

Team Robosapiens

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**TheConception**  
Product Design Battle  
Powered By  AUTODESK.



# *Portable Multi purpose table*





*Universal  
table for all  
your needs*





*It can be used for household purpose or when going for a jaunt/picnic where it serves the purpose of both seating and dining.*

*Furniture takes a lot of space and if the available area is limited then it becomes a problem.*

*So we designed this portable table to solve this problem which can be folded into the case and be carried easily.*



*It can be easily accommodated in car and takes up only as much space as a suitcase. Thus it eliminates the problem of sitting on dirty land/grass and majorly helps for old people who cannot sit down.*



*We were facing challenges particularly in applying joints in Autodesk Fusion 360 in modelling workspace*



*Two revolute joints for two supports are required to be created with reference to the table, so that table folds up into the case such that both supports rotate together.*





*But in Fusion360, on changing angle of one joint, the other joint did not rotate and created error.*

*But later, we studied the types of joints available, and applied it accordingly and thus it was solved.*

*Currently it is in the design phase so we have used Fusion 360 for 3D modelling.*

*Also, we have used animation and render workspace of Fusion360.*

*A basic simulation was also carried out to check the strength of the table.*

*It gave quite satisfactory results and also some scope for improvement in terms and reducing some material in specific areas*



**RESULTS DETAILS**

Actual Minimum Safety Factor **6.09**

The design appears to be over-engineered for the current analysis criteria. Ensure the Safety Factor Targets meet the standards of your company, application and industry.

**Safety Factor Targets**

**Recommendations**

1. Use Shape Optimization to remove unnecessary material.
2. Try testing weaker, less expensive materials to reduce cost.
3. Or: Switch to the Generative Design workspace to create lighter-weight design alternatives based on material, shape, and performance. [Learn more](#)

Show strongest areas of design

Deformation Scale **Actual**

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