



Student Start-up Support System (S4)

Report of a 2-day Workshop:

Learning to Use Design Thinking & Design-Driven Innovation

Solving Sanitation Related & Other Social Challenges

Date: 16th – 17th May 2014

Time: 10:30 to 17:30

Venue: 126, GTU Student Startup Support System Co-Creation Center (S4-C3), ACPC Building, LDCE Complex, Ahmedabad-380015.

“Design Thinking and Design Driven Innovation based approach to solve social challenges “was a workshop that was organized on 16th & 17th May 2014 at **GTU Innovation Council Student Start-up Support System Co-Creation Center (S4-C3)**. More than one hundred first year young enthusiasts from 8 different colleges came together at S4-C3 to go through the concept of design thinking. In the morning all the students were divided into 16 teams. Hon. Dir. of GIC **Mr. Hiranmay Mahanta** took the session to discuss a few questions such as:

“What is innovation?”

“Why is it necessary?” and

“How does design-driven innovation matter?”

He stressed that a challenge may be simple but it needs strategy to tackle it in a systematic approach so that it address the real needs with max impact.

Well before union Govt. declared a nation- wide Clean India movement, GTU Innovation Council made an attempt to involve its 1st year Eng students to develop technology interventions to solve challenges related to social needs. When the students were to select social problems, that they would like to attempt during the workshop, it was found that sanitation related issues were of the highest importance.

GTU has been working on Design-oriented and Project-based Learning systems since the first semester of 2012-13 and the new syllabi are being implemented since the first semester of 2013-14. GIC has been working on systematization of the Final-year project and problems of

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social relevance have been on the agenda from its beginnings in August 2010. Such workshops represent a creative convergence of the two approaches.

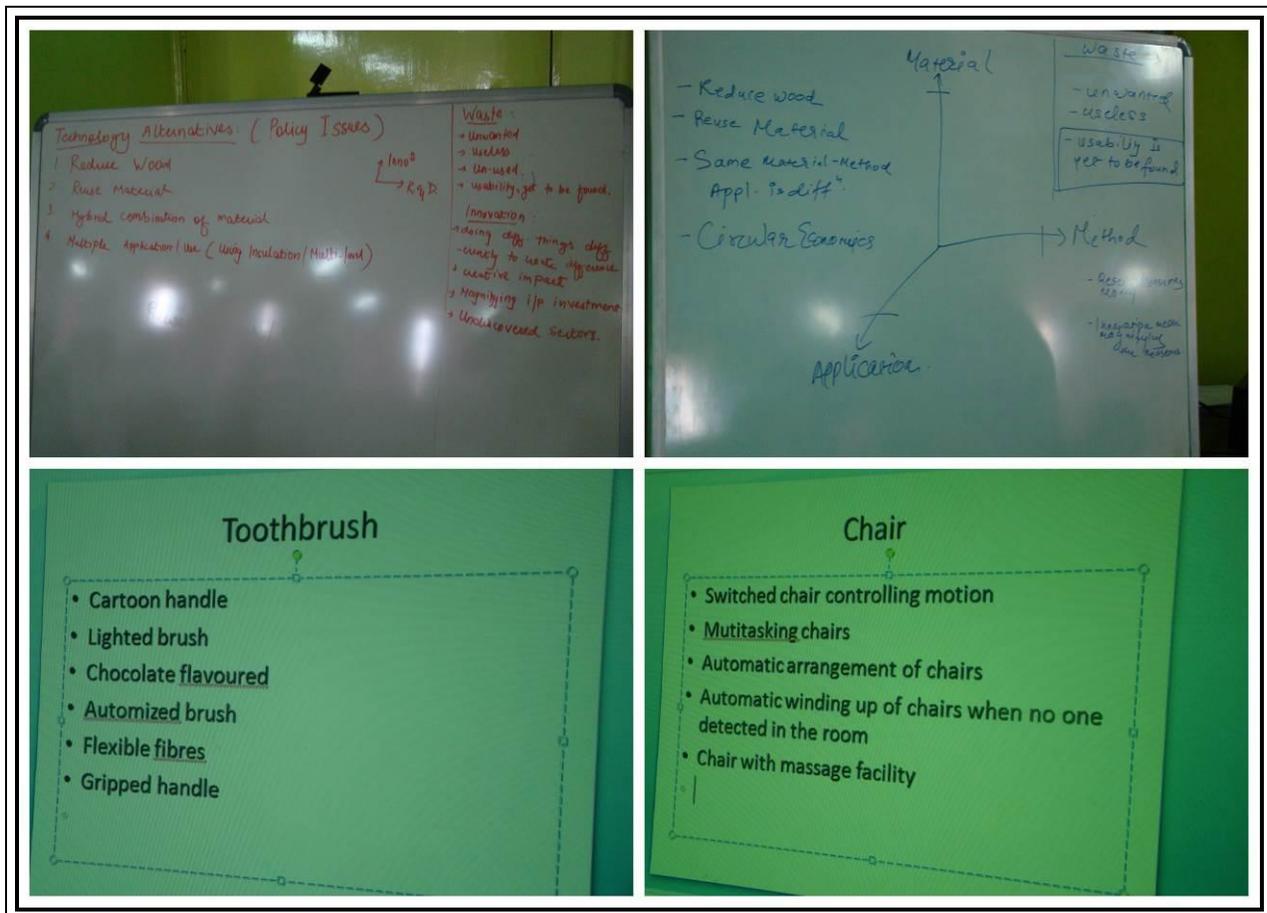
The workshop was managed by GIC at S4-C3 in the presence of Dr. Akshai Aggarwal, Hon'ble Vice-Chancellor and Dr. Jayanti Ravi, Commissioner of Technical Education. This was an attempt by GTU's students to locate challenges faced by our society in sanitation and to find technological solutions to solve them.



Picture: Design Thinking and Design Driven Innovation Workshop

Mr. Mahanta took live example of matchbox to explain to neophytes. The ideas that were generated up by the students were:

1. Reduce wood in making matchsticks.
2. Reuse material.
3. Hybrid combination of material to be used.
4. Multiple applications of matchboxes.



Picture: Various solutions to different everyday problems faced by the common man

Next a tiny demo was given about what they would have to do in the next 48 hours. Each team was named after a great scientist of India.

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The entire workshop happened in real time hands-on mode which gave chance to all students to understand steps on how to locate a challenge, how to document it and how to develop the strategy to solve it so that the solution addresses the need with max impact without affecting ecology.

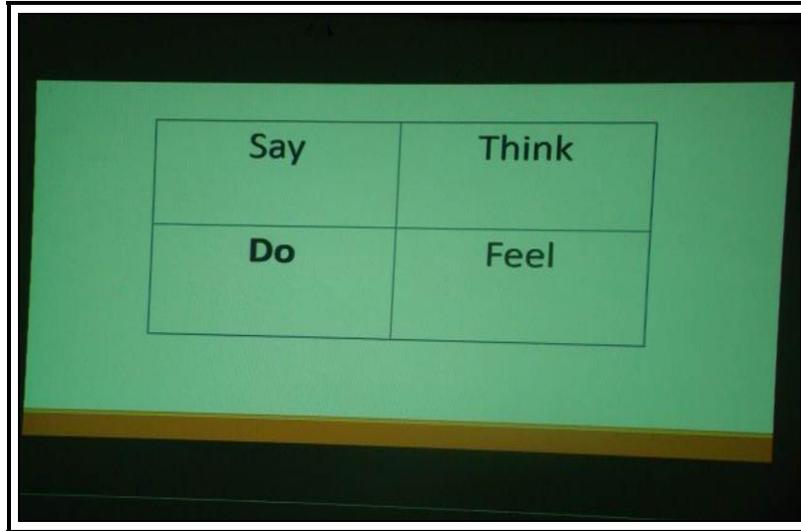
The scientists were:

Team	Scientist	Team	Scientist
1	Dr. C.V Raman	9	Dr. Anil Kakodakar
2	Dr. A.P.J Abdul Kalam	10	G.N Ramachandran
3	Birbal Sahani	11	Subramanyam Chandrashekar
4	Shanti Swaroop Bhatnagar	12	Satyendra Bose
5	Vikram Sarabhai	13	J.V. Narlikar
6	Srinivasa Ramanujan	14	Meghanad Saha
7	Homi Bhabha	15	Subhash Mukhopadhyay
8	Raja Ramanna	16	Birbal Sahani

Table: Name of various teams based on names of different scientists

Advancing the event , **Kaushik Akiwatkar** took over the session about the “Say”, “Do”, “Think” and “Feel” model. **Adhish Patel** covered “Form”, “Feature” and “Function” of prototype. Then

they gave the problem definition: "Sanitation" - the most important topic in India. All the teams were given some specific places for surveying.



Picture: The SDTF model

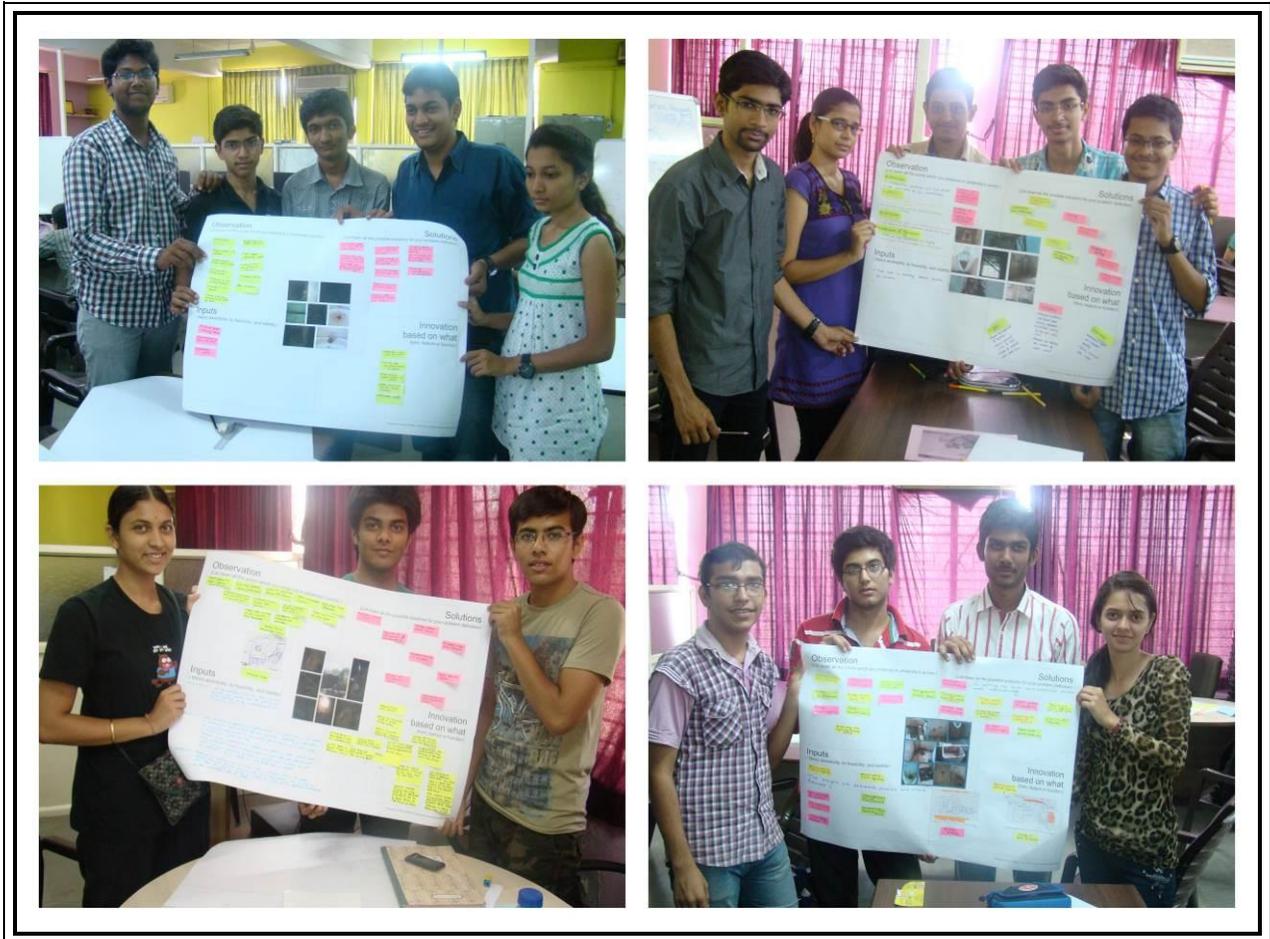
They were also given the predefined templates containing the following points:

1. **Interview.**
2. **Dig deeper.**
3. **Capture Findings.**
4. **Share your solution and get feedback.**
5. **Define: Problem Statement.**
6. **Sketch 3-5 radical ways to meet the user's needs.**
7. **Share your solution and capture feedback.**
8. **Reflect and generate a new solution.**
9. **Build your solution.**

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Then the teams were sent for surveying at various venues. By about 1 PM, the students returned with the photographs and video interviews and problems which people faces in the sanitation system and were ready to work on their SDTF models. The mentoring took place concurrently while the students were working on their SDTF models.



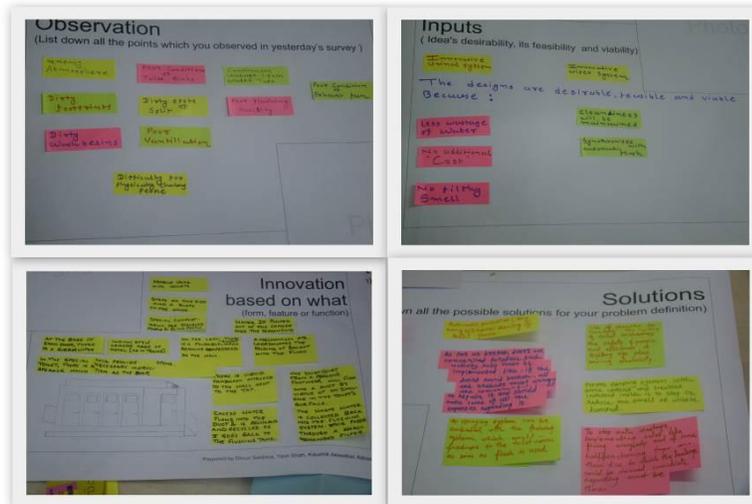
Picture: Students with their canvases

After completing the SDTF model, participants were ready to focus on understanding the underlying factors of the problem given to them, based on their observations. It's very necessary to understand and feel it from within in order to enable them to design solutions

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which will not just depend only upon the ideation plane, but also feasibly viable till the implementation level.



Picture: Various segments of canvas filled by students after surveying

Then the actual process occurred with inputs and solutions by the participants, based on the real-time impact of it; followed by Form, Feature and Function.

The work carried out by the students in the past 48 hours was presented in front of the dignitaries that included – Dr. Akshai Aggarwal, Hon'ble Vice-Chancellor of Gujarat Technological University, Dr. Jayanti Ravi, Commissioner of Technical Education, Prof. Dholkia, Principal of L. D. College of Engineering and Faculty Members.

The event ended with a quiz session on the inspiring personalities which had help in catalyze this 48 hours rapid-real learning process.

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The program was organized by GIC in response to the suggestion from CTE, Gujarat and her team to have a program, wherein the students from seven colleges (under TEQUIP 2) and LDCE could be given a preferential entry to the GIC program. They mobilized students from the eight Colleges for the GIC program..



Picture: All the participants and dignitaries that attended the workshop

"Everyone must be his own Scavenger." - Mahatma Gandhi

"Prime Minister Narendra Modi asked for a resolve to present a clean India – Swachh Bharat – to the memory of the Mahatma on his 150th anniversary in 2019."

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"PM Narendra Modi's call to clean India by 2019 is commendable," says President Pranab Mukherjee on eve of Independence Day address

Feedback from a few participants

"It was an amazing event. We had so much fun while learning during the surveying session. Learnt a great deal about scouting challenges based on design principle and then try to solve them."

- Tirthesh Shah (NSIT)

"I never thought of working on such a common but very important issue. Thinking out of the box is what we learnt today."

- Malay Shukla (SALITER)

"First we did not understand the concept. But after we got involved in the process, we found it very interesting and strategic to solve real life problems involving design thinking."

- Roshni Nair (LJIT)

"We enjoyed the entire event and we look forward to attend the future events at GIC on innovation, design and entrepreneurship ."

- Yatree Pandya (LDCE)

"I learnt about the famous personalities of our nation after hearing about them during this design driven innovation workshop while trying to solve sanitation related challenges "

- Jugal Patel (NSIT)

"We were sad to see the sanitation problems that our city faces but this workshop not only help us to understand the challenges better but also it helps in solving them with design strategy."Krutik Parikh (KIT)

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