International Institute of Information Technology Bangalore

SAMVAAD Newsletter

Theme: Design for Technology

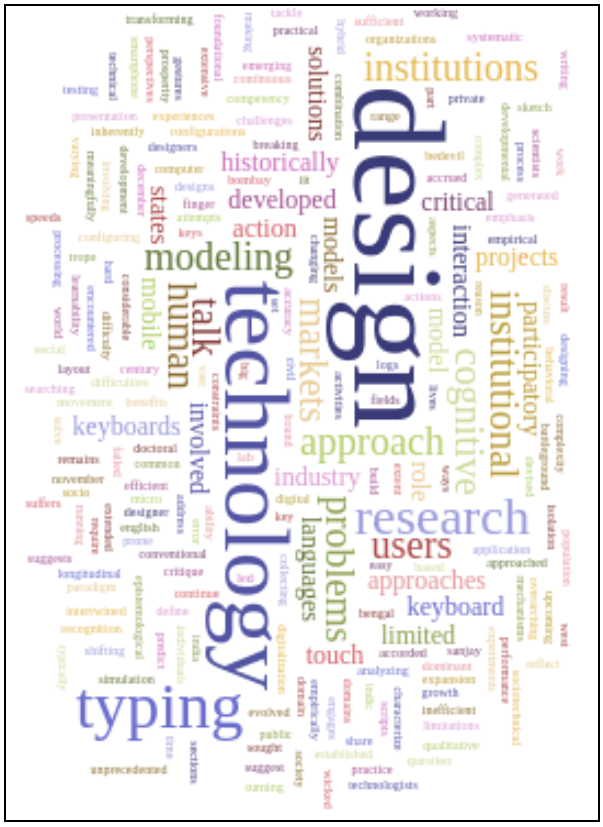
November-December 2019

Socio-technical design: Challenges of engaging meaningfully and critically with technology design in development contexts
by Mr. Linus Kendall, Sheffield-Hallam University & IIIT Bangalore, and Prof. Bidisha Chaudhuri, IIIT Bangalore
on November 25, 2019
https://youtu.be/sQIWbMY9UP8
https://youtube.videoken.com/embed/sQIWbMY9UP8

Decoding Typing in Indic language using Cognitive Modeling
by Dr. Sanjay Ghosh, Google
on December 02, 2019
https://youtu.be/5Q2xZQ7u1RA
https://youtube.videoken.com/embed/5Q2xZQ7u1RA

Design for Digitalization
by Mr. VeeraVenkata Atmakuri, Siemens
on December 12, 2019
https://youtu.be/Rn0pyE4mDJo
https://youtube.videoken.com/embed/Rn0pyE4mDJo

Thinking institutionally about technology design for social inclusion
by Prof. Balaji Parthasarathy, IIIT Bangalore
on December 19, 2019.
https://youtu.be/qXcoHaiwLPg
https://youtube.videoken.com/embed/qXcoHaiwLPg



The Samvaad talk series on the theme of ‘Design for Technology’ focused on aspects such as socio-technical design, emerging institutional approaches in design for social inclusion, design through cognitive modeling and transformation in the role of designers. This series comprised of four talks.

The first talk in this series was by Mr. Linus Kendall (Sheffield-Hallam University & IIITB) and Prof. Bidisha Chaudhuri (IIITB) on November 25, 2019. The talk began with the speakers introducing a common trope associated with design related to the idea that designers build and social scientists critique. The speakers explained how approaches such as critical and participatory design and action research contradict this notion. In this interactive session the speakers reflected on their experiences in research projects in West Bengal involving both qualitative, action and participatory design approaches. They discussed some challenges involved in configuring and running design projects that engages meaningfully with critical socio-technical perspectives on technology. In the course of their talk the speakers suggested some ways in which sociotechnical design can be approached. They explained the importance of shifting the attention from building an information system to capacity building. They discussed the role of collaboration in the information system which can be within the organization, within the field office, within the village, with experts and with the researchers. They also examined questions such as what constitutes information and data in the IS, whose agency is realized in the becoming of information or data and how is this agency realized through everyday practices.

The second talk in this series was, by Dr. Sanjay Ghosh, Google on December 02, 2019. The first part of the talk touched upon foundational aspects of cognitive modeling in Human-Computer interaction with emphasis on its application in typing on mobile. Dr. Sanjay explained how use of diverse languages in emerging markets like India is a big challenge for technologists due to limited English writing ability among first time smartphone users and inherent complexity of Indic scripts which makes typing on mobile inefficient and error prone. Therefore it becomes important to design more efficient and easy to use keyboards for such users. The second part of the talk explained the research work that has attempted to solve this problem through cognitive modeling approach. This research has empirically developed a set of models which can predict the typing speeds, accuracy, and learnability given any keyboard layout using any combination of typing

gestures for users of varying competencies. Dr. Sanjay explained how the micro human behavioral activities during the typing process like finger movement are captured by the model and how data related to human typing performance was generated from longitudinal experiments. In conclusion he explained how this systematic modeling approach can be extended to model keyboards of many other languages of the world.

The third talk in this series was by Mr. VeeraVenkata Atmakuri, Siemens on December 12, 2019. The talk focused on how in the new era of digitalization and Industry 4.0, the conventional role of the designer is transforming with the changes in the industry. As head of experience design at Siemens Corporate Technology, with a research focus on experience design for Industry 4.0, Mr VeeraVenkata discussed how design team at Siemens has a multidisciplinary and iterative approach to designing their products and how they incorporate the users and customer needs in their design. Innovation in design can solve trivial business and human problems and also can be positioned to achieve key business objectives. He emphasized on the idea that 'Design makes technology work for humans' and that this can be practiced in the design through multidisciplinary teams that focus on innovative cognitive design practices.

The last talk in this series was by Prof. Balaji Parthasarathy on December 16, 2019. The talk started with Prof. Balaji emphasizing that while the expansion in the roles of states and markets as the two dominant institutions in the public and private domains has led to unprecedented growth in prosperity, they have failed to address the many "wicked" problems. This has limited the extent to which vast sections of the population can share in the developmental benefits that have accrued. The talk discussed the difficulties in designing solutions to such problems which are partly because the problems are hard to characterize or define and also because solutions have typically been sought by states, markets or civil society organizations working in relative isolation. Therefore technology though useful is far from sufficient and new configurations are being devised as each of the earlier institutional mechanisms suffer from their own limitations. Subsequently in the talk, Prof. Balaji presented conceptualization of a new institutional approach: the hybrid domain. Under this emerging institutional form corporations, states and civil society

organizations develop common agendas, despite the differences in their primary objectives. Social innovation can be placed at the intersection of changing the state-market relations, institutional design and technology innovation.

This summary has been compiled by Arvind Upreti.

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