

Feeasy: An Interactive Crowd-Feedback System

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ABSTRACT

Established user-centered evaluation methods for interactive systems are time-consuming and expensive. Crowd-feedback systems provide a quick and cheap solution to collect large amounts of meaningful feedback from users. However, existing crowd-feedback systems for evaluating interactive systems lack interactivity and a seamless integration into the developed artifact. This might have negative effects on user engagement as well as feedback quality and quantity. In this work, we present "Feeasy", an interactive crowd-feedback system with five key design features that are motivated by a qualitative pilot study. Feeasy extends existing crowd-feedback systems for interactive designs by offering more interaction and combining the feedback panel and the interactive system in one user interface. Thereby, it provides users a more seamless way to contribute feedback.

CCS CONCEPTS

• **Human-centered computing** → **HCI design and evaluation methods; Graphical user interfaces.**

KEYWORDS

Crowdsourcing, Feedback, Interactive System

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1 INTRODUCTION

Early and continuous user involvement is a major success factor for the development of interactive systems [6]. A key concept in user-centered design is evaluating design solutions with users and other stakeholders. Established techniques for this are for example user interviews, focus groups, or usability testing. However, user-centered evaluation of interactive systems is costly and lacks scalability [8].

These challenges can be overcome by crowd-feedback systems. Crowd-feedback systems are designed to crowdsource large amounts of structured feedback by explicitly engaging (potential) users.

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Specifically, crowd-feedback systems target providing dedicated features that enable non-experts to contribute meaningful feedback. Recent studies have shown that crowd-feedback systems are able to collect design feedback with a reliable quality while reducing costs and effort of the development process [1, 5, 10]. However, existing crowd-feedback systems in research are mainly developed for evaluating static designs like posters or web designs (e.g. [2, 4, 10, 11]).

The two most popular systems are *CrowdCrit* [3, 4, 13] and *Voyant* [11, 12]. Both systems mainly rely on qualitative feedback which can be added to feedback rubrics and can be enriched with markers that indicate the areas of interest of the design. *Voyant* additionally asks feedback providers for rating the compliance with specific design guidelines. However, for evaluating interactive system designs, there exist only a few solutions, e.g. *AppEcho* that allows users to provide in situ qualitative feedback on mobile applications [9], *Critiki* that collects purely qualitative feedback on crowdfunding websites [1], and the system proposed by Oppenlaender et al. [7] that collects feedback on mobile app prototypes by providing users a usage scenario and asking them to rate specific rubrics.

These existing systems do not consequently transfer established design features of crowd-feedback systems for static designs to the evaluation of interactive designs. Furthermore, they lack a seamless integration of the feedback provision features to enable users to provide and edit in situ feedback and directly link it to elements of the user interface (UI). To summarize, we argue that the interactivity of crowd-feedback systems should be improved in order to increase user engagement and subsequently feedback quality and quantity.

In this paper, we introduce "Feeasy", a crowd-feedback system that includes five interactive design features to increase user engagement in the feedback collection on interactive systems. Feeasy can be applied to the evaluation of static and interactive designs of any kind. The selection and implementation of the included interactive features is based on existing crowd-feedback systems and refined by the results of a qualitative pilot study on users' needs and requirements when providing feedback on interactive systems.

2 PILOT STUDY

We conducted a qualitative pilot study with ten participants (four female, six male) to better understand the needs and requirements of users when interacting with feedback systems. The participants were on average 23.10 years old (SD 2.95) and self-reported their experience with UI and user experience (UX) design on average as little. Prior to a qualitative interview, we asked each participant to test a crowd-feedback system to better relate to the actual task of providing feedback. For this, half of the participants used the comment feature of Adobe XD, while the other half used a self-developed prototype of a crowd-feedback system. Thereby, we could ensure that all popular features of crowd-feedback systems are included in at least one of the two crowd-feedback systems.

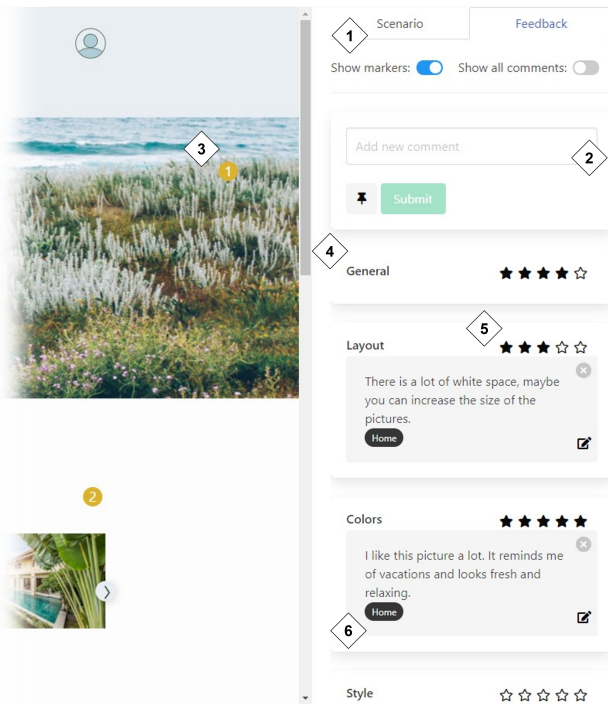


Figure 1: Screenshot of Feeasy with a website prototype on the left and a feedback section on the right. (1) The scenario guides users when interacting with the interactive system. (2) The key feedback element are qualitative comments. (3) For each comment users can add markers on the screen to indicate the relevant UI element. (4) Feeasy includes feedback rubrics and the users can drag and drop their feedback in the suitable box. (5) Users can provide quantitative feedback for each rubric. (6) Each comment belongs to a sub-interface of the interactive system the feedback is collected on and is labeled accordingly.

While Adobe XD asks for qualitative feedback in form of single comments that can be enriched with markers, the self-developed system enabled users to add one positive and one negative qualitative feedback statement to each rubric and additionally rate each rubric. This system also included a usage scenario to guide the user throughout the interaction with the prototype. To ensure the same situation for every participant, the participants could not see the comments of prior participants.

The participants who interacted with Adobe XD stated that they appreciated the markers (T1-P5: "I think I'm a bit more concrete [with my feedback], so there's less room for interpretation"). However, they missed ways to quickly share their overall reaction to the design (T1-P3: "...something simple, which is quick and from which you can get the necessary feedback"). Much of their feedback does not match the required feedback rubrics that were explained in the experiment instructions but not included in the UI of the comment function. The participants who used the self-developed feedback system appreciated that they could organize their feedback in rubrics (T2-P3: "Rubrics [...] ease it for many people to just

start and think about it [their feedback]."). However, they perceived the rubrics as too general and would like to give feedback specifically for one sub-interface. Additionally, they missed a more direct interaction with the prototype and suggested adding comments directly on the prototype. They liked the additional quantitative evaluation as "you first assess that [the feedback] in itself in these five rubrics and then you can think more about it" (T2-P1).

3 FEEASY

Feeasy is an interactive system that enables non-experts to provide meaningful feedback on static and interactive designs. By combining various interactive features it aims to increase the user engagement and thereby lead to a higher feedback quality and quantity. Figure 1 depicts the user interface of Feeasy offered to the feedback provider.

Feeasy's UI is provided as a side panel: On the left side users can engage with the static or interactive system design (e.g. a web page prototype) for which the feedback is collected. Using the side panel on the right side, users can see the usage scenario and enter their feedback. This allows users to first follow the scenario and subsequently directly provide their feedback without having to switch between different windows, as in existing crowd-feedback system such as proposed by Oppenlaender et al. [7]. Feeasy includes five main design features that are based on the results of our pilot study: (1) scenarios that guide users when interacting with the system the feedback is collected on, (2) a commenting feature for qualitative feedback, (3) markers to highlight the UI element which is relevant for the comment, (4) rubrics to organize the feedback, and (5) star ratings to provide quantitative feedback. As Feeasy is primarily designed for evaluating interactive systems, the comments and markers need to be matched to the respective sub-interfaces. This is done with a small label which is attached to each comment. The users can then decide if they want to see all of their comments or only the comments for the sub-interface of the prototype they are currently viewing.

4 CONCLUSION AND FUTURE WORK

In this paper, we introduce Feeasy, an interactive crowd-feedback system that includes five feedback features for evaluating static and interactive designs. Thereby Feeasy extends existing studies by offering more interactivity and providing a seamless integration of the feedback panel in the system that shall be evaluated. The proposed features are based on the results of a pilot study that aimed to understand user's needs and requirements when interacting with feedback systems. Our next step is to systematically evaluate Feeasy and each interactive feature individually in a series of online experiments. We assume the interactive features to positively impact the user engagement of the crowd and thereby lead to more and higher quality of feedback. Specifically, we are interested in understanding how the different design features contribute independently to the outcome dimensions. Furthermore, we plan to extend Feeasy with a crowd-feedback system configurator that guides novice feedback requesters in adapting Feeasy's features according to their specific use cases. Thereby, we aim to increase the application of continuous evaluation of interactive systems by providing an effortless way to collect meaningful user feedback.

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