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Standard methods for the above-mentioned analyses, often based on two-sided F or permutation tests, were not designed to address scientific problems in which ordering is inherent. Moreover, as mentioned earlier, their use typically results in a considerable loss of power. Thus, in this proposal, we emphasize that statistical methods which incorporate the underlying constraints are available, and should be used whenever appropriate. This collection of methods is known in the literature as constraint statistical inference (CSI). We illustrate the consequences of using such methodologies in both the design and the analysis of experiments. Doing so addresses the scientific questions motivating the study in a principled manner. Moreover, such methods may provide the power to uncover clinically important features in the data missed by standard methods. There is a current worldwide outbreak of a new type of coronavirus (COVID-19). There is no specific effective antiviral treatment available. However, some potential treatments based on drugs such as Remdesivir, Favipiravir, Lopinavir/ritonavir, and Hydroxychloroquine among others are actively used (8,9,10). Using the methods of the CSI and experimental designs, multiple comparisons among these treatments can be done effectively with a significantly reduced budget. Moreover, carefully designing and planning the experiment the using the methods such as a bipartite, tree, and umbrella order comparisons might result in the insightful in-depth interpretation of the study.

References and Notes:

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Dr. Satya Prakash Singh
Assistant Professor,
Department of Mathematics

Design for the New World: Post COVID-19: A Disruptive Change in Context

KID: 20200121

Originating from China to almost every country and every state, COVID-19 has spread to every habitable corner of this planet. It has brought significant damages and loss of lives across humanity. The world, as we know it, is a changed place now. The practices and behaviours which were considered normal and were even not noticeable are now disrupted. The world has become helpless to run its routine and it looks like we've ended up at the beginning of establishing civilizational traits for humanity. The biggest question is how to cope up in the No-Touch world!? Well, strange times. But the same 27

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extended a challenge to come up with novel and fitting solutions on all fronts. However, it is the opportune moment to show human creativity and resilience to thrive and prevail. Scientists, engineers, designers, manufacturers, distributors, servitors, everyone is looking forward to inventive ways to cope up.

COVID-19 is highly contagious and as of today, avoiding touch/contact is said to be the best way to deal with it. But humanity is used to meet and greet people, touch and feel objects in our surroundings, but not anymore. Touch is one of the basic senses and life without it will be a reductive one. Will it be? The design process sees it as a disruptive change to the normal. This is phenomenal and has never happened at this scale before. For whatever manmade tangible objects we're beholding today, are designed and produced. General interaction with these involves our senses. Starting from the home to workplace, entertainment, food, travel, etc. There is always an interface between things and a user. For example, in the public domain, mostly it involves touching, like a door handle, knobs of taps, staircase railings, switches, stuff we buy, etc. Suddenly, touching them is prohibited. This is an unparalleled scenario which everyone is facing. We need rethinking on designs of most of these things. The situation demands a protective layer in between us, to objects. This may be done in several ways. Redesigning is the first one, but poses an even greater challenge of replacing objects from all around us. Its huge requires mammoth resources, money and time. coming up with innovative makeshift arrangements could be the other one, tweaking one thing at a time. the global emergency is enabling for reflective ways through the design discipline. The top-down and bottom-up approaches are being framed formally and informally to come up with a tentative solution for various needs.

One more fallout of COVID-19 is revisiting the globalization. Traditionally there were very limited exchanges in earlier times and societies used to be living mostly out of touch from others. They lived and died in one place. The history of pandemics also suggests that death has brought misery to one or two places which were in contact. Rest of the world was saved. But in the age of this global village, it is evident how fast the pandemic spread to every corner of the world putting all humanity at risk. It is time to go independent and be interdependent rather than becoming dependent. This notion is a trait of sustainability. It encourages the local strengthening of

resources to minimize migration and bring resilience in societies. For an example, workspaces will go defragmented with multi-location placements, wider spaces with restricted touch, virtual work stations, work from home, neat and tidy workspaces with minimal items, in turn, reducing consumerism, etc.

This may need a revisiting to the furniture design for workspaces. Staggered seating, communicating from a distance, no more open plans but going back to personalized spaces (cubicles?). The material and finishes have to be microbial growth retardant. A lot of applications are possible in the public domain. Seamlessness and minimal joineries could play a key role in workspace designs. Central air-conditioning and HVAC may get some rectifications in its present form. But with all this, the personal spaces are going to be relatively lonelier. There could be psychological impacts. How is design going to handle the renewed context is what we're going to see soon.

Communication design also going to get a boost as it is critical to convey the desired information to the recipient in time. The information dissemination is important to save on time, resources and most importantly to avoid a mistake which may prove costly in the present circumstances. Traffic movements on-road and even within a premise is crucial to control in an efficient non-clashing fashion. Print media is going away for instant news delivering online mediums. Graphical online representations of information may become more relevant than ever before.

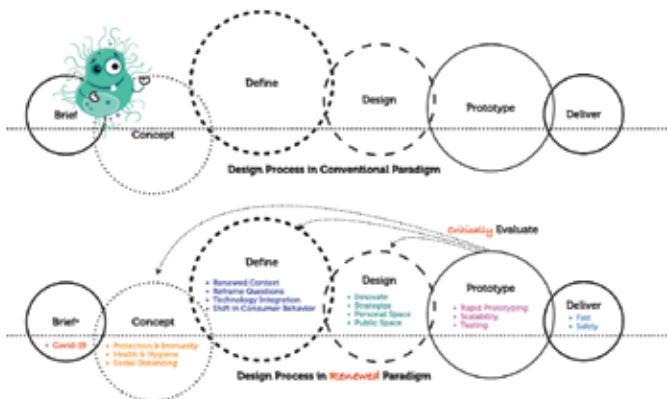
Virtual and augmented reality is set to find a bigger role in various application. The first victim sector is tourism where VR/AR can play a vital role. It bridges the gap, of not being physically present at the location, quite effectively. Virtual Reality tours are going to be the next trend to watch places from across the world. Even for conducting classes for selected topics such as experiments, giving virtual tours from history, explaining complex geometries and systems, this may play an important role. My research in this area is on developing an understanding of the disruptive changes coming to the design of regular objects. The impact has come suddenly and subsequently, impacts are ranging from short-term to mid-term and long-term. Upon a preliminary observation, it is opined that it's not all negative. Some sectors are going to rise, some may be affected mildly and of course, some are being impacted in a big way. The study aims to understand the changes in context for the design and role of design discipline in dealing with such complex challenge at various levels.

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Home Alone - Urban Patterns of Domestic Violence, Emotional Abuse, and Anxiety during the COVID-19 Lockdown KID: 20200122

The impact of change on individuals and communities. It is to document case examples, design processes, actual projects, intermediate interface developments, experiments carried out deal with peculiar circumstances. How this phenomenon is taking shape at local/regional/national/international levels differently. To think for distributed solutions, their scalability, inclusiveness, frugality, participatory contributions, and of course, sustainability.

Overall, the design is going to be very different in the post COVID-19 life driven by changes in human behaviour, social dynamics, restricted community interaction, rise and fall of industries, changes in geopolitical policies and rise of local economic dependence, followed by technological evolution with respect to the changes in the context.



Mr. Shiva ji
Assistant Professor,
Department of Design

The disturbing data emerging from across the world reveals that in countries that include among others China, United States, United Kingdom, Germany, Italy, Brazil, Tunisia, France, Australia, South Africa, and India, domestic violence and intimate partner abuse have registered a sudden spike during the COVID-19 lockdown because of the home-trapped situation in which people find themselves. In the United States, domestic violence programs across the country have cited increases in calls for help, from Cincinnati to Nashville, from Portland and Salt Lake City, and statewide in Virginia and Arizona. In China, the number of domestic violence cases reported to the local police tripled in February compared to the previous year. In South Africa, operating under the Department of Social Development, the Gender-Based Violence Command Centre (GBVCC) received increased calls on its helpline and accommodated as many as 131 abuse survivors between 27th March and 13th April. In India, between the beginning of March and the 5th of April, the National Commission of Women received 310 grievances of domestic violence and 885 complaints about other forms of violence against women, many of which are domestic in nature. The Child Helpline in India (1098) saw a 50 % spike in the number of calls from across India between March 20-31, totalling 3.07 lakh calls that reported cases of child abuse.

According to the World Health Organization (WHO), one out of three women in the world experience physical or sexual violence in their lifetime. This has worsened significantly in the current global lockdown. Being borne out of the abuser's desire for power and control, the current global uncertainties and financial losses that deprive individuals of a sense of control over their lives only serve to perpetuate this disaster in the form of domestic violence, where the abuser criminally controls and abuses the powerless victim. The fact that there is an increase in violent, abusive, impulsive, compulsive, and controlling behaviour and aggression towards cohabiting partners during times of economic hardship has been recognized and researched extensively such as in studies of the Great Depression by several scholars such as Mirra Komarovsky (in *The Unemployed Man and His Family*). The increase in cases of domestic and intimate partner violence is the direct result of factors typical to situations of home-incarceration that exacerbate the conditions which facilitate these forms of abuse. These extended home-locked situations worsen the impact of patriarchal power structures that unduly affect not only women but also men who occupy gender-subordinate positions.

COVID-19