Personified - Objects with personalities that illustrate applied empathy as a mechanism to document Qatar’s changing phenomena.

Maryam Al-Homaid
Virginia Commonwealth University

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Acknowledgements:

This thesis would not have been possible without the love and support that I am blessed to have from my family, my friends and the VCUQ faculty.

Words cannot express how much I want to thank my parents who inspire, motivate and support me everyday to pursue my passion for art and design. I would not have reached this stage without their love and support. I would also like to thank my brothers, Abdulrahman, Abdulaziz and my cousin Fale Al-Suwaidi who is my companion, my best friend and my sister for the continuous encouragements throughout my MFA studies.

I would also like to express my sincere gratitude to both; my main advisor, Levi Hammett and Pornprapha Phatanateacha who both have watched me grow as a student and as a designer since teaching me in the Graphic Design undergraduate program at VCUQ. I would also like to thank my secondary advisor, Simone Musacchio, for inspiring to always enjoy and have fun with my work. Thanks to Michael White, my reader, for helping me complete the written part of my thesis. I would like to also thank both, Thomas Mosden and Paolo Cardini for opening my eyes and expanding my knowledge about the world of design. Last but not least, I would like to thank both, Ben Jurgensen and Diane Derr for getting me hooked onto the world of digital fabrication and physical computing.

I would like to thank my group of friends and my online followers for checking up on me throughout my MFA journey, and not to forget the coffee and dinner breaks that helped in boosting my energy to keep going.

Last but not least, I would like to thank the programmers and manufacturers who have helped in getting my work finalized and ready to be exhibited:

Programmers:
- Abdulaziz Al-Homaid
- Benjamin Mendel

Manufacturers:
- Al Fares Silver Boxes
- Ghareeb’s woodshop
- Shoroog Neon

Models:
- Saif Al-Suwaidi
- Abdulaziz Al-Suwaidi
- Fatma Al-Suwaidi

Exhibition Photography:
- Mahmoud Chams Eddin
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Abstract:
In the past, a user’s interaction with objects was usually limited to a core function. Whereas today, there is a trend toward objects that can offer multi-layered experiences with the potential to not only serve a core function, but to communicate information and emotion. These interactions offer a give-and-take relationship between the user and the object, with the potential for characteristics, individualistic features, and even personalities to appear. Interactions with such objects provide the potential for empathic relationships to form between human and object. Empathy becomes the bond that gives a user the opportunity to view the world from the object’s perspective. It can create a sense of connection beyond the objects functional expectations, and provides the potential for a more meaningful exchange.

In my research, I speculate that empathy can be used as a powerful tool of communication. I offer possibilities on how this tool might be used to learn a skill, to recall a memory or to show an accomplishment. Applied empathy in my research is illustrated through a series of experiments and proposals that demonstrate mechanisms to document today’s changing phenomena in Qatar through the creation of objects.

Fig. 1: Empathy formed between the interactivity of the human and the object
Introduction:
"Whether openly and actively or in subtle, subliminal ways, things talk to us,"¹

Today’s communication with our everyday objects has a new level of interaction. Unlike, the 20th century where communicating with objects are limited to their function; interacting with things now have the ability to communicate information along with feelings, memories and more.² (see Fig 1). Due to the progression of the technology, designers now have unlimited opportunities to transform their surroundings into a live stage to communicate this new added layer of expressions. Resulting a give-and-take relationship between the human and the object.

Personalities, are now expected to appear while interacting with objects, making each entity carry unique characteristics and exclusive individualistic features. Such objects are referred as personified objects. Personification – the attribution of human characteristics or form to an object;³ a phone that "greets" you with a hello, or a laundry machine that "sings" when it gets the job done.

These personalities, characteristics or reactions could be obvious or subtle (see Fig 2). A subtle reaction can be a movement; just like how humans move, or can be by making a sound; just like humans talk. However, having a subtle humanized reaction might not necessarily show clear, physical, human-like features. An obvious personified object would communicate these reactions along with showing a clear substantial, physical, humanized feature, such as eyes, hands, mouth…etc.

Interacting with such objects can form a relationship between both entities resulting the individual in empathizing with an object. This is when Empathy is formed. It is the bond or the link that gives the human an opportunity to view the world from the object’s perspective.⁴ It creates a sense of connection beyond the objects functional expectations. It suggests a "I feel for you" attitude; thus, the human can respond, act or behave in a certain way (see Fig 2).

Fig 1: A comparison between an obvious and an obvious personification

Fig 2: A comparison between a subtle and an obvious personification
With time comes change. People age, cities transform, habits alternate. Change is the transformation from one state to another. It could be drastic or subtle depending on the situation itself. The constant change in Qatar has become a prominent characteristic of the country today. In 2010, Qatar has ranked to be the world’s top state in its economic growth making it one of the fastest transforming nations in the globe. The rapid progression has started to boom during the late 1990s when the oil earnings has increased. The changing phenomena of Qatar has become even more drastic after winning the 2022 FIFA World Cup bid. The change is not only limited to the appearance of skyscrapers and highways; change has also reshaped our local, everyday behavioral patterns. How can this cultural change be documented using the lens of empathy.

The habit of spending quality time with the family for example, has become more critical today. Family quality time used to be a must in the daily routine of a local, but as people get busy with their life and careers, this family time is reduced. Change can be a motivation for the appearing of these changing phenomena.

One exercise I did that was a starting point for this research, is Non Action = Reaction (see Fig. 3). It is a series of home objects that react according to how much or how little the family spends quality time together. A remote control, a gym ball, a tea tray and a piano can be responsive when no family members are gathered around them. The object’s reaction can cause its shape, color and scale to change. These objects might not have obvious human-like features, such as eyes or hands, but they do develop a rebellious personality. Through these different reactions, such as the expansion of the switch button on the remote control, can catch the family’s attention to gather around these specific objects for some quality time. This concept has been visualized using a frame-by-frame animation. A total of five reactive objects were animated with four different reactions. This project is an example of rebellious personified objects starving to reconnect with its owners. I took this as a starting point for my explorations.

**Problem Statement:**

The rapid progression has started to boom during the late 1990s when the oil earnings has increased. The changing phenomena of Qatar has become even more drastic after winning the 2022 FIFA World Cup bid. The change is not only limited to the appearance of skyscrapers and highways; change has also reshaped our local, everyday behavioral patterns. How can this cultural change be documented using the lens of empathy.

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Rapid cultural change in many societies including Qatar can be an excellent step towards globalization and interconnecting with the world. However, the challenge is preserving the cultural components which is part of the 2030 national vision. The country is already working with some high-profile examples include the Origins of Doha project and the Qatar National Museum. These experimentations discuss the use of empathy to learn a skill, recall a memory or show an accomplishment. The sub-topics were inspired by different cases discussed in the investigation phase. Each have a ‘changing’ situation with a specific narrative and specific audience. They all contribute towards the theme of empathy and objects with personalities. In terms of the design medium, the projects cover real and virtual objects using digital and analogue methods. At this stage, none of the products made are meant to be mass-produced yet, however they can perhaps be a proposal of potential future personified products that can speak about the constant change in Qatar.

This critical design research does not necessarily offer solutions to cultural change, but can raise questions about this transformation. It speculates that empathy occurring within the interaction of a human and a personified object can be used as a tool to document today’s cultural change in Qatar.

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This research can offer a new form of documentation using the tool of empathy and objects with personalities. It is been declared by leading designers such as Donald Norman, that “emotional design” or having an emotional connection with an object can help individuals in understanding the world. This research investigates that concept within the local context of Doha.
Background:
Empathy now:

People commonly personify non-human agents. They may name their computers and talk to their pets. Any human-like appearance, an experience, or a characteristic applied to a non-human agent is called anthropomorphism. Adam Waytz, a physiologist at Northwestern University and Carey K Morewedge, an associate professor at Carnegie Mellon claim that affectance motivation increases anthropomorphism. They suggest that when humans give non-human agents a personality, it helps them to reveal the uncertainty of a situation. It makes an environment, an issue, or a thing more understandable to the human. Therefore the human can empathize with the non-human agent to understand a situation and fulfill their curiosity.

Children tend to anthropomorphize more clearly than adults; for example, children may talk to their toys or say statements like “the letter ‘S’ looks like a snake.”

Today’s technology show signs of anthropomorphism as well, for example, an ATM that talks or an elevator that apologizes for being late. Technology deals with human behavior by giving cues, such as sleep mode, low battery and software update notifications. These notifications make devices and objects around us more demanding; requiring some behavioral inputs from the user in order to “satisfy” the devices’ needs. These technological demands are predictable to the user meaning, when a cell phone has a low-battery indication, it is up to the user to decide whether to charge the cell phone or not. What if the device had unpredictable characteristics? Would that change one’s behavior?

Waytz and Morewedge claim that users who have less control over certain objects with unpredictable behaviors, therefore leading the human to anthropomorphize the object. An example would be, if a computer freezes or “misbehaves” we tend to hit, curse, or call it stupid as if it was a real living thing. In their research, they suggest that having these unpredictable characteristic behaviors can demand the user to interact in a certain way in order to “satisfy” the object itself.

One project that deals with the combination of the unpredictable demanding objects and the activation of human behavior is Clocky (see Fig. 5). An alarm clock that carries subtle facial features (the eyes as the push-buttons and the mouth as the watch’s main interface). The clock’s main job is to start beeping in the morning while roaming around the room demanding the user to get out of bed. The unpredictability of the alarm clock activates the user’s motivation to adjust his/her behavior in getting up on time instead of constantly clicking on “snooze” and over sleeping.
When a human’s motivation is triggered (in this case, by an object with a demanding personality), the human aims his/her action towards a goal that is demanded via the object. It could be a goal for the user to behave in a certain way leading him/her to understand the purpose of the action demanded. An example project is Tio, a friendly-looking light switch that has simple, LED powered, facial expressions (see Fig.6) that aim to teach the children how not to waste energy. The longer the lights were on, the angrier and the “red-er” Tio gets. Therefore, the user can either “calm” the switch by turning it off or keep the switch furious while keeping it on. The changing mood colors of Tio can make the child feel uncomfortable, guilty or sad; therefore, the child empathizes with the switch.

Fig.6: Tio: a demanding light switch that requires the children to save energy.
The general term of empathy is “putting one’s self into someone else’s shoes,” or sharing the feeling of the other person. If someone is sad for example, the other empathizes with that sad person, saying things like “I know how you feel.” One can feel the other’s sad feelings. However, empathizing with an object is slightly different. One can feel for the object, but not necessarily believe that those feelings are real. Tio for example gets angry when it kept on for too long, but not essentially make the user believe that the light switch is really angry. Not believing that these emotions are real does not necessary mean one ignores them.

Catrin Misselhorn, the director of the Institute of Philosophy of the University of Stuttgart, discusses a Milgram-style experiment in which participants interacted with avatars and responded to them as if they were real people despite the fact that they were only avatars. Their behavioral and physiological levels when interacting with robots is similar to the levels when interacting with a real person; therefore, Misselhorn’s research suggest that human still empathize with nonhuman agents despite the fact that those feelings or attitudes are not real. The study also shows that our empathy to objects are also linked to the level of personified features or characteristics the object possesses.

Marketers and advertising use personification as a tool of persuasion. Their product ads are anthropomorphized because they believe in achieving an emotional connection between the target audience and the product. This is when empathy is established between the reader and the advertised product. Thus, the reader gets more attracted to the product that is being advertised. “The reason that personification can be comprehended by consumers is because of anthropomorph—-the cognitive bias whereby people are prone to attribute human characteristics to things.” A study mentioned in the journal Personification in advertisements shows that when consumers anthropomorphize a product with an ad, they tend to understand it quickly, and their emotions are triggered easily. The reason why this happens is because, we, as humans know a lot about other human beings. We are familiar with how we look, feel and act, so we tend to comprehend “anthropomorphized” objects immediately.

One recent example of this empathy is the Bosch ad (see Fig. 7), an advertisement of a veggie chopper that shows its “excellent” quality by presenting it through a half screaming veggie. The veggie might not have an obvious face features that defines a human, but somehow, as humans, we tend to look at shapes and relate them immediately to a human face. Individuals quickly perceive faces “because the impulse to see visual phenomena is instinctual… a few simple lines and dots are readily accepted as a ‘face.’”

Fig. 7: Bosch ad for the veggie chopper
Personification in advertising has, in fact, existed for decades. An older example would be the ad of Mr. Automatic (1977) (see Fig. 8), where the main switches of the coffee brewers are used as eyes and a mouth. Both coffee machines are humanized by not only giving them obvious human features but also making one machine talk to the other. The quality of the product is shown within the conversation between the two coffee brewers.

Published by the U.S. Army in 1951, PS, the Preventive Maintenance Monthly magazine, seemed to anthropomorphize many of its illustrated machines (see Fig. 9). Not only by making cars, tanks and computers have obvious facial features, but also adding speech bubbles that give the illustrations an opportunity to speak to the reader. The magazine editors and artists believed that it is human nature to be responsive and alerted when a human face is depicted within an object. “…Whenever anything remotely face-like enters our field of vision, we are alerted and respond.” Adding human qualities and obvious facial features creates a connection between the reader (the soldier) and the machines (illustrated in the magazine).

When a drawing of equipment appears to be sad, the reader empathizes with the illustration; therefore the sad machine is hinting to be fixed. The technique of humanizing these machines has also made the information clear for the army to understand how to deal with complex equipment.

“More realistic faces trigger more demanding expectations for anthropomorphic depictions.”

Empathy then:
Investigation:
Motivation:

This research starts with a personal attraction to objects that have human qualities embedded within. Things like Tamagochi keychains and Bandai’s Smart pet (Fig. 10) - both virtual pets that grow just like a real animal. The better one takes care of the toy, the healthier, smarter and happier the virtual pet will end up being. Having this sort of a relationship with such objects are also interesting in terms of emotional attachments for objects that don’t actually carry those emotions. Why does one feel sad when the Tamagochi looks like it’s sick? At that point, there does not seem to be any justification on why these objects seemed so personally attractive. This study is an opportunity to dig deep into the meaning behind such personified objects.
This project begins with the question: why do personified objects exist and what is their purpose? To start this investigation, a group of projects that embed the notion of personification were analyzed. The projects were then organized into categories (see Fig. 12) based on their role, purpose and medium. The way the sub-categories were initially divided was: 1) personification in a landscape, such as the building of the Museum Islamic Art that looks like a Qatari lady wearing a face veil (see Fig. 11); 2) personification and behaviors, such as the alarm clock discussed previously; and 3) personification as self reflection, such as the Little Printer, a printer that prints one’s personalized publication. The category that seems the most interesting is personification and behaviors, as the aim proposing personification and empathy as a functional tool to talk about the changing phenomena in Qatar. It is also diverse enough to help in investigating the different mediums to realize this investigation. Each experiment is inspired by the intention of an existing project and then directed towards the context of Qatar.
Sub-topic 01: Empathy as a skill  
- El-Emgahwi (The Coffee Servant):

Behavioral change is part of the transformation phenomena that is happening today in Qatar. It can be witnessed within the younger generations who are born in the last 15-10 years where change has accelerated. Coffee serving rituals for example, might not be familiar to this generation. They can recognize the importance of serving coffee to the guests, but might not be exactly sure on how to do it. Would a demanding object help in learning that specific skill?

For my first set of experimentations, I decided to build a concept around the theme of good manners. I was curious to find out how etiquette can be taught. What makes an object so powerful to motivate our curiosity and behaviors towards learning appropriate manners? How to create a demanding object that can teach children the etiquette of serving Arabic coffee through adding personification and human qualities to the coffee pot?

Serving Arabic coffee, or Al-Qahwa is a priority for the Qatari house hosts to make sure that visitor is well-served with warmth, kindness and sophistication. This ritual is not only enjoying coffee; it is more than that. There are steps that the coffee servant or El-Emgahwi must follow to ensure the delivery of warmth and generosity is served along with the actual coffee cup. The steps are as follows:

1. Holding the coffee pot or El-dallah with the left hand and the coffee cup El-fenjal with the right hands.
2. Facing the guest who is being served and standing up while pouring the coffee.
3. The El-Emgahwi or the coffee servant must say “sam,” meaning start drinking with the saying the name of Allah, or “Hajah allah mn yanah,” meaning “welcome.”
4. Servicing coffee to the rest of the visitors, starting with the eldest to the youngest.
5. Serving coffee starting from the right of the “Majlis,” or the room where people are gathered, to the left side of it.
6. The coffee servant must not sit down, unless all guests are served and have had enough of coffee.
7. When the guests shakes the coffee cup, El-Emgahwi or the coffee servant, takes the coffee cup away while saying welcoming blessings such as “Bilalkhah” literally meaning good for, or “Hayah allah mn yanah,” meaning “welcome.”
8. It is preferred that the youngest of the household serve the coffee to the guests.

As a start, I wanted to see how much a twelve-year-old knows about serving Arabic coffee the proper way. I have conducted interviews in which three children at the age of twelve years old were given the role of “El-Emgahwi” (see Fig. 13). The three participants were asked to treat me like a guest coming to their house and serve me coffee. Each participant was asked to role-play alone without the others being in the same room to avoid distractions and any kinds of conflicts. This experiment was recorded by a video camera.

Saif, participant A, started out the experiment with a nervous smile. El-dallah was held in the incorrect hands and the coffee cups were left on top of the table. Saif started pouring the coffee serving it while sitting down, extending his arms towards the guest as the guest. Saif did not stand while I was enjoying my coffee. After he watched the guest enjoy my coffee, I started shaking my fenjan (the coffee cup) a gesture that indicates that the guest is full and no more coffee is needed. Saif was clueless, so he poured the coffee again, once again using the wrong hands.

Abdulaziz, participant B, however, seemed more confident when he was interviewed. He knew that we are supposed to serve guests with coffee in some way, but was not really sure of the procedure itself. Similar to Saif, Abdulaziz served the coffee on the table, held it with the wrong hands and was clueless on what the “shaking” of the coffee cup meant.

Fatma, participant C had a similar pattern of actions towards the Dallah and the coffee cups.
Based on the role-play, the design process started by analyzing the coffee serving procedure along with the interaction involved. I then questioned the form and function of the coffee pot - how can it be modified to have such a demanding personality.

My initial idea was to turn the dallah into a page of a comic strip (see Fig. 15), by including speech bubbles that “demands” something in different parts of the pot. The speech bubbles would appear and disappear depending on the temperature of the coffee. If it was freshly brewed and warm, the speech bubbles would appear among the different parts directing the user on how to serve coffee. The technique that I thought of using to make those instructions appear and disappear was thermo-chromatic paint (a sensitive paint that reacts towards high or low temperature). The coffee servant will then follow these steps to pour coffee the proper way.

My initial idea of using thermo-chromatic paint was not convincing enough. It felt forced and it did not give the dallah enough of an exaggerated “demanding” personality. My goal was to make the object actually move, or respond according to how the coffee server is interacting with the pot. The start of the process was frustrating as I had minimal knowledge about Arduino micro-controllers and sensors that might help in making an object move. As a designer, I needed a plan B, so I thought what is the most basic, analog way to make an object either be attracted or repel. Then thought of using magnets as sensors (see Fig. 16), as they have the ability to make an object move towards or against the user. The produced prototypes consist of four main elements (see Fig.18). The wooden coffee pot, eight magnetic rings and two coffee cups. One indicates, “I had enough coffee, therefore I am full,” the other communicates, “I need more coffee, please.”
The way the coffee pot was constructed by adding positive magnets in the handle that are only attracted to the user’s left hands (the correct hands in which one should serve Arabic coffee). The pot would then repel against the incorrect hand. The magnets add a “moving” personality that prompts the user to serve coffee correctly.

The coffee cups were also included in the prototype as one of my findings reveals that children did not really understand what the shaking of the cup means. This is when I decided to include an “I am full cup.” This cup is constructed in a way that repels away from the dallah whenever the coffee servant pours coffee. The other “I need more coffee” cup is constructed using a different mechanism making the Dallah more attracted to the cup when coffee is poured.

The prototype testing process involved the same children who were interviewed earlier. I was curious to analyze whether the demanding object made the users learn about holding the dallah the right way. I was also interested in analyzing the interaction of an object with personality along with user reactions. Last but not least, I wanted to test out how effective this method of the personification of an object is as being a learning tool.

In the testing phase (see Fig. 14), Saif was asked to role play as El-Emgahwi and serve me the coffee as the guest. He held the dallah in the correct hands, but felt the reaction of the dallah handle and the rings in his hands immediately. He had a shocked look carried along with a nervous laugh. I asked him what was funny; he replied that it was stuck in my hand. He then tried to hold the dallah with the wrong hands when it started to reject he started to laugh again. He knew he had to hold it in the hands that got stuck to the handle, but was not sure why until I verbally explained that this is the correct way to hold and serve the dallah.

Saif then started pouring coffee into both cups, “I am full” coffee cup and one “I need more” coffee cup. He realized that one cup rejects the dallah and the other one attracts the dallah. I asked him if he knew why, he was not so sure until I explained the proper etiquette of serving coffee. Aziz and Fatma had similar experiences. They were guided through how to handle the dallah and cups, but were not sure why until I explained to them the concept behind this prototype.
Fig. 15: Initial ideas and sketches

Fig. 16: Details from the construction of the dallah

Fig. 17: Embedding the magnets mechanism within the dallah and the cups structure
Based on my first sub-topic experimentations, the demanding personified objects can direct the user towards an action. They can trigger certain emotions that motivate the user to do what the object demands, but not necessarily realize why, unless there are some parameters or directions given. This confirms the Masahiro Mori theory mentioned earlier, in which humans tend to empathize with objects that have human-like personalities, in this case a “moving” characteristic that either is attracted to or repelled from the user.

I came to the realization that I am even more interested in the idea of human reactions towards these objects with personalities, especially when I saw shock, laughter and excitement in my first sub-topic experimentations.

This experimentation can also be an indication of the changing behaviors that are happening within the contemporary context of Qatar. In this case, the children serving coffee their own way without really linking it to how it used to be served. It is not necessarily a bad behavior not to follow the rules, but perhaps it helps them be critical about the change that is happening, and decide whether it’s good or bad.

Fig.18: El-Emgahwi: A reactive coffee pot and coffee cups
Empathy as a memory – Back in Your Arms:

"[The passionate early stages of a subject-object relationship could be described as a honeymoon period. Most emotional attachments are withdrawn once the honeymoon period draws to a close, largely because the evolution that takes place is grossly polarized, occurring exclusively within users.

The honeymoon does not only exist between humans, but also humans and their objects. It is the lively period where everything is exciting, interesting and new. The book “Emotionally Durable Design” compares human-human honeymoon periods with human-object honeymoon periods. It describes that human-human honeymoon is usually followed by a smooth transition to reality whereas the products we get or purchase do not necessarily have that transition. Once the user gets the object from the store, unpacks it and notices details that do not meet his/her expectation, that honeymoon feeling vanishes. Therefore the smooth transition to reality is like an “awakening jolt.” The book describes the relationship of the human-object today as more like a “one night stand” than a “life-long marriage.” The loss of empathy seems to play a big part of that broken relationship between the human and object. As empathy fades, disappointments appear; leading the user to look around for a brighter, more interesting object. Can empathy be rebuilt again between the human and object?

In today’s world, we surround ourselves with objects that we might use, adore for a while and then lose interest. In the context of the Qatari culture, I’ve noticed the fast-changing fashion trends among the local population. In fact, local trends have changed in the past five years more than they were before. Not only among other women and men, but also myself. Men tend to accessorize with cufflinks, sunglasses, pens, shoes or sandals, while as local women, accessorize with purses, shoes, jewelry and sunglasses. All these accessories are accompanied with the national dress, the Thob and the Abaya. From my own experience as a Qatari woman, we love to have the latest branded purse to use when we are going out. There are phases of these local trends where every woman had to have a certain type of a purse, because it is “cool” and trendy to have one at that time. These phases are short-term and tend to shift within a small amount of time. That bag that used to be trendy and “cool” is no longer needed or popular. I have always wondered what happens to those bags?

How can we rejuvenate that “honeymoon” phase again? How can we bring back that empathic relationship that we once had with that bag?

Young adults were consulted with questions about a purse that they have. The question I asked them was: what made you fall in love with that bag so much, you had to have it? I got replies such as, “I’ve seen it in a fashion show,” “I’ve seen it in someone’s hands,” “I’ve seen it at the boutique.” “I’ve seen it in a magazine.” They were then asked about what made them love that specific purse at that period of time. The replies I got where because of a certain trend of that specific time. Other replies I had were because of the quality and the brand itself. The last question I had during that over-coffees conversation was, why did you lose interest in that bag. “I lost faith in that brand.” “It does not suite my style anymore” and “I have a new, more trendy bag.”

“Consumers cannot engage deeply with artifacts where there is not growth, no change, no narrative and only predictability.” Therefore, expected behaviors from the objects can make the subject “lose interest,” or lose empathy towards that object. Like other women, as a purse lover, and a woman coming from this society, I know that the bags we store in our closet are as good as new. How can I recreate empathy so that one could use that purse again? How can that object, in this case a purse, have unexpected behavior that makes one want to use it again? How can I create a narrative and a feeling for that object to rekindle that object to remind me of that “cool and trendy” phase the bag once had.
For this sub-topic, I wanted to use critical design, building a scenario around an object, in this case, an abandoned purse to comment and raise awareness about a social behavior. I also wanted to push my physical computing skills, using Arduino micro controllers to help make an object have more of a "unpredictable" personality towards the subject. Making the bag move is obviously unusual and "unpredictable."

"Back in Your Arms," specifically talks about the fast-changing fashion trends that are happening along the other changing phenomena’s in contemporary Qatar. It speaks about abandoned everyday “new” objects and attempts to rebuild empathy with its reactive nature. In this case, the purses’ output rebuilds the relationship between itself and the user by recalling its use.

The object itself is basically a leather box, that has a wire extension and a servo attached to it. It is an object that is almost like an “external” battery charger, but instead of providing power for an iPhone, it provides emotional energy for a purse. The servo can be clipped inside the purse as an indicator of how that purse feels that very moment. (see Fig.18)

The flap of a purse seems to be the most prominent feature so I wanted to use that as a cue for the user to understand how the bag feels when abandoned in the closet. I have created a scenario of the abandoned purse where it can take one of three modes randomly: neutral mode, frustrated mode and paranoid mode. When the purse is in neutral mode, the flap moves subtly almost like a regular human breathing movement where as the other two modes, the flap starts to shift more quickly indicating a more frustrated and paranoid state. These purse’s reaction will be random so that it gives the purse the “unpredictable” personality, which then will motivate the user to anthropomorphize with that moody purse which then will trigger emotions towards that purse. (see Fig.19)

The product is called "Back In Your Arms," because it follows the notion of getting the spark back of that honeymoon period that once had happened between the object and the subject. This object’s goal is to recreate that empathic feeling that once existed in that human-object relationship through the use of unpredictability.

Fig.19: Back in your arms logo
Fig. 20: Sketching the structure of the Back in your Arms device

Fig. 21: Wiring and prototyping

Fig. 22: Testing

Fig. 23: Packaging design of the Back in your Arms device

Fig. 24: Back in your Arms logo etched into leather

Fig. 25: Finalizing the Back in your Arms prototype
Sub-topic 03: Empathy as an accomplishment – Qarashat El Oud (Arabian Oud Bottle):

Being proud of an accomplishment is a distinctive Arabic characteristic. As Arabs, we like to show pride in everything. We show pride for being part of a certain family. We show pride by knowing so many people, their relatives, and where they come from. We even show pride through architecture. We like to have buildings that are the best, the tallest and the largest. Exaggeration can accompany pride. We like to make small accomplishments look better and bigger than they really are. People in many regions of the world take pride in their accomplishments, but within the Arab world, this pride and the associated frequent exaggeration is an inseparable part of our culture. I took this experimental phase to investigate the notion of how an object can be a reflection of one’s personality or a representation of a cultural characteristic. In this case, how can we show pride and exaggeration through the interaction between a human and an object?

Two designers that inspired me to investigate within the topic of showing off an accomplishment are, James Auger and Jimmy Loizea. Two UK based designers, who worked on the Weight Accumulating Chair [2000]. Similar to a weight scale, the chair is connected to an LCD screen that is able to communicate the total weights for whoever sat on that chair. Ignoring the weight of each individual, but rather focusing on how many people the chair was proudly able to carry. In one week of use, the chair accumulated 50,792 kg, which is equal to eighty-one Austin Minis and two men of average weight. The notion of “showing off” an accomplishment plays an important part in giving the chair a proud personality to either communicate its history or quality. (see Fig. 29)

Fig. 29: The Weight Accumulating Chair: a chair that communicates the history of total weights of whoever sat on it.
Qarshat el Oud or the Arabic perfume bottle, especially in the Arabian gulf, plays a big role in the social events such as, family gatherings, Eids and weddings. It is part of making the guest feel welcome – as use of pride the more welcome we make guests feel, the more we are proud of making one feels that way.

The Oud bottle, is usually served at the end of a gathering when guests are leaving. It is set on a serving tray next to the majlis door or passed among the guests. We, as Arabs, are not only proud of making the guests most welcome, we are also proud of how many people we know personally and network with; the more, the merrier, the prouder we are. Therefore, Qarshat el Oud can perhaps be a reflection that symbolizes the pride and accomplishment of knowing and serving a significant of people.

Qarshat el Oud is an interactive interface between the digital and the analogue world. It allows the perfume bottle to show off its accomplishments in the form of how many people have been perfumed. It is constructed with two parts – the perfume bottle itself and the serving tray. The way that the bottle shows off is by building a visual network around it when it’s placed back into the serving tray. The interface reads each person served, with one single circle. The more people the host perfumes, the more circles appear and the more complex the network gets. This interactivity shows accomplishment by building a network, hence, it’s a reflection of the family or the majlis host who owns that perfume. It says that this person has a big network, knows a lot of people, has a lot of relationships, is lovable and most importantly welcoming.
Fig. 30: Sketching the structure of Qarshat el Oud

Fig. 31: Prototyping of the Qarshat el Oud interface

Fig. 32: Building the table prototype

Fig. 33: Laser cutting tray details and ornaments

Fig. 34: Wiring the table with an Arduino uno microcontroller

Fig. 35: Testing phase
Fig. 36: Qarshat al Oud final prototype
Conclusion:
An Overview:

This research starts with a personal attraction to objects that have human qualities embedded within. It has become more apparent that objects around us have personalities, especially with the evolving technology. Mobile phones, computers and elevators today communicate with us more than just delivering its purpose or function. An object could be blinking, singing, moving, or even talking.

As a starting point, I question myself on why such objects exist today. I have looked at a variety of projects (mentioned in the introduction and the background section) that helped me investigate objects that speak beyond their function; things that share thoughts, feelings and emotions (personification). My interest also includes the relationship built between the human and the personified objects that lead a human to feel for the object itself (empathy).

Existing projects of personification that were investigated have been deconstructed into categories based on their role, purpose and medium. I was more interested in personified entities that trigger human behaviors through interactivity. I was curious about this specifically because it has the potential to be evolved into a tool with a purpose. The experiments I did (discussed in the investigation phase) have inspired me to propose the tool of empathy as a potential mechanism to document Qatar today and its current state of constant change.

Findings and Evaluation:

Through the course of experimentations explained in the investigation section, I have defined some changing phenomena’s from the local context of Qatar as questions. Each investigation was explored individually, but following the theme of empathy and personification. The way the sub-topics were put together is by being inspired by each changing phenomena defined (see Fig.37). The sub-topics were defined as: 1) how to use the tool of empathy to learn a skill (El-Emgahwi - The Coffee Servant), 2) how to use the tool of empathy to recall a memory (Back in Your Arms project) and 3) how to use the tool of empathy to show off an accomplishment (Qarashat El Oud - Arabian Oud Bottle).

For my final pieces, I refined two of my previous experiments (El-Emgahwi and Qarashat el Oud) as I saw them having a potential to be developed into future interactive products that speaks about the change in Qatar. I have also wanted the have a visual aesthetic that ties all projects together. I chose to go with having the prototypes to be abstracted into low-polygon style. A contemporary style that abstracts a mesh object into a small number of polygon surfaces. I found it to be suitable because it carries the foundation elements of an object yet presents with a contemporary style. It is a visual language that I thought was suitable to represent the changing phenomena of Qatar today.
How to use empathy to learn a skill?

How to use empathy to recall a memory?

Project 01: El-Emgahwi (The Coffee Servant)

Project 02: In Memory of the Roundabouts

Project 03: The Pompous Perfume

Fig. 37: A diagram showing how the investigations and experimentations were put together.
Projects:

Project 01: El-Emgahwi (The Coffee Servant):

Project persona:
- Physical Object
- Analogue interaction
- Subtle personified characteristics
- Uses empathy to teach the user a skill

El-Emgahwi or The Coffee Servant project is developed from observing the changing phenomena in children for no longer knowing how to serve coffee the proper way. Based on the role-play conducted during the investigation phase, the object’s attitude can tickle the user’s curiosity to question the object’s demands. In this case, why is the coffee pot moving away or is being attracted to the user’s hands. Different reactions were observed such as shock, laughter and excitement, which can confirm the relationship formed between the user and the coffee pot (empathy). The unpredictability of having a moving coffee pot confirms to Masshiro Mori theory (1970) in which humans tend to empathize with objects that have human-like personalities in this case a “moving” characteristic that either is attracted or rebellious to the user.

For this phase, the prototype produced in the investigation section (see Fig. 18) had to be improved aesthetically. The object needed to look more like an actual dallah and the magnetic mechanism had to be embedded within the object’s inner structure. The movement of the dallah when it moves had to be upgraded as well.

The making process goes through several stages ranging from making the 3D digital renderings to the final physical dallah model (see Fig. 38). The steps below explain the process in details:

Fig. 38: The process of transforming an existing dallah to a low-poly model
Reference: an actual dallah was used as a template for all the measurements, appearance and ergonomics (see Fig. 29).

Modeling: the dallah was then digitally modeled along with the coffee cups via Rhino. Both models were converted into a low polygon style (see Fig. 40 - 42).
Fig. 41: Dalla 3D renderings in Rhino

Fig. 42: Dalla 3D renderings in Rhino
Unfolding: the digital model of the dallah was then transformed into Papakura, a software that unfolded the 3D model into flat sheets of printable and foldable paper. The templates were cut by a laser cutter (see Fig. 43).

Construction: the pieces of paper were then taped together into the final prototype of the dallah. Several prototypes were made to achieve the final model (see Fig. 44).
Fig. 45: A set of dallah paper models were made to achieve the final aesthetic needed.

Fig. 46: Paper model of the dallah
5) Production: The paper model was then taken to a metal workshop named Al Fares Silver Boxes in which they helped in making a replica of the dallah paper model (see Fig. 47 - 48).

Fig. 47: The production of the dallah at Al Fares Silver Boxes store

Fig. 48: The production of the dallah at Al Fares Silver Boxes store
The mechanism of the base: the base was constructed using a 2mm transparent acrylic sheet. A total of four ball bearings, eight washers and eight bolts were used to hold the wheels in place (see Fig. 49 - 50).

Fig. 49: Initial prototype of the base

Fig. 50: Final prototype of the base
The Mechanism of the body: Magnets were embedded within the dallah’s body in order to create the movement that needed to be achieved. A piece of 3D printed PLA was placed on top to cover the magnets (see Fig. 51-52).
The making of the rings: the rings were 3D rendered and were designed to have the magnets embedded inside of its structure. The 3D models were then printed (see Fig. 53 - 56).
Fig. 55: Magnets embedded within the final ring prototype.

Fig. 56: How the rings are worn.
The Making of the cups: the cups were 3D rendered and were designed to have the magnets embedded inside of its structure. The 3D models were then printed (see Fig. 57 - 58).
Fig. 59: Dallah and cups being attracted to the correct hands.

Fig. 60: Dallah and cups moving away from the incorrect hands.
El-Emgahwi or The Coffee Servant project is developed from observing the changing phenomena in Qatari children who are not familiar with the Arabic coffee serving etiquette. The coffee pot and cups have a personality of moving either towards or against the correct hands of serving. Its construction and interaction is analog based as it uses the mechanism of magnets to create its interaction with the user. Two “R” rings are worn on the right hands and two “L” rings are worn on the left hands. The square forms in the rings should be facing the dallah’s handle and the sides of the cup in order to make these objects react.
In the investigation phase, I have experimented with the question of how can we use empathy to recall a memory. Back in Your Arms project (see Fig 19) is developed from observing the changing phenomena of always wanting to own new items today. It questions the constant need of wanting to keep up with the latest trends. As purse lovers, we love to have the latest branded purse that we could accessorize when we are going out. We go through phases of owning a certain type of a purse, because it is "cool" and trendy to have one at that time. These phases tend to fade away in a short amount of time. The project uses the "unpredictable" behavior of an abandoned item, in this case, a purse, to revive a relationship that the purse lover once had with that purse. Through its unpredictability, it recalls the memory to the user of how it used to be for that purse to be back in their arms. The memory of carrying that abandoned purse might belong to a recent time, it could recall that memory happened a week or a month ago, either way, it’s “unpredictable” moving flap recalls a memory. Therefore, it can build that relationship between the user and the purse again.

For this phase, I wanted to include a larger amount of audience that are more than “purse lovers.” So I decided to alter and expand into a topic that is closer to Qataris and the Expats in general. I wanted to look for an existing changing phenomenon that;

1. we all are observing today.
2. A changing phenomenon that used to be part of our everyday life, but no longer is.
3. A situation or a condition that we can all empathize with to recall its memory.

Qatar is undergoing into a lot of transformation in its physical appearance during the late 1990’s but became even more drastic after winning the 2022 FIFA World Cup. The construction is done by demolishing some of the older buildings and constructing newer ones. Many of Doha streets are also expanded by demolishing the roundabouts to the traffic flow. The roundabouts were taken down and converted into traffic light intersection to ease the traffic flow of Doha as the population density starts to grow (see fig.59). Most of the Doha roundabouts had iconic structures that were unique to the country. These unique monuments were used to locate an area or give a direction. The Arch roundabout, also referred as the rainbow roundabout, for example is used to locate Katara cultural village and the Pearl. More and more roundabouts are being demolished everyday in Doha as part of change. Some Qataris and residents may have developed a sense of connection with such monuments in terms of relating them to specific areas and directions. In addition, these iconic structures have existed long before the rise of the skyscrapers in the west bay area of Doha, therefore, it is related to a specific time or an era of the city where there has not been much of a drastic transformation. These monuments no longer exist, but have become a memory to most of us who have watched it vanish.
Inspired by the Cultural Camouflage project (see Fig 60), where the ignored unique iconic cultural patterns are being re-contextualized into valuable cultural products that recreates the importance of such cultural elements. In memory of the roundabouts has a similar concept of recreating the objects value, empathy or that sense of connection between the residents of Doha and the vanished roundabouts. In addition to recreating that relationship, the project goal was to offer the opportunity for the Qatar’s residents to project the roundabouts either in its location or anywhere and anytime. The technology of augmented reality seemed to fit that goal.

Augmented reality is a live view of the real physical world that is supplemented digitally. This technology have that quality of projecting a virtual or a non-existing object in real time and location. Its ability to mediate or enhance reality can stimulate that sense of connection between Qatar’s residence and the roundabout. It gives an opportunity to the user to interact, manipulate with the roundabout, project it into its location or anywhere at anytime.

The making process goes through several stages ranging from making the 3D digital renderings to the final projection of the virtual roundabouts. The steps below explains the process in details:

1. Make 3D digital renderings of the roundabouts
2. Project the virtual roundabouts in real-time and location
3. User can interact, manipulate, and project the roundabouts in its location or anywhere at anytime.
Reference: a number of photographs were used as reference to model the roundabouts digitally via the 3D software, Rhino. (see Fig. 63)

Fig. 63: The Arch roundabout also known as the Rainbow roundabout before being demolished

Fig. 64: The Mashaf roundabout also known as Marshat roundabout before being demolished
2) Modeling: The roundabout were simplified into their unique shapes and forms. Angel wings and halos were also added to the renderings to imply its non-existence. A total of three digital roundabouts were created (see Fig. 65-66).
3) How-to: there are a number of ways to project the 3D renderings into reality, some may be too technical, but there are also ways that non-programmers can experiment with. One app that is useful is Augument. The application allows the user to upload any 3D renderings into their server so that the user can project and manipulate the model into real space.

4) Uploading: the three roundabout models where uploaded on www.augmentedev.com/

5) Projecting / testing: the iPhone app, Augument, had to be download in order to project those virtual 3D renderings into reality. Some tests of the projection where made by going to the locations where the roundabout used to exist. (see Fig. 67 - 70)

Fig. 67: Projection of the Oryx roundabout tested in its original location

Fig. 68: Projection of the Mathaf roundabout tested in its original location
Fig. 69: Projection of the Arch roundabout floating over the city of Doha

Fig. 70: Projection of the Oryx roundabout at the Shibuya-Ku's intersection, Tokyo
In Memory of the Roundabouts can be categorized as a critical design in which virtual, non-existing iconic structures of the city are projected into reality to recreate that relationship or empathy to recall a certain memory. It questions the value of the existence of such structures. It's virtual appearance of being semi-transparent and having an angel halo and wings emphasizes the idea of a no-longer-existing structure. Its virtual ability to be adjusted and modified via the user gives it the characteristic and the ability to be located anywhere at anytime. Having that opportunity to project virtual structures into real spaces gives the user the chance to recreate that empathic relationship with the roundabout.
Project 03: The Pompous Perfume Bottle:

Project persona:

Physical Object
Digital + Analogue interaction
Clear personified characteristics
Uses empathy to show off an accomplishment

Qarshat El Oud or the Arabian Oud Bottle (see Fig.36) is inspired by a regional characteristic of pride that we as Arabs have. This regional trait of showing off pride existed for centuries, but has been exaggerated even more recently. In architecture for example, we are proud of being the tallest, the biggest and the largest. As an Arab community we are also proud of how many people we know and the network we build around us. In this project the perfume bottle is a reflection of that pride. The more people the host perfumes, the greater level of accomplishment the object reveals.

In the experimentation phase, the construction of Qarshat El Oud was complex in terms of how the piece is put together. Its interaction with the user seemed misleading sometimes as it had few technical glitches. In this phase, the concept of showing off an accomplishment is carried on but is simplified in terms of its construction and interaction. Instead of using the software processing, the projector, the wooden table and the sensor, the prototype was minimized to LED lights and one sensor.
The making process goes through several stages:

1) Wiring: an 8x8 LED matrix is connected to rainbowduino (a platform that simplifies the circuit of running a matrix LED light) and a force sensor. At this stage, some technical challenges happened in terms of the electricity circuit flow. Help was required from Benjamin Mandel, a professional programmer and an electrician, to connect the circuit to the LED lights. (see Fig. 71 - 72)

Fig. 71: Wiring the Matrix LED light circuit

Fig. 72: Matrix LED light circuit visualized with Fritzing
Coding: the foundation code was taken from an open source website that provided a tutorial on how to light up an 8x8 LED matrix. Help with the complexity of the code was also received from both my brother, Abdulaziz Al-Homaid, and online support from Benjamin Mandel (see Fig. 73). Testing and trouble shooting: adjusting codes and wires to make sure that the interaction of the piece works smoothly (see Fig. 74).
4) Structure: a 2.5 mm, semi transparent acrylic sheets were used to construct the main shell of the perfume bottle (see Fig. 75 - 76).

Fig. 75: Assembly of the perfume bottle's prototype using a 2.5mm semi transparent acrylic sheets.

Fig. 76: The perfume bottle structure constructed.

The final piece got manufactured at Shorooq Neon.
5) Soldering: The final circuit being soldered into a PVC sheet. (see Fig. 77 - 78)
The making of the atomiser: A piece of sponge is used to shape the atomiser. The force sensor is inserted within the sponge structure. The sponge was then covered with a white leather sheet. (see Fig. 79-82)
Fig. 81: Stitching the leather pieces over the sponge

Fig. 82: Testing the sensor sensitivity through the atomiser structure
Construction: All external wirings were covered with heat shrink tubes (see Fig. 83 - 84)

Fig. 83: Tubing all external wires

Fig. 84: Putting together the final piece
Arabian perfumes such as oud oils play a big role in the social events such as, family gatherings, Eids and weddings. It is part of making the guest feel welcome -- as use of pride the more welcome we make guests feel, the more we are proud of making one feels that way. We, as Arabs are also proud of how many people we know and network with; the more, the merrier, the prouder we are. Therefore, The Pompous Perfume can perhaps be a reflection that symbolizes the pride and accomplishment of knowing and serving a significant amount of people. Each perfumed guest is indicated with an LED light. Once the LED panel is filled with lights a congratulatory message appears in Arabic to show that the target of knowing so many people has been reached.
Empathy occurs between the interaction of a human and an object that requires an input. Human emotion is triggered within that interaction, resulting in a continuous cycle of interaction with the object. By experimenting with such interactive products that connect the human to an object, I speculate that empathy can be used as a powerful tool of communication. I offer possibilities on how can the tool of empathy be used to learn a skill, to recall a memory or to show an accomplishment.

These experimentations mainly deal with the local context of Doha and it’s changing phenomena’s. Only three areas of change has been explored using the tool of empathy and personification, however, this research can be expanded into looking at the different changing scenarios that are happening in Qatar now.

The personified prototypes produced can be critical, thus it raises few questions that stimulate conversation about change in the country today. It does not necessarily say that change is good or bad, but rather provides a critical about the commentary on situation itself. It uses the tool to perhaps document those different areas of transformation today.

The prototypes produced have a potential to be developed into future museum interactive products, in which customers from the different parts of the world can purchase to learn about contemporary Qatar. So it can work as a product to introduce the world of who we are today. The samples produced are also proposals of how applied empathy can be used to document change happening in other cities facing rapid the rapid change.
As a curious designer and in terms of interdisciplinary design, I tried to push and explore the different mediums and formats for each project. I have experimented with analogue and digital interactions. In terms of Empathy and Personification, each project had a unique persona that explains my series of experimentations throughout the year. The exhibition is set up so that it allows the audience to explore each persona and think of how empathy is applied within each project (see Fig. 85).

Fig. 85: Shows how the exhibition if put together in terms of applying empathy in a set of personified object that talks about the changing phenomena in Qatar.

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**Physical Object**
- Analogue interaction
- Subtle personified characteristics
- Applies empathy to teach the user a skill

**Virtual Object**
- Digital interaction
- Subtle personified characteristics
- Applies empathy to recall a memory

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**Project 01:** El-Engahwi (The Coffee Servant)  
**Project 02:** In Memory of the Roundabouts  
**Project 03:** The Pompous Perfume
Exhibition Photos
Exhibition Photos
Notes:

1 Paola Antonelli, Talk to Me: design and the communication between people and objects (New York, N.Y.: Museum of Modern Art, 2011), back jacket cover.


5 Paola Antonelli, Talk to Me: design and the communication between people and objects (New York, N.Y.: Museum of Modern Art, 6, 2011).


8 Paola Antonelli, Talk to Me: design and the communication between people and objects (New York, N.Y.: Museum of Modern Art, 6, 2011).


11 Ibid.


13 Ibid.


15 Ibid., 345


21 Ibid.

22 Ibid., 54


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