Towards an Empathy-Oriented Survey System: Fostering Engagement through Encounter Missions

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Abstract. Surveys are widely employed to sustain events and communities, yet conventional approaches often treat participants merely as data providers, leading to limited engagement and superficial responses. To address this issue, we introduce the Empathy-Oriented Survey System (EOSS), which integrates mechanisms for fostering empathy among participants and between participants and organizers. This paper focuses on the Encounter Mission App, designed to provide pre-survey empathy experiences through group activities. We developed a prototype and conducted a proof-of-concept field experiment at the Tsukuba Craft Beer Fest. From this exploratory study, insights emerged indicating that pre-survey empathy experiences can reduce psychological burden, enhance motivation, and encourage spontaneous cooperation. These preliminary findings highlight the potential value of empathy-oriented design in transforming surveys from one-way data collection tools into collaborative practices that elicit richer feedback and support community sustainability.

Keywords: Empathy, Encounter, Community Building.

1 Introduction

Surveys are a fundamental tool for building engagement in events and communities and for supporting their long-term growth, although obtaining useful responses is often challenging [1]. Organizers consider surveys important, yet they often cannot devote sufficient attention or effort to designing and processing them carefully, while participants, treated mainly as data providers, have little reason to respond with motivation [2]. As a result, surveys often produce a decent amount of numerical data from simple closed-ended questions, but not enough honest, open-ended feedback that goes beyond the frame set by the organizers.

Previous research has tried to improve surveys through methods such as gamification. For example, approaches range from rephrasing survey questions in a game-like manner [3], to reducing non-response rates by leveraging virtual badges and other non-monetary social rewards [4], and even embedding the entire survey experience into a game structure where respondents answer questions while guiding avatars through a quest game [5]. Other approaches have focused on encouraging participation through non-gamified means, such as optimizing the timing of question

prompts based on smartphone usage and contextual factors to improve the accuracy of self-reports—and consequently the quality of participation [6]. Another line of research, grounded in Self-Determination Theory [7], has explored the design of personalized messages that support users' psychological needs for autonomy, competence, and relatedness [8]. While these methods have been shown to increase willingness to respond, they continue to treat participants mainly as data providers, overlooking their potential as future core members of the community.

Based on the idea that surveys for events and communities should explore approaches that prioritize engagement, we designed, developed, and tested a survey system that allows participants to both ask and answer questions [9]. A key feature of the system was word games, which required participants to provide answers beginning with a given initial character specified in each question. This playful constraint was intended to make participation enjoyable and to help participants set aside social concerns, allowing them to respond more honestly.

Initial trials of the system highlighted challenges and constructive outcomes related to empathy. Simply allowing participants to create questions was insufficient for fostering empathy with the organizers' views. Many of the submitted questions were too unrelated to be useful, limiting the effectiveness of the feedback. At the same time, when the initial character suggested a word that participants could easily imagine, we observed shared understanding emerge among participants, encouraging more contributions, indicating the potential of empathy to guide participant engagement.

Building on these insights, we restructured our survey system around empathy with the aim of transforming surveys from one-way data collection tools into empathy-oriented processes that generate richer feedback and support long-term community building. To this end, we introduced two main features. First, encounter missions are group activities designed to evoke mutual empathy among participants before guiding them into the survey process. Second, an organizer-message unlocking feature allows participants to gradually access messages from the organizers as they contribute answers, thereby creating empathy with the organizers and encouraging further engagement.

In this paper, we focus on the first feature, encounter missions, to examine how empathy-oriented design can foster participant engagement in practice. We developed a prototype and conducted a field experiment at a real-world event, the Tsukuba Craft Beer Fest. The findings confirmed that this approach not only enhanced participants' motivation and engagement in surveys but also fostered spontaneous cooperation among them. These results suggest that empathy-oriented design can transcend mere data collection and contribute to sustainable community building.

2 Empathy-Oriented Survey System and the Encounter Mission App

We first describe the concept of the empathy-oriented survey system, which extends the original system with two key features designed to evoke and utilize empathy: the Encounter Mission App designed to provide pre-survey empathy experiences and the

organizer-message unlocking feature, designed to evoke empathy between participants and organizers. This paper will focus on the first component, explaining its design and the proof-of-concept field experiment.

2.1 Overview of EOSS

The Empathy-Oriented Survey System (EOSS) is designed to enhance motivation grounded in intrinsic incentives and to elicit highly engaged feedback. Empathy is expected to play a dual role: fostering cooperation and cohesion among participants, and enhancing motivation and psychological safety by positioning organizers as partners rather than evaluators. As illustrated in **Fig. 1**, EOSS incorporates multiple interaction pathways, allowing the system to accommodate participants with varying levels of engagement and motivation.

The system includes two key features. First, the Encounter Mission App engages participants who may initially lack motivation for surveys, allowing them to enjoy group activities and gradually be guided toward the survey. Second, an organizer-message unlocking feature gradually provides participants with the organizers' perspectives as they contribute answers, encouraging responses that integrate both participant and organizer viewpoints.

EOSS is designed to be flexible: components can be combined appropriately depending on the type of event, and organizers can adjust the amount of preparation effort they invest. For example, in more formal events where group activities may be difficult to implement, the Encounter Mission App could be scaled down or omitted, while in other contexts, organizers may choose to provide more extensive messages to maximize engagement.

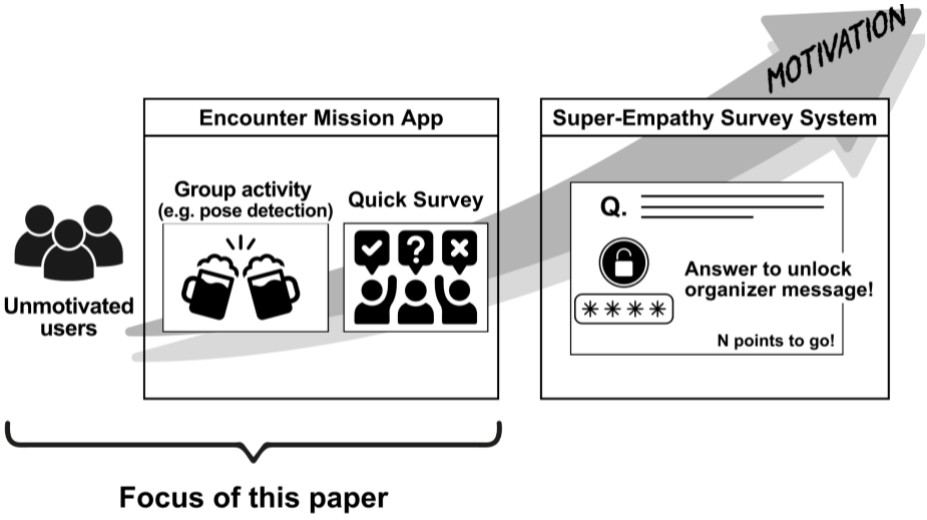

Fig. 1. System Concept of EOSS

2.2 Encounter Mission App

The Encounter Mission App is a system that allows participants to take part in group missions using cameras installed as public displays at event venues. Each mission can be tailored for the event. For example, at a conference, participants may be asked to collect photos of as many unique name badges as possible, while at the Craft Beer Fest, the goal could be to toast with as many beers as possible. Alternatively, when full customization is not applied, the system can use a general model trained on common tasks. Image recognition AI determines whether participants have successfully completed the missions.

After completing a mission, the app guides the participants to the survey by either presenting a survey question extracted from the survey system, allowing the participants to answer on the spot, or by showing QR codes to the survey system. The positive feeling of group success is expected to encourage more spontaneous and engaged feedback.

The term "encounter" originates from gaming, referring to situations where characters meet adversaries. In Japan, the term has been adapted to describe the practice of individuals who initially interacted anonymously on SNS, such as "X", and later met in person. Typically, participants display their anonymous online profiles on smartphones and take commemorative photos together, preserving anonymity while confirming the encounter. This practice embodies a unique culture of shared empathy, which inspired the integration of the concept into our system design.

The primary aim of the Encounter Mission App is to provide a pre-survey empathy experience. By allowing participants to feel a positive sense of togetherness with peers or organizers, the app reduces the psychological burden toward subsequent survey participation, encouraging more spontaneous and engaged feedback.

2.3 Concept Experiment and Lessons Learned

To examine the effectiveness of the proposed concept, we conducted a proof-of-concept experiment during the Tsukuba Craft Beer Fest (August 1–3, 2025). The event presented a fitting context: while organizers sought candid and constructive feedback, participants primarily attended for enjoyment, and thus had limited intrinsic motivation to cooperate. This gap created an ideal setting for testing our empathy-first approach. Through discussions with organizers, we identified specific point where participants could feel empathy, which were incorporated into the system design (**Fig. 2**).

The participant interaction flow consisted of four steps. First, in the shared experience step, participants selected the logo of the brewery whose beer they had consumed from a touchscreen menu, thereby sharing their personal experience with the system. Second, empathy with organizers was encouraged through a simple quiz about the selected brewery appeared (e.g., “Is this brewery’s production style traditional or innovative?”). When participants’ choices matched the organizers' answers, a “Super Empathy!” message was displayed. We observed that participants often expressed genuine delight upon achieving matches, indicating that empathy provided a positive affective experience. Third, empathy and cooperation among participants were

promoted a "cheers" pose recognized by AI. Because the task was moderately challenging, participants naturally talked and helped each other, while participants received instant feedback from the system indicating whether their pose was correctly recognized, which further increased motivation. Finally, participants were invited to the survey: after successfully completing the cheers pose and feeling connected with others, they saw the message "Would you like to share your comments about this event?", which reframed the survey as a cooperative act rather than an evaluative task and resulted in a high response rate.

From this exploratory experiment, three key design insights emerged. First, pre-survey empathy experiences function as icebreakers, transforming participants from passive respondents into active stakeholders. Second, mechanisms that induce cooperation promote spontaneous communication and create pathways for individual experiences to spread within the group. Third, designing empathy based on the specific characteristics of the community yields strong effects. At the same time, because resources for survey preparation are often limited, adaptability and the option to use less customized experiences are important.

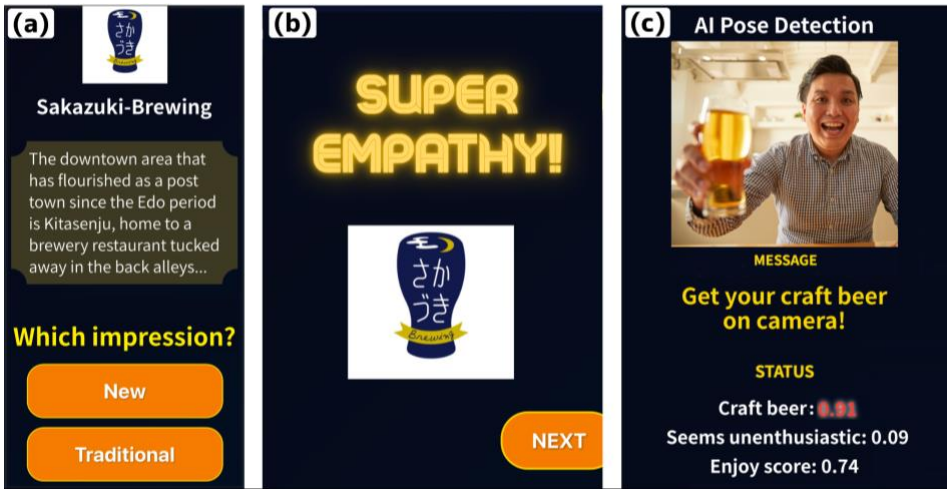

Fig. 2. Screenshots of the Encounter Mission of App for the Tsukuba Craft Beer Fest: (a) Simple quiz screen based on choices (b) Message displayed when matching the organizer's answers (c) Screen for the "Cheers" Pose Mission based on AI detection

3 Conclusion and Future Directions

This paper proposed EOSS as a novel approach to address structural issues inherent in conventional feedback methods for community building. As a step toward EOSS, we prototyped an Encounter Mission App and conducted a field experiment at the Tsukuba Craft Beer Fest. Our experience showed that pre-survey empathy enhanced participants' motivation and encouraged spontaneous feedback. This suggests that

empathy-oriented design can be effective in designing survey systems that support community building.

For future work, we plan to explore two directions. First, we will examine the applicability of EOSS to different types of communities. Beyond relaxed festival settingss, it is necessary to investigate how the approach functions in more formal settings such as academic conferences or corporate training programs. Second, longitudinal studies are needed to evaluate how this approach contributes to community building and a sense of belonging over time. By integrating these findings, we aim to evolve EOSS into a feedback system that enables diverse communities to elicit genuine participant input and achieve sustainable growth.

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