence gets it done.



Anthony "The Quiet Storm" Woodard and Abdoul "The Newbie" Aidara begin their work on the development of the team's website. All pictures, videos, and interviews



I wanna drill and cut something for the car.

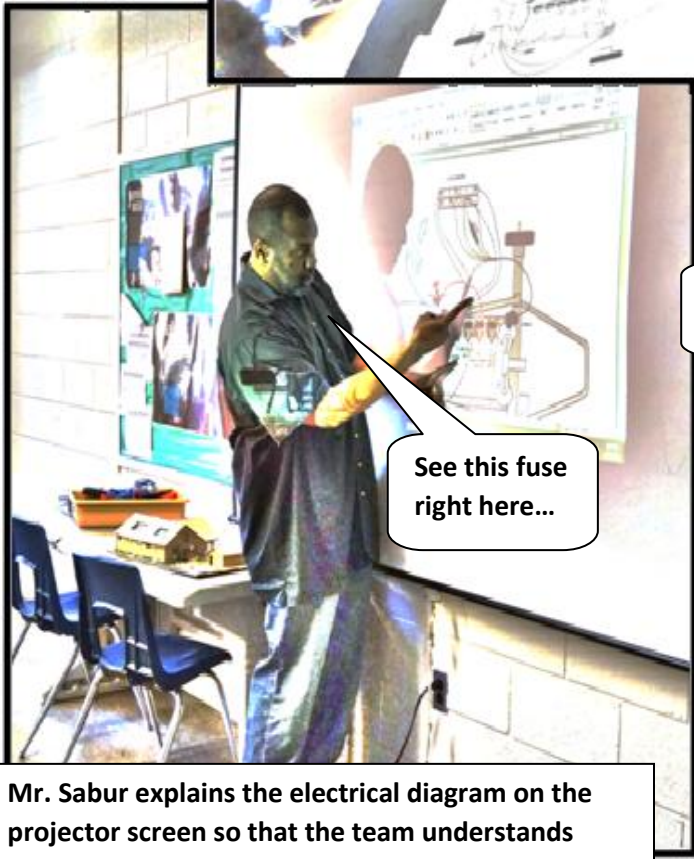
During the electrical assembly parts, the connections from the motor to the controller are inspected by Damon "The Butcher" Butcher and Mr. Sabur.



Make sure that the connections are solid. We don't need a fire or short circuit. It could damage the unit.



Should we solder the wires together?



See this fuse right here...



We should solder your head wires together.



Even the webmasters have fun.

Mr. Sabur explains the electrical diagram on the projector screen so that the team understands how the car works. They are beginning to have fun.



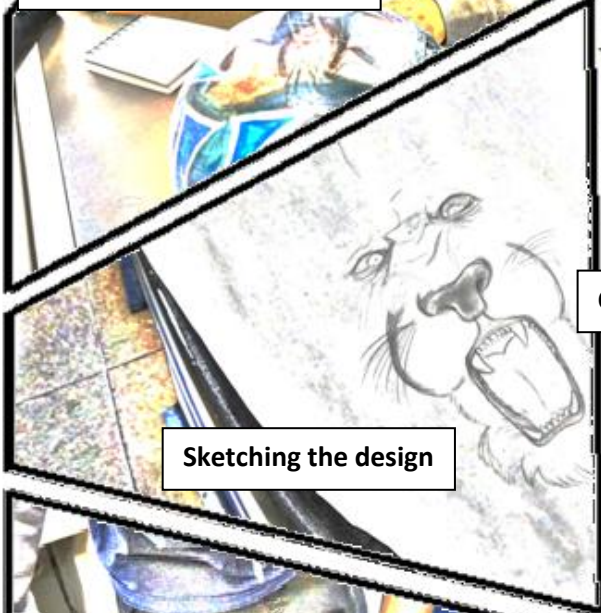
Heat-shrinking wires



Connecting the batteries in series circuits



Hand-sanding the helmet



Sketching the design



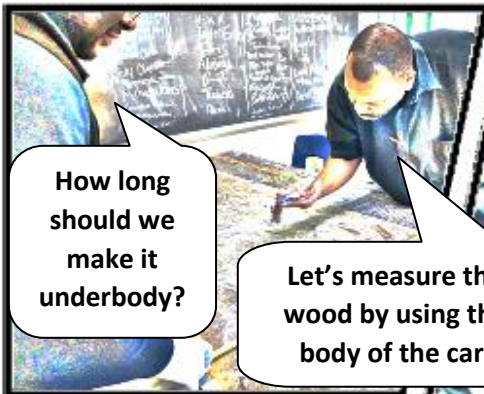
Charging the batteries



Attaching leads to wires



Mounting the tires to the frame

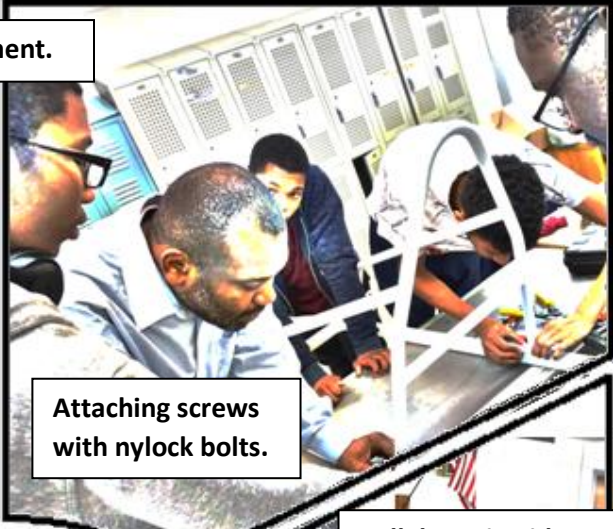


Kyrei "Mr. Everything" Mack becomes familiar with the electric DC brushless wheel motor and the input tabs on the controller labeled A, B, and C.

Inspection of the frame and roll bar attachment.



Attaching screws with nylock bolts.



Collaborating ideas.



Expanding education in different career fields.



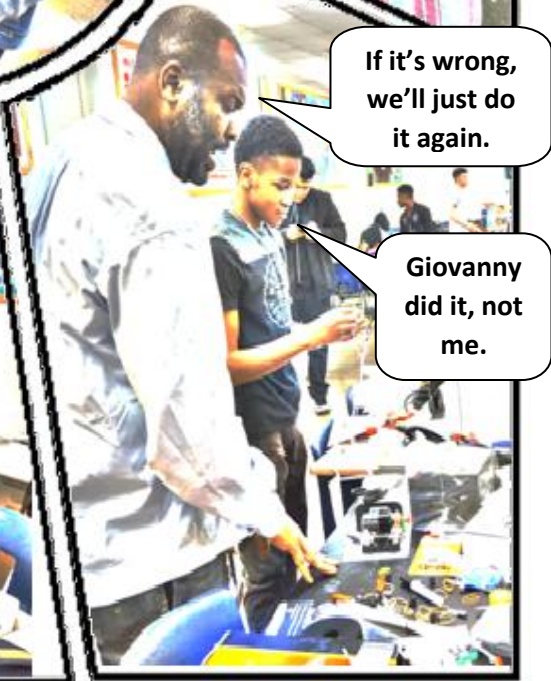
Analyzing progress.



Website and comic book design layouts illustrated for the webmasters.



If it's wrong, we'll just do it again.



Giovanny did it, not me.





The electrical engineers complete their connections and await the inspection.

I hope this is right.



Mr. Sabur stresses out...

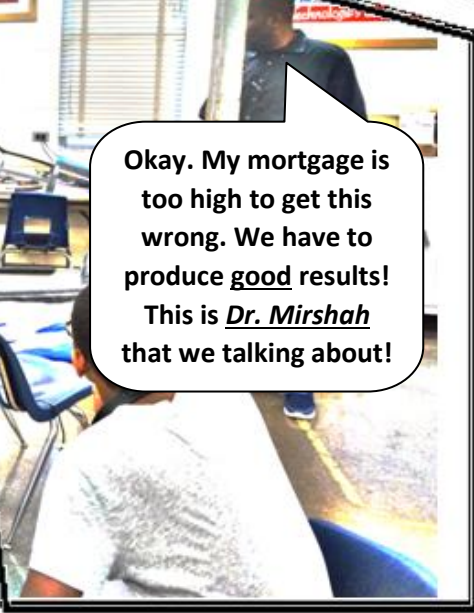
We can't afford any mistakes! We are representing the whole Largo community!!



We are going to get it done, Mr. Sabur.

Yeah, we're 50% done.

Hey Dad. I'm on my way.



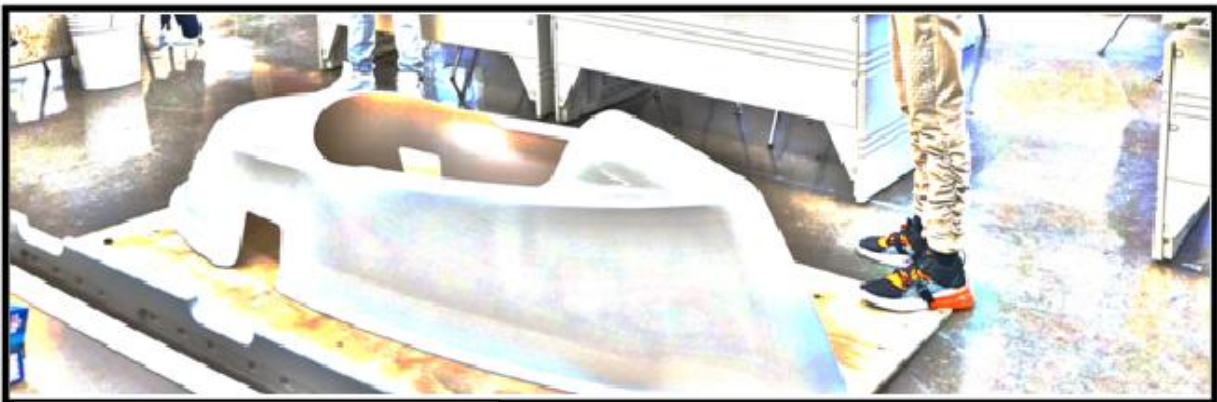
Okay. My mortgage is too high to get this wrong. We have to produce good results! This is Dr. Mirshah that we talking about!



Okay everybody. It's time to vote. The other car body is here.

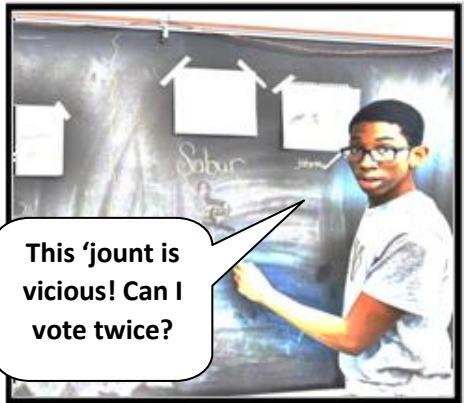


The designs are taped to the board. Vote for the design that you like the best.



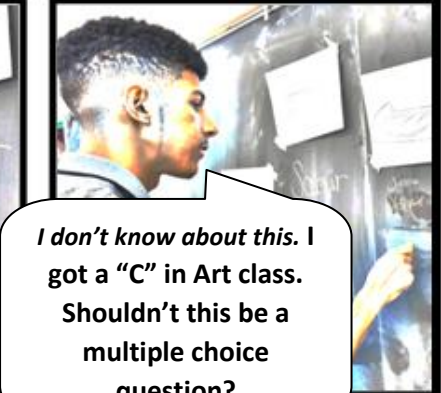
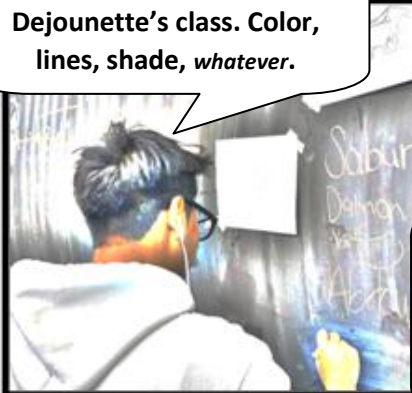
One by one, the team visits the board and vote for their favorite.

Ahem...



This 'jount is vicious! Can I vote twice?

I hate Art! This is like Mrs. Dejounette's class. Color, lines, shade, whatever.

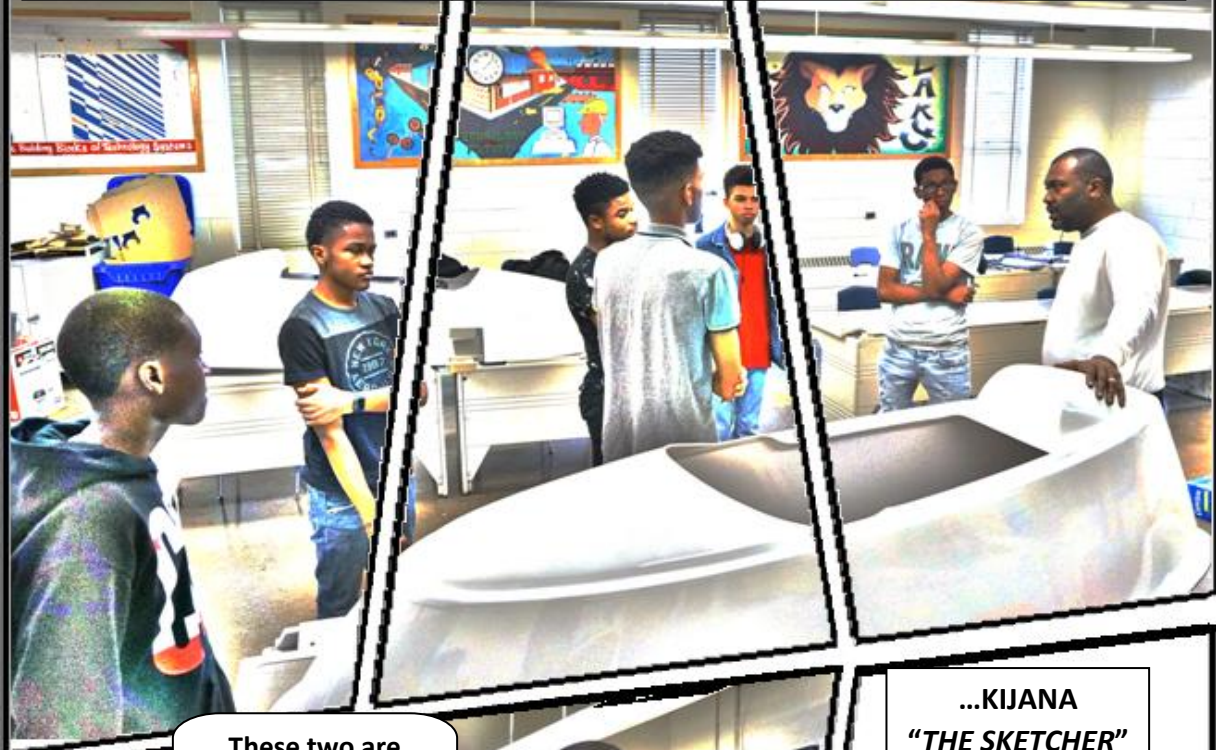


I don't know about this. I got a "C" in Art class. Shouldn't this be a multiple choice question?



Eeny...meeny...miny...moe!

Mr. Sabur explains to the team how the DC Electric Vehicle Grand Prix Awards are judged. The team with the best car artwork wins an award. He explains that Largo needs that award. All of the votes have been tallied and a winning design is declared!



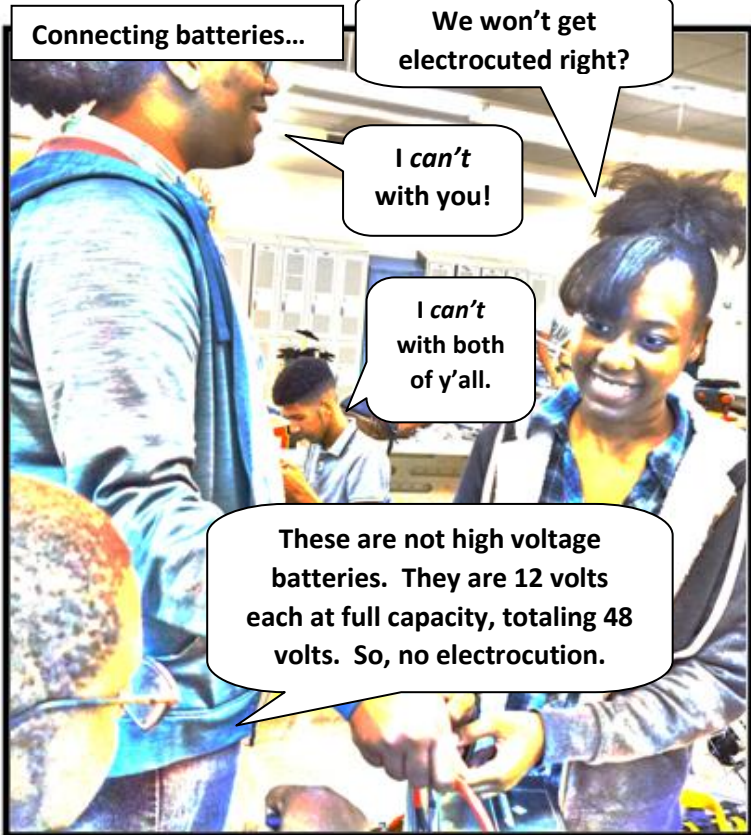
These two are awesome! Who drew these?



It was...

...KIJANA
"THE SKETCHER"
PARKER!!





Connecting batteries...

We won't get electrocuted right?

I can't with you!

I can't with both of y'all.

These are not high voltage batteries. They are 12 volts each at full capacity, totaling 48 volts. So, no electrocution.



The batteries are connected in series so that they all drain equally during the race.



While the team links the batteries...



...Caleb draws his design on the car.



Both vehicles are looking good. Great job you guys.

You just worry about painting.

The team begins work on the seating.



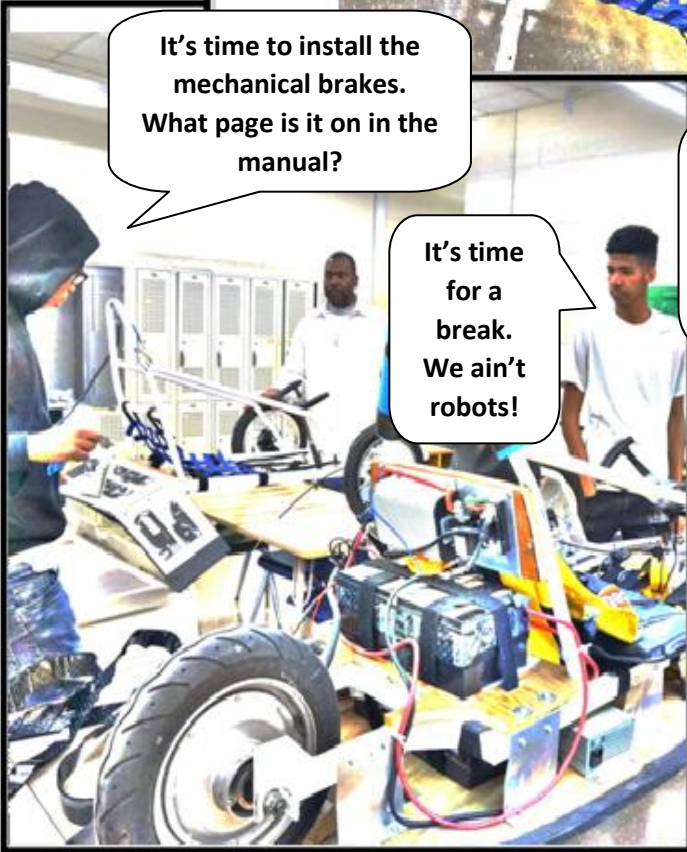
The seat was hard last year and it was hot. Can we add air conditioning to the vehicle?



You sound crazy! We barely assembled the vehicle!

Yeah, AC and a MP4 player! We could them during the race!

It's time to install the mechanical brakes. What page is it on in the manual?



It's time for a break. We ain't robots!

The parts for the brakes are all in this bag.



Hurry up! I got Mr. Pittman's homework to do.

Mr. Sabur teaches the mechanical engineers how to use the proper tools for accurate measurements and precision cuts.



Do I have to do everything?! I got to take videos, photos, interviews, tweets, upload to Google Drive...



...and now I'm clamping down wood?!



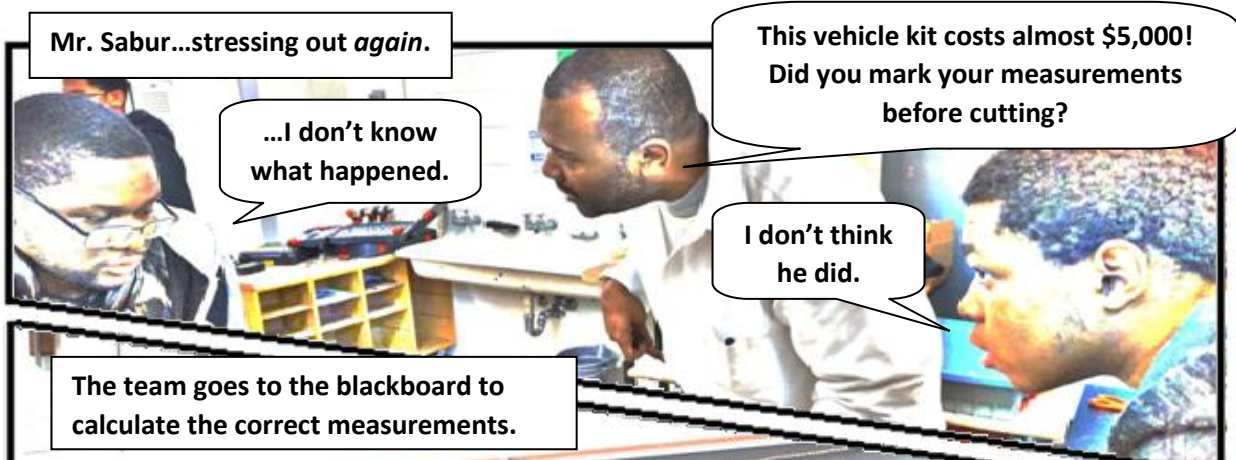
Hee-hee.

The pedal should be secured with a nylock lock nut that is tightened down lightly, and then backed off until the pedal can move freely. It should be able to fall.

You make it sound easy.

I can finally rest. Who's blowing up my DM?





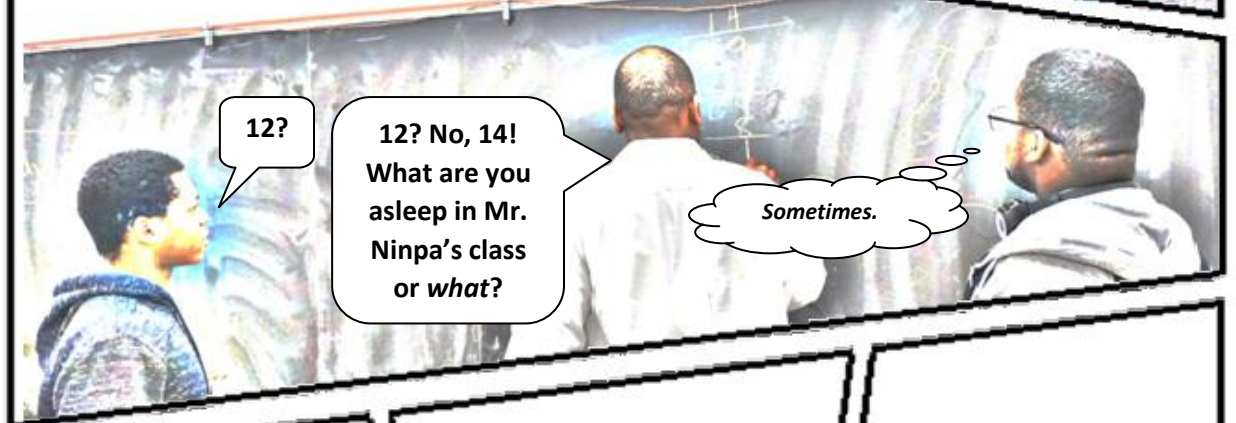
Mr. Sabur...stressing out *again*.

...I don't know what happened.

This vehicle kit costs almost \$5,000! Did you mark your measurements before cutting?

I don't think he did.

The team goes to the blackboard to calculate the correct measurements.



12?

12? No, 14! What are you asleep in Mr. Ninpa's class or what?

Sometimes.



You want a working vehicle don't you?

Yes.

Yes.

Yes.

Can we just bump the other cars out of the way if they are going too slow?

**NO! NO!!
ABSOLUTELY
NOT!!!**

Tee-hee.

During Largo High School's Annual Blood Drive, the Blood Services truck arrives and takes blood from volunteers at the school. Mrs. Powell donates and gives her support...



Good luck Electric Vehicle Team! Represent us well, you hear?!

All this giving blood has got me tired. Lawd' ha'mercy! But they say 1 pint saves 3 lives!!

More support comes from our Assistant Principal, Mrs. Parker and Dr. Karen Salmon...



Good luck Mr. Sabur and the EV Team!!

Go Largo!!

Mrs. McKinley and Mrs. Smalls get excited about Largo High School's EV Team...

Yay! Go Largo EV Team!!

TGIF!!!

Oops. What I meant to say was: "Go Largo"!

Mr. Felder and Largo's "illustrious and renowned" choir supports energy conservation and the EV Team...

My feet hurt with these shoes!!!

Doe-Ray-Mee-Faa...

On behalf of Largo HS Choir, we extend our sincerest wishes and...bring back a trophy!

...and change my grade!

Mrs. Ball-Ward and the Girls Basketball team send their shot-outs (*wink-wink. Get it*). The Largo Lady Lions...

Go EV Team!!

Go EV Team!!

I miss your class!!

I'll see you at 4th period!!

Go EV Team!!

Go EV Team!!

Go Mr. Sabur!!

Hurry up and take the picture! This floor is cold!

Whoo-hoo!!





Even Mrs. Casimir's dance group notices the EV Team...

Go EV Team!!

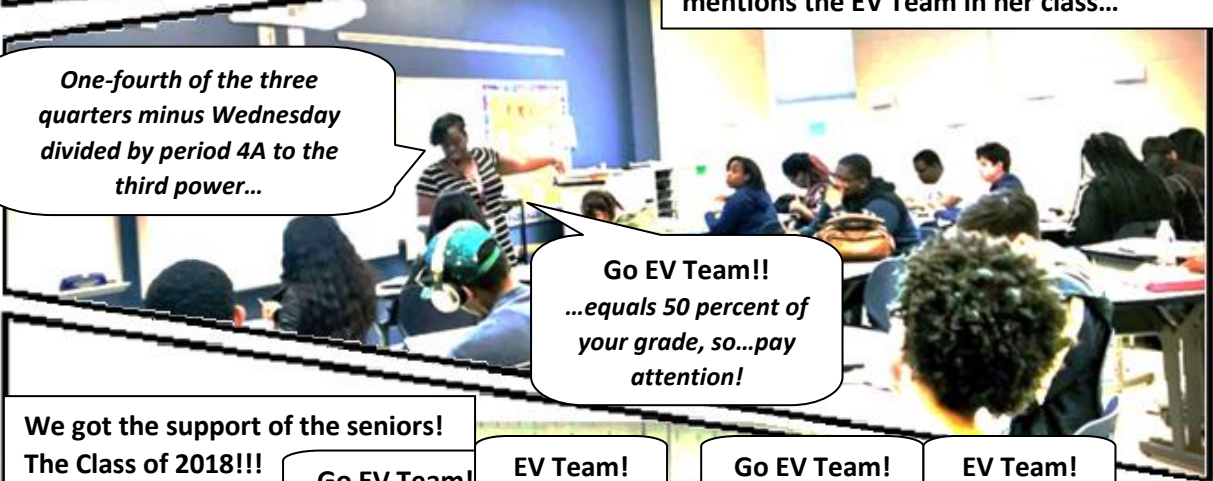
Good Luck Team!

Mrs. Simmons-Taylor and Largo's Peer Forward Group sends their love...



The Peer Forward Team would like to wish you a good race!

Our "Teacher-of-the-Year", Mrs. Williams, mentions the EV Team in her class...



One-fourth of the three quarters minus Wednesday divided by period 4A to the third power...

Go EV Team!!
...equals 50 percent of your grade, so...pay attention!

We got the support of the seniors! The Class of 2018!!!



Go EV Team!

EV Team!

Go EV Team!

EV Team!

EV Team!

The team paints the vehicle body. Everyone lends a hand to complete the background colors. The graphic artists begin to add shade, fade, texture, and shadow.



Caleb "The Mind" Rufai begins his rendering on the other vehicle body. His design requires detail and concentration to complete.





Kailell "*The Big Hand*" Scott looks at the programming of the KEB Controller...

Set for 'torque' or 'speed'?

We will try both. Are you ready to ride?



As the finishing touches are put on the 2nd vehicle, Giovanni "*The Eraser*" and Kelvin "*The Sleeper*" assist Kailell in setting up for a ride in the 1st vehicle. It is charged, lubed, programmed, and ready to go.

Take notes and watch me drive this thing! This might be on ESPN's Sports Center Top Ten!!

Use your brakes. Don't hit the walls and lockers.

...or people! We ain't got no insurance do we Mr. Sabur?

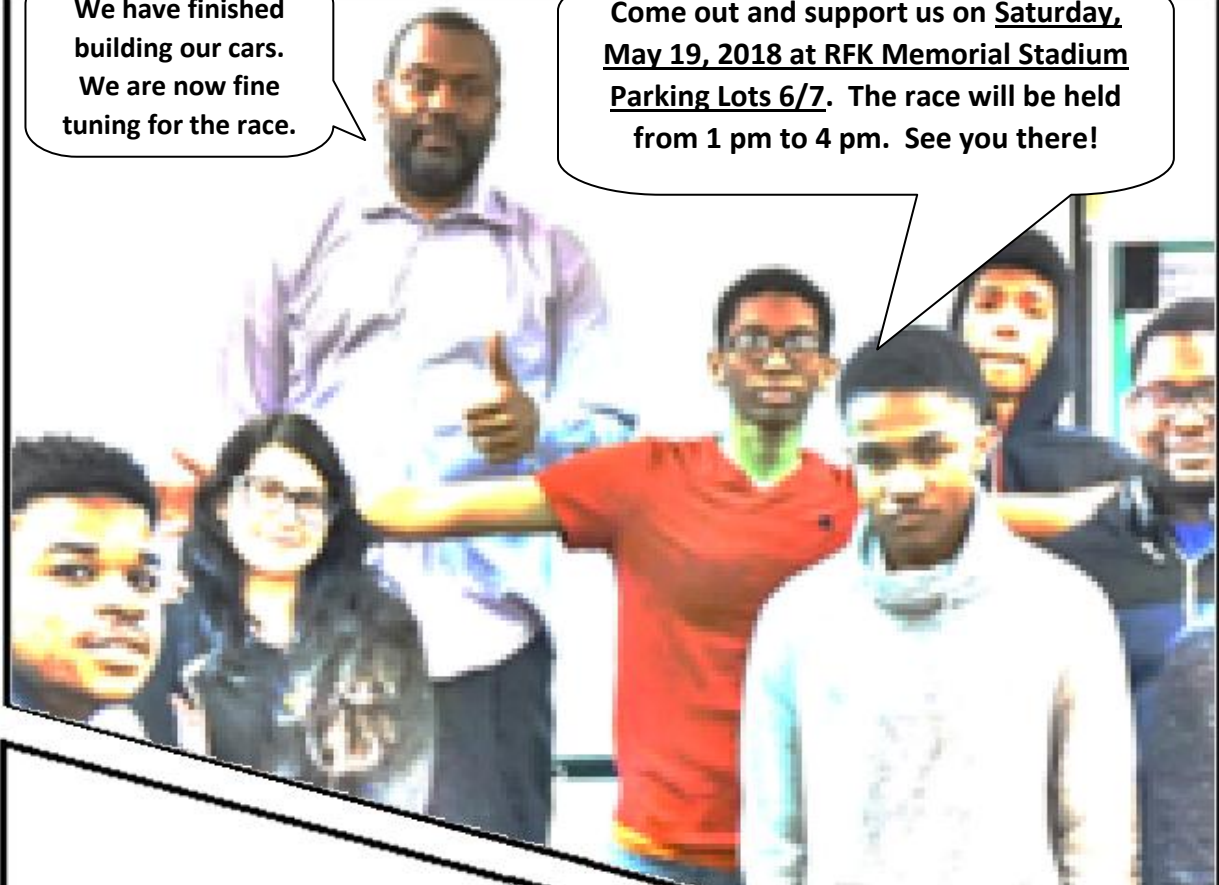


I'm not going to hit anyone. I got this.

Practice for the DC Electric Vehicle Grand Prix begins.

We have finished building our cars. We are now fine tuning for the race.

Come out and support us on Saturday, May 19, 2018 at RFK Memorial Stadium Parking Lots 6/7. The race will be held from 1 pm to 4 pm. See you there!



For the next month, the team will continue programming the controller, powering the motor, charging the batteries, pressurizing the tires, painting the body, timing the lap speed, setting cruise control, enabling car features such as economy mode, energy boost mode, torque/speed/balance racing modes.



With both cars finished, the team plans their strategy. We want revenge from last year's 17th place finish and Best Event/Team Promotion. We will be practicing. Wish us luck!