

Mobile Computer Cart

Progress Report 2

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NORTHERN
ARIZONA
UNIVERSITY



Overview

- Project Description
- Frame
- Sheet metal
- Wheels
- Monitor mount
- Logo
- Moving forward
- Progress Report
- Summary

Project Description

- Client : Dr. Srinivas Kosaraju
- Dr. Kosaraju is currently managing multiple student teams for capstone classes at Northern Arizona University. He is requesting for a mobile computer cart capable of traveling outside to perform experiments.
 - Must be adjustable
 - Weather proof
 - Cost under \$500

Needs Statement

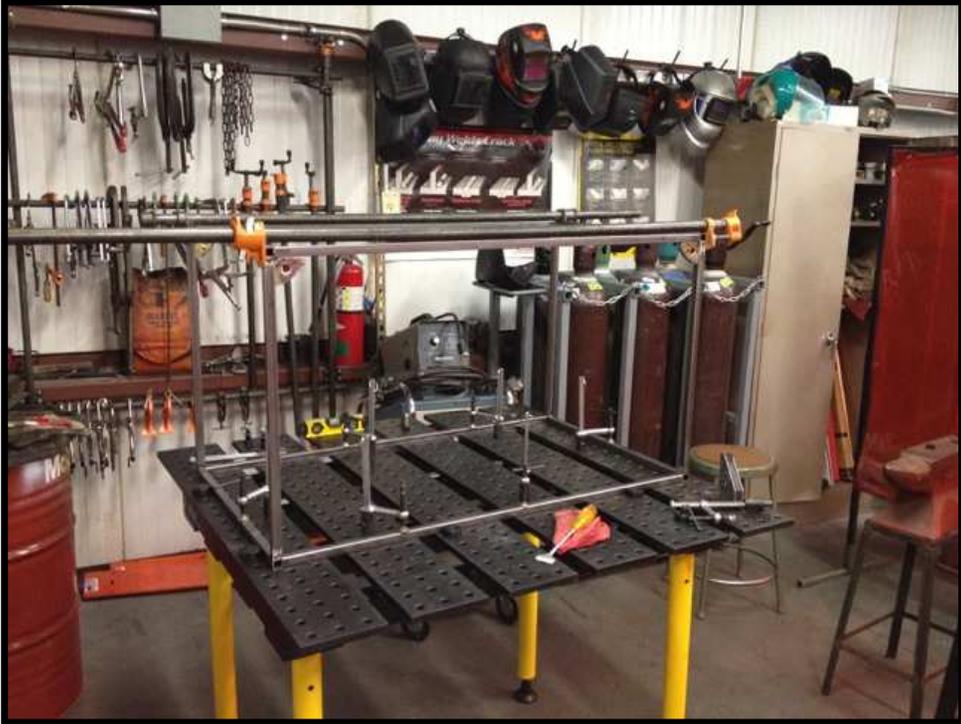
“The current available mobile computer carts are too expensive and are not designed for outside use.”

Goal Statement

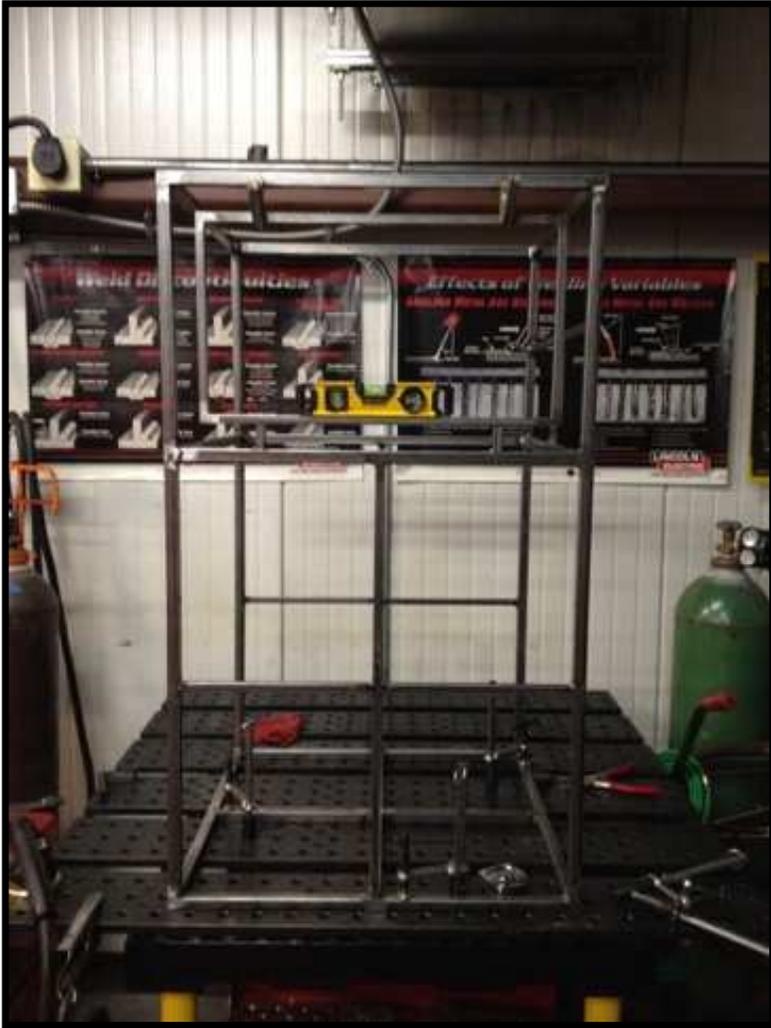
The project goal is to design a mobile computer station that is less expensive than available marketed products, which can be operated in outside conditions.

Frame

- Progress
 - 90% completed
 - Members welded
 - Welds ground down
- Next Step
 - Add shelving supports
 - Attach legs



Mohammed Aldosari



Mohammed Aldosari

Sheet Metal

- Progress
 - 90% complete
 - All sheet metal attached to exterior
- Next Step
 - Grind and sand down welds
 - Fill in gaps with welding
 - Prepare for paint



Abdulrahman Alhamdi



Abdulrahman Alhamdi

Wheels

- Progress
 - Axles welded on
 - Wheels attached
 - Functioning properly
 - Holes cut for pins
 - Wheels can be removed by taking out pins



Trevor Scott

Monitor Mount

- Progress
 - Functions properly
 - Telescoping tubing attached to cart
 - Monitor attached to mount
 - Monitors fit inside cart
 - One person can adjust monitors
- Next Step
 - Test
 - Attach wires to monitors

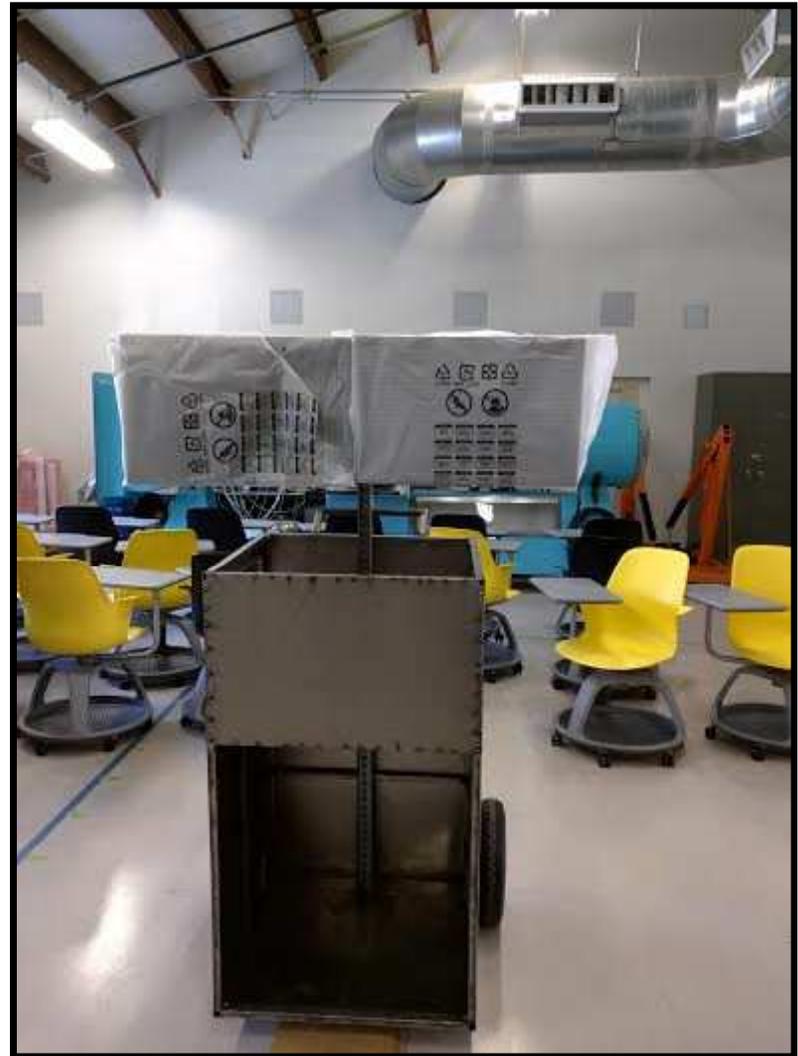


Trevor Scott





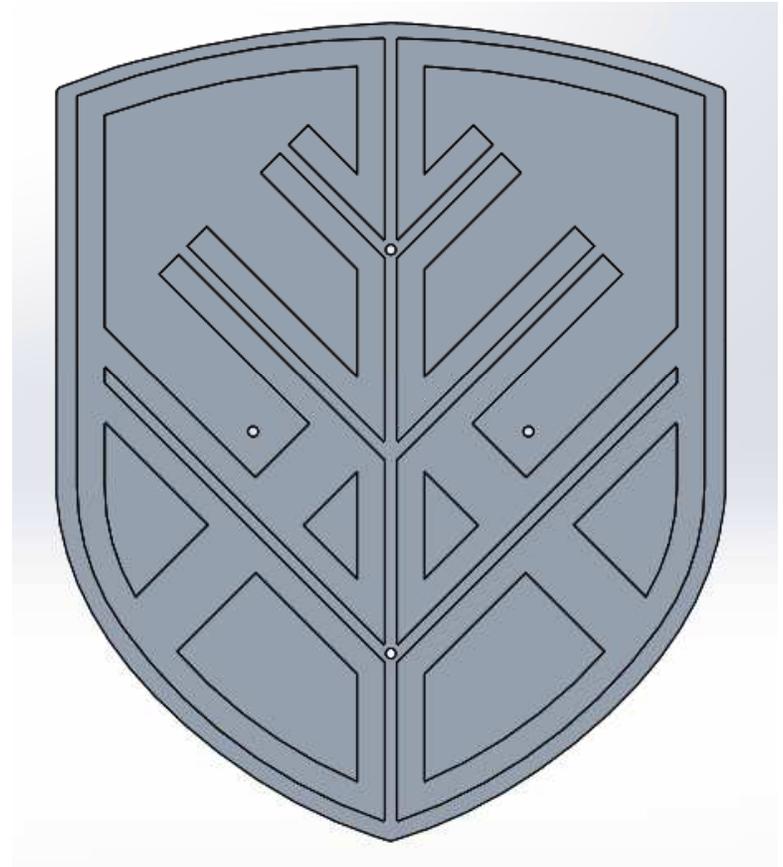
Trevor Scott

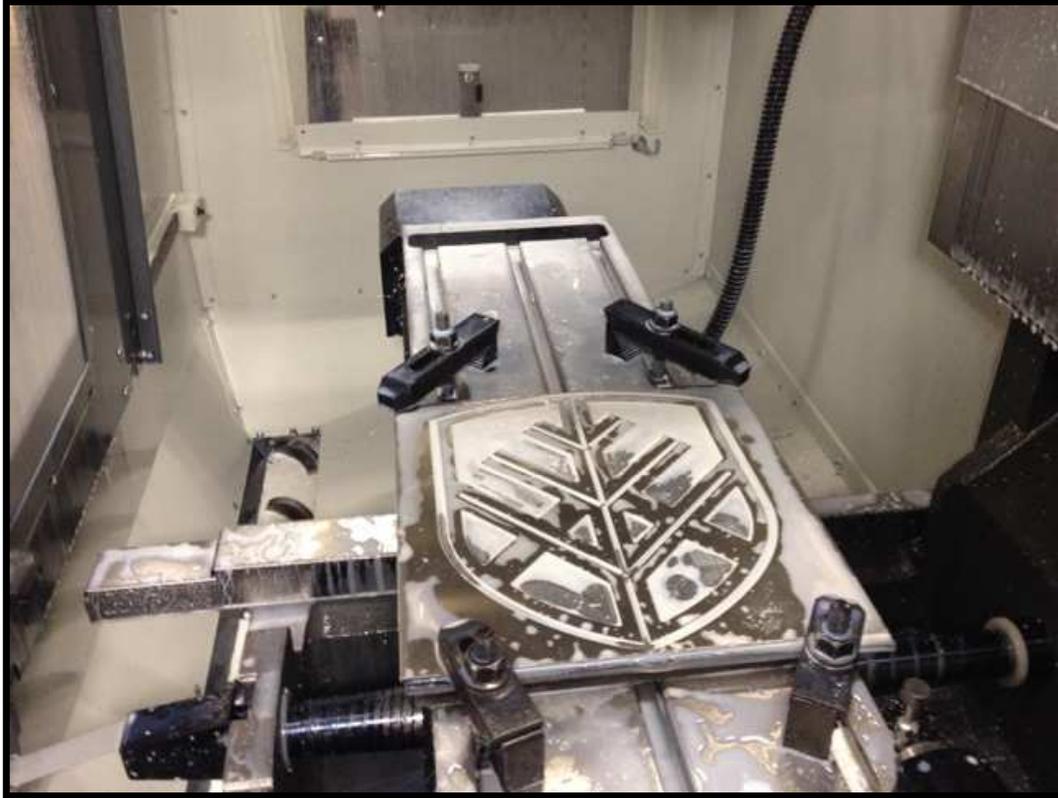


Trevor Scott

NAU Logo

- Progress
 - Drawing produced in SolidWorks
 - Coded in MasterCam
 - CNC on Haas
 - 1/8 inch aluminum
- Next Step
 - Bolt to cart



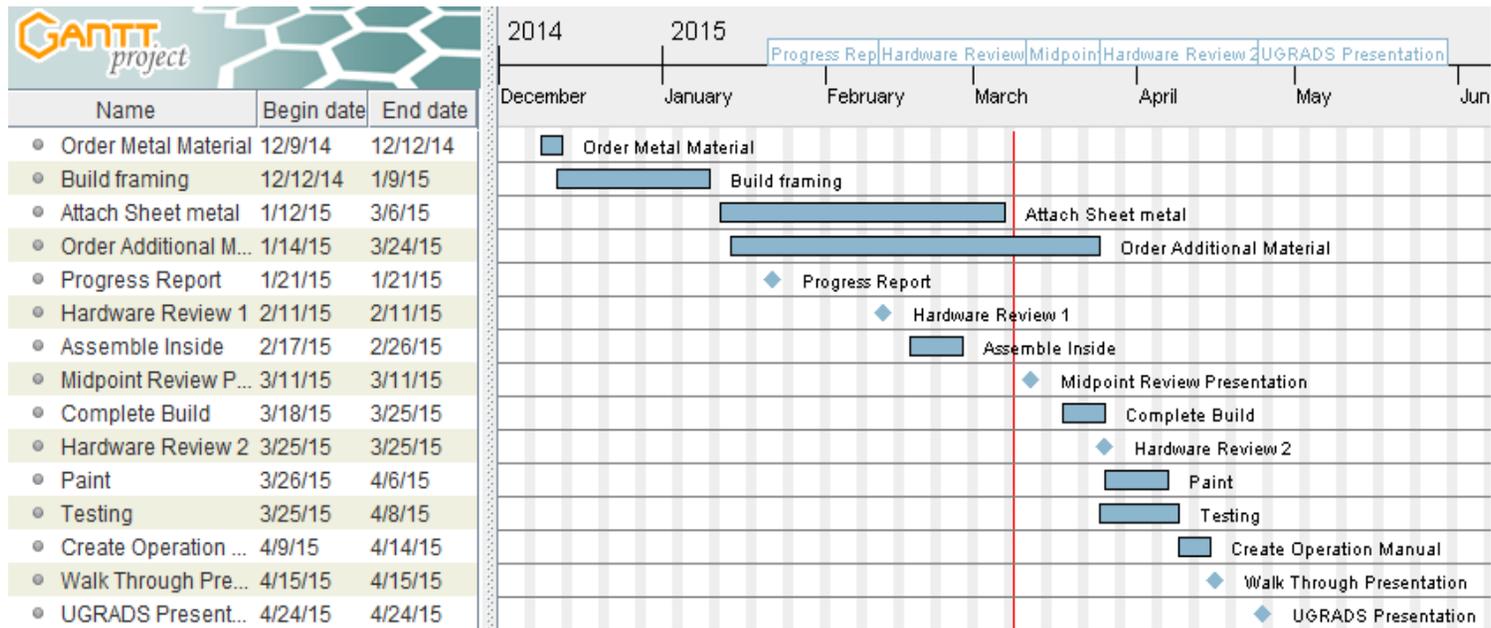


Trevor Scott

Moving forward

- Lid / Door
 - Weld onto cart
- Plastic
 - Buy weather stripping
 - Attach plastic to door and windows
- Paint
 - Sand and prepare sheet metal
 - Test different paint on scrap sheet metal
- Testing

Project Progression



Summary

- Project Description: Mobile computer cart for Dr. Srinivas Kosaraju
- Frame is 100% complete
- Sheet metal installation is 90% complete
- Wheels are installed and easily removable
- Monitor mount is installed and functions as desired
- Logo is built and ready to be installed on the cart
- Complete sheet metal install and prep for paint
- Continue preparation for UGRADS on April 24th

References

- R. C. Hibbeler, *Engineering Mechanics Statics*. Upper Saddle River, New Jersey: Pearson Prentice Hall, 2013.
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- M. P. Groover, "Welding Processes," in *Fundamentals of Modern Manufacturing*, 4th ed. Hoboken: Wiley, 2010, ch. 30, sec. 1, pp. 713.
- W. D. Callister, "Corrosion and Degradation of Materials," in *Material Science and Engineering*, 7th ed. New York: Wiley, 2007, ch. 17, sec. 5, pp. 639.