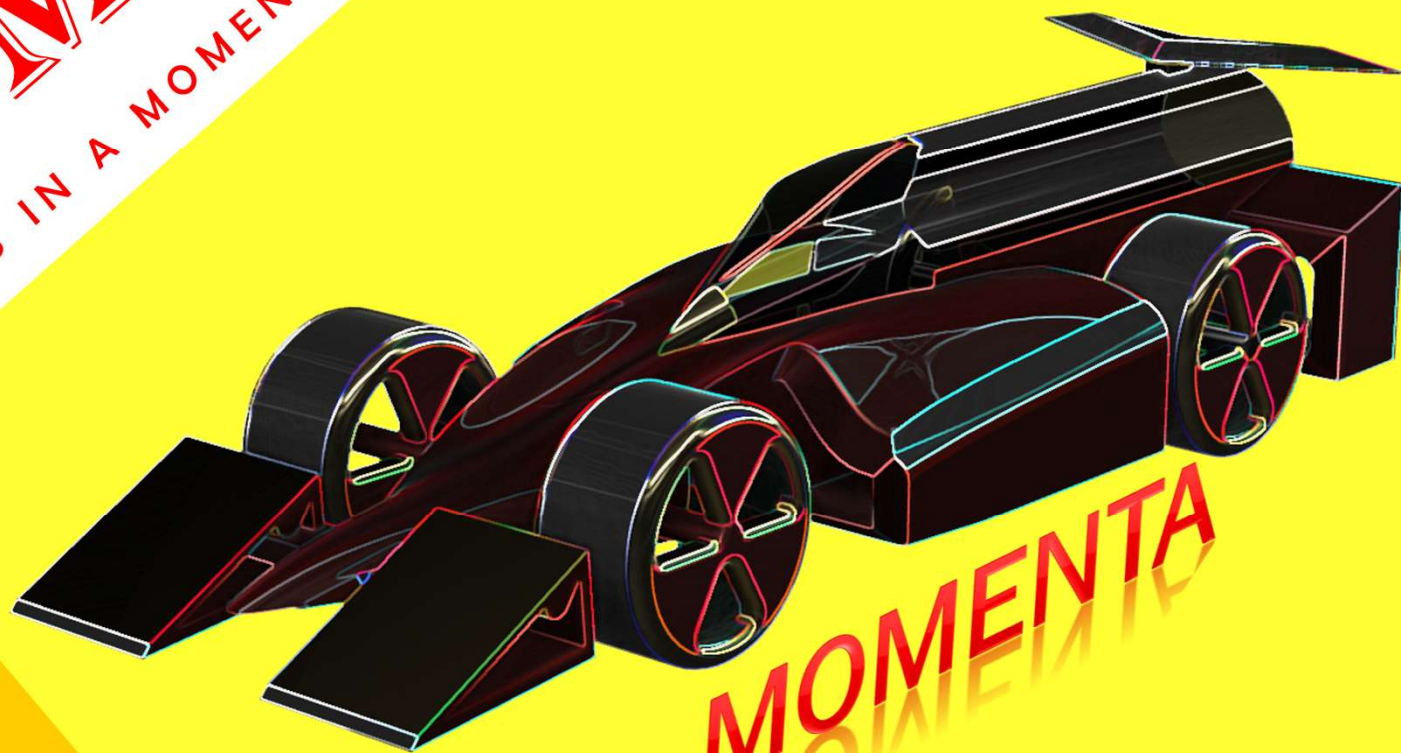


TEAM MOMENTA

ALWAYS IN A MOMENT



MOMENTA



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- Design Work
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ABOUT THE TEAM

TEAM MANAGER

VANSH MALANI

GRAPHIC DESIGNER

ADVITA GAUTAM

DESIGN ENGINEER

MARYAN GOYAL

MANUFACTURING

ENGINEER

GAURAV GOSWAMI

SPONSERSHIP MANAGER/

RESOURCE MANGER

ADYANT AWASTHI



DESIGN CONCEPT

WE ARE INSPIRED WITH THE DESIGN OF FIGHTER AEROPLANE WITH IT'S AERODYNAMICS CONCEPTS.



WE TOOK AN INSPIRATION FROM THE PREVIOUS DESIGNS OF F1 IN SCHOOLS CARS.



WE THOUGHT THAT IF THE CAR NEEDS TO BE FAST IT SHOULD BE LIGHT IN WEIGHT AND SHOULD HAVE LESS DRAG FORCE WHICH IS MORE IMPORTANT FOR A CAR'S SPEED.



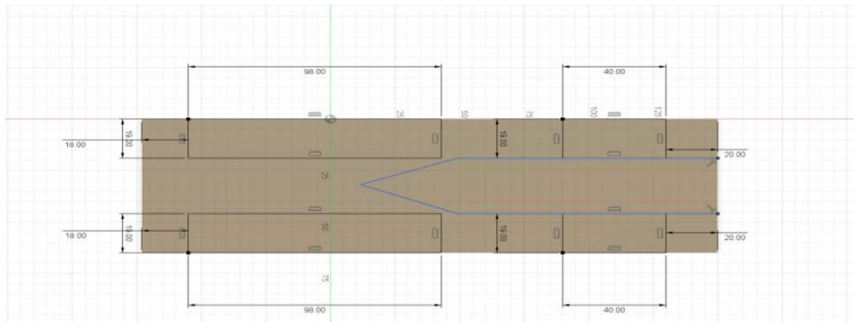


WE SAW MANY CAR DESIGNS FROM INTERNET WHAT THE PREVIOUS TEAMS HAVE DONE. BUT WHEN WE SAW, IT SEEMED VERY DIFFICULT TO DO.

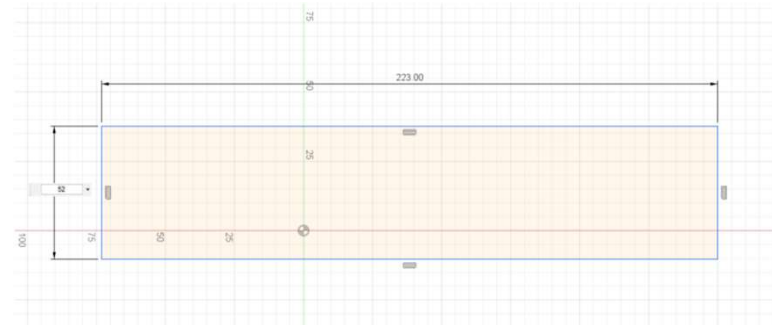


DESIGN WORK

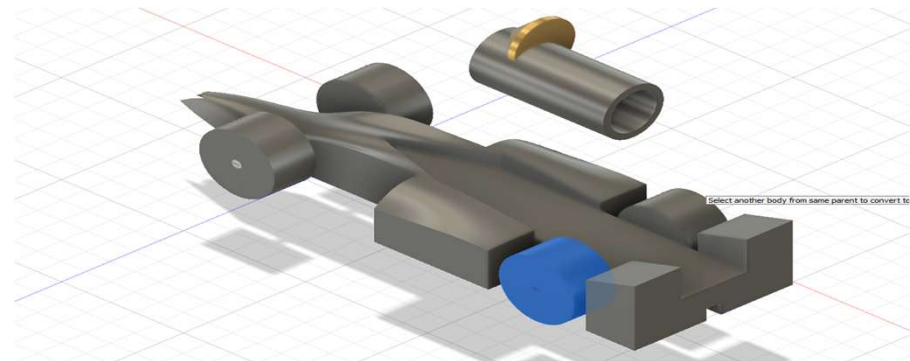
AT FIRST WE DID SOME PAPER WORK TO KNOW WHAT THE DESIGN SHOULD BE LIKE. WE HAD MANY DIFFICULTIES IN FINALISING THE DESIGN.

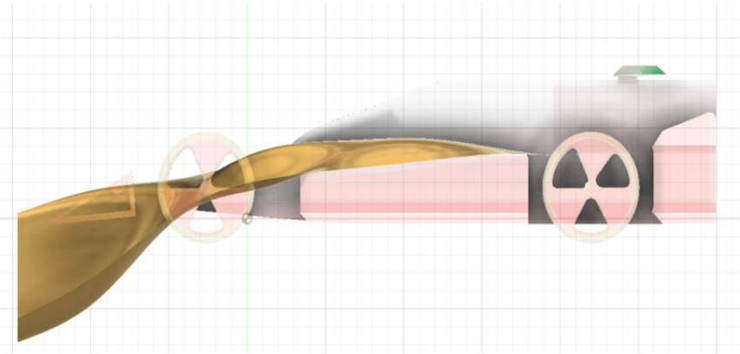


SO, TO INCREASE THE SPEED AND TO REDUCE THE DRAG FORCE WE NEEDED TO DESIGN THE CAR WITH AERODYNAMICS.

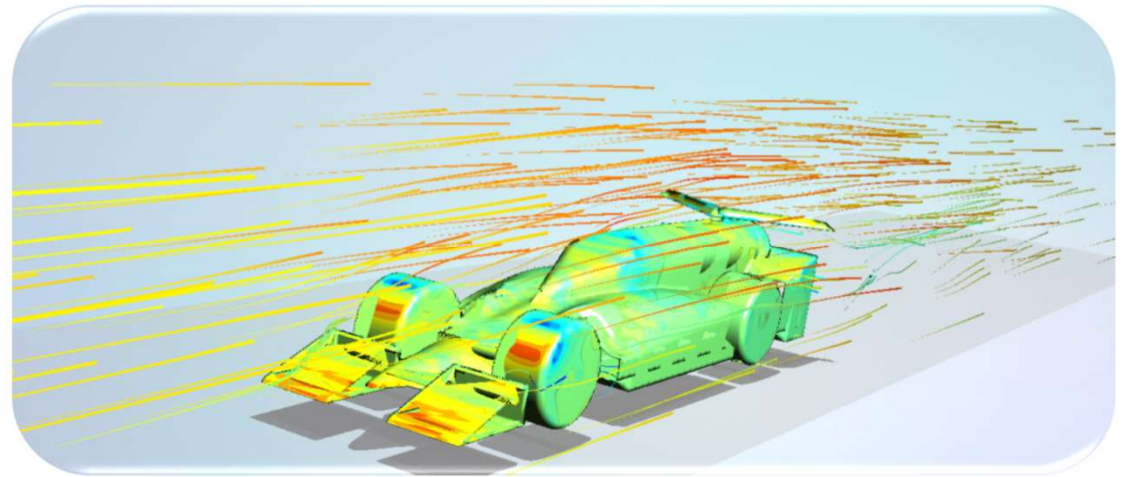
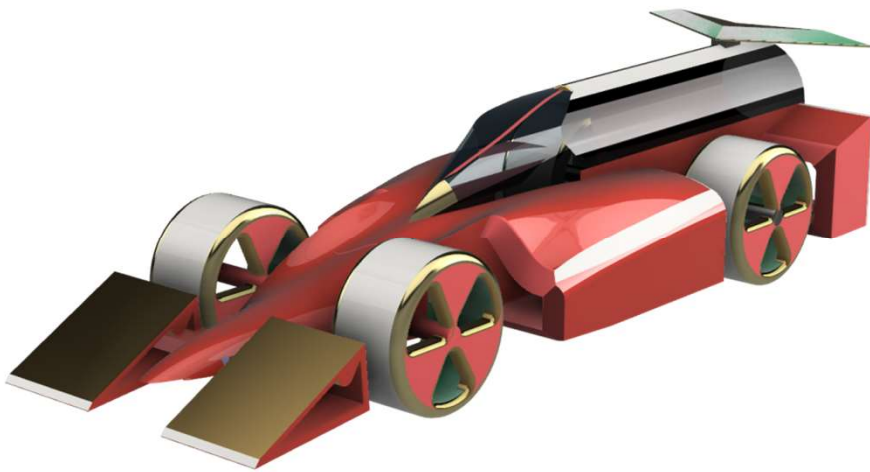


BY TAKING THE CONCEPT OF AEROPLANE WE GOT TO KNOW THAT THE SPEED IS AN IMPORTANT COMPONENT FOR A CAR.



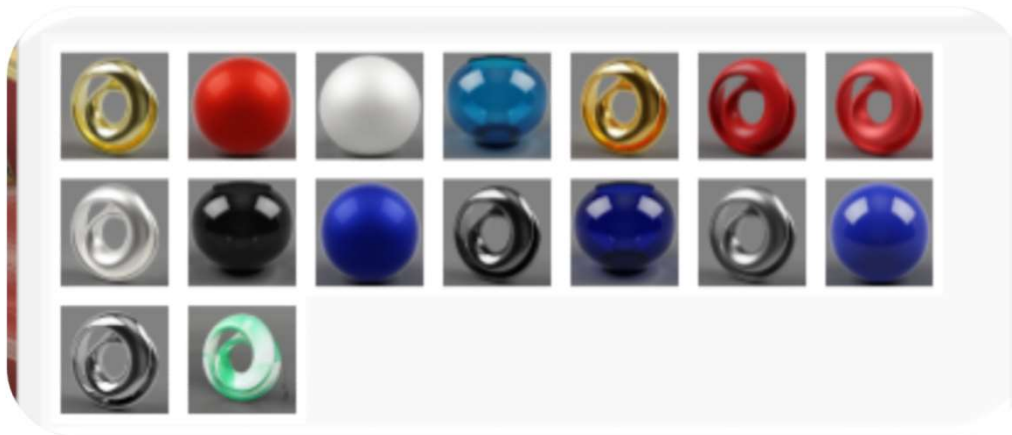


IN DESIGN WORK, DRAG FORCE IS AN IMPORTANT COMPONENT. DRAG FORCE IS THE SINGLE MOST REACTIVE FORCE THAT RESISTS FORWARD MOTION IN AN F1 CAR. DRAG FORCE IS A FUNCTION OF AIR DENSITY AND THE CAR'S DRAG COEFFICIENT, CROSS SECTIONAL AREA AND ITS VELOCITY.



ABOUT THE APPEARANCE

AFTER SANDING THE CAR TO MAKE THE SURFACES SMOOTH AND TO MEET THE SPECIFICATIONS, WE WERE ASSISTED BY PROFESSIONAL PAINTER. BY THIS WE GAINED THE KNOWLEDGE OF HOW TO APPLY A PROFESSIONAL AND HIGH QUALITY FINISH.



MANUFACTURING PROCESS

CNC MILLING

WE HAVE MANUFACTURED OUR CAR BODY THROUGH A CNC MACHINE, WHICH WAS PROVIDED BY TIMES OF SPORTS. THIS LET US CUT OUR CAR ACCURATELY AND AS PER OUR GIVEN DESIGN. WE HAD MADE THE DESIGN ON AUTODESK FUSION 360 - THE MOST COMMON CAD.

3D PRINTED COMPONENT

WE AS A TEAM BELIEVE THAT THE WHEELS ARE ONE OF THE MOST CRUCIAL COMPONENTS OF THE CAR AS SPEED AND AERODYNAMICS ARE DEPENDENT ON THE WHEELS. THE NOSE AND THE WINGS ARE ALSO VERY IMPORTANT COMPONENTS TO MINIMIZE THE DRAG AND INCREASE THE SPEED.



ABOUT CNC MACHINE

WHAT IS CNC?

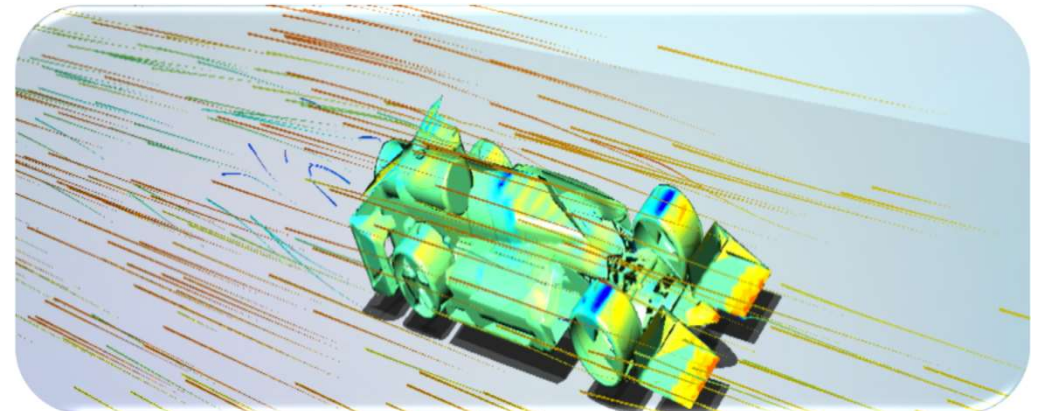
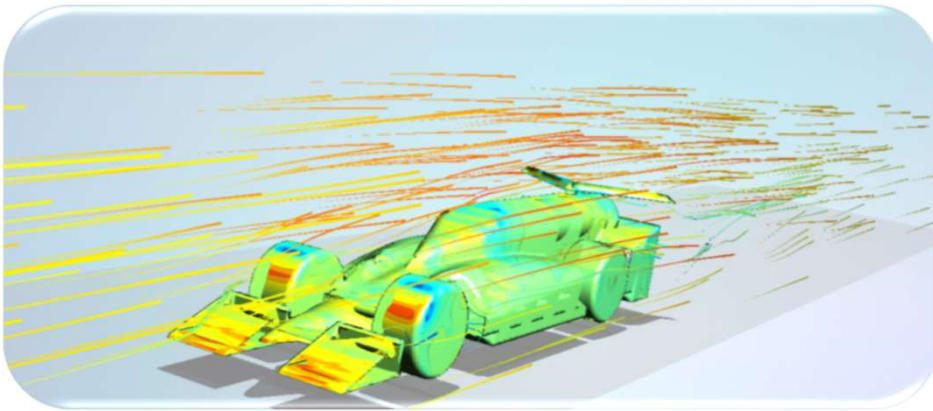
CNC (COMPUTER NUMERICAL CONTROL) MACHINES IS A PROCESS USED IN THE MANUFACTURING SECTOR THAT INVOLVES THE USE OF COMPUTERS TO CONTROL MACHINE TOOLS. TOOLS THAT CAN BE CONTROLLED IN THIS MANNER INCLUDE LATHES, MILLS, ROUTERS AND GRINDERS. WITH CNC MACHINING, THE COMPUTER CAN CONTROL EXACT POSITIONING AND VELOCITY. CNC MACHINING IS USED IN THE MANUFACTURING OF BOTH METAL AND PLASTIC PARTS.

CNC Machine Tools



TESTING

WE HAVE USED AUTO DESK FLOW DESIGN SOFTWARE FOR TESTING OUR FIRST CAR MODEL FOR WIND TUNNEL TESTING . WE FOUND SOME MAJOR FLAWS IN THE DESIGN AS IT FIRSTLY WAS PRODUCING A HEAVY AMOUNT OF DRAG WHICH WOULD MAKE OUR CAR GO VERY SLOW.



ORTHOGRAPHIC DRAWING

