




Design  
Innovation  
Centre  
University of Delhi



## About DIC

Design-centred innovation is a force multiplier that can help the country move up the value chain, making Indian industry globally competitive. To achieve this, Ministry of Human Resource Development has launched a “National Initiative for Design Innovation” in the Twelfth Plan. Under this initiative, 20 new Design Innovation Centers (DIC), one Open Designs School (ODS) and a National Design Innovation Network (NDIN) have been set up.





## Mandate

1. Promote a culture of innovation and creative problem solving
2. Promote knowledge sharing and collaboration amongst industry, academia, Government Institutions, research laboratories, etc;
3. To serve as a location for the industrial collaborators to encourage their new Product Development in the campus using in-house facilities.
4. To serve as a place that imparts design based education and practice systematic design through projects.
5. To enhance interdisciplinary design-focused innovation and creativity.

Total Funding provided by MHRD

Rs. 10 Crores (Hub: 7 crores, Spoke: 1 crore each)





## Deliverables

- Design Innovation Projects
  - Imparting Design Education
  - Design Workshops & Bootcamps
  - Establishing Design Facilities
  - Commercialization & Business Incubation
  - Industry Linkage Program
  - Establishing Design & Prototyping facilities
- 

## Partners



Design  
Innovation  
Centre  
University of Delhi



Jamia Millia Islamia, Delhi



Islamic University of Science &  
Technology, Srinagar



National Institute of Fashion  
Technology, Delhi



Lady Irwin  
College, Delhi



## Projects

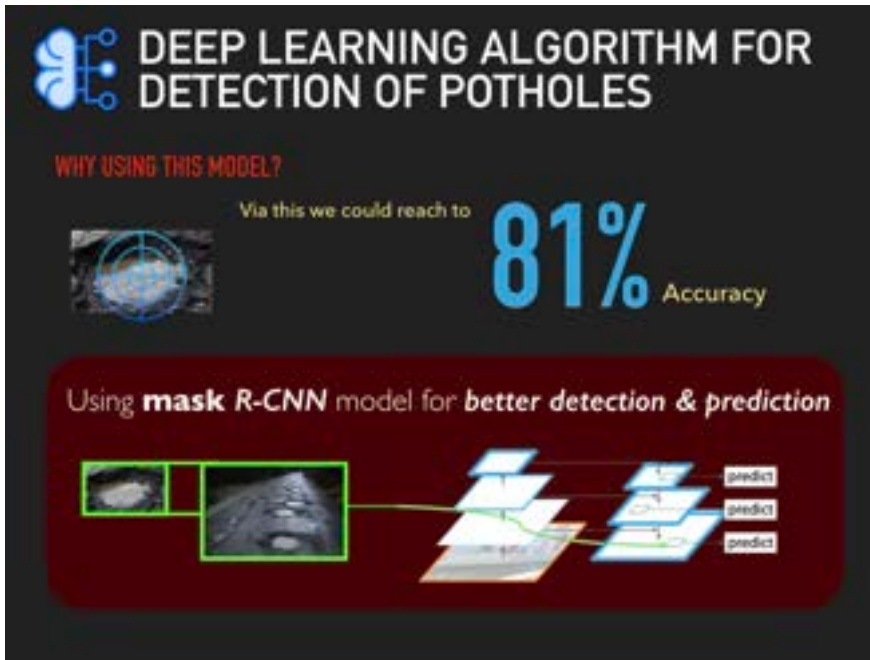
### Design Innovation Projects

Fellows at Delhi University Design Innovation Centre (DUDIC) mentor and develop innovative products and processes for the society, with the aim is to bring these products to the market and to the users. We are working in the area of tangible product innovations, UX/UI, innovative services etc.



# AI Pothole Detection System

From a collection of sequential images through phone applications and using Deep Learning Technique, we could train a custom machine learning model for detection of potholes on the roads from inside the images and geo-tag them on google maps, which also includes the size of the pothole inside the image.



**DEEP LEARNING ALGORITHM FOR DETECTION OF POTHOLE**

**WHY USING THIS MODEL?**


Via this we could reach to **81% Accuracy**

Using **mask R-CNN** model for **better detection & prediction**

The slide features a diagram of the mask R-CNN architecture, showing an input image of a road with a pothole, followed by feature maps and three output boxes labeled 'predict'.



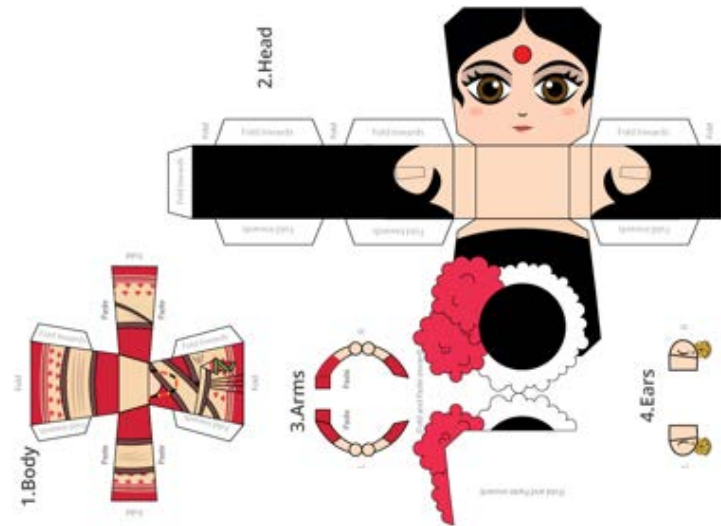
# Indian Puppets

 Kirti Mathur, Akanksha Jangid

Designing 3D Paper craft kit for children to learn about India's culture and diversity in a fun way. Each Do-it-Yourself (DIY) kit comes with pre-cut sheets and easy to understand instructions. Children have to cut out the parts from the sheet and paste them as per the given instructions to create a 3D model of the character given.

The colorful DIY puppets sheets are designed to catch the attention of children, encourage them to engage in hands-on activities, provide them 2D to 3D context, and build a mindset of precision and perfection.

These 3D Paper craft DIY kits will also increase concentration, problem solving skills and also help in improving the color recognition, motor skills and hand-eye coordination of the children.





# Litter Bob

Enough designs exist for the household and office bins for disposal of different kinds of garbage we produce. However, aesthetically designed bins for table top use are lacking.

Litter bob is an idea to explore a clean, compact, function specific, modular and aesthetically pleasing bin to dispose of all kinds of waste at the study, work or dining table.

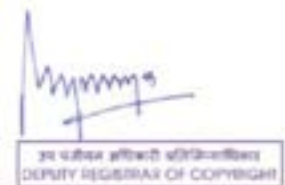
The design is composed of three components; the outer shell conceals the whole system, and could thus be made in aesthetic and washable materials. It has a wide mouth that, while concealing the bin bag, enables litter to be dropped in easily into the inner bin. This inner bin is composed of a washable jar and a cap that facilitates a bin bag liner to be inserted.



# Go Corona Go

 Bibhu Biswal & Debo Prasad Baruah

The name of the game is called GO CORON GO. This is a board game develop to educate adults and children in a playful manner to fight against COVID-19. The lockdown has been difficult for everybody, especially for children, this board game can be a source of entertainment but also a form of education. This lockdown can be a great time for strengthening family bonds and educate each other and this game intends to do that. The DOs are the reward and the DON'Ts are the punishment just like snake and ladder, the dice decides everyone's faith but whosoever is playing the game learns from mistakes and good deeds. The copyright of the game has been completed, The cover and packaging of the game has also been completed.



# Interior elements using Oriented Strand

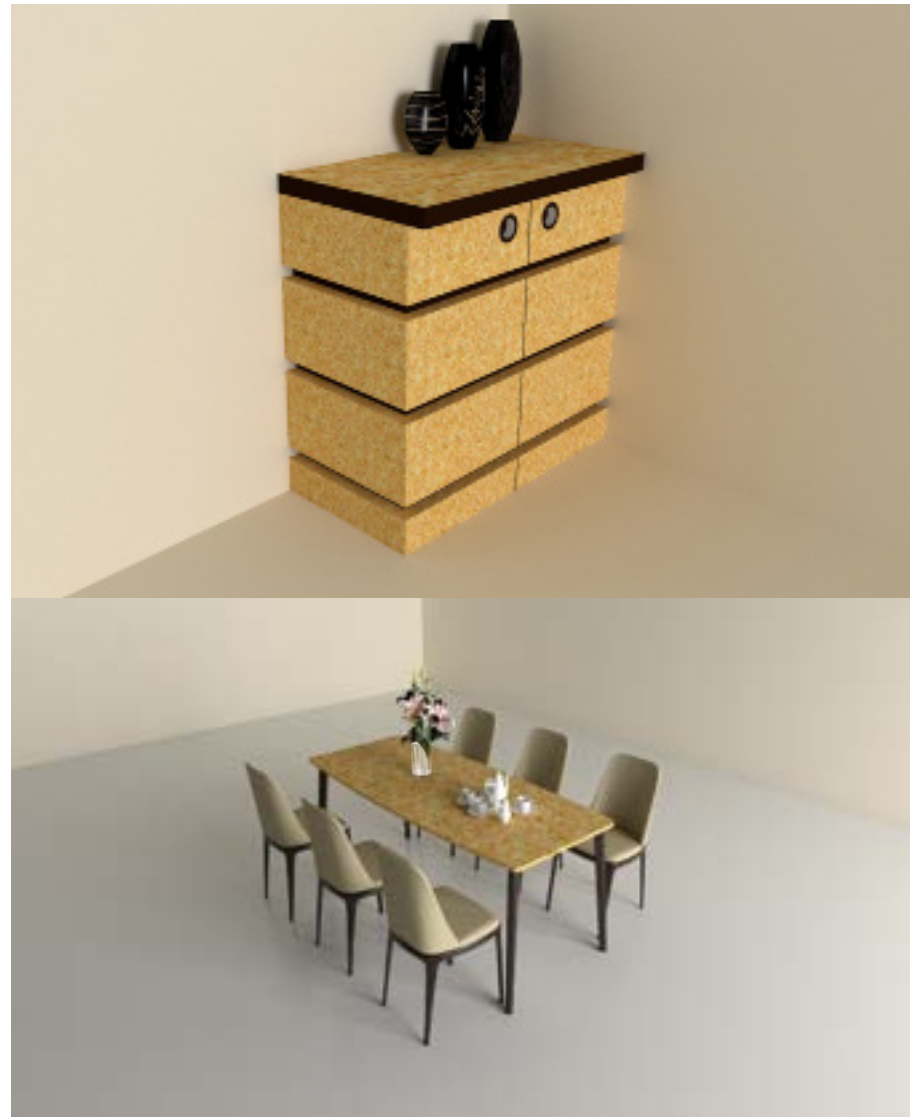
OSB is a new alternative of engineered wood and has many properties as it uses small strands of woods which are generally discarded as waste moreover, due to the structural arrangement of wood pieces, its aesthetic is highly versatile and offers diverse applications. It can easily be a good substitute to timber, at least upto 50%. Since it utilises waste woods, so it is sustainable material. This project is an attempt to explore applications of OSB for designing new products for interiors applications.

## Dining table

In this designing of the dining table, 6 x 3 feet of 19mm OSB sheet has been used over the 6 x 3 feet sheet of 12.5 mm plywood. For fixing Gluing - Fevicol used is used. This can be used in studio apartments, office dining, hotels, schools and colleges, institutions.

## Shoe Rack

It can be used in studio apartments, hotels rooms, bedrooms, cafeteria, offices, institutions for storage purposes, temples,



Brief



Ideation



POC



Mock-up



Testing



Prototyping



Testing



IPR



Commercialization

# Automated Drones



Tapadyuti Baral and Manish

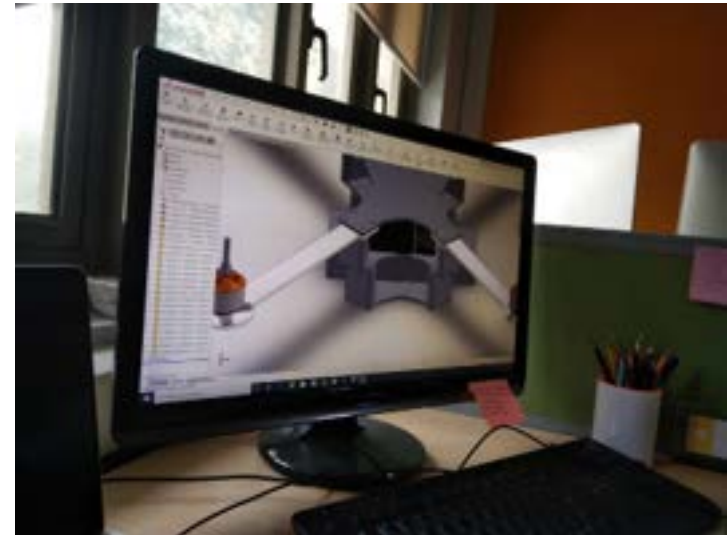
This project is mainly developed for aerial monitoring systems, traffic control & other surveillance work. There are two ways for controlling this system - Flysky Transmitter or any PC/Laptop. Our target is to operate the drone with less or zero human interaction in the future.

An APM controller and an ESP-32 Cam module is the main part of this project. A GPS is used for better stability in the time of surveillance and telemetry is used for monitoring as well as controlling the drone from the PC. Some sensors are attached to this system, we can monitor it.

**Design** - The double-layer quad-frame designed by white & yellow acrylic material. Their base and top parts are designed by 3 mm fluorescent yellow acrylic, on the other hand, 6 mm white acrylic is used for wings & bit.

**Milestones**- Quad-frame design & flying testing is completed; The sensor which is connected in the drone working well; Data transmission through telemetry part completed; ESP-32 Mod Camera installed

**Challenges**: GPS Connectivity & stability problem still happen sometimes; Structure should be redesigned, would make it light weight; Power consumption issue



Brief



Ideation



POC



Mock-up



Testing



Prototyping



Testing



IPR



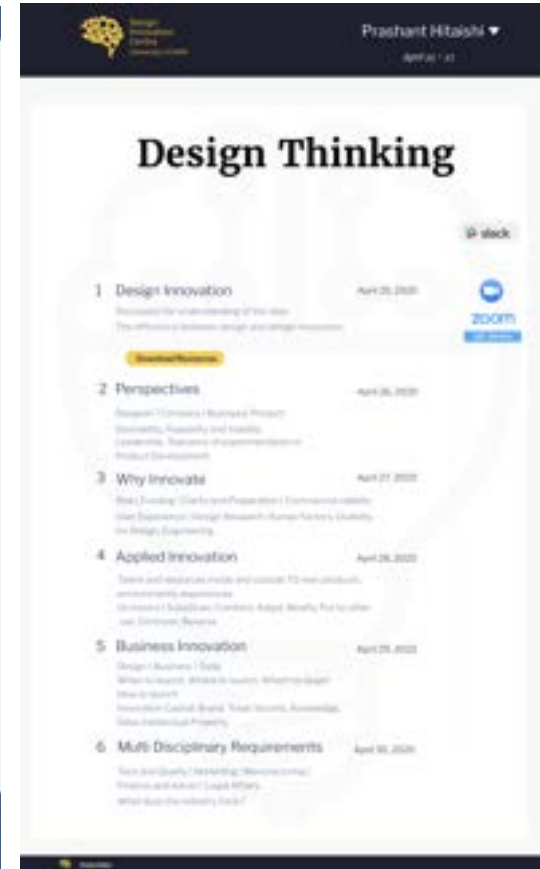
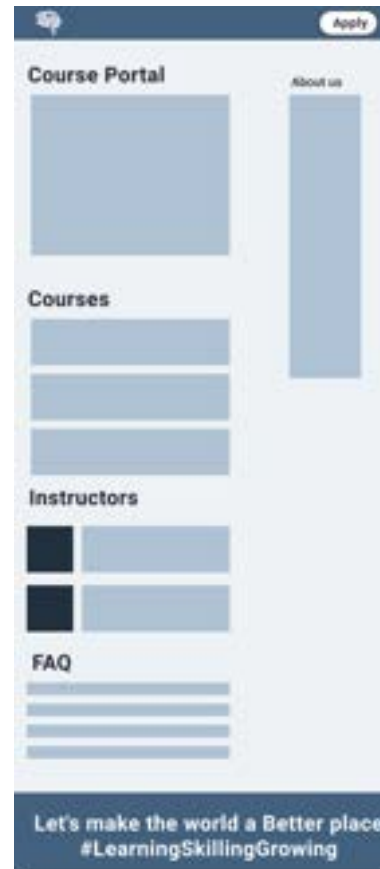
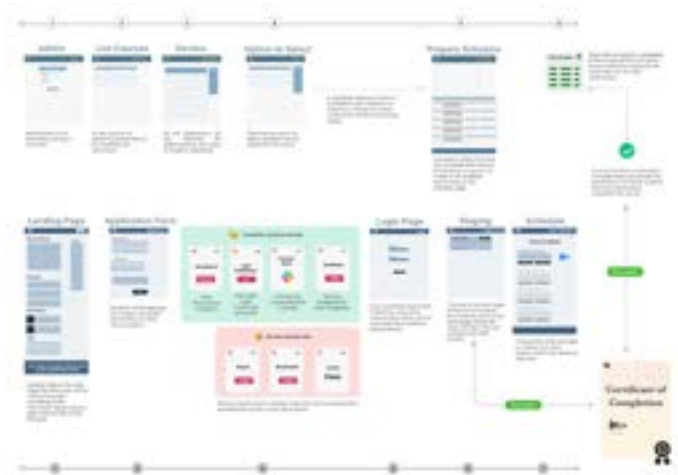
Commercialization



# Online Course Portal

This was a pilot project and we were looking to offer a course in a blended learning format. There was limited functionality we wanted in a system in a very short period. Students could attend based upon first cum first serve. We started with 6 courses in a row, and each takes place for 2-3 days at maximum.

We had set criteria that Instructors will be giving live classes to a specific set of students. For the start, we have kept a limit of 40 Students. As the demands will be increasing we are increasing them.

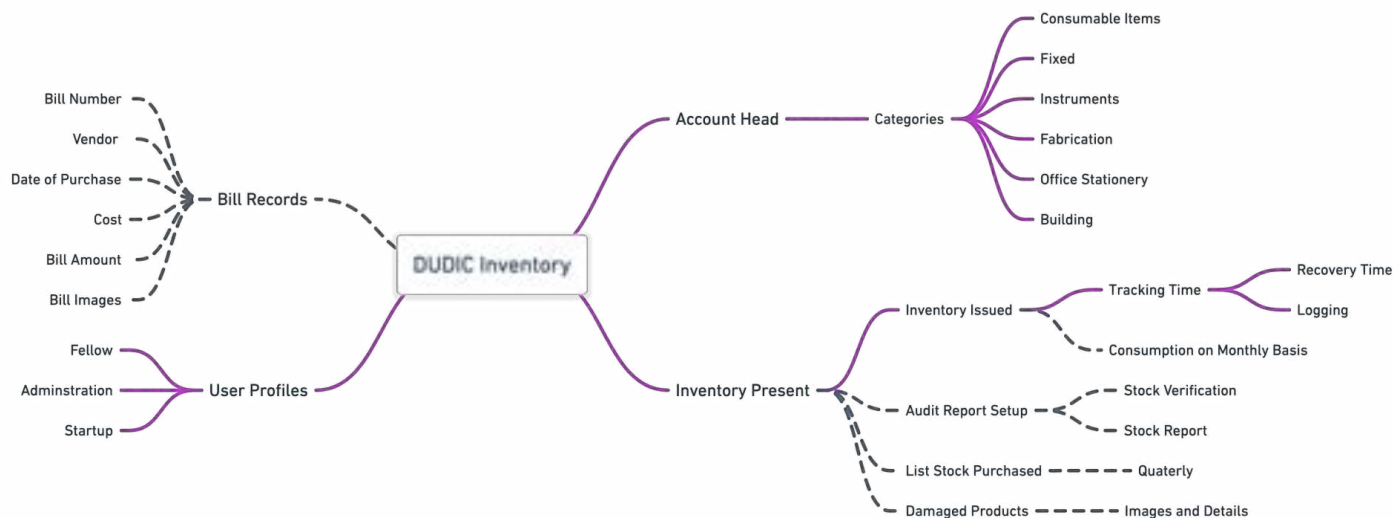
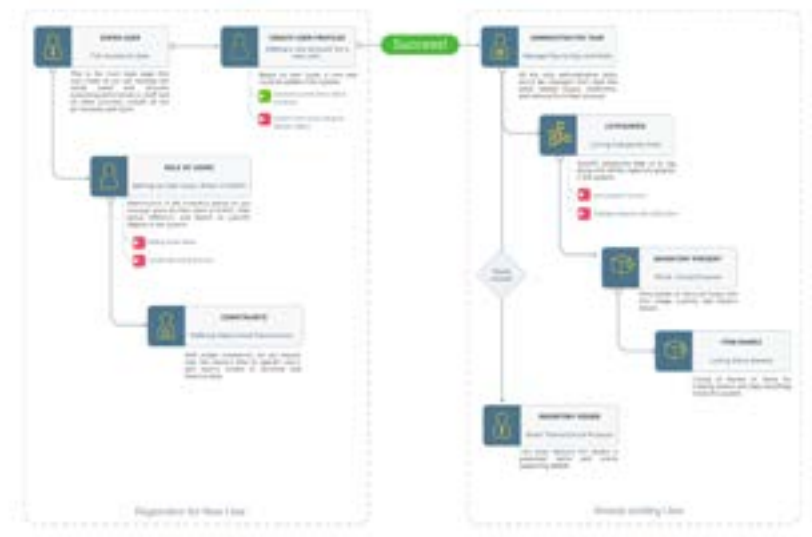


# Inventory Portal

This was a pilot project. Initially, we just created a portal with all the basic features which were intended as the stock will be getting filled. I will be adding more of the features on the go.

We designed it in a way that it should be very simple and an old-style layout should be there as administration staff is much more used to it.

Therefore we have used the frontend components of Django that are built in and upon them, I build new components that



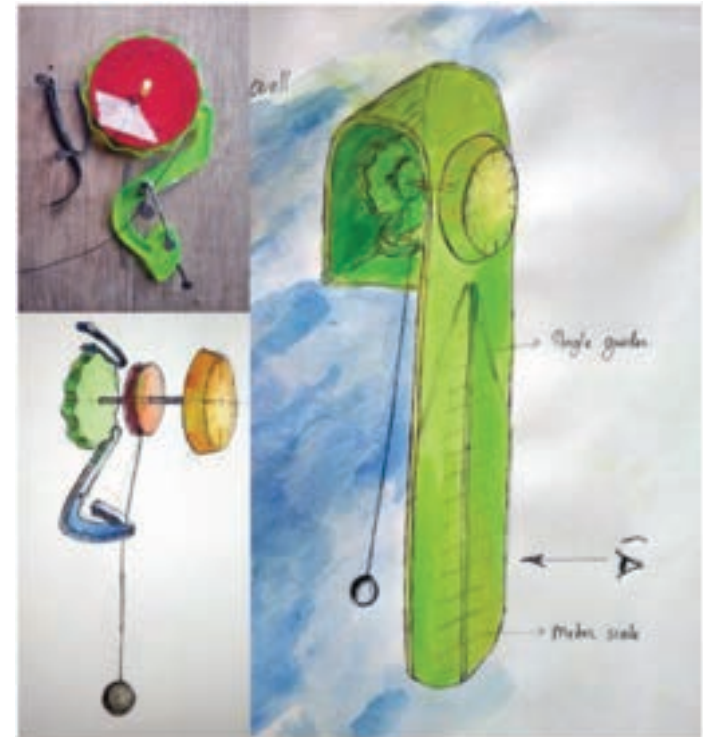
# COVID-19 Infographic Posters

Designed infographics posters on COVID-19 to spread awareness and narrating safety measures visually, specially for the offices which were planning to reopen after lockdown. The posters are available on our website [dudic.io](https://dudic.io) free to download and print.



# Simple Pendulum Experiment Device

It is a universal fact that vibration is ubiquitous in the infinite array of the universe. To understand this phenomenon of vibration a simple pendulum is an easy introductory experiment. The aim of this project is to design a science experiment device for the pre-existing simple pendulum experiment so that the experiments are more user friendly. Also to find out more relevancy of a physics phenomenon in day today life to make the topic of pendulum motion more interesting for students.





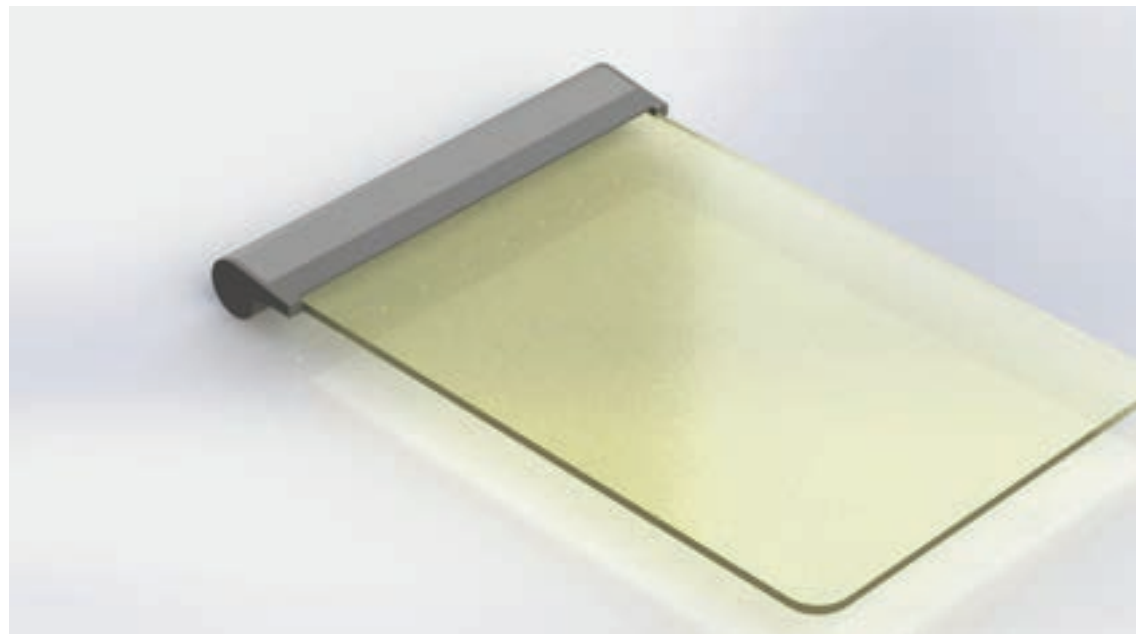
# Solar Glider

This project is mainly designed for surveillance, traffic & accident monitoring with the complete green-energy operation. Also, it can be used for lots of other purposes also. Currently it is in the ideation & designing stage, we completed only the solar power consumption & servo mechanism part. There are some parts - Converter, Stability & Flight are still pending. Here total 4 micro DC motor, 3 small servos are used in the glider for continuous gliding.



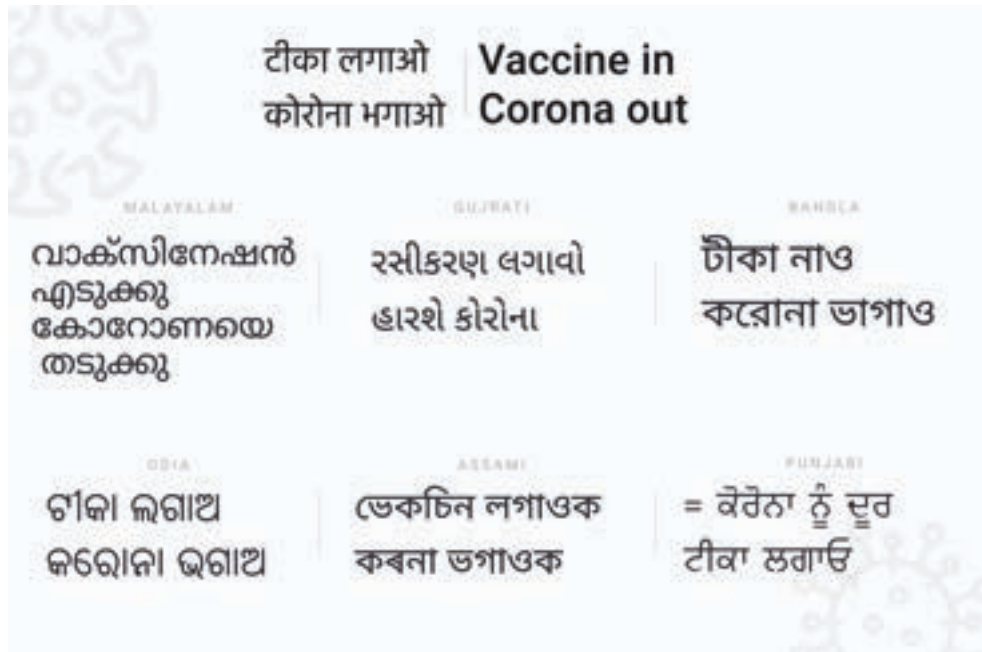
# ramP : A reading lamp

ramP is a digital lamp designed to read books at night. It is also a frugal version of kindle. 3D printing and CNC laser cutting technology has been used in this prototype. An acrylic sheet attached to the 3d printed part. A led strip illuminated by a battery. In the next prototype intensity of the light would be adjusted.



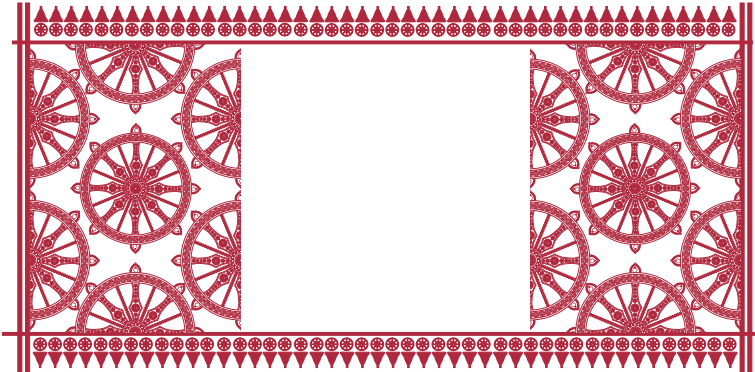
# Mask Campaign

This movement was started to bring awareness among people for getting vaccinated and to bring this in notice, we used mask's front side by putting our slogan "Vaccine in, Corona out" rather than using posters and connected all people together by using their native languages.



# Gamcha Inspired by Konark Sun Temple

In Bihar, the oversize Gamcha are very common, they are used to make adult size cradle in trains. Gamcha in assam is also used as a symbolic gesture to give respect. With such a wide variety of usage it is undoubtedly a very versatile piece of garment. Similarly a gamcha was made inspired by the konark sun temple of odisha. The chariot wheel of lord sun depicting the Time. The borders of the gamcha was inspired by the rath yatra of jaganath temple.





# Gamcha inspired by Saura Tribal art

Since, the commercialization is important for survival of tribal art, nothing else could be better than offering people Saura art on “gamchas” as a souvenir and necessity during this pandemic period. Saura art has undergone many transformations in the 21st century. Saura art is not just beautiful to look at, it is also fascinating, as the voice of a tribe that’s telling its own story in a way that is honest and unique. One of India’s most intriguing tribal artforms, Saura is a treasure that adds so much richness to the tapestry of India’s cultural diversity.




# Planters

To promote plantation of trees one side of the planter has an alarming statistics of trees left in India compared to other prominent countries. On another side of the planter has an artistic representation of banyan tree depicting the peace and harmony that the tree represent and their key role in production of oxygen. Oxygen crisis that was observed during coronavirus pandemic made many people realised about importance of plants in providing oxygen and maintaining life on earth. Hence, there has been a rise of trend to have plants at offices and homes.





# My Home

 Vishal Sengar, Chaitanya

There always be a need of a personal space which a person can customize according to his needs. People need seclusion and less distraction from the surrounding so the that they can focus on their work. So we want to design a furniture which allows personal space and scope of customization for the user.

This piece of furniture can also be distributed to the company employees those prefer to work from home. Or they can also be used to provide personal space in co-working environment.



# Gloop


Gloop is a kid friendly furniture designed for the kids unable to support their body postures or hyperactivity. The chair and table help instructors to conduct early intervention therapy in case of ASD and the furniture is also designed to be aesthetically coherence with in-home environment.

This Project is joint colaboration with DUDIC and Tamana Foundation. First Prototype is under testing and evaluation for the sensory integration activities



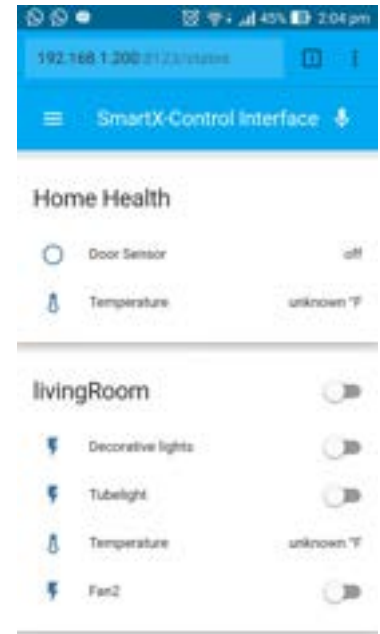


# Smart X,

 Deepankar Maithani, Vishal Sengar

Smart X is a home automation solution. The product has 3 components a central hub switches and sensor node. The switch board will be of standard size and can directly replace the existing board. All the three will be wirelessly connected. The user can use the physical button on the switch or can use the buttons on the webpage to actuate the devices. The sensor node can send the sensor data to the central device. The front end is hosted on the central hub and can be viewed locally over LAN as well as over the internet.

The central hub runs a debian based OS with Open BSD based front end ,wifi configuration portal and custom built services to automatically switch the hub in and client mode. The hub consumes a power of around 150 200mA.The nodes are based on a ESP12 wifi chipset that has an inbuilt 32bit MCU and 4M Flash. The communication between the devices is carried out using MQTT protocol. For switching the devices G3MC-202 omron relays are used.

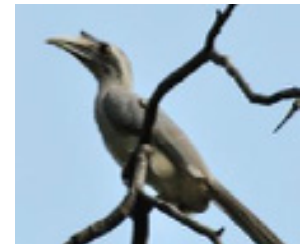
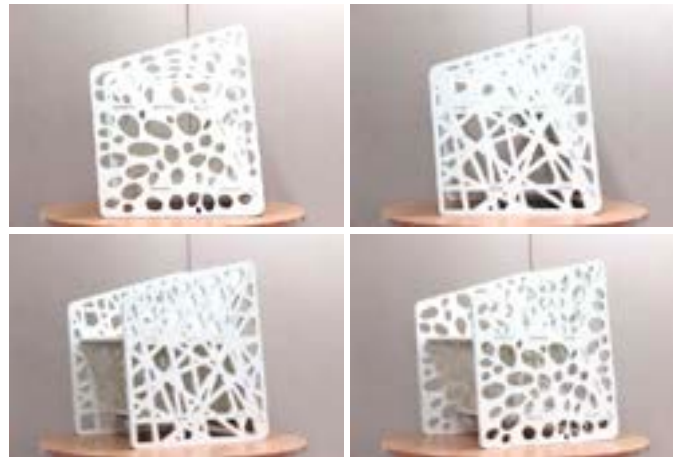


# Nest furniture series

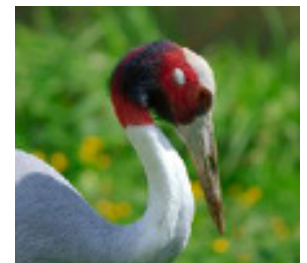
The project proposes a range of furniture which will have an identity and form inspired by the endangered species of Indian birds. This project intends to spark a dialogue and sensitivity towards their protection in the minds of the observers.

The first thing we selected for the range is chairs due to its demand in the interior element market and versatile usage scope.

Initial ideation was to develop a complete knock down version of chair which can be assembled at the point of usage, by doing so the cost of transportation will be get reduced, cost of storage will also be reduced as the storage volume is much lesser then the actual volume of chair.



Great Hornbill



Saras Crane



Woolly Necked Stork



Egyptian Vulture



Saras Crane



Egyptian Vulture




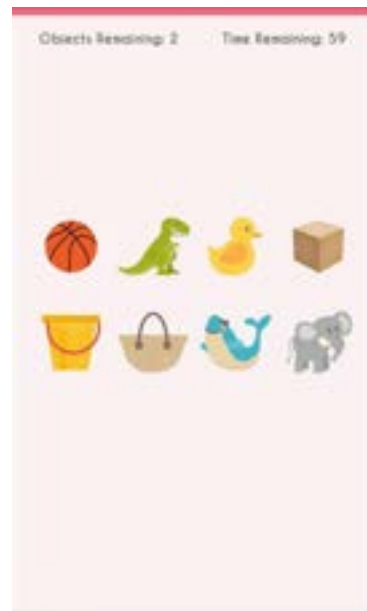
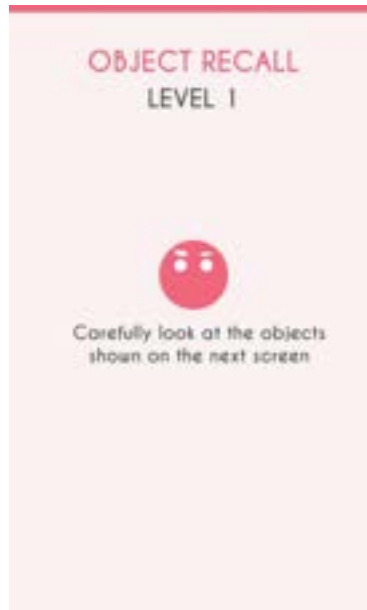
The main objective was to design the shelter which can be assembled and disassembled with minimum effort, keeping in mind the end user and it's interaction with the product. The two key factors considered while designing the product was ease of usability and sustainability from rough use and extreme weather conditions.

A 1:1 prototype is fabricated. Glass Reinforced Fiber rods held together with steel joints maintain the stability of the structure and EVA foam supported by Poly Urethrene sheets act as bedding. The ground sheet provided under the Pu sheet prevents water seeping from the bottom. The PU sheets make the tent suitable for rocky terrains in addition to providing the support to the foam. Fold-able White cane mechanism is adopted for the bedding to ensure ease of setting up and portability. The canopy is provided with a seal-able vent when opened allows ample air flow through the net. The bag is designed such a way that a person can access the contents when he is inside the canopy.



# PerkUp

 Suruchi Jain, Shreya



PerkUp aids in improving your cognitive functions through use of games, especially designed to boost the cognitive functions of the brain that suffers or get impaired due to mental disorders

Paces the learning by being relatable and fun to play

Our only aim is to contribute in quick recovery of people who undergo such reduction in mental ability.

Project is to be used for retraining schizophrenics suffering from cognitive impairment at an Indian NGO SCARF, focusing mainly to improve their memory and executive functioning.

Training paradigm for improving cognition of people suffering from disorders is being developed and tested at NBRC. Will be extended to other ailments, age groups as well as SES in future.





# Food Passport

 Vishal Sengar, Abhijeet Kumar Parmar

In this digital experience environment collecting an experience is only get boiled down to a photograph, selfie, a tweet or a social media post. Even our profound experiences get crowded with everything else in our digital memory. By creating Food Passport we created a physical platform on which we can keep remembrance of our heritage food experience. We are making the old food joints available to people those are unaware and in search of their stories and legends. We are also making it easy to share our journey of food tasting to our friends and family. We are also helping user to create his or her own food walks so that he can recommend some one else of what he experienced.



Food Passport is a passport size collection of 30 food visas. These visas contain the name, address, timing, and other details of a place which make us travel back in the past for decades or sometimes centuries. The place contains a heritage of food and history of the food which they are serving to people from generations. There is no rating, no review and no suggestions, the food is there for ages is the proof of everything we need to have a new experience in food. You can navigate to the place by scanning the QR Code of the visa. The QR code will take you to a web page where you can read short history about the food joint, see the special menu items and some photograph of the place. When you reach the place, enjoy the food and then you can have your visa stamped by the food joint manager.

# Dali

 Abhijeet Kumar Parmar, Vishal Sengar

DALI is a package developed by National Brain Research Centre (NBRC) that contains screening tools for school teachers and assessment tools for psychologists in Indian Languages to identify dyslexia. DALI is the first indigenously developed screening and assessment tool standardised and validated across a large population of nearly 4840 children. The tool is available in Hindi, Marathi, Kannada and English and development in other languages is in process.

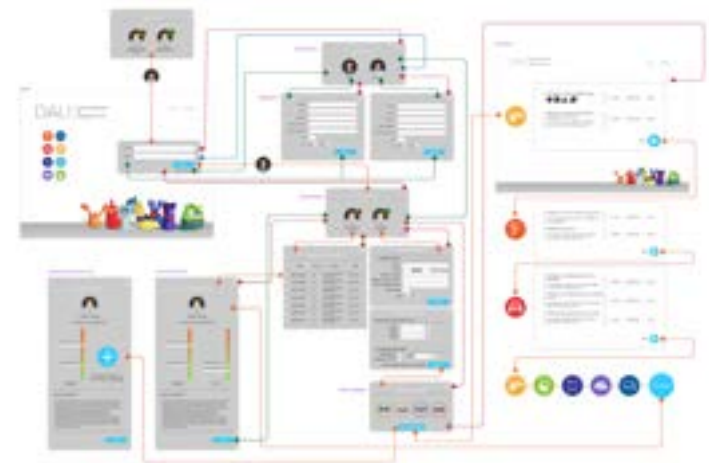
The assessment of Dyslexia is carried out using a series of age appropriate, culturally valid psychological tests in native languages.

Two primary reasons why dyslexia remains undiagnosed in India are:

- Lack of sufficient awareness amongst school teachers and parents
- Absence of appropriate standardised screening and assessment tools in Indian languages.

It is critical to assess dyslexia in language in which a child is provided instruction. Given the education scenario in India, wherein children are provided instruction in at least two languages and oftenthrice, it is critical that dyslexia be assessed in all of them. In particular, it is necessary that the child be assessed in his/her native language. Due to absence of appropriate standardised screening and assessment tools in Indian languages, the diagnosis of dyslexia in India so far has been incomplete. DALI provides standardised, validated tests in three Indian languages (Hindi, Marathi and Kannada) and English as a second language.

Actual purpose of these tools would depend on outreach of these tools to parents of children and school teachers as well as training of teachers and parents in diagnosis and subsequent management. For rapid replication and uniformity in the test administration, a digital platform is required for test administration and assessment. The proposed platform is designed and developed by Design Innovation Centre, University of Delhi.



# Accieo

 Niyati Talwar, Abhijeet Kumar Parmar, Vishal Sengar

Accieo is a mobile application designed to be used by differently-able people. It has a comprehensive database of the accessibility factors of the buildings for different kind of differently-ability.

Often, a differently-able person is not able to enter or commute in a place easily because of the unavailability of proper infrastructural facilities. This not only damages their self-esteem but also contributes in their isolation from the society as after a series of such events they shy away from traveling unless absolutely necessary. Accieo, while keeping track of the development of accessible infrastructure in the city, will also diminish the possibility of the aforesaid embarrassment and agony by providing them the choices beforehand.



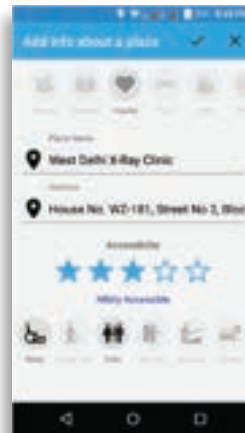
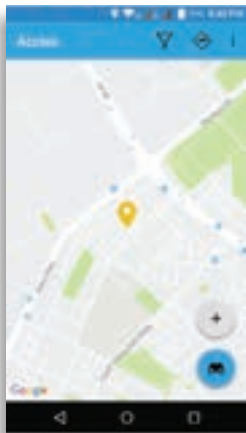
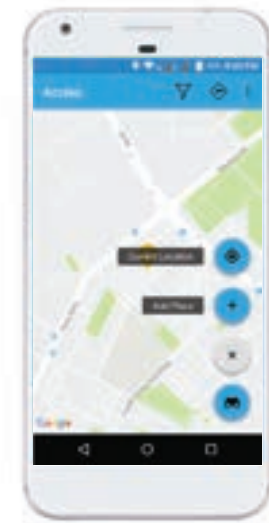
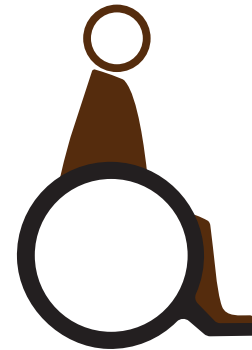
Add accessibility information about a place



Access accessibility information about a place



Navigate



Empathy



Brief



Ideation



POC



Mock-up



Testing



Prototyping



Testing



IPR



Commercialization

# DreiNetra

 Dipankar Maithani, Manish Tamrakar, Tapadyuti

A timelapse camera, visualizer and security camera

This camera can be used to create time lapse videos, it can also be put in security camera mode and can detect motion and send alert emails. Further it can also be used as visualizer to demonstrate hardware design in classes. The system runs a flask server and can show the live feed in browser and all the configuration can also be done using the browser.

The outer casing and other electronics hardware is design such that it can be opensourced and use by the community working with computer vision at large.





# Circular Planner

A Graphical way to represent and plan your whole month on a single spread of paper. The reminders and other schedules can be kept in 12 sheets of any kind of notebook or a separate notebook




# Knowledge Cup

Qrudite.com is an online platform which facilitates you to uniquely share your stories with the world.

It provides you with a controlled content space where you can make many collections of your stories, built using our facile editor. Your each collection is bestowed with a unique QR code aiding you to share the stories hassle-free without compromising privacy. A new story from your collection is revealed on every scan of the QR code.

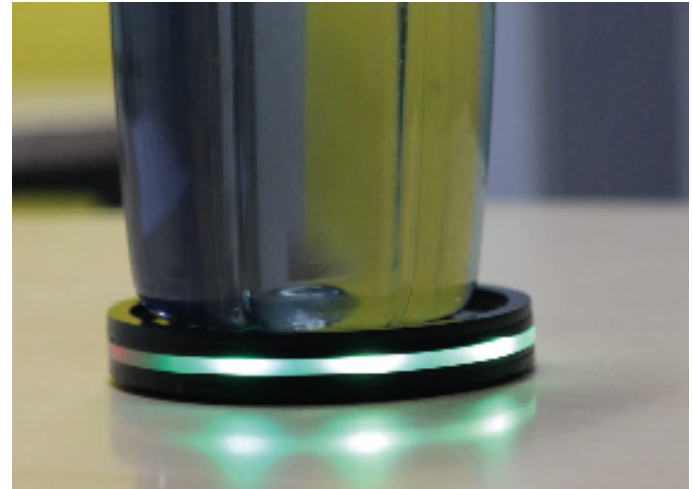


# Smart Coaster

 Dipankar Maithani, Manish Tamrakar

It is a product aimed at improving users drinking frequency by reminding the user to drink water at user defined preset intervals. It gives notification by illuminating a ring around the coaster.

It has atmega328P at its heart and uses 16 channel PWM driver to generate luminescence of different colors. It is powered using a 200mAh lithium ion battery which can be charged by connecting standard usb cable and adaptor. The user can also determine the interval of notification by adjusting the knob below the top plate



# 3D Printed Furniture

The making of any kind of wood joinery or welding a metal joint always required the tools and expertise of the creator. People enthusiastic about creating DIY furniture and other usable objects either have to learn the techniques or buy the tools necessary to replace the techniques. Our hypothesis for this project was, what if a person having a low-fi FDM 3D printer want to create a piece of furniture but printing a piece of complete furniture will always take a lot of 3d printing time and resource. Our idea is to 3D print only the joints of the furniture and rest can be the available standard material available in the stores.

In this design user only needs to print the joint and by using a saw or any cutting tool and a drill machine he create the whole furniture. In this project, we have created a three-legged coffee table, a side table, and a system to design storage units and racks.

The next phase of the project will be to design an online tool where the user can create the .stl file by selecting the design and other parameters.





# Zero Waste Furniture

CNC manufacturing is a labor-reducing and precise method of production. There are many concepts and design available for CNC cutting plywood or sheet of MDF to form a piece of furniture. In this project, we tried to develop a method to reduce plywood wastage without compromising the strength and aesthetics of the object. The plywood is standardized in terms of thickness, sizes, and mechanical properties.

The Inspiration behind the desk is the fact that the hypotenuse of a triangle is always higher than any side of the triangle. So as it is very evident in the design we are using joining the half of each cutout to form the top surface of the given furniture. In terms of reduction of the wastage, We are able to get 5 stools from a sheet of plywood and three seats and one table from another. We designed a template where anyone can select the dimension of the furniture, and he/she will get the drawings for the cutting. In the second phase of the project, we are designing an online tool where the user can get the CNC drawings by feed-in the required dimensions and select the plywood type.



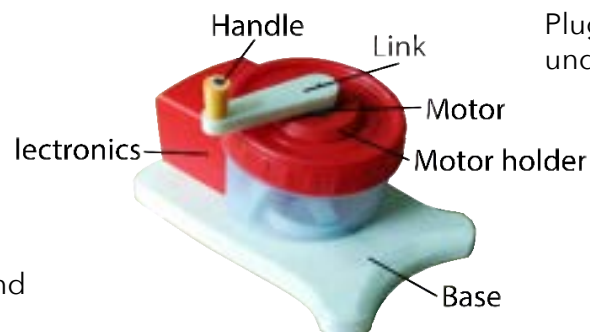


## E-Compass

A Compass that Forms Ellipses

## IU-Haptic Kit

Plug and play device for understanding STEM concepts



## SAAHI

Vibro-tactile feedback band for the deaf



## Thermal Imager

For Predictive Maintenance of leaks and overheating

## Solar Dryer

Self-sun tracking mechanism for drying of vegetables



## Smart

Assisted healthcare for Alzheimer's Patients based on IoT



## 2D Mapping Robot

For navigating unknown Indoor environments



## Autonomous Quadcopter

To visualize an entire building or area without human interaction



## E-Funnel

IOT based fuel monitoring system to minimize fuel scams



## Pre- Electric Car

Beneficial for the average earning family

## REPTILIA TOTE

The handcrafted hybrid tote in a minimalist design is an outdoor essential, for it is comprised of two solar panels that are capable of charging two devices simultaneously. The handles are embellished with dye-cut details.



## EVOLUTION BAG

The cross-body bag is a futuristic imagination of how humans may be able to convert sunlight into energy to run devices. A bag that holds your essentials close to your body.



National Institute of Fashion  
Technology, Delhi

## CIRCUIT BOOT

The knee-high boot never goes unnoticed, made in a holographic PVC material. The surface has been exclusively printed with a tech design, where the inside carries the monogram print.



## ORION DRESS

A mini dress, with exaggerated sleeves the starts as the neckline and finishes in the seams of the skirt. Exclusive laser-cutwork that has been painstakingly stitches to give volume and movement.







Courses 



# Certificate Courses

## Basics of Mechatronics Design @ IUST

### Objective

The course gives an overview of the basics of mechatronic systems and products including the components and characteristics typical of such systems. The course introduces a mechatronics design procedure and provides insight into both advantages and difficulties of mechatronics design. This course aims at:

- Creating a firm base for product design and development at the basic level.
- Familiarizing students with Arduino, MATLAB, and CADD environments.
- Reinforcing the knowledge/skills gained, through practice and reflection in an action-oriented setting.

### Duration

30 hours

### Course Work

Practical Sessions

Project Work

### Number of Students

20

## PCB Design Learning on Altium Designer @ IUST

### Objective

The course aims at:

- Basic knowledge and terminology of PCB
- Getting students familiar with Altium Designer
- Understanding the PCB design process from schematics to manufacturing
- Understanding and designing the industry standard PCB

At the end of the course, the student are able to:

- Design schematics in Altium Designer
- Perform layout design based on the schematics
- Create custom components and IC package to be used in the design
- Create PCB design outputs (Gerber Files) to be sent to manufacturing house

### Duration

12 Hours

### Course Work

Practical Sessions

Project Work

### Number of Students

20

# Planned

## Art & Design

(Sixth semester paper for B.Tech [IT and Mathematical Innovations] at Cluster Innovation Centre, L-T-P = 0-3-0)

The paper has been introduced by the DIC, University of Delhi. It is comprehensive theory and practice curriculum on art and design operational from January 2016 onwards. The paper explores exercises in design to understand principles of design. It covers various stages and approaches related to design thinking and innovation, touching upon design paradigm in industrial design and social sciences.

## Visual Arts & Aesthetics

(Seventh semester paper for B.Tech [IT and Mathematical Innovations] at Cluster Innovation Centre, L-T-P = 0-3-0)

Introduced by the DIC, it is a practice oriented paper to be offered from July 2016. The paper introduces students to various forms of art: media art, computer art, digital art and interactive art. It covers aesthetics strategies and brings together arts, technology and society

## World Art/Design Movements

Considering design inspirations are often drawn from history and movements that occurred in eras gone past, this course will cover the major world art movements with an understanding of their defining characteristics. This elective will be designed as a short-term workshop.

## Data Display Designs

Imparting the knowledge of design for display of data and its analysis in various different contexts. Almost all students deal with complicated data and analytics and need useful aesthetic visualization of their final results.

## Human Interaction Design

Designing human interaction in the field works involving research and data collection. The course aims to cover the role of social interventionism and qualitative research in design innovation.

## Human-Centric Design

This course will explore the concept of building empathy for the people design solutions are being developed for. The curriculum will seek to add perspective to design-based thinking with an iterative prototyping process and careful consideration of building the entire product experience.

# Elective Courses

## Microcontroller Based System Design @ IUST

### Objective

This course aims at:

- Enabling students to enrich their knowledge with hands-on experiments and project based learning.
- Giving the students a firm understanding of micro-controllers and their application through practice, in an action oriented setting.
- Introducing the concepts of Robotics, Haptics and their applications to the students.
- By the end of this course the student will be able to:
- Design and develop a practical micro-controller based solution to a real life problem.

### Duration

One Semester (3 credits)

### Course Work

Theory

Practicals

Project Work

Outcome based learning format

### Number of Students

20

## Art & Design @ CIC, DU

### Objective

The course includes:

- Exercises in design to understand principles of design - Distribution of space - Language of proportion and the process of form synthesis - Introduction to orthographic projections in simple positions - Drawing of plan, elevation and section of simple objects to scale, full size, reduced or enlarged - User interface and user experience design elements - Affective Computing in Interface Designs

### Duration

One Semester (3 credits)

### Course Work

Theory

Practicals

Project Work

### Number of Students

40

# Certificate Courses (Proposed)

## Design Thinking @ DUDIC

### Objective

This course will cover the basics of how to approach design as an organic process and explores a practical methodology of problem solving to the thinking exercise. The underlining aim of the course is to prepare future innovators to become breakthrough thinkers.

### Duration

One Semester (20 credits, Each credit of 15 hours)

### Course Work

Theory - 4 credits (60 hours)

Case Study - 6 credits (90 hours)

Project Work - 10 credits (150 hours)

Blended learning format

(Direct Teaching + Online Case Study + Project)

### Number of Students

20 (Reservations per university rules of UG Admission)

### Course Fee

Rs. 6,000/- (same for all categories)

The Certificate will be given after successful completion of evaluation.

Division I ( ≥ 60%), Division II ( ≥ 50%), Division III ( ≥ 40%)

## Innovation & Entrepreneurship @ DUDIC

### Objective

India is a developing economy with aspirations of becoming a world economic power. By 2025 India's GDP will double adding over 80 million new job seekers, but at current rates only 30 million jobs will be created, mostly informal sector. The startup mission will become the engine of growth for our nation. DUDIC and PHD Chamber of commerce & Industry will jointly offer this one semester part-time certificate course to nurture the startup ecosystem in the University and in NCR. This course will provide opportunity to Innovators and Entrepreneurs to accelerate the development of their Startup ideas.

### Duration

One Semester (20 credits, Each credit of 15 hours)

### Course Work

Theory - 4 credits (60 hours)

Case Study - 6 credits (90 hours)

Project Work - 10 credits (150 hours)

Blended learning format

(Direct Teaching + Online Case Study + Project)

### Number of Students

20 (Reservations per university rules of UG Admission)

### Course Fee

Rs. 10,000/- (same for all categories)

The Certificate will be given after successful completion of evaluation.

Division I ( ≥ 60%), Division II ( ≥ 50%), Division III ( ≥ 40%)



## Online Courses

### Courses in blending learning format

A number of online skill courses in a blended learning format, was organized by the centre for the subjects of Understanding Social Enterprises, Design Thinking, 2D & 3D product designing, Electronics Hardware Designing, Design Innovation and Startup and Branding Basics.

With a dynamic online platform, the courses had three rounds in June-July (and two more rounds going on currently) attended by more than 200 national and international students and entrepreneurs.

Completion certificate with grade were issued by coordinator DUDIC.

Website: <http://course.dudic.io/>

The course was unanimously liked, and the students found the courses to be balanced and interactive.

### Understanding Social Enterprises

It will help you explore the diverse world of social enterprise; appraise your social enterprise idea; help you design your social enterprise model.

### Design Thinking

Design Thinking, a technique used by designers to generate new ideas for products and services; this course offers the coveted technique of Design Thinking that can be applied in every aspects of life.

### 2D and 3D product Designing

In this course we explore Digital Design where you will get familiar with basics of 2D & 3D product design process and prototyping by using Laser Cutting and 3D Printing.

### Electronics Hardware Designing

This course is mainly focused on hardware electronic designing as well as an overall discussion on Embedded, IoT & Solar products.

### Design Innovation and Startup

In this course we explore the idea of applying a holistic design process to real-world challenges, and create solutions that can be effectively put into the market.

### Branding Basics

This course is aimed at people who are talented in their field but feel overwhelmed by branding and how to get started with their own business.



## Workshops

- Hygieia 1.0 @ DUDIC
- Hygieia 2.0 @ DUDIC
- Design Thinking, MME @ DUDIC
- Programing 101 for School Kids @ DUDIC
- Design Thinking Workshop by Mr. Raman Saxena @ DUDIC
- Delhi Design Innovation Boot Camp 2018
- 5 Day Innovation and Entrepreneurship Course
- NSCD Innovation Boot Camp 2019
- SolidWorks Workshop August 2019
- Collaborative workshop - "Internet of Things" NSCD & DUDIC

# Hygieia 1.0 @ DUDIC



Hygieia is a series of workshops organized by Design Innovation Centre, University of Delhi to invite concepts, product ideas and proposals for the nation-wide campaign of Swaccha Bharat Abhiyaan. Hygieia 1.0 is for undergraduate students. Students from Design colleges of Delhi NCR, Delhi University, IGNOU, Ambedkar University of Delhi etc. Participated in this one day workshop.





# Hygieia 2.0 @ DUDIC



Hygieia is a series of workshops organized by Design Innovation Centre, University of Delhi to invite concepts, product ideas and proposals for the nation-wide campaign of Swaccha Bharat Abhiyaan. Hygieia 2.0 is for 6th, 7th & 8th standard school students. Students from 12 schools with their teachers participated in this workshop. They learn the importance of design and they also developed some new ideas for making their surrounding beautiful



# Design Thinking, MME @ DUDIC

This workshop is introduced design thinking to the Masters of Mathematical Education student of Cluster Innovation Centre, University of Delhi. They learn how to design the products, how to test them and how to design experience for their user.







# Programing 101 for school kids @ DUDIC



Programing 101 was a two day workshop organized by DUDIC with collaboration with infundo labs for school students and teacher to introduce them to the domain of electronics, micro-controller programing and robotics.



# Design Thinking Workshop by Mr. Raman Saxena @ DUDIC



**A seminar by**  
**Raman Saxena**  
Co-Founder | USID India Foundation  
Universal, Sustainable, Innovative Design for social change  
[www.usidfoundation.org](http://www.usidfoundation.org)

An experienced leader with experience predominantly in design thinking, design strategy, consumer-centric design, innovation, product conceptualization and management, design research, user experience, usability and consumer insight, Raman Saxena has an impressive track record of 20+ years of demonstrated ability of successfully conceptualizing and building products, manage design units and lead teams of professionals in a range of organizations

1. Design Thinking
2. USID Gurukul - Collaborative and Immersive Learning for social innovation

Seminar Hall, Cluster Innovation Centre

**3pm**

**18-19 Nov' 15**

Design thinking workshop on 18th and 19th November 2015

The workshop was centred around design thinking and processes that are necessary to the innovation process. The workshop was undertaken by Mr. Raman Saxena who is a pioneer of innovative design thinking processes who has an impressive track record of 20+ years of demonstrated ability of successfully conceptualising and building products, manage design units and lead teams of professionals in a multitude of organisations.

Over two days of individual as well as group interaction, Mr. Saxena guided the design fellows on their respective projects. He also gave substantial inputs on shaping human-centered design methodologies. The workshop was designed to structure the stages of design innovation across diverse contexts.



# Delhi Desing Innovation Boot Camp 2018

Government of India  
Ministry of Education

IIT, Delhi

SPA  
NEW DELHI

University of Delhi

Inviting Young Creative Minds  
to Participate in

**DELHI DESIGN  
INNOVATION  
BOOT CAMP**

If your brain constantly buzzes with bright sparks that need the apt fuel to ignite them, then you have come to the right place.

The "Delhi Design Innovation Boot Camp" is a joint initiative by the Design Innovation Centres\* of IIT, Delhi, University of Delhi and School of Planning and Architecture, New Delhi to promote design thinking and innovation across domains. No matter what discipline you are pursuing, design can play a significant role in changing the way we think and work and hence enable us to make leaps like never before.

\*The Design Innovation Centre (DIC), is a 'National Initiative of Design Innovation' by the Department of Higher Education, Ministry of Human Resource Development, Government of India.

**WHO CAN APPLY?**

To apply you must be a student currently enrolled in a Graduate or Post Graduate Degree course in a College/ Institute/ University located in Delhi.

Students from any discipline can apply.

For any further queries please write to: [ddbic2018@gmail.com](mailto:ddbic2018@gmail.com)

**HOW TO APPLY?**

1. Scan the QR code on this poster OR go to [www.ddbic.dudic.io](http://www.ddbic.dudic.io)
2. Fill the online registration form.

**WHAT AFTER THAT?**

1. The list of short-listed candidates will be displayed on the website on 31st August, 2018
2. If your name appears in the list, you will qualify for the Delhi Design Innovation Boot Camp: a series of workshops organised at IIT, Delhi, University of Delhi and SPA, New Delhi.

**Schedule:**

- Last date for Registration: 21st August, 2018
- Selection of participants: 31st August, 2018
- 1st Workshop: Sensitisation for design thinking at University of Delhi: 8th – 9th September, 2018
- 2nd Workshop: Need and Problem Identification at SPA, New Delhi: 22nd – 23rd September, 2018
- 3rd Workshop: Realisation of concept/ Idea/ solution at IIT Delhi: 6th – 7th October, 2018
- Camp: Idea Realisation through Design Development at University of Delhi: 27th – 31st October, 2018
- Exhibition: 2nd – 4th November, 2018



A boot camp jointly organized by DIC IIT Delhi, DIC School of Planning and Architecture, DIC University of Delhi.

This boot camp constituted of 3 workshops and a 5 day residential boot camp at DUDIC.

More than 400 students from different colleges of Delhi from different field of studies registered for the workshop.

37 Teams constituted one student from Social Sciences, Engineering & Design each worked with mentors to find the solutions and will prototype their solutions in upcoming 5 day residential boot camp DUDIC

Jointly organized by



IIT, Delhi



SPA, Delhi



University of Delhi

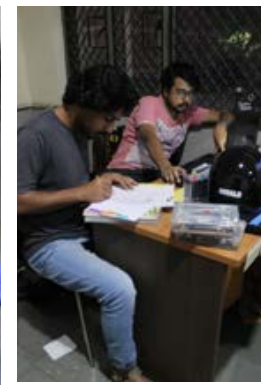
# DDIBC Prototyping Boot Camp 2018
















# NSCD Innovation Boot Camp @ DIC



The poster for the NSCD Innovation Boot Camp features a large lightbulb graphic on the left with a red circuit-like filament. The background is teal with circular patterns. Logos for the National Science Centre, Delhi, and the Design Innovation Centre, University of Delhi, are at the top. The text is in white and red, providing details about the boot camp's dates, location, and application process.

**NSCD INNOVATION BOOT CAMP**  
25th-27th April 2019 | 9 AM to 6 PM  
In collaboration with  
**Design Innovation Centre,  
University of Delhi**

The "NSCD Innovation Boot Camp" is a joint initiative by the National Science Centre, Delhi and Design Innovation Centre\*, University of Delhi. The Boot Camp is to promote design thinking, innovation, and product designing amongst school students.

\*The Design Innovation Centre (DIC) is a 'National Initiative of Design Innovation' by the Department of Higher Education, Ministry of Human Resource Development, Government of India

**Limited Participation on First Cum Serve basis**  
For any further details,  
Visit: [www.nscd.gov.in](http://www.nscd.gov.in)  
Contact: [innovationscd@gmail.com](mailto:innovationscd@gmail.com)

**25th April 2019**  
Workshop on **Design thinking, Creativity, Innovation**

**26th April 2019**  
Problem Search  
Ideation  
Solution Brief

**27th April 2019**  
Solution  
Implementation  
Prototyping Plan


**20th May- 25th May 2019**  
**Prototyping Camp**  
(Selected participants will continue to be mentored during the summer vacation to complete their product.)

**HOW TO APPLY?**  
Scan the QR code on this poster.  
Fill the online registration form.

**WHO CAN APPLY?**  
To apply you must be a 9th, 10th or 11th class school student from Delhi, group of 3 students from the same school.  
Students from any discipline with interest in solving problems can apply.

**VENUE**  
Design Innovation Center  
Dream Building, Chhatra Marg  
Delhi University North Campus  
Delhi- 110007

**Last date for Registration  
16 April, 2019**



National Science Centre, Delhi and Design Innovation Centre, University of Delhi organize NSCD Innovation Boot Camp on 25th - 27th April 2019, Followed by prototyping Boot Camp at DUDIC. More than 50 students from 16 schools attended the bootcamp. Students produce 12 Prototypes in following bootcamp with the support of designers and engineers of DUDIC. Students are also mentored by 15 M. Des. Students of School of Planning and Architecture, Delhi. Teachers accompanying with the students also have ATAL Tinkering Mentoring sessions for Electronics and Arduino IDE.



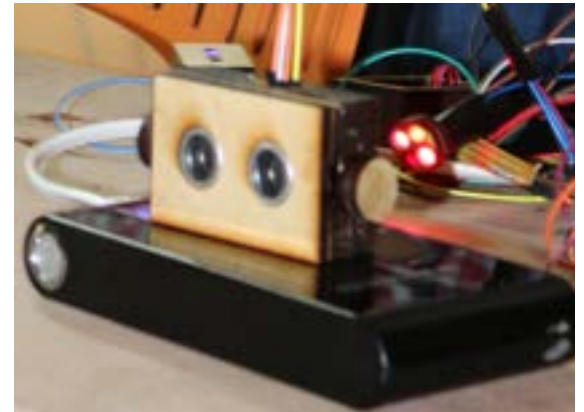
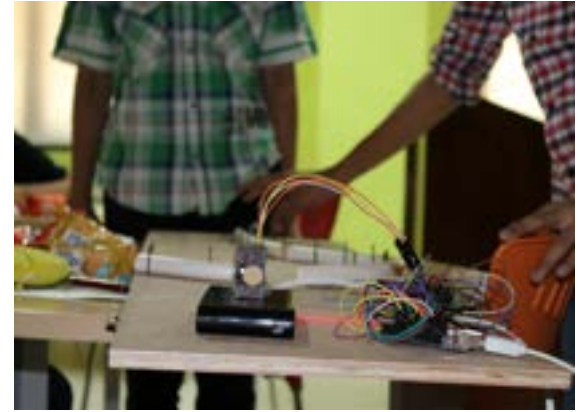








# NSCD Innovation Prototyping Camp @ DIC





# SolidWorks Workshop August 2019



## SOLIDWORKS

A workshop on 3D Modeling using SolidWorks

August 8th-9th 2019 | 10 AM to 4 PM

The Design Innovation Centre, University of Delhi ('National Initiative of Design Innovation' by Dept. of Higher Education, MHRD) is conducting a workshop for students with interest in 3D Designing.

You will learn here computer-aided drafting and design using Solidworks. You will also be introduced to the Solidworks interface and learn about creating sketches for modeling various 3D parts and assemble them to get desired design shapes. You will then be able to create Drawing for manufacturing and prototype purposes.

o Batch of 15-20 (First come basis)

o Access to mentor sessions and resource material

For further details contact:  
[dudicevents@gmail.com](mailto:dudicevents@gmail.com)



@dudiclab

### DAY 1

Solidworks basics and User Interface, Introduction to sketching, Basic Part Modeling, Editing parts

### DAY 2

Evaluate part, Creating assembly, Creating drawing, Render

### HOW TO APPLY?

Scan the QR code on this poster.

Fill the online registration form.

### WHO CAN APPLY?

Students from any discipline with an interest in learning designing through SolidWorks.

### VENUE

Design Innovation Centre  
Dream Building, Gate No. 4  
Chatra Marg, North Campus  
University of Delhi- 110007



Please bring your own laptops with SolidWorks pre installed. Contact us in case of any issue.

A 2 day workshop for 3D modeling with SolidWorks. The workshop was attended by more than 15 students from Design, Social Sciences and engineering background.



# A short Course on Innovation and Entrepreneurship

A Short Course on  
**Innovation & Entrepreneurship**

A 5 Day intensive crash course for young innovators aspiring to have their own start-up

**29 Sep to 05 Oct 2018**

Venue:  
Design Innovation Centre,  
DREAM Building, Gate No 4,  
Chattr Marg, University of Delhi,  
North Campus, Delhi - 110007

Course Fee: Rs. 1000/-

for registration visit



<https://bit.ly/2Qaj1wn>

**COURSE OBJECTIVE**  
To provide relevant knowledge base to young innovators and aspiring entrepreneurs to accomplish the development of their start-up ideas

**Expert Panels**  
Innovation and Opportunity Discovery  
Product Writing & Business Model Development  
Finance & Legal Issues

**Day 1**  
**September 29, 2018**  
Innovation, Motivation and Opportunities

**Day 2**  
**October 01, 2018**  
Business Planning and Product Writing

**Day 3**  
**October 02, 2018**  
Product and Service Development

**Day 4**  
**October 04, 2018**  
Finance Management, Marketing, and HR management

**Day 5**  
**October 05, 2018**  
Investor Preparation & Introduction to Venture Capital Firms, Bank Loans & Angel Investors

**Schedule for each day**  
08:00 - 11:30 Lectures by the experts  
11:30 - 12:45 The Break  
12:00 - 1:30 Lunch Break  
1:30 - 10:30 Activities

**for more info contact**  
Shreyash Bodi  
[shreyashbodi@gmail.com](mailto:shreyashbodi@gmail.com)  
+91 - 9810098812  
Shreyas Malviya  
[shreyasmalviya@gmail.com](mailto:shreyasmalviya@gmail.com)

**Organized jointly by:**



PHD Chamber of  
Commerce and  
Industry



Design  
Innovation  
Centre  
University of Delhi



A five day intensive crash course from 29 Sep to 05 Oct 2018, for students from different colleges who are aspiring for having their own start-ups.

More than 65 Students attended.

The workshop was jointly designed and offered with PHD Chamber, New Delhi as a partner

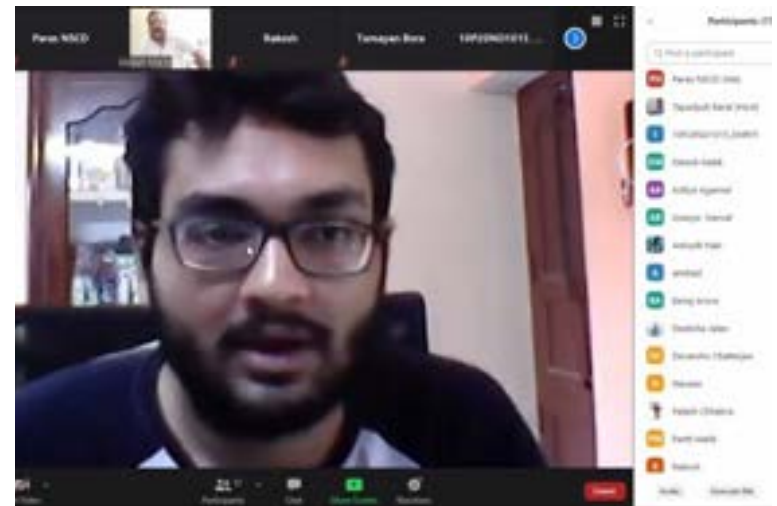
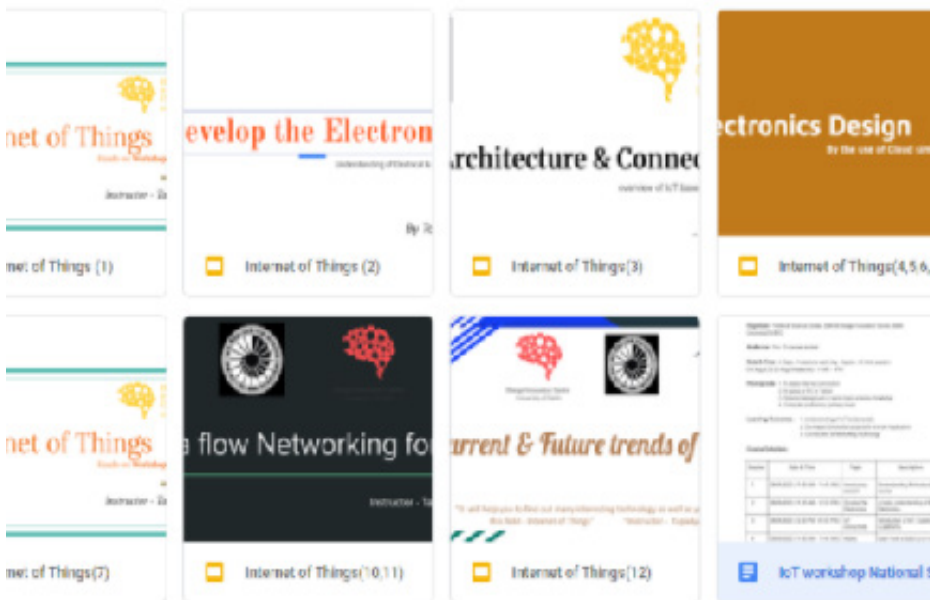
Jointly organized with



PHD Chamber of  
Commerce and  
Industry

# Collaborative workshop - “Internet of Things”

Students were taught another two Softwares - TinkerCAD & circuits.io for electronics designing & Arduino projects. Also, students were taught MIT App Inventor for developing android applications & Node-Red for IoT projects.



## Facilities

- Industry Linkage Programs
- DUDIC Project Website
- Seminar Hall
- Library
- Conference Hall
- Technology Business Incubator
- Co-Working Space
- Data Centre
- Office for Fellows and Interns
- Prototyping Workshop



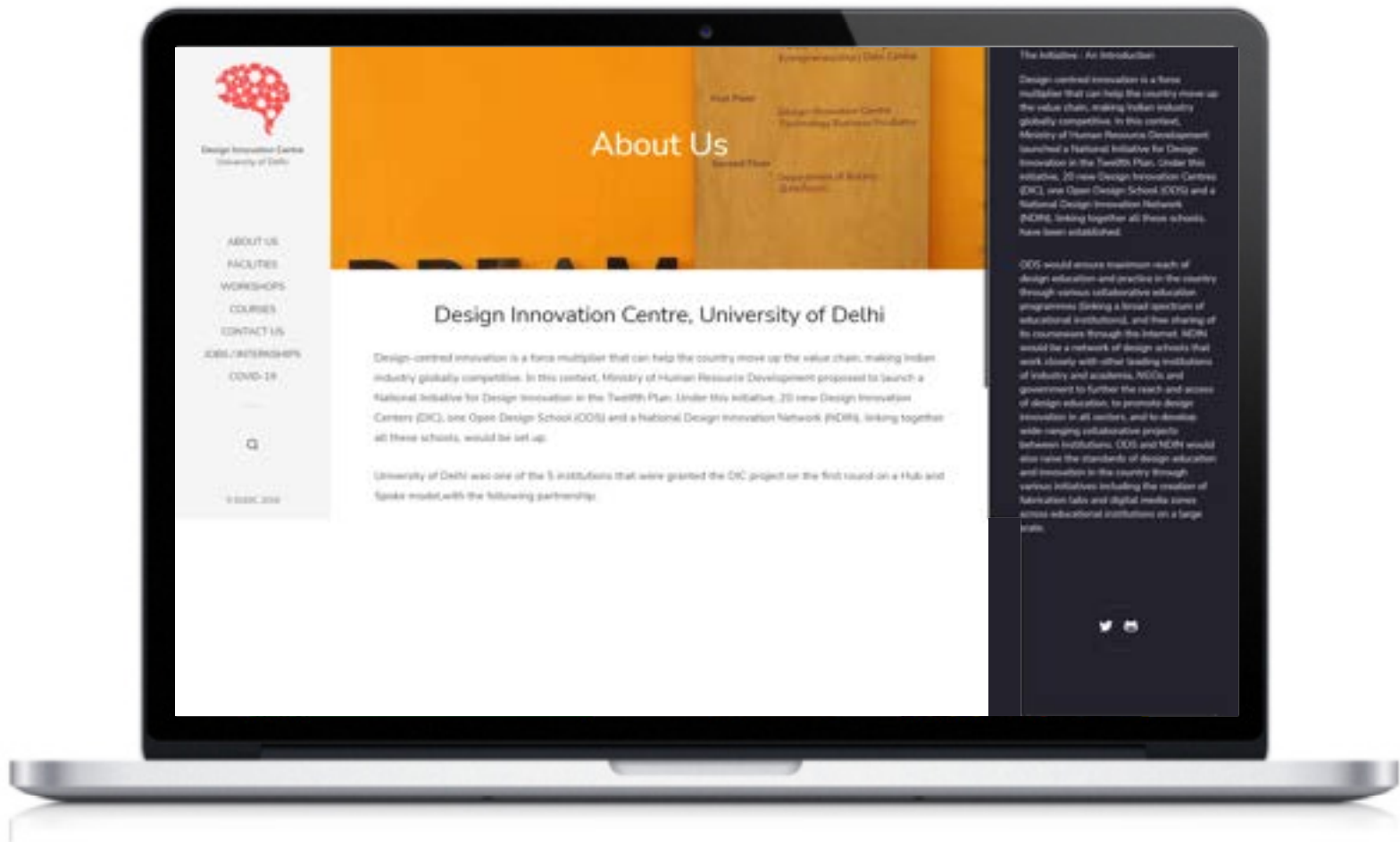
# Industry linkage Programs



DUDIC Industry Linkage Programme supports industry - Academia linkage in all fields that aims to expand the knowledge of the industrial processes, understand know-why, improvements in industrial processes and generally address the applied research concerns of the industry.



# DUDIC Website



www.dudic.in website showcases all the projects of Design Innovation Center. It also notify about the workshops and other events at DUDIC.

## Seminar Hall



# Library



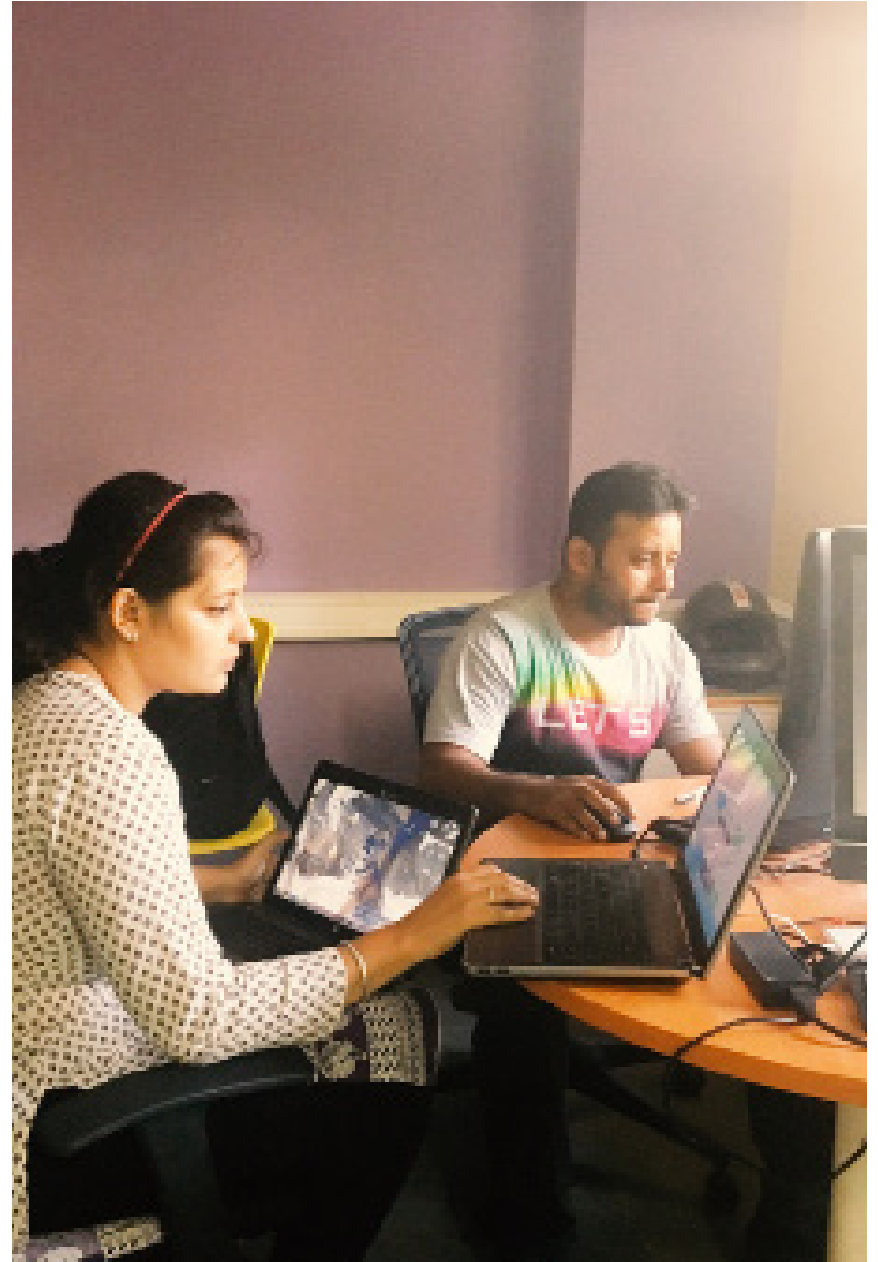
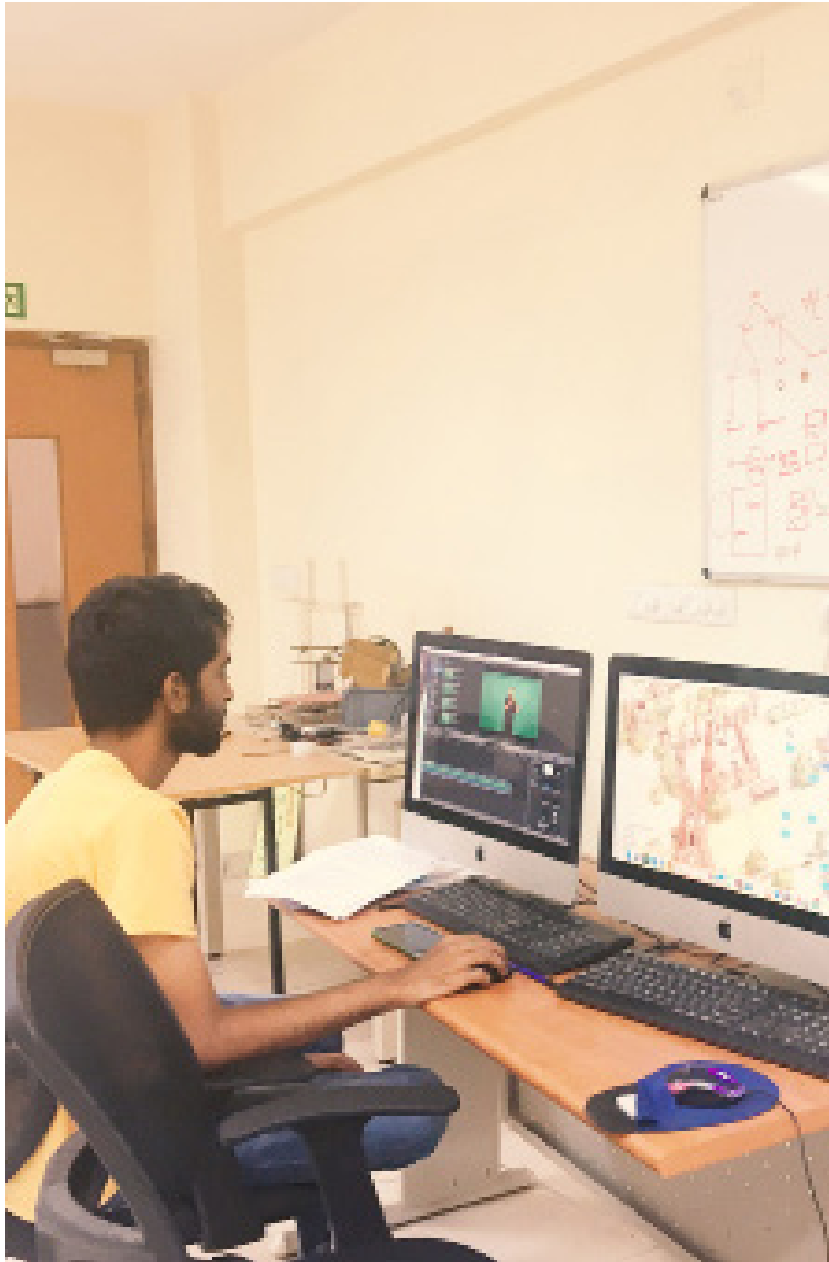


## Conference Hall





## Co-Working Space



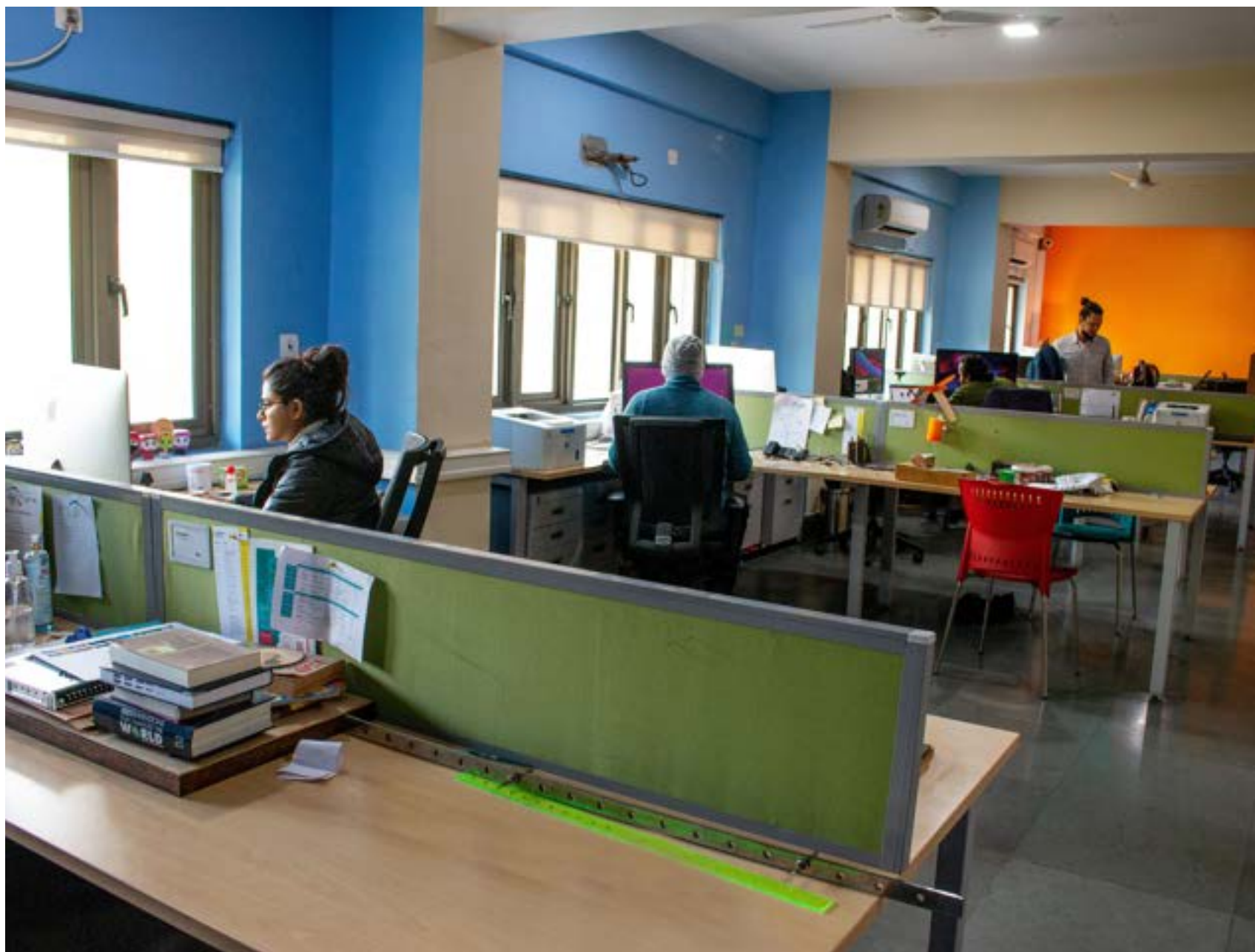
# Data Centre



# Instrument Design Lab



## Office for Fellows and Interns





# Prototyping Workshop





# Technology Business Incubation

DUDIC Co-working space

# Hitchar Labs



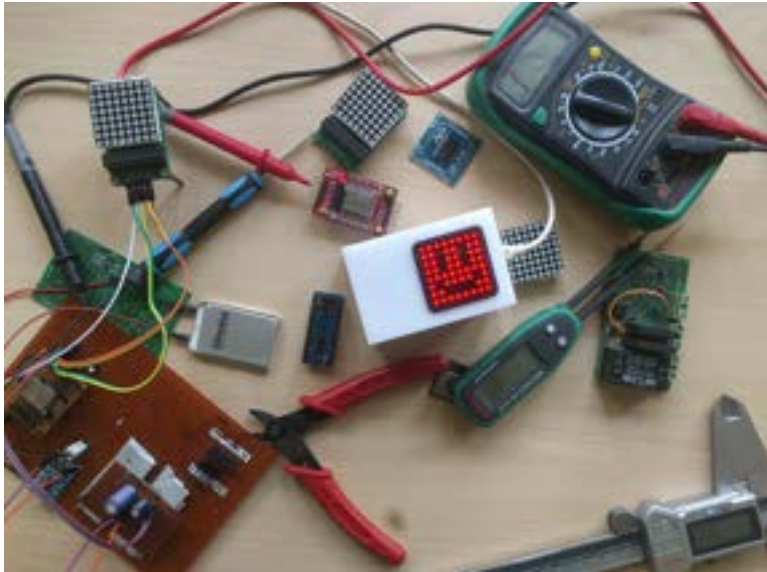
## hitchar labs.

Hitchchar Labs is an Augmented Reality based startup working towards enhancing the user experience in multiple industries. The idea is to make products and designs more interactive using immersive technologies, so that they can speak for themselves. We are re-defining the art of teaching kids, eating-out experiences, marketing and promotions and a huge number of areas where Augmented Reality can start a fire.





# Choko

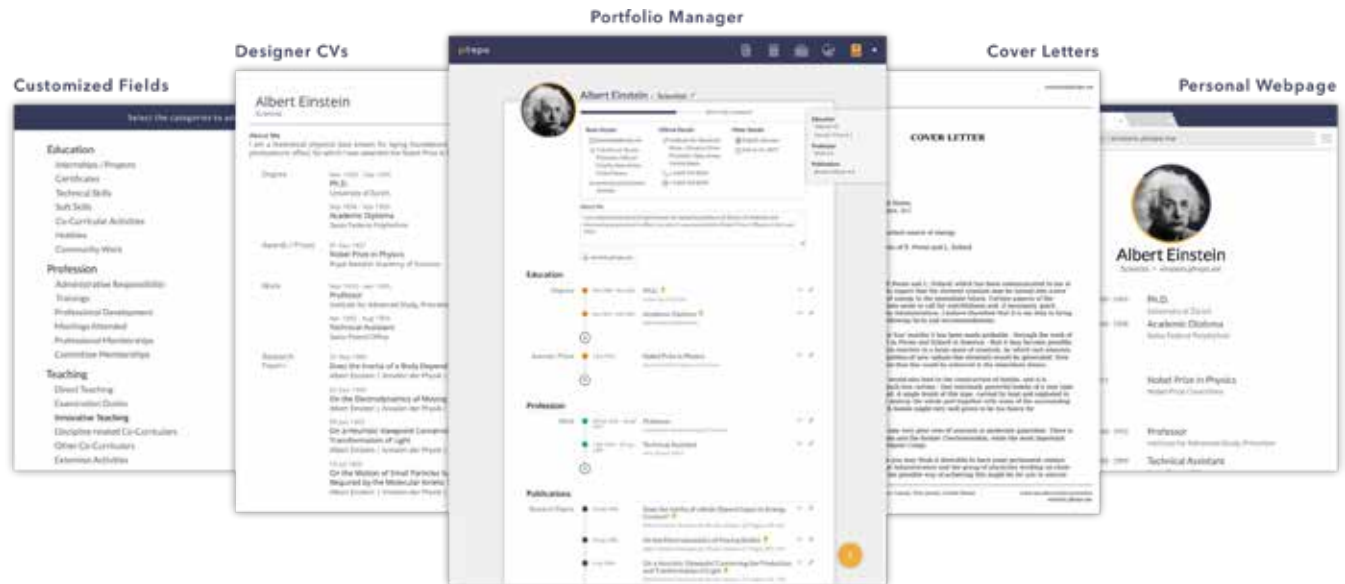


An IoT display module, made using 8x8 led matrix for the display and ESP8266(NodeMCU) as the micro-controller. A standalone tabel-top accessory, is directly connected to internet and could display any animation pattern/design of ve frames via MQTT protocoland Webhook APIs.

# PFREPO.ME

PFREPO.ME creates and maintains – in real time – your private digital career portfolio. PFREPO profile is a chronologically arranged academic and professional record. With every addition and update, your profile also evolves in real time. So, your CV and website are always up-to-date.

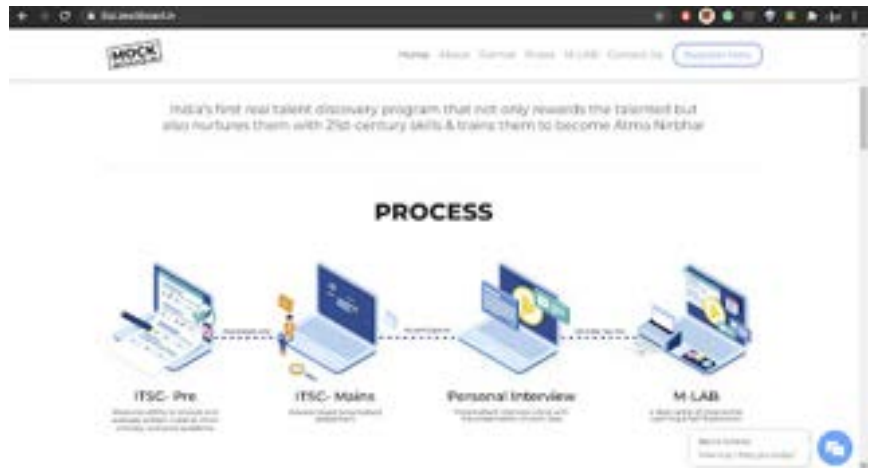
PFREPO.ME offers digital portfolio management & document vault. by click of a button user creates current CV, Letterhead, Personal Website, Application Dossier. Around the users profile they will be provided many Career Recommendations, Skill Development Opportunities & Professional Services.



# MockBoard

MockBoard is a Delhi based EdTech startup that aims to help students boost their preparation for board exams. MockBoard Exam Services conducts pre-board exams at the state level and provides expert feedback to students regarding their performance, mistakes, writing skills, etc. Along with expert feedback, we provide students with a detailed analysis of their marks (chapter level distribution and comparison with peers) and personalized AI-curated study material on the basis of their performance in the exam.

MockBoard has launched this online competition program. The sole purpose of this program is to identify and support young brains from tier 2 and 3 cities of the country. MockBoard will provide them opportunities to explore, financial support, mentorship and industry connections.



# SunoKitaab

Suno Kitaab is an education platform that provides 'Audio Teaching Material' for the schools of Grameen Bharat. It aims to empower sighted students and students with visual impairment so that they can study their syllabus books anytime-anywhere. It also helps school entrepreneurs to deliver classes more effectively. It focuses on active listening and attention span of a child. We developed stories with real effects and engaging activities to enhance these skills in a child.



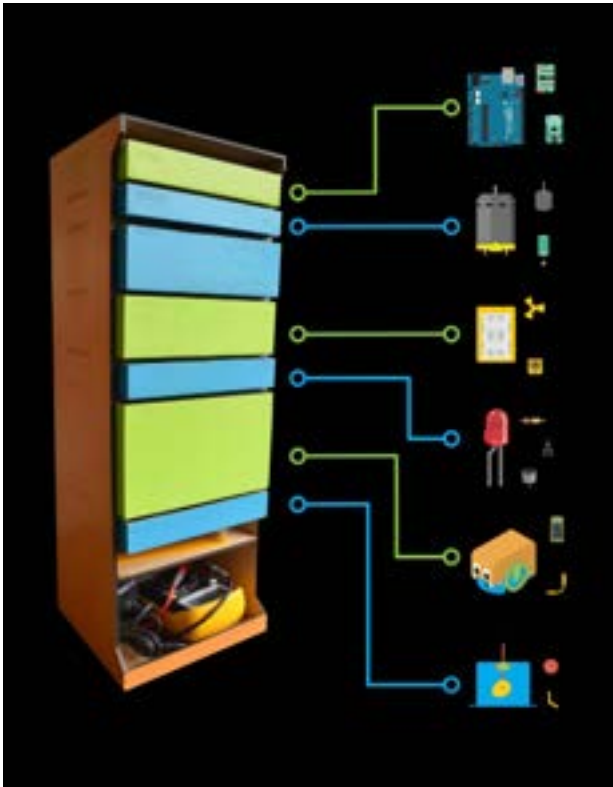


# Precisely

Precisely is a platform that helps high school and college students find the largest number of latest international scholarships, internships, competitions, conferences and more such opportunities. It matches each student to international opportunities tailored to their profile and interests and helps students in the application process by providing access to resources and personalized guidance from expert mentors.

Precisely has been a part of the V@C and UInccept NUMA Accelerator programs and the Global Entrepreneurship Bootcamp, ICANN NextGen and SNU AIC Venture Challenge.





imfundo   
www.imfundo.io

Blackbox is a kit containing all the tools and equipments required to initiate a kid into maker's world. We use it to make makers out of school kids. It enables them to make useful gadgets and devices on their own using concepts from mechanics, electronics and computing.

Imfundo currently offers its services in schools through a club model or a Lab model.

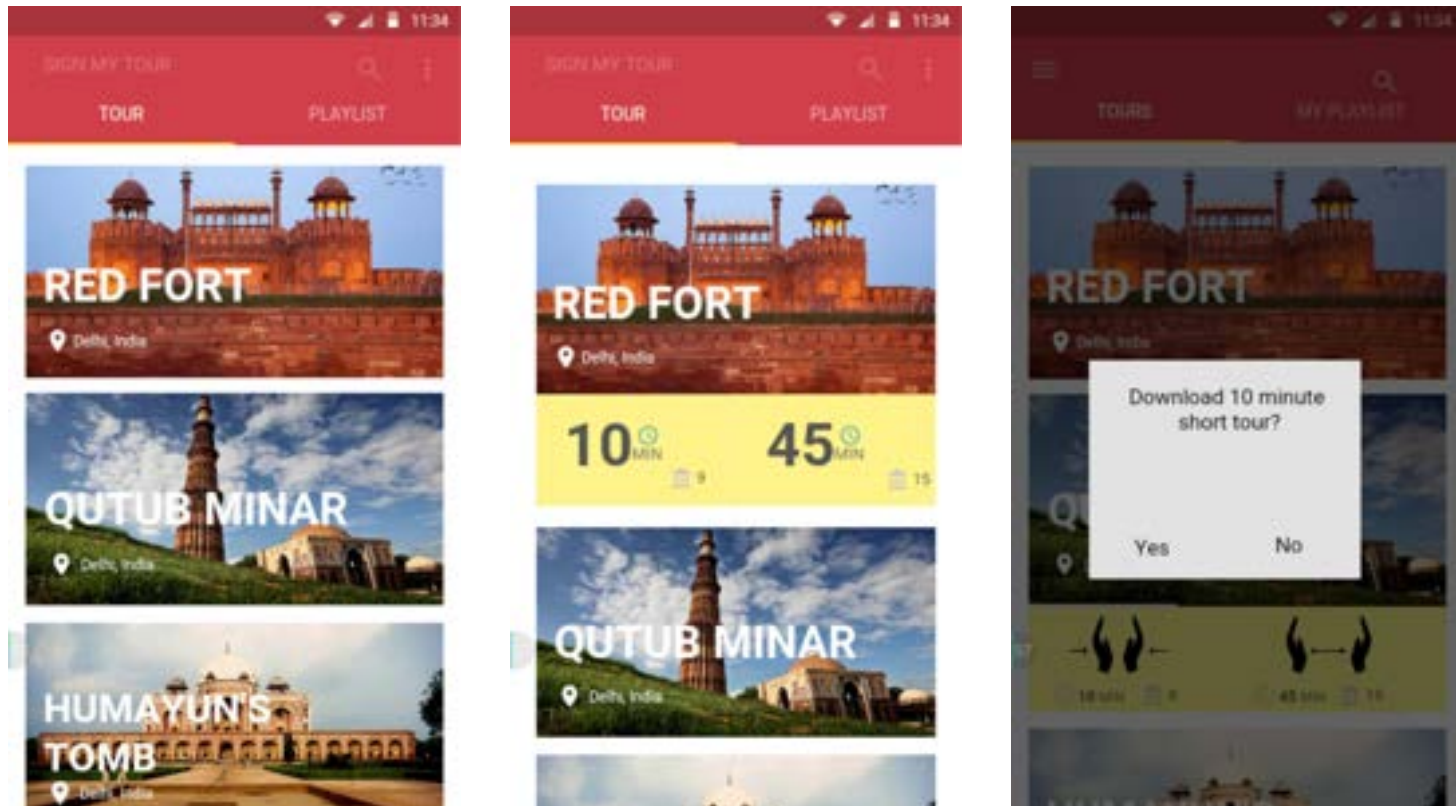




Survaider is an online SaaS CEM platform which lets enterprises understand voice of customers and act on it, across all their business locations in real time. Understanding customer feedback from all channels and acting on it in real time is hard. Survaider applies machine learning and NLP techniques to let our customers unlock huge stores of unstructured natural language information currently trapped in different mediums like social conversations, review websites and feedback forms.

Survaider has received an accelerator funding of Rs 25 Lakhs and currently operates from Bangalore.

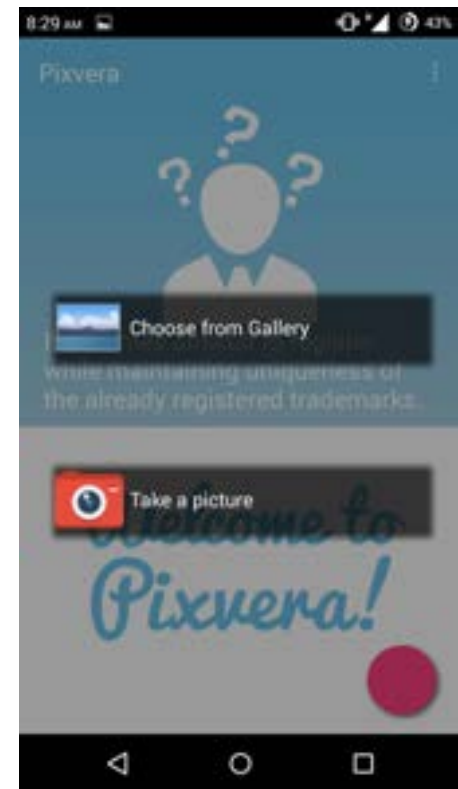




Deafcom India aims to create a series of apps that help differently abled tourists, both local and international visitors to enjoy our culturally rich monuments with ease. Our project deals with four distinct sections. Collection of historical facts, data surveying of monuments and then molding those experiences into stories, translation of these stories into sign language with the help of expert, designing of app and embedding the videos guide and maps into it, marketing and launch of the app.







Using computer vision and data analysis, we have developed a trademark search service that lets one find out the IPR infringement of their designs and logos. Our search service is based upon solving the problem faced during registering a new logo design. It intervenes the process in the initial stage when availability of a logo is being searched such that the time and money invested in application of trademarks can be saved.

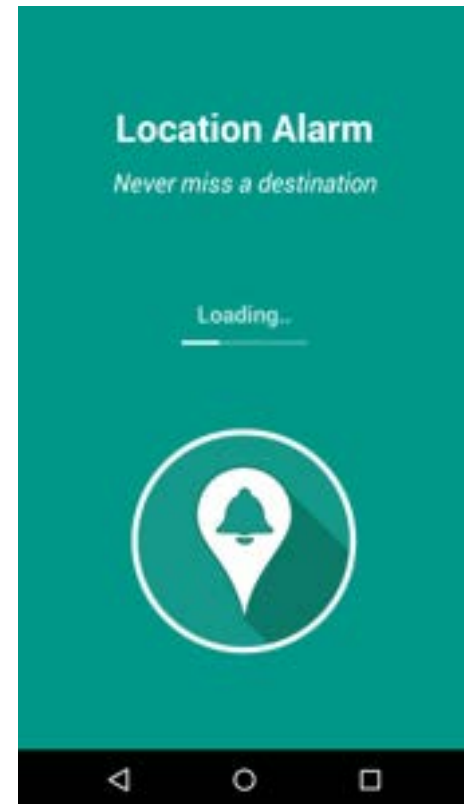
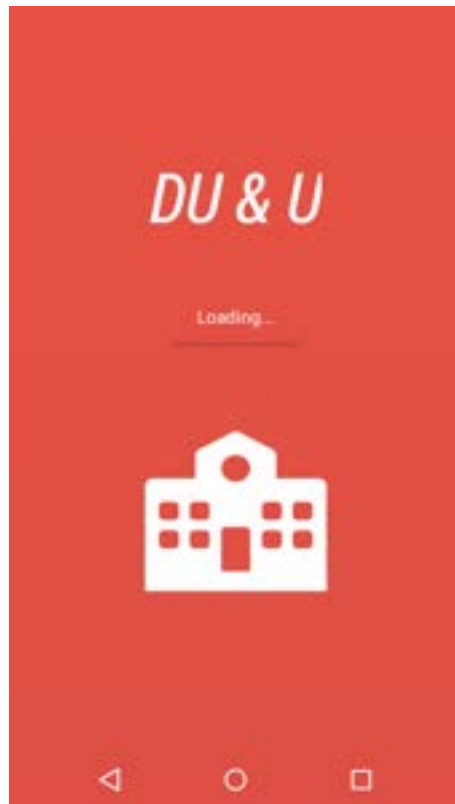




Mathematics has been declared the least favorite subject of students among 6-14 years of age and most feared subject too by ASER. Mathematical Games (MG) comes at the intersection of all these three segments hence solving all three problems and creating immense commercialization potential. In this project we are developing different types of games for mathematics learning. The following three games have been completed, tested and ready for commercialization.

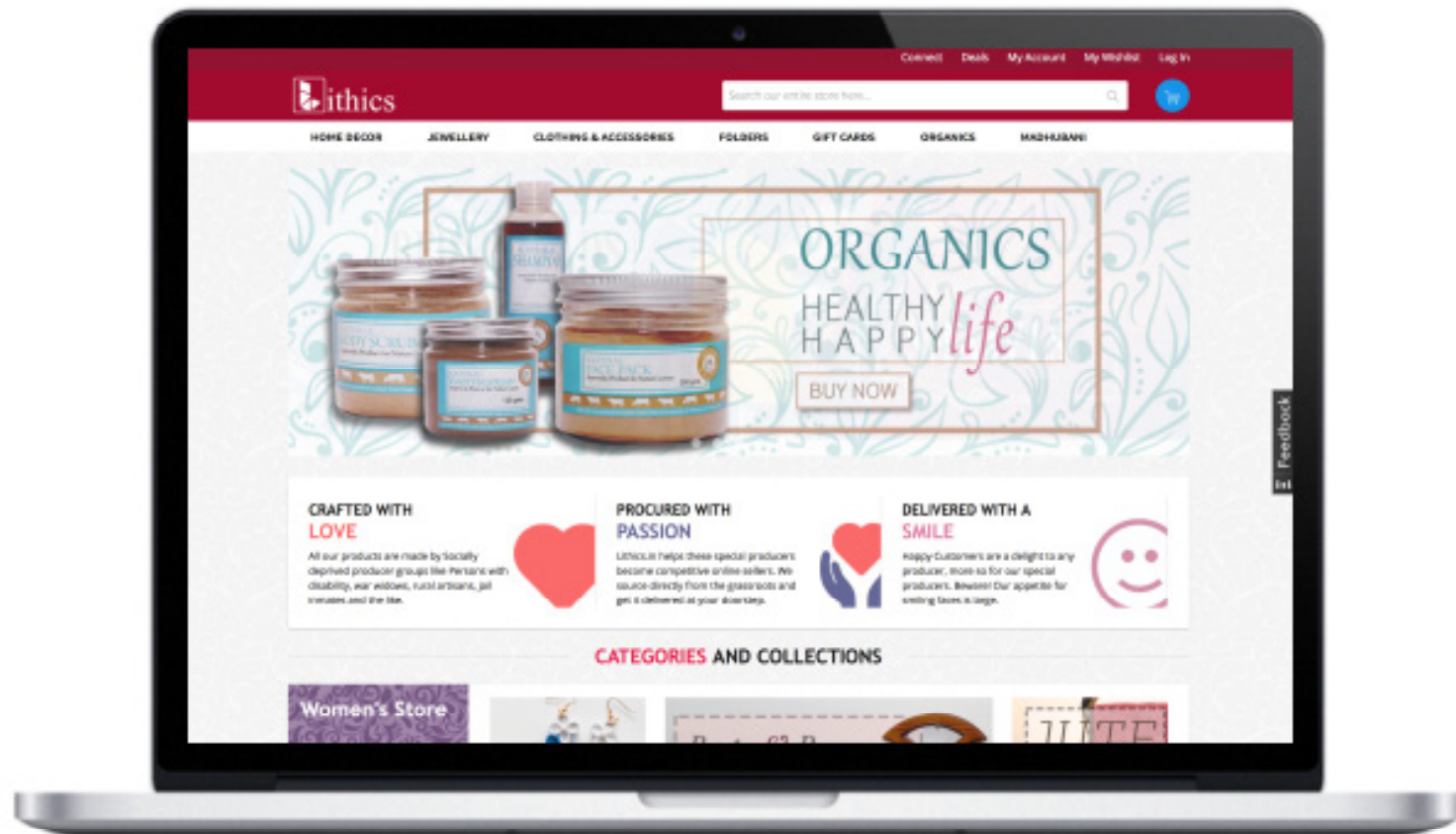
- Shores
- Tum-Yum
- Gem Quest





Tnine InfoTech LLP is a start-up based in DUCIC-TBI. We at Tnine provide innovative IT solutions to budding start-ups, industry and academia. Start-ups that have ideas but do not have a tech team to carry them forward, tie-up with us and see their ideas come alive. Tnine works mostly in web and android development and also has a bunch of design experts who create logos and business/event cards. We at Tnine work extensively towards UI(User Interface) design and UX(User Experience).





Lithics.in is an online store for handcrafted products made by NGOs who work with the differently abled population. Through this innovative aggregator platform, we aim to make online selling easier and profitable for the NGOs. All products will be sold directly by the NGO, Lithics.in will not produce or warehouse any of the products. However, we will keep a close eye on accounting, auditing, logistics, customer care, and marketing - fields that the NGOs cannot operate in. Vocational training, product design and development and quality checks would also be undertaken.





Hemp clothing is sustainable, comfortable, stylish, durable, affordable and planet-friendly. The fabric is weaved from the fibre extracted from top quality organic hemp crops cultivated in the fields in the foothills of the Himalayas. The design are focused toward US and European market and the value chain is created to accommodate sustainability and women empowerment of Uttarakhand Villages.







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