

humaine

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User-Centred Design for an Affective Promotion Campaign

Workpackage 9 Deliverable



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1 The place of this report within HUMAINE

The HUMAINE Technical Annex identifies a common pattern that is followed by most of the project's workpackages

The measure of success will be the ability to generate a piece of work in each of the areas which exemplifies how a key problem in the area can be solved in a principled way; and which also demonstrates how work focused on that area can integrate with work focused on the other areas. We call these pieces of work *exemplars*. The exact form of an exemplar is not prespecified: it may be a working system, but it might also be a well-developed design, or a representational system, or a method for user-centred design. (p 4)

To that end, each thematic group will work out a proposal for common action, embodied in one or more exemplars to be built during the second half of the funding period (p.16)

The process will begin with production by each thematic group of a review of key concepts achievements and problems in its thematic area; and drawn from the review, an assessment of the key development goals in the area. This review and assessment will be circulated to the whole network for discussion and comment, aimed both at building understanding of basic issues across areas, and at identifying the choices of goal that would be most likely let the different groups achieve complementary developments. That consultation phase will provide the basis for deliverables in month 11, which describe in some detail a few alternatives that might realistically be chosen as exemplars in each area, and their linkages to issues in other thematic areas. A decision and planning period will follow, involving consultation within and between thematic areas, leading to presentations at the second plenary conference, which will describe a single exemplar that has been chosen for development in each area, and the way work on the exemplar will be divided across institutions. The remainder of the project will be absorbed in developing the chosen exemplar. (p. 21)

The consultation phase has now ended. Near-final plans were presented to the whole network at the Plenary in May 2005, and adjustments have been made accordingly.

This deliverable reports progress made on the exemplar for WP9, and plans that have been laid out for the remaining months of the project.

2 Brief overview of Workpackage 9 and the exemplar

While the rest of HUMAINE will produce knowledge and theories of many different aspects of emotional systems (ECA behaviours, emotion recognition, interaction principles, exemplar databases, and emotion theory) the overall goal of WP9 is to use that knowledge to produce design and evaluation methods able to deliver functioning affective end-user applications. Such applications allow users to become affectively involved in the course of interaction with the system.

Our strategy for working within an end-user application framework to evolve the usability of affective systems can be divided into two focus areas:

1. Ends: Determining qualities and criteria that demark emotional systems as usable and evoking the desired experiences for users.
2. Means: Forging process—design methods, project goals and evaluation strategies — that will steer a project towards producing a ‘successful’ affective application.

The WP9 exemplar is designed to develop, explore and determine key criteria and methods for designing and evaluating affective systems

2.1 The field covered by Workpackage 9

The area covered by this workpackage is described in the Technical Annex, particularly in Section 6.2, and in more depth in the review and assessment document for the workpackage. We summarise the area here so that the deliverable can be read as a stand-alone document.

Regarding Ends, we do not believe there are simple, replicable correlations between system properties and all end users’ experiences. The experience of using an emotional system is not a property of the system itself, but rather is something that arises in the interaction between user and system. To quote Sengers and colleagues (2004):

“Rather than experience as something to be poured into passive users, we argue that users actively and individually construct meaningful human experiences around technology. They do so through a complex process of interpretation, in which users make sense of the system in the full context of their everyday experience.”

Along the same lines, Suchman has criticized the cognitivistic reductionist basis for the field of affective computing (Suchman, 2002), reducing human emotional responses to discrete, universal component parts, arising from some underlying state, and offers examples of alternative designs that put emotional interaction at the core but where: “we might differently conceptualise affective encounters at the interface: as irreducibly contingent meetings of particularly situated persons with equally particular, dynamic, and culturally inflected things.” As we discuss below, usability of emotional systems and the process of arriving at functioning emotional systems need to be sensitive to how end-users are part in co-constructing the experience and be part of this dynamic and cultural process.

Usability traditionally focuses on goals such as effectiveness, efficiency, safety, utility, learnability, and memorability. These objective usability goals contrast with user experience

goals, which cover subjective qualities such as being fun, rewarding, motivating, satisfying, enjoyable, and helpful. Usability goals and user experience goals often stand in complex relationships, involving tradeoffs such as safety vs. fun or efficiency vs. enjoyability (Preece et al., 2002). Introducing emotion thus raises many new dimensions for research on usability to address. It becomes, for instance, a serious issue whether users feel a system is ‘sympathetic’ or morally acceptable, whether it engages them emotionally. Furthermore, emotions address directly inherently adaptive faculties of humans, posing challenges for methods of user studies and artefact design.

Work Package 9 will take a primarily qualitative, situated/contextual approach to measuring Ends. A sub-group of Work Package 9 may also focus on evaluating and developing measures aimed at isolating meaningful evaluative variables and testing various components of systems against these variables.

Regarding Means, we believe that evaluation of affective systems is vital not just at the end of the design process, but as an integral part of the design process from the beginning. Having the ability to bounce early intuitions and design sketches off of real users can make key contributions to the evolution of a truly engaging end application, and may even inform the affective theory that led to the application itself.

Work in the field of HCI has made great strides toward merging design and evaluation of productivity-oriented systems (see the goals section of this document for some relevant citations); we seek to extend and adapt participatory design methods and approaches to the needs and desired outcomes of affective system projects. For example, encouraging nonverbal participation and evaluation, and using physical prototypes and fake systems operated by humans. We believe this holistic and integrated approach will not only lead to better system designs, but may also provide important ‘in situ’ insights back to affective theory makers.

Thus, it is not the primary intent of WP9 to test computational emotion theories or evaluate how particular parameters for e.g. raising an eyebrow in an ECA should work. Instead, the task of WP9 will be to produce design process and evaluation theory, methods, and measures needed to take all that knowledge into the design process and through it, to produce emotional systems that will engage with end-users to create compelling experiences.

2.2 The research objectives

The exemplar proposed for WP9 is a *Framework for Design and Evaluation of Usable Affective Interaction Applications*. Similar to how HCI has benefited from user-centred design processes, our aim is to test and further develop such methods for the area of affective interaction. This in turn will hopefully push the research frontier forwards and serve as an important exemplar to others in the field. The framework contains an assortment of techniques and methods for various aspects of the design process including generating initial ideas for affective applications, refining ideas into systems/products or validating the affective interaction loop in finished systems/products. As a whole the framework is intended to be a broad resource for designing and evaluating affective systems – representing first and foremost a user-centred perspective on affective interaction applications. The tools and methods of the framework will be applied and evaluated in a variety of situations/applications/domains. Records from the sessions will provide valuable guidance for future users of the tools and methods regarding their proper usage and expected results.

2.2.1 Main elements of the exemplar

The exemplar consists of four main elements.

Criteria for usable affective interaction systems

Develop an understanding for what makes affective interaction systems successful and formulate some criteria. These criteria will not be objective, independently measurable entities, but will make sense relative to the specific application domain, aim to capture subjective experiences of the application, and foremost, be related to the designer's intention for the application.

Evaluation metrics for criteria

Translate criteria for affective interaction systems into usable metrics and methods for eliciting them.

Existing user-centred methods for design and evaluation

Condense experiences from applying existing user-centred design methods to the design and evaluation of affective interaction systems – which methods work and which do not? Examples of such methods include body-storming (Oulasvirta et al, 2003), interaction re-labelling (Djajadiningrat, et al., 2000) and personas (Cooper, 1999).

New methods for design and evaluation

Develop new methods for capturing unique aspects of affective interaction that can be used during an iterative design-evaluate-redesign process. Methods that will be investigated include: a sensual method for non-verbal mediation of affective state, a Wizard-of-Oz environment for multimodal emotional interaction, and an extended think-aloud protocol designed to capture emotional interactions.

2.2.2 How the elements link to each other

Design and evaluation is a broad area, participants have differing interests and backgrounds, different use-cases require different methods, resources, and study angles. We are interested in the whole design-evaluation process (see Figure 1) and the subtasks of WP9 address different aspects of the process. The exemplar can still be viewed as a single piece though, since it explores one and the same idea: that a user-centred perspective will help focus the design process and create final application systems that involve users affectively. This exemplar will be a touchstone for integrating this perspective throughout the whole life-cycle of a system development process. While we strongly believe that this is the best kind of exemplar for WP9, there are still many white spots on the map. We do not know how to capture subjective experiences and affective involvement in such a way that it can provide feedback into the design process. A user-centred design perspective and development philosophy is most probably a good path to explore, but little is, as of yet, known in what to design for (flow, pleasure, fun, experiences, excitement, fear), and how to best make users involved.

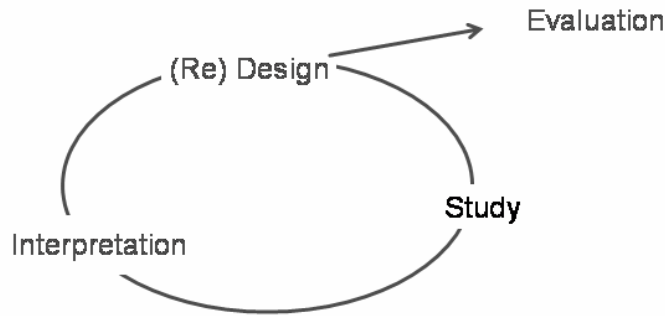


Figure 1 User-centred design framework

Positioning the subtasks within the user-centred design framework above ensures that subtasks are working towards a common goal. The nature of the framework with its different methods and tools all sharing the same conceptual framework also helps in this respect. The four subtasks follow on one-another. Once criteria for the success of a specific application project are established, there has to be corresponding measurements to know whether the design goals are met according to the same criteria. The process to ensure such a design and evaluation cycle in turn needs methods. All these tasks together will help shape the framework produced by this WP.

3 Progress towards exemplar

The main activity in the work package during this period has been a cooperation with WP8 aiming to understand how the elements of the exemplar might be used in a design-evaluation process aiming to create an affective application. To this end an interchange between KTH and ITC-Irst took place where the exemplar of WP8, the affective promotion campaign, was reviewed with a starting point in the methods and metrics of the WP9 framework. The following is an overview of the goals and outcomes of the interchange. It is work in progress and additional reflections/methods/criteria will be added further ahead.

3.1 General information about the interchange

Visiting institution:	KTH (Stockholm, Sweden), WP8 member
Institution visited:	ITC-Irst (Trento – Italy), WP8 member
Visiting researcher:	Ylva Fernaeus
Researchers involved in Trento:	Marco Guerini, Oliviero Stock, Carlo Strapparava.
Date and duration of visit:	From 14-05-2007 to 23-05-2007 (10 days)

3.2 Brief Description of WP8 Activity

The overarching goal of WP8 is to study how emotion-related aspects of communications can enhance communication technologies.

The Workpackage has a specific computational aspect. Its aims are to help understand some of the critical issues for building persuasive, or otherwise emotion-inducing computational systems, and to develop environments that help experiment specific concepts, try limited realizations that can be demonstrated as proofs of concepts in view of a novel class of systems

It is necessary, for WP8 activity, to integrate constructive aspects with experimental ones, to test the possible result and outcomes of the computational efforts and obtain relevant feedbacks.

3.3 Specific Goals and Outcomes of the Interchange

Given that WP8 has a constructive nature a basic requirement for our activity is to develop methodologies for the evaluation of emotion-oriented and persuasive interaction prototypes.

Then, for WP8 activity, it is necessary to integrate constructive aspects with experimental ones. The aim of the exchange was to gain some insights and preliminary ideas that can help understanding which evaluation methods can be used according to:

1. the technologies used,
2. the prototype development stage,
3. chosen scenarios, i.e., the promotion campaign,
4. a future development process.

The ideas gathered during the interchange period have concerned several different topics:

- Evaluation study of existing prototype systems at current state.
- A general model for evaluation and comparison of automated persuasion systems connected to different devices.
- Possible higher level applications based in the existing technologies
- General suggestions about evaluative work for researchers working in this field, including:
 - Contextual explorations, domain studies
 - Review of baseline technologies
 - Design and implementation
 - Evaluation

This document will focus on the last point, i.e., general suggestions for different phases in the development of affective text-based persuasive technologies in general, since we think that can be of more value to other researchers in the field.

3.4 Introduction

The goal with this report is to give an overview of how user-centred design methods for affective interaction, such as the ones developed in WP9 and at other places, may be used to design new full scale applications based on the technologies developed for multimodal text generation and manipulation within Humaine.

The general focus will be on the topics that have been discussed between the partners at KTH/SICS (Sweden) and IRST (Italy) concerning design and evaluation of affective, primarily text-based, systems as explored in WP8. The goal is not to come up with suggestions for actual systems, but to propose *methods* to be used when new design ideas and solutions are conceptualised, developed, and evaluated. Moreover, and in line with WP9,

focus will be on the evaluation of only the *affective* properties of the interaction, i.e. assuming that general usability checks are already conducted as an integral part of the development cycle.

The report will start with a short overview of the different approaches to multimodal and intelligent affective text messaging developed at IRST and at KTH, followed by the proposal for making use of such technologies for a promotion campaign (as discussed in WP8). This takes the form of a brief Exemplar Scenario where the goal is to develop a full-scale application assisting in *enhancing or shifting the affective content of a written text*. Thereafter will be an overview of possible user-centred design methods, as well as methods for evaluation to be used in a future development of such systems.

3.5 Background

In user-centred design, the general ambition is to develop systems grounded on what is known or can be known about the activities, needs and desires of target users, and to evaluate the systems based on how they are actually used in realistic settings. In WP9, focus has been on how users interpret and make sense of systems with affective properties of interaction, and how such properties may be designed for and evaluated, as well as further enhanced by close participation and involvement with users. One important research question at KTH was how text messages could be made less emotionally ambiguous, by adding a dynamic background of colour, shapes and animation, coupled also with a highly physical input. In that way it was hoped that users could better communicate the intended emotional content of the message.

The work performed at IRST, within WP8, has so far not been specifically concerned with user centred design and evaluation. Instead the focus has been on the development of algorithmic structures, and to use these to automatically express, interpret and evaluate affective linguistic messages in controlled experimental settings. One system does for instance explore the possibility of changing the adjectives in an expression to its contradictory terms, sometimes resulting in a valence shift, but primarily absurd, and possibly ironic, expressions. Another system transforms acronyms by exchanging some of the words making up the acronym, in a way that makes the general meaning amusing in relation to its original meaning. Both these systems are based on a database dictionary where words, synonyms and antonyms are structured and tagged with respect to emotional valence. Other systems make use of kinetic text, and algorithms that evaluates the dramatic curve in texts, such as political speeches. This means that the focus at IRST has been to automatically interpret the emotional content of a text message, and to generate and alter text with emotional content, but where the affective properties of the texts are understood to be captured in the text itself (though it can be further enhanced or repressed through other modalities including facial expressions, tone of voice, and kinetic typography).

This means that several different approaches to affective multimodal text-messaging have been explored within Humaine, and the purpose with the interchange was to develop an exemplar scenario where the work at the two sites could be combined and cross fertilised, both in terms of the technologies developed as well as methodologically.

The baseline technologies include:

1. The valence shifter
2. Kinetic typography engine.

3. Promoter: multimodal message generator
4. The emoto system
5. The affective diary

3.6 Exemplar Scenario

As a concrete example of a development scenario, we discuss the development of a proposed system that should *assist in enhancing or shifting the affective content of a written text*. Such a system could be useful in the development of persuasive messages for instance in a promotion campaign (proposed in WP8), but also for other “emotionally loaded” pieces of text such as emails, diary notes, messages for therapeutic use, and other written instructions.

Turning this general proposal into a working, usable system includes several aspects of user interaction and interpretation that needs to be conceptualised, designed, and evaluated:

- Defining, more specifically, what *activity* the system should support. Within Humaine, several different approaches to generating and interpreting emotional text messages have been explored, which leads to differences in the activity that the system should support. Do we aim for a system that correctly “interprets” the emotional content of a textual (or multimodal) expression? Or should the system automatically generate emotional content? Or should the affective properties be defined by the human writer of the message? In specifying the activity of the system, aspects such as these are crucial and fundamentally structure how the system will end up.
- *Representation* of the emotional text message. This includes setting up expectations of the technology, as well as for how much should be demanded by the user. How ambiguous or explicit should the emotional content be? How much of the reasoning and interpretation should be performed by the user, and how much could be made automatic? Within Humaine, several prototypes with different approaches to this aspect have been explored, including: Embodied conversational agents, Kinetic text, Animated backgrounds of messages, and Computational linguistics. Before settling for a specific technical solution for this, it could be very valuable to perform a comparative study, either qualitative or quantitative, for how each of these (and possibly other) forms of representations may work for the intended purpose. Related to the presentation of the messages is also what physical device/s should be supported (handheld, mobile, tablet, laptop, large screen, table top, TV, sound, etc).
- Design of *interactive resources*. How should the user interact with the system? Speech, keyboard, mouse, interactive squeezable pen, haptics, physical buttons/levers, mobile phone. This of course relies to some extent on the device/s the system will run on, but could possibly also be tailor-made to further increase specific emotional engagement with the system.

3.7 Methods

The methods that will be discussed are the following:

- Domain studies that have shown particular usefulness in the area of affective interaction. Ethnographic studies, theoretical studies, technology probes, bodystorming.
- Comparative study of baseline technologies. Possible methods: experimental study with questionnaires (quantitative), interviews, sensual evaluation instrument, extended think aloud protocol, psychometric assessment of affective systems.
- User-centred design and evaluation methods. Structured brainstorming sessions together with end users, lo-fi prototyping, hi-fi prototyping, WoZ test bed, autobiographical evaluation, “Wild” evaluation methods, the sensual evaluation instrument.

In developing an affective system at least two separate factors of user experience are on stake:

- 1) The usability/functionality of the system as such. This involves ensuring that the system is stable, attractive, worth using.
- 2) The actual affective result of using the system, with respect to the intended affect. In terms of a promotion campaign this includes the ideas and behaviours that the systems/prototypes are meant to promote, and how users get emotionally affected by the system.

One may be able to evaluate only one of these however they are often closely intertwined so that one may strongly affect the result of the other. A method proposed for overcoming this kinds of problems includes the methodology presented in the paper “sense and sensibility” (ref), where the experience of an interactive installation is divided into aspects of usability on the one hand, and aspects of appreciation of the actual art piece. Similarly, the evaluation of the persuasive systems may need to make use of some evaluation method that explore first, the actual interaction with the system, and second, the higher level effects as an integrated yet separate element of the interactive product.

3.7.1 User-centred domain studies

Contextual explorations, domain studies

- *On the consumer side*
 - Everyday experiences of affective text messages (e.g. technology probes, interviews)
 - Contextual explorations of use setting (ethnographic studies, bodystorming)
 - Critical assessment of multimodal text in popular media (e.g. advertisement, edutainment..)
- *On the producer side*
 - Theoretical studies, literature reviews
 - Interviews, ethnographies, cognitive walkthroughs

A user centred design process often starts off with ethnographic studies, or interviews, where the designers get familiar with the context in which the system is meant to be used. Discussions with users regarding specific design ideas, e.g. by conducting brainstorming sessions, letting users comment on initial design sketches, conduct role plays, or even let users make their own sketches and proposals, is also common. Another way to explore the context of use is through bodystorm-sessions, i.e., to actually visit and place oneself in the

environment where the system is meant to be used, and to use that experience as an input to design decisions.

To develop a richer set of background data apart from theoretical studies, domain studies could include empirical enquiries of different kinds, depending on the qualities sought for in the proposed system. Possible approaches to such studies could include studies both on the consumption and perception, i.e. to localise sets of patterns and important aspects of affect that could be useful when implementing the proposed system, as well as on the creative practices that generate affective content. This could include successful professionals involved in comic strip design, advertising, television, and drama, to open up for an understanding of the intellectual processes involved in a specific practice and thereby better ground design of how to possibly automate or support parts of such processes.

On the consumer side to explore perception and attitudes to existing media content with persuasive character (both commercial and non-commercial):

- Use cultural probes (Boehner et al. 2007) to let a selected group of users reflect on their everyday experiences of persuasive media content, and other situations related to the perception and interpretation of affect in text messages.
- If the environment where the technology is meant to be used has been already specified, it could be useful to perform a mini-ethnography in the form of bodystorming sessions in that specific environment (at a library, in the subway station, in an office, etc). By “putting oneself” in the actual use setting, and by interacting with and observing users in their everyday real world contexts, several aspects that are not available when discussing design ideas back in the laboratory becomes salient and possible to try out, both by physical action or simply by asking the people in place.
- Exploration of multimodal text messages in existing popular media. Critical review of aesthetic qualities within a specific cultural genre of multimodality in text, e.g. in advertising, cartoons, or in educational multimedia. A goal here could be to identify design patterns or qualities that can be especially useful in the design of new automated expressions for different purposes. Other approaches could be to use the sensual evaluation instrument (Isbister et al. 2006), or evaluation methods that make use of existing personal relationships such as close friends for understanding and interpreting the ambiguity of affective textual content.

On the producer side, to explore creative processes generating multimodal text messages of persuasive and affective character:

- In WP8, extensive literature studies in the domains of computational linguistics, typography, advertising and persuasive technologies have already been performed, as well as theories regarding fundamental properties of joyful experiences. In terms of design practice, this could also benefit from research topics such as comic strip design, semiotics, colour theory, animation, drama, sociology and biology.
- Ethnographic work at an advertising agency, studying the practices of coming up with slogans, pitches, and other ways of promoting products in attractive, persuasive, and entertaining ways.
- Interviews at a production company making successful entertainment programs for TV, focusing on how the workers understand the structure of their own creative practice.

- Perform a “cognitive walkthrough” with a popular comic-book artist in action, making a micro level analysis of the conscious steps towards a humorous picture or narrative.

3.7.2 Comparative studies of baseline technologies

It could be valuable to make some comparison of the effect of different forms of multimodal affective text as explored within Humaine. A special focus could be on the interpretation of irony and credibility in messages that uses conflicting emotional expressions.

This would include the development of a the structure for making an experimental or qualitative comparison of the perceived emotional content with the different ways of representing textual expressions used in Stockholm and in Trento:

- a. ECA
- b. Kinetic typography
- c. Emoto-style background (colour, shape, animation)
- d. text only

Review of baseline technologies

- Critical assessment based on scenario goals
- Heuristic/expert evaluation
- User studies
- Think aloud protocol
- Psychometric assessment
- Questionnaires
- Interviews
- Sensual evaluation instrument

Aspects that were especially discussed during the interchange were:

- **Quantitative experimental setting/questionnaire.** Based on similar parameters as in Guerini’s study of credibility of ECA’s: attitude towards the object, memorization, source credibility, information quality, and emotion recognition (manipulation check). For manipulation check, we could make use of a similar evaluation scheme as used in the first emoto-study, where users were asked to locate a given message within a diagram of Russels’ circle of affect (with the two axes of valence and excitement).
- **Qualitative/descriptive analysis of the different approaches.** Since all of the systems that are tested has been “designed by human hand”, it could be meaningful to leave more space for a discussion of specific qualities of the different solutions, in relation to the outcomes of the studies. It may not be meaningful in its own to say e.g. that “kinetic text” is more effective than “ECA”, unless we describe and reflect on how the specific designs may have affected this outcome. ECA’s may for instance be experienced as “more personal”. The specific design qualities on each design, but also its potentials, could be discussed. Autobiographical evaluation.
- **The problem of evaluation persuasion.** Since there are no well defined methodologies for measuring the “persuasiveness” of a system - neither for

comparing different technologies use in this context - (in particular if the role of emotions is considered), evaluation can be complex in this domain. Much further work is needed here.

- **Sequential aspects.** In a campaign involving several different forms, how does the sequence of these messages affect the users?
- **Characteristics of the device?** Cellphone, PDA, public spaces, PC, TV...
- **Kinetic typography and the emotio baground are based on abstract emotional expressions, while there is also ambiguity in faces.**
- **Further explorations of the theoretical foundations for the design.** Rosalind Picard's work with bio sensor data, Paul Dourish's proposal for phenomenology and ethnomethodology as basis for understanding users meaning-making practices around technology, and McCarthy and Wright's discussion of personal experience of technology, grounded in pragmatic philosophy. e.g., theories of 'enjoyability', 'funology', the work of Nicole Lazzaro and Ralph Koster on gaming experiences.

3.7.3 User-centred methods for design and evaluation of affective interaction

For the design phase, all the methods explored and evaluated in WP9 could be of use, depending of course on what has been specified in the initial domain studies. Since the normal process of designing affective systems include cycles of evaluation and design, methods for these two activities are here listed together. This is especially since some of the evaluation methods are designed explicitly to provide input to further design.

Below is a list of these methods, which we recommend readers to check out in the WP9 reports, where they are more thoroughly described.

- Structured brainstorming sessions with end users
- Participatory design sessions, using lo-fi prototyping ("tiny fingers")
- "Wizard of Oz" studies, the WoZ test bed
- hi-fi prototyping, tested as technology probes
- Sensual evaluation instrument
- "Wild" evaluation methods: studies of how the system is actually used in real settings
- Video diaries
- Autobiographical evaluation
- Questionnaires
- Statistics of behaviour patterns
- Ethnomethodology – *how* does the interaction take form?

3.8 Concluding Remarks

This document has proposed a variety of methods that could be useful to consider in a future design process based on the scope and aims of WP8.

This report has provided an overview of the existing baseline technologies developed within Humaine at KTH and IRST, followed by an exemplar scenario for a user-centred design process. Instead of outlining the design of a specific system, we have proposed a series of appropriate methods for turning the proposal into a fully working, usable, and affective system.

We end with a short summary of the proposed methods and their generalisability for the case of developing systems in the domain of systems for multimodal affective text services.

Further descriptions on how each of the methods can be practically used are available as separate sections in the WP9 report as well as in the forthcoming Humaine handbook.

4 Plans for the remainder of HUMAINE

As HUMAINE is drawing to an end WP9 will not initiate any new research efforts but instead focus on summarising and contextualising the work that has been done by partners within WP9. The main task is to settle on a final format for expressing the results of the WP9 exemplar.

Our suggestion for WP9 is that we contextualise all our results (criteria, methods, metrics) in terms of the WP8-campaign. That is, we describe how different aspects of what we have done would come into the different phases of developing such an advertising campaign and how our methods could be applied in different phases of their project. This report takes first steps towards that goal.

The final format of the WP9 exemplar will thus be a report where the results of WP9 are contextualised by the WP8 campaign. Doing so also satisfies one of the goals that the WP had from the start: describing one or more use-cases where the results of WP9 are applied. However, we realise that not all methods might be equally relevant for the WP8 campaign. Hence on top of that, we will summarise other results in the report, as well as in the WP9 chapter of the forthcoming HUMAINE handbook.

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