

# HOW PROJECT DOCS CAN KEEP YOUR PROJECT ALIVE

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# How do you communicate your ideas effectively?

This paper is targeted at people in the user centered design industry, where it is most connected to the work process and creativity of interaction designers and game designers. Their creative processes are usually very similar, and with this paper I hope to make you think about your own creative process by presenting a new perspective.

The following quote describes a problem in creativity that relates strongly to the problem this article will be addressing:

*“Creativity is contagious. Pass it on.”*

– ALBERT EINSTEIN

I think most would agree that creativity is indeed contagious. Our creativity can inspire others to get ideas as it happens regularly to ourselves. It is probably the strongest feature that creativity possesses. But opposed to this strong feature creativity does have some downsides to it as well.

## The downsides of creativity?

Working in the user experience industry, you will most likely know about this problem that comes with creativity: ‘You attempt to communicate an idea to your team members. Although it seems as if they understand the idea, if you ask them one by one to explain the idea back to you, then you will notice

everybody has created their own version of your idea.’

Now this would not be a problem in a brainstorm session. But later on in a design process clear communication is crucial. Otherwise your project might end up consisting out of innumerable individual products created from the perspective of the individual. Then, these will have to be combined into one product. If this were to happen we would lose a great deal of valuable time and usually the final product ends up being less good.

Therefore, the contagiousness in creativity also does have its downsides. Especially when looking at it from the perspective of control and management.

For ages we have tried our best to take control of creativity by expressing or describing it. Describing is a way of making visible the way one thinks about something. Thoughts can be expressed on a piece of paper, where we resort to mind maps, sketches and other scribbles. Another way would be to discuss thoughts with another person, this is where we frequently try to get the idea across with gestures and body language.

In all the aforementioned ways of presenting an idea the same problem reoccurs. The perspective of the listener and the speaker are different due to their own interpretations, linguistic understanding

# Can design documents keep your project alive?

and past brain patterns linked to the subject. *de Bono (1970, p.25)* presents a lot of information on how our creative thinking process works:

*“This all has to do with how the mind works. Though the information handling system called mind is highly effective it has certain characteristic limitations. These limitations are inseparable from the advantages of the system since both arise directly from the nature of the system. It would be impossible to have the advantages without the disadvantages.”*

Then, he continues by discussing the limitations, one of the limitations is code communication:

*“Communication is the transfer of information. If you want someone to do something you could give him detailed instructions telling him exactly what to do. This would be accurate but might take rather a long time. It would be much easier if we could simply say to him: ‘Go ahead and carry out plan number 4.’ This simple sentence might replace pages of instruction.”*

Unfortunately, code communication only works when someone actually knows what plan number 4 is. And therefore requires certain preset patterns to be available to him.

And this is exactly what is happening nowadays in businesses creating interactive media, user experiences and games. With each new project we start making design documents containing those preset patterns. And once someone wishes for a fast answer to a simple question, someone says: ‘RTFM’ short for ‘Read the f\*\*\*ing manual’.

## Using design documents as a solution.

As designers we have started to make documents covering every aspect of an application or website. Usually these documents are very time consuming to create and end up being thick book works. Each page covers a different subject which makes reading these documents become a search for information.

## So why should we use design documents?

*“The essence of creating a successful business is to ensure that everyone involved is working to achieve the same goals. Any confusion or discord in objectives dissipates energy twofold. First you lose the effort of those who are going in the wrong direction, and second, their effort is applied against those who strive into the correct direction. (Cooper 2004, p.231).”*

# If I do not have a design doc, will my project end up dead?

When creating a design document it states a direction you will be working in and creates a focus among your design team. This of course is very helpful.

Another great benefit design documents have is that they bring a clear picture of what needs to be done by the team. With this it is easy to compare and check the product versus the design. This is described as a must by Cooper (2004, p.226),

*“One of the really tough lessons that I have learned over the years is that good, even great, design is meaningless unless it gets build. And it will never get built unless it is described at length, with precision and detail, in terms that make sense to the programmers who must build it.”*

In more recent publications Cooper et al. (2007, p.567) state that describing fully, accurately and with detail, is not practical due to aggressive development schedules and, most importantly, the need to prove the feasibility of proposed design solutions.

As an addition to the statement of design documents not being practical, Librande(2010) presented additional cons: *“Design documents don’t scale up. As teams get bigger, less people become motivated to read their teams documents. This has to do with the fact that these documents are hard to update. Even when written down, it’s*

*nearly impossible for a team member to spot the changes. Design has become more and more about iteration, since revisions happen frequently it can become difficult to make sure all changes are written down(...)”*

## **Does this mean we should stop creating design documents?**

No. However, we should consider with what type of design document we work. Projects come in different types and sizes. Including the teams working on them, and the time available for executing the project. Therefore it is crucial that you pick the right tools for handling your project.

Design documents are a tool for communication and their main purpose is to communicate a vision in sufficient detail to implement it. In this statement the word sufficient is key. When we talk about what is sufficient in the creative industry this comment frequently returns:

*“(...)in the real world, we have to meet deadlines and work under limited budget. We simply don’t have the time or money to add this kind of process. Shooting for the ideal is just not realistic. ‘Good enough’ is all we have time for (Buxton, 2007, p. 80).”*

# Why do we strive for excellence when mediocrity is required?

Arden (2003)

This common statement about not having enough time implies that during the design process you will have to split your time and resources between building, testing and design. Doing all is definitely not possible. The best questions asked in such moments are:

*“How is it that we can never afford to do proper planning and design, yet we always seem to be able to afford to pay the cost of products being late as well as the cost of fixing all the bugs that inevitably result from inadequate design, planning, and testing?”*

*How can this be when the cost of design and planning is nothing compared to the cost of being late to market or having a defective product (Buxton, 2007, p.80)?”*

My question is how can we still reach the ideal? Without creating a non-practical design document prescribing the design to the rest of our team, without running short on time and out of resources.

Should we search for different and more effective ways of communicating our ideas?

# An example project, limited time, limited resources, and a big client.

In my most recent project we were challenged by this problem as a group. In the remainder of this paper I will use this project as an example where a large design document did not work. Finally, I will give suggestions on how I think we could communicate our ideas effectively without a big design document.

## Looking back...

We were a fairly large group of 9 people coming from different countries. We had a strict deadline with a limited amount of time, a total of 17 weeks, and our client's request did not have any clear description. This made our project extra complicated.

## The assignment

The project client was The Railway Museum. Their situation required a change; five years ago The Railway Museum got a complete makeover. In that makeover their museum changed and got tons of new content. They changed from a traditional museum with displayed objects and their descriptions into an experience of the steam engine era.

Just after they got revamped they received a lot of media attention which led to a lot of new visitors. Unfortunately the attention they received 5 years ago started to decline, and the amount of new visitors coming in did as well.

Our task was to create a lasting product that would deal with this problem. Our product had to introduce new people to the museum and open it up to them. Our client wanted us to target families and specifically requested not to do anything inside of the museum. Their last addition to that meeting was: "Surprise us!"

We left that client meeting with our minds twisting and turning, thinking of a marketing campaign, that was lasting, and had nothing inside of the museum itself. Eventually, we came with a solution which was accepted by the client, and which they were amazed by.

## Specification of needs

In our research before any design had started, we came to several conclusions. For example, we discovered that parents do the searching for a trip with their family. Usually they would do this by using the internet. They told us that they were always looking for something that their children would like. They found this extremely hard to judge and finding something nice was difficult.

This meant for us that the web would be a good place to attract new visitors. We wanted our product to be an experience for both children and parents. By using our product parents should see that their sons and daughters like trains, and that The Railway Museum was interesting for everyone in

# A marketing strategy & concept for The Railway Museum.

the family. These findings resulted into a successful concept.

## The concept

Our solution was a web game; the game is both a dream and an adventure. The player is taken to a virtual version of The Railway Museum by grandpa Willem. This virtual tour shows the player what is inside the museum while playing, and even more; it prepares them for an actual visit. Parents could see from their children's reactions while playing whether they felt connected to the theme of the museum.

If they would decide to go to The Railway Museum both children and parents would recognize most of the content by having seen the game, making it easier for them to navigate themselves inside of the real museum.

*“The integration of advertising messages in online games is increasingly being used as an integral part of internet marketing and advertising strategies to promote goods and services to potential customers(Buckner et al., 2002 cited by Nieborg, 2003).”*

This is exactly what we tried to do, this strategy has been proven to be effective and probably the best example is America's Army, which successfully connected potential new recruits to the army.



**America's Army:** America's Army was a success due to its marketing strategies. AA has found its way onto the computers of over 2.4 million registered users.

*“The director and originator of AA stated that the games main purpose was to provide young Americans with ‘virtual experiences and insights into the development, organization and employment of soldiers in AA. By creating a vicarious insight gamers are enabled to gain knowledge about the Army's cornerstone values.’ (Davis, 2004)”*

# All roads lead to Rome. Our road was bumpy, long and difficult to navigate.

## The details

For the purposes of this paper, what the exact results of this project looked like, is not relevant. However, knowing how large the project was, and what we accomplished in limited time is. It is interesting to know that in 17 weeks we created a complete game, did the user research, created 9 personas and presented 2 concepts to our client. Built one of these concepts completely, and did user tests 3 times, delivering a bug free game ready to go on the internet.

Our game consisted of a storyline with an introduction animation that uses Augmented Reality. After that introduction the player would arrive in the game that consisted of 4 different worlds. Each having different interactions and interface elements. There the player could build their own locomotive and add wagons, creating power, passenger capacity and comfort. With their own train they could go on a journey to test it. This is where it got challenging by increasingly more difficult levels and they also had to deal with emotional passengers. Eventually the game ended up consisting of more than 20.000 lines of code, many hours of hand drawn artworks and over 1000 different project files.

As you might imagine, this project required a lot of teamwork, communication and development, and serves as a good example

project in which a regular design document did not work. I will try to explain this by telling what production steps we had and what documents we used during those phases, and why these documents did not do the job as we all thought they would.

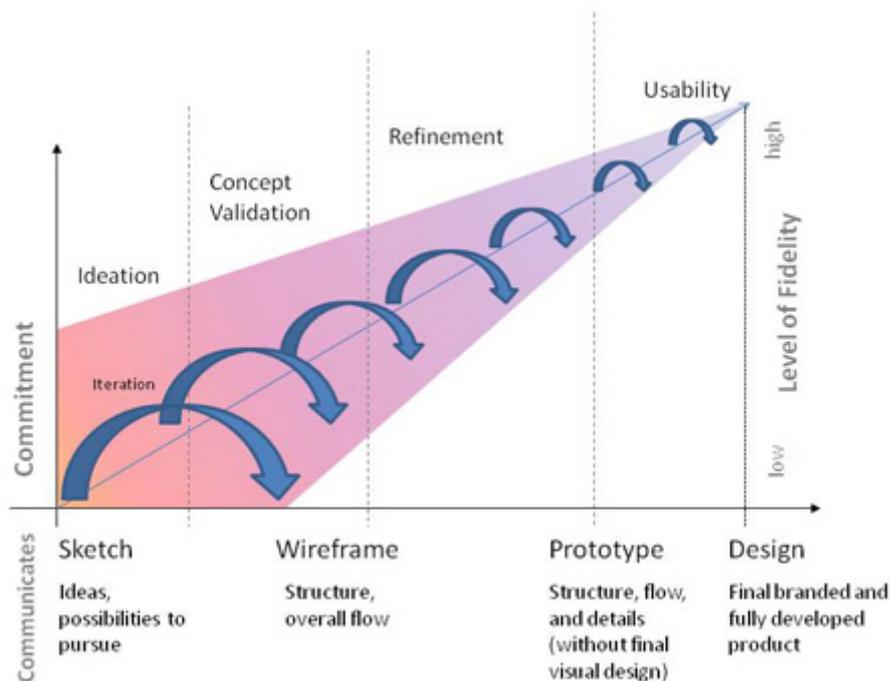
## What design process did we go through?

When we started this project we got briefed by the client on our first day. They gave us the starting guidelines: 'A product targeting families, that was long lasting and which opened up the museum to new visitors.'

The next day we sat together and started to define how we were going to do our user research and handle the rest of this project. Our production went as followed:

1. **User research**
2. **Ideation phase**
3. **Reducing the number of ideas by doing concept validation**
4. **Preparing best concepts for client approval**
5. **Client made a choice between two concepts**
6. **Prototype creation and refinement**
7. **User testing and development**
8. **Presentation to the client**
9. **Last bug fixes and client requests**

# It would all be too easy if there was just one.



**Human interaction design process:** From beginning to end, this is often how the creative process in user centered design takes place.

This was for us the trajectory we completed. During these steps we used a lot of different documents, templates and design methods.

Though our created documents are very common, and frequently used in our field of expertise, most of them resulted in being unpractical. While they should have been used as reference material to communicate our ideas to each other, they were usually ignored and we would just communicate verbally and ask our team-mates for clarification as this was much easier than using the documents. They did not serve our needs as users.

## Two types of design documents

When looking at the documents we used, they can be split up into two categories.

The first type of document being a tool for making ideas explicit. They are a tool for thought, and by using them you get a clear picture of what you are talking about.

The second type of document is used for guidance; they direct the team on what is important and needed in the end product. They served us as being our end goals.

# Finding out the hard way, big design documents are NOT practical.

There was a difference in functionality, but what I found more interesting is that type 1 documents had certain characteristics, and type 2 documents usually had the opposite. What is even more interesting is that all type 1 documents usually were no longer used after they were made. While documents with the characteristics of type 2 were used as a constant reminder. They usually reminded us that everything we did had to be an exact copy, or fit to what was stated in those documents.

So what characteristics did these documents have? Their characteristics were different in the amount of time we had to put in creating them, the size of their content and the amount of detail they contained on the subject.

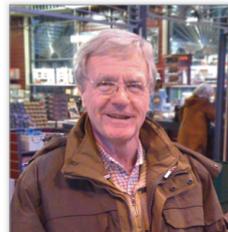
Type 1 documents were often big in size, took a long time to create and often contained more than one piece of data.

Type 2 documents on the other hand were basic, they only stated certain key aspects, and their origin was a structure or a certain key feature or aspect from the game.

We could often put type 2 documents on a wall and still read them and understand them. While type 1 documents were unreadable on a wall and had to be read near at hand.

## The documents that we used

### The train enthusiast grandfather



**Rien van der Bilt**  
Grandfather

"Incidentally, trains are grandpa's hobby."

Rien used to work at the post office. Rien is married to Annette, and they spend a lot of time together cycling and hiking in nature to relax themselves. Annette is his second marriage, sadly they miss the bond of having children together.

Rien has the feeling of not having shared a big lifetime experience with Annette yet. From his first marriage Rien has a few teenage granddaughters. When he is with his grandchildren he feels the parental responsibility of showing them new things and likes to treat his grandchildren to something extra. He takes them for trips to the zoo and museums. He likes to introduce his granddaughters to his passions. By showing them around he hopes they get more interested in what he likes. Rien has a passion for trains and the railway system. The most attractive thing about trains is the nostalgic feeling they give Rien. Rien visits the dutch railway museum on a regular basis by himself but also with his wife and grandchildren.

When they visit the museum together Rien is totally focussed on trains. He really likes model trains and he has been working on making a model train collection himself. When he visits a event related to model trains he finds it difficult to talk to other train fanatics, since he doubts about his own qualities as a model train builder.

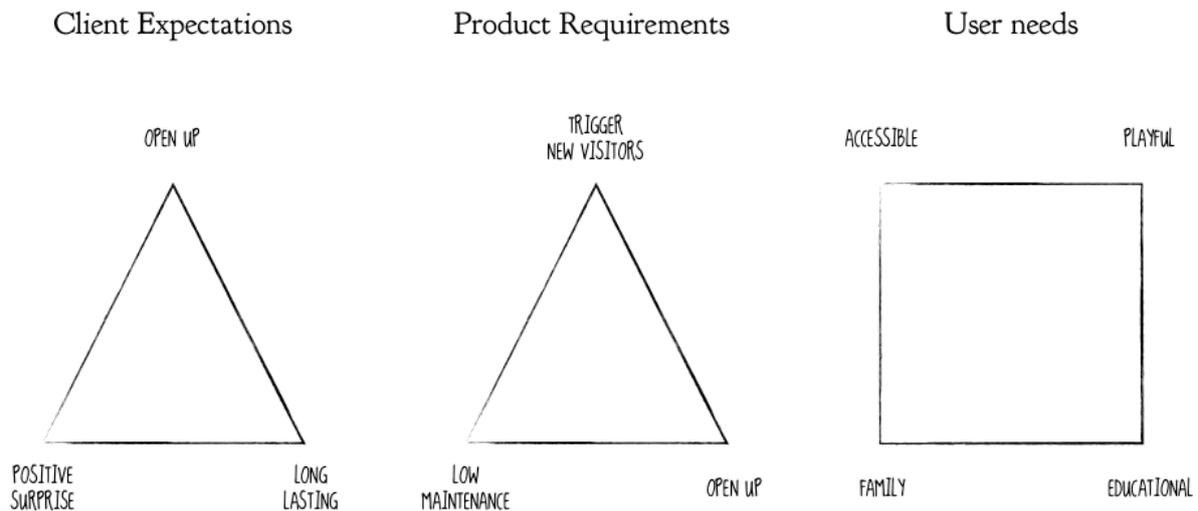
And to expand his knowledge and find new things he uses the internet. He also likes to email with his family to keep in touch. When Rien watches TV he mainly watches the public TV channels, where he likes to see the news, discussion programs and documentaries. Advertisement in the media irritate Rien a lot.

**Personas:** "Personas are a documented set of archetypal people who are involved with a product or service (Saffer, 2007)."

## Personas

After we did user research we used the data to fill in persona templates. These templates covered one page per persona. In total we created 9 different personas. This took us a long time and in retrospect, working out all their details into extensive templates was far from worth it. The creation of the personas gave us insight in our users. But the personas and the use of templates are an example of creating documents which are too big for something we barely used after the creation. Actually our first step after filling in the templates was working out a summary of key lines that described their needs. The filled in persona templates were a clear type 1 example, being too big, containing too much data, and had to be looked up closely if you wanted to understand their meaning.

# If you can't explain it simply, you don't understand it well enough.



**Research models:** “Models become design tools, to be referred to repeatedly throughout a project (Saffer, 2007).”

## Research models

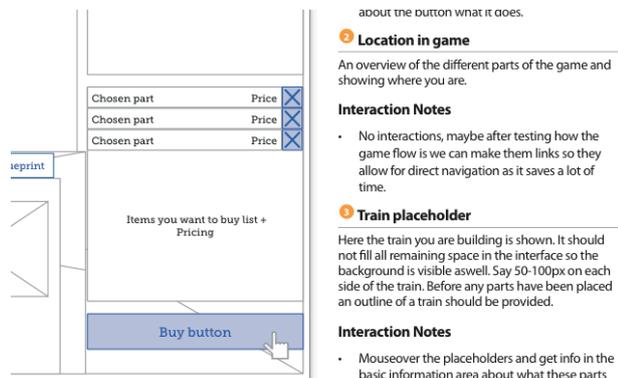
A good example of a type 2 document would be what we did with the summary lines from the personas. We simplified them even more, to just a few words, or even just one. What this did for us; it made us think of the essence of the users' needs. These words would usually take the shape of a triangle, or square but models can take any form or shape. For any concept or idea that came about, we would check it by using these models. In what extent would it meet the user need described at the corner?

These research models can be used for various purposes. They are low fidelity, easy to update, flexible for different purposes and can be easily reproduced in any situation when it is needed as a communication tool.

In addition to these first two examples we created a lot of other documents. Though I think the differences are clear in the type of document, I think it is nice to briefly go over them one by one and I will state my ideas about how we should use these documents when we work with them.

# If someone made a document in the forest, and nobody saw it...

## Type 1 documents



**Wireframes:** “Wireframes show the structural and functional elements of a product, devoid of visual and industrial design (Saffer, 2007).”

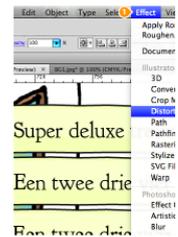
## Wireframes

During the project, there was a moment where I put together a wireframe document, containing every part of the interface. I used software to do this, and a template system. I added annotations; explaining functionality and relations. Unfortunately for me, this was a wasted effort, and all I should have done was make sketches. Make the wireframes tangible and accessible. All they needed to do was portray what elements were on the screen, my pixel perfect document was way over the top. And the pixel perfection was adjusted in visuals later on. The annotations could have been done in post-it notes.

## The style - Larger button areas

### Buttons:

1. Use the standard shape tools in illustrator for example rectangles or circles. 1 pt strokes in black.
2. Fill with 1 colour - NO gradients
3. Go into Effects -> Distort & transform -> Roughen
4. Play around with the settings since it is dependant on the shape you are roughening. Usually settings Absolute + Size 1% + Detail 4% and corner for rectangular / straight corners. And smooth for round shapes.
5. Apply shadows and highlights if needed by drawing filled 1 colour area's with no stroke added to them. Again use roughen on them and also set them to 40-60% transparency.



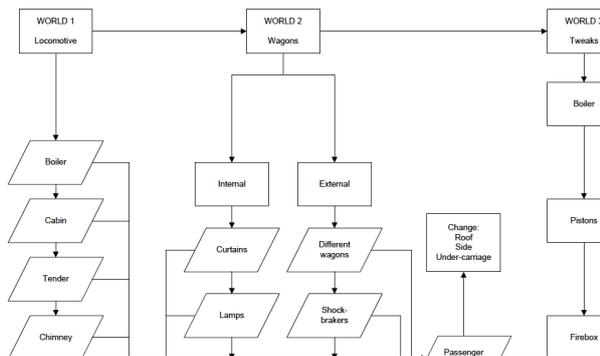
**Visual guide:** A visual guide shows how certain results can be achieved, it uses text and images to explain the steps.

## Visual guide

Since we were building a game, we wanted every graphic that we would create to be in the same style. Our approach to accomplish this was to create a visual guide, explaining what steps needed to be made for creating the characteristics the graphics should contain. After creating this document most of us knew how to create the style, therefore it was never looked at again. It could have been skipped by just taking 10 to 20 minutes to explore the software tools with the team and let everyone experience how to create the visuals.

# It's not what you look at that matters, it's what you see.

## Flowcharts



**Flowcharts:** Flowcharts are a type of diagram, they represent an algorithm or process, each step is represented by blocks. Arrows in between connect them and show the flow of data.

Flowcharts are used for data flow, and should provide programmers insight on what connections between different types of data exist. We created several flowcharts, and while we were making them they made sense, they gave us insight on how data was connected to each other. Creating them made us think. Unfortunately, after that moment we did not look at this anymore.

Trying to understand the flow of data in the schematics was becoming too complex. An example: one data piece affected three others and you would be lost. I think flowcharts are good for one thing and that is to check and give insight on the complexity of a process and detect unconnected data or flaws.

## Type 2 documents



**Sketches:** "Sketching in the broad sense, as an activity, is not just a byproduct of design. It is central to design thinking and learning(Buxton)."

## Sketches

This quote portrays how sketches worked for us, do this well and it works like magic:

"Sketches are social things. They are lonely outside the company of other sketches and related reference material(...)Sure, the act of creating a sketch can help an individual designer work through concepts and refine ideas(...)But more often than not, a significant – if not greater – part of the value comes in encouraging its social life. And for such encounters, the sketch's favorite meeting place is the wall-mounted corkboard(Buxton, 2007, p 153)."

# What if everything that was important could be put on just one page?

## What better solutions are there?

The previous mentioned document types are just a small chunk out of what is available to us. For example, *Librande(2010)* presents a few different documentation example methods that are interesting to look at. For one, he presents design wikis, a digital solution which has its pros and cons by itself, but takes away a lot of negative points from regular design documents. Though design wikis are mentioned in his presentation, it is not the solution I am most enthusiastic about.

As for both digital and paper documentation he mentions one key understanding in how we like to work with documents. And that is we do not like to look beyond the first page if it is not interesting. He brings up a couple of examples that do not share this problem such as architectural blueprints, Lego manuals and cut away diagrams. They inspired him to document lots of information on a single page, making him explore the possibilities of a one page design document.

## One page design documents

According to *Librande(2010)*, One page design documents are very useful, they force the designer to think about what he is writing down and what he must leave out. The act of creating the document is the act of creating the product, he puts emphasis

on making the document big, use lots of whitespace and make use of the gestalt rules. Make important parts bigger, and add call-outs containing notes.

My personal addition to this would be to add unfolding shapes to them, containing information, if you do not like them take them off and pin in a new solution. Make it object oriented, being able to replace small pieces of the puzzle. If you pin them closed on the wall you should know what is inside of them. This could be done by writing or drawing on the back so they fit into the big picture.

You could even use different pin colors to show whether anything has been updated to that part. Invite people to write on it during work and meetings. Use post-it notes for people to drop in requests on the design team.

There is no reason to be one dimensional in documents. As that is not what design is about, creativity is flexible and so should be our tools. Documents do not need to be a linear read and to prove useful they should not be. People should be picking out what they need from them in a fraction of a second. And be able to add easy updates to it.

Creating a one page design document such as this forces you to fully understand your concept, it highlights relationships and aids you in problem solving.

# Magic is hard to produce...that is why we should fake it.

## Future digital documentation applications

*“The designer’s best tool has been and continues to be the physical surface (paper, whiteboard) and the physical drawing instrument (pencil, pen, crayon, marker). Nothing digital thus far has been able to match the flexibility, speed, and ease of sketching on a piece of paper or whiteboard. Space is just one reason – even the largest monitor cannot compete with wall-sized whiteboards or sheets of paper fastened together(Saffer, 2007, p.102).*

Despite the fact that this quote is 3 years old it still applies to today. There are businesses which are trying and working on digitalizing documentation processes. There are products out there which have features that allow to do parts of it, for example Google Wave recently introduced drawing tools but they are far less effective than pen and paper. There are software applications that allow for easy file sharing but none of them are the same as taking a poster and hang it up on the wall.

Having to use technology limits the accessibility of the documents. Thankfully more and more handheld devices are coming with large computing power. This could integrate the capabilities of a piece of paper into digital documentation solutions, which is being near at hand any time anywhere. In the future I am sure there will

be applications that will provide us with sufficient tools to do so. But unfortunately they have not yet reached that stage.

What is crucial for these future digital solutions is that their design documents transcend to a level where they integrate with our creative process, give us pleasure while working with them and most importantly are useful.

## A story is worth a 1000 pictures

I think a great way to communicate how something works is by making a story of it. A story can be created by writing the script for it, but you could also just let people create and act in a play with few instructions, and watch the results. Do this often with small adjustments and introduce new elements in the play and you will get to a perfect story. I think the following quotes describe the power of prototypes:

*“It is much easier, cheaper, faster, and more reliable to find a little old man, a microphone, and some loud speakers than it is to find a real wizard. So it is with most systems. Fake it before you build it(Buxton, 2007, p.239).”*

Showing how a prototype works, is probably one of the most effective and clear ways to communicate the functionality of a product. It is also the way to spot design flaws, and by polishing them you get to a clear end result.

“Less is more.”

–LUDWIG MIES VAN DER ROHE

## Last words

I would like to end this paper by stating my goal was to make you think about your own design documentation. For my experience has taught me that spending a lot of time on creating a large and detailed design document is usually a wasted effort. Nobody in your team will be inspired by them and likes working with them since they are difficult to use.

Therefore in my opinion we should avoid using large design documents whenever possible. Of course if you work in a company in which more than 20-30 people work on the same product, a clear outline of what needs to happen

might be needed in the form of a general design document. But this is just needed from a management perspective.

For creativity there are way better documentation solutions and we should explore the possibilities in them. I think our solutions lie within making accessible documentation like one page design documents. Where power is to be found in quick and dirty sketches, ‘*The 10 laws of simplicity (John Maeda, 2006)*’ and strong models. Which serve as a foundation for a strong concept.

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