Stroll and Stow

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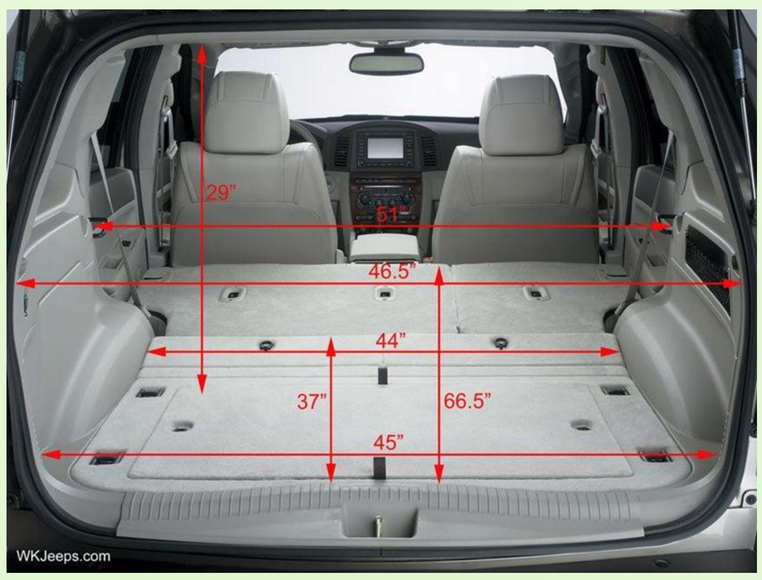
Mission:

- Design easy to fold and carry children's wagon

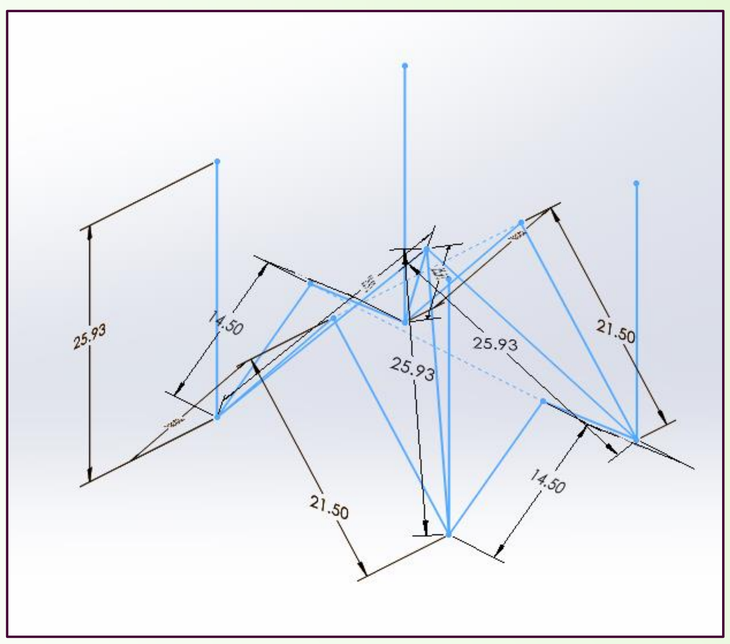
Goals and Priority:

1. Smaller than competitors when folded
2. Similar open dimensions
3. Lighter than competitors
4. Retail price between competitors
5. Fold in under 60 seconds



Competitors:

- Competitor A
  - $400
  - 47 lb
  - Open 46"Lx29"Wx35"H
  - Folded: 38"Lx29"Wx25"H
- Competitor B
  - $900
  - 60 lb
  - Open: 49"Lx29"Wx31"H
  - Folded: 44.5"Lx29"Wx20H
- Stroll and Stow
  - $900
  - 60 lb
  - Open: 49"Lx29"Wx31"H
  - Folded: 44.5"Lx29"Wx20H

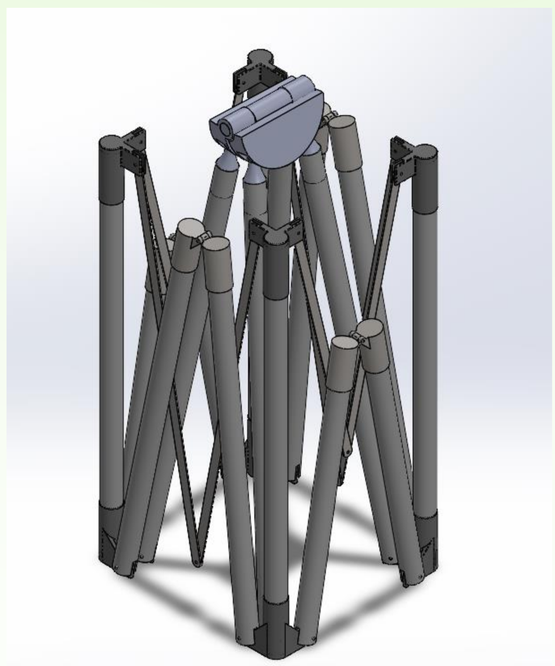


Kinematics

- Multiple 4 bar systems linked through center and corner hubs
- Tested reactions in Solidworks

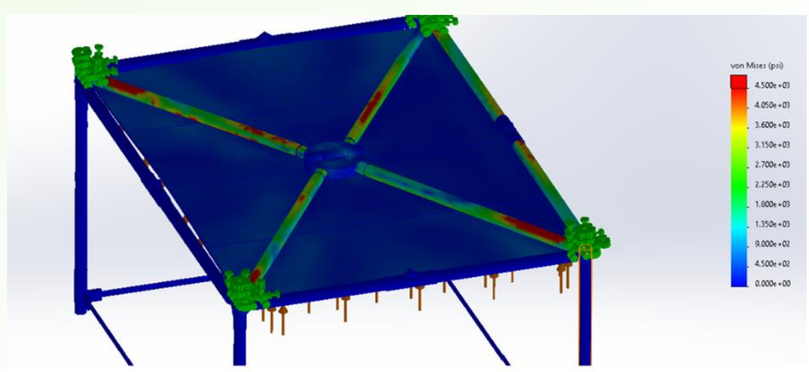
Components

- Custom hinges and connection hubs
- Prototyped with 3D printer
- Self locking when open



Materials

- Plain carbon steel chosen for frame members
- PLA used for connection components
  - Would use ABS and injection molding for production
- Canvas fabric used for cover



600lbf on Bottom Panel Stress