Adjustable Table

A Report

Submitted in partial fulfilment of the requirements for I year II semester course of

Product Design Studio

In

Bachelor of Technology

Submitted by

P.Ganapathi rao   (2003A51240)

V.Kedhareshwar rao   (2005A41149)

K.Gopi Krishna reddy   (2003A51234)

V.Damodar reddy   (2005A41154)

P. Srihitha   (2005A21045)

Under the Guidance of

Mr. Guru Prasad

Asst. Professor Mr. Shiva

Center for Design

SR University

Warangal Urban-506371, Telangana, India.

DECLARATION

We hereby certify that the work being presented in the design report entitled "**Adjustable table**" in partial fulfillment of the requirement for the course of Bachelor of Technology and submitted to the Center for Design at SR University Warangal-Telangana, is an authentic record of our own work carried out under the supervision of **Mr. Guru prasad** Assistant Professor, School of Engineering, SR University. The matter embodied in this report has not been submitted in part or full to any other University or Institute.

P.Ganapathi rao   **(2003A51240)**

V.Kedhareshwar rao **(2005A41149)**

K.Gopi Krishna reddy **(2003A51234)**

V.Damodar reddy   **(2005A41154)**

P. Srihitha   **(2005A21045)**

The external viva-voce examination of the student was held on successfully

Internal Examiner   External Examiner

ACKNOWLEDGEMENT

We would not forget to remember **Mr. Guru prasad** sir for their encouragement and for their support and guidance until the completion of our project work.

We respect and thank **Mr. Shiva** sir for providing us an opportunity to do the project work at SR UNIVERSITY. We also thank you for giving us all support and guidance, which made me complete the project duty. We are incredibly thanking full to him for providing such excellent support and advice, even though he had an busy schedule managing corporate affairs.

Table of Contents

List of Figures

List of Tables

S.No	Name of the Table	Page no
1	Table-3.1.1	15

ABSTRACT

The domain we selected is **workspace**. We are modifying the existing traditional table in such a way that the table can be adjusted according to the heights of the people. Many students, employees are affected due to maintaining wrong posture throughout their long work hours. They need a product which can be easily adjustable to them according to their height and as per their requirement and also, they can save health.

Chapter-1

Design Research

1.1-Design space

Adjustable Table

1.2-Research Gap

Now a days many students, employees are affected due to maintaining wrong posture throughout their long work hours. These long-duration workhours on a traditional, uncomfortable table effects their productivity and health. They need a product which can be easily adjustable to them according to their height and as per their requirement and also, they can save health

1.3-Ethnography study using AEIOU

A-ACTIVITY:

General Impressions/Observations

- Height of table is fixed
- Table's top surface is parallel to ground
- we feel uncomfortable while using laptops or desktops on traditional table
- The posture will cause damage to our spine and neck.

Elements, Features & Special Notes

- Most people say that they can't work for long hours on traditional table
- Employees may not be able to concentrate due to being uncomfortable on traditional table

Fig-1.3.1

E-ENVIRONMENT

General Impressions of the Theme, Style, Materials & Atmosphere
- Body-friendly
- Special laptop area
- Special area for stationery items

Elements, Features & Special Notes

- Due to covid-19 many employees are working from home many of them do not have a good table for their workspace.
- Mostly employees stick around to table for very long hours due to current condition, they neglect their health.

Fig-1.3.2

I-INTERACTION

General Impressions/Observations
- Interaction with Employees, Students, gamers, content creators. Etc.
- Area management

Elements, Features & Special Note
- One can pay attention towards work and health
- One can improve productivity

Fig-1.3.3

O-OBJECT

General Impressions of People in This Context

- Smoothness and weight of table depends on type of wood and materials used

Elements, Features & Special Notes
- Most people don't care about their posture and place table in wrong way

Sketch summary of activities

Fig-1.3.4

U-USER

General Impressions of People in This Context

- Students during these times donot have proper workspace and suffer to find all their stationery
- Employees work overnights in wrong postures nd get body pains and suffer some health issues

Sketch scenes of users in context

Fig-1.3.5

CHAPTER -2

Design Issues and Problem Identification

2.1 -Identifying the users' needs

After our observation of our friends, seniors and neighbours we noticed that almost all of them are having a problem with normal tables and also with some of the modern featured tables too. They are facing body pains and are facing problems doing their daily stuff on the table.

So, we thought of making a table meeting their requirements. We have made an adjustable table which can be adjusted according to requirements. And we have provided a separate space to place pens and other stationery items, we have provided a small smart screen on which we can upload our tasks and make sure we complete them, and also manage our health through displaying fitness tracker we have installed and we can also put alarms in it

2.2 -Jobs to be done (JTBD)

Step	Activity	Pain points/ Pleasure points
Define	This product is mostly used to reduce back pain of students and employees	Before using the product the user must ensure that the table is adjustable or not

Step	Activity	Pain points/ Pleasure points
Locate	This product is mainly useful for the students and employees who are working with systems .those are facing a problem with traditional chairs	This product consumes less space and provides more comfort and utilities compared to a normal table.

Step	Activity	Pain points/ Pleasure points
Prepare	This product is made up of wood and Bike pedals are installed.	We face many difficulties while making this product.while making it adjustable and when we are arranging pedals
Confirm	Make sure that the materials required for the product are available or not.	Should be careful while making so that no mistake to be done

Step	Activity	Pain points/ Pleasure points
Execute	This product is mainly helpful for the students and the employees those are doing work in there systems or laptops by setting more time in a normal chair this will save there health	This product is very usable for the people those are spending much time with their laptops
Monitor	When we sit in this table we can feel comfortable but we hace to look out for some things	Bad part is while sitting we have to look for pedals . We cannot bend the writing space while there are some books or weight on the

Step	Activity	Pain points/ Pleasure points
Modify	This product is modified for dealing with backaches, posture problems and also to keep stationery in reach of our workspace	This modified product consumes less space and stores stationery items and gives productive outcomes
Conclude	We have to take precautions so that books and things donot fall when the table is bended touse for drawing or for using laptop	This product is very useful for working professionals, students,gamers..etc to be healthy and live a productive life

2.3 -Problem Statement:

Many students, employees, gamers are effected due to maintaining wrong posture throughout their long work hours. These long-duration workhours on a tradtional, uncomfortable table effects their productivity and health.

2.4 -Need statement:

The students or the employees who are doing the work in laptops need a product which can be easily adjustable to them according to their height and as per their requirement and also they can save health.

Chapter -3

Concept Generation and Selection

3.1 – Concept Generation

3.1.1 – Concept Generation using Scamper

The SCAMPER idea generation technique is found on that belief that everything new is an alternation of something already in existence. The terms 'SCAMPER' is actually an acronym.

S-SUBSITUTE

C-COMBINE

A-ADAPT

M-MODIFY

P- PUT TO OTHER USES

E- ELIMINATE\ ELABORATE

R- REARRANGE\ REVERSE

Here, we are modifying the existing traditional table in such a way that the table can be adjusted according to the heights of the people. We can generate many ideas using this innovative tool. Scamper tool is a series of though speakers which helps us to innovate new product with the modify feature.

SCAMPER	IMPROVEMENT	BENEFIT
SUBSTITUTE	Usage of take wood	Longer life, smoother surface, Less maintainence
COMBINE	Pedals	Improve productivity, Power low end appliances
ADOPT	It is adopted from study chairs And traditional tables	Combination of study chair and Traditional table improves Workspace and environment
Modify	A side of table is modified to bend	Useful for employees/students /artists to do their work comfortably
Put to other uses	Stationary place	Holds stationery items
Eliminate\ Elaborate	Eliminate plastic parts and using metal parts	Longer life, Better appearance
Rearrange\ Reverse	Pedals	Pedals can be retracted and can be used only when the user wants to

Table-3.1.1

3.1.2-Concept sketches
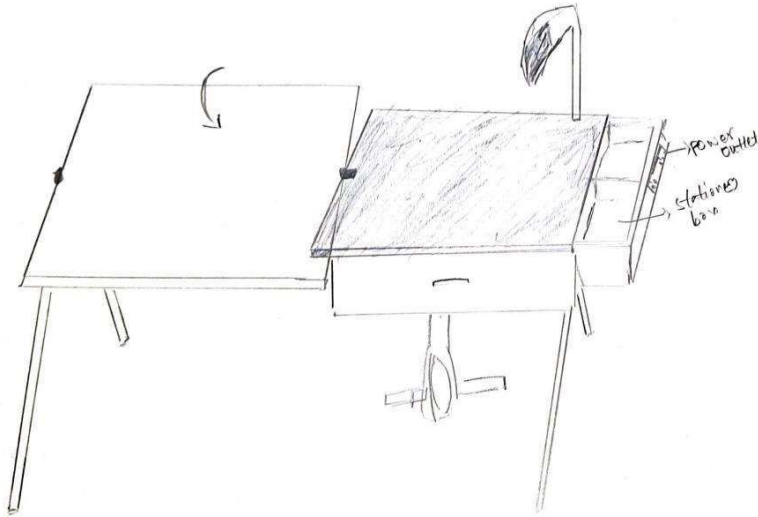
Fig-3.1.1
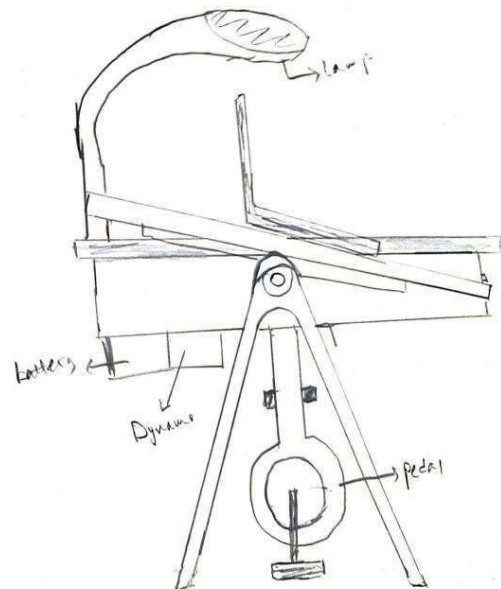
Fig-3.1.2

CHAPTER – 4
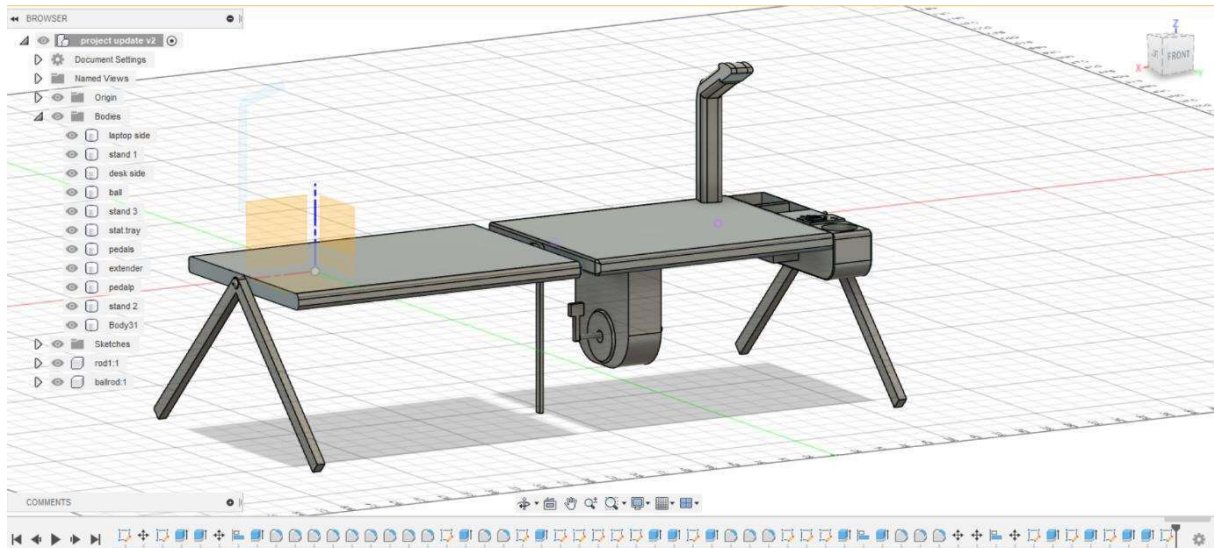# PROTOTYPING

4.1 Product Architecture
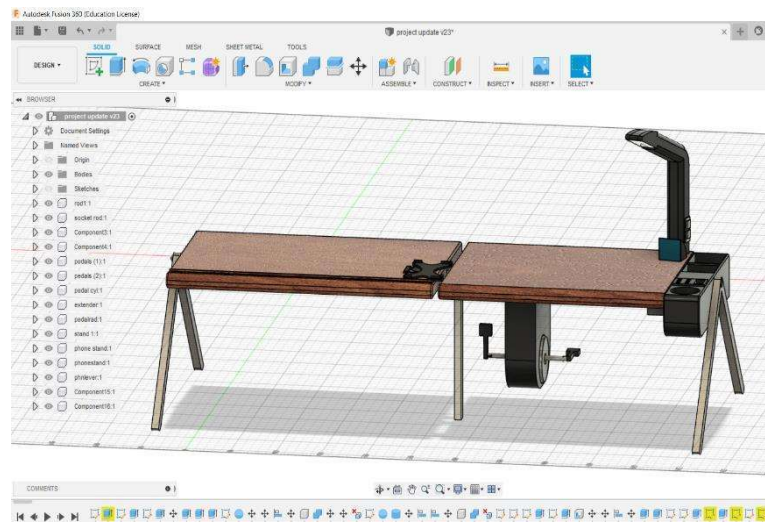

Fig-4.1.1

4.2 CAD Model

Fig-4.2.1

RENDERED CAD PICTURES:
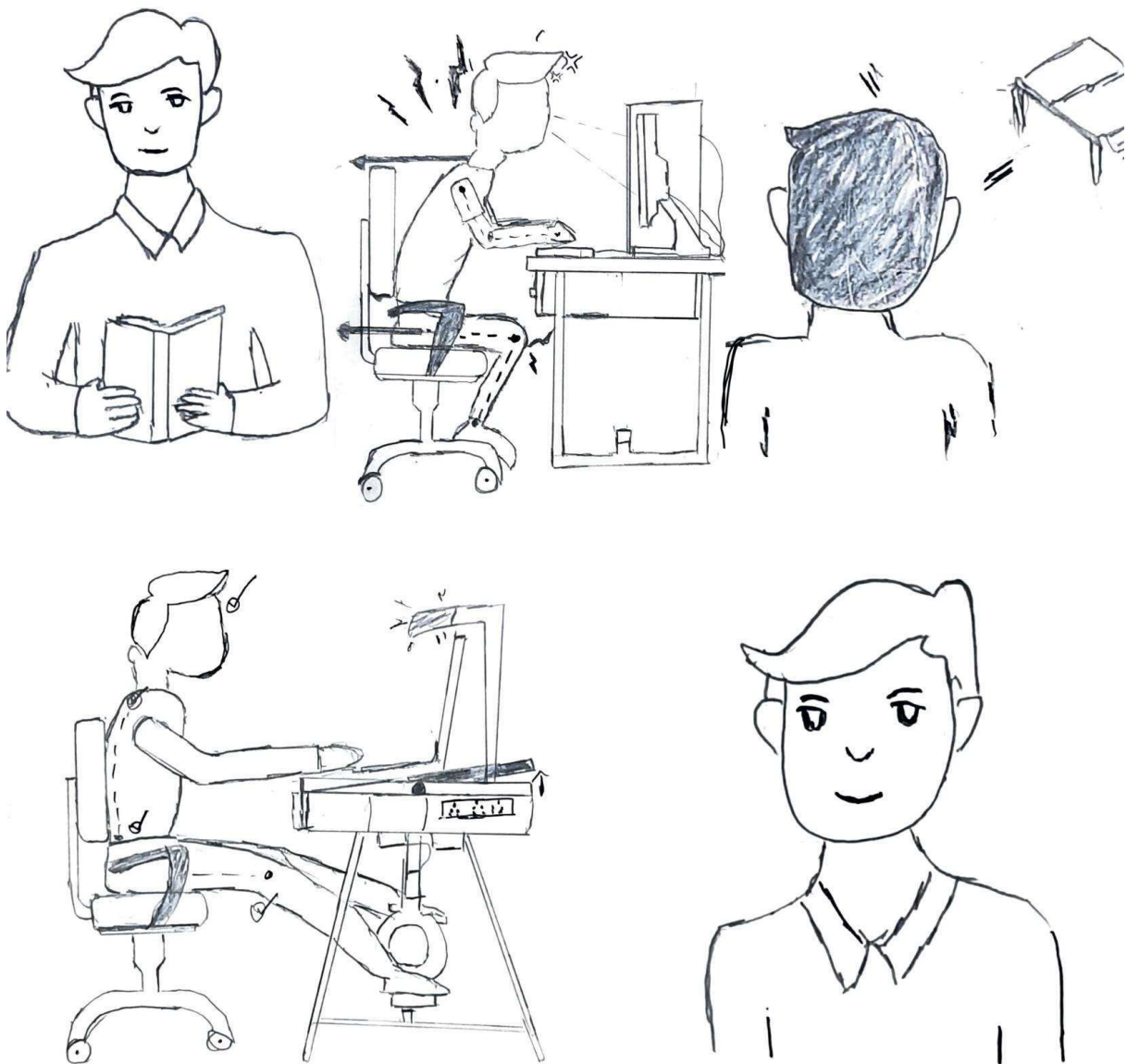

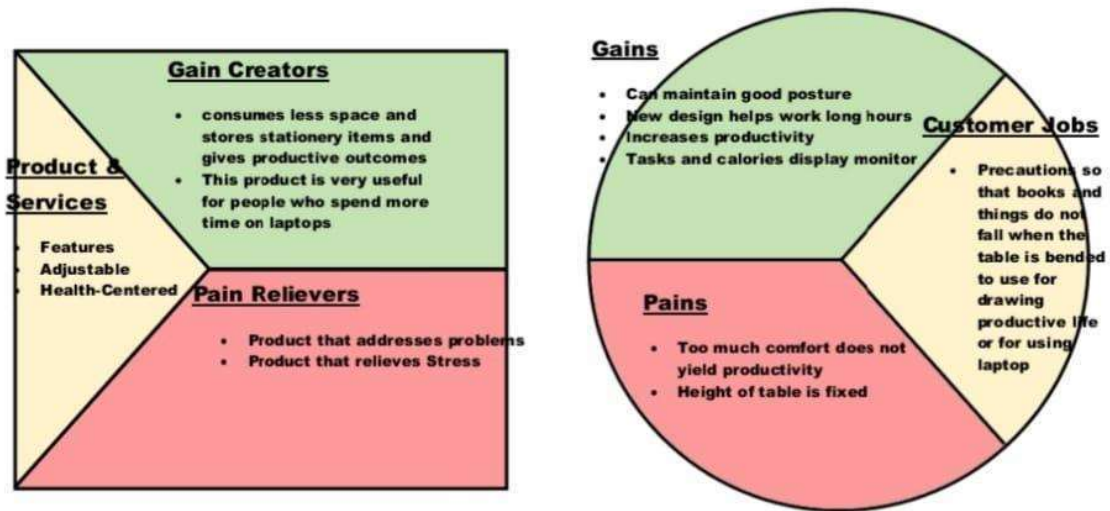**Fig-4.2.2**

FINAL RENDER:

Fig-4.2.3

CHAPTER – 5
USER TESTING

5.1. Idea pitching-story boarding

STORYBOARD

Value Proposition Canvas

Gain Creators

- consumes less space and stores stationery items and gives productive outcomes
- This product is very useful for people who spend more time on laptops

Product & Services

Features
- Adjustable
- Health-Centered

Pain Relievers

- Product that addresses problems
- Product that relieves Stress

Gains

- Can maintain good posture
- New design helps work long hours
- Increases productivity
- Tasks and calories display monitor

Customer Jobs

- Precautions so that books and things do not fall when the table is bended to use for drawing productive life or for using laptop

Pains

- Too much comfort does not yield productivity
- Height of table is fixed

Chapter 6
Conclusion and Future Scope

We here by conclude that the product will be useful for Students, employees by helping to maintain good posture while working on our table and helps with their productivity during long work hours and our adjusts according to their needs and also can save health.