



MSMEs  
Design  
Clinic  
Scheme

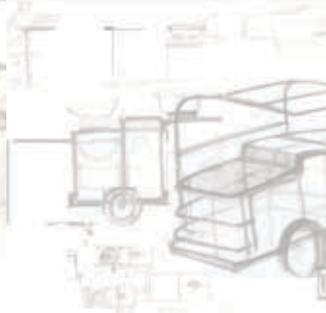
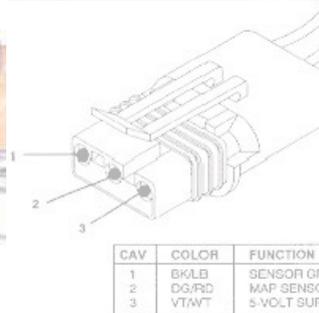
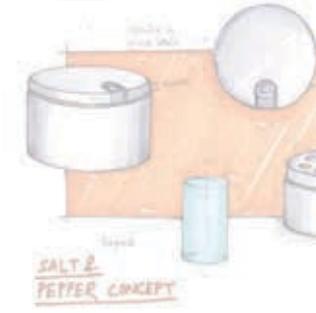
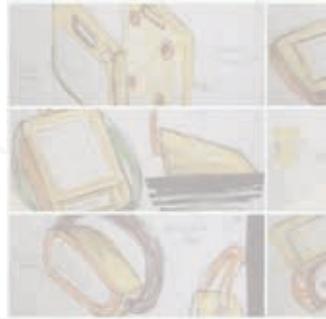
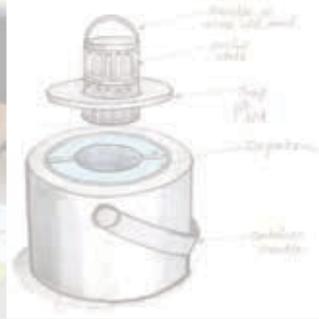
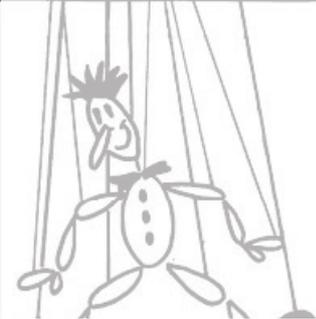
# design blossoms...

Young Designers' Strategic Design Visions for MSMEs

**MSME**  
Micro, Small and Medium Enterprises  
सूक्ष्म, लघु एवं मध्यम उद्यम

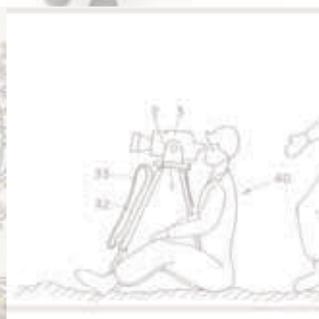
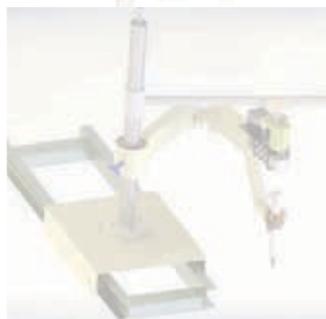


राष्ट्रीय डिज़ाइन संस्थान  
NATIONAL INSTITUTE OF DESIGN



**SALT & PEPPER CONCEPT**

CAV	COLOR	FUNCTION
1	BK/LB	SENSOR OF DO/RD
2	DO/RD	MAP SENSO
3	VT/AVT	5-VOLT SUP



**SHEET HOLDER (2)**



# design blossoms...

Young Designers' Strategic Design Visions for MSMEs

Compilation of 51 Student Design Project Outcomes

(with a DVD containing their Project Reports)

under Design Clinic Scheme for MSMEs

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## Design Clinic Scheme

The Design Clinic Scheme, an initiative of the Ministry of MSME, Government of India under the National Manufacturing Competitiveness Programme, aims to bring the MSME sector and design expertise on to a common platform and provide expert advice and solutions on real time design problems, resulting in continuous improvement and value addition for existing products and services. Design consulting firms, independent design practitioners, and various design institutes of the country and design students as well, assist in the country's vast MSME sector to move up the value chain, through value addition and competitive edge of their products and services. The total outlay of the Scheme is Rs. 73.58 crore, out of which Rs 49.08 crore is offered by the Government of India at various stages of implementation (upto Rs. 60,000 for Design Sensitisation Seminar, Rs 3,00,000 for Need Assessment and Design Clinic Workshop and upto Rs 15,00,000 for Design Projects). The balance amount to be contributed by the benefitting MSMEs. The scheme provides immense opportunity to a large sector of MSMEs (Associations and Units) as well as to the Indian Design fraternity and young designers.



## Message

The Design Clinic Scheme initiative of the Ministry of MSME, Government of India, launched way back in February 2010, offer design expertise to Micro, Small and Medium Enterprises for improving their manufacturing competency. I am happy to note that a large number of upcoming young designers who pursue design related studies in their final year, are showing considerable interest in understanding and finding design solutions for the micro, small and medium sectors. As of now, under the Design Clinic Scheme, over 90 student design projects specifically aimed at design intervention for the MSMEs have been registered out of which 66 have been completed.

This coffee table booklet gives a glimpse of the design awareness generated among MSMEs and contributions of the young designers to these vital sectors. I look forward to more and more MSMEs and young designers will come forward for design intervention to improve quality of products.

**Madhav Lal, I.A.S.**

Secretary

Ministry of Micro, Small and Medium Enterprises

Government of India



## Message

One of the important components of the Design Clinic Scheme being implemented across the country by the Office of the DC MSME, is Student Design Projects which encourage young design minds to study design problems of MSMEs and bring out innovative design solutions to improve manufacturing competency.

It is indeed a pleasure to see that 66 student design projects have been completed touching upon the design related problems of a variety of micro, small and medium sectors. This is reflected in this Coffee table booklet. We look forward to continued interaction between young designers and MSMEs for more and more good designed products in the market.

### **Amarendra Sinha, I.A.S**

Additional Secretary & Development Commissioner  
Ministry of Micro, Small and Medium Enterprises  
Government of India



## Foreword

The micro, small, and medium sectors of the industry give ample opportunities for us Designers for design intervention. The vast reach of multiplicity of clusters, variety of design issues, and social and economical relevance of the sectors are quite inviting to the Designers to be actively involved in developing innovative design solutions relevant to the sector.

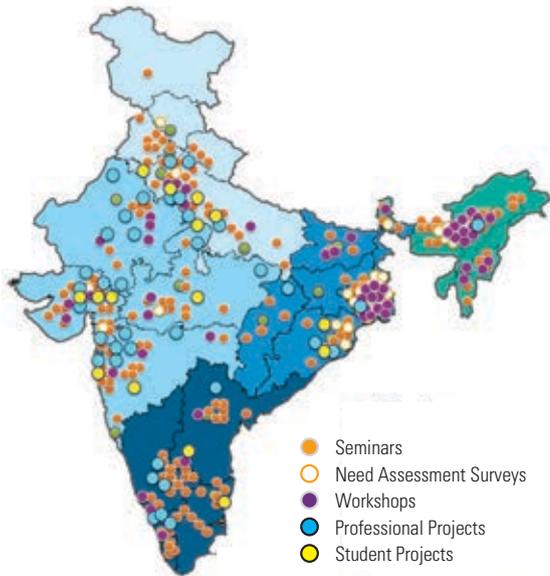
Along with the main stream design professionals, our young graduating designers are showing interest to be associated with the design problems of the MSMEs. It is indeed heartening to see that over 90 young designers have already registered their thesis projects relevant to MSMEs out of which 66 have already submitted design solutions in the form of their diploma project. Many of these design solutions are note-worthy and would certainly encourage other MSMEs to go for design intervention in their process and products. This coffee table booklet gives relevant extract of student design projects already completed and signals to the upcoming young designers of the vast design opportunities among the MSMEs.

With best wishes,

**Pradyumna Vyas**

Chairman, PIC

Director, National Institute of Design



## DCS: Overview & Statistical Status

It is indeed gratifying to note that a large number of upcoming young designers who pursue design related studies in their final year, are showing considerable interest in understanding and finding design solutions for the micro, small and medium sectors. As of now, under the Design Clinic Scheme, over 90 student design projects specifically aimed at design intervention for the MSMEs have been registered out of which 66 have been completed and remaining are under various stages of completion. 52 Academic Institutions (engineering/technology/design related studies) have registered with the Scheme and are showing active interest in promoting student design projects. The brief the statistical data given below highlights the significance of this initiative.

This coffee table booklet gives a glimpse of the design awareness generated among MSMEs and contributions of the young designers to these vital sectors and show enthusiasm of these youngsters who preferred to address the design demands of the micro, small, and medium enterprises. It is felt that these young designers would continue to patronage the design needs of this vital sector in the later part of their career.

### Student Project Status

Status	West	North	South	East	North-East	Total
Approved	12	41	36	7	2	98
Rejected	2	9	45	3	1	60
Under Review	1	1	4	0	0	6
Total Received	15	51	85	10	3	164



Industrial Sector :

● Metalware.....	01
● Health, Safety & Security.....	02
● Elect. Equipment.....	05
● Engg. & Fabrication.....	09
● Agricultural Equipment.....	14
● Auto. Components.....	15
● Toy.....	21
● Ceramics & Glass.....	30
● Furniture.....	35
● Handicraft.....	41
● Machinery.....	44
● Garments.....	51



1

## Design of Electric Chimney and Solar LED Street Light to Drive The Economy of 'Reuse'

**MSME Unit** : Epsilon Engineering Pvt. Ltd.,  
Gandhinagar

**Student Designer** : Anand Karelia & Nitish Maurya

**Design Institute** : National Institute of Design,  
Ahmedabad

**Project Guide** : Vipul Vinzuda

*The project is aimed at developing a product or product range by utilizing the metal scrap generated in the manufacturing process at the factory unit of company. The objective is to generate a new business opportunity for the company in the current retail market, using company's in house production units and without investing in new machineries.*

### Salient Features :

- New design of kitchen chimney as per Indian customers need.
- New design of solar lamp for streets keeping in mind lighting, maintenance, service and safety.



## Water Storage Cum Filtration Kit for Temporary Stay Scenario In India

**MSME Unit :** PLANiN Inno. & Consultancy Services (P) Ltd

**Student Designer :** Gulmohar khan

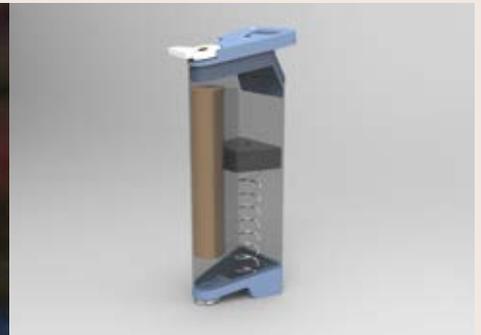
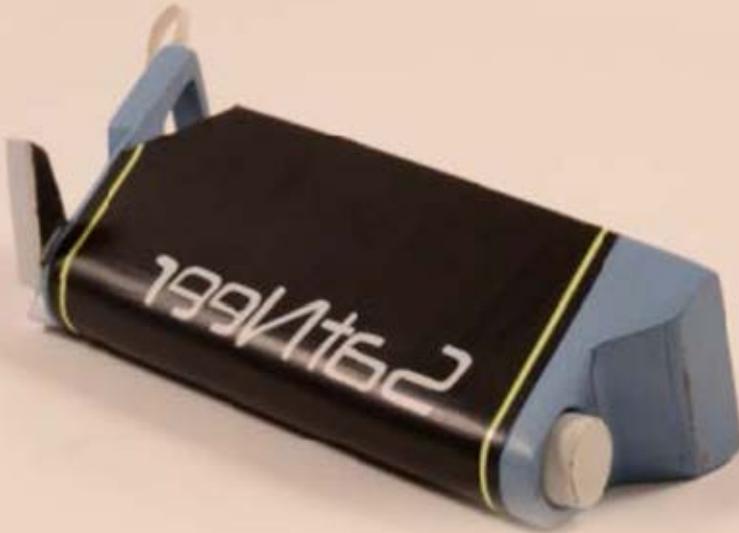
**Design Institute :** Indian Institute of Technology, Delhi

**Project Guide :** Sumeer Singh

*This project is an attempt to look into the bigger picture that lies within the system associated with water and various other factors which indirectly affect the consumption of safe water and perception of people about it.*

### Salient Features :

- A membrane based filter that is capable of removing small particulates and pathogens
- The inclined yet stable position gives the product stability while being filled
- A simple and beautiful design developed for single-hand use.
- Assures the user group safe drinking water, and the ease with which one can achieve that.



## Portable Vaccine Cooler for Last Mile Connectivity in Cold Chain

**Student Designer :** Ashutosh Biltharia

**Design Institute :** National Institute of Design, Ahmedabad

**Project Guide :** Gourab Kar

*"My project required me to study critical issues which occur during the storage and transportation of vaccines and to propose a solution which will address all such problems without affecting the optimal potency of vaccines."*

### Salient Features :

- A portable vaccine cooler for the rural application
- Robust, rugged, friendly and simple design
- Reduced size and weight of the vaccine carrier without affecting its cooling.
- Easy to fit yet secure and tight lid
- Effective vial accessing arrangement.
- Designed for easy single-handed operation



## Design and Development of Two Wheeler Medical First Aid Vehicle for India

**Student Designer :** V. Sakthivel

**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** C Gopinath, Sudhindra Kumar

*The motorcycle ambulance would be able to respond to a medical emergency much faster than a car or van in heavy traffic, which can increase survival rates for patients suffering from cardiac ailments. The scope of the project is to treat the victims of an accident in the golden hour and to save their life.*

### Salient Features :

- Two wheeler ambulance with required medicines and equipment. Can reach to difficult streets and terrains.
- Faster and smoother access to accident place.
- Portable kit for life saving equipments.
- Foldable medicine kit can be carried by hand.
- Acceptable weight to be carried on shoulders.



## Design of a Universal Device for Currency Recharging of Cell Phones for Retailers in India

**Student Designer :** Shiju Andrews

**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** Supradip Das, Prakash Unakal

*The aim of the project is to design a universal device for currency recharging of cell phones for retailers in India considering aesthetics, usability and ergonomics.*

### Salient Features :

- Touch screen interface
- Multi tab facility transactions from a single device.
- Printer generated recharge coupons, recharge summary & receipts. Recharge scratch cards eliminated.
- Wireless receiver operated through inbuilt modems to connect to service providers.
- Large capacity Lithium ion battery Device for longer time with battery.



## Design and Development of an Electric Bicycle for Indian Teenagers

**Student Designer :** Mohamed Rafi S.

**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** Divya Darshan, Supradip Das

*This project is an attempt to design an electric bicycle for Indian teenagers focusing on usability, ergonomics and aesthetics in order to solve the existing problem of lack of power in bicycle by incorporating electric motors and controllers into it.*

### Salient Features :

- Better Controls, handle grip and comfortable Saddle,
- Attractive, Stylish, Eye catching
- Durable, Strong and standardized products
- Reduced weight - 40 kg as compared to 50 Kg in other models.
- Speed 20 – 30 Km/hr with distance up to 20 – 25 Kms in single charge.



## Design of a Communication Device for Persons with Speech and Language Impairment

**Student Designer :** Sreeprasad K

**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** M.N. Sudhindra Kumar, Divya Darshan

*Speech is considered as the fastest way of communicating with others. Hence, the need for an effective communication aid for persons who have speech & language impairments, thereby making them self confident and active in the society.*

### **Salient Features :**

- Compact and simple design with user friendly product features
- Multi utility, Self balanced Ergonomic design.



## Toilet Flush Design Change

**Student Designer :** Prakhar Pandey

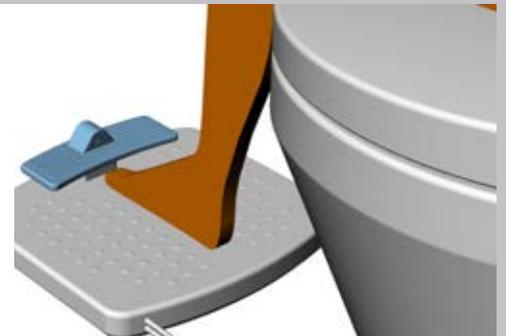
**Design Institute :** Institute of Technology and Management University, Gurgaon

**Project Guide :** Ashwini Sharma

*The aim of the project is to design and fabricate a Toilet flush system which reduces the wastage of water during the liquid waste flushing, along with improving the hygiene during flushing practice.*

### Salient Features :

- A Toilet flush system that reduces the wastage of water during the liquid waste flushing
- Improves hygiene during flushing practice
- The paddle adjustment can be configured as per requirement.
- Compatible for both English as well as Indian seats



## To Design a Device for Recycling of Grey Water

**Student Designer :** Aakanksha Kulkarni

**Design Institute :** School of Planning and Architecture, New Delhi

**Project Guide :** Manoj Mathur, Abid Bilal, Naveen Rampal, Vinod Gupta

*The project aims to design a device for filtering and re-using grey water from the kitchen sink.*

### Salient Features :

- A pre-built grey water recycling system which can be taken off the shelf and installed.
- Helps reduce the nutrient load from the waste water discharges into waterways, thereby reduce and prevent pollution.
- Slow sand filter as pre filter along with reverse osmosis technology to provide clear water as well as to reduce dissolved solids.



## Display/Storage and Portable System for Weekly Market Vendors

**Student Designer :** Jayasree KG

**Design Institute :** School of Planning and Architecture, New Delhi

**Project Guide :** Manoj Mathur, Abid Bilal, Naveen Rampal, Vinod Gupta

*Even though weekly markets have its very long history, and had been subjected to considerable changes in course of time with the advent of technology and demands, we can find that there is immense scope in considering this as a design intervention area.*

### Salient Features :

- Minimizes the efforts in terms of time/energy of setting up the stall
- Avoids shifting of the containers/ cooking apparatus from their personal vehicles to the table.
- Better aesthetics
- Cost effective design solution.



## Multi-Utility Load Trotter

**Student Designer :** Dhruvay Jain

**Design Institute :** Institute of Technology and Management University, Gurgaon

**Project Guide :** Vinkel Arora

*The project is aimed at improving the overall healthiness of the laborers, making them less prone to fatigue and reducing the chances of accidents at work sites.*

### Salient Features :

- The device efficiently divides the load carried by the laborers on head onto the shoulders.
- All parts are detachable and thus provide multiple usage.
- Easy to put and effectively reduces the load on the user
- Morphs into a regular trolley as well as a long bed trolley for load carrying purposes
- Light in weight and low cost



## Food Service for Indian Railways

**Student Designer :** Subhomoy Halder

**Design Institute :** School of Planning and Architecture, New Delhi

**Project Guide :** Manoj Mathur, Abid Bilal, Naveen Rampal, Vinod Gupta

*The rail food service being the largest food service, has many steps involved and in every step of service there are many people involved. The project explores the scope to enhance this service to make it a good and a memorable experience for the passengers.*

### Salient Features :

- Service trolley to help serve food in systematic manner
- Light weight, stackable, strong and stable trolley to help easy transport of food trays.
- Simplified food box to avoid time consuming process of setting up of food in trays and serving them.
- Areca leaf plate are strong, biodegradable and can be placed one on other.



## Design of a Kiosk for Emission Testing for Vehicles

**Student Designer :** Binoy Mohan A V

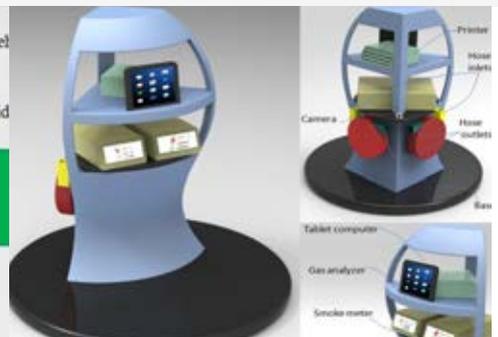
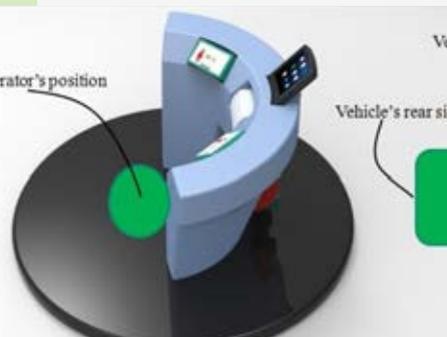
**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** Lohit H. S., C. Gopinath

*Automobile pollution is a major environmental issue faced by the people all over the world. Aim of this project is to improve the existing emission testing system by designing it as a Kiosk considering ergonomics, cost, usability and aesthetics.*

### Salient Features :

- A compact device for vehicle emission testing named as Emission Testing Kiosk.
- The portability of the Kiosk assists the operator to relocate easily.
- The tablet computer improves the user interface and also reduces the space.
- Adequate storage facility.



## Rice Planter Machine to Transplant Seedlings of Rice in Paddy Field

**MSME Unit :** M/s Preet Agriculture, Mansa

**Student Designer :** Gagandeep Singh

**Design Institute :** Chitkara Institute of Engineering and Technology, Chandigarh

**Project Guide :** Dr. V. Vasu

*Machine transplanting using rice transplanters requires considerably less time and labour than manual transplanting. It increases the approximate area that a person can plant from 700 to 10,000 square metres per day. The project aims to develop an efficient machinery to replace manual plantation.*

### Salient Features :

- Prevent back-problems in field workers
- Extremely low-cost and Easily transportable
- Simple and rugged
- Can be repaired using local material
- Usable in a variety of terrains



## Universal Detachable Accessory for Bikes

**Student Designer :** Gaurav Jodhani

**Design Institute :** Institute of Technology and Management University, Gurgaon

**Project Guide :** Ashwini Sharma

*The Project aims to design a detachable accessory for two wheelers, which allows switching over to a covered bike whenever required.*

### Salient Features :

- Provides protection against odd weather conditions at the lowest possible cost.
- An universal accessory for most of the bike models available in the Indian market
- Easy to Dismantle
- Light weight
- A side covering mechanism for controlling the bike at high speeds as it deflects the side winds



## Design and Development of Device to Indicate Level Clogging of Air Filters

**Student Designer :** S.Uppili

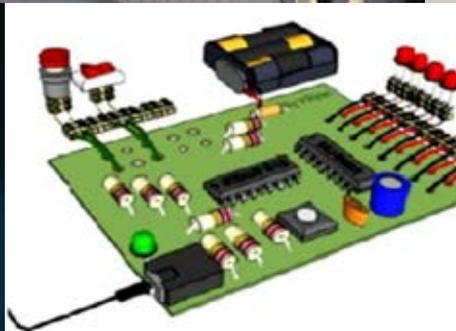
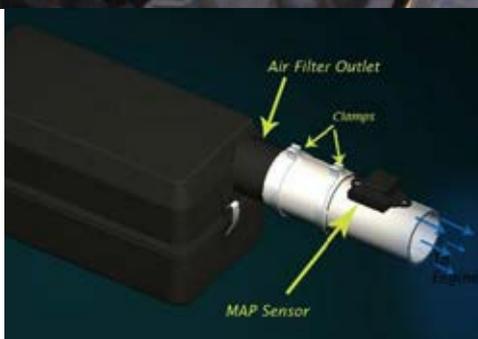
**Design Institute :** Vel tech Dr. RR & Dr. SR  
Technical University, Chennai

**Project Guide :** G.Sivakumar

*The project is aimed at developing an indicating device to monitor the clogging level in Air filters. Whenever the air filter reaches warning levels, the driver will get a clue to clean or replace the air filter through this instrument, avoiding sudden stoppages and lower performance levels.*

### Salient Features :

- Whenever the air filter reaches warning levels, the driver will get a clue to clean or replace the air filter, thereby avoiding sudden stoppages and lower performance levels.
- A manifold absolute pressure sensor used to continuously check the quality of the intake air just at the inlet manifold.



## Design of Remotely Piloted Aircraft for Collecting Aero Biological Samples

**Student Designer :** Bhushan Gosavi

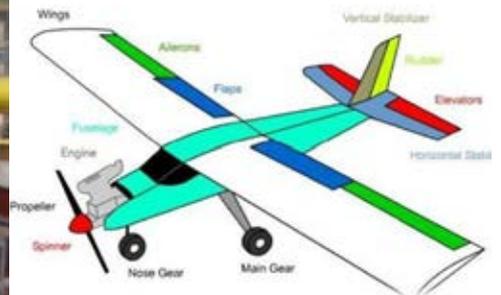
**Design Institute :** Vel tech Dr. RR & Dr. SR  
Technical University, Chennai

**Project Guide :** R.Vasanthraj

*The Project deals with Design, Analysis & Assembly of a Remotely Piloted Aircraft (RPA) fitted with a suitable Bio Sampler. It is designed to fly specific patterns and collect aero biological samples at an altitude of interest.*

### Salient Features :

- Designed to fly specific patterns and collect aerobiological samples at an altitude of interest.
- The aircraft flown by a ground pilot at a desired altitude & samples are collected.
- Electric propulsion system avoids polluting the samples.
- The Camera installed on the aircraft to determine the population that may be affected by the biota.



## Efficient Cycle Rickshaw

**Student Designer :** Akhil Raveendran

**Design Institute :** School of Planning and Architecture, New Delhi

**Project Guide :** Manoj Mathur, Abid Bilal, Naveen Rampal, Vinod Gupta

*The final product is based on the idea that maximum of the existing components be shared for the new design.*

### Salient Features :

- A new rickshaw that uses the existing rickshaw frame and components.
- Extra wide seats for two people to sit; possible for third person also.
- Load carrier on top for the extra load.
- Personal belongings of the puller can be put in the area provided below the seat.
- The frame goes from the roof top over the head of the puller to provide shade.
- Step to aid in getting in and off the rickshaw.



## Design and Fabrication of Battery Operated Vehicle for Differently Abled Persons

**MSME Unit :** Sun orthotics and Prosthetics Centre  
No-5, Sriram Nagar ,First Main Road ,Porur, Chennai

**Student Designer :** Rajan Prabakaran

**Design Institute :** College Of Engineering, Guindy  
Campus, Anna University, Chennai

**Project Guide :** Dr. K. Malar Mohan

*The primary objective of this project is to develop a sophisticated vehicle for differently abled people especially for people without legs, to travel and work in the factory premises.*

### Salient Features :

- Provides a suitable mode of self transportation for the differently abled persons.
- Vehicle powered by both hand cranking and electric motor.
- Battery charging enabled by provision of inbuilt charger as a plug in model.
- Breaking operation is done by both disc brake for front wheel and drum brake for rear wheels.



## Transportation Device for Porters in Mandi

**Student Designer :** Varun Kakkara

**Design Institute :** School of Planning and Architecture, New Delhi

**Project Guide :** Manoj Mathur, Prof. Vinod Gupta, Naveen Rampal, Kriti Gera

*An assistive device for the porters to transport different goods in different packages inside the mandi in a better way.*

### Salient Features :

- Reduces the efforts to transport heavy goods in different terrains.
- Economical and easily accessible solution
- The device can also be used as trolley



## Language and Literacy Learning Kit

**MSME Unit :** Creative Educational Aids Pvt. Ltd.,  
Greater Noida

**Student Designer :** Ashish Kumar

**Design Institute :** National Institute of Design,  
Ahmedabad

**Project Guide :** Gayatri Menon

*The project aimed at designing a language kit for age group 3 to 6. The project outcome developed was a range of educational toys and teaching aids for preschooler's language learning.*

### Salient Features :

- Improves learning ability of children.
- Help recognize, correlate letters, practice writing both forms of letters.
- Help in early reading skills
- Enhance vocabulary, visual discrimination skills
- Learn words that rhyme,
- Learn words that are opposites



## To Design a Storytelling Kit for Preschoolers using Soft Material

**MSME Unit :** Smart Playthings Pvt. Ltd., Vadodara

**Student Designer :** Purvee Jain

**Design Institute :** National Institute of Design, Ahmedabad

**Project Guide :** Gayatri Menon

*The project was directed towards developing an educational aid for preschoolers, having a play value to it.*

### Salient Features :

- Develops creative thinking, storytelling, sequencing skills among children
- Teaches habitat of animals and their skin pattern
- Introduce the concept of color, size and proportion
- Create stories involving animals
- Makes learning fun for children



## EARTHSONG - Wooden toys from Baktawng, Mizoram.

**Student Designer :** Parag Sarma

**Design Institute :** National Institute of Design, Ahmedabad

**Project Guide :** Gayatri Menon

*Design a range of 8 to 10 toys/children's play accessories targeted to urban market, utilizing the available skills and infrastructure with the crafts persons. The project thus aims to provide this craft a strong identity while creating a value for customers.*

### Salient Features :

- New range of products in wooden toys segment.
- Empowering artisans with new direction and techniques.
- Simpler, time saving and cost effective manufacturing process.
- Produced with the existing skill levels and infrastructure.
- Contemporary style with hints of its traditional roots.



## Playful Child Furnishing Kit for Kids Age Group 2-6 Years

**MSME Unit :** Eulex India Pvt. Ltd, Greater Noida

**Student Designer :** Vikas Gupta

**Design Institute :** National Institute of Design,  
Ahmedabad

**Project Guide :** Gayatri Menon

*The project aimed to develop a playful child furnishing (bed cover, cushion pillow) kit for children keeping in mind the present scenario and targeted users.*

### Salient Features :

- Soft toys used as a decorative elements
- Playful products more interactive for the children.
- Child friendly interactive product in child furnishing product segment



## Logical Playthinks

**MSME Unit :** Pegasus International, Mumbai

**Student Designer :** Ketki Paritosh Deshpande

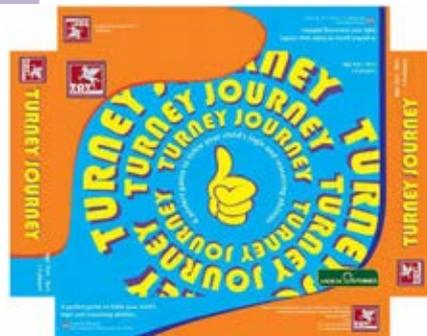
**Design Institute :** National Institute of Design,  
Ahmedabad

**Project Guide :** Gayatri Menon

*To develop educational aids to sharpen the child's logical and reasoning abilities for the age-group 3 and above through basic puzzles, board games, storytelling, painting, etc.*

### Salient Features :

- Games designed to induce the child to think beyond.
- Plastic components molded from existing dies.
- Compliance with domestic and international safety and quality standards.



## KhelManthan: Design & Development of Playful, Innovative Products with Local Skills & Co-Operation

**MSME Unit :** Satpura Integrated Rural Development Institution (SIRDI), Bhopal

**Student Designer :** Surabhi Khanna

**Design Institute :** National Institute of Design, Ahmedabad

**Project Guide :** Shekhar Bhattacharya

*The project is an attempt to utilize the hand skills of people for developing a new product range, so as to help cottage industry and the organization engaged in the economic and social development of local people.*

### Salient Features :

- Designed to promote collaborative play between children and adults.
- Develops fine and gross motor skills in children.
- The play kit developed using the finer craft skills that can be learnt easily.



## Educational Toy for Preschool Children

**MSME Unit :** Playgro Toys India Pvt. Ltd, New Delhi

**Student Designer :** Aditi Parikh

**Design Institute :** School of Planning and Architecture, New Delhi

**Project Guide :** Naveen Rampal, Abid Billal, Kriti Gera

*An educational toy that would provide a quality play value to the children of age group 3 – 7. The toy would allow children to interact and experiment with it and thereby help in mental and physical development of child during their early years of learning.*

### Salient Features :

- Helps enhance imaginative ability through abstract formations.
- Children can make various formations like objects, patterns, furniture, animals, birds, etc. by connecting them.
- Helps development of gross and fine motor skills and give them idea of joinery and mechanism.



## Integrated Play System

**Student Designer :** Richi Mohanty

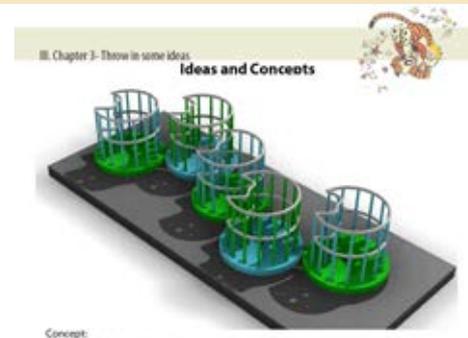
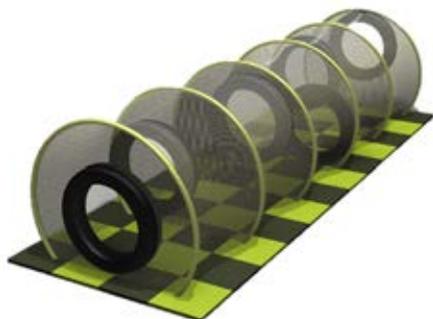
**Design Institute :** School of Planning and Architecture, New Delhi

**Project Guide :** Manoj Mathur, Abid Bilal, Naveen Rampal, Vinod Gupta

*To design an Indoor Intergrated Play System for children of age group 6 to 12 years to be installed in semi-public spaces such as malls, market places etc. which comprises of multiple games to keep a child occupied for hours.*

### Salient Features :

- Tunnel escape creates a structure in rows so that children may race through it using crawling, bending and tunneling technique which requires motor skill development.
- The tunnel escape is a modular structure that can be rearranged as per the space available.
- Tyres used extensively as reused material.



## Educational Toy

**Student Designer :** Rizma P

**Design Institute :** School of Planning and Architecture, New Delhi

**Project Guide :** Manoj Mathur, Abid Bilal, Naveen Rampal, Vinod Gupta

*Kids of 3-4 year are creative and tend to relate their creations with original things. They are more interested in role play. They create their own play house by arranging furniture or other things around them. This in turn accelerates their cognitive development and imaginative skills.*

### Salient Features :

- An outdoor educational play station with focus on the motor skill development of children of 3-6 age group
- HDPE in sheet form does not require mould hence reduces the capital cost to a greater extent
- Durable and recyclable material.
- Gives option to make different spaces.



## Handmade Ceramic Jewelry Design

**MSME Unit :** Ochre Ceramics & Pottery, Anand

**Student Designer :** Diya Kalia

**Design Institute :** National Institute of Design, Ahmedabad

**Project Guide :** Neelima Hasija

*The project aims to design range of jewelry for high-end market. The new collection should be able to justify ceramic as a material by exploring its immense possibilities.*

### Salient Features :

- New range of accessories keeping contemporary needs in mind.
- Range of jewellery for high end market
- Branding of design collection includes - tags, literature, packaging, and website or portfolio.
- Ceramic used as a unique ornamental material.



## Developing Microwave Friendly Terracotta and a New Visual Identity

**Student Designer :** Rajish.K.Ravindran

**Design Institute :** National Institute of Fashion Technology, NIFT, New Delhi

**Project Guide :** Varsha Gupta

*The project explores the feasibility of traditional terracotta vessels to make them microwave friendly and to understand the scope of further product development*

### **Salient Features :**

- A product line of earthen ware pots to suit the changing life styles and changing requirements of people.
- A congruent clay body developed for making microwave friendly terracotta ware.
- To help terracotta artisans update their basic skill set with new level of product line for the new age life and technological up gradations.



## Handmade Modular Mural Tiles for Walls

**MSME Unit :** ADIPA, Pune

**Student Designer :** Darshana Dilip Rokde

**Design Institute :** National Institute of Design, Ahmedabad

**Project Guide :** Swasti Singh Ghai

*"..the brief was to extend the existing range of modular handmade tiles in form of Murals in Ceramics for emoting moods in spaces, both in interior and exterior for different spaces."*

### Salient Features :

- Offers interactive design solutions in DIY (do it yourself) mode, inviting the user to choose, explore and individualize their own spaces.
- Provides new ideas for fast and finished products.
- The products handmade by local artisans, making it comfortable for them to reproduce these products.



## Iridescent India; Home Decor Products in Stone Ware

**MSME Unit :** WINDGLAZE, Tamil nadu

**Student Designer :** Deepak Vishwakarma

**Design Institute :** National Institute of Design, Ahmedabad

**Project Guide :** Gayatri Menon, Neelima Hasija

*I proposed that using indigenous materials and skills along with our aesthetics will create a unique product range that can be utilitarian without compromising the décor value of a well designed product.*

### Salient Features :

- A commercially viable range of home décor collection for the given clientele.
- A product range that is beautiful, unique and utilitarian.
- Small and Handy products
- Easy to install
- Available in many colors
- Cleaning Friendly
- For gifting or for own house



## Design a Range of Lifestyle Products for the Interior Spaces with Bamboo

**Student Designer :** Akanksha Mukerjee

**Design Institute :** Srishti School of Art, Design and Technology, Bangalore

**Project Guide :** Deepta Sateesh, Rajesh Dangoria, Manas Ranjan Mishra

*To design a lifestyle product with Bamboo as the predominant material that will be suitable in a contemporary Indian upper middle class home. A subtext in the agenda is to promote Bamboo as a material of the future.*

### Salient Features :

- Promotes Bamboo as a material of the future.
- Durable, usable with soft furnishings, easy to move, easy to clean
- A functional, affordable, innovative and aesthetically pleasing product.



## Design of Innovative Shoe Rack with Seating

**Student Designer :** Pradeep Aithal

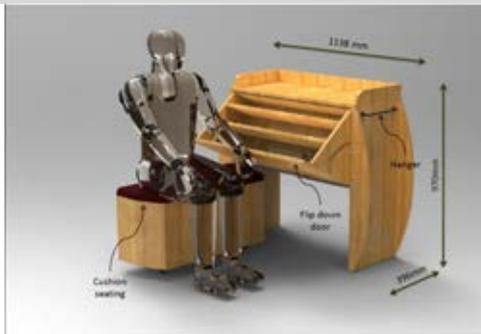
**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** Prakash V. Unakal, C. Gopinath

*The project aims to design innovative shoe rack with seating by improved usability, space utilization, ergonomics and cost.*

### Salient Features :

- Sophisticated, ready to assemble knock down system.
- Number of racks, shoe size, handling etc. taken care.
- Flip-down storage for shoes with adjustable racks, sliding door cabinet,
- Ample storage space, swivel seat with storage space,
- Built in leg rest, hanger for umbrella,
- Ambient air circulation.



## Design of a Portable Modular Kitchen Unit

**Student Designer :** Saleem Hongal

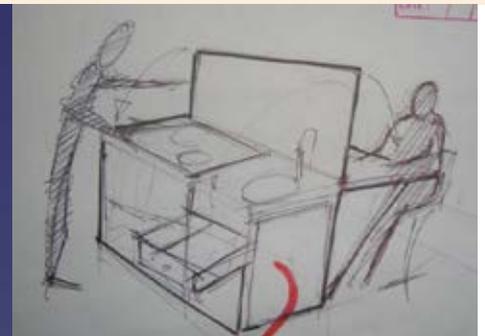
**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** M.N. Sudhindra Kumar, Divya Darshan

*The delight of cooking gets multiplied if you have an aesthetic, functional and portable kitchen. In the present scenario, kitchens are made for well-planned spacious houses, but space saving kitchen designs which are efficient, visually appealing and comfortable are not available. A portable modular kitchen unit concept meets this need.*

### Salient Features :

- An aesthetic, functional and portable kitchen
- Designed for ease of cooking and to provide storage facilities in a limited space.
- Can be folded when not in use
- Targeted to people staying in single room



## S\_P\_A\_C\_E\_D: Convertible Furniture

**Student Designer :** Neha Bhanu

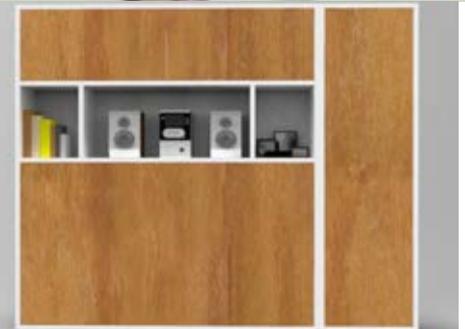
**Design Institute :** Srishti School of Art, Design and Technology, Bangalore

**Project Guide :** Dharma Kannan, Binu Bhaskaran, Rajesh Dangoria

*Catering to the modern day needs of a fast urban lifestyle and lack of space, this project aims at designing convertible furniture for the young, working crowd falling under the middle-upper middle-income groups.*

### Salient Features :

- convertible furniture for the young, working middle-upper middle-income group in the urban sector; living in small spaces
- flexible, space-saving and multi- purpose furniture
- focus on the portability and ease of handling
- Various needs like storage, work, sitting and sleeping is fulfilled within the same unit.
- Provides lot of floor space while shut and when open.



## Multipurpose Children Furniture

**Student Designer :** Yamini Singla

**Design Institute :** Srishti School of Art, Design and Technology, Bangalore

**Project Guide :** Deepta Sateesh, John Mathew, Manas Ranjan Mishra

*With children outgrowing most of the furniture, replacing the furniture at every stage of the child's life is expensive, creates problem for people leaving in compact houses and increases the wastage, it is necessary to realize the importance and need of functional furniture.*

### Salient Features :

- The furniture that changes in relation to the child and thus accompanies him/her in the successive years of growth, without having to buy products for different stages of their life.
- A CRIB that converts to a STUDY TABLE and has storage space, which can be used for a longer life span.
- Comfortable and cost effective design.



## Knock – Down Bedroom Furniture Using Coir Board as Primary Material

**Student Designer :** Kirti Sen

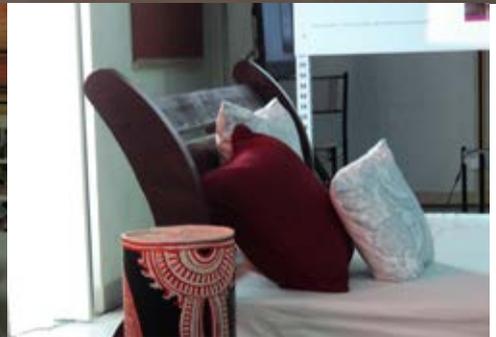
**Design Institute :** Srishti School of Art, Design and Technology, Bangalore

**Project Guide :** Mary Jacob, Binu Bhaskaran

*The brief of the project is to work with Coconut Coir towards developing it as a potential marketable material by inculcating a design approach. The project thus focused to work towards developing knock-down furniture which is easy to assemble and carry/home and life-style accessories.*

### **Salient Features :**

- Introducing Coconut coir as a potential material that can replace wood / ply board / material board.
- Knock - down furniture and life-style accessories
- Easy to assemble and carry/home
- Affordable in price



## METAMORPHOSIS; Sustainable Approach to Designing Craft Based Interior Elements

**Student Designer :** Surabhi Singhal

**Design Institute :** Srishti School of Art, Design and Technology, Bangalore

**Project Guide :** Rajesh Dangoria, Urvashi Jalali, Smriti Mehra

*In today's 'global village', an artisan is getting more and more disconnected from the consumers, their needs and tastes. A gap thus formed necessitates a bridge or intervention.*

### Salient Features :

- A contemporary range comprising of Study Chair, table, Book Shelf, Study Lamp, Pen Stand
- Simple yet functional design
- Utilises traditional skills; regional and cultural aesthetics



## Developing a Range of Utilitarian Products from Recycled Human Hair

**Student Designer :** Burra Chidroopa Kalyani

**Design Institute :** National Institute of Fashion Technology, NIFT, Delhi

**Project Guide :** Usha Gupta

*Establishing a design methodology for recycling waste human hair and developing a range of utilitarian products*

### **Salient Features :**

- Waste remains of human hair used to manufacture new products by recycling through effective techniques
- Improving global economic value through design and technological interventions.
- Developing a range of utilitarian products creating an impact on innovative edge to the product dictionary in sustainable living.



## Bamboo Haven – Creating shelters with Bamboo

**Student Designer :** Dhruv Nawani

**Design Institute :** Srishti School of Art, Design and Technology, Bangalore

**Project Guide :** Mary Jacob, Binu Bhaskaran

*The project explores and experiment with techniques of working with bamboo. The project aims to develop an outdoor structures using Bamboo as a primary material and following a process through which new techniques and skill-sets can be acquired.*

### Salient Features :

- The new design of the outdoor structure takes the advantage of special properties of bamboo like its elasticity, tensile strength etc.
- Showcase the potential of using Bamboo, making it a much more favourable desirable material over conventional materials like metal, wood etc.



## Re-Imaging Chanapatna

**MSME Unit :** Maya Organic Support Services,  
Karnataka

**Student Designer :** Ashwini Shashidharan

**Design Institute :** Srishti School of Art, Design and  
Technology, Bangalore

**Project Guide :** Satish Kumar

*My aim is to work within this limitation and design and develop a range of bedroom accessories for children between the age group of 5-10 years, which can be built by assembling small individual pieces of turned wood and also in combination with other materials like regular wood.*

### Salient Features :

- A furniture range for children between the age group of 6 and 10 years, for middle and higher income families residing in urban areas
- While adding value to the artisans trade, the project provides a new direction to the craft.



## Design and Development of Camera Stability Device for Photographers

**Student Designer :** Nilesh Dattatray Parpalliwar

**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** Vignesh Ravichandran, B. U. Balappa

*The aim of the project is to design and develop user Friendly Camera stability system for DSLR, focusing on the amateur photographers user group and reduce its setup-time. A camera tripod can make a huge difference in the sharpness and overall quality of photos.*

### Salient Features :

- A user Friendly Camera stability system for DSLR, focusing on the amateur photographer's user group and reduce its setup-time .
- A flexible, multipurpose and sturdy product.
- Assist the photographer to get desired results.



## Design of Newspaper Vending Machine for Public Spaces

**Student Designer :** Renugopal K

**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** C.S. Divyadarshan, Supradip Das

*Aim of the project was to design newspaper vending machine for public spaces with improved safety, ergonomics and aesthetics.*

### Salient Features :

- Ergonomic design for vending of newspaper.
- No human intervention needed for dispensing.
- Ability to handle more traffic during peak hours.
- Can serve range of news papers.
- Occupies less space compared to a stall.
- Safe and secured device to install at remote places.



## Design of a Manually Operated Washing Machine for Rural India

**Student Designer :** Dileepa C

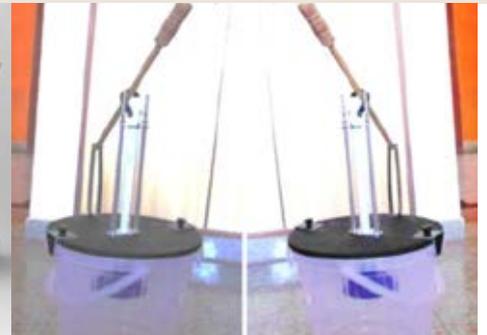
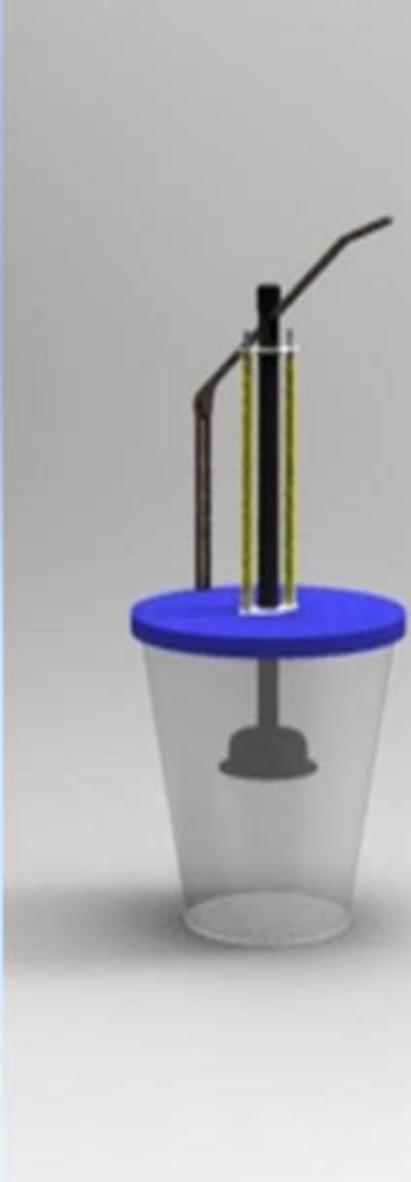
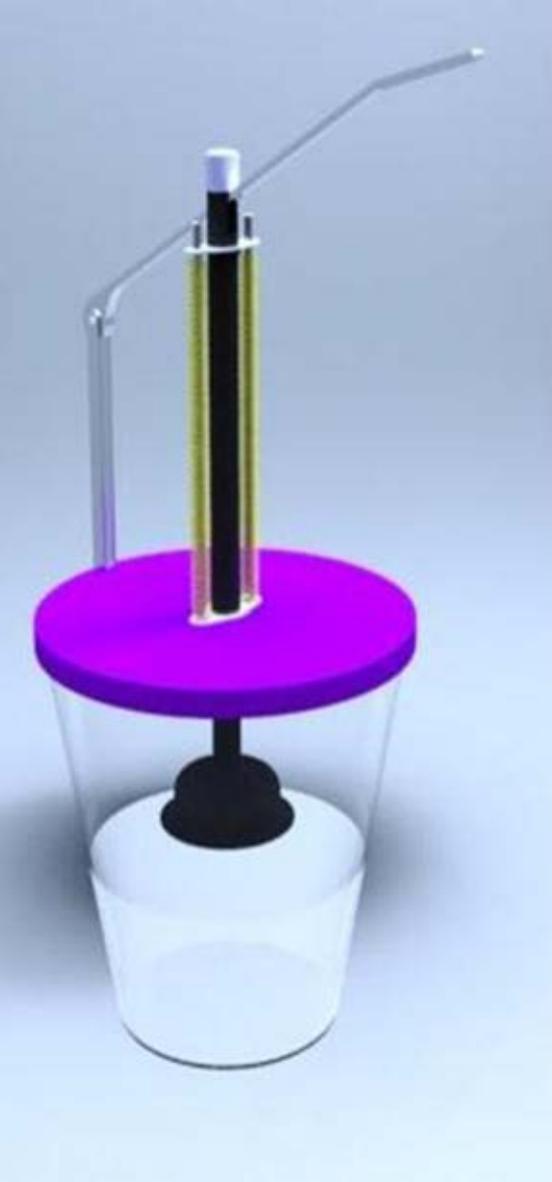
**Design Institute :** M.S.Ramaiah School of Advanced Studies, MSRSAS, Bangalore

**Project Guide :** M.N. Sudhindra Kumar, Divya Darshan

*Product definition of this project is to design a manually operated washing machine focusing on functionality and cost. The targeted customers are mainly rural population and bachelors.*

### Salient Features :

- A manually operated washing machine for use especially in the rural sector.
- Works on the principle of pulsate, with a vacuum cup that works as pulsating medium
- Uses comparatively small amount of water.
- The mechanism fixed to the cap, that can be fixed onto the bucket.



## Low Cost Sanitary Napkin Making Machine

**Student Designer :** Surbhit Arora

**Design Institute :** Institute of Technology and Management University, Gurgaon

**Project Guide :** Ashwini Sharma

*The project focuses on the design and fabrication of a Low cost sanitary napkin making machine, so that, the sanitary napkin making process gets revolutionized wholly and can be sold in rural and remote areas at a much lower price than available in the market.*

### Salient Features :

- A low cost machine, reliable and more efficient.
- Helps in depreciating the product cost to an affordable level
- A solution to the serious problem being faced by the rural females in India and abroad
- Increased productivity with quality product at affordable price.



## PICO-HYDRO – A Turbine Driven Portable Generator

**Student Designer :** Roshan Alexander

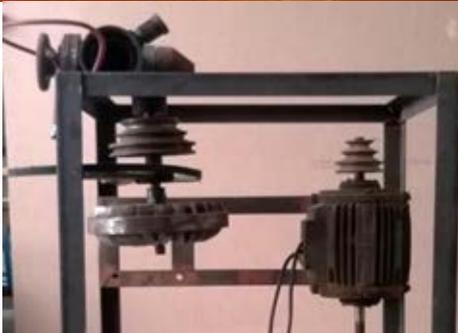
**Design Institute :** School of Planning and Architecture, New Delhi

**Project Guide :** Manoj Mathur, Kritiy Gera, Abid Bilal, Naveen Rampal

*To design a Portable, turbine-driven generator system that could perform at medium and high head terrain. The device could be used as the primary power source for a household/ shop/ street light in the mountainous villages of Uttarakhand.*

### Salient Features :

- Generates enough electricity to fulfill the basic requirements (illumination) of a household/ shop
- Motorcycle dynamo mounted on a single shaft to deliver maximum output.



## Economical Pug Machine

**Student Designer :** Himanshu Malhotra

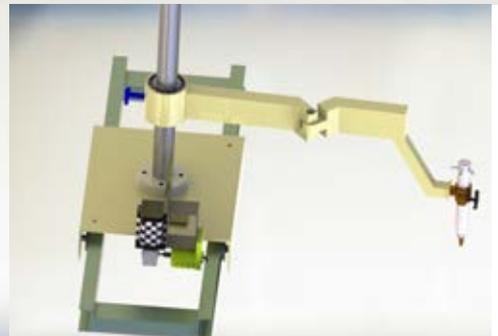
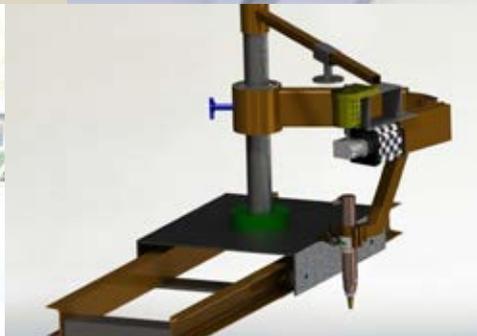
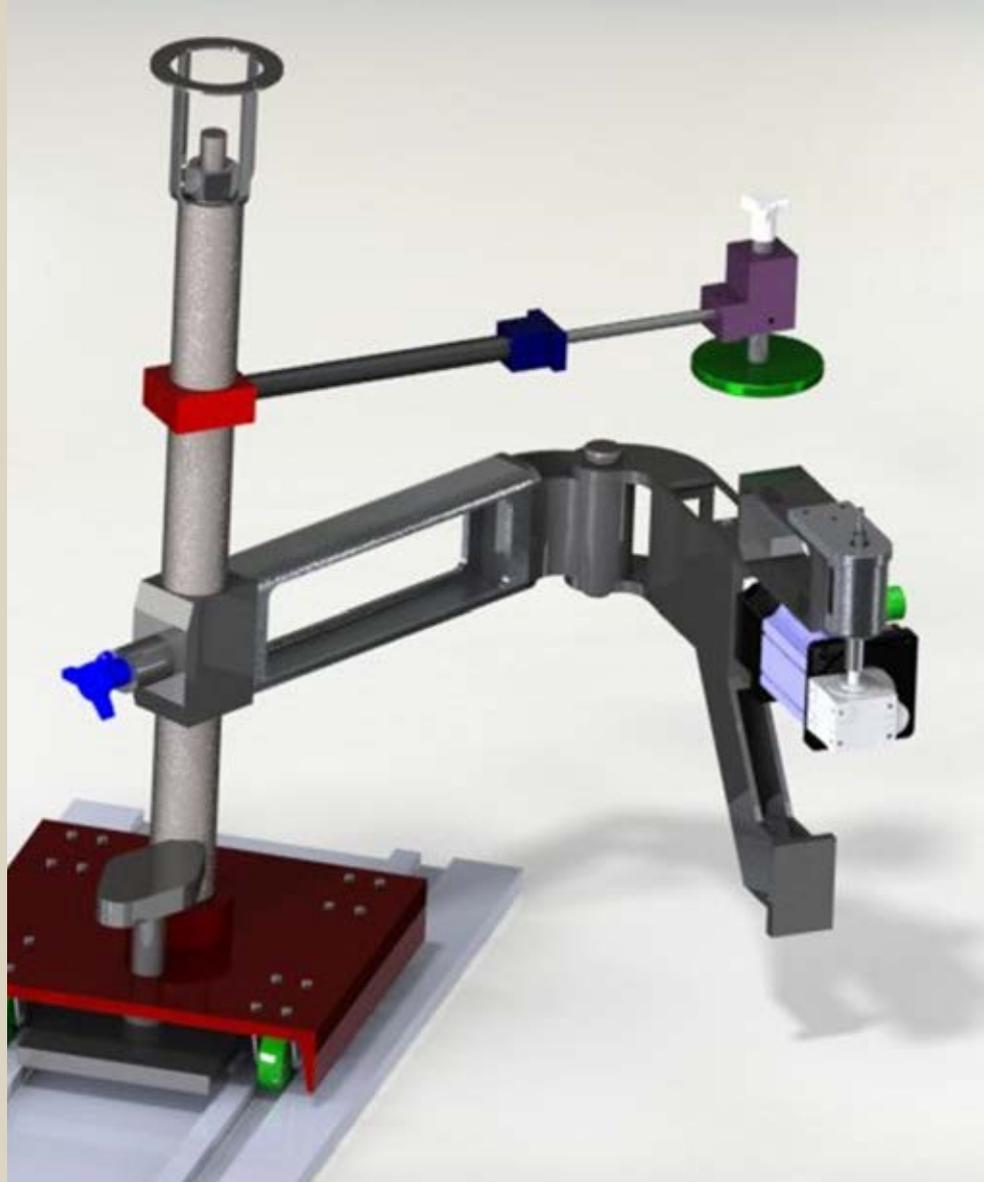
**Design Institute :** Institute of Technology and Management University, Gurgaon

**Project Guide :** Prahlad Singh, Ashwini Sharma

*The aim of the project is to design and fabricate a metal cutting machine which reduces the material wastage, and works at a comparatively faster rate, thereby reducing the overall cost of production.*

### Salient Features :

- The machine is designed to enhance its commercial value by keeping low cost manufacturing, simplified operations, compact, least maintenance and using standard parts.
- Easy to assemble
- Can be used for complex profile.
- Can be used for large plate.
- Flexible height adjustment of radial arm and torch
- 360 degree movement of radial arm.



## Design and Development of a Semi – Automatic Jacquard Using Pneumatics.

**Student Designer :** Rittika Debnath, Sanchari Dutta

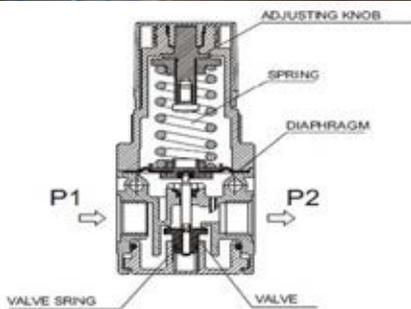
**Design Institute :** National Institute of Fashion Technology, NIFT, Kolkata

**Project Guide :** Bibekananda Banerjee

*This project aims at identifying the mechanism for simplifying the handloom and reducing the stress and strain of the weaver thereby increasing productivity and profit.*

### Salient Features :

- Developing mechanism for simplifying the handloom and reducing the stress and strain of the weaver thereby increasing productivity and profit.
- Addressing various ergonomic constraints of the traditional jacquard handlooms which in the long run cause pain and disorders to the handloom weavers.



## Apparel and lifestyle accessories for Summer Collection

**MSME Unit :** SEWA Trade Facilitation Centre,  
Ahmedabad

**Student Designer :** Swati Bhartia

**Design Institute :** National Institute of Design,  
Ahmedabad

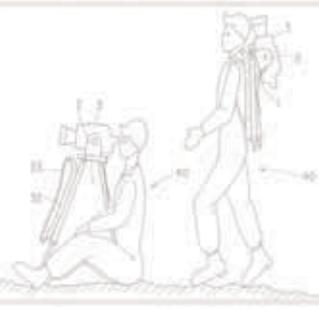
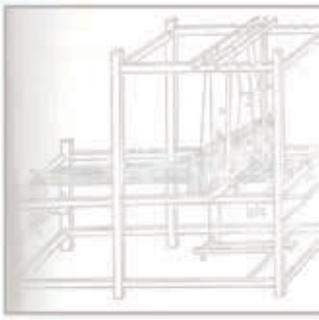
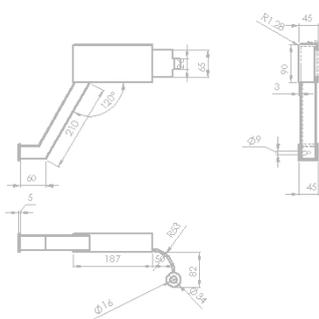
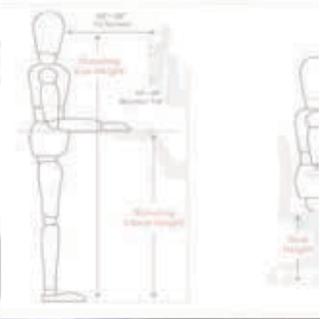
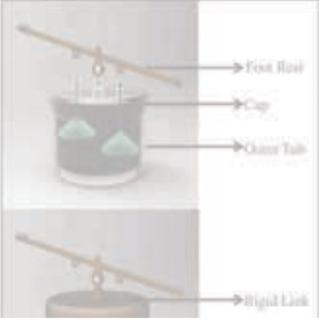
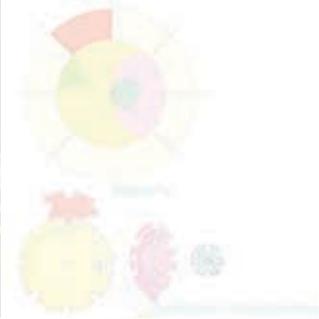
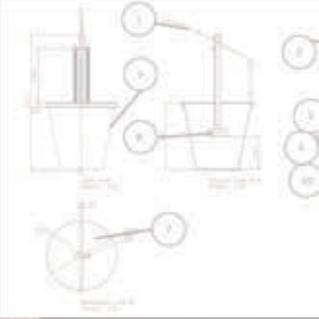
**Project Guide :** Amit Sinha

*Summer range for brand 'Hansiba' with an objective of empowering the women embroiders in Kutch region of Gujarat, the project aims to come up with a range of apparel and lifestyle accessories as part of its summer collection.*

### Salient Features :

- Reliving the traditional culture of the embroideries and its contemporary application
- Restoring the essence of traditional garments- maximum fabric efficiency, utility elements in the garments, versatility in terms of sizing, application of traditional details





## Regional Centres :

### West Zone Centre

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