



# The Envisioning Use workshop

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It's hard to make  
a picture when  
moving fast or have  
shaky hands



DESIGN for  
USABILITY

## Authors



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This booklet is a user guide for the Envisioning Use technique. With the help of this guide you should be able to set up and execute an Envisioning Use workshop. If you need any support, feel free to contact us. We can organize a customized Envisioning Use training course or facilitate your workshop.

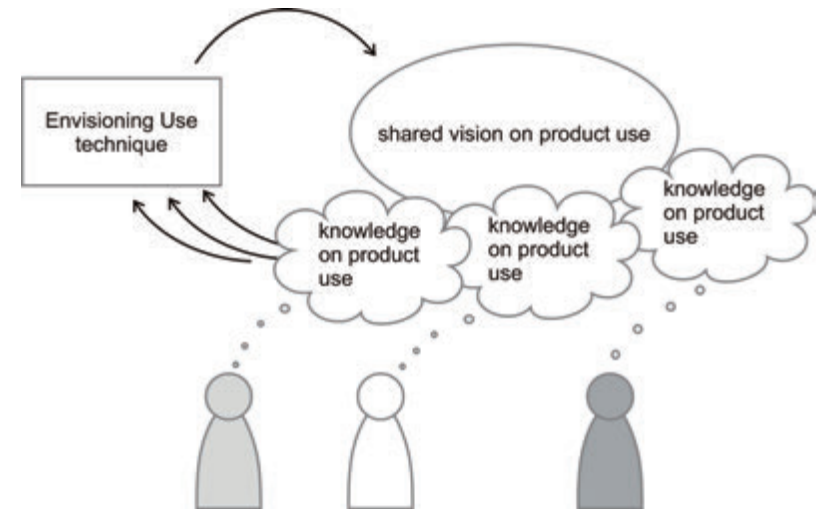
# introduction

## Introduction

The Envisioning Use workshop is a team technique which helps teams create a common vision on product use in an early product development phase. The technique was developed based on our findings in design practice with regard to how designers implement usability in their design process. The results from these studies showed that, besides working with information from user tests and other usability techniques, designers and product developers often make use of user information that does not come directly from end-users. They use knowledge about product use from previous projects or their own personal experiences. They then apply this knowledge as a 'frame of reference' in informal techniques such as testing with colleagues, family or themselves. With this informal testing the designer is closer to the testing process, however, their knowledge often remains implicit and is not shared with team members. Based on these findings, we developed the Envisioning Use technique that enables members of a product development team to share and become aware of knowledge they have and do not have about product use.

### Objectives

The main goal of the workshop is to share and align all the ideas that members of a product development team have with regard to who future users will be, in which situations the product will be used and which usability or user experience issues need to be addressed in these situations. The technique is not meant to replace any user studies with end-users, but serves as an addition to these activities by providing a means to place both implicit and explicit user information *within* the design process. In the workshop, knowledge is shared explicitly by gathering usability information in a 'product use mind map'. Making the information explicit is important to be able to check where gaps exist in team knowledge. Furthermore the explicit representation can be used in later stages in the design process to set test conditions for user testing. Moreover the workshop also has a more implicit result as it helps to create a common mindset within a product development team regarding product use. This common 'idea of product use' makes it easier to discuss usability related design issues and can make team members more dedicated to usability in general.



*The Envisioning Use technique is aimed at creating a shared vision on product use.*

### Application domain

The half-day workshop should preferably first be executed in an early or pre-development phase. In a predevelopment phase the workshop can be used to help set the design brief by indicating which use scenarios need to be addressed and which main issues need to be implemented in the design. The workshop will strongly influence the first user and consumer studies. In early development phases the target scenarios will often be more clear. The workshop can then be used to discuss the implications of identified use issues for specific possible design directions. The workshop can also be executed at later development stages but it will be more difficult to adjust design specifications to the issues explored in the workshop. Moreover, in later stages there is often less time to plan new end-user studies based on the questions that arise in the workshop.

The workshop has been designed for the development of consumer products. For professional products or other products with which the development team are unfamiliar, it is important to 'feed' the workshop with information about these specific use situations by, for example, involving experts or having team members gather in situ experience before doing the workshop.

### Background

The Envisioning Use technique was developed within the Design for Usability research

project, funded by the Dutch government (Agentschap NL). In this four year project, three universities and five companies collaborated on research about design for usability. One of the aims of the project was to develop methods and tools to support designers in dealing with usability in practice. Our Envisioning Use technique was developed iteratively by evaluating each version of the workshop with practicing designers and adjusting the technique accordingly. The final version of the workshop was validated in three real-world cases.

## Workshop characteristics

The Envisioning Use technique is a workshop in which team members access and share their implicit knowledge in different structured steps. The basic principles are a focus on use situations rather than product characteristics, exploring situation-use issue relationships and reflecting on what you know and what you don't know.

### Focus on use situations in stories and scenarios

The main goal of the workshop is to share knowledge about product use. This kind of knowledge can be represented in different formats such as user insights, user specifications, etc. In this workshop we work with representations of use that are as close as possible to actual use situations, namely stories and scenarios. These formats have proved to be very useful as a means of communication and are easy to remember and refer to in later design stages. Another reason for working with stories and scenarios is that the workshop looks at user-product interaction on the level of use situations rather than product details. The rise of digital technology has revealed the need for paying more attention to use situations because of the wealth of new possibilities, but also because of the less direct connection between perceivable qualities of objects and interaction possibilities.

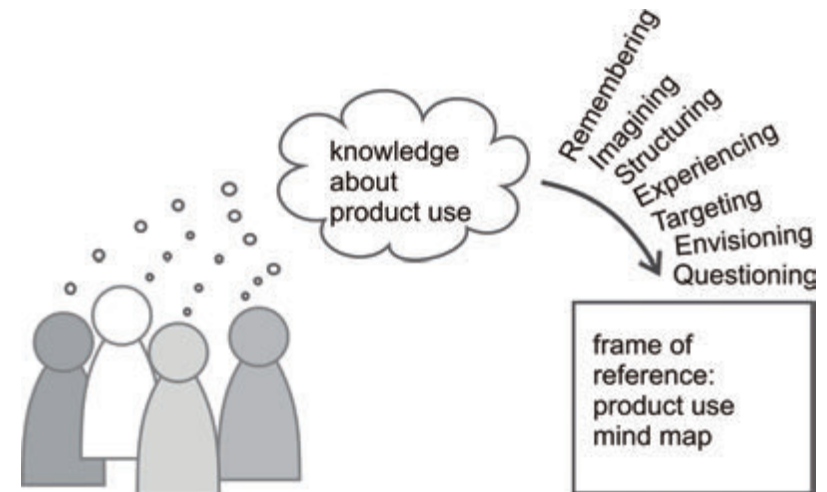
### Exploring use situation – use issue relationships

In the course of the workshop, the participants develop an explicit representation of product use. In this 'product use mind map' stories of use are explicitly connected to specific use issues which explain the desired experience or usability aspect of a certain scenario. For example, for the design of a photo camera, the scenario 'making a picture of yourself' leads to issues such as 'the difficulty of getting yourself in the picture'. This issue- situation structure makes it possible to analyse and explore how different issues of use are related to different use situations. Moreover, this kind of representation makes it easier to quickly represent issues and to organize them on a wall. The product use mind map is further explained on page 11.

## Reflection on knowledge

The product development process is directed by decisions about the design problem and design solution. These decisions are preferably based on information but in some occasions not all information is available while the decision needs to be made to move forwards. Making decisions based on assumptions is then the strategy used to cope with this lack of information. This is a commonly accepted strategy as long as the assumptions are verified later on in the process. For this reason a distinction is made in the workshop between facts and assumptions about product use. We also included a 'questioning' step which makes explicit which assumptions need to be verified.

In the Envisioning Use workshop, knowledge about product use is gathered in the product use mind map by combining different techniques to access the knowledge (see the figure below). The steps are remembering, imagining, structuring, experiencing, targeting, envisioning and questioning. These steps are explained in the following pages.



*The different steps in the Envisioning Use workshop*

## Further reading

Van der Bijl-Brouwer, M. and S. Boess (2010). From remembering to envisioning product use: an informal design technique. Proceedings of the 7th International Design & Emotion Conference 2010. Chicago (IL, USA).

Van der Bijl-Brouwer, M., Boess, S. and Harkema, C. (2011). What do we know about product use? A technique to share use-related knowledge in design teams. Proceedings of the 4th World Conference on Design Research 2011. Delft (NL).

# example setup

**Subject:** new version of kitchen appliance

**Design phase:** early development, after definition brief

**Goal of the workshop:** create a shared view in the development team with regard to both user experience of the current product and competitors and possible future usability issues for the newly defined target user group.

**Preparation:** bring visualizations or quotes of user tests and reviews, prepare associative materials, organize kitchen environment and competitor products for 'experiencing'.

## Timing:

Minutes	What	Materials
0-50	Introduction to workshop and defining use phases	Flip charts
50-1:10	Remembering	Pink/yellow post-its, black markers
1:10-1:30	Imagining	Associative materials
1:30-1:40	Structuring	Orange post-its
1:40-2:00	Break	
2:00-3:00	Experiencing	Kitchen environment, competitor products, props
3:00-3:15	Targeting	Flip chart, stickers
3:15-3:45	Envisioning	Drawing and tinkering materials, blue post-its
3:45-4:00	Questioning	Green post-its
4:00-4:15	Wrap up	

# workshop set up

## Workshop set up

### Participants

Members of a product development team are invited to participate in the half-day workshop. The participants should have knowledge about product use of previous or related products and/ or have influence on design decisions which influence product use. For example, it is good to involve a usability engineer or marketing manager because of their broad knowledge of the user. It is also essential to involve a designer, project leader and/or engineer because they directly influence design decisions. Our experience is that a group of about five participants works best.

### Steps

This manual presents a complete set of workshop steps. However, each workshop can be adjusted to its specific purpose. Some steps can be skipped or exchanged, depending on the goal of the case, for example 'envisioning' new product ideas might not always be necessary.

### Timing

The workshop should be organized early in the development process. It can be organized prior to setting a brief or product proposition or just after having decided on the goals of the project. The workshop takes from two to six hours, depending on the specific goals of the workshop and the amount of information that needs to be shared. See page 8 and appendix 1 for examples of workshop plans.

### Preparation of the workshop

The 'project leader' in the workshop invites the participants. Furthermore, the project leader prepares a five minute introduction to the project which is presented to the other participants at the beginning of the workshop to explain the current status of the project, specifically, the current target use scenarios or target group.

Experts on product use are asked to bring visuals of product use (e.g. pictures of user tests, quotes of users etc.) as input. If all participants are unfamiliar with the topic, studies on current use issues have to be executed before the workshop. For example,



# the product use mind map

online review sites can be consulted for stories on product use with comparable products. The facilitator of the workshop sets the timing for the workshop and prepares the associative materials for 'imagining'. Other workshop materials can be found in Appendix 1.

## Workshop introduction

The team members agree on the goal of the workshop. This can be done by asking each participant to explain his or her expectations of the day. Then the facilitator explains the timing and steps. If the participants are unfamiliar with the Envisioning Use technique, the structure of the product use mind map and the information categories (see next section) have to be explained.

In some cases, it may be necessary to define a target group before the workshop to prevent gathering irrelevant information. In other cases decisions on the target group might be a goal of the workshop itself. Furthermore it must be clear whether the workshop will be focused on current use or future use. This defines how much time will be spent on remembering (only current use) and imagining (both current and future use) and which types of scenarios will be played in the experiencing step. Finally the project leader explains the current status of the project and the intended target user group. The next step is to set up the product use mind map.

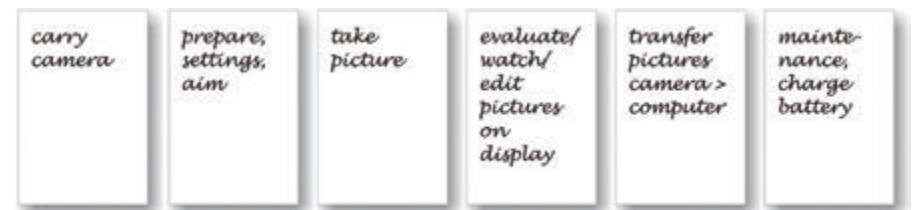
## The product use mind map

The product use mind map is a wall of flip-charts in which all information on product use is recorded and presented by means of notes.



## Preparing the mind map

The real work of the workshop starts by setting the basic structure for the product use mind map. This is done by hanging up to six flip-chart sheets on a wall. An initial categorization is created by inviting the participants to define use phases of the product. On each sheet (or most) a use phase is noted as a heading (see next page for an example). This initial categorization is of no relevance later in the workshop, but it is an easy and factual start to filling the sheets. Examples of use phases might be installing, preparation, cleaning etc. Different use phases can be considered for different user roles, for example in case of an electronic learning environment, use phases can be defined for both students and instructors.



## Information categories

In the workshop we distinguish two kinds of information: information on use situations and information on resulting use issues. Use situations are to be written on pink post-it notes, use issues on yellow post-it notes.

Use situation aspects describe the circumstances of use, while use issues describe the quality of the interaction (the use) itself. Use situation aspects include user characteristics, goals and context. Use issues are events that happened or could happen in an interaction between a product and a user. They can be identified from own experience of how use situations actually unfolded, or be projected by reasoning how given use situation aspects could affect what happens. Use issues can be positive or negative and can concern performance, usability or user experience. For example, when designing a compact photo camera, designers need to know the circumstances of use, for instance about locations of use, weather conditions, who the user is, what they are trying to do etc. (= use situation aspects). They also need to know what these circumstances mean for the use of the product, for example whether the screen is readable in bright sunlight, whether the buttons are controllable with gloves on when it is freezing and whether it does not feel slippery when you have sweaty hands from the heat (=use issues).



# remembering

## Remembering

In this step, participants are asked to recall stories of product use that they have experienced themselves or have observed with other people, for example in a user test or with friends. The story is first shared verbally with the other participants. Then the main use issue of the story is written on a yellow post-it. If the issue is directly related to a particular aspect of the use situation, this situation aspect is written on a pink post-it. Both notes are then stuck to the related use phase on the flip-chart sheet wall.



# imagining

## Imagining

While 'remembering' still continues, participants are asked to imagine other possible use situations of the product and to imagine what issues these situations could cause. When these issues are based on assumptions, they should be written with red marker. Situations and issues based on facts are written with a black marker. The imagination is stimulated by providing the participants with associative materials. A wide selection of images of users, use environments or objects that are more or less related to the case at hand are available to the group. The figure below shows a collection of images used for the case of a photo camera. Participants' imagination can also be stimulated by asking participants to quickly create future scenarios and imagine related use issues, for example by playing possible scenarios with figurines on a sketch layout of the use environment.





# structuring

## Structuring

At this stage of the workshop, the product use mind map tends to get a little chaotic and overwhelming because of the many post-it notes attached to it. Participants are therefore asked to make clusters of notes and to assign names to each cluster. They are free to choose how they cluster the notes. Their categorizations can be related to a certain type of issue, for example issues related to the acceptance, or to a certain type of use situation, for example physical user aspects. At this point participants can let go of the division into use phases if they want to. Often notes can be assigned to different clusters. However, the aim of structuring is not to create a perfect categorization, but to facilitate overview and reflection.



# experiencing

## Experiencing

In the experiencing step, participants define one or two scenarios and role-play the scenario with a mock-up or an existing product. The scenarios are written on a large pink card, corresponding in colour with the pink use situation notes. On the cards, participants describe the characteristics of the user(s), the setting of the scenario and the goal of the user. Then participants create a simple simulated environment and assign roles. The participants without a role observe what happens. The issues that occur are written on the yellow use issue-notes by the observers during the role-play and by the actors after the role-play. All notes are organized in the product use mind map.



# targeting

## Targeting

The product use mind map now contains a large overview of all use issues and use situations known to the participants that influence decision-making on design. However, some prioritization is now needed to be able to select issues that guide solution generation. To achieve this, participants are firstly asked to individually label the three to five most important issues by means of stickers. Secondly, these issues are discussed in the team and translated into a list of starting points for solution generation, which is written on a flip-chart sheet.



# envisioning

## Envisioning

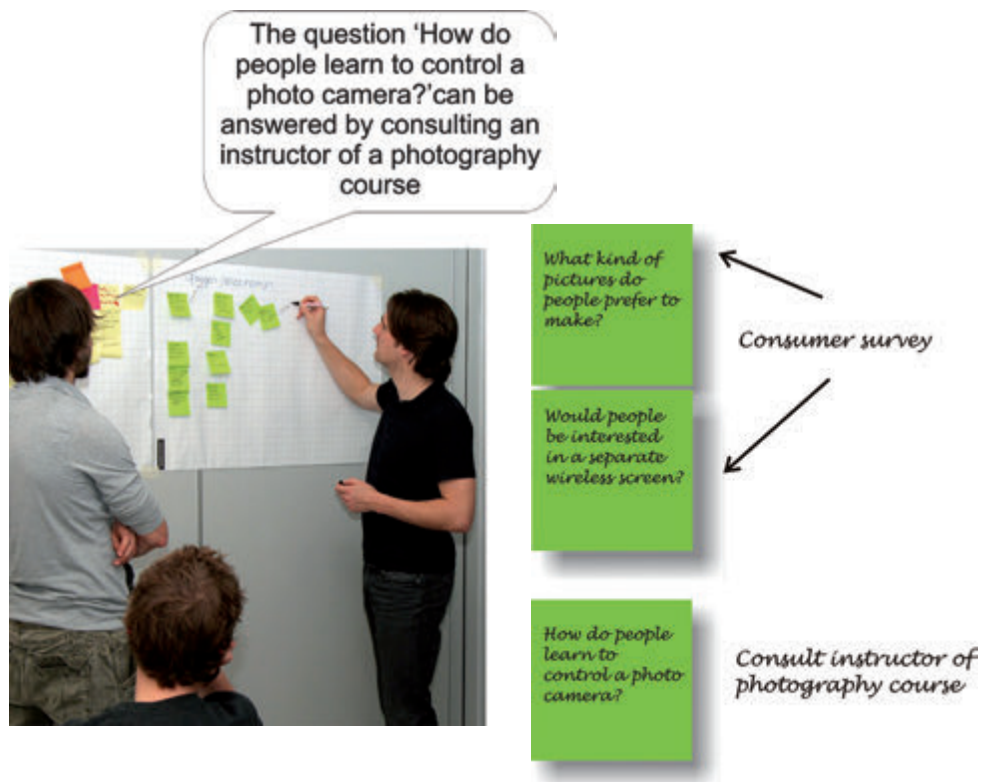
In the envisioning step, participants are asked to quickly create solutions for the target defined in the previous step. This can be done by means of sketching product ideas or creating mock-ups of product ideas. Another way is to firstly draw the ideal future scenario and then think up product ideas that fit this scenario. Idea generation takes place individually or in pairs. The creators write positive issues of the ideas on blue post-its. Then they present the idea and accompanying issues to the other participants who comment on the ideas. These comments can lead to more blue post-it notes which describe both positive and negative use issues relating to the ideas. If the use issues relate to specific use situations they are placed near the corresponding pink post-it note on the product use mind map.



# questioning

## Questioning

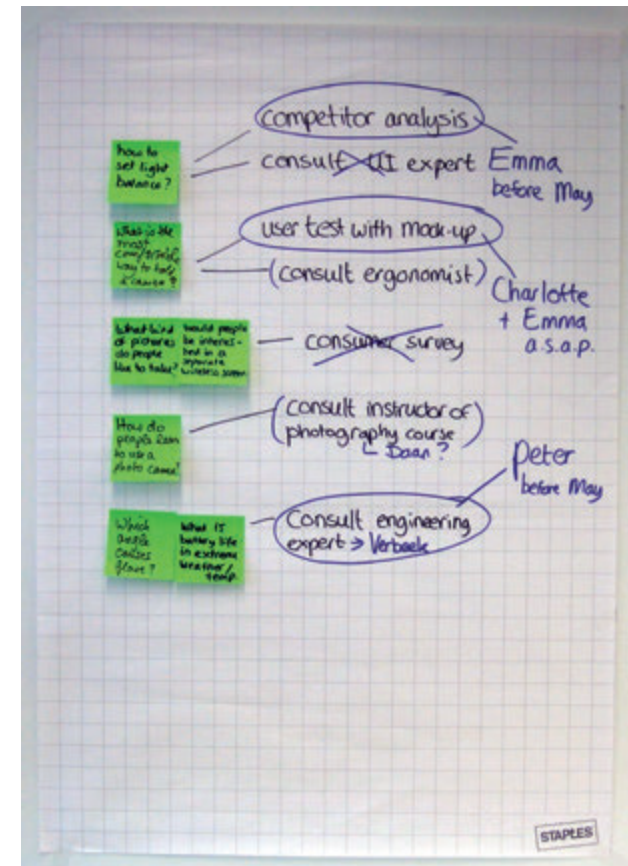
The last activity in the workshop is to indicate the 'knowledge gaps' in the product use mind map that has been created. This is achieved by means of writing questions about the missing information on green post-it notes and adding them to the product use mind map. Questions can concern the confirmation of assumptions (written in red marker), general questions about users or context, questions about technological opportunities and other questions about possible solutions. The questions are then prioritized and grouped with regard to the means to answer the questions, for example which sources should be consulted or which kind of user analysis is needed.



# wrap up

## Wrap up

In the wrap up, next steps need to be planned to be able to answer the questions defined in questioning. These steps include selecting the actions to retrieve the answers and assign resources and deadlines to the actions. Furthermore a record should be made of the product use mind map to be able to take it into the design process.





# appendix 1: example setup

**Subject:** software product for new professional market

**Design phase:** pre-briefing

**Goal of the workshop:** explore which use issues will play a role in the new market and define which knowledge is missing with regard to these issues.

**Steps:** experiencing is not possible since it concerns a non-existent product. Instead focus is on imagining and exploring future scenarios.

**Participants:** probable team members, in-company experts with knowledge of the new market.

## Timing:

Minutes	What	Materials
0-40	Introduction to the workshop and set up use phases/ roles	Flip charts
40-1:10	Remembering	Pink/ yellow post-its, black/ red markers
1:10-1:50	Imagining: role-play scenarios in miniature environment and explore issues	Drawing materials, associative materials
1:50-2:00	Structuring	Orange post-its
2:00-2:15	Break	
2:15-2:40	Targeting	Flip chart, stickers
2:40-3:20	Envisioning: create desired future scenarios	Drawing materials, blue post-its
3:20-3:35	Questioning	Green post-its
3:35-4:00	Wrap up	

# appendix 2: checklist

## Preparation:

Prepare for:	What
<b>Workshop</b>	Organize workshop location with possibility to create a flip chart 'wall' for the product use mind map
	Invite participants
	Plan the workshop timing
<b>Introduction</b>	Prepare introduction to the project
<b>Remembering</b>	Gather visuals of product use: pictures of user tests, quotes etc.
<b>Imagining</b>	Prepare associative materials: random pictures of possible users, use environments or related objects
<b>Experiencing</b>	Organize role-play environment
<b>Experiencing</b>	Organize (competitor) products or mock-ups for a role-play
<b>Experiencing</b>	Organize other props to support participants' empathy with end-users such as outfits.

## Materials

- ☐ Flip charts
- ☐ Tape
- ☐ Black and red marks
- ☐ Post-it notes: pink, yellow, orange, blue, green
- ☐ Coloured stickers
- ☐ Associative materials
- ☐ Photo or video camera
- ☐ Drawing materials
- ☐ Tinkering materials

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