What makes a hug, *the* hug? *(*Project "Artificial hug")

Ana Inês Rodrigues, Heriot Watt University in Galashiels, Scotland
Elena Syurina, Mental health and Global Health, VU Amsterdam

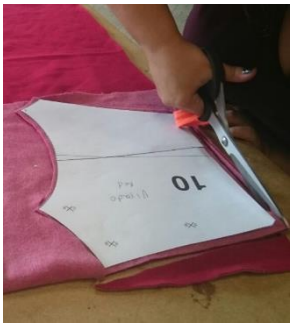
What if technology contributes to alienating people?
We are connected by technology, but also increasingly alienated and physically disconnected. This is an issue that is linked to mental health, which is a complex subject. One of the most occurring problems in society is anxiety (closely linked to stress) and depression, clearly related to stress and disconnection from other human beings.

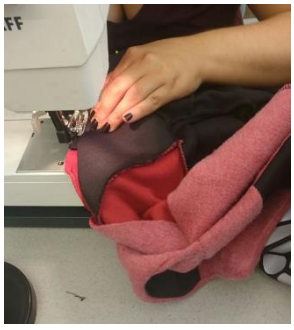
As we start to unlearn how to connect with others, our minds and bodies lose their skills to reach another human being, thereby creating a barrier from the outer world, leaving the person stressed. These stress symptoms can be detected with heart-rate sensors and EDA sensors. But detecting stress alone is not enough; we need a solution. To tell a person to calm down when we read and detect anxiety is not helpful. Most of the times this even makes it worse. A Hug, in many cases, helps a person to calm down and lower stress levels. That is why we came up with a concept of an artificial hug. This is a comforting, soft sensor artefact that serves several purposes: detecting anxious states of an individual, providing neurofeedback, and reducing anxiety by engaging a "hug" mechanism.

So… What is a human hug? What makes it good? What makes a hug a hug? Is it the same for everyone? How does human-artefact relationship develop? Will artefacts be able to substitute hugs and what kind of side effects could it bring into society?

The concept of a hug differs from culture to culture and even from person to person, so choosing a way to recreate a hug was hard. We looked how people hugged each other and how they hugged themselves. For time purposes we chose a position that most of us think of when we think of a hug (right hand on left shoulder, left hand on the right side of the waist).

At first we went for a more conceptual device, but then we started to think that this device could be used not only in sessions or at home but in public too. So the artefact was redesigned with a much more practical approach, as most patients suffering from depression and anxiety don't want to feel any different when they are in public.





By discussing together, about the way we move and live our lives, we came across a functional garment design piece. We agreed that a fitted jacket with long sleeves was the right garment for the task. Fitted for snugging reasons and long sleeves so that they could wrap the person around the body.

The garment would then have some kind of heating system along the sleeves to give that sense of the warmth of a hug. The sleeves would be flexible so that they could move and wrap around the body, as in a hug. Velcro was added to the interior part of the seam and to the left shoulder and right side of the waist. The patient would then stick the Velcro together and find him/herself wrapped in a hug. The front would close on the front side so that the patient could have a feel of wrapping him/herself when closing the garment.

Because of the limited access to materials we needed to find a way to something adequate from those available. So after defining the concept, we looked for the most soothing and comfortable type of materials we could find. This was particularly difficult because not all materials had a soothing, smooth or fluffy touch.

As we were assembling the garment we started seeing the Velcro was not a good way to strain the sleeves at the right position. Further alterations to the next artefact would have to be made to perfect the arm locking engagement.

Working with peers to redesign conceptual ideas was a challenge. As for both of us, our concept of the research process was different to that experienced at the workshop. Our normal method would be to think of a concept, design it, choose adequate material and produce/assemble the artefact. Within the workshop the process sequence was different, we had the materials and we needed to create an artefact with them. It was difficult at first to get used to this process, but it gave us some good experience on how to achieve what we wanted, with what we had available, at that present moment.

In the practical approach, trial and error provided the means of developing an artefact that works. For example, we could see how it interacted with people, which provided feedback on how the artefact was behaving, or how the user felt when wearing the artefact.

As designers we feel that trial and error is one of the best solutions for creative minds, as ideas can come in too quickly just like inspiration. So… try, try and try. Every time we assemble an artefact and test it, we get feedback, and new ideas come to mind of how the prototype could be improved. Don’t worry at first about details, like which specific material, instead use the closest one you can get, to test the concept. Take your time at the conceptualising, designing and assembling stages, these are the most important ones.