The Influence of Design Representations on the Generation of Feedback

Albatool Alamri aaalamr2@illinois.edu
Jinda Han jhan51@illinois.edu
Vinitha Ravichandran vinitha2@illinois.edu
Yash Agrawal yagrawl2@illinois.edu
Yixiang Zeng yzeng19@illinois.edu

Department of Computer Science
University of Illinois at Urbana-Champaign

Abstract

With the increasing expansion of online communities, designers now are able to get feedback online. To obtain proper feedback from other online community members, designers often use different design representations for their work. In this paper, we have investigated the frequency of each design representation on Reddit. We have then summarized design representations into four categories, and have utilized Amazon Mechanical Turk to analyze how people provide different feedback towards each design representation. We concluded that different design representation will not affect the quality of the feedback, but will shift its focus. Therefore, designers need to choose particular design representation to obtain the corresponding feedback.

Introduction

In these days, artists and designers have tremendous opportunities to learn from unlimited resources, improve and master their skills, expand their horizons, showcase their talents, develop their identity and build their career, collaborate with others, aspire and inspire. One major motivation for this behavior is the ever-growing art and online design communities and platforms. These platforms bring and connect designers from various backgrounds, ranging in experience from beginners to professionals. These platforms provide designers the means to study art and design (Concept Art 2017), seek critique and feedback (Reddit 2017), share in-progress projects (Dribbble 2017), showcase their talents and designs (Behance 2017; DeviantArt 2017), and even work as freelancers (99Designs 2017).

These platforms differ in purpose, organization and guideline. They have different functions and target designers. Consequently, practices of their members in sharing designs differ. For instance, in platforms such as Behance, a global platform targeting and empowering professionals (Behance 2017), designers tend to share their design projects in the form of curated process or rich content books. Whereas, in platforms like ArtStation, which focuses on game and entertainment designs (ArtStation 2017), designers tend to share the prototyping process in addition to the final design. Then again, in a platform such as Reddit, which is comprised of communities of mutual interest sharing and discussing ideas (Reddit 2017), designers, who are mostly amateurs, usually post only their final designs.

These interesting practices of sharing designs aroused our curiosity to examine how these different design representations influence reviewers, and respectively impact their provided feedback. That is, how would feedback differ in terms of focus, content, depth and quality. If such differences do exist, then designers would more likely be able to receive the feedback they seek for by choosing the most suitable and effective design representation.

In this paper, we present our investigation of this interesting question. We have surveyed two online platforms: Behance and Reddit, identified a set of general representations, and finally conducted an experiment with these representations on Amazon Mechanical Turk. We report our findings, discuss the limitations of our work, and conclude with anticipated future work.

Related Work

Designers seek feedback as a means to be exposed to different perspectives, to understand their weaknesses, improve their skills, and to enhance their designs. Now more than ever, designers have abundant ways of getting feedback, whether from social platforms, paid platforms, or platforms for communities of similar interests (Yen et al. 2016). Sharing their work on such platforms is not necessarily to only obtain feedback, but can also be to showcase their work, build a professional identity and reputation, and share their experiences with others and learn from them as well (Wasko et al. 2005; Boud et al. 1999; Marlow and Dabbish 2014). Correspondingly, we see a growing interest in enhancing this experience of sharing creativity and obtaining high-quality feedback by focusing on aspects such as the framing of feedback request (Hicks et al. 2016), and the comprehension of feedback by ways of aggregation, organization, and visualization. (Luther et al. 2015; Xu et al. 2014)

Interestingly as well, the representation of creative work conveys different goals and messages, and eventually influences the perception and feedback from other people. For instance, in Mosaic, an online community for sharing work in progress (Kim et al. 2016), illustrators provide multiple images of the progress of the design. That is beneficial for both illustrators and viewers.

Illustrators get to show the stages of their work, their thought process, and skills, and consequently, receive more focused and detailed feedback. As for viewers, they get to see how different illustrators approach their works, their techniques and styles, and so they get to learn from them.

Methodology

Our approach for this examination was as follow: We conducted a Formative Study, questionnaire, with designers to understand their: design process, tendency to share online, and expectations on feedback. Then, we surveyed existing designs sharing platforms to identify the different design representations. Finally, we conducted an experiment on Amazon Mechanical Turk to examine the effect of design representations on the obtained feedback.

Formative Study

The study was designed to understand current designer's practices, such as the frequency for designers to look for feedback, the way they post online and their expectations from a feedback. Another pseudo motive of this study was to understand if designers can be recruited from Amazon Mechanical Turk.

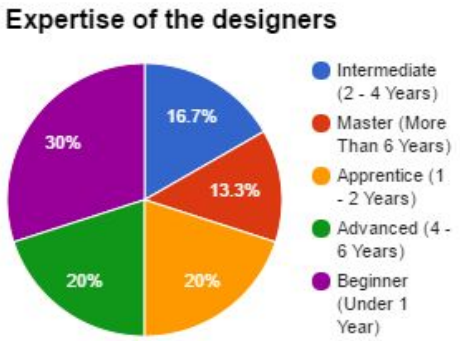

Figure 1: The Expertise of Designers

This study was conducted through questionnaires [Appendix I] in two parallel platforms: AMT and other social media platforms like Facebook and WeChat. The questionnaires can be found at <https://goo.gl/YrYc8W> and <https://goo.gl/XBiU78>. For the purpose of verification on the AMT platform, we have modified the survey questionnaire to include a Worker ID field.

We received 31 valid and 3 invalid responses. The responses marked invalid were either not answered by designers or consisted of irrelevant answers. All questionnaire responses can be found at <https://goo.gl/J4pQ24>.

Out of the 31 valid responses, 53.3% participants were female. The distribution of the designers in terms of expertise and profession can be found below.

Approximately 53.8% participants said that they saved different stages of the design, and they mostly captured their work at the end of each:

- Process stage
- Time duration (daily, iteration, weekly)
- Change in direction

Furthermore, according to our survey, very few designers mentioned that they added notes to their sketches or different versions. We infer one critical reason is that most of the sketches are made for their own reference and not meant to be public. Also, designers used multiple file names to denote different versions, thus they might consider it unnecessary to add additional notes. Most participants claimed that they posted online once in a few months, while few people attributed that they never post online because they are afraid their idea might be stolen. Additionally, those who worked in organizations don't post online due to intellectual property regulations. Out of the 13 people who posted their designs online, 7 only posted the final design; 2 posted at all stages to get feedback; the rest either posted the initial and final version or just the initial idea alone to obtain the feedback.

When asked what kind of feedback they expected, one designer replied "*How I display my work online. Whether the layout or type setting is fine. Whether the process should be included in certain projects. Whether I should include that project or not.*" This indicates that designers are not only seeking for aesthetic feedback but also process related feedback. Notwithstanding, we also had around 5 designers who were not open to receiving any form of feedback. On enquiring how the designers would use the feedback, most designers suggested that they would use it to improve the current design; only a few would use feedback as a reference to improve their design skills and implement it in their future work. We use these findings as a base for evaluating the quality of the feedback obtained from the crowd.

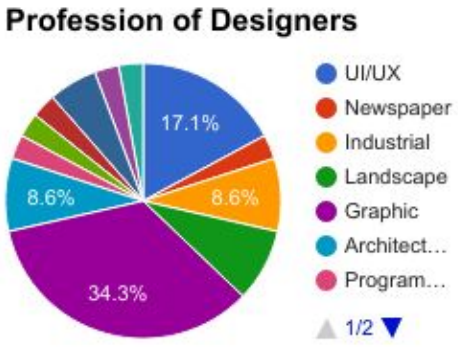

Figure 2: The Profession of Designers

Design Representations Survey

This experiment was designed to analyse the ways designers represented their works in online communities for feedback. Reddit is the platform we focused on for this analysis; more specifically, the Design_Critique subreddit.

The latest 200 entries discovered on Reddit are sorted by dates and manually analysed to find existing patterns in design representations. Some observations have jumped out from the data: designers usually seek feedback when they want to confirm their decisions and focus on specific aspects of their design. Since Reddit is not designed to showcase multiple images, designers usually provide a link to other platforms such as Behance, RedPen.io or Imgur in their posts. Also worth noting, designers tend to keep their inquiries informal such as '*Please tear my portfolio apart*' or '*Roast my site*' in order to garner more truthful and honest feedback on their designs.

After evaluating each design manually, we segregated the design representations into 6 sub categories. Final Design, Ideation and Final Design, Variations and Final Design, Full Design process, Final Design with Zoomed parts and a Time Lapse Video.

Final Design

Final Design is the most popular design representation to get feedback on a design. The designer posts just the final design on the reddit and asks for feedback. There is no context provided with the feedback request. The title has a rough idea of what is to be expected on the link for example, '*logo design*' and the description is vague, such as '*Hey, I know it needs something but I can't put my finger on it. I would love to hear your recommendations*'.

Ideation and Final Design

This type of design representation provides a context in addition to the final design. The post contains all the features from the Final Design representation in addition to the inspiration and purpose for a particular design. This representation provides a clear insight into designer's thought process. For instance, "*Hello guys, I'm currently making my own streetwear brand and I'm in the process of making a logo, and I need your wise words on this one. I want to start by saying Adidas is a really big influence on me (see the three heads), I also love Greek mythology and dogs, hence the Cerberus. This logo is also made in memory of my dog which was dogo Argentino breed, that's why he's all white. I'm open to all suggestions, thinking of making the middle head stand out a little.*"

Variations and Final Design

This design representation is mostly used for A/B testing designs. Designers post multiple versions of their final designs and seek feedback and critique on which one is better and what could be improved. Variations provide insights into how designs would look like after certain changes. "*Hi, please see the different designs posted on the link and tell me which one you like best and why. Also, what can be improved? I personally like number 2 the best. Thanks!"*

Full Design Process

As the name suggests, this representation encompasses all steps in the design process, including inspiration, mood boards, methodology, challenges, decision, final results and comments. Most of this kind also list their goals to make sure that the people providing feedback are aware of what the designer is looking for.

Final Design with Zoomed Parts

This design representation is mostly suited for designer with highly complicated and intricate parts. If a designer wants critique to focus on specific parts of the design, he/she will magnify that portion to get more feedback on that particular area. This, however, is regarded as a subset of the Final Design Representation, so we decided to club this category with the main category.

Time Lapse Video

Many designers use this representation to show their methodology and process and end the video with their final design. The feedback will not only focus on the final design but also the design process. Since, this design representation is considered as a subset of the Full Process Representation, we decided to club this category with the parent category.

After careful evaluation of the top 200 designs sorted by date, we concluded that there are four mainstream design representations utilized by designers to obtain feedback.

- Final Design
- Ideation and Final Design
- Variations and Final Design
- Full Design Process

The top 200 designs sorted by date spanned a period of 21 days on reddit. 76.4% of the designers used the final design representation to get feedback. This section has the majority of feedback seekers. 12.1% represent the ideation and final design, 9% represent some variations of their final designs for A/B testing and finally, 2.5% of the designers include a full process of their design to get feedback.

As a side study, we were curious to see how designs were represented on Behance, a professional website for designers to showcase their work. This platform serves multiple purposes in addition to design feedback using filters, such as 'Most Viewed', 'Most Discussed' and 'Most Liked'. We have evaluated the top 100 designs using the 'Most Discussed' filter. 76% of the designers used the ideation and final design representation, 14%used the variations of final design and only 10% of the designers had their final designs. This is a stark difference as compared to Reddit's latest 200 designs.

Experiment Design

Based on the design representations identified from our first stage survey, we designed a between-participants experiment with four conditions, each of which represents a design representation: Final Design, Ideation and Final Design,

Variations and Final Design, and Full Design Process. We expected 35 participants per condition.

In order to conduct our experiment, we wanted to use a design project that includes all possible design process for us to represent in each condition. We then discovered a suitable project: Ted Drewes by designer Kate Crawford, a rebranding project for a frozen custard shop (Crawford 2013). From the materials provided by Ted Drewes project, we were able to create four representations for the experiment. Figures 3,4,5,6.

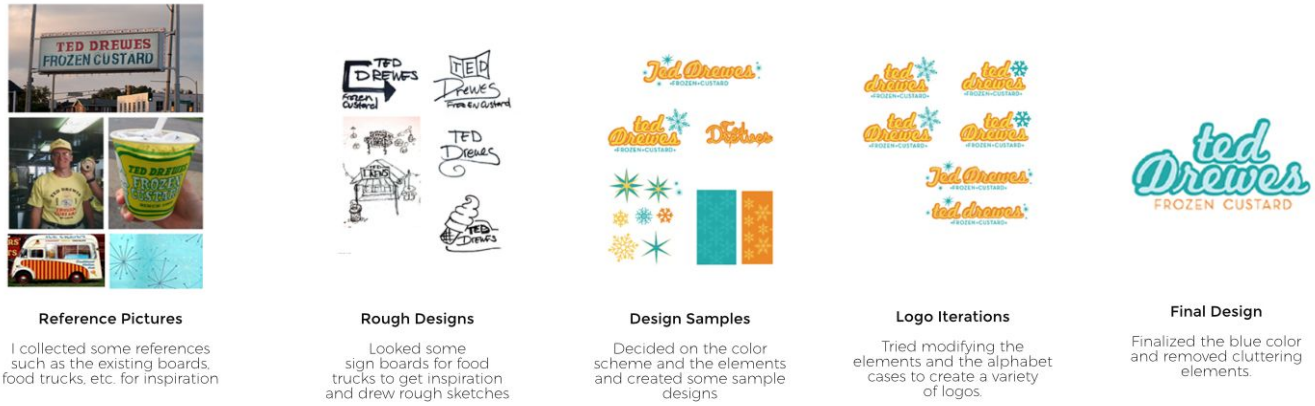

Figure 3: The Full Design Process Representation

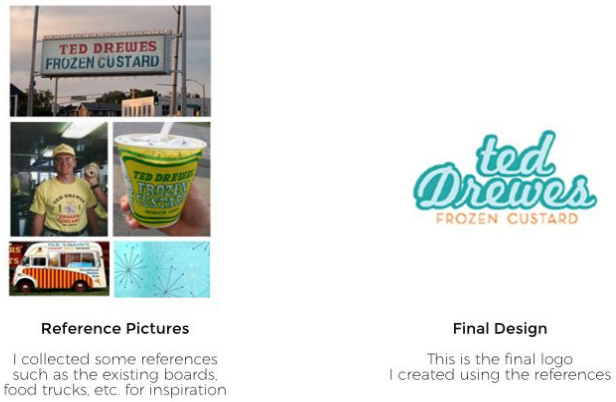

Figure 4: The Ideation & Final Design Representation

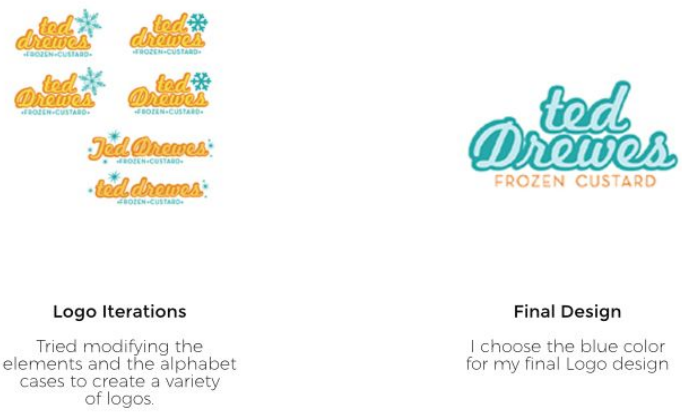

Figure 5: The Variations and Final Design Representation

Figure 6: The Final Design

In our experiment, three critical factors were controlled to deliver the best results:

The context for requesting design feedback.

The context should be natural and realistic, where the designer provides his/her information in order to motivate reviewers to provide better feedbacks (Huang and Fu 2013). Thus we have included our background and our expectations from them: I [the requester] am a freelance designer working on designing a logo for a frozen custard shop, Ted Drewes, in St. Louis, MO. […] I have my design and I would like to get your feedback on it, which will be very helpful for me to review my work and to submit it to my client."

The presentation of the design image and feedback question

We have designed a webpage specifically for this experiment. The website is divided into two parts: the fixed upper part containing the image of the design representation, and the lower part containing the feedback question: 'Please provide your feedback on my Logo design'. This layout ensures that the image will be visible to the users all the time even when they are scrolling. Also, the questions were embedded in Google Form for the ease of collection and analysis.

The platform for the experiment

For the platform, we chose to conduct the experiment on Amazon Mechanical Turk, as it is a widespread and well-known crowdsourcing platform that provides access to very large a pool of diverse potential participants.

Amazon Mechanical Turk HITs Design

We have four HITs in our experiment, each containing a design representation. We planned 35 assignments per HIT, 25 mins time slot and $0.45 reward per assignment. To enforce the restriction of between-participants experiment and to ensure the integrity of the results, i.e. a worker participates once only, we have used the Unique Turker service. This service allows requesters to restrict the number of times a worker may work on a group of HITs(Unique Turker 2017).

In our experiment, workers were asked to go to our design website, provide their feedback, and then return to submit the HIT, Figure 7.

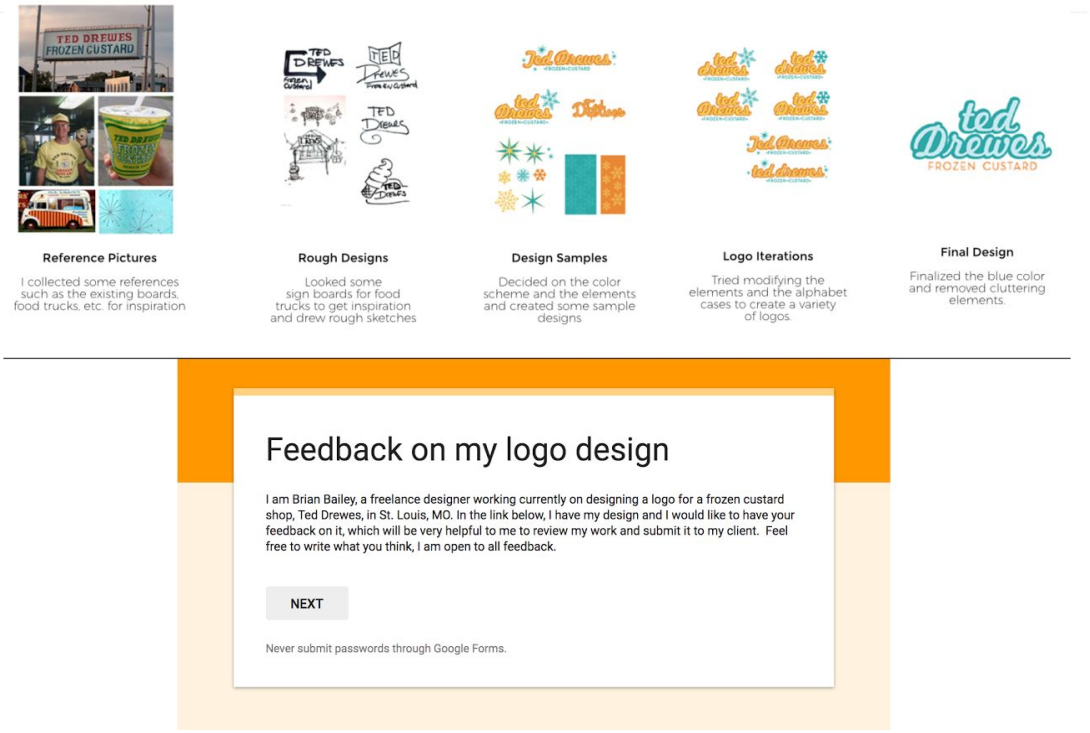

Figure 7: The Example of HITs

In our pilot experiment, we found that a large number of the responses were shallow and even irrelevant. This phenomena indicated that some workers did not pay attention to our task. Thus, we modified our form to include an attention checker question: Describe what you see in the picture. This question is separated from the feedback question.

Feedback Evaluation Metrics

To analyze responses from each condition, we selected three feedback metrics: topics, length, and quality. Respectively, each metric was measured using: LDA, Document Length Statistics and ANOVA. Unlike the first two metrics, the quality metric cannot be measured directly. Therefore, we have included an intermediate step of evaluating and rating the quality of the response before performing the ANOVA test.

We had one criteria to evaluate each feedback on a 7-based Likert scale: "The quality of the feedback is satisfying: (1: strongly disagree) to (7: strongly agree)".

To eliminate any potential biases when evaluating the feedback, a team member was responsible for preparing the evaluation process, and the other four members would perform the evaluation. The datasets representing the conditions responses were anonymized (A, B, C, D) and randomized. Each person was assigned three datasets following the order: Rater 1: A, B, C; Rater 2: B, C, D; Rater 3: C, D, A; Rater 4: D, A, B.

Results and Evaluation

ANOVA - Analysis of Variance

From the analysis of variance on the ratings, we couldn't see any significant difference in quality between feedback from different design representations. This result indicates that within mechanical turk, different design representation did not affect the quality of the feedback.

Condition	Count	Sum of Score	Average Score	Variance
Full Design Process	35	103	2.95	1.4585
Ideation & Final Design	35	112	3.2	1.3607
Variation and Final Design	35	113	3.22	1.4168

Final Design	35	110	3.15	1.4271

Figure 8: The Figure of ANOVA on Rating Scores

Analysis on the Length of Feedback

From the analysis of length of the feedback, we found out that the length of the response is significantly influenced by different types of design process representation. Also we saw Variation representation gathers the longest feedback, and the Ideation representation garners the lowest length feedback. Based on Figure 8, we know that both have similar quality, but we can definitely learn more information from the Variation representation, while the Ideation representation will be more straightforward.

Condition	**Datasets** (Reviews)	**Avg Length/ Feedback** (Word)	**Median**	**Variance**
Full Design Process	35	33.5	27	3864
Ideation & Final Design	35	28.5	28	2116
Variation and Final Design	35	43.4	26	9960
Final Design	35	35.2	33	2452

Figure 9: The Figure of Analysis on the Length of Feedback

LDA Topic Modeling Analysis

We used Gensim LDA Topic Modeling (Gensim LDA Topic Modeling) and Gensim Summarizer (Gensim Summarizer) libraries to analyze four design representations.

For **Final Design Representation** in Figure 6, we summarized that "*The font and design of the logo is very much appealing it remember some old US products, but the color of the logo has to be improved, if T for ted starts in capital it would be much better like D for Drewes.*" The Top 10 Topics in this design representation with corresponding scores were:

Topics	**Scores**
Letter Case	1.00
Typeface	0.93
Logo	0.91
Font	0.87
Emphasis (typography)	0.83
Writing	0.76
Ted Drewes	0.75
Communication design	0.73
Art media	0.69
Graphic Design	0.66

Figure 10: Final Design Top 10 Topics

From the *Final Design* summarized review and Top 10 topics in Figure 10, we learnt that with only Final Design, reviewers mostly focus on the appeal of the logo, such as the typeface and the color of the logo instead of its meaning. Also, we can see they topics are all belong the design itself, such as letter, logo, font, the "words" on logo, etc.

For **Ideation and Final Phase Representation** in Figure 4, we have summarized "*Perhaps 'Ted Drewes' is known in the area as frozen custard, but I don't think that others who have never heard of it would immediately know what that is upon looking at your logo.I really like the color scheme of the final logo and having the name in blue rather than orange.* " and the Top 10 Topics with scores were:

Topics	**Scores**
Font	1.00
Ted Drews	0.98
Logo	0.87
Typeface	0.79
Howard Johnson's	0.75
Letter case	0.69
Writing	0.68
Typography	0.65
Ice cream	0.63
Italic type	0.58

Figure 11: Ideation & Final Phase Top 10 Topics

From the *Ideation & Final Phase* summarized review and Top 10 topics in Figure 11, we learnt that people start to focus on the meaning and the idea of the logo instead of solely basing their remarks on color. For example, one reviewer asked if the brand is known by the people outside of the area as a frozen custard

place which shows a divergence from the design critique theme but does involve some insight into the product itself.

For **Variations and Final Phase Representation** in Figure 5, we have summarized review "*I think keeping one of the snowflakes in your final design would have been even better for that extra flair, but the fresh, clean look of the final logo still works extreme*" and the Top 10 Topics with scores were:

Topics	Scores
Snow	0.91
Logo	0.91
Color	0.88
Typeface	0.81
Letter case	0.80
Font	0.80
Ice cream	0.79
Ice	0.69
Art media	0.63
Ted Drewes	0.59

Figure 12: Variations & Final Phase Top 10 Topics

From the *Variations & Final Phase* summarized review and Top 10 topics in Figure 12, we learnt that reviewers focused on different variations of design, and they found that something interesting and important was missing, and mention the "snowflakes" to the designers, that the snowflakes maybe an important part of the design so it should be incorporated within the logo. Also, from the topics, we can see the word "Snow" has the highest score.

For **Full Design Process Representation** in Figure 3, we have summarized the review as "*I really think that this fits well the color scheme is great I would not really touch much maybe make 'Frozen Custard' a bit bigger or little bit better fitting font other than that maybe like some ice hanging down from the 'Ted Drewes'.*" and the Top 10 Topics with scores were:

Topics	Scores
Letter Case	1.00
Typeface	1.00
Font	0.95
Writing	0.94
Text	0.88
Logo	0.84
Typography	0.81
Latin alphabet	0.70
Communication design	0.69
Graphic Design	0.67

Figure 13: Final Design Top 10 Topics

From the *Full Design Process* summarized review and Top 10 topics in Figure 13, we learnt that when you give the reviewer all the information including the ideation, and variations of design, reviewers will focus on some general ideas on the final design based on what they learnt from the design process, such as "make 'Frozen Custard' a bit bigger", it goes to show that the reviewer noticed that the Logo is for a Frozen Custard company, and they thought it was important to make is larger for people to notice it. Also, people can potentially get some creative ideas to be incorporated with this design that the designer might not have already thought of.

Discussion

Limitations of our study and the expected vs resulting outcomes.

On the Design Representations

Firstly, the design representations proposed in this paper are not applicable for all kinds of designs. We have only utilized graphic designs in our experiment because it can be easily presented on one single page, and the process can be easily understood. We believe that illustrations and sketches can also utilize our outcomes. Some other designs like website and portfolio can also be represented in the formats discussed in this paper, but they might require significant modifications and adjustment to fit in our design representation summary. Those modifications include but are not limited to adjusting the size of each page on the website, and explaining the creation of icons step by step in another image.

On the Methodology

The online community where the study was conducted is extremely diverse. The subjects of the study range from amateurs to seasoned designers. Though the preliminary study was conducted based on the design practices on Reddit and Behance, the final study was conducted on AMT, which is not a conventional platform for obtaining design feedback. The differences between the platform might create big discrepancy. Had the study been conducted in a conventional design feedback platform, the quality and the contexts of the feedback could have been different.

Conclusion

In this paper, we have discovered the influence of design representations. With the fast expansion of online community, an increasing number of designers now access online resources and seek feedback online. Therefore, it is essential to reduce their time spent on selecting proper design representation for their different purposes. Our study has provided designers with following results in terms of design representations:

Firstly, based on our design process representations, we can hardly see the difference in the quality of the feedback and reviews. However, the length differences are quite obvious: we obtained the largest average length of feedback on Variation & Final Design representation, and the least on the Ideation & Final Design representation, despite their similar quality. Thus, if designers expect to have a detailed feedback, they should show reviewers their work using Variation and Final Design representation; on the contrary, they can use Ideation & Final Design to gather straightforward and concise feedback.

Secondly, from the Gensim Summarized review and LDA Topics Modeling, we discovered that design representations can guide reviewers' thoughts. Reviewers tend to reflect differently when provided with different contexts other than the Final Design. We have made the following conclusion: if designers expect to get feedback on the meanings of their designs, they should use Ideation representation; If designers want feedback on the context of the design, they should use Variations representation; if they want diverse feedback and holistic review of their design with a focus on creativity, Full Design process representation should be their goto method of design posting. The situation about final design is a bit different. Although Final Design is the most popular form on Reddit, the corresponding feedback only focuses on the look of the design itself. Reviewers tend to evaluate the work without knowing its background and thus the feedback can be very subjective.

Third, and a sort of obvious conclusion based on the results found on combining our experiment and our survey responses is that, if the designer's target is to share the entire design experience, they should represent Full Design process, Videos, Gif images, etc. If they seek focused feedback, Final Design, Variations of Designs and the ideation representation, should be used.

Possible Future work includes: 1) Our results showed that different representations received similar quality of feedback, but would different platforms have different results? 2) We want to further discover that whether showing the Full Design process discouraged reviewers from being critical of the design? 3) We would like to extend this research on multiple design formats and take constant inputs from the designer as to how the resulting feedback affected their work.

Acknowledgments

We thank Professor Brian Bailey for inspiring, encouraging, and guiding us through this project. We also thank our TA Grace Yen for her unlimited help and valuable feedback. We are grateful to Kate Crawford for her design process book. Finally, we thank the AMT workers for being part of our project and experiment.

References

99Designs, 2017. [Online]
Available at: https://99designs.com/about

ArtStation, 2017. [Online]
Available at: https://www.artstation.com/about

Behance, 2017. [Online]
Available at: https://www.behance.net/about

Boud, D., Cohen, R. and Sampson, J., 1999. Peer learning and assessment. Assessment & evaluation in higher education, 24(4), pp.413-426.

Concept Art, 2017. The Level Up! Workshops. [Online]
Available at: http://www.conceptart.org/go/learn/
DeviantArt, 2017. [Online]
Available at: http://about.deviantart.com/

Crawford, K., 2013. Ted Drewes Process Book. [Online]
Available at:
https://www.behance.net/gallery/10467437/Ted-Drewes-Process-Book

Dribbble, 2017. [Online]
Available at: https://dribbble.com/about

Gensim, 2017. Latent Dirichlet Allocation. [Online]
Available at:
https://radimrehurek.com/gensim/models/ldamodel.html

Gensim, 2017 . TextRank Summariser. [Online]
Available at:
https://radimrehurek.com/gensim/summarization/summariser.html

Hicks, C.M., Pandey, V., Fraser, C.A. and Klemmer, S., 2016, May. Framing Feedback: Choosing Review Environment Features that Support High Quality Peer Assessment. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (pp. 458-469). ACM.

Huang, S.W. and Fu, W.T., 2013, April. Don't hide in the crowd!: increasing social transparency between peer workers improves crowdsourcing outcomes. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (pp. 621-630). ACM.

Kim, J., Agrawala, M. and Bernstein, M.S., 2016. Mosaic: Designing Online Creative Communities for Sharing Works-in-Progress. arXiv preprint arXiv:1611.02666.

Luther, K., Tolentino, J.L., Wu, W., Pavel, A., Bailey, B.P., Agrawala, M., Hartmann, B. and Dow, S.P., 2015, February. Structuring, aggregating, and evaluating crowdsourced design critique. In Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing (pp. 473-485). ACM.

Marlow, J. and Dabbish, L., 2014, February. From rookie to all-star: professional development in a graphic design social networking site. In Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing (pp. 922-933). ACM.

Reddit, 2017. [Online]
Available at: https://about.reddit.com/

Unique Turker, 2017. [Online]
Available at: http://uniqueturker.myleott.com/

Wasko, M.M. and Faraj, S., 2005. Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. MIS quarterly, pp.35-57.

Xu, A., Huang, S.W. and Bailey, B., 2014, February. Voyant: generating structured feedback on visual designs using a crowd of non-experts. In Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing (pp. 1433-1444). ACM.

Yen, Y.C.G., Dow, S.P., Gerber, E. and Bailey, B.P., 2016, June. Social Network, Web Forum, or Task Market?: Comparing Different Crowd Genres for Design Feedback Exchange. In Proceedings of the 2016 ACM Conference on Designing Interactive Systems (pp. 773-784). ACM.

Appendix I

Questionnaire

We are students who are currently performing research in HCI. We would like to gain an insight on how designers capture their design process. Our experiment aims to see the effect of representing the design process on the generation of online feedback. It would take just 6 - 10 minutes. Your inputs are valuable to us.

1. What type of designs are you working on (UI/UX, Industrial, Entertainment, Graphic, Fashion, Landscape, etc.)?
2. *What is your design workflow? Please describe it in simples.*
3. Assume you were to assign a "Weight of Significance" to each stage. Arrange these stages according to their weights from highest to lowest.
4. From Most to Least, arrange these stages according to the "Effort" needed on each?
5. From Most to Least, arrange these stages according to the "Number of Decisions" possibly made in each?
6. *Do you usually save the different stages of the design along the progress? How do you save these stages? and how often?*
7. How often do you post your work online? Why? If you never posted before, please submit the form directly.
8. *What stages of the design do you usually post? and Why?*
9. If you want online Feedback, what kind of feedback do you seek or expect? How would you use these feedback?