

FORMULA BASE

For PLAYSEAT

PROJECT BRIEF-

Conceptualization Design and Development of a mobile platform capable of supporting a VR simulator based on the infamous 'Formula' PLAYSEAT product.

The platform will be designed for standard fitment and will appeal worldwide to PLAYSEAT users who want to be able to move their simulators readily from one place to another.

ANALYSIS

Customer Requirement-

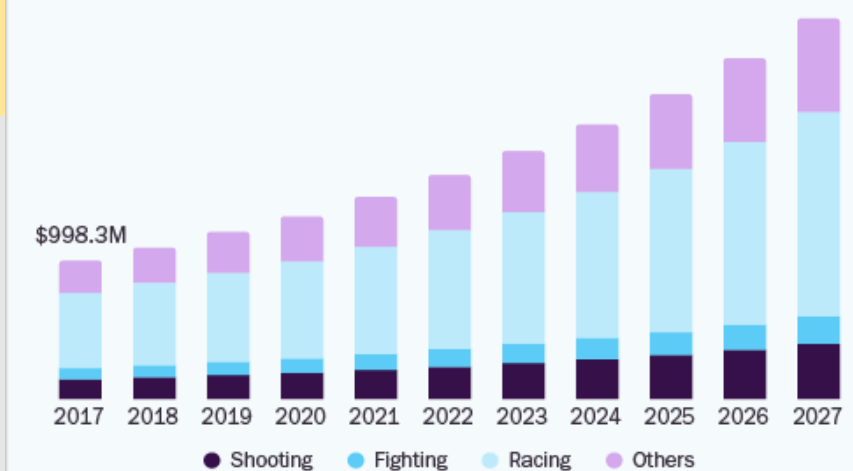
No scratch or damage to the floor

- Fit the gaming Ambience
- Easy to move
- Hight adjustable or of 30 cm height,
- Sturdy while in use
- Able to move through standard doorways
- Easy to manoeuvre
- Able to stand small impacts with walls
- Modularity to increase functionality
- Customizable appearance
- Enough space for branding.

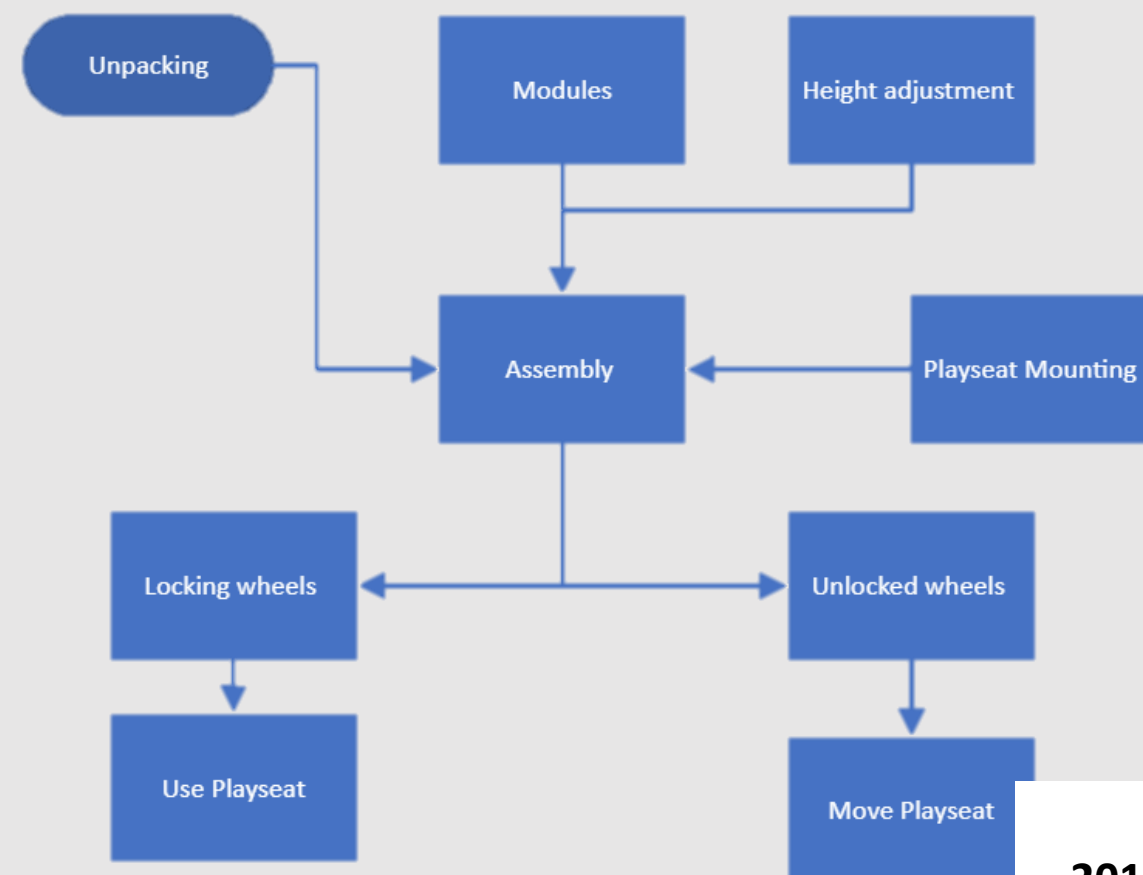
Market research –

The gaming simulator market size was valued at \$4.04 billion in 2020 and is forecasted to be \$9.99 billion by the year 2027. The market share of driving sim is estimated to be about 70% which is \$ 3.9 billion in 2022 with annual growth of 12.1% till 2027.

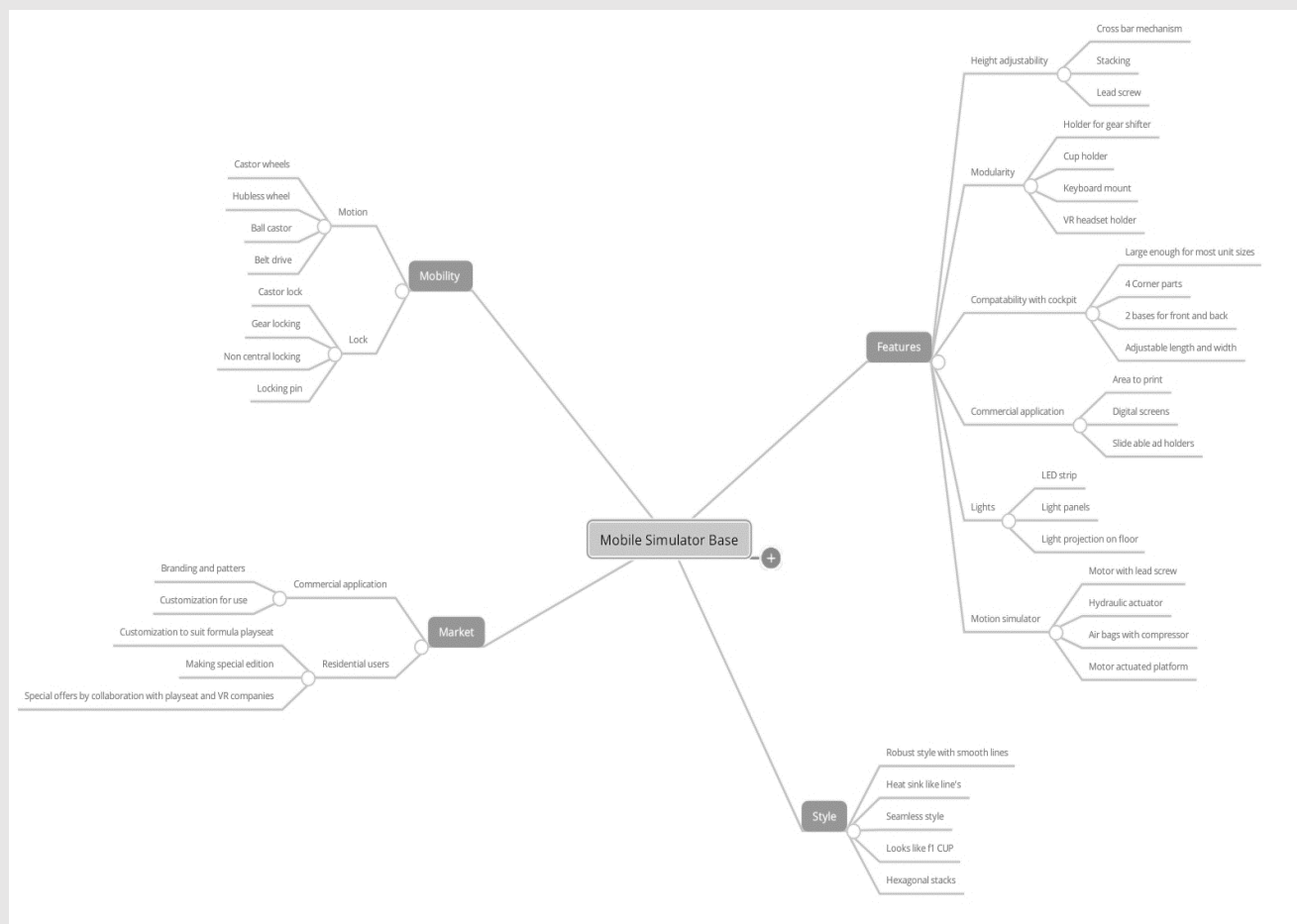
Gaming Simulator Market
size, by game type, 2017 - 2027 (USD Million)



Functional Analysis



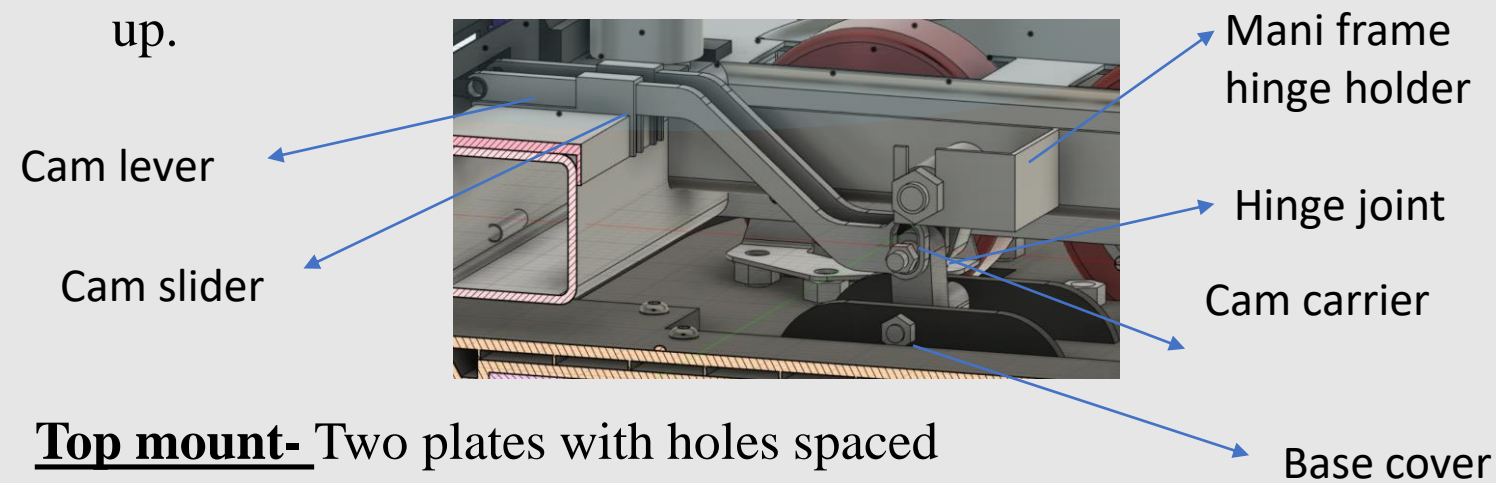
Mind Map



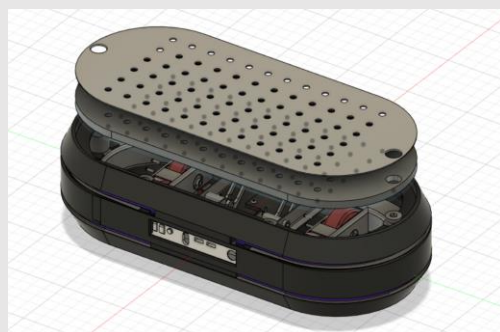
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DESIGN COMPONENTS

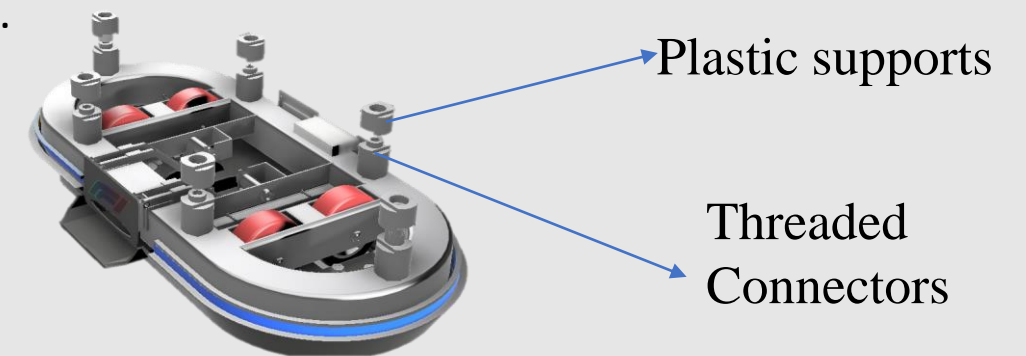
Base moving mechanism- The base is connected via a hinge with tight tolerances. When the peddle is pressed the hinge straightens out which make it difficult to unlock it thetas where a lever with a clam follower like mechanism is used to pull the hinge forwards and bring the base back up.



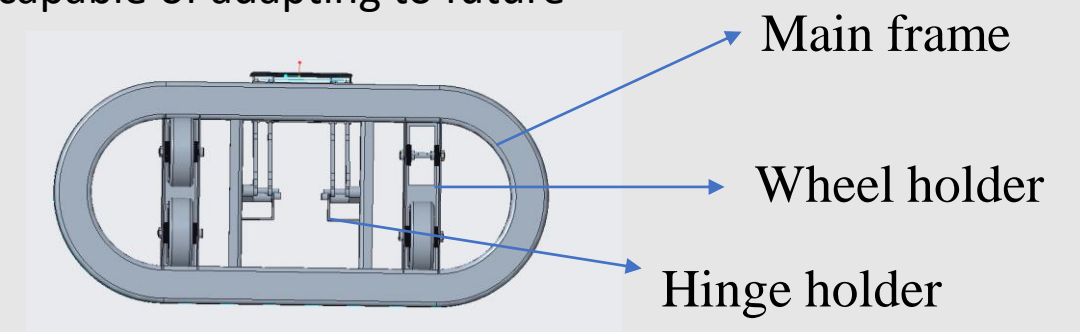
Top mount- Two plates with holes spaced 40mm from each other with diameter of 12mm coincide with each other one is 2mm plate of steel while other is 4mm thick Acetal enforced with glass fibres. This Mount board can not only connect to the play seat but can also be used in future to introduce more Modules combatable with-it.



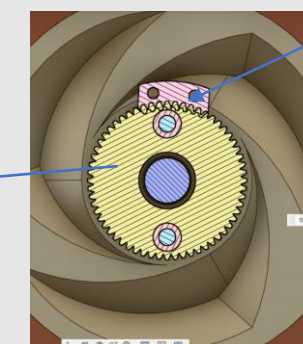
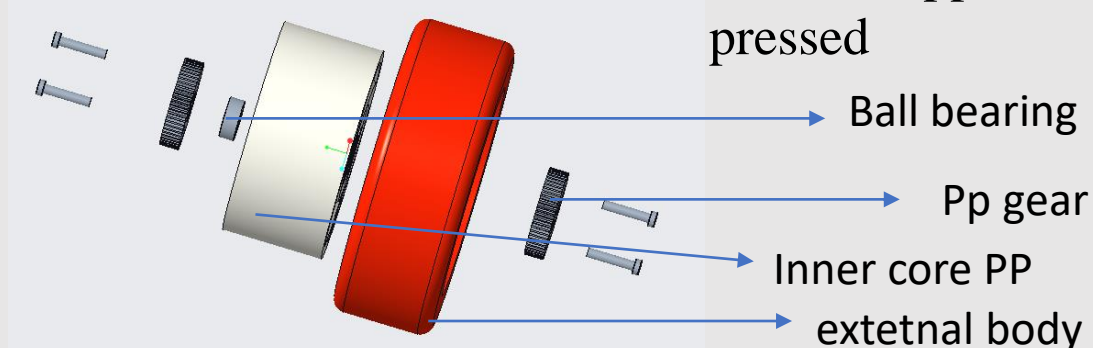
Support structure- 18 mm thick cylindrical supports made of ABS enforced with 30% glass fibre with a s316 threaded core to hold the structure together .



Main frame- Made of SHS 50/3mm S420 with internal segments hold wheels and closing mechanism. All load from support structure falls on the main frame. It has A high bending resistance in order to be capable of adapting to future adaptations.



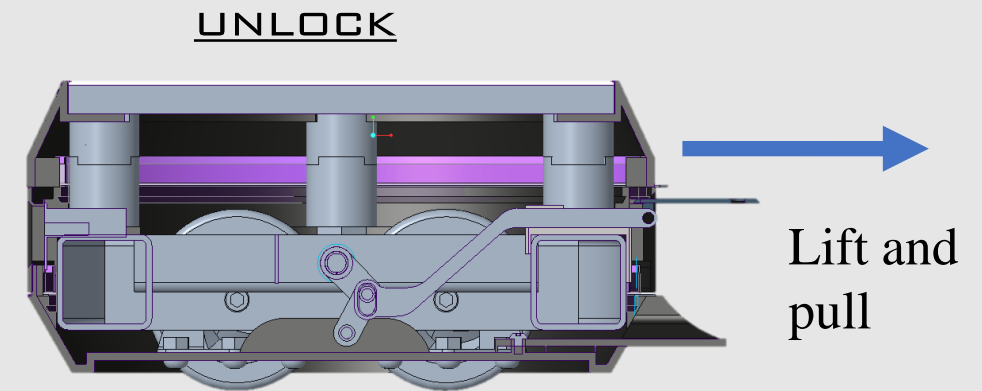
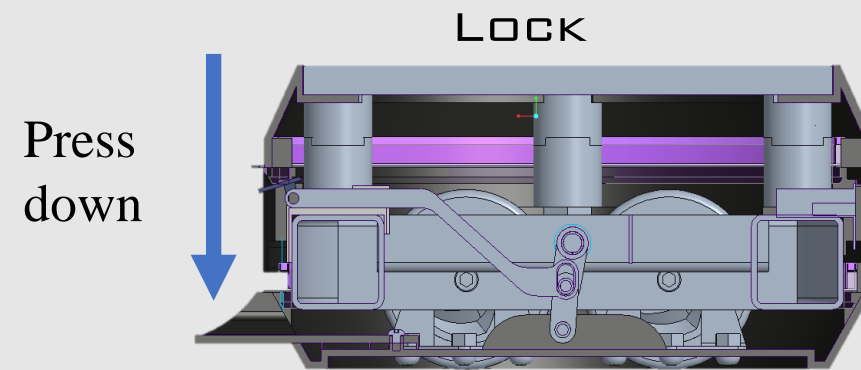
Wheels and brake – Industry standard 90 mm polyurethane wheels with polypropylene core. Holes are made to the core to fix it to a Polypropene gear . Which is blocked by a rubber stopper when the foot peddle is pressed



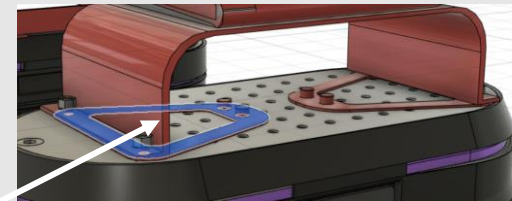
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SETUP

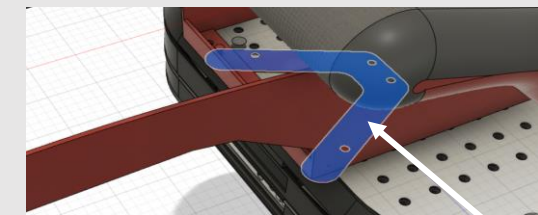
Quick lock and Unlock- Lock the wheel with press of pedal and unlock by pulling the flap.



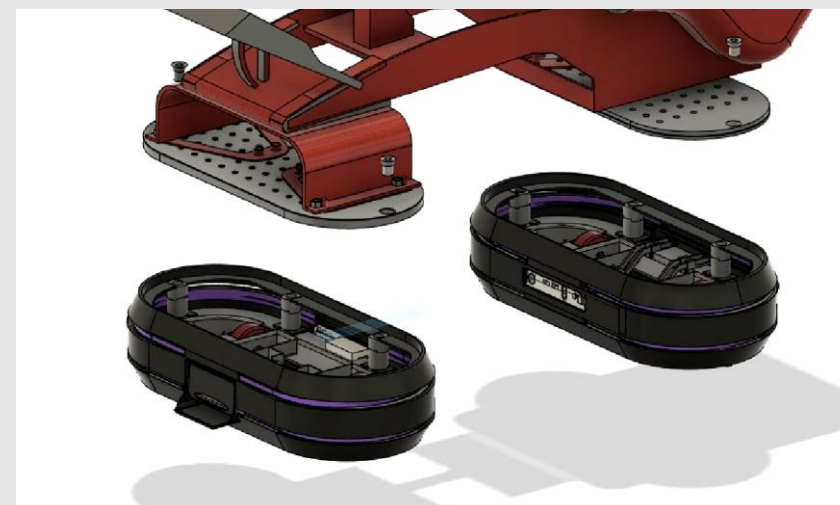
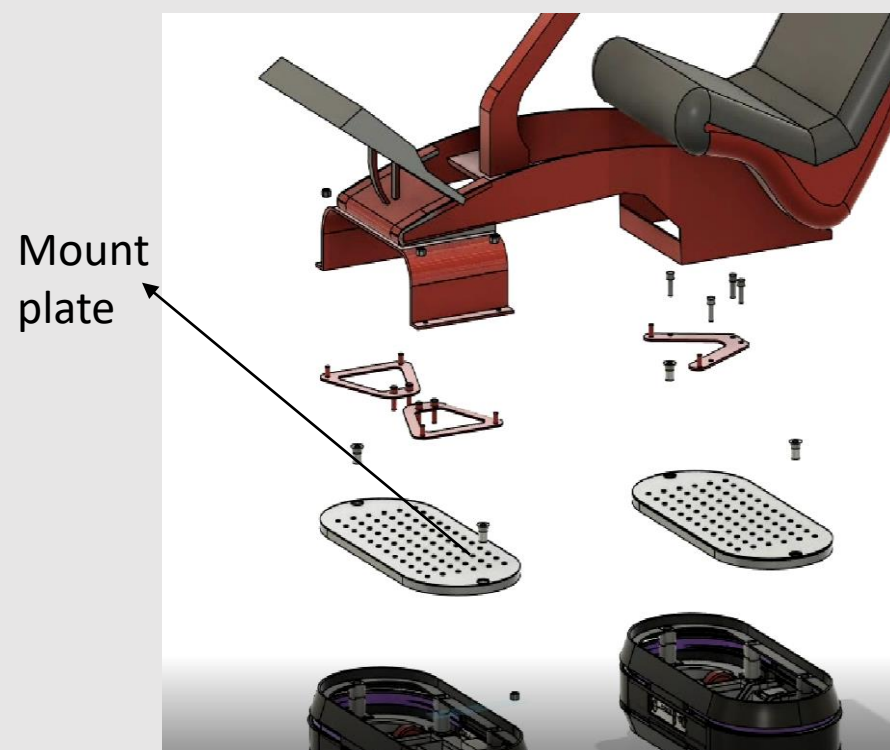
Mounting the Playseat- to mount the play seat first the top mount plate is removed. Then the mount plate is mounted to the PLAYSEAT via custom joint suitable to the model.



2 Front mount



Back Mount



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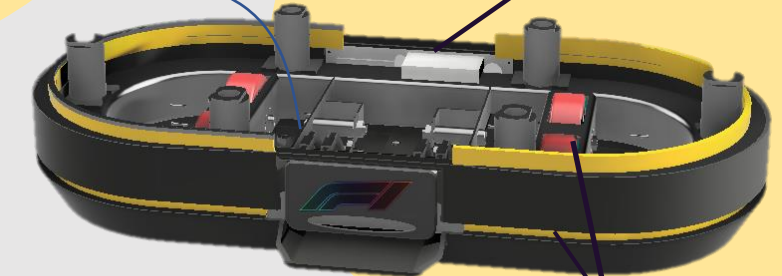
FEATURES

Commercial- use- Branding, logo and custom text along with Customized graphics patterns Vinyl wrap can be displayed.



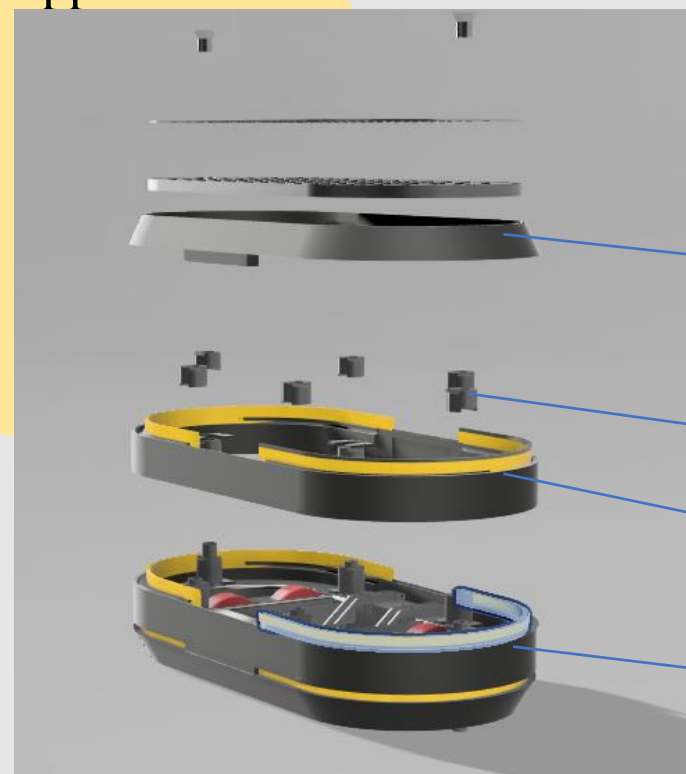
Lighting

Control panel to power light and other future options



LED Strip 12v - 24W

Height adjustability – Height can be increase or decreased by changing the number of stacks in the middle height of each stack is 10cm . These stacks are hold together by support structure.



Top cover

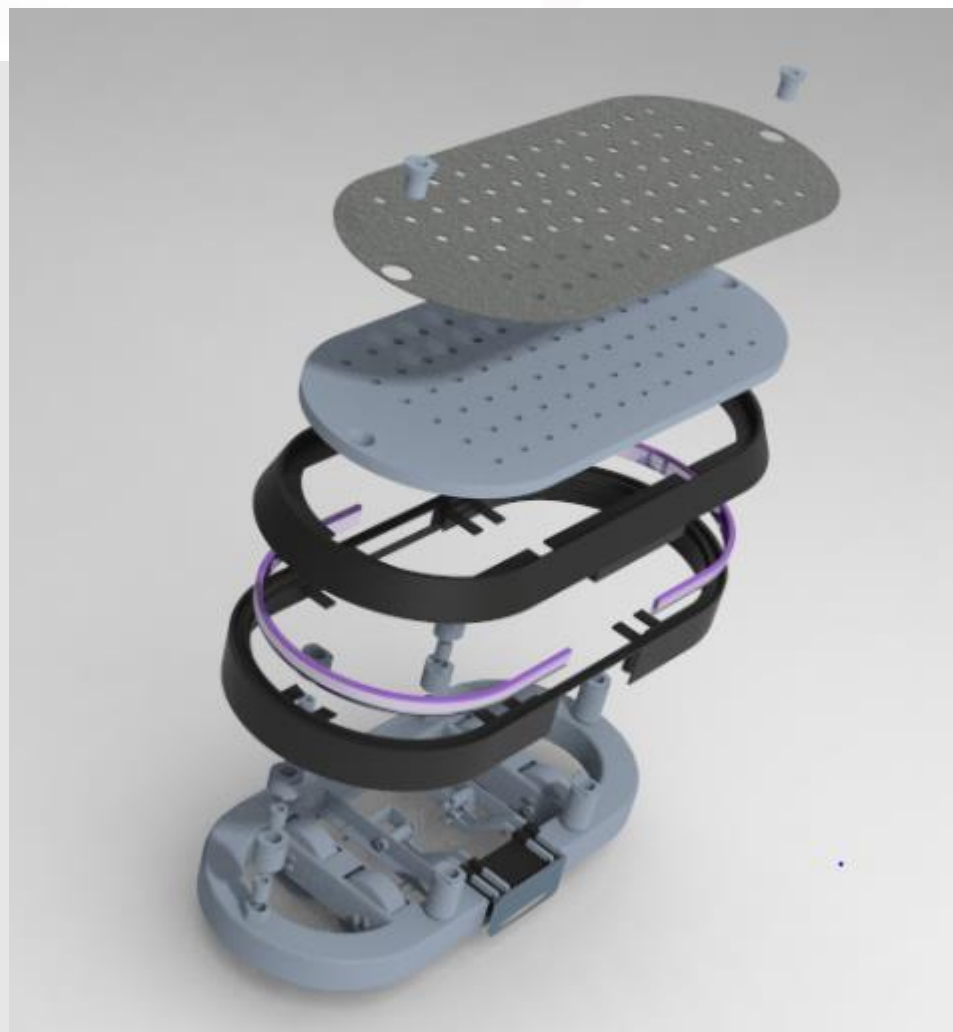
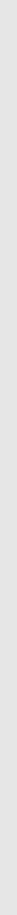
Support Structure

Stack 1

Main frame cover

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EXPLODED VIEW & VISUALIZATION



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