

Team ‘I3DforToys’ declared winners of Toycathon 2021-22 Physical Edition

Team **I3DforToys** from I3D Lab, CPDM won the Toycathon Grand Finale Physical Edition 2021-22 held during May 24–26, 2022, sharing the top spot with 4 other teams under Track 2 for senior-level participants. Mentored by Prof. Pradipta Biswas, CPDM, the winning team includes Vinay Krishna Sharma, LRD Murthy, Himanshu, Somnath Arjun, Jeevithashree DV & Priyam R.

The team developed an eye gaze-controlled RC (radio-controlled) toy car for children with severe motor impairment using a universal multimodal joystick controller and an inclusive and affordable human-robot interaction system under the theme ‘Toys for specially-abled/Divyanga children’. For more details watch: <https://youtu.be/Jhn-2rxQG2U>

The prize reward included Rs 25,000/-, and the I3D Lab also received a grant of USD \$5000/- from APT Young Professionals and Students Programme (APTYPs), Asia-Pacific Telecommunity to organize a hackathon on this technology later this year. For more details visit: <https://www.apint/APTYPS>

Toycathon is an inter-ministerial event organised by the Ministry of Education (MoE) in coordination with five other Ministries. MoE’s Innovation Cell at All India Council for Technical Education (AICTE) is acting as the nodal agency for organizing Toycathon 2021. The inter-ministerial Toycathon focuses on conceptualizing new and innovative toys using local materials which are economical, affordable, safe, environment friendly, and of exceptionally high quality for both Indian and global markets. For more details visit: <https://toycathon.mic.gov.in/index.php>

The MoE-Design Innovation Centre @ IISc (DESIC@IISc) (<https://cpdm.iisc.ac.in/desic/>) along with other Design Innovation centres supported Toycathon from the initial stages contributing to problem statements and categories. DESIC@IISc acted as a nodal centre and hosted the Toycathon Grand Finale Digital Edition 2021 on 22-24 June 2021 and mentored the participants. Three student teams and one start-up team from the centre based at CPDM were selected for the Grand Finale at Delhi, with Team I3D going on to win the prize under the Track-2 category for Divyang.

A total of 1.30 lakh people comprising of students & teachers from schools & colleges, design experts, toy experts, and start-ups got together to crowdsource ideas for the competition and submitted around 17,000 ideas. 1,567 ideas were shortlisted during an online finale and a total of 117 teams were declared winners of Toycathon 2021 under different themes.

About the technology developed: People with severe speech and motor impairment (SSMI) face challenges in natural physical interactions with everyday objects and have familiarity with eye-pointing-based communication. The team, *I3DforToys* developed a universal multimodal joystick controller and an inclusive and affordable human-robot interaction system that taps into the functional capabilities of people with SSMI and supports their education, entertainment, and everyday fun. The team deployed the technology through a toy as an eye gaze-controlled RC (Radio-Controlled) car for children with severe motor impairment. It involves a multimodal joystick controller that enables to operate any joysticks from a computer and any joystick-controlled RC toy through eye gaze, gesture, direct voice input and so on.

Link to patent application: [WO2021090102 SYSTEM FOR OPERATING JOYSTICK \(wipo.int\)](https://wipo.int/patent/wo/2021/090102)