

Guest Editors



Dr. Ravindra Singh

Assistant Professor

Department of Design

Delhi Technological University, Delhi

Ravindra Singh is an Assistant Professor of Design at Delhi Technological University, Delhi. He is passionate about human-centric design; designing a product for a wide variety of users. His major research interest is Universal Design, Innovative Product Design, Sustainability, and Frugal Design. Ravindra Singh has done BTech in Mechanical Engineering from UP Technical University. He received his Master of Design (MDes) and Doctoral degree (Ph.D.) in Design from Indian Institute of Information Technology, Design, and Manufacturing, Jabalpur (IIITDM)

He was the student coordinator of the International Conference on Innovations in Design and Manufacturing (InnDeM) 2012, Design Workshop (DeW) 2010, 2012, 2013, 2014, and 2016, and workshops on IPR, etc. As a designer, he has contributed to national and international projects. To name a few, he assisted as a Visiting researcher at TU Darmstadt, Germany, where he worked on the development of an interactive catalog for multi-touch human-machine interfaces. In 2014 -15, he received the I- Design Award in the Medical Equipment category. He has authored research papers in referred journals and international conferences.



Mr. Partha Pratim Das

Assistant Professor

Department of Design

Delhi Technological University, Delhi

Partha Pratim Das is working as an Assistant Professor in the Department of Design, Delhi Technological University. His research interest areas are Human-Centered Design, Design for Sustainability, Grassroots Innovation, Design Thinking, Systems Design, Design for Experience. He has a Bachelor's in Civil Engineering, an M.tech in Environmental Science and Engineering, and M.Des in Industrial Design. Currently, he is pursuing a Ph.D. from IIT Delhi.

Editorial from the Guest Editors

By Dr. Ravindra Singh and Mr. Partha Pratim Das

Design is finding its importance in today's world. One cannot ignore the significance it has in our daily lives. The key challenge for a designer or a manufacturer is to integrate aesthetic appeal in the form of CMF (Color, material, and finish) in the domain of product design. The current design practice remains more concentrated or directed on specific set users (income groups). Product form and CMF varies based on economic parameters. To cater to such issues a hands-on activity was assigned to the B.Des 1st year students with an objective;

- (i) To improvise and redesign the existing form of consumer/white goods, e.g., toaster, hand blender, etc.
- (ii) Re-investigate the changing needs of the customer as far as the product is concerned.
- (iii) To identify the needs and requirements of the users and redesign the product based on revisited needs and requirements.
- (iv) To explore the possibilities with white goods (Home Appliances).

Fresh out of school, these students were first asked to tinker with existing household products. Where they learned about the "Front End: The parts of the product the user interacts with" and the "Back End: the inner workings which make the product run and is not in contact with the user."

In the Indian scenario, almost every locality has an Electrical Retail cum Repair shop where most of the day to day repairs of different household appliances take place. With the dwindling cost of household appliances and the comparable repair costs of these appliances, they either end up with the "kabadiwallas" or a fortunate curious child in the house gets to tinker with it.

Students were delighted to tinker with brand new appliances given to them. It was interesting to see the excitement of the students when they figured out the workings based on simple principles of science which were taught as a part of the high school syllabus.

In the tinkering task, the students got to deconstruct the white goods and put them back together to a working condition. The learnings from these were documented, and the next task was given to them. Here they picked up some of these existing products to reinvestigate the current needs. Aspects like ergonomics, aesthetics, usability, accessibility, etc., were studied. The need assessment was done with the help of surveys, interviews, and observations which was also a first for many of them. Parallel to this, there were two other activities that were being done by the students. The first was an introduction to the software Autodesk Fusion360, where they worked on 3D modeling. The other was to work on the High-Density Thermocol and PU Foam to make basic forms for their classroom assignments.

The deliverables for the project that they were working on was an integration of their classroom learning as well as the application of various principles, ideas, interventions they had acquired over the period of a semester. The final outcome of the project work was in the form

of Sketches, Computer 3D models, and scaled prototypes made of Thermocol or PU Foam. This issue of 'Design for all Institute of India' focuses on to reinvestigate the needs of the users to examine the current or existing products based on CMF and form of the product. As a result of this design project, the design students had a better understanding of "form follows function and function follows form" along with material knowledge and prototyping skills.

The skills from the assignments that were practiced in class helped them realize the form in their products.

Regards,



Dr. Ravindra Singh

Mr. Partha Pratim Das