# The Design Sprint

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In order to generate a broad range of concepts and a few more developed ideas in short time, a design sprint method involving corporate researchers and developers has been created. The method consists of five days of intensive concept generation, and is intended for organizations, wishing to gain a lot of ideas in a narrow field. It is has been designed for creative participants, working together with engineers and experts from the industry. Mid-presentation is used to prune ideas within the participants and the experts, and the final presentation involves relevant personnel from the company, to foster a deeper evaluation of the ideas.

Key words: Design sprint, idea generation, design method, company collaboration

### 1. Introduction

The methods utilized in the actual concept generation have their roots on existing brainstorming methods and affinity diagrams, being easy to manage. In order to generate ideas, designers collect data [1], conduct interviews and do probes [2] and then organize information using well working methods, such as affinity walls, scenarios and personas [3][4][5], and refine them by bodystorming and experience prototyping[6]. In our experience, acting out the idea has been a very good way to explain the idea to an outsider, who has no knowledge of the depth of research, or has only deep technical knowledge of the field. As there sprint is very quick and the schedule is tight, there is no time to do user studies. All ideas are explored either with storyboards or acting out and thinking out loud. Having a project with a very narrow window is usually best suited for a company, as it requires relatively small input, and the generated output is better. The design sprint differs from product design sprint [7], in that it focuses heavily on company expert feedback, and is used towards a larger company instead of startups.

#### 2. The method in general

The design sprint is a week-long collaborative workshop between a group of creative people, and a group of company experts. The sprint is most effective, when a company is in need of new ideas or fresh input from outside. It can be used to verify an internal direction, but to also nudge the research to a more refined direction. The sprint creates concepts on a specific topic, sometimes mockups, if the proposed concept is carried forward better with physical presentation and has e.g. Specific interactions. The sprint fosters an interesting change in view and also offers a chance for the company experts to discuss with people having very different mindset, usually from the younger participants. A sprint takes roughly two plus five days to organize, when having experts of the topic of interest available. Workload resulting from a completed sprint varies, as some of the concepts can be good enough to be patented. In order to have a productive and fruitful week, the topic is first discussed and briefly explored within the company and the organizer. The actual sprint runs for a week, or five working days. There are two

reviews, mid-review on Wednesday, and final review, on Friday. Sometimes the final review has been held on Monday, which basically allows the participants to fine-tune their final presentations during the weekend. Management-wise it is better to keep the actual sprint in five days. The structure is shown in Table 1.

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Introduction	Ideation	Mid-review	Ideation	Final review
Topic presentation,		Mid-review and feedbacks in the		
legal matters,		morning, diving		Presenting final
ice-breaker and	full day ideation	deeper on	full day ideation	concepts and the
starting the	and concept	concepts on	and concept	route there to
ideation	generation	afternoon	generation	the company

Table 1. Design sprint structure

What is the topic? The company sets the focus area with the organizer: the starting point will be chosen to be within their and the participating experts' domain of knowledge. As the company experts are intended to participate heavily during the week, it is essential that they are able give constructive and knowledgeable feedback. Our areas of interest have been on practical implementations, with topics recently having been such as organic user interfaces[8], mobile phone casings and flexible user interfaces, such as the kinetic device[9]. The focus is usually more defined, but within a few sentences, such as hand held devices and flexibility. The experts themselves should also have several years of knowledge of the topic, preferably coming from different fields. Our sprints have had a total of 3-4 experts, coming from design, software and hardware engineering, each with more than eight years of practical experience in the field. The experts are required to attend on all days, so that the practical impact and feeling of importance are maintained. For the final presentation, the company has usually had an additional ten employees present. They are from both management and staff similar to experts, who have at least general knowledge of the field. Their task is to focus on the applicability and the novelty of the presented concepts, evaluating and ranking them together with the participating experts. For preparing, they are talked about how to approach the creative people, how to guide and co-develop a concept further, if it is seen as interesting. On the other side, the creative people should have basic understanding of ideation methods, but the knowledge of the topic is not required. Our creative participants were mostly MA-students, with a few BA-level students in some. The amount has varied between 12 to 18 students with a design background, giving roughly a 6:1 ratio for creative people and company representatives. This has given both sides enough personal time for talking about the concepts, but also a wider perspective.

The first preparatory days are usually spent at the company, where topic can be laid out in privacy, and boundaries set. Usually this has meant that the company shows examples of their state of the art or relevant research findings, so that company experts and the organizer have a common understanding of the coming sprint is about. As the sprint is about finding new directions, applications and perspectives, the preparation ends in drafting the introductory presentation for the first day of the sprint. It can be then evaluated within the company space, so that possible legal problems can be identified beforehand. The design sprint officially starts at a organizers space, in our case, at the university lecture room. The requirements for the start space are mostly on the

size: enough room for the participants to mingle and walk around, small enough to foster familiarity and closeness to the organizer and the company experts, but suitable for presentations. For the first four days, the sprint runs at the organizer location, and the company experts visit the space every day to discuss and share their views on the topic. The participants are allowed to use whatever spaces they see suitable, although they should refrain from discussing the topic or the matter with outsiders due to legal reasons. The mid-presentation is usually on a larger lecture room or auditorium, so that everyone can comfortably fit in. For the final presentation, a large auditorium from the company is reserved. It should have enough room to house the organizer, participants, company experts and evaluators, and preferably have some room, so that presenters have their own space where to wait. In practice, a room for two hundred has been best suited, with around forty people in the room. The room must have enough space for any acted out situations, such as explaining the concept interaction using mockups and a story.

### 5. Important days

During the first day, several important things happen. The atmosphere of the week is created, topic and extent of the work explained, legal contracts signed and ice-breaking exercise done. The first day has been seen as the most critical, as it is used to immerse the participants to the topic, and to get them to know each other, so that they do not have a fear of expressing "stupid" ideas. The atmosphere being created is important, and as the local culture has very flat power-hierarchy [10], and the cultural differences should be taken into account when introducing and creating familiarity. In general, the company experts and the organizer should be on a relatively equal level to the participants. Before any topic is explained, the legal matters should be cleared, in order to give a more serious tone, but to also take care of the possible rewards, if patents are applied. In our experience, it is better to be very clear with the limits of the contract, as invention claims from each sprint have led to patent applications. Topic is then explained without revealing the prototypes or explicit examples from the company. This prohibits the participants to get too stuck on the direction the company takes, and fosters a wider base for the concepts. Finally, before starting with the actual brainstorming, the participants undertake an icebreaking exercise, which will usually involve the creation of traveling-aid, from home to holiday-island. After the exercise, the participants create 3-4 person groups and start brainstorming. It is better to have 3-person groups, as this way there will be more ideas, topics and concepts. Brainstorming utilizes methods mentioned earlier, with the exception of having the expert do rounds of discussions with each group, with the minimum of two discussions per day. During the discussions, the participants explain their direction and ideas, and the experts give feedback. Up until the mid-presentation is over, the experts give very constructive and positive feedback. It is imperative to maintain the positive atmosphere, but to also be realistic. During the mid-presentation each group presents their ideas and concepts. The feedback is given with an idea of direction, where to develop a more deep and full application. There is no formal feedback, but the ideas are weeded towards more practical applications. After the presentation, brainstorming continues, but with more critical and practical applications in mind. Otherwise, the behaviour is as before, the experts discuss with the participant groups twice a day at least. For the final presentation, the participants prepare a presentation, with possible mock-ups of the concepts and acted out interactions. The final presentations will be evaluated in the company location, as this will help contain possible patentable ideas, and the feedback can be more open. Each group is evaluated with points on originality, implementability, novelty and presentation, and the best group will

be usually awarded a company specific product, such as a mobile phone. All ideas and concepts are collected, and best candidates are evaluated within the company internally, and selected ones are developed to patent applications together with the students.

### 5. Summary

Design sprints have generated several invention claims and patent applications, and have become a good method for generating ideas and have influenced the participating corporations considerably. As such, the Design Sprint is most suited for generating concepts from imaginable topics, such as user interfaces or mobile devices. It has also the benefit of keeping the organizer more close to the actual state of the art.

## 5. Acknowledgements

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### 6. References

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