OSTC1 Simulator Seat Redux

March 30, 2016

Project Goals

Requirements:

- Improve ruggedness of simulator seat design (stable and strong).
- User ingress/egress handles.
- Realistic seat height and petal position.
- Exchange seat / steering wheel / cluster.
- Adjustable steering angle and height.
- Adjustable seat to pedal distance.
- Steering and eye tracking support equipment mounting and protection.

Bonus:

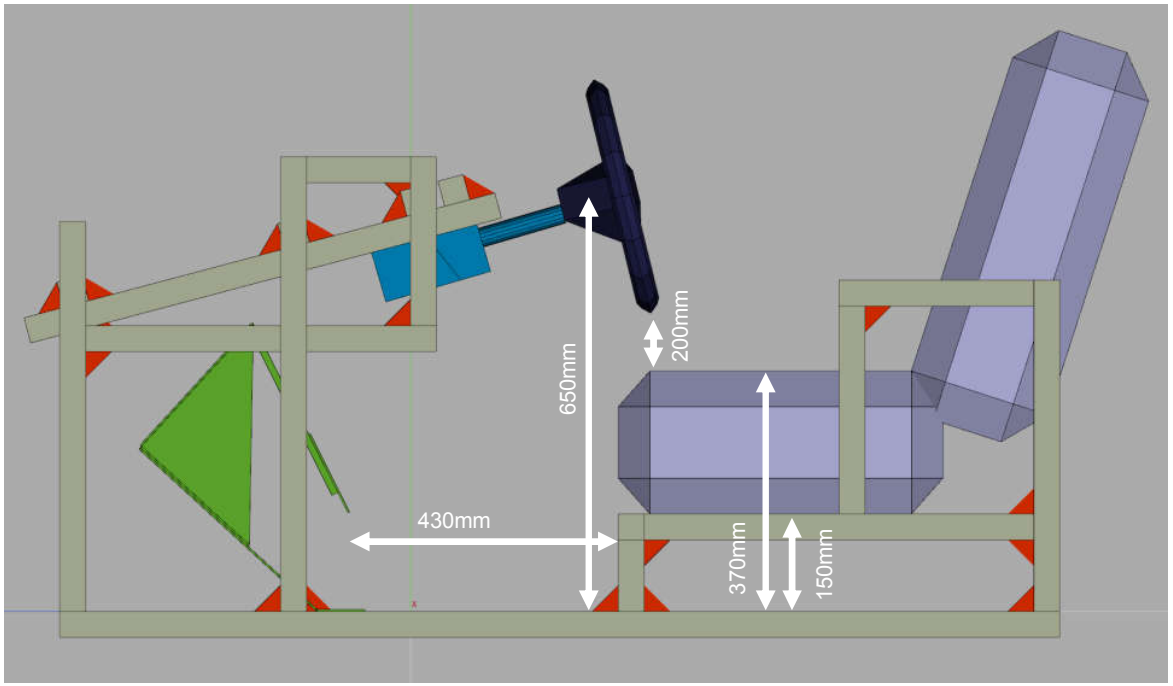
- Maintain electric adjustment in seat (and support equipment).
- Integrated retractable casters

Project Style

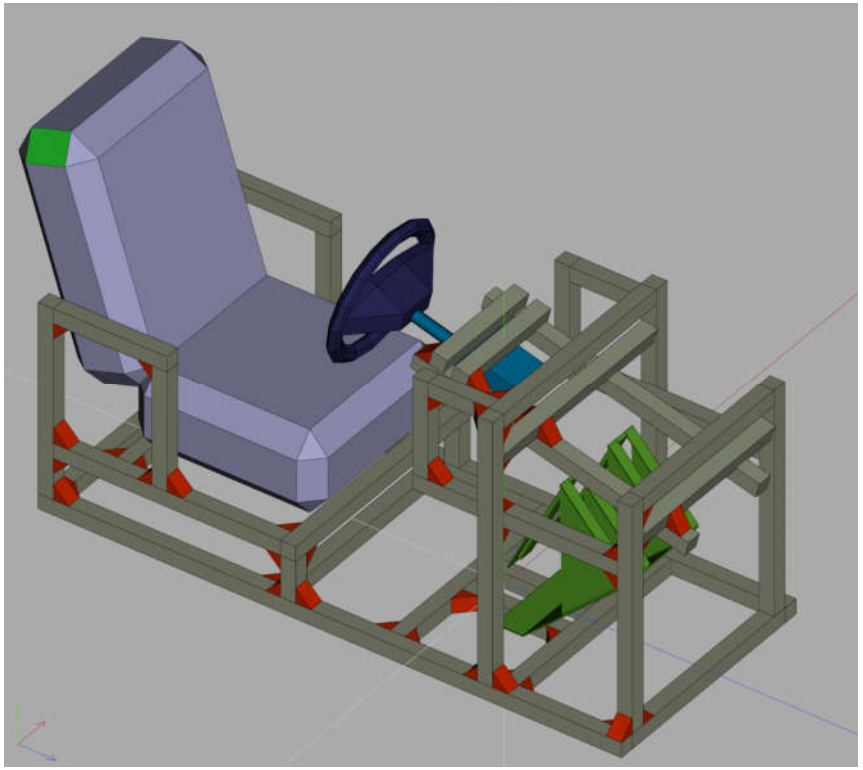
The seat will be designed to resemble industry standard mock-ups.

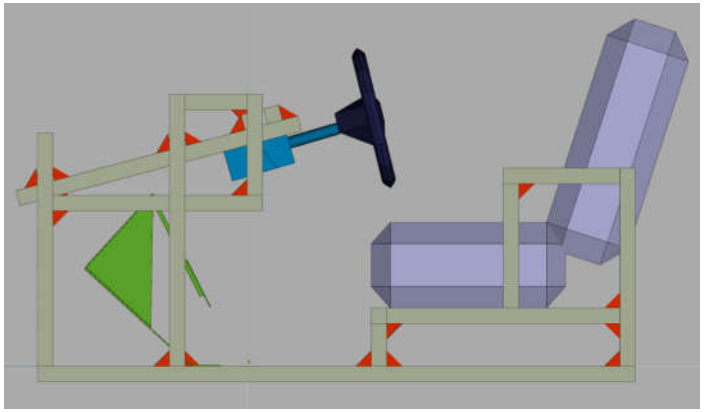
Sizing and Layout

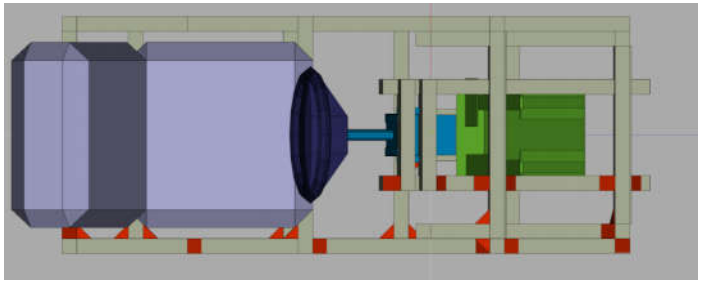
Sizing and placement of components based on L405 driver seat.



Proposed Design





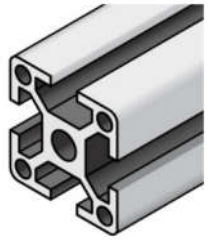


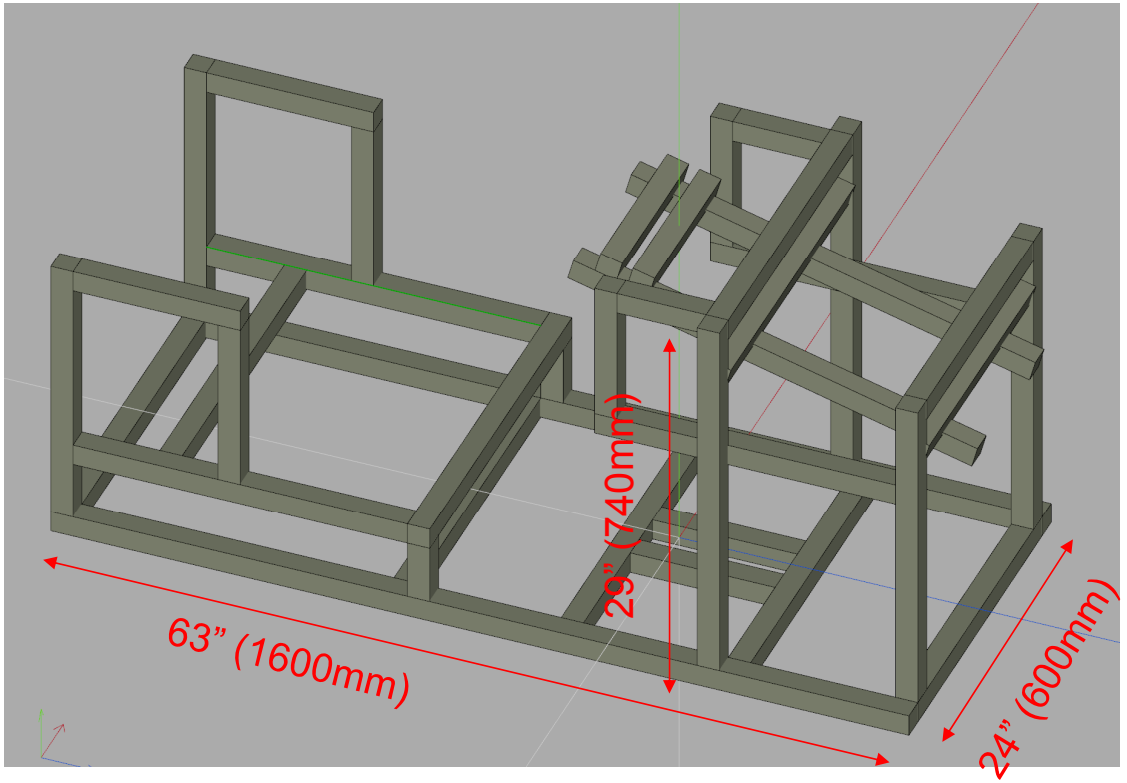
Frame Materials

The frame is made of Misumi 8 Series, Base 40, Four-Side Slots, aluminum extrusion. It is assembled using track nuts, bots and brackets. The martial was chosen for:

- Assembly speed
- Strength
- Adjustability

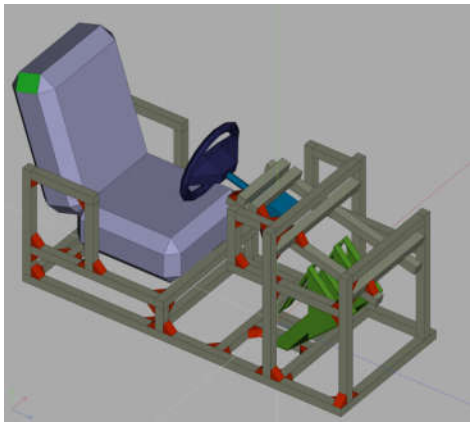
Dimension: H470 x W600 x D1600mm





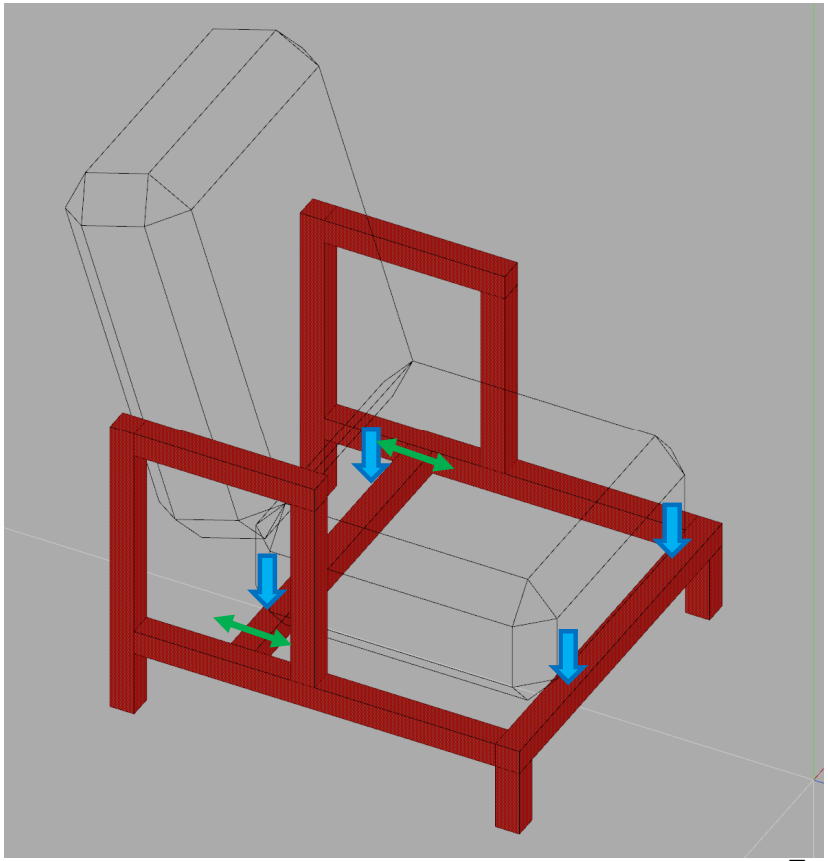
Seat Design

- The seat frame can accommodate any Jaguar or Land Rover seat (< 560mm wide, 22 inch).
- User is provided handles for ingress/egress.
- Seat frame mounting height mimics L405.
- Should allow support equipment for seat motion in cavity under seat.



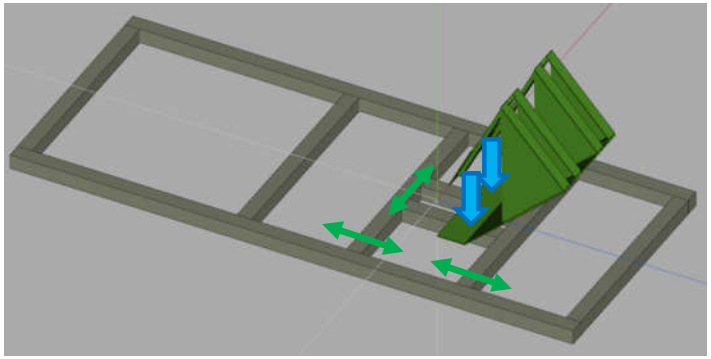
The seat mounting rails will bolt (⇩) into the frame directly using track nuts.

The rear frame rail can be adjusted (⟷) for any mounting depth.



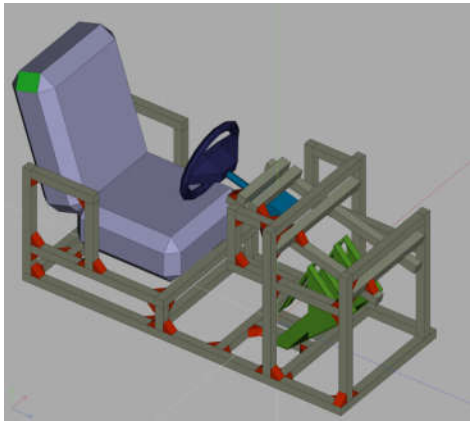
Pedal and Steering Design

The frame is designed to accommodate the existing force feedback steering wheel and racing pedals.



Petal alignment is adjustable F/R and L/R. ↔

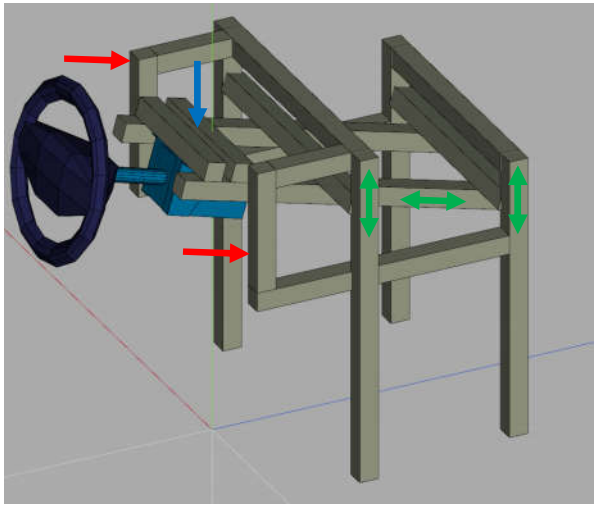
A floorboard plate will be added between seat and pedals for safety and comfort.



Steering wheel can be height, depth and angle adjusted. ↔

User is provided handles for ingress/egress either side of the steering wheel. →

Cluster can attach to rails above steering box. →



Next Steps

After go-ahead approval:

- Any size or scale adjustments to design. (unk)
- Deployable caster design (if needed). (1 day)
- Cut list and bill of materials. (2 days)
- Ordering/shipping. (2-4 wks)
- Fabrication. (3 days)
- Testing. (1 day)

Project Name

Timeline 2014/15

Project Timeline Milestones completion dates	Current timeline marker	Team Members Manager: Project Lead:
Project Brief	**Overall RAG status**	
Construction of simulator seat capable of handling public use.		
Summary		
Achievements		
Blocker (B) / Escalation (E) / Decision (D) necessary		
Target for Next Week		