

Crowdfunding as a Collaborative Design Tool

Codefining the Variables for Mass Customisation Design Products

*Matthias Kulcke
Hamburg University of Technology/
HafenCity University Hamburg
<http://www.designfunding.com>
matthias.kulcke@tu-harburg.de*

Designfunding, defined here as a unique category of crowdfunding, is described and explored regarding its potential to become an important collaborative design tool for parametric design and mass customisation concepts. As it may serve, among other aspects, the preliminary first-hand gathering of customer desires as a basis for detailing a designer's conception of a design product, possibilities of the integration of this tool into design-education are proposed and discussed. .

Keywords: *Mass Customisation, Designfunding, Collaborative Design, Crowdfunding, Parametric Design*

INTRODUCTION

Crowdsourcing has already been explored by a lot of enterprises as a method to optimize products by delegating design tasks to customers (Haderlein, 2012). The information that can be gathered this way is valued to such a degree that some firms are willing to pay for specialized services providing its collection (Kotler, Kartajaya and Setiawan, 2010; Voß and Rieder, 2005). It is therefore one of the next important steps to offer tools and strategies to future designers still learning the trade to take these tendencies and the integration of customers in the design-process into consideration while developing design-concepts.

Not only furniture but also building parts like doors, windows or glass-ceilings can already be ordered and redesigned during an ordering process via user interfaces and special configurators on the websites of manufacturers (Piller, Piroozfar, 2013). Where

will young designers and architects position themselves in the changing market and how can they use the development to their advantage?

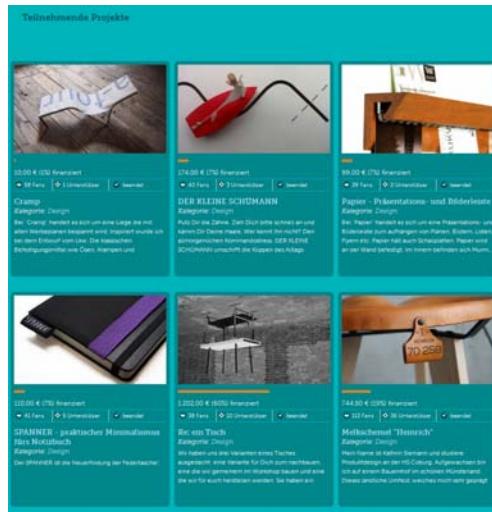
1. CROWDFUNDING DESIGN

Crowdfunding for designers of furniture and accessories (here referred to as the subgroup design-crowdfunding or short: designfunding) is a special chapter in the short history of online crowdfunding-platforms as a vehicle of gathering financial and ideal support for the realization of product ideas. It has not yet reached mainstream as a marketing technique although crowdfunding and crowdinvestment as a whole are on the rise, not only in North America but also regarding its growing economic importance in the EU (Lawton and Fairless, 2014). Nevertheless the format has not gained a steady foothold with customers as an online sales-tool in all the market-areas one could think of applying it to and its explo-

ration as a unique way of initiating communication and design-collaboration with customers is still at the beginning.

1.1 Economic Significance and Potential

Crowdfundings aiming for the financing of a product-series in the category of accessories and gadgets for, in a lot of cases, popular brands in information-technology, have already been successful in the past [1,5]. Designfundings labeled by the project-starters themselves or the administrators of the chosen online-platform as belonging to the category of design in general, as late as 2013 appeared not to do this good over all (although there seems to be a tendency towards change [5,6]), especially if dealing with interior design objects (Kulcke, 2014). To explore possible reasons as well as out of educational interest, the author initiated in spring 2013, in a cooperation with the Institute of Applied Building Technology of the Hamburg University of Technology (TUHH), the Hamburg Kreativgesellschaft mbH and the Hamburger Möbelkooperation, the launch of a contest under the label designfunding [4].



This contest was introduced to students of the HafenCity University in the preceding course "Crowdfunding für Designer" (Crowdfunding for Designers). Strategies, pursued to improve the chances of the participating designfundings, were the display of prototypes in cooperating stores (stilwerk Hamburg and Lokaldesign), setting up a designfunding-website [7], showcasing the designs and linking them to the crowdfunding-platform (figure 1), as well as an accompanying special exhibition at the stilwerk Hamburg toward the end of the financing phases of the projects.

2. CROWDFUNDING PHASES AND THE INTEGRATION OF CROWDSOURCING IN EDUCATIONAL CONTEXT

The three phases of a crowdfunding, and thus for a designfunding as well, are labeled broadly

- * Preparation or Pre-Campaign
- * Starting Phase
- * Financing Phase or Fundraising

While some platforms don't require a starting phase it is mandatory on the regional platform Nordstarter (Hamburg) and the connected nationwide german site Startnext [2], which have been used in the contest. Especially when working with students this is useful, because feedback from potential customers and the dialogue with them can be initiated even before prototypes are built. It is this customer interaction to which the potential educational value of designfundings could be allocated first and foremost.

2.1 Preparation or Pre-Campaign

In preparation the content of the personalized crowdfunding-page is developed and successively uploaded; Nordstarter provides administrative feedback during this phase and also encourages exchange between campaigners through professionally moderated events (crowdfunding-club). The

Figure 1
Overview of the contributions to the contest [4]

crowd, for better chances of success, should be pre-gathered with the help of social networks like facebook and twitter.

2.2 Starting Phase

In this phase project-starters go public and invite people to become fans of the project and the product. Especially with students the question of intellectual property arises and should be addressed by discussing market-research and the options on how to protect ones claims. It is especially in this phase, that the project enters also a potential crowdsourcing-phase. Since new products are developed, and sometimes not even a first prototype has been produced before a first series is financed, the products advertised in a crowdfunding-campaign are still subject to change. This is not only due to the nature of the format and of interest for professional designers and entrepreneurs. It is also something educators should aim at, as part of teaching students to appreciate and use customer-interaction in the design-process and gain experience in this part of the game.

Elements that can be brought to the students' attention are for example:

- Posting invitations to fans to make a contribution to the project-blog, considering the appearance and functions of the final product (these are automatically spread by email-newsletter to those registered to the platform and who also chose to hit the fan-button of the project);
- Stating in the project description that a collaborative design of the final product, in cooperation with customers, is part of the aim;
- Stressing in general the importance of teamwork as a basis for the campaign-strategy.

This serves to motivate fans repeatedly to contribute ideas and money to the project and at best to become customers by choosing the product itself as an incentive for their monetary contributions.

Now these interactions with supporters, already vital to designfundings in progress, might even be extended and/or specified targeting something else; the collection of substantial data as a base for deciding upon fixed and variable parameters of the product/product-series. This goal is probably more likely to be reached if the initial product-concept includes a mass customisation strategy, but it might also spawn from a designfunding that didn't aim for mass customisation at first and is then changed according to customer responses pointing in this direction. Some designfundings even specify the design of a future product-configurator as part of the campaign goals [5] or promote mass customisation as a central marketing aspect and product feature [6].

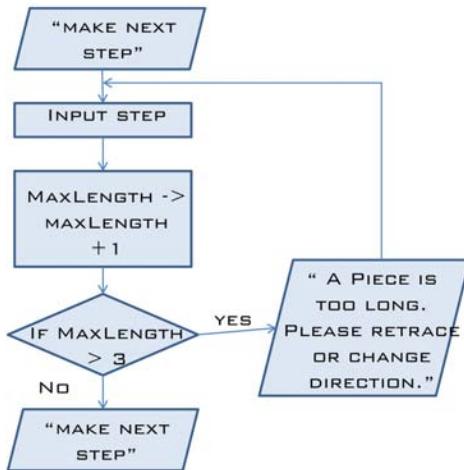
2.3 Financing Phase or Fundraising

Even in the financing phase further relevant information concerning final product appearance, favored or potential additional features and also customisability can be collected, by analyzing which product-configuration is preferably chosen from the list of incentives presented to the customers who order them.

And, since it is possible to list additional incentives even while already in the financing phase, a campaign-starter can react to, fine-tune and adjust favored product-configurations, without having to alter a production; because production only starts after the fully financed designfunding has come to a conclusion.

To support students in the conception-phase as well as while maintaining and improving their ideas during the campaign, a facebook-page has been set up under www.facebook.com/designfunding. Linking articles, ongoing designcrowdfundings and related videos as well as featuring illustrated hints, for example on how to work strategically with incentives to enhance the collaborative design-process and establish customer dialogue (figure 2), it strives to become a forum for exchange of experience with designfundings in the long run.

Fun Dings Tipps (6)



3. LINKING MASS CUSTOMISATION, PARAMETRIC DESIGN AND CROWDSOURCING

As already stated, it makes a lot of sense to connect crowdsourcing via designfunding to the conception of a parametric design. This is especially true, if the parametric design is aimed at the development of a mass customisable product or architecture. The central question to be solved in parametric design is which will be the variables and which will be fixed parameters. This crucial question can be solved by looking at the design-concept from the perspective of future buyers.

Using graphic Makroprogramming in CAD (Grasshopper and Rhino), students at the HafenCity University Hamburg had to develop a parametric furniture design for a shelf system in a course called "Parametrisches Design" (Parametric Design) in summer 2013 held by the author. Furthermore it was part of the project to design an accompanying user interface for a future ordering process. To support the completion of the task the students were also introduced into the use of flow-charts and other instruments for the conceptional phase of computer-software (figures 3 and 4).

In upcoming seminars the two approaches already tested in "Parametric Design" and "Crowdfunding for Designers" will be linked even closer together in the students' project-work.

CONCLUSION

Especially designproducts for production in small numbers by regionally active craftsmen and manufacturers are suited for the described market approach and the parametric-design process supported by designfunding (figure 5), since cost-intensive prototype production can be minimized and focused on the most promising preconfigured constellations in the case of a successful funding. Although the recently released Indiegogo Hardware Handbook advises campaigners to build works-like and looks-like prototypes, it is, according to the contributors, not vital for a campaign to build design-for-manufacturing (DFM) prototypes [3]. This of course

Figure 2
Illustration
motivating to use
collaborative
designfunding-
strategies

Figure 3
Flowchart by
ERASMUS-student
Nikolaos
Gaitanopoulos

Figure 4
Shelfdesign by
ERASMUS-student
Nikolaos
Gaitanopoulos

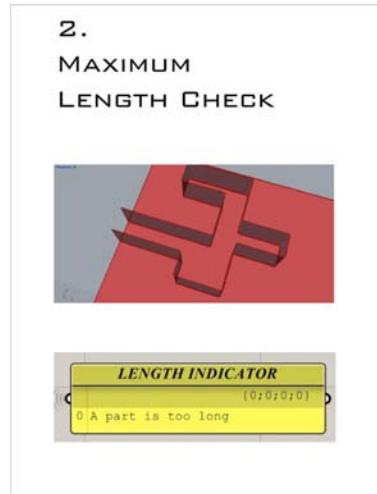
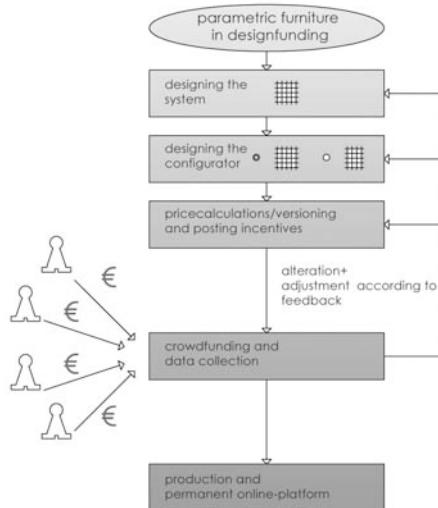


Figure 5
MC/Parametric
design in
designfunding



makes the technique also suitable for young designers still involved in their studies, who are often not equipped with the necessary budget to have a prototype built, let alone testing a design-concept with

a number of variables left to be chosen by customers on the free market.

REFERENCES

- Haderlein, A 2012, *Die digitale Zukunft des stationären Handels - Auf allen Kanälen zum Kunden*, mi-Wirtschaftsbuch/Münchener Verlagsgruppe, München
- Kotler, P, Kartajaya, H and Setiawan, I 2010, *Die neue Dimension des Marketings - vom Kunden zum Menschen*, Campus Verlag GmbH, Frankfurt am Main
- Kulcke, M 2014 'Designfunding: An Inquiry-Tool for Mass Customization', *MCPC 2014*, Aalborg, pp. 139-144
- Lawton, C and Fairless, T. 2014, 'EU Hopes to Foster Crowdfunding', *The Wall Street Journal*, 32(39), p. 1,16
- Piller, F and Piroozfar, PAE 2013, *Mass Customisation and Personalisation in Architecture and Construction*, Routledge, New York
- Voß, GG and Rieder, K 2005, *Der arbeitende Kunde - Wenn Konsumenten zu unbezahlten Mitarbeitern werden*, Campus Verlag, Frankfurt am Main
- [1] <http://www.startnext.de/icrane>
- [2] <http://faq.startnext.de>
- [3] <http://landing.indiegogo.com/hardwarehandbook>
- [4] <http://www.nordstarter.org/designfunding>
- [5] <http://www.nordstarter.org/yunikue-fitted-bag>
- [6] <http://www.startnext.de/comakeshoes>
- [7] <http://www.designfunding.com>