Towards Accessible Design Knowledge

Opening up design knowledge and its production in industry and academia

Tim von Oldenburg

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1 Introduction

The global pool of design knowledge is steadily growing. Both industry and academia contribute through design practice and intentional design research. However, there is a large gap between the knowledge that exists and the knowledge that is published. Not only is there an internal gap in design; there is also a difference between how much knowledge design and other disciplines make accessible (looking specifically at software development). According to (Davis 2009), "the proprietary behavior of design practitioners will not make new knowledge widely available [...]". This is an unfortunate circumstance, as several examples show that both industry and academia would benefit from better access to existing knowledge. In this essay, I present **two** examples from the areas of open source and open innovation, which successfully illustrate how open knowledge can contribute to innovation. I will further suggest ways forward for design, towards more accessible design knowledge.

- A lot of knowledge is produced, but is not made accessible, especially in industry

2 The state of design knowledge publication

2.1 Where do we find design knowledge, and how does it look?

Where do we find design knowledge? Nigel Cross (1999) suggests three sources: people, processes, and products.

People, especially—but not exclusively—designers, know about the decisions they made while designing. They bring their past experience and their world view to the design process, influencing the outcome with everything they do. An extensive account of how design practice and practitioner are interdependent is given by (Schön 1990).

Processes are . The notion of *infrastructuring* [@] gives a good example of processes exhibiting design knowledge.

Cross's idea also shows that design knowledge can be found way outside the traditional design discipline: in the people who make decisions about pricing and marketing, in governmental regulations, in the market, ...

- Where can we find design knowledge? the product, process, practice, side products (who the hell said this?!)
- everything is design knowledge: everything a designer knows and remembers from past projects; every artefact and deliverable that came out of a design project (Pierce 2014), even the least interesting recording of a brainstorming session (Gaver 2012), practice and side products Every brainstorming session is a form of knowledge, because it is informed by the designer's past experience. "I would think of this, given the experience I have".

2.2 This knowledge is not universally accessible

Of all those source of design knowledge, usually only two get published: industry published the product, which is most likely an artefact, whereas academia published a written account (which in itself can contain knowledge of different levels).

- companies keep their design and development proprietary for quite obvious reasons LOOK FOR EXAMPLES IN (Davis 2009)
- patents
- competition, best of them all
- making money
- first to market
- exclusiveness
- intellectual property

2.3 But it better should be...

- if knowledge is hidden/invisible, it is not useful. the designer knows most about the artefact and design decisions. but if a second designer cannot recognise that knowledge, and thus put it to further use, is it really knowledge?
- there are examples where opening up the process leads to: innovation, trust, better products, quicker development
- academia publishes in a linear format, which does not represent knowledge adequately

3 Examples

3.1 Open Innovation - The Eclipse Foundation

IBM with Eclipse?

"Eclipse is a consortium of major software vendors, solution providers, corporations, educational and research institutions and individuals working together to create an eco-system that enhances, promotes and cultivates the Eclipse open platform with complementary products, services and capabilities."

The Eclipse community embraces the importance of value capture. We are consciously focused on building a commercially profitable ecosystem

http://www.eclipse.org/org/foundation/membersminutes/20070920MembersMeeting/07.09.12-Eclipse-Open-Innovation.pdf

The Business Model for Open Source

- Shared implementations of infrastructure
- Save time to market
- Increase rate of standards adoption
- Reduce risk
- Provide thought leadership and first mover advantages

Vendors still compete!

- Product differentiating features
- Service, support
- Branding, channels

Transparent

- Project discussions, minutes, deliberations, project plans, plans for new features, and other artifacts are open, public, and easily accessible.

The Eclipse open source community is uniquely focused on achieving both goals associated with innovation networks:

- Open governance and development processes allow individuals and corporations to co-operatively develop product-ready software (value creation)
- Focus on ecosystem opportunities supports use of this technology in successful products (value capture)

3.2 Distributed version control in open source development

- comments in code
- code itself

- commit messages are annotations/explanations/documentation
- diffs are precise documentation

3.3 Tesla - patents

(Musk 2014)

Maggiolino and Montagnani (2013) put forward a framework for companies to pledge patents to the public, in order to foster innovation. So ein schöner Satz.

4 Ways forward

- habits that we have to integrate into our practice and research
- Making use of open standards http://en.wikipedia.org/wiki/Open_standard
- Publishing non-critical internal documents - transparency
- Releasing patents
- Accompany the design & development process of a product with blog posts etc pp
- Document the process publicly - like many companies/agencies already do and use as an asset/for trust/as USP
- Make use of fitting representations of intermediate-level knowledge, kinda like annotated portfolios? (Löwgren 2013)

(Gaver 2012)

5 Conclusion

Design, as a discipline and an industry, can learn much from movements such as *open source* and *open innovation*. While software development is arguably, due to the very immaterial and digital nature of it, predestined and privileged to be taking place in the open, design practice often has material and informal components which are difficult to document in-the-moment.

However, we can make use of existing, easy to create representations of knowledge that we share with the design community. Other disciplines show that sharing enables innovation and does not endanger economic streams.

Alles wird gut.

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