Information Design for Getting Difficult Issues Across: From Trial Experiences to Education

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ABSTRACT
We present an education case that is relevant to the field of human-computer interaction, and that presents a promising method of delivering HCI education. The art and skill of designing interactive tools for delivering a complex story while engaging a non-expert audience was transferred from a high-profile international trial setting into a classroom filled with designers and technicians.

Experiences in information design for a complex trial, and their implications for the education case are presented. General conclusions and recommendations are drawn for HCI education.

Keywords
Information design, emotional communication, education, law enforcement

INTRODUCTION
Some years ago, during his work as an art director for presentations and new media projects, the first author of this paper was asked to assist the Dutch National Prosecutor in a high profile court case: the “Van Anraat” trial [1]. This case revolved around Dutch businessman Frans van Anraat, who was charged for supplying raw materials for chemical weapons to Saddam Hussein’s Iraq. Van Anraat was accused of supplying the compounds while the products were under UN embargo, knowing that they would be used to make poisonous gas for Iraq’s 1980-1988 war with Iran. The Dutch National Prosecutor was facing the problem of a technically very complex case with an overload of information. It would be very hard to explain only by words why some facts were related to each other.

The assignment was to create a documentary-like presentation which would be presented during the plea of the trial. Important for this particular case is that this would be quite an international media circus. So not only judges and lawyers would be its audience, also world press and witnesses would attend the trial.

Of major importance for this particular information design problem was the fact that we were dealing here with not just the clarification of a subject but also with a major emotional experience. Judges have a completely different frame on the case when compared to journalists or witnesses. This resulted in an approach that differs from regular information design, which follows the rather scientific style reasoning of “People have this association with this colour so you should use that in this situation.”

The approach chosen was based on two important premises. First, the presentation was to be used as part of a legal process, in which opinions had to be formed by those involved based on their understanding of the facts. Second, the outcome of the trial would have a major impact on people’s lives – this should not be underestimated. The selected presentation style was such that it offered tools to assess facts, yet left the audience to draw conclusions themselves.

Based on this unique experience, a two-day workshop was developed for Leiden University about information design and the emotional approach. The main topic of this workshop was how to connect with an audience. How to engage with the target group in the information century, particularly when they are overloaded with many types of communication. These issues are central not only in information design, or even legal trials, but also in human-computer interaction. As a result the presented education case is of relevance to HCI education worldwide.

The remainder of this short paper gives further insight into the process of information design by which the enormous amount and complexity of information in the Van Anraat case was translated into a presentation that was central in its trial. Following this, we present the results of an education case based on these experiences. Conclusions regarding HCI education are discussed in the final section.

DEALING WITH COMPLEX TRIAL INFORMATION
This section presents the experiences of the first author with the Van Anraat trial. It is hence written from a first-person viewpoint.

At the start of the Van Anraat assignment I was confronted with a huge amount of data. Over 10,000 pieces of evidence, reports, and personal statements were filed for this case alone. From UN reports to Van Anraat’s Iraqi passport and from faxed sales orders to witness statements. Given my background, budget and timeframe it would be impossible to go through all this information and create a clear picture of the whole case.

So I started with research. First I studied crime investigation shows on television. Since it is their daily
During my research I found several models for journalistic purposes and for human centered design. Models which were easily adaptable for this project. The first model, the so called “Inverted Pyramid” [2] is a technique commonly used to build a strong story in three layers. Every layer has a different density of detail on the subject. Using this technique, I compiled a very first short overview of the case, from interviews with detectives from the Dutch National Crimesquad and from reading reports. This enabled drilling through the information pile to the core of the case, and creating a basic story outline.

As preached by the ISO model on Human Centered Design [3], after researching the subject and creating a design solution within the context of use, feedback from the Dutch National Prosecutor was sought. An interesting aspect of the trial context was that the design solution could not be tested on end-users, since its content was highly classified. As a result, the content was tested on individuals within the National Crimesquad and National Prosecutor’s office that were not intensively involved in the case. Within an iterative process, revisions, discussions, and new goals were proposed on a weekly basis.

The resulting information design had major impact. The presentation was strategically effective for the trial. Where the plea took 8 hours, this 90-minutes presentation functioned like a resume on the trial, giving a clear overview of the case’s history, the context of the crime and the actual crime itself. Van Anraat was sentenced to 15 years [4] within this particular trial, and later to 17 years [5] in prison.

**TRANSLATING EXPERIENCE INTO EDUCATION**

The abovementioned work sparked interest from Leiden University’s Media Technology Master-of-Science programme in a workshop for its students. This programme deals with creativity in scientific research. As such, alternative forms of communicating scientific results are of interest to its students.

The workshop was titled “Information Design: Getting Difficult Issues Across” and its focus was on engaging with an audience whilst telling a technically complex story, given that the audience may lack a technical understanding of the topic. Creating emotional engagement without losing track of the scientific context is important when communicating scientific results. This is particularly true when the case involved a large amount of data which is not always easily accessible for an outsider. The tools presented in the workshop can support students with creating their scientific poster or presentation.

The backgrounds of about 20 students in the workshop was highly diverse, ranging from technical studies to art schools. This variety was an interesting factor but also a difficult one. For example, when handing out tools to create structure visually you can expect art school graduates to have this knowledge, which may be new to IT students.

On day one of the workshop, students were informed about the general importance of engaging your audience to your story, information anxiety and several interesting examples ranging from the first known graph to the Pioneer Plaque. Next, the abovementioned case for the Dutch National Prosecutor was elaborated on, focusing on problems encountered and solutions found. This case appeared to stimulate the imagination and made very clear the need for emotional engagement.

When students were asked to do research themselves on information structuring, this turned out to be difficult. Although there is much to find on storytelling and structuring, there is a lack of clear keywords to use. For example, the term “information design” has several explanations and does not cover the complete picture.

Students were asked to create a concept tool for explaining the workings of the internet and cyber-criminal. The tool had to be (1) interactive, (2) suitable for presenting the whole story, but also in parts, (3) aimed at a target audience of judges and lawyers with no technical background.

To give an optimal idea of the context, two detectives from the Hightech Crime Team of the Dutch National Crimesquad presented their work and several example cases to the students. Students were teamed up, combining different backgrounds, and asked to present their interactive tool in two weeks time. They were specifically instructed to create any tool they wanted, within the limits of the assignment.

The resulting presentations were very good and highly diverse. Some were very creative and neatly designed, while others were more conventional but very useful. The fact that the target group of the tool were judges and lawyers appeared to be difficult for students. As an example of this, a student concept that involved a role-playing game was highly interesting but required too much time from already very busy law professionals.

The student outcomes were all presented to the National Crimesquad, which chose to follow-up on and implement one the presented student concepts. Overall the workshop is regarded a successful example of education that (1) starts from a highly concrete problem case, in our case the Van Anraat trial, and brings it into the realm of higher education, (2) combines various fields, from information design to storytelling, and (3) successfully delivers output that is to be applied in actual law enforcement practice. Most difficult was to find a suitable level of framing, or limiting student concepts. It involves drawing a delicate line between usability, creativity and overall expressiveness within the workshop.
**DISCUSSION**

We find that the presented education case is relevant to the context of human-computer interaction, and that it presents an interesting method of delivering HCI education. The art and skill of designing interactive tools for delivering a complex story while engaging a non-expert audience was transferred from a high-profile international law-enforcement setting into a classroom filled with designers and technicians. Issues central in our education approach are

- starting from a concrete and known problem domain,
- structuring large amounts of complex interrelated data,
- a clear need for audience’s emotional engagement,
- combining students from artistic and technical backgrounds, and
- involving experts in the classroom and enabling follow-up of student outcome.

Given the time in which we live, it can be hard to get in touch with an audience or user. For engaging communication this is particularly difficult. We have shown that there is a need and tools available for doing just that, and that combining them with common sense goes a long way.

The authors are open to discussing their work and methods with other education professionals.

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**REFERENCES**