

vision in product design [vip]: **the warm bath**

VISION IN PRODUCT DESIGN [VIP]

the warm bath

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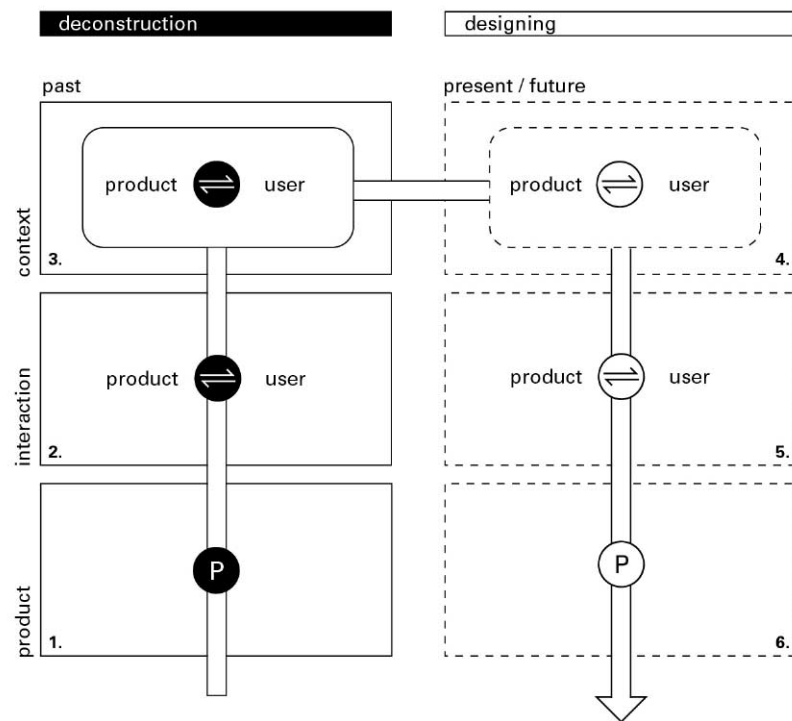


figure 1: the ViP framework

introduction

This little booklet describes the stages of the ViP process as shown in the figure 1. It is designed to help those unfamiliar with ViP to understand the ideas ViP is based on and guide you through the process in a clear and playful way. Or so we hope...

ViP is a design approach that has three starting points:

1. Design is about looking for possibilities, and possible futures, instead of solving present-day problems.
2. Products are a means of accomplishing appropriate actions, interactions, and relationships. In interaction with people, products obtain their meaning. This is why ViP is interaction-centred.
3. The appropriateness of an interaction is determined by the context for which it is designed. This context can be the world of today, tomorrow, or may lie years ahead. Future contexts demand new and different behaviours. This makes ViP context-driven.

The aim of this booklet is to help you understand how these starting points govern the design process and to see the connections between its stages and concepts.

We know you will not immediately understand what value ViP can bring to you, but we invite you to apply it and experience what it has to offer. We would like you to feel comfortable with this process, it is somewhere to feel at home, to dream and to play, to float and relax.

Welcome to the warm bath.



STAGE 1

deconstruction - the product level

The first half of the warm bath is the deconstruction phase. You could also call it the learning to read phase. This phase of ViP is more of a way of thinking about things than a strict method, but if you are new to ViP this is the first step for the design process. This way of thinking tries to get at the underlying factors that result in products asking yourself: *why are products the way they are?* To answer this question you need to distance yourself from the world of products and shift from thinking about what to thinking about why. This is the first half of ViP: Deconstruction.

There are three basic phases to deconstruction. We begin at the product level, the world of things.

Try the following:

Go into a café with a pen and paper and sit down with a drink. Look around you and pick a product, a coffee machine perhaps. Think about the product and try to describe it. What does it look like? What colour is it? How does light fall on its surfaces? What materials is it made out of? How has it worn? What kind of decoration is there? Does it look happy? How does it function? How big is it? You can make your own questions up.

Look hard, take a photo. We are used to products all around us, but we're not used to really studying them.

Keep looking and thinking. Where might the inspiration for the product have come from? What other products look like it? What conventions does it use? How long will it last? How has it evolved to be like it is? Is it a product that is still evolving?

You should now have a list of things describing the product. Show the list to somebody and see if they can guess what product you were looking at. Pick another product, maybe something from a newspaper, and repeat the process.

Products have qualities and some of these are designed qualities - intended to be that way by the designer/s. Look back at your product descriptions and try to decide which qualities are designed and which are not. Which qualities seem to come from the product and which qualities seem to be projected by you on to the product?

There is a story about Agassiz and the fish. The professor Agassiz gives his student a fish and asks him to describe it. 'That's easy' the student says 'it's a sun fish'. 'I know that' Agassiz replies, 'I want you to describe it'. The student goes and looks in a text book and returns with a description, but it is still not good enough for Agassiz, he tells the student to go away and come back again. This time the student goes and talks to fish experts and returns a few days later with a revised description. It is still not good enough for Agassiz. For three weeks this goes on, the student regularly returning with more and more detailed descriptions. Finally Agassiz tells the student to look at the fish. By then although the fish was in an advanced stage of decomposition and was smelling badly, but the student knew something about the fish.

This is a story about looking, then looking again to understand. The process of looking, reflecting, and then looking again is essential in the deconstruction phase of ViP. At first you might find it difficult, but with practice this 'way of seeing' products becomes natural and you will be able to complete this phase very quickly.

So now you've described some products what can you say you know about them? What can you say that you don't know about them?



figure 2
'acceptance' and 'harmony'



figure 3
'detachment' and 'tension'

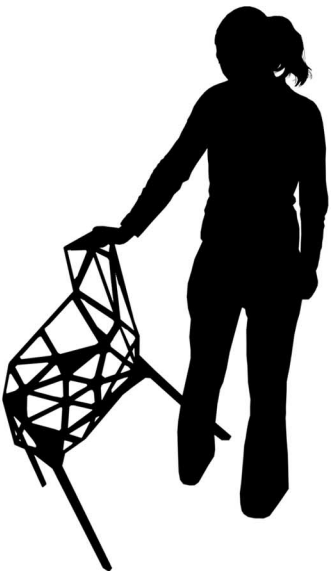
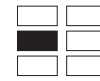


figure 4
'firmness' and 'compliance'



STAGE 2

deconstruction - the interaction level

Products do not exist independent of the world of people. So far you have described the qualities of products as if they were placed in a museum. It is really in the interaction between person and product that meaning is generated. This is more complicated than it might at first sound. In the ViP approach the value of products lies in the quality of the interaction that products afford. **The quality is thus found in a relationship *between* people and things, not in either the people or the things themselves.**

To think about the quality of a relationship imagine your own relationship with someone close to you, a friend or a member of your family for example. Try and pin down the qualities of the relationship that you have with that person with a few words. The words that you use to describe this relationship do not apply to each person individually but to the relationship between them. The key point here is that the relationship is not a physical thing you can point at; it is not an object in the world. Certainly it would not exist without you and the other person but apart from that it seems somehow to be in the air between things.

Now look around you, choose two people that you judge to be 'interacting' in some way and try to find words that characterise their interaction. Is it a friendly or hostile interaction? Is it an interaction based on certain roles being played? Can the interaction be characterised by a coldness or a plastic-ness?

Now try the same thing with a product. Identify someone that is interacting with a product. Maybe you can see someone talking on a mobile phone, or someone reading a newspaper or opening a car door. Watch the interaction closely, maybe take a photo, and try to say qualities it has. Try *not* to focus on the particular qualities of either the person or the product. It might be useful to think of them together as a silhouette; that way you can be sure that you are looking at qualities of the interaction. Think of about five words. If you get stuck use the phrase: *the interaction can be characterised by... x*, where you fill in the x. Take for example a chair; the interaction could be characterized by 'acceptance' and 'harmony' (see figure 2), 'detachment' and 'tension' (see figure 3), or 'firmness' and 'compliance' (see figure 4).



STAGE 3

deconstruction - the context level

The words that you choose don't have to be dictionary words, you might describe the quality of an interaction as being metallic, or being blobic or blurlike or displaying plant-ness or computer-ness for example. Adding '-ness' to the end of a familiar word is often a good way of trying to describe an interaction. It's ok to build your own language to describe an interaction as long as you know what you mean.

Now repeat the process choosing another person. They could be using the same product as before, to give you a comparison, or they could be using a different product. Or you might choose the same person using a different product - is the quality of the interaction the same?

Another useful way to consider the qualities of an interaction is to discuss what you see with another person. This can help you to externalise what you think about an interaction without getting stuck. Identifying the qualities of an interaction is always a difficult process, even if you have done it many times. An experienced ViP-er will often take the same amount of time as the novice ViP-er.

Walter Vincenti has written about the mysteriousness of flying qualities - the qualities of an aeroplane a pilot experiences when flying. Engineers are notoriously bad about thinking about the qualities of the things they design, preferring to solve the technical problems and let the qualities interaction emerge. Yet large technical systems often have very particular qualities, and the users of those systems, pilots in this case, are able to very accurately describe the qualities of the experience they have in interacting with large machines. What driving qualities does your car have when you interact with it?

With an understanding of the qualities that an interaction has, and how you can look at products in terms of interactions, you are now ready to go on to the third part of the deconstruction phase - the context level.

The context level follows on naturally from the interaction level, moving further away from any particular product. The aim of deconstruction at the context level is to try and think about what factors in the original conditions that a product was created for provided a possible reason to produce that particular person-product interaction. Put another way the context level tries to get at the factors underpinning the qualities of a particular person-product interaction.

For example there are a number of possible context factors that resulted in the design of the Mini Cooper in 1959 (figure 5). One obvious factor was a world oil crisis that resulted in petrol rationing in the UK and a demand for more fuel efficient cars. Another possible factor may have been a need for more people to have mobility and independence at a reasonable cost. There are other factors we can think of too. Maybe people felt a desire for discovery, an excitement for new places, or an urge to do all this together. Maybe a small car with a low driving position means that speed can be experienced more directly - why would that be? The sixties were also a time where equality between the sexes became an issue, a car that both men and women felt comfortable driving would make sense - wouldn't it?



figure 5: Mini Cooper, 1959

In deconstructing at the context level you need to ask: In what context would the quality you described for the interaction be considered appropriate? What context factors would make that relationship meaningful?

There are no right or wrong answers here. What is important is to understand that products and hence interactions are created within well-defined contexts and that understanding this context can help in understanding why the product exists at all. In fact that is what we are looking for, the answer to the question: *why does this product exist?* And why does it exist in this way?

We are not necessarily trying to get at the factors that the original designers used in their design process although that is one possibility. The factors that we are talking about are those that seem plausible. These factors can relate to the biological, technological, cultural, social, psychological, and many more conditions that the product was created from.

Another way of thinking about context factors is to classify them into certain types: *principles* are stable patterns in life, from physical to biological to social and psychological (people are driven by curiosity, for example); they can be laws of nature and fundamental human concerns or patterns of behaviour. The other types of context factor that you will come across are *states*, things that are relatively constant, the conflict between Palestine and Israel for example, *developments*, by which we mean things that are changing over time, so for example global warming, and their accompanying *trends* in people's behaviour as a result of such a development, for example buying energy saving equipment.

Now go back to the qualities of the interactions that you were looking at. Can you identify any factors that would make the quality of the interaction you observed meaningful? For example you might have observed 'comfortableness' as a quality of an interaction, so you might come up with a psychological principle like 'people need constant re-assurance'. Maybe you can take this further. Why might people need constant re-assurance? Do they feel insecure for some reason? Do they like to feel at home? By carrying on questioning you can get to ever more fundamental principles. Try and think of as many as you can and remember to look for context factors that relate to interaction qualities or, eventually, to product qualities. To take an example, think of an Apple iBook. What factors relate to its interaction qualities, like playful creativity?

The principles and other factors you have arrived at account for why the interaction you observed has the qualities that you noticed and, consequently, why the product is what it is. Taken together they form the possible context factors, or conditions, that have resulted in a product's existence.

The deconstruction phase helps you to take a wider view of the world of products in three ways. First, to understand that there are three levels of description (product, interaction, context) to ViP and also the relationships between these levels. Second, to get rid of any pre-conceptions you might have about products in a certain domain. Third, in finding factors that are obsolete or no longer make sense, you can already begin to have a feeling of new opportunities for the design phase that follows.

Once you have gone through the deconstruction phase a few times you will be able to do it quickly, almost without thinking. In fact it *is* a way of thinking about things. Usually you will be dealing with a particular problem area or domain, so the deconstruction phase will normally focus on existing products in this domain. For example, if your domain was 'working on the move', you might (start to) deconstruct a Blackberry.

By the designing phases of ViP you will have a good idea of some of the context factors that are involved in the domain, some of which you might be able to use in the designing phase.



intermission

Think of your favourite city and write it down. Why is it your favourite? What is it about this city that is better than all the other cities you thought of? Which cities did you consider? Cities that you've been to and experienced or cities that you've seen on television, read or heard about?

What factors make your chosen city work? List down a few things that you can think of. Try and concentrate on objective, factual things: transport, architecture, people, places, things - can you generalise any of these things into *principles*? For example you might list a pedestrianised centre as something that makes your chosen city work, you could generalise this into a principle like 'convergence on a centre always leads to congestion', or 'people like to be unaware of traffic'. Maybe you might think a city has simply evolved into something that works, in that case try and identify the *developments* that have led to this.

Now think of a city that you don't like. What are the factors that mean it doesn't work? Are there any *states* that prevent it from working?



STAGE 4

designing - the context level

We are now in the design phase of ViP (see figure 1). You should have an understanding about interaction qualities, and the factors that make up a context for interaction. In the design phase you will begin to be more creative by selecting factors that make up a context and using this to develop new interactions.

In designing your context you will usually start from a domain that you have been given. This might be a loose area - in-flight entertainment, for example - or it might be a particular question - why is the process of washing so burdensome? You will probably be used to responding to quite specific design problems: Design a lamp! Design a mobile device! Design a coffee machine! A domain is quite an open concept, and if it isn't as open as you think it should be you can open it up. If you get a problem of designing a small city car, why not think of it as a small urban vehicle? or even wider: movement in a big city. A more open problem definition allows you to come up with a wider range of context factors.

Think of a domain that interests you. The challenge now is to think of context factors - principles, states, developments, and trends - that can be related to the domain you have chosen and will help you in formulating a statement of your design aims. As an exercise, choose one of the factors that you identified in your favourite city and write it down as a general principle. Can you apply it to the domain you have chosen? Now write down some factors that you think have a scientific or objective basis and seem to apply to your domain. Where can you go for objective information? Try pulling out some context factors from a newspaper or magazine. *The Economist* is always a good place to find principles.

Building a context can take up to several weeks. Start with factors that you feel are relevant and can apply to the domain, and categorise them as *principles, states, developments, and trends*. As you turn the domain over in your head you will begin to make more and more connections with the things that you come across in the course of day to day life. Maybe you like certain images in a film that resonate with you or see a photograph that says something about the problem domain to you.

Think again about your chosen city. A city is a personal choice. You like a city for personal reasons. The values that you have are echoed in the city that you have chosen. It is important to think about this because this is also an important part of the design phase: to find out what you value and what underlying principles you

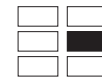
believe in. ViP involves you actively taking a position, and to do this you have to know what you value and believe. How are you going to shape a future context if you don't really believe in what you are doing?

As you think of context factors list them down and try to write a little bit about why they are important. Just to give you an example in the domain of clothes washing you might think about the nature of washing activity, you might see a television programme with a group of women washing clothes in a river. You might conclude that it is mainly women that do washing - you might not like it, but you can write it down. You might formulate it as a principle: 'washing is a feminine activity'. Over the course of a few days you will probably begin to have quite a long list of context factors - the longer the better, at this stage you just want a good idea of the range of factors involved. Even if you only have an hour or two you can come up with quite a few. Try to talk about the factors you think of - what do other people think about them?

When you have a list that feels sufficient it is time to start grouping and selecting the factors that will lead you forward into the interaction vision. The context factors that you select are like the ingredients of a meal; you have to think about how they will combine, how they relate to each other, and what the overall experience will be like. Try and identify different types of context factors (remember you can group them according to principles, states, developments, trends, and also to economical, social, political, psychological, and so on) and try to find context factors that seem to relate together. Group them into manageable clusters. At this stage you are looking for the threads that bring context factors together and how the clusters might be connected - do they support or conflict with each other? You should by this stage be able to make an overall story that describes the relationships between the clusters.

The end of the context phase requires two things:

The first is to select the factors and clusters that you think are most important in your domain. Try and bring them together in a coherent story. This is your *context*. The second is to write a short *statement* that sums up what you think about what you have found, together with where you think this should lead. This will set the abstract goal for the rest of your ViP process. The statement doesn't have to explicitly refer to the domain, but it should set an interesting direction for the stages that follow; something like: *'I want people to be able to day-dream so they can escape the ordinariness of everyday life'*. The statement is something that just begins to focus things without referring either to a specific interaction or product - these come next.



STAGE 5

designing - the interaction level

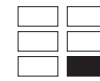
Having built a context you are now in a position to think about the qualities of the interaction that will make sense in this context. In the deconstruction phase you looked closely at the qualities of interactions between existing products and people. It is now time to imagine the qualities of an interaction that fit your context, but without thinking about any particular product.

Lets go back to the statement above. *'I want people to be able to day-dream so they can escape the ordinariness of everyday life.'* What qualities of interaction might help achieve this goal? There could be dream-like quality to the interaction, maybe that is characterised by softness, or haziness, or even incoherence. On the other hand, day-dreams suggest entering another world. Maybe the interaction could have a transitional quality, or something like 'distance' from reality to fantasy. Maybe you want the interaction to be unpredictable in some way, or suddenly surprising to bring the user back to the here and now.

What you've got to think of here is what kind of interaction between a product and a user will lead to the fulfilment of the goal you have stated. For this reason it's important to also re-formulate the goal if you feel that it's not giving you enough to work with. Another thing to keep in mind is the appropriateness of the interaction given the range of context factors you have identified. As a designer what do you want the user of the product to experience? Are you prepared to take responsibility for this experience?

As in the previous phase you will slowly build up a list of interaction qualities that relate to your vision statement. Some will lead you to other more refined or complex qualities, but keep a list of everything as you go. When you have exhausted all possibilities (or your time has run out), write down the five most important qualities of the interaction with a brief description of each. Then write down why these qualities are appropriate.

Descriptions are not the only means to indicate qualities of interaction. You can also think of images or metaphors that capture the intended interaction. In one project, a student described the desired interaction with the photocopier he was going to design in terms of 'a dance'. The idea was that if you made your intentions clear and treated the photocopier respectfully, the machine would follow your actions smoothly; if you were to act too forcefully or ambiguously, it may resist a little, like a dance partner. Feel free to use any means that may help you to envision and communicate your interaction.



STAGE 6

designing - the product level

Lots of words, you are thinking. When am I going to start sketching and drawing? Words are important to the ViP process. They allow abstract manipulation and development of ideas. When you draw something you fix an idea, you start to think at the product level. ViP is about thinking at other levels of abstraction.

We are now at the product level once again. You have designed a context by collecting together relevant factors in a particular domain. You have produced a vision statement drawing and responding to these context factors by saying what you, as a designer, would like to do. You have produced an interaction vision, listing the qualities of the interactions that reinforce and are appropriate to your vision. It is now time to look at how particular forms produce the qualities of your interaction vision.

This is the stage of ViP that will be most familiar to you - maybe you feel like you are in a familiar place now?

Your interaction vision lists the requirements that a 'product' must fulfil. But beware, qualities of interaction can be achieved in many ways, and not necessarily using physical form. Take care to think of different ways with which to achieve the same qualities. Try not to think of what is expected of you.

Try to design an anti-product.

Think low-tech, think invisible, think high-tech.

Think simple, think complicated.

Design your own way, but keep referring back to your domain context and vision statement.

Above all follow your vision.

Are you there yet?

ADAPTATION Concept related to Simon's model of inner and outer environment. When a product is considered as the inner environment, the outer environment is the context, including people with needs, wishes, and concerns, it should adapt to. Metaphorically, adaptation thus refers to a product's 'fitness' for the context for which it is designed. In the interface between inner (product) and outer (context) this fit is established. This interface can be defined as the **interaction**. This makes the interaction the logical intermediate step between product (inner) and context (outer). People are part of the context, but through people the interaction with the context is established.

AESTHETICS Principles of aesthetics play a crucial role to assess the quality of the decisions within and between the stages. Predominant among these is the principle of maximum effect for minimum means: a solution is considered beautiful when only a few parameters or assumptions can explain a range of phenomena. **Principles** of aesthetics can also play a role as **factors** within a **context** since they determine the aesthetic appreciation and acceptance of the final design. To treat aesthetic principles at the context level (and not as product requirements), we acknowledge the fact that product **manifestations** of these principles change over time due to changes in the underlying characteristics (e.g. expertise, sensitivity).

APPROPRIATENESS A final design (product) is appropriate when it optimally fits in with or is **adapted** to the **context** for which it is designed. Appropriateness is therefore always relative to the context build. Assessing whether such a fit is realised is often based on **aesthetics**, a feeling of unity or order.

AUTHENTICITY Since the designer is **responsible** for the **context factors** selected, authenticity is an important selection criterion. Only by staying 'true to himself', the designer can make his context personal and distinctive and the ultimate outcome **original** and impassioned. This does not run counter to the fact that a designer should always be aware of other product **manifestations** in the same **domain**.

AWARENESS Also an important value in ViP, very much related to **authenticity** and **responsibility**. Only by being aware or conscious of all decisions made (at every level of the process), the designer overcomes implicit assumptions creeping in. If the designer wants full responsibility for his choices and actions, he needs to be aware of them.

COHERENCE Related to the concepts of **adaptation** and **appropriateness**, it refers to the logic of the process and the connections made within and between the three levels: **context**, **interaction** and product. If these connections are coherent, **aesthetically** right, the final product naturally fits in the context it is based on.

CONCERNS A container concept adopted from emotion psychology. It covers people's goals and desires (**needs**) and our values and norms (standards), and sometimes also includes our likings, attitudes or taste. Concerns can be reflected in various **context factors** (for example, as a principle in our goal to survive, or as a development in our growing need for healthy food). At the **interaction** level, specific product related concerns are implicitly defined at the human end of the human-product relationship.

CONCEPT TESTING Testing a concept that does not fit the current **context**, but is expected to fit a new and future one requires different tools and methods. You cannot simply ask people if they like the product or would be willing to buy it because they will base their evaluation on a wrong frame of reference, today's context. In order to obtain an appropriate test, you need to bring them into a new mind setting that is defined by the context underlying the concept. Various techniques to do so, such as information acceleration, have been tried and tested over the years and there are many new developments in this area.

CONTEXT The first stage in any design process is to build a context, the frame of reference on which all further design decisions are based. It consists of a number of carefully selected **factors** (**principles, states, developments, and trends**) deemed relevant and interesting with respect to the **domain** defined and brought into unity. What factors are relevant very much depends on the selected time frame: is it the context of today, tomorrow or are we looking 10 years ahead.

CREATIVITY The ViP method is constructed in such a way to optimize the creative skills of the designer. It therefore builds on studies describing how creativity is limited or enhanced.

DECONSTRUCTION Often applied as the first stage of any ViP process to overcome **fixation** with existing solutions as a result of the **design brief**. The designer is required to ask himself why existing solutions and current interactions in the domain are what they are. In this way, he frees his mind from preconceptions and regresses to the **context** level where he can start to discuss the legitimacy and relevance of the old context **factors**. Although it may not always be necessary to go through the deconstruction stage, it is a comfortable way to 'start walking'.

DESIGN BRIEF A brief typically defines the breath of the **domain** the designer is working in. It is clear that a brief such as "design an office chair" is much more specific than "design a product for the future office" and thus defines a much narrower domain. To give the designer as much freedom as is allowed, it should be negotiated (with the client, etc.) to make the brief as 'open' as possible.

DESIGN METHODS ViP is (partly) a method to support designers to come up with a new design. As such, it has, of course, similarities to existing methods and these should be pointed out.

DEVELOPMENTS One type of **factors** to be included in a **context**, defined as changing or unstable patterns in the environment or (**concerns** of) people in general. Developments can thus refer to technological, economical, societal, environmental, cultural, etc changes in the world around us. They can be found in any media source (newspapers, internet, TV, etc.) and, if adopted in a context, can have a profound impact on the final design.

DOMAIN The domain is the focus area of the designer and is normally defined by the **design brief**. A domain can vary from a particular product for a predefined group, such as "a wheelchair for handicapped children" to "something to make the laundry task less of a burden".

EMOTIONS According to prevailing appraisal theories on emotion, emotions arise when an event (such as seeing or using a product) matches or conflicts with one of our **concerns**. The **interaction** with a product can thus give rise to a repertoire of emotions and the emotion envisioned is often (indirectly) represented in the vision on the interaction. With its central role for this vision of interaction, ViP can thus also be seen as an **experience-**, or preferably, **interaction-centred** design approach.

EMPATHY With its strong emphasis on human-oriented **principles** and **developments** at the **context** level, ViP requires the designer to have a deep understanding of and empathy with people's motives, drives, and **concerns**. This is not to say that users (we prefer to talk about people; at the context stage there is nothing to use yet!) should be involved in the design process (see **user involvement**).

EXPERIENCE One of the buzzwords of current design practice, product experience can be tentatively defined as the entire set of effects arising from the **interaction** between a user and a product, including the degree to which our senses are gratified [aesthetic experience], the meanings we attach to the product [experience of meaning], and the feelings and emotions that are elicited [emotional experience]. Given this close relationship between interaction and experience, ViP is often considered an interaction-centered design approach.

FACTORS Factors are the building blocks of any **context**, the observations of patterns in the world that are selected (by the designer) as relevant for the **domain** at hand and the time frame set. These patterns can be (relatively) stable, referred to as **principles** and **states**, or unstable, referred to as **developments** and changing concerns.

FIXATION Designers, like all people (including users), suffer from fixation. As soon as a **design brief** is presented to them, they will immediately see a range of solutions to similar problems they know of. To overcome such preconceptions with existing solutions, a process of **deconstruction** may help to 'descend to' a context level of description.

INTERACTION The interface between the product and the **context** and the crucial intermediate stage in any ViP process. Based on his view of the context and the **statement/opinion** formulated, the designer must try to conceptualise the **qualities** of the interaction that will meet the set goal. This conceptualisation is often referred to as the **vision of interaction** and can come in many forms, words, images, scenarios, movements, etc. This vision of interaction guides the formation of **product characteristics** and the subsequent product concept and **manifestation**.

MANIFESTATION The **visions**, at the **interaction** and product level, developed during a ViP process not only guide the designer towards a new concept, but can subsequently be used to make decisions at the level of a product's manifestation, including materialisation, use cues, appearance, tactile qualities, expression, sound, etc.

MEANING A central premise of ViP is that products obtain their meaning in the **interaction** with people and this meaning should be **appropriate** for the context defined. As one of the constituents of any **experience** it is thus reflected in the **vision of interaction**: the kind of meaning the (future) user will give to the to-be-designed product.

MISTAKES If the ViP process is not followed completely, several 'mistakes' can be identified. For example, the designer can immediately start to come up with new product solutions on the basis of an analysis of problems with the current one or with current **interactions**. Another mistake that is often seen is when the designer jumps from **context** level straight to the product level without first conceptualising the interaction between them.

NEEDS One type of **concerns** (goals and desires) that is often represented in the **context factors** selected. This concept is most often used in marketing as a basis for new product development where needs are often disconnected from the context, leading to inappropriate proposals.

ORIGINALITY If a ViP process is applied properly, the end result is **appropriate** (for the **context** set) and often novel, especially when the **context factors** selected have not been considered before in the **domain** at hand. This combination of appropriateness and novelty define an original design and although originality is not a condition, it is (thus) most often the result of a ViP process.

POSSIBILITIES With its strong emphasis on building a new **context** as the starting point for a design process, we claim that ViP is not about **solving problems** (with current products), as most design methods are, but about exploring possibilities. The final solution may of course also solve problems people have today, but this is not the primary goal.

PRINCIPLES Another type of **factors** to be included in a **context**. Principles are (more or less) stable patterns in life, from physical and biological to social and psychological; they can be laws of nature and fundamental human concerns or patterns of behaviour. Because of their resistance to change they are often overlooked in scenario approaches to design. Applying new principles to a familiar **domain** can, however, be a powerful way to come up with novel solutions.

PROBLEM SOLVING Most design methods are problem solving oriented and the resulting solutions are therefore often incremental, belonging to the solution space constrained by existing products. ViP is constructed in such a way that it allows the designer to explore **possibilities** that may not solve any problem, but fulfil unarticulated **needs**.

PRODUCT CHARACTERISTICS Once a vision of the **interaction** is conceived, the designer can define the character of the to-be-designed product. These product characteristics reveal in a **qualitative** way what the new product should express in order to evoke the desired interaction.

QUALITIES Both the vision of **interaction** and the **product characteristics** refer to qualitative aspects and not to physical properties. These qualities refer to interaction or product characteristics as perceived or experienced by a person. For example, the interaction can be characterized by 'anxious exploration', the related product characteristic could be one of 'strangely familiar': when a product is familiar in a strange way, it could stimulate the user to explore it anxiously.

RAISON D'ETRE The **context** created and the resulting **statement/opinion** form the reason of existence ('raison d'etre') for the product that is to be designed. One can always explain why the final product is what it is on the basis of this foundation; only in this light a product can be evaluated as **appropriate**.

REQUIREMENTS Requirements are constraints and should (thus) have an as small as possible effect on the concept generation. Many design assignments come with requirements, about prize, production method, available technology, etc., and they of course determine what the final product can and cannot be. But, in order to make the product fit the context optimally, these limitations should be taken into account as late in the process as is acceptable.

RESPONSABILITY We believe a designer is the only one responsible for his creation and the consequences of it. A designer should never be allowed to put the reasons for his decision or actions outside himself, for example in the wrong assumptions of a client or the limited view of would-be users. To be able to be responsible, the designer must be very much **aware** of (the consequences of) all his choices and actions.

STATEMENT / OPINION The **context** describes the coherence between a set of **factors** regarded relevant and important for the **domain** set, but without any value judgements. In order to be able to proceed, the designer must finally take a stand, define how he wants to respond to this context view. This position or statement (or opinion) can be seen as the design goal.

STATES Together with the **principles**, states are the stable **factors** included in any **context**. They refer to phenomena that appear as fixed, but do not need to be so in the long run. One could for example think of the Western value of freedom of speech.

THINKING / FEELING One of the major challenges for a 'ViP-designer' is to strike a balance between feeling and thinking: to think out and logically clarify what one intuitively feels as right or important and, ipso facto, to be sensible of the consequences of decisions taken rationally. Taking a step forward often starts with a feeling and is followed by an understanding of why this step ahead is **appropriate**.

TRENDS Trends are reflections of **developments** in the behaviour of people and can also be considered as **factors** in a **context**. When the economy goes down (a development), people spend less money on luxury goods (the trend). Note that such a combination of a development and a trend can also be a principle! See Chapters 2 and 7.

USER INVOLVEMENT If needed, designers can observe people, talk to people and even consult people, but these responses should nowhere limit the freedom and take away the **responsibility** of the designer. **Empathy**, understanding people, and humanism are not synonymous to user participation in any stage of the process. Within ViP, user involvement is therefore restricted to collecting new context factors and/or testing/evaluation the final concept or design.

VISION A vision is a view on something to come. Vision on Product design (ViP) therefore refers to the visions at the **interaction** level - to predict future human-product relationships - and product level (the **product characteristics**) that provides the designer with a view on the to-be-designed product. In these visions, the contour of the new product is laid down.