

Plan D... Finding Design Solutions

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Most of the problems we face in life are not necessarily Design problems. But the act of design is not much different from the way we go about in life. We respond to situations by creating or modifying things around us. Design is about creation. Tangible or otherwise, when the creation is unique, intentional and towards a purpose. Invariably, the creation is imparted qualities of both newness and elegance. Accidental creation is not usually labeled as design. So **how should design deal with real world problems?** Would it have a role to play?

Design is both the act and the outcome of a unique, intentional creation, tangible or otherwise, towards a purpose.

What is usually not visible is the fact that the new creation, when set forth into the real world creates its own consequences / repercussions by re-aligning the complex forces and connections between the elements of a problem / situation and changes it forever, for better or worse.

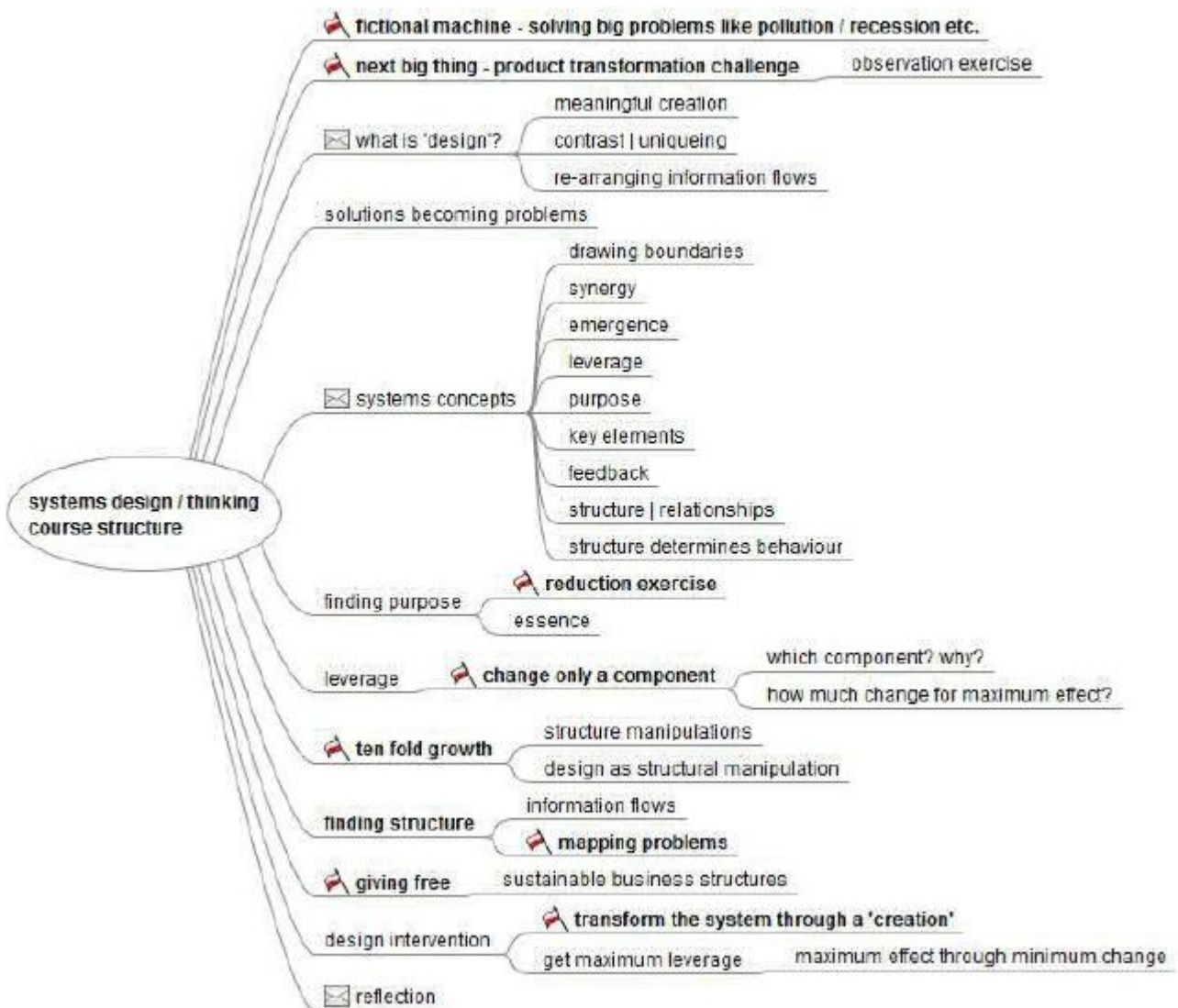
We recognise this as 'systems' territory due to the complexity of the connections and the number of connected elements involved. An implication that is not so obvious is the possibility that a situation can be approached from both ends namely, the complex fuzzy end of the 'problem state' as well as the seemingly innocent end of product creation. Both approaches can unveil the structure of the problem and identify 'leverage' points for design intervention – where the transformations could be significant.

Both these approaches are developed into two courses that I have been teaching at many design schools in the country. The Systems Thinking / Design course approaches the topic from the complex problem point of view while the Introduction to Design Processes course looks at it from

the product creation point of view. Both courses attempt to identify leverage points to bring about a larger transformation through a simple intervention.

Key stages in this process include:

- Finding purpose
- Mapping of main components
- Mapping the feedback loops that cause observable behaviour / symptoms,
- Imagining 'what-if' scenarios and
- Identifying the leverage points that could transform the problem state.



Systems Thinking course structure

Typical flow of assignments in the **Systems Thinking / Design** course are somewhat as shown. I say 'somewhat' as this is a general plan and many deviations and diversions are brought in depending on what problems have been chosen, the profile and motivation of the students, the design culture at the school etc.

The course is designed as a journey with many small assignments that are woven together to create a series of enlightenments. The students work in groups of three or five on one challenge at a time. Games are used deliberately as a tool to bring about synergy in the groups, and for students to experience some of the theory and concepts (interconnections, synergy, leverage etc) that are being discussed.

We begin the course with a fun exercise to create a fictional machine to solve a big problem. Individual reflections on the game/assignment as well as the issues that crop up are shared in the group and with the class. These discussions, reflections are important for students to absorb and process the new ideas that they encounter. Direct engagement with the problem is encouraged with ones own accumulated wisdom and knowledge base before any sense making techniques are brought in.



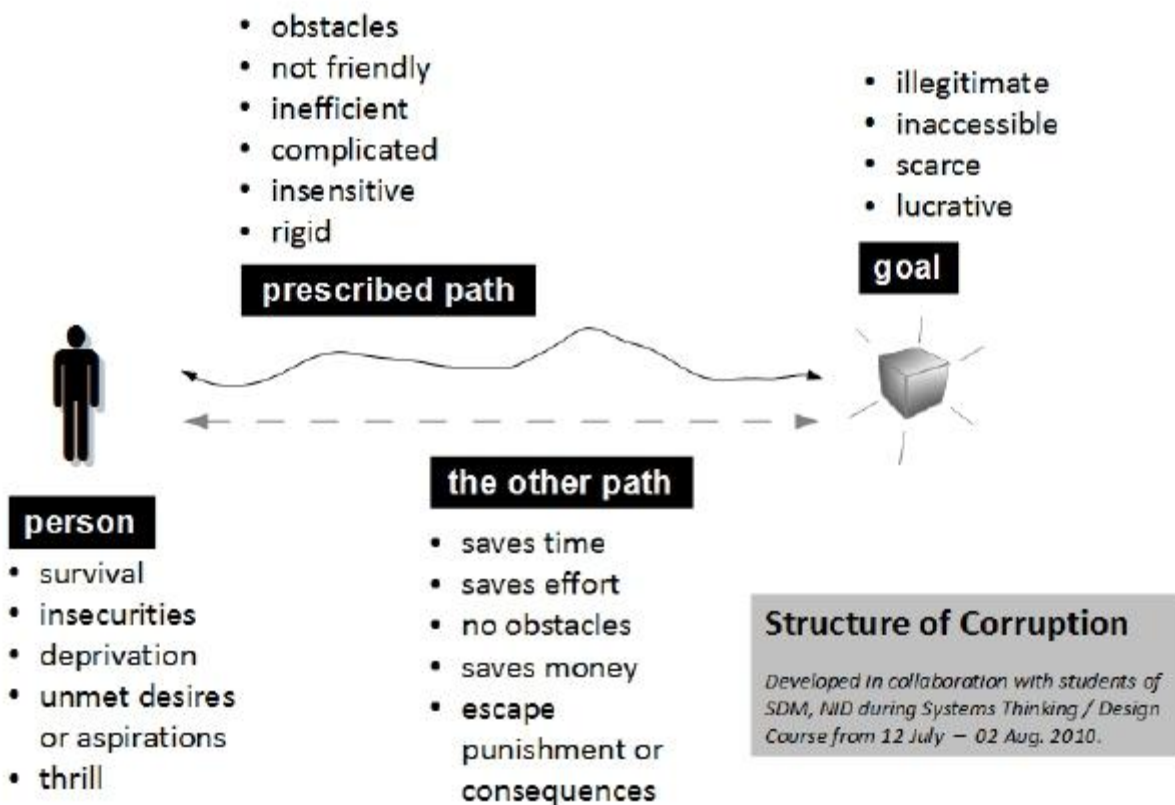
Sense making attempts through 'doing', 'enacting', 'picturing', 'mapping' etc.

Sense making, Doing and Reflection are continuous processes and invariably some kind of mastery is achieved as the same concepts are discovered in contexts of different scales and complexities.

Finding structure usually happens after much doing and reflection. And sometimes on the last day of the course.

The following is such a 'structure' developed in class. Here corruption is viewed as taking the wrong path.

The conditions that could lead a person to choose the *wrong* path?



Structure of corruption

A structural understanding of the various factors / conditions that could lead to the problem helps in identifying the leverage points for intervention.

Some examples of the kind of problems taken up in the classroom.

Example 1:

Solving the Ticket less Travel problem in Mumbai local trains.

The Suburban Railways network loses about Eight hundred thousand Rupees (unverified figure) everyday due to passengers traveling without tickets.



(Image from the [internet](#))

How should one tackle this? The usual approaches would have been to:

- Prescribe severe punishment.
- Increase checking points and frequency.
- Reduce bottlenecks in ticket purchase.

But the challenge was to find a design solution!

The students responded by identifying the key stakeholders and came up with a brilliant strategy:



(Image from student work)

Increase the value of the ticket!

The solution? - **A redesigned ticket that is also a lottery ticket!** And also a medium for low cost advertising for and by the commuters – household help, electrician, plumber etc.

**Ticket no.
00035467901
is the winner
of Rs. 25,000!
in today's
draw (07 Aug.
2013)**



Front



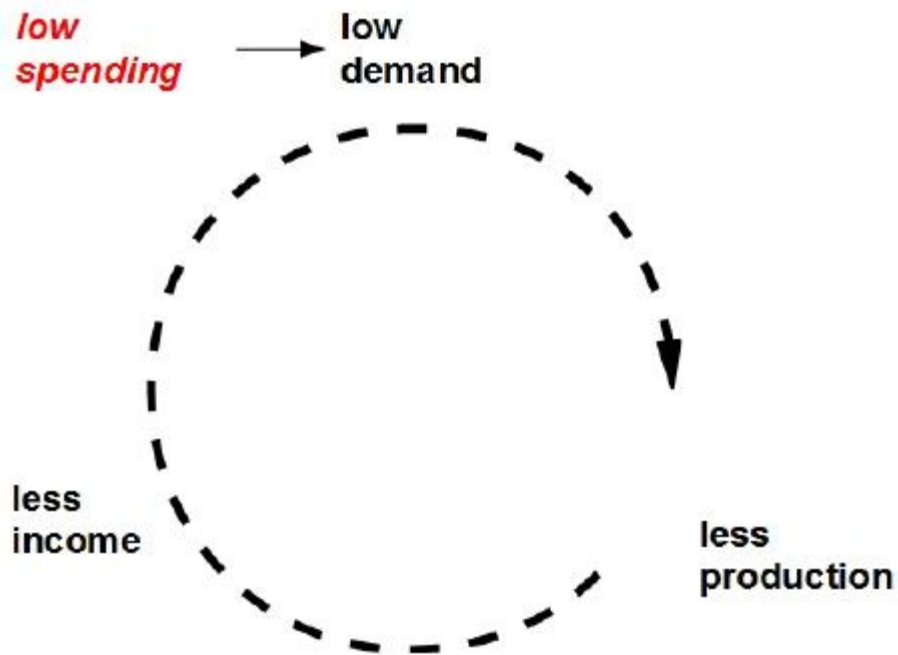
(Image from student work)

When the scheme picks up momentum, the compliance level could far exceed the prize money. Passengers might even buy more than one ticket :)

Example 2:

Design of a new business to come out of a recession.

It was the thick of 2008 recession with all prospects looking bleak, so the class with the Strategic Design Management students at the National Institute of Design, Ahmedabad was naturally about creating strategies and businesses that could break the vicious cycle that the recession sets in.



Recession as a self sustaining entity

The natural response in a downturn is to conserve what you have. Which leads to low demand which leads to less production which leads to less income and therefore to low demand once again. Recession looked like a self sustaining entity and to break this cycle you had to break the chain and reverse the flow. We saw that governments were providing stimulus packages selectively hoping that increase in income would trigger the cycle back to good health. But it wasn't working. We decided that we will work towards 'increasing spending' knowing that people would spend if they received more than what they were getting before. So the challenge was to design business that gave more value for the buck.

One of the businesses created was a 'Kitchen Restaurant'. A restaurant where you cooked the food that you ate.

A restaurant where a group of friends could go and cook together. Where the ingredients are readily available and you don't have to do the dishes. Plus **it is cheaper to go to as you are the chef!** And also built into the business model were additional features. If you were cooking for five, you actually cooked for seven so that loners who walked in could buy food too. And the restaurant gets frequented more often by its patrons as the fare provided is new everyday.

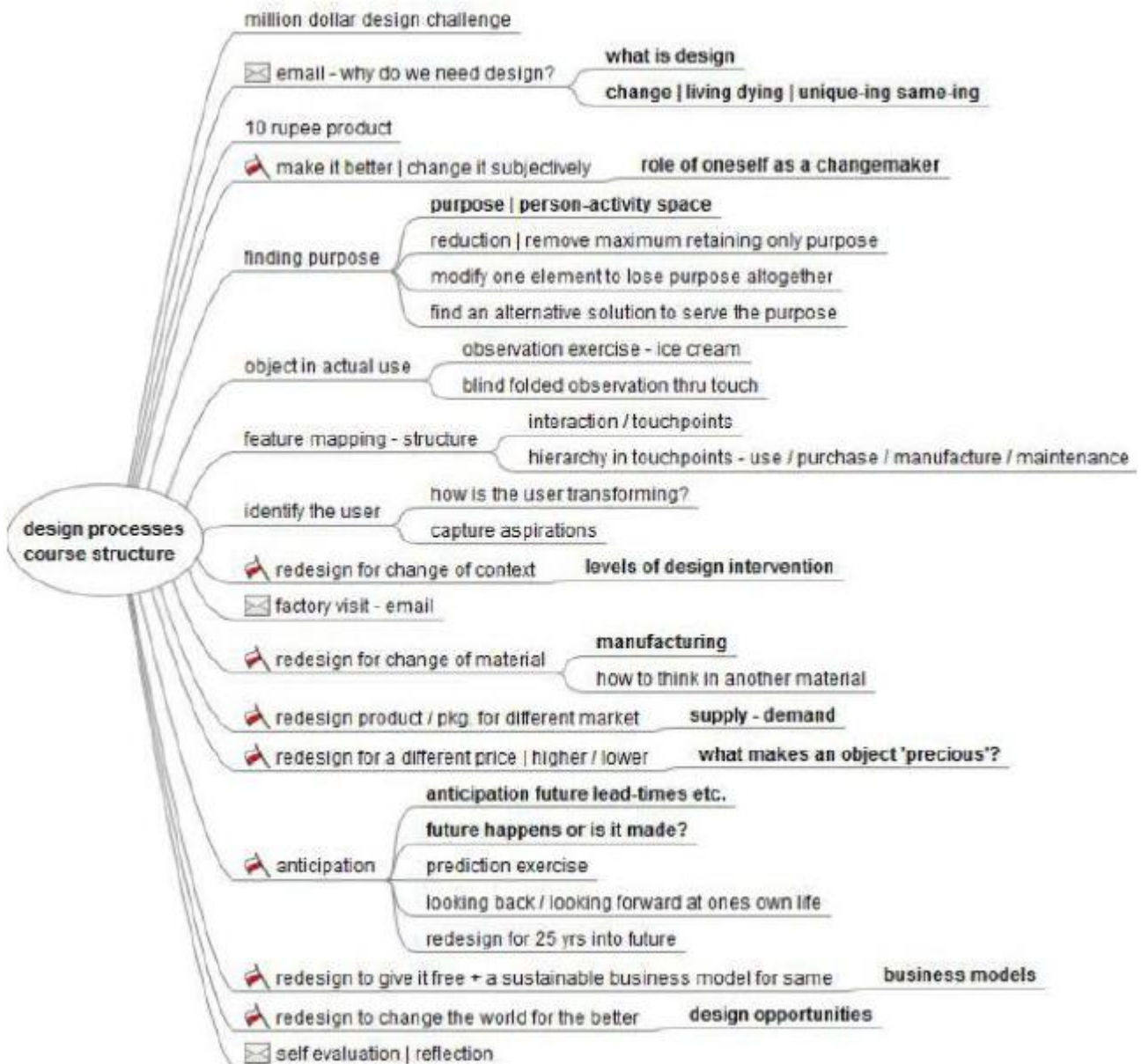


Kitchen Restaurant in action

The idea was prototyped and the business was run for half a day. Not to mention that it was a big hit with the organisers making a cool profit and beating recession hollow:)

At the other end, in the Introduction to Design Processes Course, students who were being initiated into design were also led towards discovering the systemic implications of their creations as a final challenge to test their learning. **Even small can be big!**

Typical flow of assignments in the Design Processes course are as shown. At the end of the course, the student was challenged to change the world through the simple product that s/he designed. Making it not so simple anymore.



Design Processes Course Structure

Example 3.

Lesser stressed out people in the world is a better world!

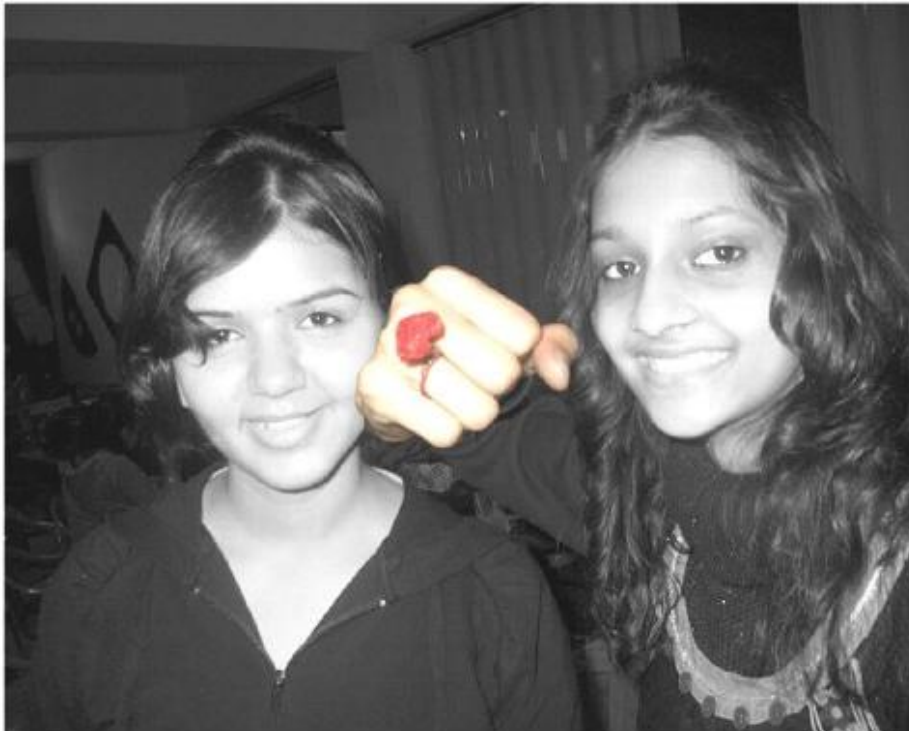
Challenged to find a way to transform the world by redesigning a paperweight, Vaishali filled balloons with clay making it a sensual squeezable thingy that one could play with and get de-stressed when it is not keeping papers from flying. Lesser stressed out people in the world is a better world.



Vaishali Jain, Arch Academy of Design, Jaipur

Example 4:

Spreading fun and mischief – for a happier world!



Sakshi Jain, Arch Academy of Design, Jaipur

On the other hand, Sakshi made a game out of her trinket jewellery, a cheap rubber ring. She gave it a red heart on which you could rub lipstick to leave lipstick marks while she went around boxing people on their cheeks in jest. Spreading fun and mischief – for a happier world!

Example 5:

Discouraging smoking for a better world.

Santosh discouraged smoking by making a heart shaped ashtray in wax that melted during use, subtly embarrassing the smoker.



Santosh Jha, IICD Jaipur

All these projects demonstrate that there are many ways to achieve a systemic transformation. And you could start the journey at any point, as long as you visited all the places.

In conclusion.

For too long systems thinking has been held captive by complex procedures and calculations. Systems thinking becomes accessible to students when they can experience its wisdom firsthand. It is time to democratise Systems Thinking. Every person should be able to act at the systems level irrespective of one's profession. This would ensure that there are less conflicts of interests as the larger picture has been taken into account.

Systems thinking is eminently useful in helping students understand and analyse the context within which the design will reside.

Acting at a leverage point gets better results with minimal resources.

Design practiced systemically can provide credible alternative solutions for complex real world problems.

A **Plan . D** is always possible!