

Product Design Project 1

Reducing complications in existing CPU back wires  
( Design a New Spike Guard with new Placing)

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**IDC**  
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## Acknowledgements

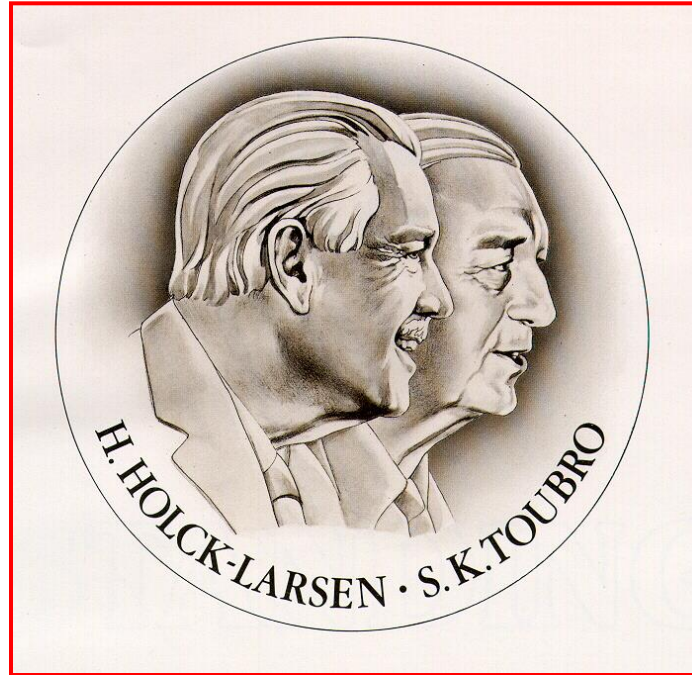
I would like to express my sincere acknowledgements to Mr. Shubhot Shaniyal, manger of SDDC Industrial Department ,L&T.

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Finally thanks to all the different departments of the company for their help and support.

Dipesh Parmar, June'08

# Founders of Larsen & Toubro Limited



Estd. 1938

## Company

Larsen & Toubro Limited ( L&T, mumbai)  
well know company. I'll work my internship in  
Gate no.7. L&T,  
Switchgears Design and Development Centre (SDDC)  
In Industrial Design department.

### Company Product

Air circuit breaker  
Closed circuit breaker  
Orise switch  
Orise regulator  
Orise socket

G2 ( generation second)

Electricity saving sensors

Remote to operate home light and every devise

# Project

Reducing complications in existing CPU back wires

CPU back side no. of cable, like CPU cable, Monitor Cable, CPU and Monitor cable, Speaker cable, Speaker and CPU cable, Scanner and CPU cable, Scanner cable,

NO. of cable present there, to creates lots of complication, Dust, Spider web, Scraps , confusion, safety, ergonomically Problem ( back pain),

In conference room, ever one going to main computer

And give a presentation,

Which types of switch used there according to conference room

## Aim of the project

The aim of the project was to design a new spike guard  
For desktop and conference purpose problem.

In these current scenario, every spike guard and extension  
Box same design Nothing change in these, many year to go  
design and shapes are same,

I'll give a new shape and new dimension also change a  
positioning,

## Design Issues

Area of application

Type of user

Technology

Deviation from current trend

Cost

Family of product

Established/experiment

Form and function

Ergonomic

Dust Problem

Always bend or move Back side

Positioning

## Design Process

This Internship gave me the opportunity to learn the process that is followed in the industry. First we started with the initial research work for the project. Minimum time In how to work complete. And switch position and dimension Should not change. And final product like family of other Product.

## Data Collection

All the types of product search that all are wire convert in one Bunch. But problem is that all wire not going in single direction That problem for me.

No. of wires is there

CPU Power cable

Desktop Power cable

Desktop + CPU connection cable

Printer power cable

Printer + CPU connection cable

Speaker Power cable

Speaker + CPU connection cable

Scanner Power cable

Scanner + CPU connection cable

Internet cable

Mobile charger

## Complication

**Complication :**  
no. of cable is there,  
move in different  
direction . All blue  
cable is power cable  
and all gray cable are  
CPU connected.



## Back pain( Ergonomically Problem)

Back pain : every time move back side and after some time back pain started



## Dust problem

**Dust Problem:**  
every time move back  
side dust and spider  
wed, big problem is  
Cleaning problem



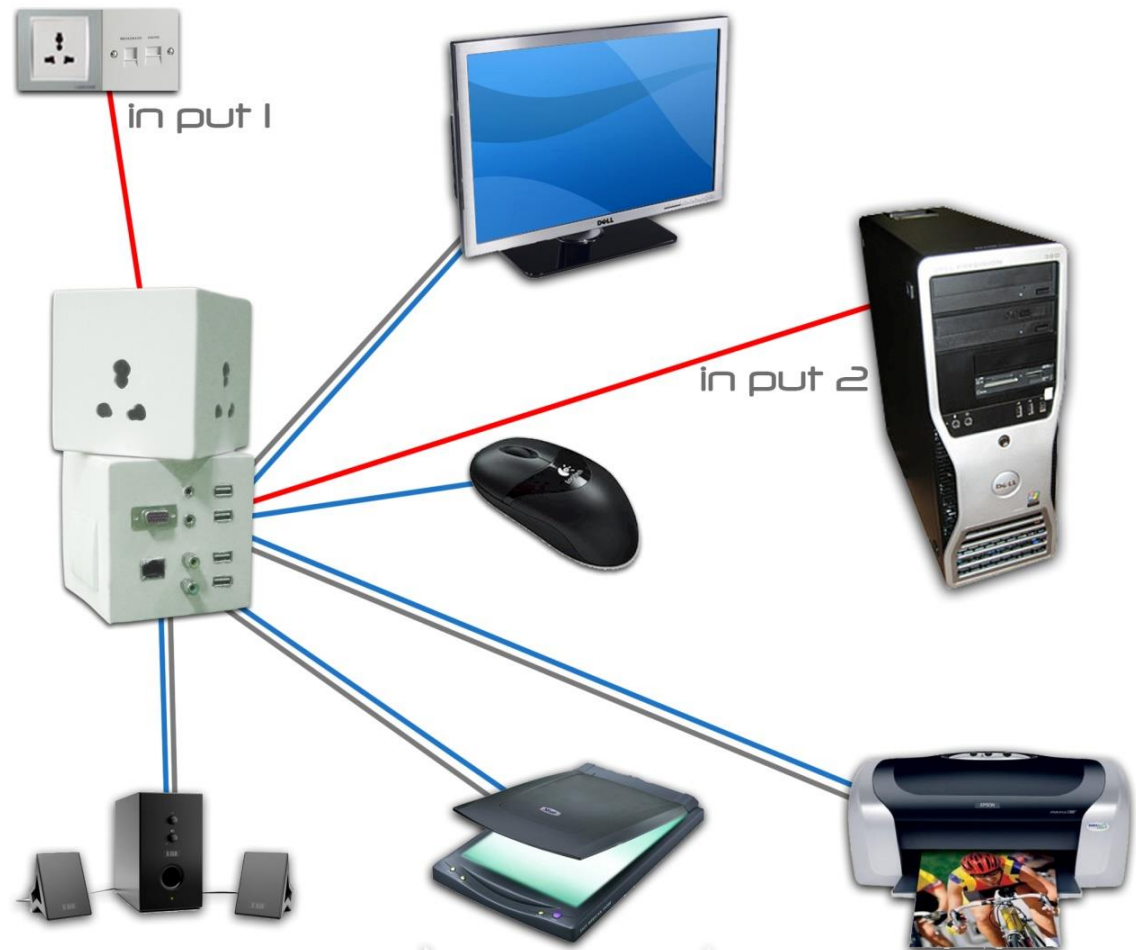
## Placing problem

Placing Problem:  
every time finding a  
place. Is best place.  
Which one is most  
comfortable place to  
easily do



## Problem Solving

**New solution:** 1st input -main power cable and RJ11(internet cable), 2<sup>nd</sup> input- CPU to spike guard.  
Here red line index a input 1 and input 2. and all cable in bunch.  
Computer behind only one wire. And all cable in bunch as a systematic form



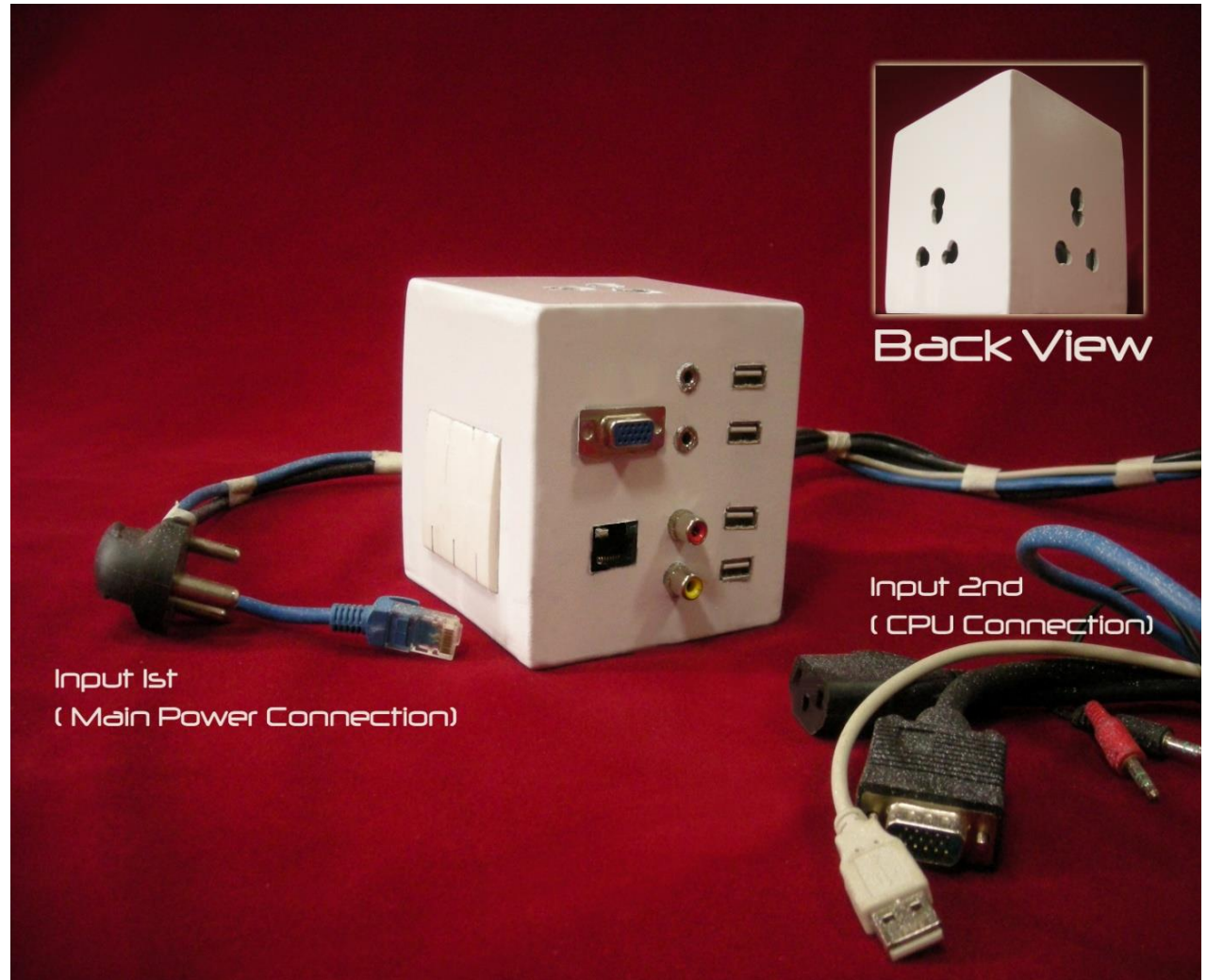
## New Placing

**New Placing:** new spike guard and sit a new place. To easily operated and systematic form in arrange all things



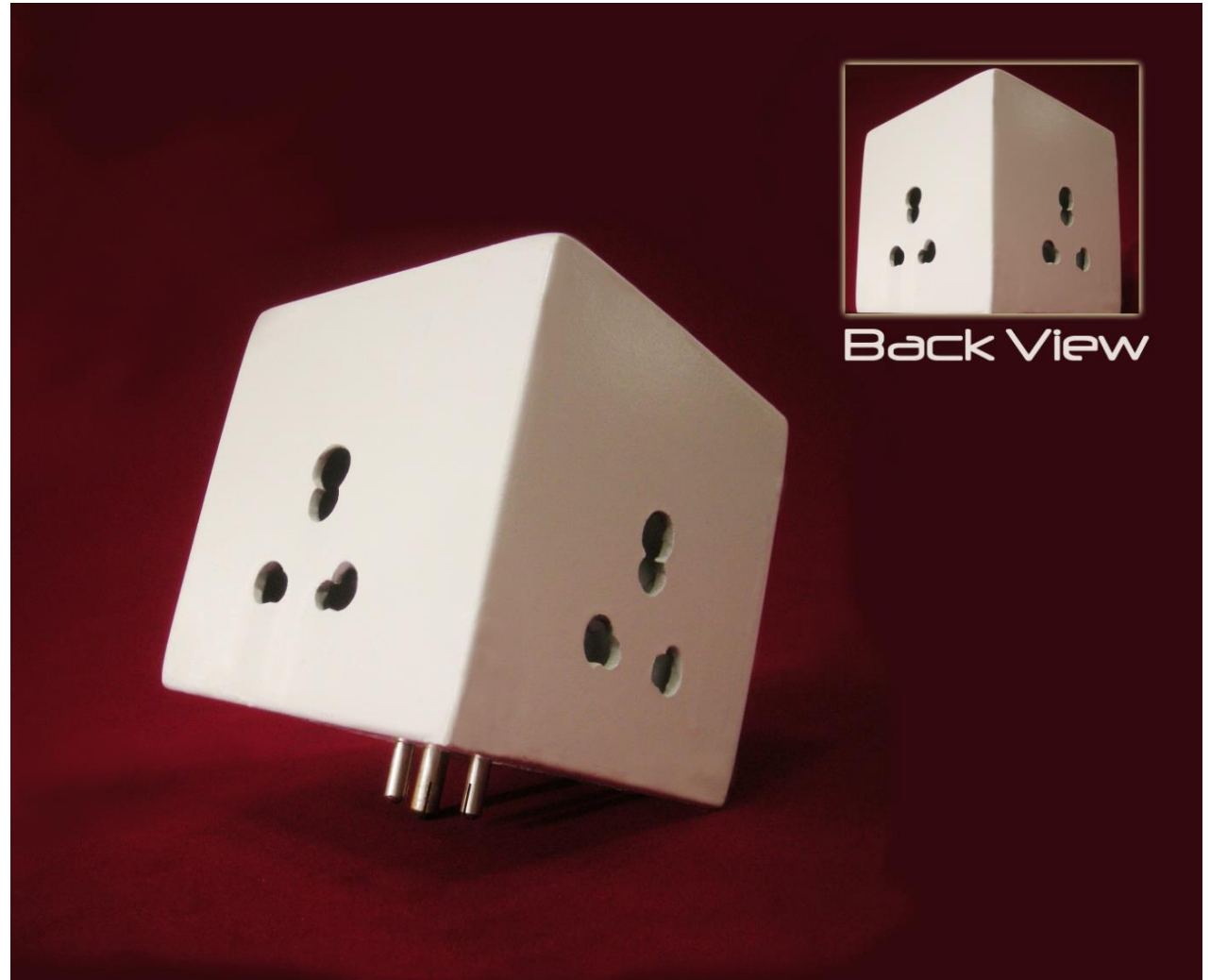
## Mockup model

**Main body:** basic shape is cube and minimalistic design is there to easily acceptable. One face in three switch, three face in socket for using power, and one face in all computer female plugs. USB socket, speakers socket, video socket, internet socket And Display socket for projector



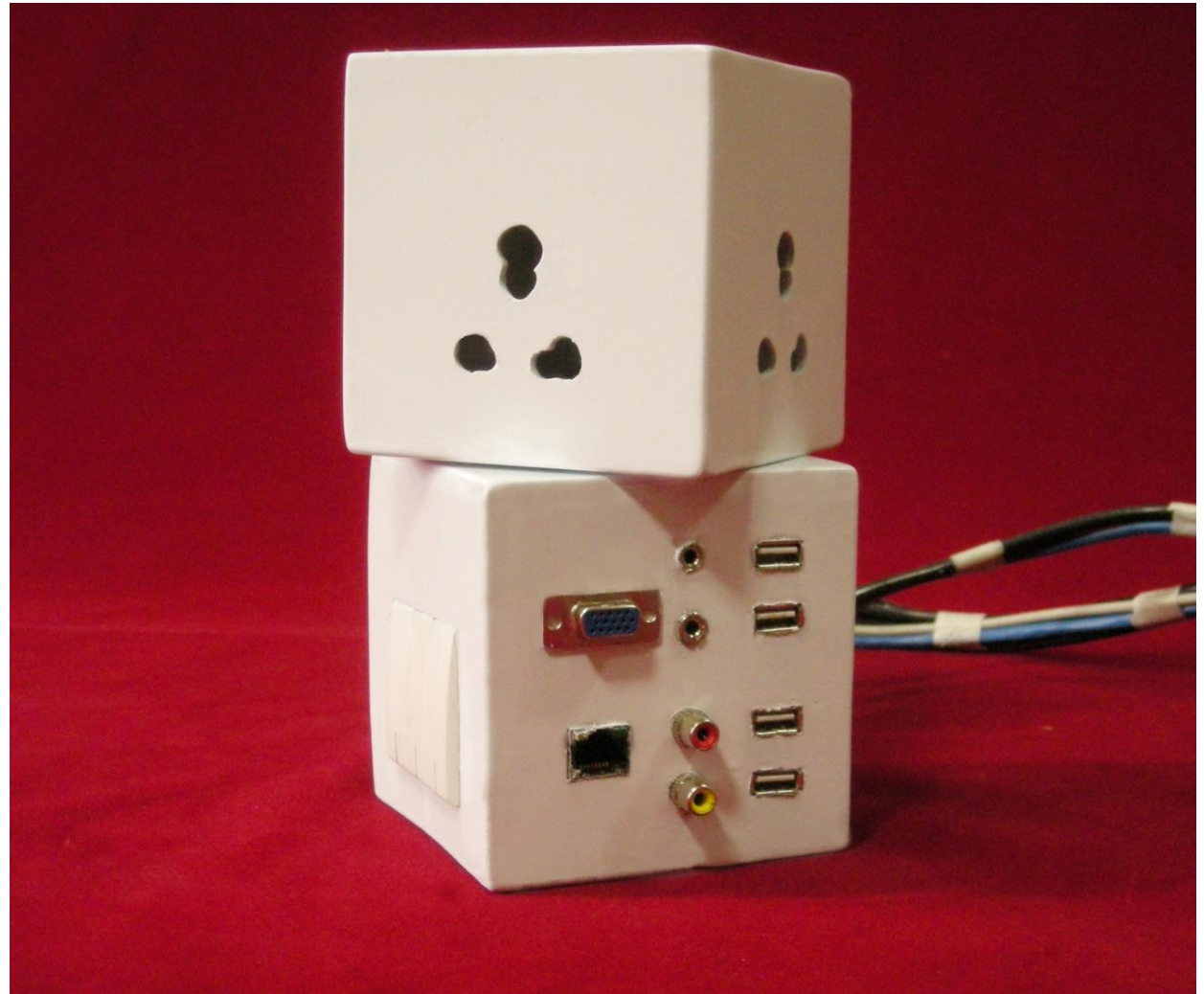
## Mockup model

**Modular:** it given for extra power socket. To used more power distribute



## Mockup model

Assembly : main body and modular part fit in top of the face. is rotted only 45 degree



## 3D Model

3D Model : using  
PRO E software for  
modeling

