Reflection on Crowdsourcing as a Design Tool

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INTRODUCTION

With no experience in crowdsourcing, we approached this project with an explorative mindset. The goal of this project was to involve crowds in every step of the design process, all using different platforms and approaches. A topic for this project was picked based on the expected interests of crowds, to possibly raise the willingness to participate in the process: Music Festivals. Several phases were completed during this project: Need-finding & Scaling down, Ideation, Evaluation, Conceptualization, Realizing & Prototyping, and Implementation. In this process, we as designers have kept ourselves on the sidelines as much as possible and let crowds/online communities do as much as feasible.

NEED-FINDING AND SCALING DOWN

To decide on a topic for the project, the group chose to mainly involve the first-person perspective and brainstormed on interesting project topics with a broad target audience. The reasoning behind this was that people tend to contribute more to tasks or topics they find interesting (Kraut et al., 2011). The group found "Festivals" to be the most interesting and fun topic, which also had a broad audience and would be easy to contribute to.

After deciding to focus on "Festivals" as a topic, the group started by finding out what needs festival-goers have. A simple multiple-choice questionnaire was created in Google Forms, containing the questions: "Which music festivals do you attend?", "What do you enjoy the most at a festival?" and "What annoys you the most at a festival?" (translated from Dutch). The questionnaire was titled: "Help improve your festival experience" since according to design claim 6 from the book Building Successful Communities Online (Kraut et al., 2011) "Messages stressing the benefits of contribution have a larger effect on people who care about the domain of the contribution." The form had an informed consent checkmark, space for an explanation of the answers and finished with the question of whether people had anything else to add or say.

For the main three questions, several likely answers were already given as a list one could choose from, but the participants could also add their own answers.

After hearing unfavorable stories about the results from Amazon MTurk from other groups, the group decided to share this first questionnaire in festival Facebook groups, to make sure the needs were actually those of frequent festival-goers. Besides this, according to Design claim 3 from the book Building Successful Communities Online (Kraut et al., 2011): "Compared to asking people at random, asking people to perform tasks that interest them and that they are able to perform increases contributions".

Considering the paper written by Villeda & McCamey (2019) using social network sites has many benefits, such as the reduction of cost and time while being equally effective (Villeda & McCamey (2019). Therefore, the link to the Google forms questionnaire was shared in several Facebook groups and 37 answers were collected in total. The answers came in quite quick and were reasonably detailed. The Facebook group for Pinkpop was quite overrepresented in this survey, since it had a lot of members and the group was particularly active at that moment due to the timing of the festival itself. The homogeneity of the Facebook group users could be another possible limitation to the results of this survey. According to the paper A Theoretical Evaluation of Group Behavior on Social Media by Özdemir (2020), social media groups influence individual decisions while also teaching new information to the individual.

Other than in Facebook groups, the link was also asked to be shared on Instagram festival pages, however, this yielded no reactions from the pages or results in the survey.

According to the results, festival-goers enjoyed the "live music", the "good atmosphere" and "meeting new people" the most during festivals (see Figure 1).

Waarvan geniet u het meest tijdens festivals? (maximaal 3 antwoorden)
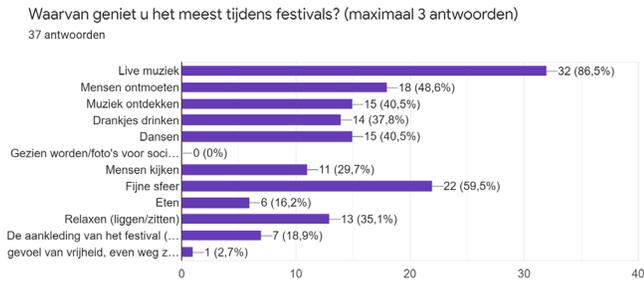37 antwoorden

Figure 1: Results of survey question "what do you enjoy most during a festival?".

They also found "queues" to be the most annoying experience at festivals, followed by "crowdedness" and "the quality of the toilets" (see Figure 2).

Waar ergert u zich het meest aan tijdens festivals? (maximaal 3 antwoorden)
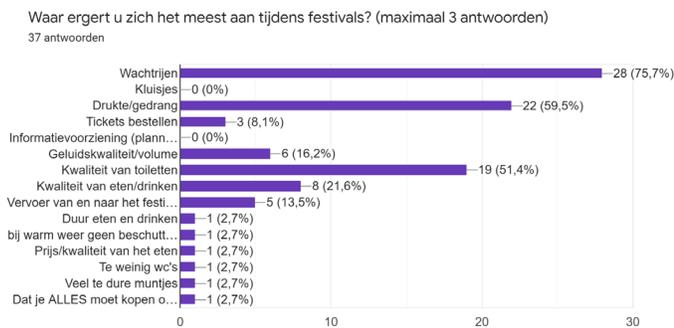37 antwoorden

Figure 2: Results of survey question "what annoys you the most during a festival?".

From this point on, according to the results of the questionnaire, the design brief was refined to: *"How might we improve queues at music festivals?"*

IDEATION

Having this design brief the group created an open-answer Google forms questionnaire and spread it on MTurk, asking people to come up with 3 ideas. The answers were not as helpful as the group had hoped, most were bot answers or simply copy-pasted the question into the answer box, meaning there were a few duplicates. The group clustered the ideas that seem to fit together. From these clusters, three types of approaches emerged that people tended to focus on; a group (1), individual (2), and practical approach(3). Moreover, the 'group' approach is focused on social connection, the 'individual' on creating a personal unique experience, and the 'practical' on how a queue logistically should be managed. Based on the corresponding ideas and group preference the group decided to iterate on the group approach. However, next time to create more focus on one design direction it is useful to think about desired answers before writing the description of the questionnaire. This way, participants'

answers can be guided into useful input. The group was looking for ideas to improve the experience of everyone in the queue as a whole. As a result, a second questionnaire was made in Cognito forms and posted on Prolific (with a max of 20 participants). In the attached design brief the participants were asked to think of three ideas that influence the queue positively as a whole and recommended using positive aspects of festivals as inspiration such as connecting, socializing, enjoying, and discovering good music. This resulted in 39 written ideas, containing many useful ideas and even some sketches. Parallel to the questionnaire, each group member had the task to come up with 5 ideas. To create a visual overview of all ideas, both the ideas from the questionnaire and the group ideas were combined, clustered, and narrowed down to the following 5 types of ideas; stands next to the queue, gamification, practical, socializing, and entertainment (see Figure 3).
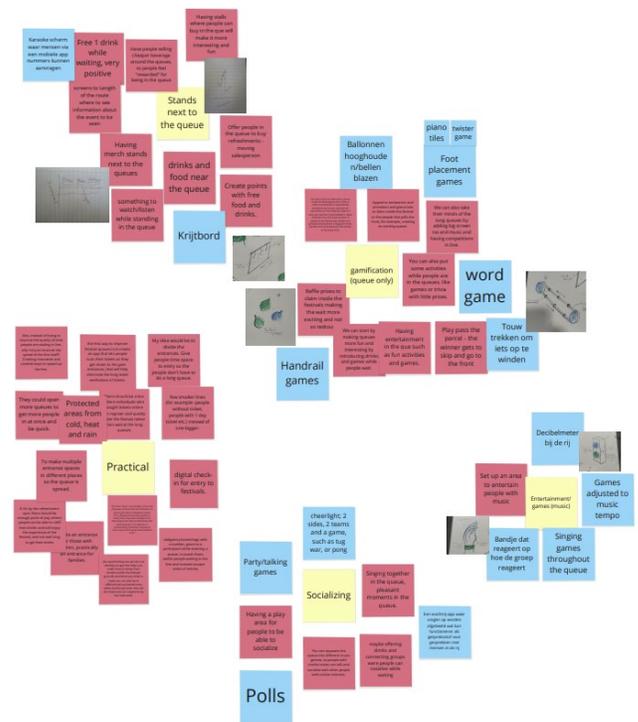

Figure 3: Clustering of the ideas that derived from the questionnaire.

EVALUATION

After the ideation phase, 5 ideas with the most potential (according to the group) were selected. These ideas (with explanation) were put into a Cognito form for evaluation, with the question to participants to pick the best idea and explain why. This Cognito form was spread on Prolific as well as on Whatsapp in groups with Industrial Design students.

The answers on Prolific in this evaluation phase came in slower compared to the responses on Prolific during the

ideation phase. Due to the difference in the content of the questionnaire, no concrete conclusion can be drawn why this differed. Possible influences could be the duration of the task, reward or announcement. In this phase the task was shorter, the reward was lower and the announcement had no activating picture as a banner to attract participants like in the ideation phase (see appendix A).

Even after all answers were analyzed, responses on the Whatsapp questionnaire kept coming in. The group expects that this high number of responses is linked to the fact that the participants know us as researchers. This would then be in line with the following design claim from the book Building Successful Communities Online (Kraut et al., 2011): "People will be more likely to comply with requests if they come from others who are familiar to them or similar to them."

Interesting is the big difference in answers of non-designers compared to designers (see figure 4). On Prolific, participants had a considerable preference for idea 4 and 5. Industrial Design students that responded via Whatsapp had a remarkable preference for idea 2. After analyzing the explanations participants gave, the group found that most designers looked at the ideas with a more practical and critical view. Ren et al. (2021) reviewed the differences in creative tasks performed by the crowd compared to professionals, they found in performing specialist tasks higher domain knowledge helps to be more creative. Where for generalist tasks the crowd scores higher in creativity. This highlights the importance of targeting (Ren et al., 2021).

Figure 4: On the left the answers of the questionnaire on Prolific can be found and on the right the answers of the questionnaire on Whatsapp can be found.

After collecting and combining all answers of both Whatsapp and Prolific, idea number 2, the chalkboard along the queue, was most preferred because of its "fun and creativity" and its "low effort" realization.

CONCEPTUALIZATION

The biggest challenge the group came across during the conceptualization phase was receiving creative answers with a clear explanation. In this phase the participants were asked to take the idea a step further and ideate on a concept for it, they should deliver an explanation and a sketch of their idea. The prompt was posted on UpWork and Prolific.

While for UpWork it was possible to evaluate portfolios before the start of a job, the platform mostly focused on high-paid, long-term jobs with pre-defined outcomes. After the good experiences with Prolific, the same job was posted on Prolific. The group tried to elicit creative answers by adding the following aspects to the form:

- An explanation of the idea the participants were expected to use. Including some of the arguments given when voting for this idea, to use as inspiration.
- An open question to make the participants think of where they are going to focus on, and what requirements they consider when ideating further for a concept.
- An open text field to provide the explanation of their concept.
- A mandatory picture upload box to provide a sketch.

Figure 5: a review of the answers provided in the Limesurvey by participants that were recruited on Prolific. The survey and their answers can be viewed in appendix B.

Sadly, the answers given were short and appeared to be not well thought through. Figure 5 shows a review of the provided answers. Answers provided in the first text box did not differ much from the second, possibly the

participants did not do a brainstorm in between. This might have happened because of low motivation or lack of creativity among the participants.

Motivation could be increased by using intake questions to target communities that visit festivals and are familiar with this problem. Furthermore, asking participants involved in the earlier stage of the process that came up with the idea to work on the concept could raise the motivation of participants in both stages of the design process (Niu et al., 2018).

To spark creativity amongst the participants, the use of a survey might not have been a good idea. The looks of the survey were dull, and this medium is often used for short questions that do not require imagination (Harms et al., 2015). Using software made for ideation such as mind map in combination with online drawing tools like Google Docs drawing application could create guidance for less experienced participants, especially when a detailed roadmap through a creative process is provided with it (Niu et al., 2018). Yu & Sakamoto found that creative ideas emerge when two discrete designs are combined by different generations of participants (figure 6). They concluded that people selected atypical features when combined, which increased the creativity of the combined designs (Yu & Sakamoto, 2011).
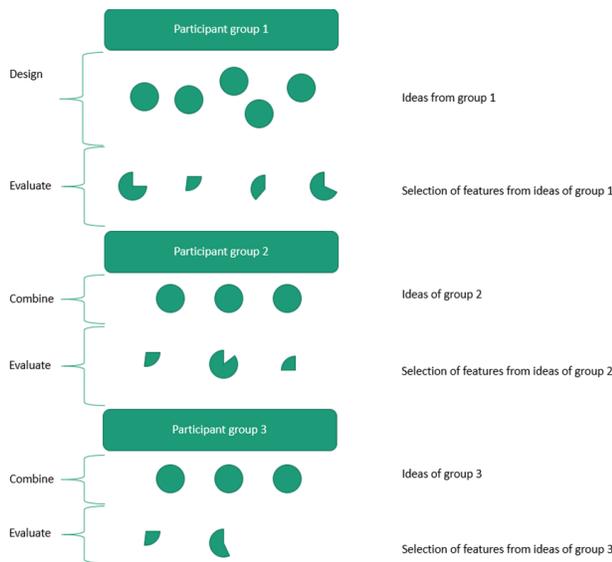

Figure 6: The process Yu and Sakamoto used in their research to create creativity in crowdsourcing communities (Yu & Sakamoto, 2011).

REALIZATION & PROTOTYPING
After the conceptualization phase, crowdsourcing was used for the realization of the idea. The realization of concepts in means of graphic design were early instances of crowdsourcing (Schenk & Guittard, 2009). However,

crowdsourcing challenges can be seen in the difficulties occurring during the concrete realization of crowdsourcing projects (Hammon & Hippner, 2012). Therefore, it is interesting to see how crowdsourcing would influence this stage of the design process.

To create a sketch of the concept the platform Fiverr was used. A design brief was developed to hire a professional graphic designer. The design brief mainly contained a detailed description of the designer's vision of the concept. However, the person from Fiverr, three years experienced professional graphic designer from Sri Lanka could use her creativity and interpretation of the concept.

One member of the group was in contact with the person from Fiverr, which was a new yet very interesting process. She asked multiple times for postponement of the assignment and some questions on delivery. After she delivered her first draft, a possibility for revision allowed us to let her focus more on the subject of festivals which was not visible. The final delivered product is visible in Figure 7. To reflect on this process, Fiverr is a great place for cheap edits, since this costs only 7 euros. However, the quality could differ between different persons and prices between thousands of people who offer their services. Therefore, Fiverr has an incentive mechanism and rating system, yet requesters' assessments may not be accurate to reflect on because of the intrinsic quality due to human factors like personal preferences or biases (Xie & Lui, 2018).

Figure 7: Final design made through Fiverr.

IMPLEMENTATION & MONETIZATION
A double-aligned process could work for the implementation and monetization of the concept. First, the concept should be worked out further and therefore UpWork could be a great fit, however, this process of designing and creating a minimal viable product could also be done by ourselves. The second part is to generate a business model for the concept, where a platform such as Fiverr can be used, however, the quality could be very low. Therefore, a platform such as Startup Eindhoven could be

a greater option. For creating a network and involving stakeholders, social media influencers could be of great use. These people visit festivals often and followers want to do or experience what influencers do, therefore a great hype could be generated around the concept (Goanta, 2021). When a minimum viable product shows its benefits funding can be asked from festival organizations.

FINAL RESULT

The final concept of this project is a queue fence that is covered with a drawing board/chalkboard. People waiting in the queue can draw something, comment on questions written on the board and interact with each other. The board is provided with pictures and questions around the theme of the festival to "get the creative juices flowing", as mentioned by one of Profilic's participants. This final concept was chosen for its focus on fun and creativity from the crowd, as well as its simplicity and low cost in setting up.

DISCUSSION AND CONCLUSION

If we would do this process again, we would specifically use crowdsourcing more in the early stages of the process. Besides, crowdsourcing could be extremely useful in evaluation phases during a project. We came to the conclusion that generating and working out ideas using online communities is challenging. We experienced difficulty with sparking creativity among participants, next time we could work with more generations of participants who select features of designs from the previous generation to design their concept, this way an iterative process takes place which increases the creative quality of the concept (Yu & Sakamoto, 2011) All in all, we would suggest leaving most of the ideation phase to the designers itself. In other phases of the process, crowdsourcing could be useful when a specific skill, that is not available in the projectteam, is needed. Good targeting, on for example Reddit, is a requirement then.

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Make a conceptual design around an idea for improving queue experience at festivals

Your help is needed!

In prior research about music festival experiences it was found that queues are the biggest annoyances at festivals. By getting a lot of input of festival lovers, the following concept was choosen as best idea:

The queue fence is covered with a drawing board. People in the queue can draw on these boards. While waiting people can observe eachother's creations and adjust them.

We would like to ask if you can take this concept to the next phase. ....

Improve this concept and make it more specific.
Be creative, but realistic (no sciencefiction).

The end result of this task is a communicative conceptual sketch of your idea and a brief explanation of your concept.

There are 5 questions in this survey.

Next

Responses:

Idea 1.

A1.

provide a short description of what you have taken in mind when
designing this concept.

(such as certain requirements or where you got your inspiration from)

Self-cleaning and social-moderate board

A2.

here you can upload pictures of your process.

(if you have more than one picture you can paste them in one
document and upload that)

A3. Please explain your concept.

Include a short description of the elements of your concept and a
scenario of use.

on drawing boards are questions, sketchs or words, which can help to moderate whot
people will drawing. I think, this concept need something to clean board when is dirty.
Maybe this board should be kind of electronic board to draw by touch. there is
possible to wiped out board when is full

A4.

Please provide a communicative conceptual sketch of your concept.

(if you made more than one drawing you can paste them in one
document together and upload that)

Idea 2:

A1.

provide a short description of what you have taken in mind when designing this concept.

(such as certain requirements or where you got your inspiration from)

Themed as this will be what people are interested in and could help people who might struggle to initiate creativity to have a starting idea and feel included. Perhaps pens, pencils, etc could be given to festival goers at the start of the festival with the logo on etc. It would be something loads of people would want to keep.

A2.

here you can upload pictures of your process.

(if you have more than one picture you can paste them in one document and upload that)

A3.   Please explain your concept.

Include a short description of the elements of your concept and a scenario of use.

Artist themed for the specific gig or overall theme of the festival, for example, gig could be album cover etc and if for example, green man, theme would be nature based. Could provide both plan areas but also some templates to encourage anyone struggling to get creative juices flowing.

A4.

Please provide a communicative conceptual sketch of your concept.

(if you made more than one drawing you can paste them in one document together and upload that)

Idea 3:

A1.

provide a short description of what you have taken in mind when designing this concept.

(such as certain requirements or where you got your inspiration from)

personally i think accessebility of the vanue should be taken in mind during designing phase of the concept. we should make sure that parking spaces for people with disabilities are accessible, ramps should be available for people who uses wheelchair. i acumumulated this inspiration

A2.

here you can upload pictures of your process.

(if you have more than one picture you can paste them in one document and upload that)

A3. **Please explain your concept.**

Include a short description of the elements of your concept and a scenario of use.

identifying the feature of the sketch is one of the element of this concept. the wheelchair accessible sign will be on identified by the attendets of the event there for it will be easy for people with disability to know their entrance and exit in the event vanue

characterizing the relationships among features and processes will be the second element of this concept. the relationships among features and processes should match the characteristics of the element

A4.

Please provide a communicative conceptual sketch of your concept.

(if you made more than one drawing you can paste them in one document together and upload that)