Designing Humour in Interaction

A Design Experience

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Abstract. Humour in interaction design has received limited attention in design and HCI conferences. In this paper, we present the results of a workshop on humor design conducted at a human-computer interaction (HCI) conference with professional designers and researchers. The workshop goals were to understand perceptions, design principles and methods for creating humour in HCI. The objective of our paper is to communicate to the design community the main ideas born during the workshop, as well as opportunities for deploying successfully humor in HCI. We believe, our work contributes in bringing to the fore a lesser known knowledge area of designing interactions that not only deliver more positive feelings to users, but also can be effectively used in changing human behaviour.

Keywords: Humour · Interaction design · UX · Workshop methodology

1 Introduction

Humour is pervasive in human society and one of the most powerful tools to induce positive effects in interactions. Over the years, research has shown that humour has genetic roots and countless benefits, such as improving emotional health, relieving tension [1, 2], improving teamwork, increasing likability in interpersonal relationships [3, 4], promoting content retention [5] and encouraging creativity. Humour is a well-established branch within natural language processing (NLP) and artificial intelligence (AI) communities [6], however in human-computer interaction (HCI) humour seems to be rather marginalized.

Therefore, we organized at the 2017 INTERACT conference, held in Mumbai (India), a one-day workshop on designing humour in interaction in an attempt to bring this topic into the attention of the HCI research community. In this paper, we present our workshop objectives, methods and approaches, outcomes, as well as conclusions and future work.

2   Workshop Objectives

Humour can be expressed verbally (irony, puns, jokes), non-verbally (situational incongruities, mimics, gestures) or a combination of both verbal & non-verbal expressions (comics, comedy etc.). To be successful, humour has to be delivered at the right time and in the appropriate context and manner.

Thus, our primarily workshop intention was to explore challenges in designing humorous interactions, as well as benefits and downsides of using humour in HCI with the ultimate goal of improving the user experience (UX). During our discussions, we aimed at responding to questions such as:

- What cultural and social constraints apply when designing humorous interactions? I.e. where humorous interaction should/shouldn't be used?
- How can we evaluate humorousness/humorous interactions?
- What other application areas could we foresee for interactive humour?
- How to use humour with the objective of minimising system failure effects and/or augment user tolerance to failure?
- What are the most effective ways of using humour for maximizing the use and utility of public spaces?
- How knowledge from different disciplines, e.g. linguistics, psychology, sociology, literature, art, comedy etc. can help designing humorous interactions?
- How can HCI humour be useful beyond its intended purpose? For example, can comedians use interactive technologies to create humorous situations?

Secondly, our workshop aimed at defining an agenda for future humour research in HCI.

3   Methods and Approaches

The workshop schedule incorporated traditional approaches such as a keynote, several paper presentations, plenary discussions et cetera, but tried to also add innovative elements, such as video compilations of relevant documentaries and stand-up comedy shows and a hands-on practical session where participants could apply what they had learned during the workshop. The workshop ended with a social event at a local restaurant where participants continued the discussions until late at night.

3.1   Keynote and Tutorial on Humour Computer Interaction

The keynote offered an introduction to humour research, humour theories, as well as to approaches on creating humour using a large number of practical examples. In the keynote the usual humour theory approaches were mentioned and illustrated. That is, humour was discussed from the superiority point of view, the relief point of view and the incongruity point of view. Especially this latter point of view focuses on creating humor rather than analyzing humor. In the keynote a continuum from accidental (or unintentional), spontaneous and planned humour was presented, as well a continuum

from verbal jokes, to cartoons, animations, movies, videogames and (digitally enhanced) real worlds [7].

3.2   Paper Presentation Session

The workshop included paper presentations focusing on humour in advertising [8, 9], smart workplaces [10] and a works-in progress case study of evaluating humour effects in interactions with a virtual agent. A fifth paper on humour appreciation [11] could not be presented as the authors could not come.

3.3   Video Session

The video session was a 45 min compilation based on free available documentaries on the history on comedy, as well as several stand-up comedies shows. Since most of our participants were from India, we decided to focus on Indian stand-up comedy as a special bonus for our participants. The videos were mainly showing how comedians find sources of humour and inspiration for their comedy. Themes such as family, relationships, work environment, but also bitter racial discrimination were presented as inspiration sources for humour. Further, it was showed how humour can touch and change mind sets from prejudice and hatred to understanding others and caring for them reaching a change of behaviour.

The idea behind the video compilation was to inspire people for the final design session and to incite discussions during the plenary session. While the videos weren't directly related with humour in technology, they seemed to have a positive impact as discussion generator.

3.4   Plenary Session

The plenary session was meant as an open forum for discussion where participants could express their ideas and reflections on the topic of humour in HCI.

To facilitate the discussion's start, we presented participants with a workshop summary containing the main ideas presented in the paper session. This summary was prepared in advance. The ideas extracted were grouped into 11 categories regarding definition and origins of humour, its underlying mechanisms, why do we need humour in HCI, how can machines recognize humour, methods and approaches used to create humorous interactions in HCI, characteristics of a humours system, humour in social media, advertisement, virtual assistants & social robots and smart environments.

The categories were presented briefly at the beginning of the session and enabled participants to remember the paper presentations.

3.5   Hands-On Session

The hands-on session was meant to give participants the possibility to materialize in design sketches their ideas about implementing humour in interaction. We scheduled

the design session at the end, since we wanted to allow participants to incorporate in their designs the knowledge acquired during the workshop.

Three design briefs were prepared in advance. Participants were asked to choose one at the beginning of the session. The design briefs were the following:

1. Design for change: "*Use the power of humour to design an interactive application or a service that facilitates personal or **social behavior change**. This could be eating healthier, doing sports, avoiding procrastination, being more conscious about the environment, driving more carefully, etc.*"
2. Design for Learning: "*User the power of humour to design an interactive application or a service that helps **memorization**, i.e. learners to **retain content**. This could be a 'boring' lecture at school, long vocabularies list when learning a foreign language, exam preparation, etc.*"
3. Design to overcome a technological handicap: "*Nowadays, technology has reached high levels of performance. However, neither technology nor humans are error free. Use the power of humour to design strategies to cope **with failing machines**. Such machines could be laptops, phones, desktops, virtual agents, robots, vacuum cleaners, kitchen appliances, automatic doors, driverless cars, etc.*"

The design session also included a brief introduction to design thinking and explanations of the tasks participants were required to perform. Each group was asked to perform three tasks:

– To identify a clear problem to solve, choose a user group and create an empathy map (15 min).
– To brainstorm on humour ideas that will help to solve the stated problem (15–20 min).
– Create a design concept based on the best/funniest idea and come up with a storyboard (20 min).

Each group had 3 min per task to present in the plenary.

4   Workshop Outcome

We had a total of 15 workshop participants and about 5–6 spontaneous newcomers during both video and plenary sessions. Most of the participants had UX background and worked in the industry. We also had several design students and researchers from local Indian universities.

4.1   Plenary Discussion

The plenary discussion lasted for about 40 min and enabled us to discuss some of the questions formulated in the workshops objectives.

Concerning the social and cultural constrains when designing humour, most of the participants indicated that having local customised designs is an absolute must. Referring to an example presented in the documentary, one participant expressed concerns

regarding racial humour and referred to the famous Microsoft Twitter Bot racist rants. Professional designers seemed to prefer using humour in 'safe' mode, i.e. searching for humour with large public tolerance to avoid damaging the company reputation. On the other hand, students were arguing against such practice fearing that a 'safe' humor might be ineffective. One student even asked rhetorically: "*How it is possible for people to get offended by a simple sarcastic machine which obviously doesn't have any malicious intentions at all?!*" However, finding the right balance between *funniness* and *appropriateness* seemed to be the key point.

Another main point of concern addressed by the participants was the difficulty to remain humorous for a large period of time as pun and jokes lose their appeal when frequently repeated. However, the question on how to ensure humour effectiveness over time remained yet unanswered.

Further, participants discussed about appropriate ways to evaluate humor. Facial expression, such as smiles and laughter, body language, as well as EEG, biometric sensors or BCI methods could be used to measure the humour effects.

Last, participants debated on possible applications scenarios for humour. For example, online learning, mental wellness and waiting rooms (e.g. at the dentist) were mentioned as potential benefiting from using humour.

4.2   Design Groups

Three design teams were formed, each one having 4–6 members. Two teams worked on design for behaviour change and one team chose to focus on design for overcoming technological failures. When forming the groups, we ensured that participants with no design background were brought together with designers. In this way, everyone was able to effectively participate in this exercise.

Smart Refrigerator
Design Team: *Namah Pandey, Sahil Sapra, Astrid Bin, Catherinah Rajakumar.*
Brief choice: Design for technological failure.

Team 1 worked on a smart refrigerator that helps people to easily control the inside temperature and makes sure it works without failures. The empathy map was based on the profile of a participant's friend – see Fig. 1. The empathy map shows several interaction steps as follows:

- Step 1 - the application 'talks' on the behalf of the fridge and announces: "*Feed me, I need power*!".
- Step 2 - the fridge thanks the owner for taking it out of the box and asks the owner for selfies.
- Step 3 - selfies will be used to change the temperature inside the fridge: if too hot, the owner will appear in a Saharan landscape looking thirsty and tired; if too cold, the owner will appear looking frozen surrounded by snow in a winterish environment.
- Step 4 - to set the thermostat: "*Now, make it just right*!".

Fig. 1. Team 1 during brainstorming

During the ideas generation session, it was established that humour could be very well part of mundane interactions with a refrigerator at home – see Fig. 2. Using emoticons and user selfies, the fridge shows the inside temperature, informing about stuffiness level and enabling the user to look inside the fridge using a special mounted camera.

Fig. 2. Team 1 brainstorming ideas

Smart Environment for Healthy Eating
Design team: *Prachi Sakhardande, Sudeep Kumar, Rupesh Rawat, Radhika Mamidi, Manjunth Siddappa, Ankit Bansal.*
Brief choice: Design for changing behavior.

Team 2 decided to design a smart environment that promotes healthy eating habits. The empathy map was created based on the profile of a participant's family member.

Participants brainstormed several ideas, such as creating several magic objects like a smart spoon that decomposes once the user eats too much ice cream, pots that complain about too much oil and smart refrigerators that keeps unhealthy food away from hungry users – see Fig. 3.

Fig. 3. Team 2 finalizing their concept

A particularly creative idea of team 2 was to use theatre play to present their story-board – see Fig. 4. We found this a very innovative way of presenting ideas when dealing with time constraints.

Fig. 4. Team 2 during the enacted storyboard

Kirkiri – the annoying application to fight procrastination
Design team: *Malay Dhamelia, Advait Bhat, Neha Shetty, Sparshad Kasote, Chetanya Sachdeva.*

Brief choice: Design for changing behavior.

Team 3 worked towards designing an application called 'Kirkiri'. 'Kirkiri' meaning "annoying partner" in Hindi is a smart environment application connected to all users devices, i.e. laptop, tablet, mobile phone, et cetera. The application is meant to help users to avoid procrastination.

The empathy map was based on the profile of a group participant who is taking Sitar classes but practices quite irregularly – see Fig. 5.

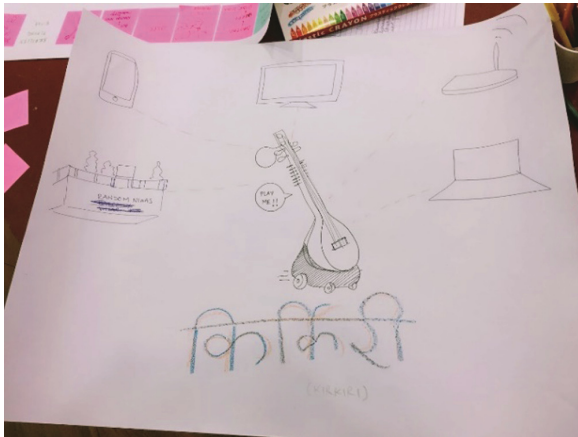**Fig. 5.** Team 3 designing the Kirkiri concept

Fig. 6. The Kirkiri concept

During the brainstorming session, participants came up with a smart environment idea that interferes in Facebook chats when conversations get longer than 15 min. Similarly,

Skype conversations are limited to 10 min; after that, the head of the chat partner transforms into a sitar while the sitar itself (mounted on a vacuum cleaner) starts chasing the user around, screaming obscene words and forcing him to get back to practice – in Fig. 6, the sitar concept - Kirkiri - is presented.

According to team 3 designers, such 'Harry Potter' style creations are helpful to combat procrastination of all kinds, e.g. especially for highly disliked activities, such as homework, reading, house cleaning, etc.

5 Conclusion

In this paper, we have shared our experience in organising a workshop on designing humour in interaction at INTERACT 2017 in Mumbai, India. Our aim was to generate interest in this area of research and practice among the HCI community. It is interesting that despite being exposed to humour theories, and having these theories illustrated with examples, workshop participants didn't take such observations into account when designing their humorous applications. Rather they followed their intuition and own sense of humour to design humorous interactions. Many philosophers and humour researchers have studied humour from an 'analysis' point of view. Obviously, analysis of humour leads to understanding of humour, but there has hardly been research on creating or designing humour, with the exception of humorous product design [12, 13] and many "How to …" books on (stand-up) comedy.

Going forward, we propose to work on reviewing theories for humour in interaction design and exploring the relationships between humour, affect, and motivation. Next would be to develop general guidelines for incorporating humour in interaction design. Above are some of the directions which, we hope to discuss with the HCI community and obtain their perspective in drafting an overall research agenda that would support more definitive implementations of humour in interactive systems exploiting the affordances of modern technology innovations.

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