VITAL; A MASTER PROJECT ABOUT QUALITY OF LIFE IN OLD AGE

Master thesis from Lund University, Industrial Design/ LTH. Executed by Emelie Hedén at the department of Design Sciences in 2008. Examiner: Prof. Claus-Christian Eckhardt. Supervisor: Industrial Designer Charlotte Sjödell. External supervisor: Prof. Maria Benktzon.

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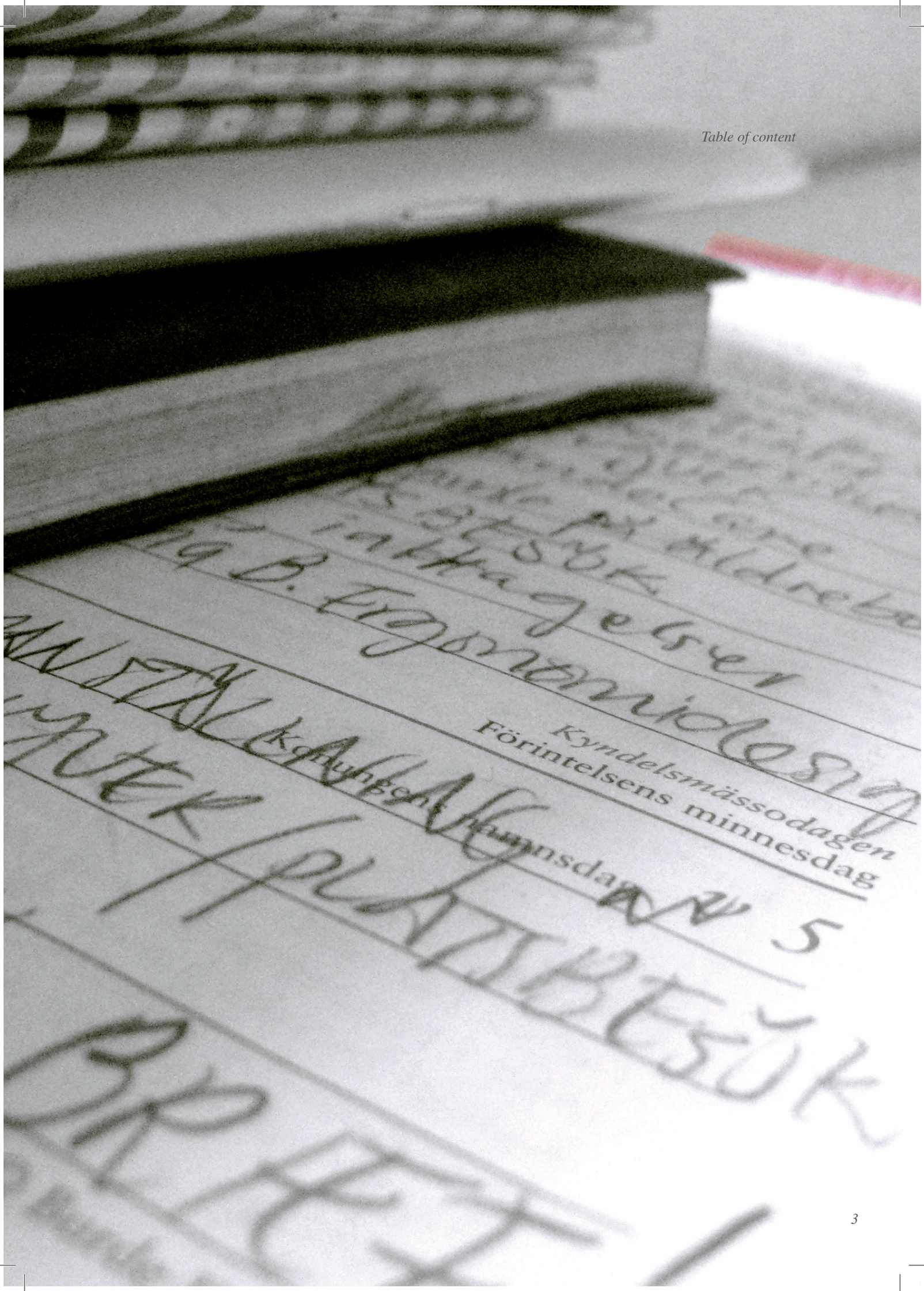

Kyndelsmässodagen
Förintelsens minnesdag

Abstract

Vital is a master project that originated broadly around improved quality of life in old age through design, and ultimately resulted in a laptop concept designed for elderly.

In the Swedish society of today products designed for seniors are still not commonly seen. However, as western populations are ageing with increasing purchasing power and influence, design for elderly is expected to grow in demand.

The goal with this master project was to include elderly in the technical revolution, with internet and personal computers, and to design a technical aid for people with little or no previous knowledge in the IT area. Up till now no computer designed for seniors has been seen on the market.

In all of the project phases (research phase, concept/ ideation phase and visualization/ design phase) it has been important to meet people from the intended target group. Consequently interviews and observations have been of significant importance for the outcome of the project and have, throughout the entire development process, been used to understand the target audience and to verify concept ideas. The expectation was to find a solution that would reflect what I discovered in these meetings with elderly. The result is Vital!

The Vital concept helps to overcome reluctance to adapt to technology and triggers lasting motivations to explore a wealth of possibilities. Five quality-of-life-products are included in the product range: a laptop, a telephone, a scale, a blood pressure meter and a pedometer. All products are created to support the feeling of wellbeing, social belonging and activation.

On the following pages you can learn more about the journey that resulted in the Vital product range.

SPRESSO

Methods

INTERVIEWS WITH:

-People living in homes designed for the elderly
-Elderly living in ordinary housing
(-Personnel working at homes designed for the elderly)
-Staff at Attendo Care

FIELDWORK

In the field studies tools such as UCCs (User Compass Charts) or other equipment might be used to facilitate the procedure.
-Observing behaviours (asking why the interview subjects reacted the way he/she did)
-Observing and invite the subjects to think aloud

MEETINGS/ DISCUSSIONS WITH:

-Examiner- Prof. Claus-Christian Eckhardt, dept. of industrial design at LTH
-Supervisor- Charlotte Sjödell, Industrial designer, dept. of industrial design at LTH
-Prof. Maria Benktzon, Ergonomidesign Stockholm
-Prof. Britt Östlund, dept. of Design Science at LTH
-Anita Sandberg, Attendo care
-Prof. Gunnar Akner, expert in geriatrics

INFORMATION SEARCH ON THE INTERNET

Finding information on current trends and existing products and services.

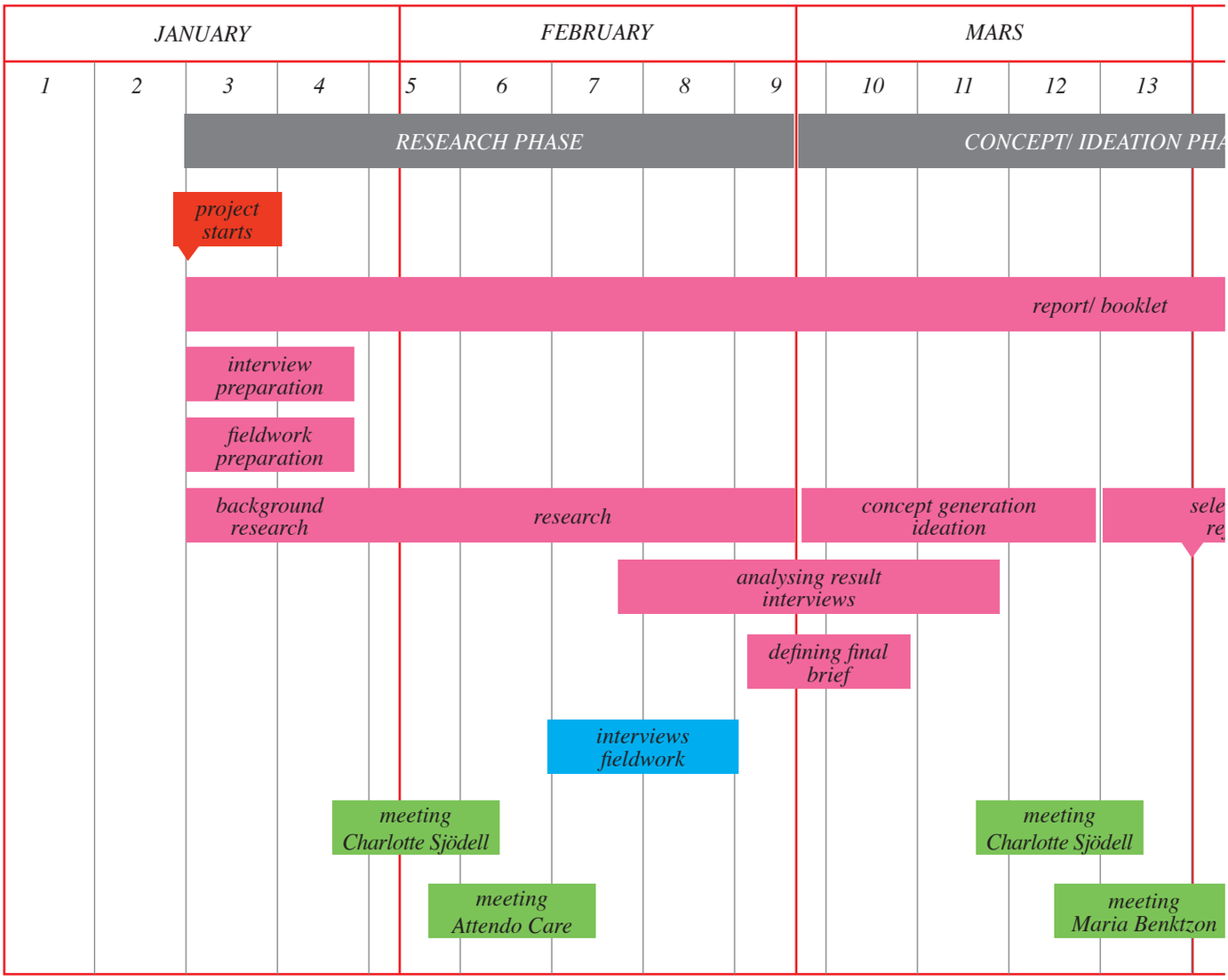
INFORMATION SEARCH IN LITERATURE

Getting deeper knowledge in areas concerning elderly, elderly care technology and elderly and quality of life.

The first phase of the master thesis, the research phase, started in the middle of January 2008. Meetings with Attendo Care, the biggest company engaged in elderly care in the Nordic region, were set up. They assisted me with some of the contacts for undertaken interviews. As my knowledge within elderly care is limited it was a great advantage to get the opportunity to work with such an active stakeholder as Attendo Care. The analysis period with interviews and observations was followed by a first synthesizing phase that resulted in the formulation of the final brief. A second round of interviews was putting focus on more concrete matters and clarified how the interviewees looked upon computers and modern technology. Mappings of preferences in computers, mice and keyboards was analysed and further used as a foundation to base the design language on. Throughout the project emphasis has been on the user. In the ideation phase a lot of sketching, sketchmodeling and other shape finding experiments were carried out. Feedback on the preliminary results was given by prof. Maria Benktzon at Ergonomidesign in Stockholm, prof. Britt Östlund at the department of design sciences LTH, Charlotte Sjödell at the department of industrial design LTH and prof. Claus-Christian Eckhardt at the department of industrial design LTH. On September 15th 2008 a one hour long presentation was held in Lund. Between September 19th and October 5th 2008 an exhibition took place in Malmö at Kakel och Tegel. At the exhibition full scale models of the Vital laptop and telephone were presented.

A rough time schedule can be found on page 8-9.

Schedule

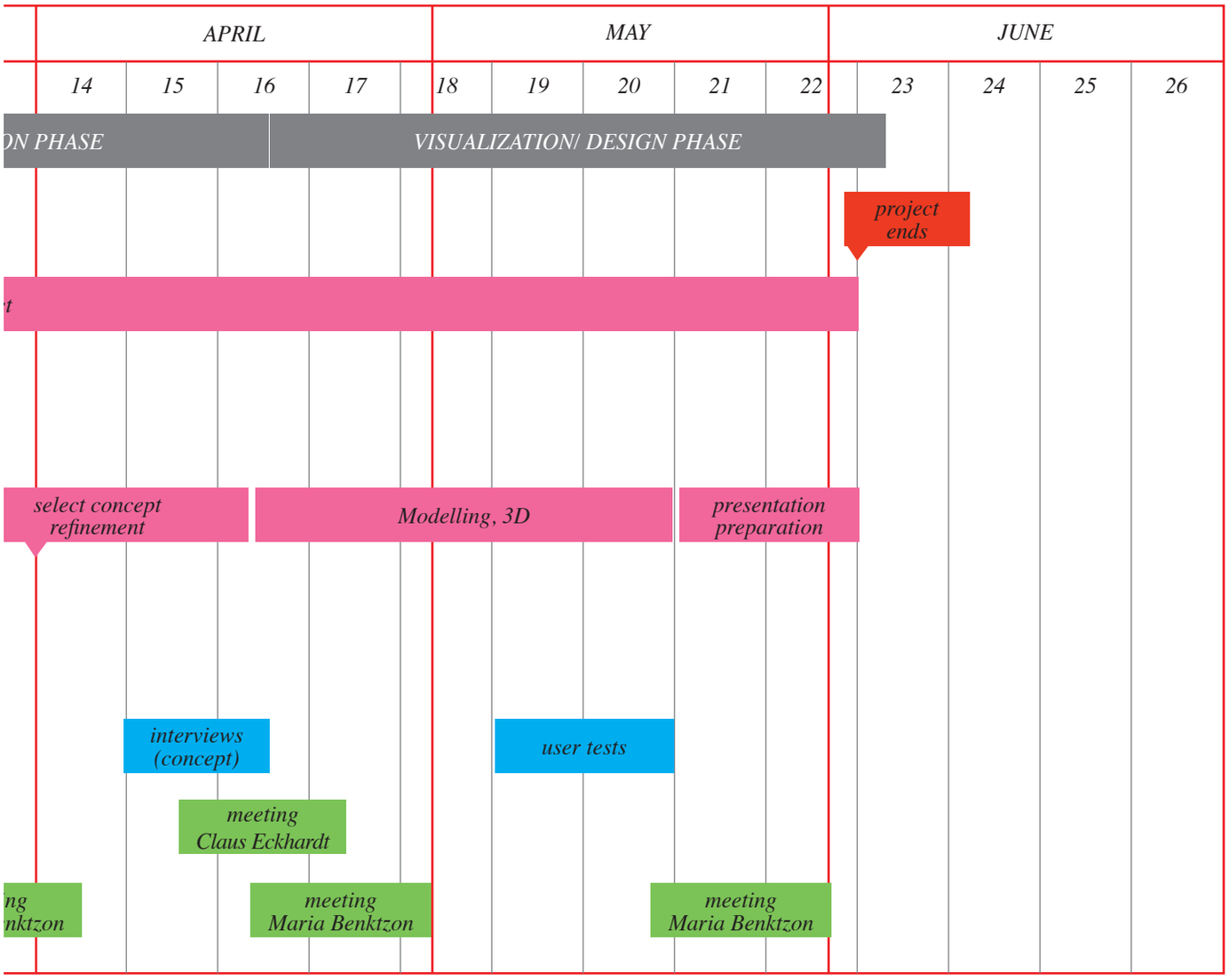


Timeframe

Individual work

Interviews/ fieldwork

Meetings


APRIL
MAY
JUNE
14
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22
23
24
25
26
ON PHASE
VISUALIZATION/ DESIGN PHASE
project ends
t
select concept refinement
Modelling, 3D
presentation preparation
interviews (concept)
user tests
meeting Claus Eckhardt
ng nktzon
meeting Maria Benktzon
meeting Maria Benktzon

In this section of the report the most relevant information found in books, brochures and on the web is collected. As this information was used as a foundation to base the interviews on no further analysis of the material has been done. The most valuable information is marked in pink.

ÄLDRE OCH DESIGN (2003), RESEARCH PROGRAMME AT THE DEPT OF DESIGN SCIENCES AT LTH

Old people nowadays have a wider knowledge about technology. It can be an advantage both to the elderly and the society. Within the research programme there is also an ambition to focus on the wisdom that old people have and to find out if it can be used in the cultural society. Above all the research shall be used to create as good lives as possible for elderly.

The seven focus points of the research are:

1.Keep as much as possible in the familiar environment.
-Practical functions: toilet, personal hygiene, and preparation of meals, exercise, seating, and possibility to get out.
-Safety functions: alarms, fire alarms, accessible electrical switches and locks. There are great possibilities in broadband connections.
-Maintenance of important human contacts
Lack of physical contact has negative effects (oxytocin). In Japan they use warm artificial animals to accommodate nearness.
-Accommodate recognition: a familiar environment is one example.
Old people have no technical resistance if they experience maintained functions and the possibility to do what they always did.
Old people have their own design history and products should be designed to fit in to their lives. But the products should also address to their children and grand children for future use.

2.Maintain rhythms and balances if change of environment is a must.
Recreation of the rhythm and balance from home is important in case of institutionalization. For example it helps to get the freedom to prepare ones own breakfast and decide when, what and where to eat. Artefacts form home can also help to achieve similarities in rhythm and balance.

3.Continue with one's doings and learning.
Methods to help with doings and learning:
-Aids to mimic old abilities
-A new way to maintain the function itself
-Find the prime motive behind the doings and learning

4.Sustain contact with those nearest to you
Loneliness can lead to depression.
To keep in contact with children, grandchildren, other relatives and good friends is important.
It is not always best to have continuous visits, design for intimacy at a distance might be an appropriate alternative.

5.Good accessibility to local environments, telecommunication both physical and mental.
Newspaper, TV and telephone are accommodating communication. Aids to provide the possibility to read, see and hear are required.
Internet is getting significance for older people.

6.Possibilities to plan ones life.
It should be easy to make changes in plans.

7.Support of memory functions.
Old people spend a lot of time considering their lives. In that sense it is most tragic when their memory fails. Photo albums are good for remembering.

The number of old people in the society is growing and many elderly will keep on living in their homes. This is possible due to the better health among elderly in today's society. These people are more inclined to consume as they grew up with design around them. They have demands on a high quality of life including the right to choose activities.

80% of people over eighty are not demented. These people will not stay in service homes or nursing homes but get help from home-help services and relatives. Therefore it is important to accommodate products that apply to the primary and secondary user, the old person, relatives and assistants. It has to be easy to handle the whole chain of consumption; every step from purchase to the bin has to be considered.

Retained independence and integrity is important. Due to the globalization borders will be crossed culturally. Similarities and differences have to be considered both across generational and cultural borders.

Science concerning elderly is extensive within medicine, sociology, behavioural science, and humanistic research, but there is still a lot to be done in the area of design and technology.

An attitude trend among elderly is that they do not see themselves as old; to be referred to as elderly is often not preferred. The body changes, tiredness, bad sight and hearing are some examples. Even though old people take notice on physical degradation the identity perception does not change.

A pessimistic view on getting older is that it is a defence battle with a given outcome. A good design should therefore include the possibility of partial victory in the battle.

A scientific design process is based on the meeting between functional and emotional qualities of the elderly and the functional and emotional properties of artefacts.

As a designer it is necessary to see the needs before even thinking about design.

A design might be directed to a group of old people or an old couple, not necessary one individual.

TMF (TRÄ OCH MÖBELINDUSTIFÖRBUNDET), "PLUSMÖBLER"

"Plusmöbler" is a project with the aim to create attitude changes and to induce research, industry and marketing channels to cooperate in the development of furniture with focus on both form and function.

Old people of today and tomorrow have an increasing awareness about design and they put high demands on extended selections of furniture and aesthetics.

To be grouped into categories based on stereotypes is not desirable. The individual differences increase with age and it has to be considered that all old people are not alike.

Around one fifth of the Swedish population will be over 60 within a few years. Most of these people have one third of their lives left to live.

FALCK VITAL, "SOM TIDEN GÅR- HJÄLPMEDEL SOM GÖR VARDAGEN LÄTTARE"

Sigvart Dagsplan: electronic note board that gives a good overview of activities planned. It shows time, whether it is night or day and order of activities.

Wristwatch with alarm: Cadex is a digital watch with the possibility to activate 12 daily alarms.

JÖNSSON, BODIL AND ÖSTLUND, BRITT (2005), "ÄLDRE BOENDE DESIGN"

The congregation of Adolf Fredrik wants to improve the contact between older people in the city of Stockholm. They also want to contribute to taking care of the wisdom and experiences that old people have. By doing so feelings of solidarity and belonging are enhanced.

Science shows that people become more alike and more different with age.

HI (THE HANDICAP INSTITUTE), "HEMMA MED IT"

In the project "Hemma med IT" technical aids, services and methods are tried out in order to facilitate situations where persons with cognitive disabilities live at home.

In the show-apartment in Hudiksvall, where the devices are demonstrated many electronic parts are connected together close to the front door and it looks complicated. In apartments where old people live there is not that many devices installed since they cannot learn how to handle all of them.

In a similar apartment in Tierp a carpet with integrated light switches is one example of cognitive assistance. When the subject touches the carpet with his/her feet a soft light appears leading the way to the bathroom in night.

Another example of an assistive product in the Tierp apartment is a quilt with small plastic beads in the material. These beads give a feeling of being hugged or held by someone, something that can contribute to relaxation, which might lead to a better sleep.

An automatic medicine reminder is telling the person living in the apartment when to take his/her medication. In addition to that it provides the right dose. The medicine reminder is named Careousel.

It is recommended to keep a diary if problems with the memory are evident. By doing so the writer is forced to think a little extra and if he/she still forgets, there is always the possibility to go back and see what was written.

Other technical aids; Bortalås- all the electricity in the apartment is shut of when the apartment is left. Bortanyckel- an indicator on the key show if the door is locked or not.

Ytterdörrskamera- when someone is at the door a picture appears on a screen on the entry phone.

Godnattknapp- at the push of a button kitchen appliances and water taps are shut off and windows and doors locked. It allows the user to go to bed secure and relaxed.

HI (THE HANDICAP INSTITUTE), "TEKNIK FÖR ÄLDRE, NÄR ÄLDRES BEHOV FÅR STYRA"

"Technology for elderly" is a programme devoted to facilitate the everyday life for old people and their relatives.

In year 1900 the average length of life in Sweden was 53,6 years for women and 50,9 years for men. In 2006 the same numbers had changed to 82,9 respectively 78,7. In 2050 the average length of life for women will be 86,5 years and for men 82,6 years.

The project "technology for elderly" is carried out between 2007 and 2009. It has a budget of 22 million sek/ year

70% of people between 45 and 64 live in small houses. Many of these people will live like that for many years to come. It is putting a high demand on technical aids and services.

BENGTSSON, STAFFAN (2004), "TRYGG ÄLDREOMSORG"

In the near future the elderly care sector will have problems finding enough educated staff. As more people reach pension age there will be an increasing demand for new workforces. The lack of workforce will lead to a situation where there will be to little time devoted to activities that maintain a high quality of life for the elderly.

Things that increase the quality of life:
- *Human touch/ contact*
- *Small talk*
- *Singing*
- *The choice to choose helper*

Strong feelings experienced in connection to music are deeply rooted within us. Maybe it is as important to include music in elderly care, as it is to provide a healthy diet. If possible elderly who used to play music in earlier days should have the possibility to continue playing even when institutionalized. It might give peace of mind to other elderly around.

Dependence has two sides- either you are the dependant person or the person who someone is depending on. It is extremely important to treat this relationship with respect; unfortunately these kinds of situations often lead to conflicts and unhappy endings. A relationship where one party has power over the other is not good, the risk of violation and abuse increases.

The official power should be exercised with respect for every person's equal value and for the every individual's right to freedom and dignity.

If positive feelings are experienced it is easier to handle feelings of discomfort.

Safety and belief in the future can create balance, which is a desire for every human being to achieve within fundamental needs.

To nurse and help others is about understanding the dependant's sufferings, feelings and needs. It is about being observant, to see and to comprehend what is going on.

Enhancing the quality of life for elderly is about trying

to find interests and abilities that the individual is still in control of.

One of the simplest ways to help an old person is to listen, listen to stories about his/ her life and show interest by asking questions. By listening it is also possible to understand which kind of help the person need for a better life. Do not forget that old people have many years of experience of life, 12 elderly have around 1000 years of collected experience of life. Therefore we should listen more than we talk. To be listen to increases the sense of self-esteem.

Elderly, both healthy and sick, should be treated with dignity, friendliness and love in a personal way.

Why should you meet another humanbeing with a kind treatment?
1. The principle of autonomy (autonomiprincipen), our right to self determination
2. The principle of human dignity (människovärdesprincipen), the equal worth of everyone
3. The principle of kindness (godhetsprincipen), to do good and not to harm others
4. The principle of justice (rättviseprincipen), to treat everyone the same no matter what ethical affiliation he/ she has

Lack of time prevents elderly care staff to spend enough time with the elderly. This equals lack of closeness and safety that old people so often need.

Long-term prioritizing might not always be good within the elderly care sector. It is more important to consider short-term solutions, to seize the most meritorious values while the person is still alive.

Prevent problems that can occur in connection to dependence by creating platforms for mutual experiences. Humor, music and dance can be utilized to achieve something mutual. To laugh together creates belonging and contentment/ happiness.

Music and dance must come about on the conditions of the elderly. People working with elderly have to respect differences in taste of music.

When the ability to hear and see deteriorate one becomes very vulnerable and dependant on that people in the surrounding understand the situation. It is therefore more crucial to respect the ingrained surroundings. E.g. If someone cleans the apartment it can be difficult for an old person to find things and to orientate in his/ her own home afterwards.

Since the "we do it together" feeling is central for a successful relationship between caregiver and caretaker it is crucial to respect even elderly who lost the ability to communicate with words. In such a case body language is a good substitute, hands are for example a great asset when it comes to alternative communication.

Sharing of thoughts and experiences, to laugh, joke and even argue is vital. To laugh and joke can heal both body and soul. In connection to these interactions body contact most naturally happen through touching, hugging and so on.

"Learning by doing" as John Dewey said could be interpreted as a way to look at failure as continuation of our own development.

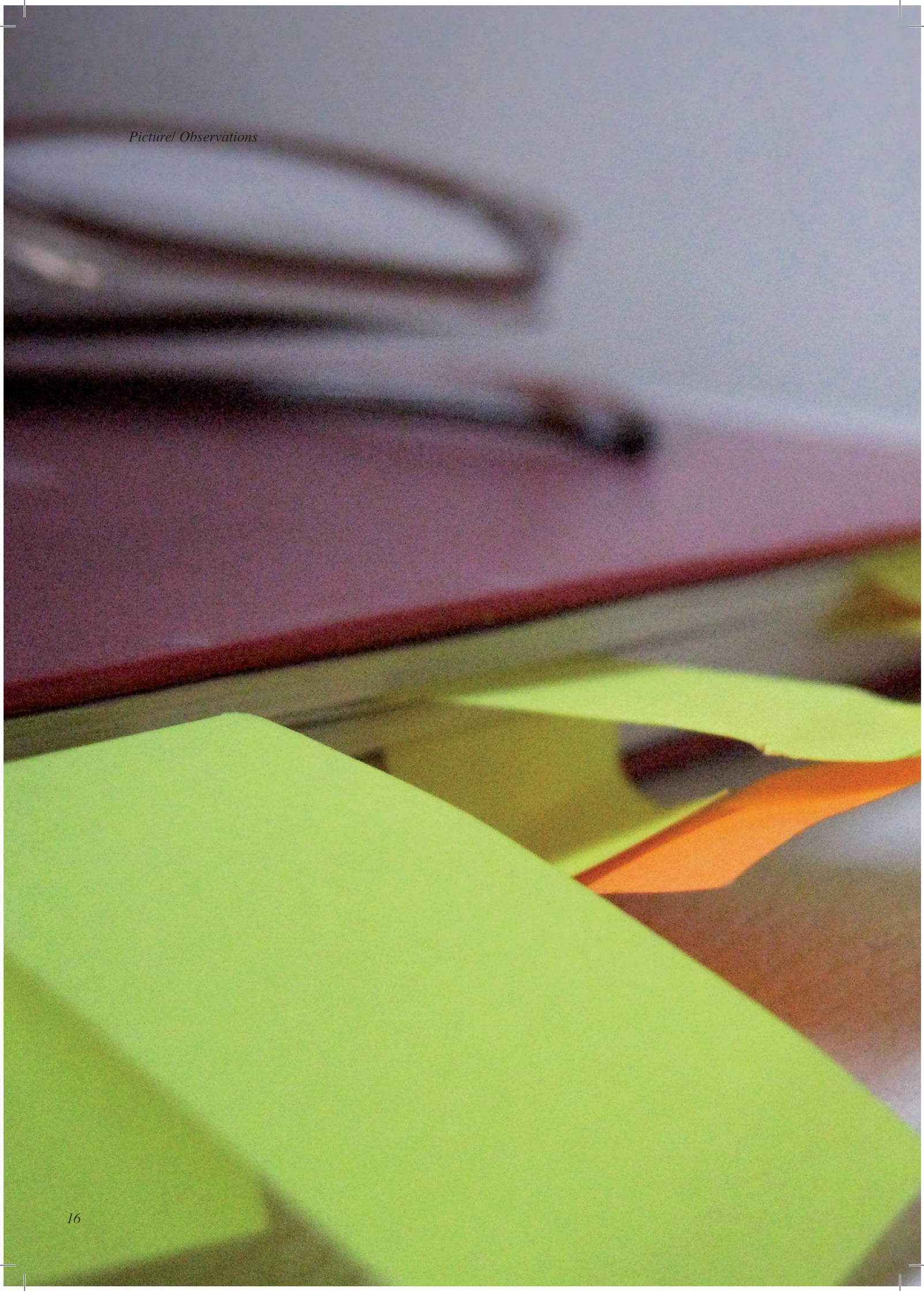
SOCIALSTYRELSEN (2007), "LÄGESRAPPORT- VÅRD OCH OMSORG OM ÄLDRE"

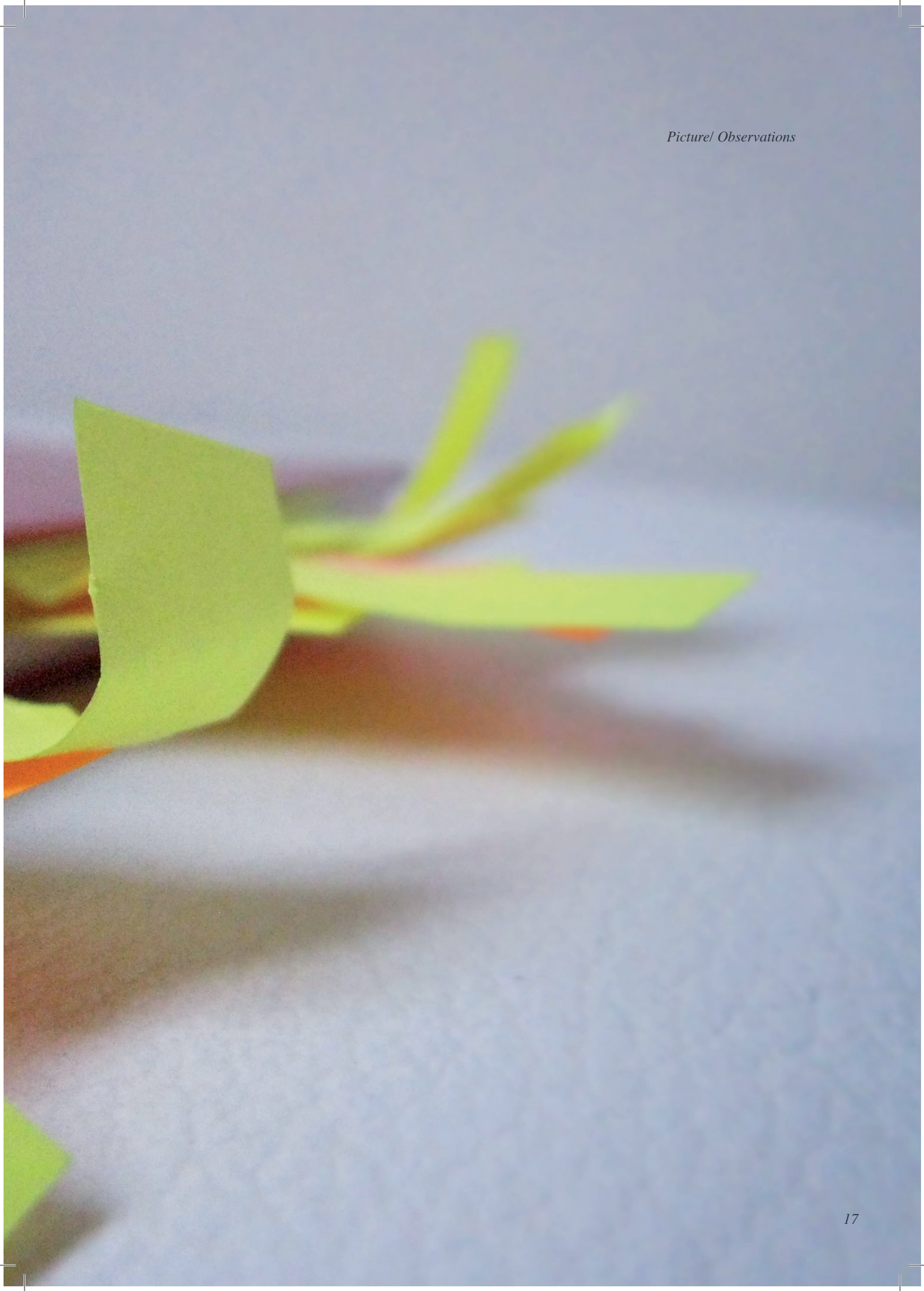
The 21st century is characterized by politics advocating the ideology of living at home as long as possible (kvarboendeideologin). Because of this the number of rooms available in housing for elderly (särskilt boende) has decreased and the number of old people who has got home-help service (hemtjänst) granted has increased. Sometimes it is appreciated to get the chance to continue living at home even when extended nursing is required, in other cases elderly want to move to homes designed for the elderly but get rejected.

Adapted care structures, collaborations, early and preventive stakes and a developed support for relatives can have importance for utilization of resources (resursutnyttjande).

The low number of educated staff within the elderly care sector has a negative influence on the development of quality.

Through a work on of the ULF-undersökningen, a study about circumstances of life in year 2002/2003, it has been shown that almost every fourth person in Sweden over 55 are informal caregivers.





Intentions by the local authority are meant to meet the need of the individual. This includes ethical, religious and linguistic considerations.

166 000 elderly born outside Sweden were in year 2005 living in Sweden. This is an increase of 30 000 people since 1998.

Most of the elderly living alone at home are women. The quantity of men living alone in their homes and couples living together (independent of gender) is decreasing with rising age.

Men in the age 80 and older do according to studies not need as much help with cooking, laundry and cleaning as a few years ago. Now the number of men and women who claim that they need help in their homes is almost the same. This is probably due to the fact that the attitude regarding housekeeping is changing. Women tend to ask for help with physical heavier duties more often than men.

One fifth of the elderly over 80 do not have children living in Sweden. Among elderly who have children it is common that at least one child is living close enough to help his/ her parent.

In 2005 slightly more than 235 000 people over 65 got help from home-help service or lived in homes designed for the elderly. This implies that 15% of people over 65 utilized the stakes mentioned above. In the age group 80+ the same number was 37%.

In 2006 60000 elderly living in ordinary homes got food delivered in lunch boxes.

60% of the municipalities in Sweden only purchase groceries once a week for elderly granted this kind of assistance. Approximately 50% of the local authorities give the possibility for elderly to visit the grocery story together with home-help services. At least 4% of the local authorities claim that they do not offer home-help services including any kind of grocery shopping. Only 50% of the local authorities offer assistance with cooking in the homes of the elderly. In most of the cases the cooking is then not aloud to take longer than 20 minutes.

Most of the homes designed for elderly get food deliveries with precooked dishes to the location. Only every 10th municipality states that the food is prepared on spot. In most cases precooked food is delivered to the home. In 85% of the cases the food is delivered warm.

In most homes designed for the elderly it is common to prepare porridge for breakfast. In ¼ of the municipalities potatoes, rise and pasta are cooked on location, preparation of vegetables and baking are also occurring phenomenon.

Outlines for medical needs and nutrition exist in order to contribute to a healthy meal. Unfortunately it is not common to include social contexts and the possibility to choose what to eat in the outlines. Shortage of positive social contexts (such as food that taste good) might have medical consequences since it can lead to malnutrition.

In 2005 the costs for nursing and care of people over 65 was 162 billion Swedish Krona. It correspond to 6,1% of the gross domestic product, GDP (in Swedish Bruttonationalprodukt, BNP).

In November 2005 about 230 200 people worked for local authorities and for private stakeholders within elderly care, including county councils another 100 000 of employees can be added.

90% of the employees within elderly care are women.

Within the next 10 to 15 years there will be huge number of pension retirements. SCB estimates that by 2020 the number of nursing auxiliaries and assistant nurses will halve. Consequently there will be a huge shortage of staff.

Accidents connected to falls are common among elderly. Practical problems do not only involve the elderly but also relatives. The price that the society has to pay is high, about 5 billion Swedish Krona a year. Accidents like these can affect the possibility to maintain social networks and might lead to the need for more care earlier than otherwise necessary.
Of the 1,5 million people over 65 almost 5% (1/20) fall so bad every year that they have to visit a doctor.
Reasons that lead to accidents connected to falls:

- *Medical side effects*
- *Nutrition problems*
- *Layout of the home*
- *Everyday duties such as changing light bulb*

The last 20 years the amount of medication per person has increased from 3 to 5 preparations. Frail elderly living in homes designed for the elderly take in average 10 preparations per person and day.

Elderly often have to visit hospitals because of problems with their medication. These mistakes are often due to wrong dosage, medical interactions and lack of docility.

Lex Maria is a law that puts responsibility on the caregivers to report if a patient is exposed to or at risk of a serious injury or disease connected to the care.
Qualitative aspects of the care:
- *Nutrition, diet and food*
- *Treatment*
- *Usage of medication and medical reviews*
- *User satisfaction, meaningfulness and appreciation*
- *Satisfaction, participation, influence and safety*
- *The competence of the staff*

A keystone in Swedish elderly politics is to facilitate for old people to live an independent life. This is done by "kvarboendeprincipen", to make it easier to live in the own home as long as possible.

KRISTOFFERSON, FRIDA AND MALMROS, ERIKA (2006), "LIVET PÅ GAMLA DAR"

All people are unique individuals who develop to who they are through life stories and from choices they have made during their life.

Parameters concerning quality of life:
- *Health*
- *Social belonging*
- *Relatives*
- *Good place to live*
- *Good economy*
- *Food*

There is to little focus on elderly as unique individuals with specific demands and desires. The focus is more on old people as homogeneous group.

In December 2005 17% of the Swedish population was over 65 years old, this equals 1565375 people. Approximately 5% of the population was over 80 years old.

In the society of today people are used to control and to choose how they want to live their lives. This does not change, even people dependant on elderly care want to maintain their lifestyle and quality of life.

According to Margareta Nilsson (2004), lecturer at Ersta Sköndal Högskola in Stockholm, there are six important areas concerning elderly and their experience of quality of life:
- *Health*
- *Relationships*
- *Activities*
- *Philosophy (of life)*
- *The life of then and now*
- *Perspectives (future)*

Gerontology = the science of aging

The theory of activities- for the well being of old people it is important to keep active and to have contact with other humans.

The theory of disengagement- withdrawal from activities and social activities are a natural part of getting older.

Six determinants for the perception of quality of life for old people according to Lars Tornstam (2005)
- *Personality*
- *Lifestyle*
- *Continuity*
- *Deprivation or control (the possibility to choose, not to be forced)*
- *Incongruity (accordance between what you want to do and what you can do)*
- *Quality of the social network*

Keeping of social documentation might be a way to improve the quality of life in old age. What does the person like (to eat, to do etc) and what does he/she dislike.

JÖNSSON, BODIL AND ÖSTLUND, BRITT (2007), ARTICLES PUBLISHED IN THE MAGAZINE "ÄLDREOMSORG (NO 4)- ÄLDRE OCH DESIGN"

Seniors are also young since their earlier life experiences exist within them. That is why the expectations of the new relate to the old.

Most old people feel younger than what the mirror shows.

User centred design- design for elderly should facilitate changing as little as possible for the user.

The social model- focus is put on the human and the way she wants to live superior to bodily impairment and sickness.

Doing and learning divert one's mind and contribute to maintaining an intrinsic value. Consequently design that facilitates doing and learning is valuable.

Design for:
- *Learning*
- *Creativity*
- *Power of the individual*
- *Well being*
- *Recreation*
- *Entertainment*
- *Safety*
- *Freedom*
- *Flexibility*

Recreating of the rhythm and balance of the home. Television is one example of an artefact that can create rhythm for old people. It is important to recreate at least some rhythm and balance form the home. For example meals, garden, pets, artificial pets and art can recreate rhythm and balance.

Sketches models and prototypes can be used to communicate around a new design. Ask; do you mean like this? Why do you not do like this instead? To show; you can do like this. To try; what happens if you do like this?

If one moves slower, think slower, see worse, hear worse the old ways of communication might not be satisfying. There is a lot to be done in this area.

It is not necessary to keep in contact with everybody but to communicate with close family and friend in new ways.

80% of all people over 80 do not suffer from dementia, but they might have difficulties to remember. Photo albums can be a good help for those with short memory. Who you share these memories with also makes a difference.

FACE (according to Peter Anderberg) can function as guidance when it comes to products and systems meant to be used by humans
F = function
A = attitudes
C = control
E = enabling

A successful design contributes to a seamless crossing between product and human.

For a sustainable development, human and economical, we need to design products that make better use of resources over generations.

Elderly in front of the TV often remind people of abandonment and loneliness. This is a prejudice, which in most cases is not true. Watching television occupies most of the time in homes designed for the elderly; sometimes it is the only activity that the old can participate in.

The digitalizing of television makes demand on the user to be more active and do conscious choices.

According to media scientists the TV gives the watcher new experiences and a relationship to the world around.

Elderly often watch TV alone in peace and quiet. At other times watching TV together with someone can function as a perfect social experience.

"Vi ställs aldrig inför föremål eller sociala relationer, vi stalls inför kedjor som är förbindelser av människor och icke-människor. Ingen har någonsin sett en social relation ensam." Bruno Latour

STEP (Arne Svensk); according to Svensk the five most important factors when designing for people with cognitive disabilities:

S = Sammanhang (context)
T = trygghet (safety)
E = Erfarenhet (experience)
P = Precision (precision)

When new technique is introduced it has to remind the user of something familiar to convey safety.

Technology in people's environments is contextual; it functions differently depending on the context it is in.

Generic technology- development of the use of technology, communication and behaviours happen at the same time as one uses it; small steps in the hands of the user.

Questions to ask when designing a new technical product:
- *Who is the user? (How do they look? What do we know about them?)*
- *In which context should the product be implemented?*
- *Which is the problem that we want to solve? (What changes can we expect?)*
- *When should we evaluate and follow-up?*

Remember to keep to the everlasting human perspective; do not let technology take over.

STOCKHOLMS STAD, STOCKHOLMS STADS ÄLDREOMSORGSPLAN 2006-2010 (2006)

Elderly have different backgrounds and needs. They have the right to be treated with respect for their needs and integrity.

Elderly have the right to live life as independent as possible, to feel the sense of belonging and to have the right to affect the content regarding their help.

The Social Services Act- the welfare board shall work for the right of elderly getting the opportunity to live independently under safe circumstances and to support an active and meaningful existence together with others.

There is a need for places where elderly can meet, a place for activities and social gatherings. Among others voluntary organizations and pensioners' organizations prosecute such events.

Everyone depending on home-help services should feel safe with the care given in the home.
The increasing demand on medical competence implies a close collaboration between the elderly care and the county council (landstinget).

Influence and participation should be guaranteed in every decision that has do be made. The pensioners' council of the municipal executive board and the pensioners' council of the town district committee are two important forums for the possibility to insight in planning issues concerning elderly care.

Quality of life:
- *Good, well prepared and nourishing food*
- *Spend time outside*
- *Culture (books, music, art)*

STOCKHOLM GERONTOLOGY RESEARCH CENTER (2004), "DOFTEN AV STEKT FALUKORV"

Many elderly who live in ordinary housing suffer from or are I the danger-zone of malnutrition.

A decreasing appetite and possible malnutrition is often connected to loneliness and isolation.

It is important to involve the elderly in the cooking, to make the food preparation part of a social context. I order to achieve this the home-help service staff have to possess basal cooking skills, nutrition and provisions hygiene.

It is crucial to allow the meals more time. For people with a vast need for care and nursing the meals has to be seen as something more than a service. Time for cooking in the home and company while eating are two important factors for well-being.

During the day three principal meals and three snack meals are optimal. The night fast should not be longer than 10-11 hours.

In year 2000 80% of the elderly living in service flats did not meet their need of energy through the food.

Every third caretaker is undernourished when arriving to the municipal homes designed for elderly. Almost as many are in the danger-zone of malnutrition.

Reasons for malnutrition:
- *The food and the situation around the meals are not adjusted to the needs of the elderly*
- *No follow-up on weight loss of the elderly or leftovers from the food boxes.*
- *The home-help staff have to little time*
- *Boring to eat alone*
- *The food has not been eaten*
- *The food tastes bad*
- *The food boxes are too expensive*

The problems mentioned above are reduced when the elderly move to service flats where they have access to a restaurant serving a varied diet. Also the company provided stimulates the appetite.

In year 2002 approximately 48000 people in Sweden got food boxes distributed to their homes. 17000 people over 65 got cooking contribution in their own homes.

Assistance with food in elderly care:
- *Distribution of ready-cooked food (food boxes)*
- *Simple cooking (with assistance from home-help staff)*
- *Preparation of meal (preparation of ingredients and help with shopping)*
- *Heating of ready-cooked food from the grocery store*
- *Fare (the elderly and the staff should together decide on execution and disposal of time)*

"Food is not only food, it might be the only time during the day that one gets to meet another person"

Expenses:
- *Food box 34-45kr*
- *Food box from restaurant 32kr or more*
- *Cooking in the home, cost of the groceries*

SÄVENSTEDT, STEFAN AND ZINGMARK, KARIN AND SÄVENSTEDT, GERD (2007), "E-HÄLSA I VÅRD OCH OMSORG AV ÄLDRE"

Information and Communication Technology (ICT) are technical solutions that to some extent use computer based technology for exchange of information and communication between people.

Telemetry is a technology that allows the remote measurement and reporting of information of interest to the system designer or operator.

There are sensors that can register heart rate, body temperature, breathing rate, blood pressure and oxygen level in the blood, EKG and mobility. There are also sensors on the market that can measure blood sugar and electronic stethoscopes making it possible to listen to heartbeats from a distance. The ICT area develops fast and new sensors often reach out on the market. The most modern technology within EKG uses mobile technology to transfer information from the patient at home to the hospital. It is possible to connect the home with a health service center in order to quickly obtain help when necessary.

According to Gösta Bucht the possibility for doctors and patients to see each other and for the doctors to read basal values, contribute to making the patients feel safe. This is positive for both patents and doctors.

Intel is one company that pursues research and develops concepts within ICT. They look on how ICT can be built into the environment in an interactive way. Also Ericsson pursues this kind of studies.

One of the main aspects is to come up with networks and wireless sensors that can register and send information about the environment and the activities taking place there. Each sensor consists of a microprocessor, a transmitter and a battery. The sensor can for example supervise light, heat and movements. It could also send information to a central computer unit that can initiate preventing measures if something goes wrong.

Today ICT is focused on preventing sickliness and to support a way of living. It has become an aid for people with health problems and their relatives instead of an aid for professionals. Focus has changed from the caregivers to the caretakers.

Depending on standard and quality, videoconferences require different bandwidths. To execute a videoconference over the internet a bandwidth of 500kbit/sec is necessary. Relatively cheap cameras adapted to internet usage can together with a modern computer perform a videoconference from home with good quality.

New technology is associated with both fascination and fear. The modern technology shows possibilities; it makes people feel curiosity, fascination and hope. It is also associated with apprehension like the risk of treating humans as machines or objects that can be repaired.

Life is a process and not a state. With time the process of getting old makes people dependant on others for survival.

Technical solutions work better in homes if they are designed for safety, recognition, power, control, seclusion and closeness. The experience of being at home is of great importance when designing technical solutions.

The ACTION- project in Borås 1997 has been developed to support elderly and people with dementia. It has been shown that picturephones are valuable for caring-relatives in their contact with other caring-relatives and staff.

In tests carried out with picturephones it has been found that two important themes are: making relatives more involved and a different way of communicating. Making relatives more involved include the experience of being able to communicate and yet feel free.

Caring is about love. Everyone has a desire to be seen and loved. It is a human need for both young and old, sick and healthy.

Bodylanguage is important in care of elderly and demented. It is the first thing a human learns and the last he/she forgets.

Prevention of failure is crucial. Technical solutions can be a great help. Sensors, aid to prevent fall injuries, GPS systems and telephone boards with photos are some examples.

If there are possibilities to create an experience of physical and social presence in the virtual room the prerequisite for a mutual experience of presence exists.

According to Enlund there are three factors that influence the experience of presence in videoconferencing:

- *A high quality of the technical environment*
- *The content of the conversation*
- *The attitude of the participating individuals*

The feeling of recognition can compensate new and unfamiliar technology introduced, both in the person participating in the videoconference and the familiar environment at home.

Many people who are important for the elderly do not have the possibility to visit as often as they would like. Conversations and meetings through a webcamera can then become a vital alternative.

To have a computer that collects and sorts the information from sensors could make it possible to create profiles over behavioral patterns.

Microelectronics and sensors can be woven into fabrics used in clothes or carpets. In this way smart clothes and smart floors can be constructed.

Electronic calendars can be used in cases where the elderly forget things. When a certain event is about to take place the calendar reminds the person by playing a prerecorded message.

One problem predicted with technical systems is that the efficiency of it might force the user to stay at home. In many cases it would be better, in a quality of life aspect, to live where company and staff that can supply emotional belonging is nearby.

Many elderly fear not being able to handle new technology. On the other hand the truth is that motivation is key to all learning, young and old alike.

Computer programs that build upon what the user is good at and has interest in contribute to a higher self-confidence and stimulate to learning.

Picture/ Observations

ENSKA DAGBLADET

7 april 2008 ÖKAR MEST I SVENSK DAGSPRESS Sedan 1884 | Mån–Torsd 15 kr | Fred–Sönd 20 kr

Är golfkrisen beviset för att samhället går framåt? LARS BERGE Nyheter sid 13

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ILLUSTRAT

ENSAM HEMM

SvD granskar följderna när fler äldre måste bo hemma

tioner används allt oftare av larmsamtal till

ofta flytta till ett boende men måste bo
Mats Thorslund, professor i socialger
granskar SvD vad som händer när d
tidigt som de gamla blir a

I interviewed 10 seniors and listened to what they had to say about quality of life. We spoke about food, family, friends, sports, memories, technology and a lot more. The purpose was to understand what elderly appreciate and what makes their lives worth living. This part of the research has been fundamental for the continuation of the master project. On the following pages some of the comments during the interviews are presented. Quotes of importance for subsequent phases are marked in pink and translated into English in the analysis section. The following pages are documented in Swedish.

QUALITY OF LIFE

“Beröring är det viktigaste man kan ge. Tar man bort det förloras mycket livskvalitet. Att bli struken över pannan kan vara nog. Personal på äldreboenden måste lära sig det.”

“Livskvalitet är en åldersfråga men också en genetisk fråga. Vi är inte lika allihop, vi är faktiskt olika och uppfattar livskvalitet på olika sätt.”

“Det är viktigt att skratta. Jag skrattar gärna åt vitsar på radion.”

“Livskvalitet innebär att man ska gå hädan på ett någorlunda hyggligt sätt. Folk ska inte ligga och dö ensamma.”

“Folk i andra länder med andra kulturer, där det inte konsumeras lika mycket, är nog ofta lyckligare än vad vi i västvärlden är. De har en annan syn på åldrandet.”

”jag är optimist så jag tycker nog att min livskvalitet är hög”

”vet du vad jag tror? Sålänge du har lusten så är du ung. förlorar du den så kan du säga adjö. Lusten känns som en liten kärleksbeskrivning. Finns inte lusten har man gett upp.”

”Skratta och vara glad måste man ju vara, ett gott skratt förlänger livet.”

”Man måste komma ihåg att ge folk beröm, alla behöver uppmärksamhet ibland, även svenskar. Man ska inte skämmas över att ge andra beröm.”

“Livskvalitet är allt jag har råd och tid med nu, god mat och att framförallt att inte behöva jäkta. En känsla av att man kan ta sig tid till det man vill.”

“Starka gener men framförallt lust, vilja och nyfikenhet behövs för att man ska få leva ett långt liv med livskvalitet.”

”Man måste lära sig att leva för dagen och inte tänka på det som kommer sen.”

”Förmågan att bli glad över det lilla är viktig. Det gör det värt att leva.”

”Bibehållen livskvalitet på ett äldreboende kräver glada och trevliga människor”

”Man måste räknas, vara behövd och omtyckt, hörd och respekterad för att kunna känna livskvalitet.”

”En positiv människa klarar infektioner och andra motgångar bättre än andra.”

”Att få leva i en vacker miljö kan också göra en lite gladare.”

”Man vill hamna i en miljö med egna prylar och rörelsefrihet så långt det går.”

”Livskvalitet är att ha ett stabilt liv där man inte behöver oroa sig för faror och oroligheter av olika slag.”

”Ett gott skratt förlänger käften. Jag skrattar gärna åt mina egna gamla knasigheter som blir roliga med tiden.”

”En god ekonomisk stabilitet är viktigt och givetvis relationerna till de närmaste. Ja, relationerna är nog det allra viktigaste.”

“People are not alike. We all experience quality of life in different ways”

ABOUT HEALTH AND QUALITY OF LIFE

"Hälsan är avgörande men hittills har jag haft tur, tillexempel hade jag en tumör som upptäcktes i tid. Jag lever egentligen på övertid."

"Någon stund på dagen som är sämre än någon annan finns inte men det är såklart tråkigt om man mår dåligt och är sjuk."

"Hälsan är otroligt viktigt men den börjar svikta med åldern."

"Jag önskar att jag får behålla hälsan, det är det absolut viktigaste."

"Så länge man får behålla hälsan ska man vara nöjd tycker jag."

"Jag läser och skriver ganska långsamt pga av dålig syn på ena ögat. Det har alltid varit så och har ingenting med åldern att göra."

"Inlärningsförmåga är svårt att mäta eftersom man inte sätts på prov särskilt ofta."

"Oja, det är vikigt med hälsan men än så länge är jag frisk och kry."

"Rörlighet är a och o"

"Jag har goda gener. Min mamma blev nästan 100 år och var pigg så gott som hela livet."

"Jag tror att hälsan är det absolut viktigaste, ja det är den verkligen"

"Jag önskar att jag får vara fortsatt frisk resten av livet och att jag ska kunna sköta mig själv ända till slutet."

"Mina väninnor pratar mycket om sjukdomar numera. Det var ett stort tabu för min mamma."

"Jag tror att den där oberoende känslan är jätteviktig. Man blir lite rädd av att tänka på den dag man inte ska kunna klara sig själv. Det är precis likadant för småbarn som för gamla."

"Det absolut viktigaste för livskvaliteten är hälsan."

"Även fast det är jobbigt att be om hjälp kommer hälsan alltid först och därför skulle det inte vara så svårt att be om hjälp vid tillfällen då man kroppsligt inte orkar."

"Jag har precis opererats för starr på ena ögat och det andra ska snart opereras så synen är inte bra."

"Hälsa är livskvalitet, men tyvärr kan man inte styra över den."

"Många tänker på åldern. Mina döttrar känner sig mer ansvariga nu än förr. De säger "Mamma ska du verkligen, nämen".

"Jag önskar att jag får behålla hälsan och att jag fick tillbaka en bra syn."

"Min hörsel är bra men det är svårt att selektera ljud i större folksamlingar."

"Jag har lite problem med en höft och synen är mycket dålig men annars mår jag mycket bra, jag känner mig nöjd."

"God hälsa är en förutsättning för att man ska kunna tillgodogöra sig det som är innehållet av livskvaliteten."

"Hälsan är väldigt viktig men jag har varit bortskämd"

"Jag springer inte lika fort som förr men jag har ju möjligheter att göra annat som väger upp."

"Vad som inträffar med åldern för de flesta är att man får försämrad balansförmåga. Så det börjar jag bli rasslig på. Hörseln blir också sämre för de flesta."

"Man har ju inget med inlärning att göra numera"

ABOUT ACTIVITIES AND QUALITY OF LIFE

“Det finns så mycket jag vill göra så jag håller en hög takt. Jag måste bl.a. sortera alla papper i källaren för det finns ingen annan som kommer att göra det”.

“Om man behöver hjälp med att byta glödlampor och annat finns det en vaktmästare som man kan ringa till.”

“När man kan komma ut känner man sig fri men det blir inte varje dag och det är ett stort fel.”

”Jag tycker om gammal musik eller vad man ska säga, Christer Sjögren och så. Det kommer folk från kyrkan och sjunger också, det är mycket vackert med psalmer.”

“Att gå på bio är inte så viktigt men möjligheten att kunna gå på bio är viktig.”

“Jag har för mycket fritid.”

“Jag ser framemot alla aktiviteterna här på Fristad.”

“Att gå promenader själv är inte så trevligt. Det är läskigt med busgäng och annat bråk som kan förekomma.”

“Jag skulle gärna komma iväg oftare till konserthuset som ligger så nära.”

”Söndagar är jättelånga, jättetråkiga och jättevidriga. Jag tycker inte om söndagar och jag tror att det finns många med mig.”

“En gång i veckan promenerar jag med folk från Adolf Fredriks församling, gärna runt Djurgården. Efteråt dricker jag gärna en kopp choklad på ngt trevligt ställe.”

”Det finns exempel på äldre som inte har något annat att göra och därför bara ägnar sig åt barnbarnen, det är ett gift”

“Vi var ett tiotal gamlingar som var ute och promenerade och hade skojigt ihop.”

“Kulturella evenemang sysselsätter jag mig gärna med, både ensam och med andra. “

“På våren när det börjar knoppa är det skönt att gå promenader själv så att man hinner titta på allt vackert som arkitektur och grönska.”

“Man har mycket mer tid nu än förr”

”Musik på CD är ett bra alternativ men det är inte det där levande som man får på en konsert”

”Talböcker är toppen när man inte ser så bra. En jädra tillgång faktiskt”

”Det är otroligt viktigt att vara delaktig i något utanför hemmet, att man har något intresse och är behövd, att inte behöva sitta hemma och klösa i väggarna. Det är viktigt att bli respekterad som en människa som har något att ge.”

“Av dem som är delaktiga i pensionärsaktiviteter är 80 % kvinnor.”

“Skulle man förlora synen är ju talböckerna en väldig tillgång.”

”Jag är intresserad av så mycket, det kan vara ett besvär ibland.”

”Det är nog stimulerande att känna sig behövd. Ovärlden ska se till att ta tillvara på den kapacitet som finns hos äldre. Man behåller sin värdighet om man kan bidra med något, så man är inte utdömd bara för att man fyller 65.”

ABOUT SOCIAL BELONGING AND QUALITY OF LIFE

”Jag har ett antal fasta gamla relationer, kurskamrater, min tenniskompis och några andra. Jag har inte särskilt sort umgänge längre.”

“Sällskap är ofta att föredra framför ensamhet.”

“Jag skrattar gärna åt roliga vitsar eller annat skoj, men oftast i sällskap. Att skratta för sig själv händer inte så ofta men om jag hör något på radion kan jag skratta.”

“Jag har ingen bästa vän längre, de har dött allihop”

“Jag har inte så många nära vänner men en mycket stor bekantskapkrets. Det finns många som jag inte ens kommer ihåg namnen på.”

“Ibland vill man ha sällskap vid måltiden och ibland är det skönt att vara ensam. Variation och valmöjlighet är bra.”

“Det är det viktigt att vara i harmoni med sig själv. Då kan man stå ut med sin ensamhet. Det är tråkigt om man inte kan umgås med sig själv.”

“Telefon använder jag när jag inte kan träffa vänner och familj. Min son ringer en gång i veckan och min dotter också, och bland tittar de förbi.”

“Umgänge är viktigt och det får man delvis genom serviceboendet. Vänner sen tidigare i livet har jag inte så många.”

“Telefon är det bästa alternativa kommunikationsmedlet. Kort skriver jag också ibland men då saknar jag direktkontakten.”

“Någon bästavän har jag inte kvar, det är familjen som är livet nu.”

“Jag har många omkring mig och jag tror att det är en fördel. Jag tror att livet vore odrägligt om man bara satt hemma och väntade på hemtjänsten, vilket det är många gamla som gör.”

“Jag skriver inte brev, det är jag dålig på. Däremot är det bra med telefon och när jag väl pratar med någon kan det bli långa samtal.”

“Vänner är mycket viktigt men jag har tyvärr inte några vänner kvar i livet.”

“Vart ska man hitta kärlek? Kärlek är livet egentligen, eller det har den i alla fall varit.”

“Det bästa jag har är min familj och kontakten med dem.”

“Kvinnor har nästan alltid många vänner medan män kanske bara har en.”

”Det ä skönt och mysigt att komma hem efter att ha varit ute och flängt, att få var ensam en stund är bra.”

“Jag har haft 5 barn men nu är de bara 3. Jag har haft oturen att förlora både min yngsta son och min äldsta dotter.”

“Man ska vara positiv och hjälpa andra.”

“Min dotter i Saltsjöbaden ringer varje dag och hör hur jag mår.”

“Telefonen är viktigt för att kunna hålla kontakt med gamla vänner, så att man inte isolerar sig. Jag skriver också mycket brev till mina kompisar i USA. “

“Jag kan själv! Ibland ska mina döttrar hjälpa till för mycket. “

”Mina båda bästisar har dött i tidig ålder. De känns som att det saknas någon att prata med om allt. Med bekanta har man inte någon tråd att picka upp, man kan inte säga: kommer du ihåg det där.”

“Jag går på teatern, reser och promenerar med en väninna som bor på Valhallavägen. Hon är nog min bästis”

”Om man inte är intresserad då får man sitta ensam och det är det många gamla som gör.”

”Klart jag skulle vilja ha hela familjen hemma oftare men det blir bara två gånger per år, jul och min födelsedag. Det är att det är ett så stort projekt som gör att det inte blir lika njutbart.”

“Per telefon har jag daglig kontakt med en kusin och ett äldre par. Telefonluren lyfter jag gärna.

Jag är nöjd med hur ofta jag träffar både familj och vänner.”

”Släkten har så mycket annat att göra men de kommer förbi och kissar av sig ibland.”

“Familj och vänner behöver man. Tyvärr dör de undan men så är det bara.”

“Förr hade jag en granne som jag brukade hjälpa. Hon behövde mig.”

“Det är svårare för män än för kvinnor eftersom de ofta inte har lika stora sociala nätverk. Kvinnliga nätverk och konstellationer lever vidare medan männen är ganska så ensamma och mer beroende av en partner än vad kvinnor tycks vara.”

“Närhet är viktigt men det blir lite med det nuförtiden. Jag vill gärna krama dig.”

“Jag ser alltid framemot möten. Det kan vara måleriet, sjukgymnasten eller något annat, det spelar egentligen ingen roll.”

“Visst kan man tänka sig att tala om minnen med andra än de som var med men det finns ingen som frågar.”

”Kan man vara ensam och tycka att det är skönt så är det livskvalitet. Somliga kan inte det och det verkar jobbigt.”

“Jag ser inte fram emot att vara ensam utan att kunna ta mig något för. Man är lite latare eller räddare eller något, lite mer segstartad. Jag har jädra svårt att vara ensam.”

“Man skrattar och känner sig upprymd när man är med andra människor som man tycker om. Man måste känna sig trygg med människor som man kan skratta med.”

“Jag saknar fiske. Jag har slutat med det eftersom jag inte har någon fiskarkompis längre. Saker blir lättare av om man bestämmer att man ska ses än om man måste ta sig för något på egen hand. Det blir inte lika roligt om man är ensam för då finns det ingen att klaga eller skryta för.”

”Vi kunde nog ha haft ett lite större umgänge. Släkten bor inte i Stockholm så dem träffar jag inte så ofta.”

”Det är skillnad att bo på mindre orter där alla känner alla, då har man alltid någon att prata med.”

”7 % av alla 70åriga män har ingen bästavän. Det har jag, Hasse som jag promenerar med.”

“Att Karin flyttar med skulle vara ett krav för bibehållen livskvalitet i ett nytt boende. De sociala kontakterna är de viktigaste. Att barnabarnen bor i närheten är förstås viktigt. “

“Fönstrena behöver putsas men jag vill inte ta hjälp av någon anhörig, jag vill inte belasta dem. Alla är så sysselsatta och man måste respektera och förstå det. “

“Jag skulle gärna träffa familjen mer. Tillexempel skulle jag vilja hjälpa min son med tekniska lösningar men jag får alltid chansen för sent.”

“Jag träffar barn och barnbarn ngn gång varannan vecka. De får mig att skratta men min man har också humor.”

“Jag träffar inte mina barnbarn så ofta men det är roligt när det väl blir av.”

”Ensamhet är inte min starka sida”

”Jag har väninnor som är ute på nätet för att söka kontakt med män. Det är inte skämmigt att svara på kontaktannonser längre, de finns ju överallt.”

“Folk med gott humör smittar av sig och gör andra glada.”

”Det är ok att vara ensam i begränsad omfattning. Om det finns saker att göra går det bra att vara ensam men att komma hem till ensamhet tycketr jag inte om”

“Alla i familjen bor i stockholmstrakten så jag träffar dem ganska ofta. Ibland hämtar jag två av barnbarnen på dagis.”

”Men vilken tillgång det är att vara senior i Afrika, det var verkligen inget problem där. Det förekommer inte att äldre människor bor ensamma.”

ABOUT MEMORIES AND QUALITY OF LIFE

“Minnena är det viktiga och därför skulle jag antagligen vilja ta med mig fotografier om jag var tvungen att flytta till ett äldreboende. Jag vill också ha fortsatt kontakt med mina nära och kära.”

“Jag tänker mycket på det som har varit. Särskilt mycket tänker jag på min avlidna hustru och våra gemensamma resor.”

“Man tänker mer på det som har varit när man blir gammal. Jag har många fotografier som jag gärna tittar på.”

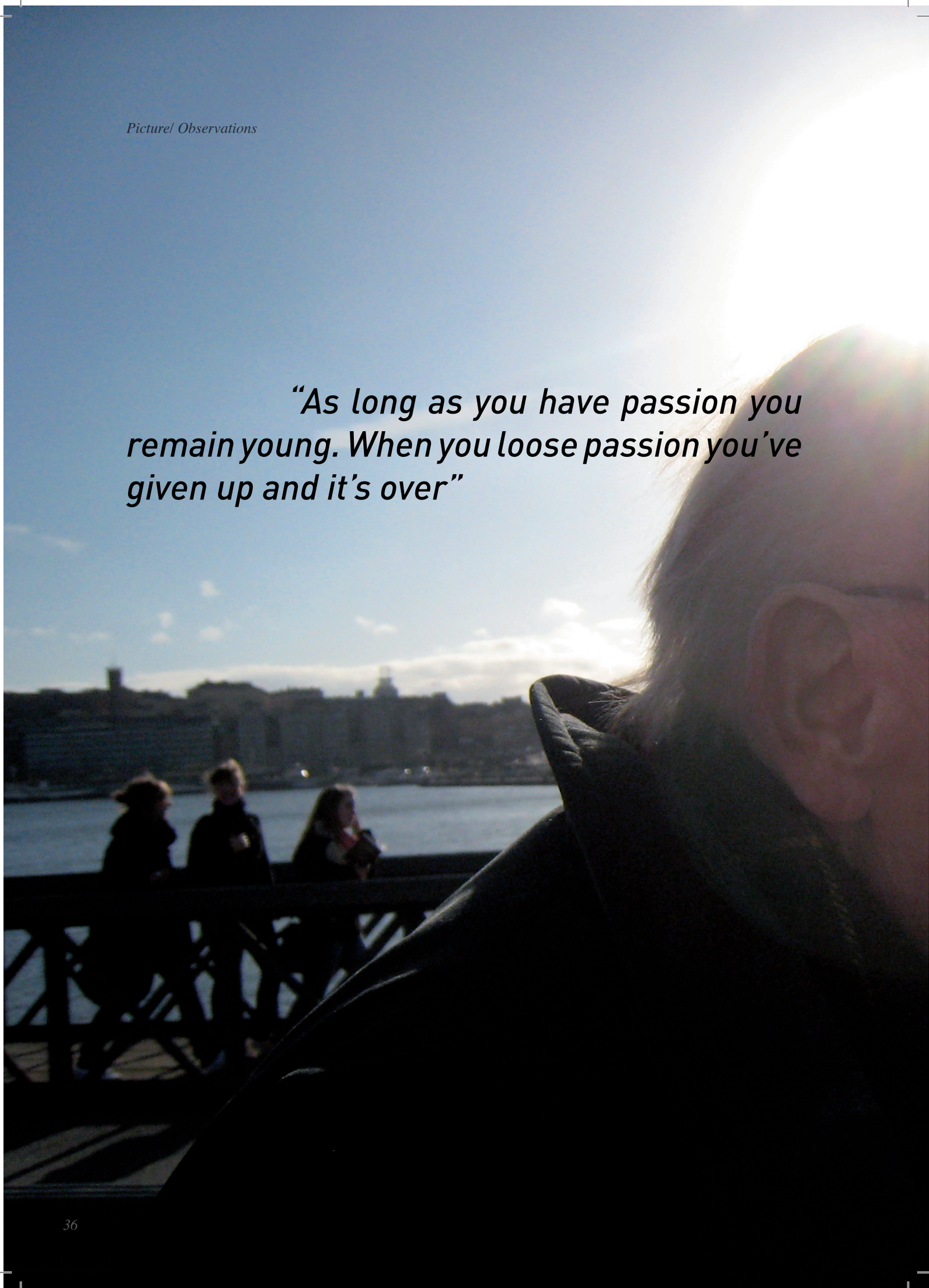
“Folk att minnas med faller ifrån en när man blir äldre och det är en väldig saknad.”

”Om man nu hamnar på hemmet så har man åtminstone sina minnen.”

”Man kommer bara ihåg de soliga dagarna. Det är ingen idé att tänka för mycket på det som har varit eftersom livet går vidare”

“Det bästa sättet att uppleva gamla minnen är att ta fram ett gammalt fotografi eller ett brev. “

”Det roligaste sättet att återuppleva minnen är tillsammans med den som var med, någon att dela minnena med. Att titta på fotografier är också bra.”



"As long as you have passion you remain young. When you loose passion you've given up and it's over"

ABOUT MOBILE PHONES

“Jag gillar inte SMS. Det beror på de sablarns små knapparna och jag kommer inte ihåg vart de olika bokstäverna sitter. Min dotter skickar ofta SMS men hon vet att hon inte får svar.”

“Knapparna är en skandal, särskilt på mobiltelefonen. De som har utvecklat telefonerna borde vara tvungna att använda dem i en vecka själva, iförda dimglasögon och handskar så att de förstår. Att det kunnat vara såhär i alla år är dåligt!”

“Ljuskontrasten är ett problem.”

”Jag är dålig på nya tekniska produkter men jag har en mobiltelefon”.

“Jag har en mobiltelefon som jag inte använder särskilt ofta men den är bra att ha om man är ute på stan. Många av mina väninnor använder inte sina mobiler, de ligger oftast i någon byrålåda någonstans.”

“Jag kan inte använda min mobiltelefon. Jag hatar allt vad knappar heter, jag vet aldrig vilka jag ska trycka på.“

”Mobilen tar jag med om jag är osäkert på om jag ska hinna till något möte eller så. Men det är ju ofta så att den man ska möta inte heller använder mobilen.”

“Det är inte bara för att jag inte kan som jag inte använder mobilen, jag har ett hopplöst motstånd också.”

“Det är försmå knappar, svårt att se och jag gör alltid fel. Det är besvärligt. Jag har långa naglar så det händer att jag trycker på flera knappar samtidigt.”

”Jag kan skicka SMS och sådant men jag laddar inte mobilen och använder den inte så ofta. Men visst, den är bra att ha.”

“Mobil för äldre ska ha få och tydliga knappar. Av och på knapp ska det finnas och så ska det vara räfflat så att man kan känna vad som är upp och ner på den. Den ska vara lätt att hålla i också.”

“Jag lämnar inte ut mobilnumret i onödan, för att inte bli beroende. Dessutom hör jag inte när det ringer, vibrationssignal fungerar inte heller. Jag vill kunna ha mobilen i handväskan och ändå höra.”

“Jag älskar inte att manövrera mobilen med mina klumpiga fingrar. Det fungerar bra eftersom jag har en gammal modell som har större knappar. Mobilen kan mer än vad jag kan.”

“Jag är emot att göra mig beroende av tekniska grejer som indirekt säger att man är tillgänglig. Jag är lite skraj för det men jag inser finessen. Ibland lägger jag bort mobilen i flera dagar och då undrar folk vart man har tagit vägen. Det gjorde de inte innan mobiltelefoner fanns.”

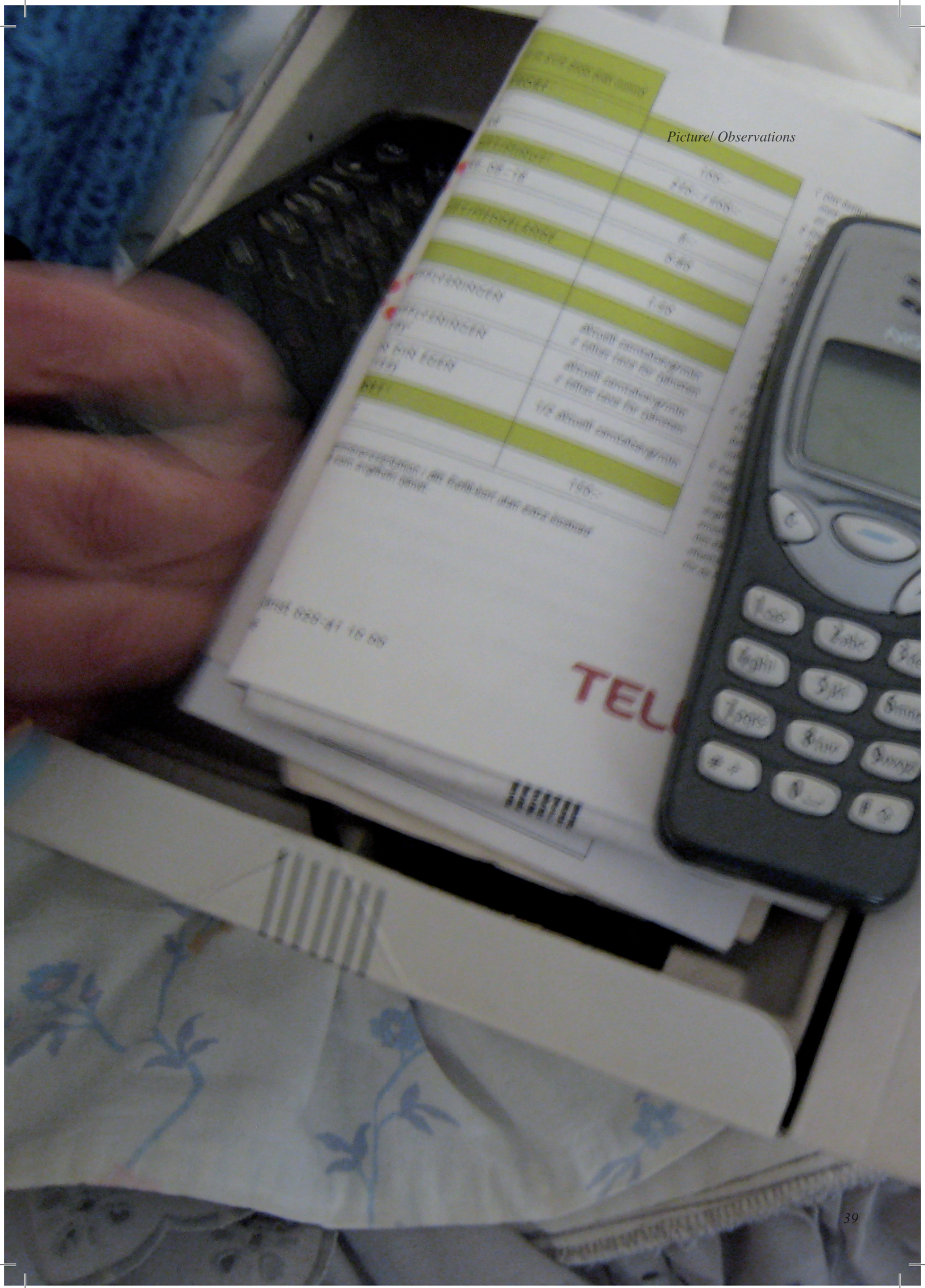
“SMS använder jag inte alls. “

”Mobiltelefon är jag ganska ointresserad av”

“Det ger ett nervöst intryck med folk som alltid har mobilen i örat. Man ska inte alltid behöva vara uppkopplad.”

“Bildtelefon kan vara bra så att man kan kommunicera med nära och kära.”

”En mobil ska vara anpassad till dålig syn och knapparna ska vara lite större.”



ABOUT COMPUTERS

"Jag använder mycket e-mail"

"Jag använder datorn mycket. Jag har haft dator sen i början av 80talet."

"Datorerna är mycket bättre än mobiltelefonerna, de går att hantera. Man kan förstora saker osv."

"Jag har aldrig använt dator eller internet och jag är inte intresserad av det.
Det är jobbigt att lära sig nya saker och det finns ingen anledning att bry sig eftersom jag inte räknar med att leva så många år till."

"Det känns lite underligt med alla nya maskiner som kommer men det är såklart framtiden."

"Jag har en dator. Den var en present från ett av mina barnbarn som inte använde den längre. Han visade mig hur den skulle användas och hur den fungerade. Nuförtiden har han aldrig tid men det finns andra som kan hjälpa till ibland. "

"Jag skaffade mig en dator för många år sen men jag gjorde mig snabbt av med den. Min fru fick epilepsi och jag hade hört att man kunde få epileptiskaimpulser av datorn."

"Jag använder datorn till att läsa nyheter, sporten och skicka brev. Jag har precis lärt mig hur jag ska titta på bifogade fotografier. De har legat gömda men nu vet jag vart jag ska trycka för att de ska dyka upp. "

"Datorn är en enorm tillgång ibland."

"Min inlärningsförmåga är ok men det tar ju garanterat längre tid för mig att lära mig ett nytt datoprogram än det skulle göra för dig"

"Jag måste erkänna att jag skulle vilja ha en sådan där liten laptop. Det är så ofta de säger på Tv att man kan gå in och kolla på den eller den internetsidan. Men knapperiet…"

"Jag är ingen datorvän och det har känts som en brist. Alla vänner tycker att man ska tycka att det är toppen med all ny teknik men det gör inte jag. Det kan delvis bero på min dåliga syn som gör det jobbigt att se på skärmen. Jag är inte främmande för själva användandet men om det är ngt som krånglar blir jag strandsatt."

"Jag längtar inte efter att sätta mig framför datorn men jag kan söka efter saker på Google och skriva brev och e-mail."

"Dator har jag aldrig använt men min båda sönerna har varsin dator. "

"Vore det så att man fick en maskin med lätta knappar med kontraster och någon som sitter med och i lugn och ro lär en det där, då skulle jag vilja ha en dator."

"Det är nog den praktiska biten som är felet. I annat fall är det såklart en tillgång med en dator. "

"När jag vill använda dator går jag till på stadsbiblioteket, man måste inte äga allt. T.o.m. konsum har ju datorer.

Jag brukar sitta ganska mycket framför datorn med korrespondens."

"En datorskärm är svår att se på, jag har flyttat den närmare mig och böjer mig framåt. Det märks skillnad jämfört med för 10 år sen."

"Alla säger att jag borde skaffa en dator men det orkar jag inte. Ska jag sitta hemma och knäppa på den då, istället för att gå ut?"

"Många äldre värjer sig mot det nya med datorer. Som gammal pedagog kan man tycka att vi har varit dåliga på att anpassa pedagogiken för de gamla"

"Vad som är bra idag är att det kommer lättare och lättare datorprogram och förenklade hjälpmedel, det står tillexempel vad man ska göra om man har gjort fel."

"Man kan aldrig alla funktioner på apparaterna, man kan ingenting fullt ut. Apparaterna kan mer än vad vi kan"

"Det lockar mig inte så mycket att titta på saker på nätet. Däremot är det ett mycket bra alternativ om man ska köpa biljetter osv."

"Datorn är jag inte så road av men Outlook är bra. Jag menar e-mail är mycket bättre än fax."

“Telefon och dator är bra alternativ när man inte ses öga mot öga. Det är mer neutralmark på något vis och ibland känner man inte för att träffas.”

”Jag vill inte bli beroende av en dator.”

“Det ska vara enkelt, det är en viktig uppgift för dig som designer. Det ska i alla fall finnas enkla varianter av produkterna. “

“Man skulle kunna förvänta sig att släktingarna som är jätteduktiga på datorer kunde hjälpa till men de har aldrig tid.”

ABOUT INTERNET

“Det är bra att kunna skicka e-mail men det är inget som går före umgänge.”

“Internet använder jag ngn gång i veckan. Mest för att kolla upp saker och läsa alla e-mail. Ibland kommer det för många mail som man bara måste radera.”

“Biljetter är behändigt att boka på nätet men det överlåter jag till sin man.“

“Det var bra att kunna maila angående min tappade hörapparat eftersom det var svårt att höra på telefon då. “

”Jag har aldrig chattat och det har jag inte heller känt någon lust till. Jag har hört om både Skype och Facebook”

“Jag har en dator som jag skickar e-mail från till alla mina barn och även barnbarn då och då.”

“Jag tycker det är läskigt att köpa saker på inernet så det har jag aldrig gjort men folk har hjälpt mig att köp flygbiljetter. Det verkar mycket smidigt och billigare än att boka via resebyrå.”

“Jag har blivit lovad att få hjälp med att installera ett program för att prata i telefon. Ja, Skype har jag hört talas om.”

“Internet använder jag för att ta reda på saker. “

“Jag har aldrig köpt något över internet. Jag går hällre till stället där t.ex. konserten spelas för att köpa biljetter.”

“E-mail skickar jag till en väninna i Japan.”

“Jag har övergått från fysiska brev till e-mail. Det har många fördelar men jag tyckte om att skriva brev. “

“Jag köper böcker på inernet. Jag har också sålt grejer på Tradera och Blocket. “

”Biljetter köper jag på nätet nästan jämt.”

”Snart ska vi åka till Köpenhamn och då ska jag leta biljetter på nätet. Det enda bekymret är att det känns lite osäkert. Finns det verkligen en plats när man kommer ut till Arlanda?”

”E-mail använder jag mer som faktiskt kommunikationsmedel.”

ABOUT TELEVISION AND RADIO

“TV är numera nästan ett måste. Radion är också otroligt viktigt.”

”jag är en radioidiot, eller en radiot som jag brukar säga”

“Radion är en favorit men TVn är inte heller så dum.”

”Radion är toppen, jag är P1 diggare.”

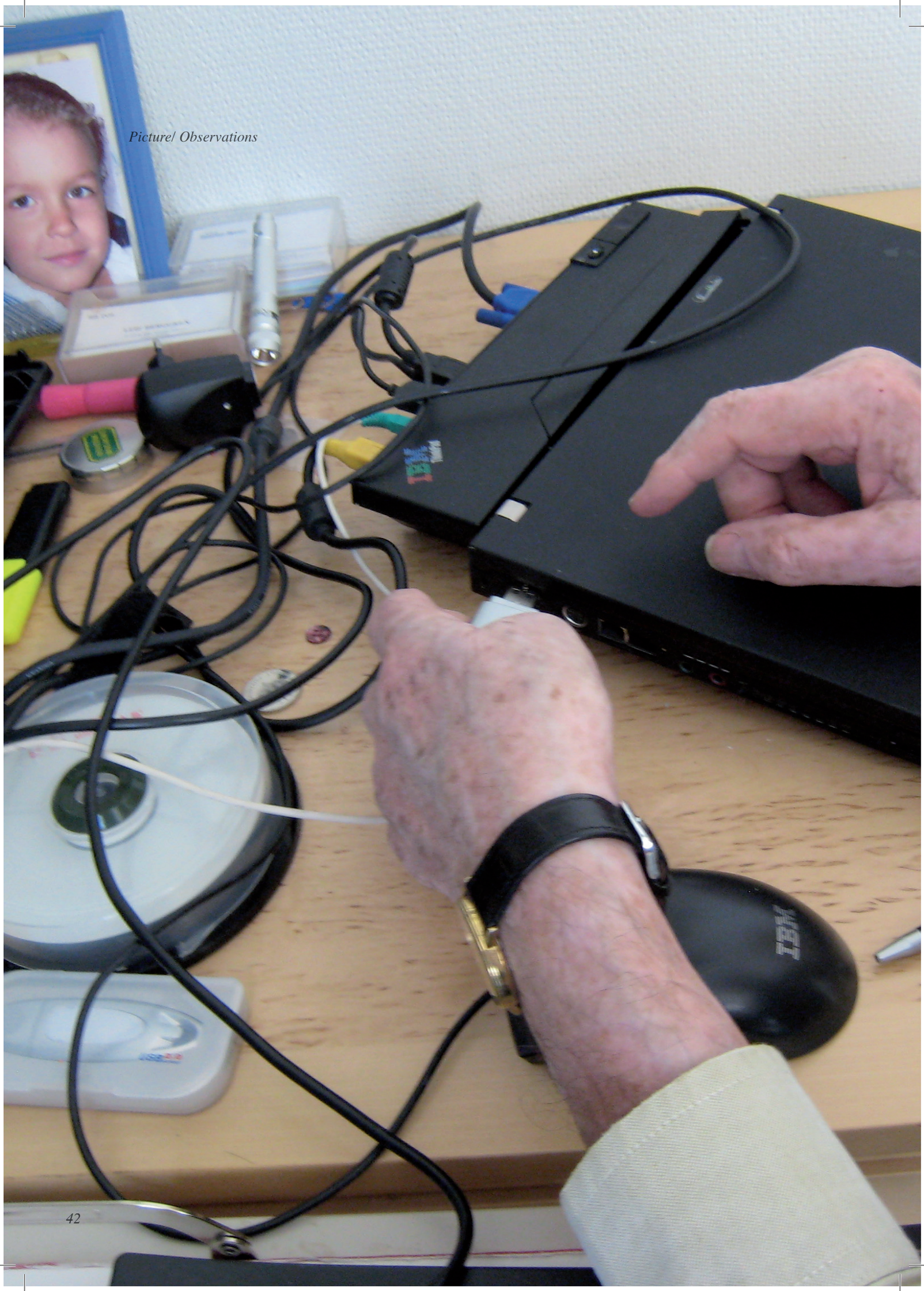
”Jag lyssnar mycket mer på radio än vad jag ser på Tv. Det är alltid P1 som står på. Bokuppläsningar är underhållande. Jag gillar musik men lyssnar hellre på pratprogram.”

“Radion kan man lyssna på samtidigt som man gör en massa annat. P1 har alltid varit bra men det börjar bli sämre.”

“Jag skrattar ganska ofta åt saker på radio eller Tv men jag berättar gärna historier själv också.”

“Det är mycket dåligt som visas på TV men den är ett bra sällskap.”

“TVn är ett bra sällskap från kl16 och framtill läggd-


IBM
IBM

ags. Antikrundan och dokumentära filmer är mycket bra. Jag kan spela in filmer och titta på dem senare, det är jag stolt över att jag klarar."

"Jag tittar gärna på antikrundan men säger nejtack till den om det erbjuds en konsert"

"TVn är en jädra tillgång för äldre. Det kanske inte är så hög status att säga det men det är livskvalitet."

ABOUT MANUALS

"Nyteknik är kul bara någon visar hur man gör. Instruktionsböcker är så jobbiga och dåligt skrivna."

"Instruktionsböcker ska vi inte tala om. Jag får knottror på hela ryggen av att bara höra ordet instruktionsbok. Jag behöver någon som sitter bredvid, som sakta och lugnt visar hur man ska göra. "

"Även seniorer använder datorer men man skulle behöva hjälp med alla instruktioner. Vad betyder egentligen de olika förkortningarna? "

"Bruksanvisningarna är det sämsta, de fungerar inte och det refereras till fel knappar och sånt"

"Jag har jättesvårt att be om hjälp, då får man skylla sig själv."

ABOUT TECHNOLOGY IN GENERAL

"Jag är nyfiken på ny teknik. Senast köpte jag en GPS och en espressomaskin. Espressomaskinen var jag skeptisk till eftersom den var så dyr men den fungerar bra."

"Jag lyssnar inte så mycket på musik men jag har fått en spelare av min son. Han har matat in en massa musik på den men jag lyssnar hellre på en talbok."

"Apparaten kan, men inte jag!"

"Ny teknik är spännande, mycket spännande. Tänk om forskningen gick lika fort framåt som den nya tekniken!"

"Jag har bärbartelefon och mikro. Det är allt en pensionär behöver."

"Tekniska produkter som jag använder i vardagen är, radio, Tv och telefon."

"Jag är rädd för besvär och är mycket lat."

"Ingen är intresserad av en pryl med massa funktioner, ingen över 80 börjar med något sådant. Äldre vill inte lära sig, det är jobbigt och inkluderar alltid för många moment. Det är också skillnad mellan äldre kvinnor och äldre män."

"Jag är öppen för ny teknik om det är något som man kan tänkas behöva. Många har ju svårt med händerna men så långt har jag inte kommit ännu."

"Senast köpte jag en digitalkamera men jag har inte hunnit använda den än. Jag måste lära mig hur man lägger in och tittar på bilderna på datorn. Det är lite synd att man inte kan ta fram ett album att bläddra i tycker jag."

"Ny teknik är spännande och det går inte att stoppa utvecklingen men det kommer så in i helvete med nya saker."

"Tekniska produkter behöver jag inte. Jag har en mikrovågsugn och en kaffebryggare för två koppar kaffe."

"Jag har ett barnbarn som bor i Kina och kan ringa från datorn, gratis! Det är mycket bra."

"Nya tekniska produkter vill jag inte vara med om."

"En tekniskprodukt för äldre måste ha högre ljud än andra produkter."

"Jag är inte främmande för ny teknik."

"Ny teknik är inte att föredra om det bara blir en ursäkt för att hålla gamla människor som vill flytta kvar hemma."

"Det ska inte vara så många funktioner i varje produkt."

UP
SET
DOWN
TAPE
TUNER BAND
CD

OK
1
2
3
4
5
6
7
8
9
0
AV

QUESTIONNAIRE

In connection to the interviews a questionnaire was filled out by the interviwees. They were asked to evaluate their own abilities such as sight, vision, hearing and memory functions. They also got to tick words on a list that for them were connected to quality of life. The result of the questionnaire led to a conclusion presented on page 52-53. The outcome of the interviews and questionnaires has been crucial for the final result of Vital.

Namn **Kön**

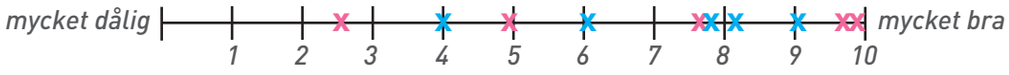
Födelseår **Datum**

SÄTT ETT KRYSS PÅ LINJEN DÄR DET PASSAR BÄST IN ENLIGT DIG

Min syn är:

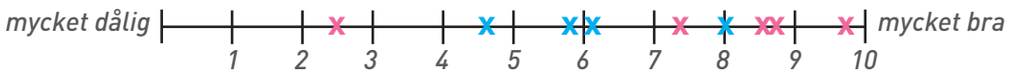
Min hörsel är:

Min rörelseförmåga är:



Min finmotorik är:

Mitt minne är:



Min inlärningsförmåga är:

Min generella hälsa är:

x Female

x Male

1

RINGA IN DE ORD SOM DU TYCKER HAR MED LIVSKVALITET ATT GÖRA

familj 5 | natur 2 3 | mat 2 3 | sport 1 3 | teater 2 1 | TV 2 4

vänner 4 4 | vin 2 2 | konst 3 | dans 1 | hantverk 2 1 | rollator 1

böcker 3 3 | hälsa 4 4 | rörlighet 4 3 | bil 2 | cykel 3 | religion 1 1 | resor 4 2

partner 1 | staden 3 | djur | sömn 3 | minnen 3 | säkerhet 1 2

närhet 1 2 | radio 2 3 | god ekonomi 4 4 | teknik 2 | minne 2 2 | arbete 3

ensamhet 1 | hemtjänst 1 | sällskap 2 3 | musik 4 3 | kärlek 1 4

SKULLE DU VILJA LÄGGA TILL NÅGRA ORD I LISTAN OVANFÖR, VILKA?

saknar jobbet, talböcker, hobby

whisky, delaktighet, vara behövd

SÄTT ETT KRYSS PÅ LINJEN DÄR DET PASSAR BÄST IN ENLIGT DIG

Min livskvalitet är:

RITA NÅGOT SOM HAR MED LIVSKVALITET ATT GÖRA ENLIGT DIG

2

Namn **Kön**

Födelseår **Datum**

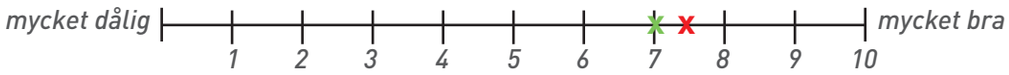
SÄTT ETT KRYSS PÅ LINJEN DÄR DET PASSAR BÄST IN ENLIGT DIG

Min syn är:

Min hörsel är:

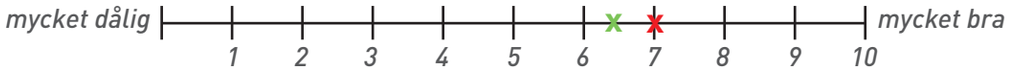
Min rörelseförmåga är:

Min finmotorik är:

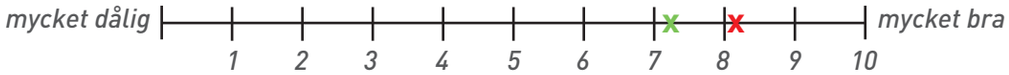


Mitt minne är:

Min inlärningsförmåga är:



Min generella hälsa är:



x Mean value

x Meridian

1

RINGA IN DE ORD SOM DU TYCKER HAR MED LIVSKVALITET ATT GÖRA

familj 7	natur 5	mat 5	sport 4	teater 3	TV 6
vänner 8	vin 4	konst 5	dans 1	hantverk 3	rollator 1
böcker 6	hälsa 8	rörlighet 7	bil 2	cykel 3	religion 3	resor 6
partner 3	staden 5	djur 1	sömn 6	minnen 5	säkerhet 3	
närhet 3	radio 5	god ekonomi 8	teknik 2	minne 4	arbete 3	
ensamhet 1	hemtjänst 1	sällskap 5	musik 7	kärlek 5		

SKULLE DU VILJA LÄGGA TILL NÅGRA ORD I LISTAN OVANFÖR, VILKA?

saknar jobbet, talböcker, hobby, whisky, delaktighet, vara behövd

SÄTT ETT KRYSS PÅ LINJEN DÄR DET PASSAR BÄST IN ENLIGT DIG

Min livskvalitet är:

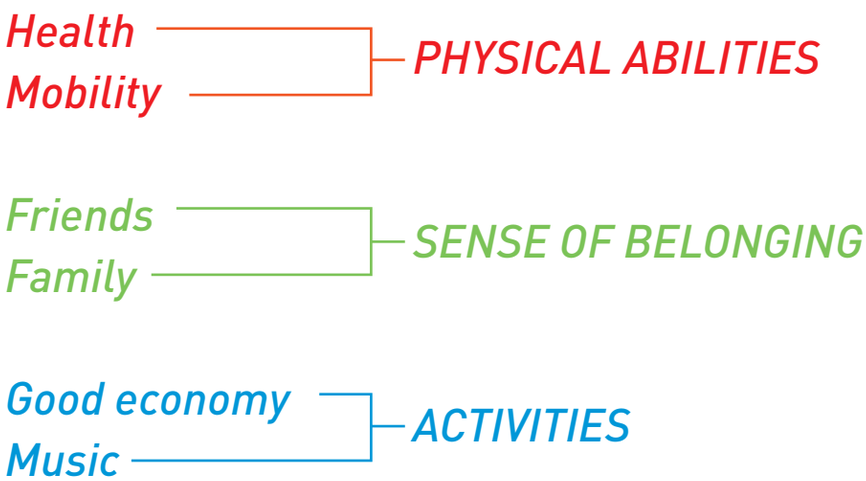
RITA NÅGOT SOM HAR MED LIVSKVALITET ATT GÖRA ENLIGT DIG

2

MOST IMPORTANT

Health, friends, good economy
Family, mobility, music
Travelling, books, sleep, TV
Nature, food, radio, the city, memories, company, love, art
Sports, wine, memory
Theatre, handicraft, bicycle, religion, partner, safety, closeness, work
Technology, car
Loneliness, home-help service, dance, animals, walking frame

LEAST IMPORTANT


Health
Mobility
PHYSICAL ABILITIES
Friends
Family
SENSE OF BELONGING
Good economy
Music
ACTIVITIES

PROJECT BRIEF

The final brief was written after the research period. It lead to a more worked out formulation of the expected outcome of the project.

The aim of this master project is to improve quality of life for a group of people that is rapidly increasing in the Swedish society. In the near future, the number of retired citizens will be greater than ever before. As people live longer and are healthier nowadays, they tend to live almost all their lives at home. This is often regarded as a positive trend, but can for the elderly be a limitation and not at all desirable. Life in old age can at times be lonely, with no partner to share difficulties and joy with and just a few friends left in life. Therefore, the contact with close family like grown up children and grandchildren becomes extremely important. Sadly, it is not a natural part of our culture to care for aged relatives. Seniors often express that they do not want to be a burden to others. They understand and respect their families for being busy with their own hectic lives, and prefer to be autonomous as far as possible.

A crucial aspect for a maintained high quality of life is to include elderly and to make them feel more participating and independent. According to interview results and research there are three areas that above all influence the sense of contentment. The first area is health and retained physical abilities, the second is the sense of social belonging, and the third is the availability of activities.

The idea is to support elderly who still live at home or who have moved to service flats. This group of people is often forgotten in design circles, but is becoming a huge consuming target group. The needs of elderly are often different from the needs of younger. For example, the older target group demands more practical and functional, easy to use products. This does not imply that the design of the product is less important. The market for well-designed merchandise, developed for the segment of elderly consumers, is underserved and is consequently an interesting area to work in.

With this in mind, the goal is to develop a technical device that can be associated with a laptop, an advanced gadget that is a normal part of life for most young people. The story is different for older users, who do not have extensive experience of computers or any other advanced consumer electronic products. Seniors often see the world of Internet as something threatening and difficult. As people get older the curiosity to learn decrease and only crucial learnings are accepted. Familiar appearances as well as interactive patterns have to be considered in order to design something successful.

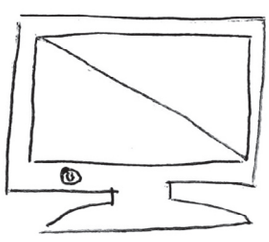
The new technology introduced to elderly has to be intuitive, help the user, and not take over. When it comes to quality of life, e-health and social networks are only two beneficial examples.

The final result of the master project should be a technical product, designed to accommodate the above criteria. The product might depend on, or connect to, any existing system or service. New applications for systems and services could also be developed as a part of the project.

ELDERLY

QUALITY OF LIFE

PRODUCT DESIGN



Why does it make sense to design a technical product for senior citizens?

A WORD OF INFORMATION

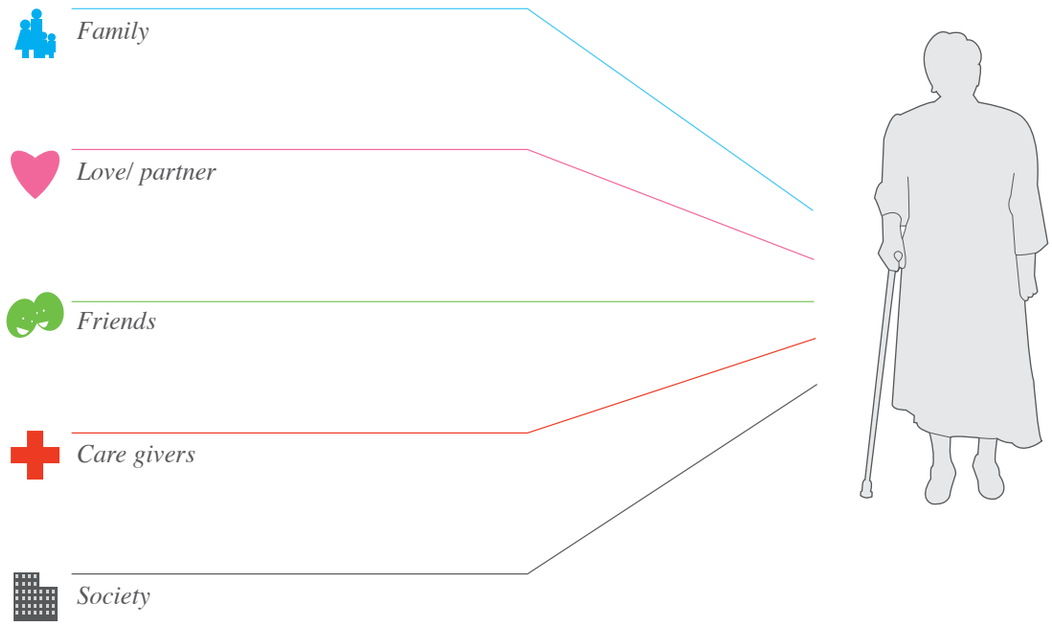
In the modern society of today, technology is a conventional element. Many of us do not remember a world without Google, Skype and Facebook. It is more common to search for information on the web than in books. Even hanging out in virtual worlds is widely accepted and almost as common as ordinary get-togethers. This kind of behaviours are not embraced by everyone and especially not elderly who often feel slighted. In one of the earlier interviews a lady explained how annoying it is to hear people on television advising the viewers to find more information on this or that homepage. Consequently, a computer is an important tool that allows the user to experience the big world without having to leave home.

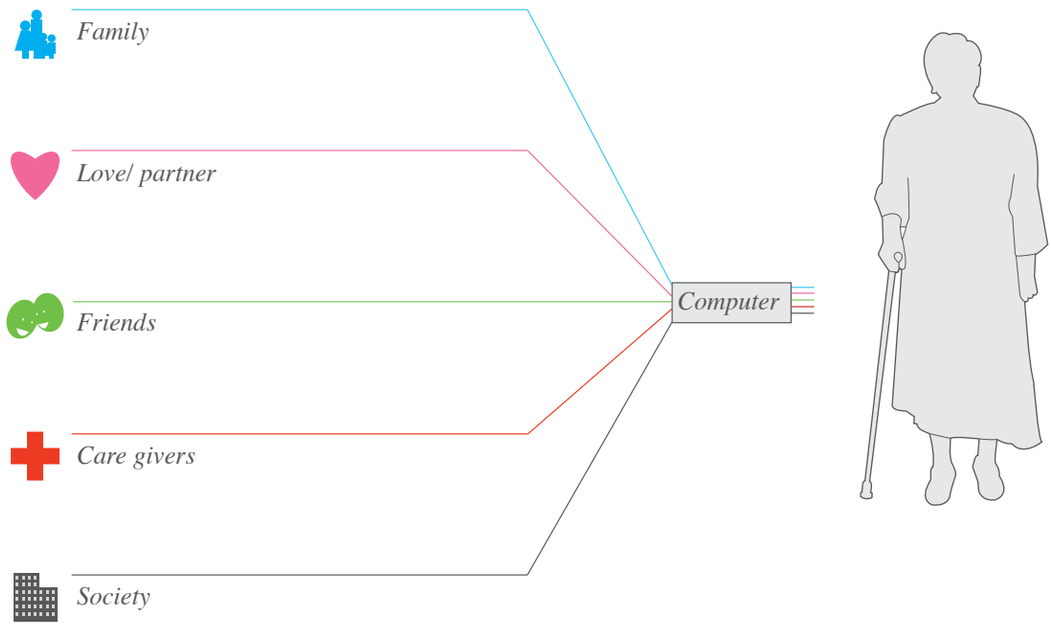
THE BIGGER PICTURE

In order to function every human has to process and filter a constant flow of information and happenings. Through the years we learn to coordinate and plan our lives, we search for information, evaluate it and take action. Nowadays the computer is the single most important assistant in this process; it is a link to everything around us. For people who cannot move freely it provides opportunities to experience and do things in a safe environment.

QUALITY OF LIFE AND HEALTH

Not until the day we become ill we realize how fragile life is and how important our wellbeing is to us. Almost all elderly have symptoms of more than one illness and even healthy elderly are often on a lot of different medications. Today patients are pushed around from doctor to doctor and have no possibility to get a proper overview of their own health status. The journal systems are not developed for elderly and notes of subjective perception of the single persons health is never done. With existing possibilities within telemedicine and computer technology it would be possible for the patient to be in control of the situation through a PC and even accomplish simple health checks at home.


Family
Love/ partner
Friends
Care givers
Society


Family
Love/ partner
Friends
Care givers
Society
Computer

PHYSICAL ABILITIES + COMPUTER

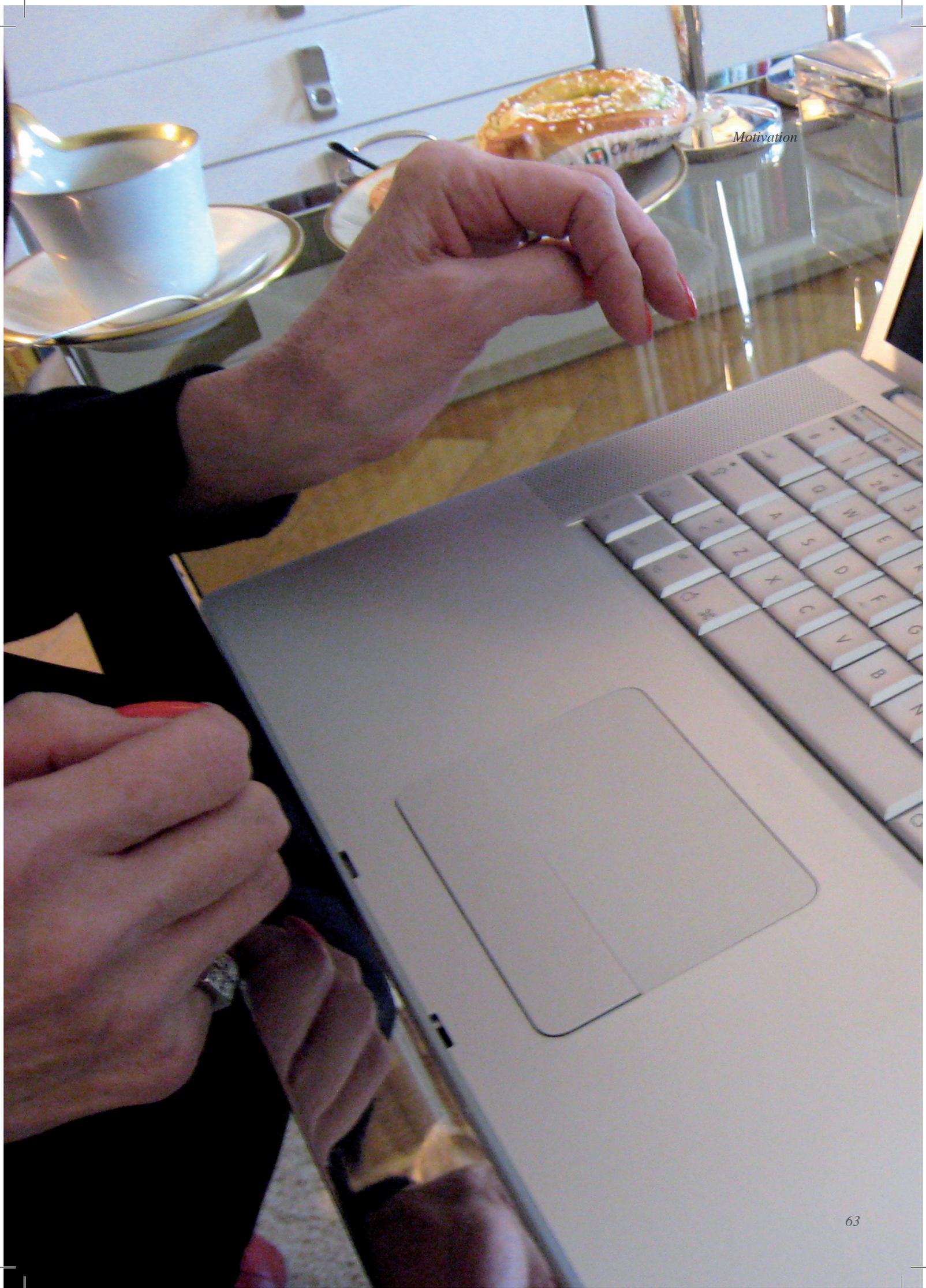
With the help of internet many health precautions can be achieved. Nowadays people use health sites to diagnose themselves before even calling a doctor. They can find out about appropriate medication and chat with patients with similar illnesses. The web educates people and allows them take control over their own situations. In the future even more health connected undertakings will happen online. Videoconferancing with your family doctor or automatically updated heath overviews could be two examples. For elderly this kind of development might be extra valuable since they often have regular contact with various physicians. In other words a computer can be a great helper in staying well. Especially if online health could be combined with routine health checks at home.

SOCIAL BELONGING + COMPUTER

For many of us it is nothing special about online networks. We are used to communicating with people via emails or chats and internet is often used instead of landline phone connections. The advantage is that online phone calls are free of charge and that video calls are included. With a single click your friend on the other end of the line appears on screen. Imagine if we could adjust these obvious services to work for less IT-experienced people with impaired vision and hearing.

ACTIVITIES + COMPUTER

If social networks become a natural part of the everyday life of elderly, opportunities to activate would come with it. Interest groups would automatically appear and chances to join like-minded on walks, concerts or dinners would be a spinn-off. There are many examples of web pages focusing on activities. For instance you can sign up for clubs that motivate you to move. These online communities make it is possible to compare your results with other's or choose to compete with yourself.



On the following pages an analyses of the interviews are presented as illustrations and systems. The quotations on page 66-73 are all taken from the interviews. More concrete ideas are later based on this analysis. By creating this type of overviews it was easier to understand the complexity of the concept: it became visual and more fusible.

PHYSICAL ABILITIES

- *"When it comes to being able to assimilate the content of the quality of life health is crucial"*
- *"I wish that I'll stay healthy the rest of my life and that I'll be able to take care of myself"*
- *"I belive that the feeling of independance is super important. I get scared when I think about the day that I'll not manage on my own"*
- *"Health is so important but it's getting weaker with age"*
- *"Mobility is the be-all and end-all"*

SENSE OF BELONGING

ACTIVITIES

- *"I have much more time now than before"*
- *"Sundays are very long, very boring and very disgusting"*
- *"Things are easier done if you do them together with someone. If I do things alone I have no one to brag or complain to"*
- *"I think more about earlier days now when I'm old. I have lots of photos that I love to look at"*
- *"Strolles alone are not very nice. It's scary with hooligans and other trouble out on the streets"*
- *"I feel free when I get out. Unfortunatley it doesn't happen everyday and that's wrong"*
- *"Talking books are great assets when the sight is not very good"*
- *"Going to the movies is not important. What's important is to have the possibility to go to the movies"*
- *"The TV is almost a must nowadays, the radio too"*
- *"Variation and options are good"*

“In order to have a high quality of life it’s important to feel needed and liked, heard and respected”

”The best in life is my family and the contact with them”

“I don’t want to burden my family, they’re so busy and I respect that”

”Sure, I can speak about memories with people who were not involved but no one ever asks”

”I always look forward to meetings.
It doesn’t matter of which kind, it could be with the physi-otherpist or someone else”

“Friends are very important, unfortunatley I don’t have any left”

“Most of the time I prefer company to loneliness”

“Answering lonley-heart ads is nothing to be ashamed of nowadays”

PHYSICAL ABILITIES

- *"When it comes to being able to assimilate the content of the quality of life health is crucial"*
- *"I wish that I'll stay healthy the rest of my life and that I'll be able to take care of myself"*
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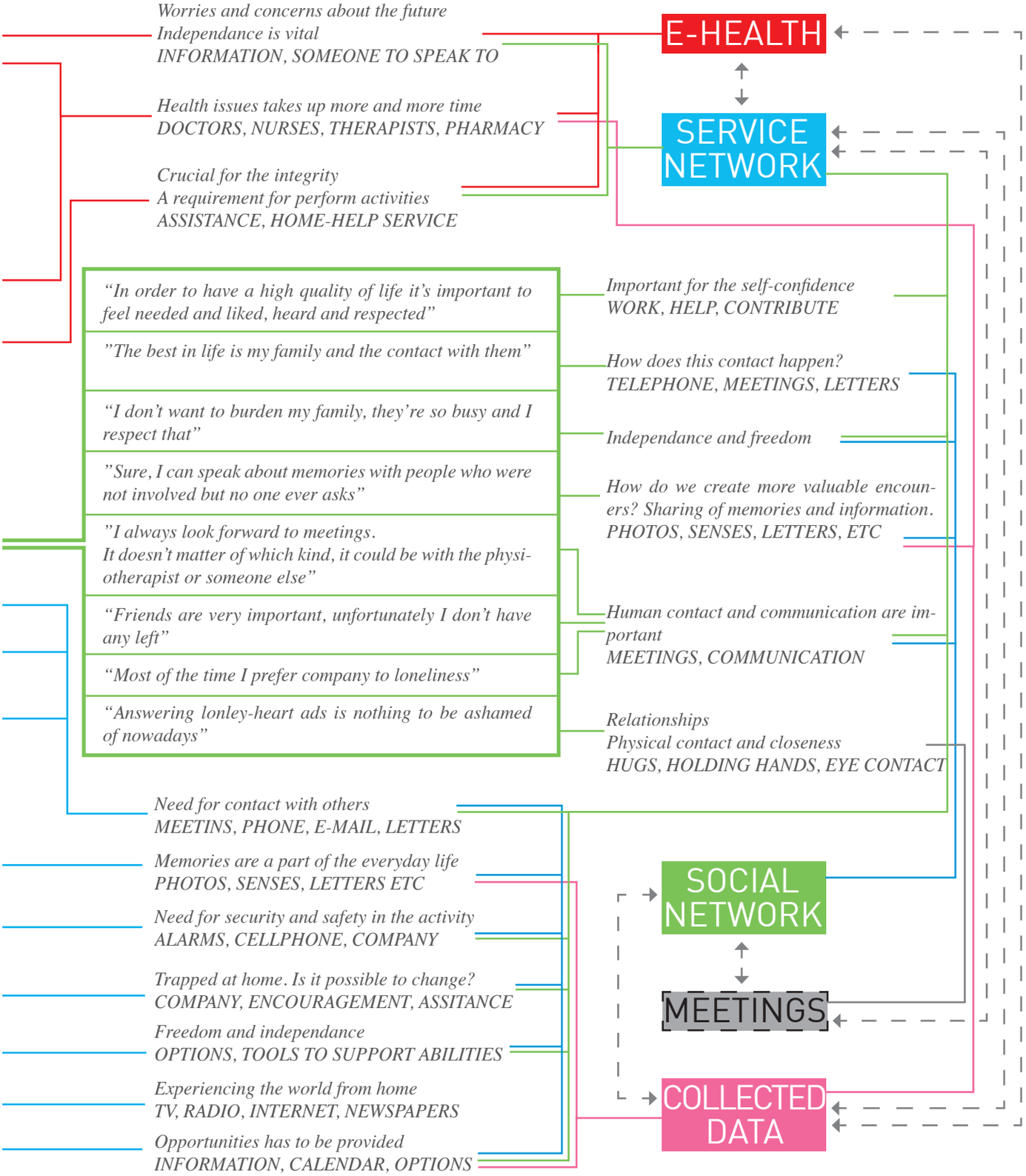
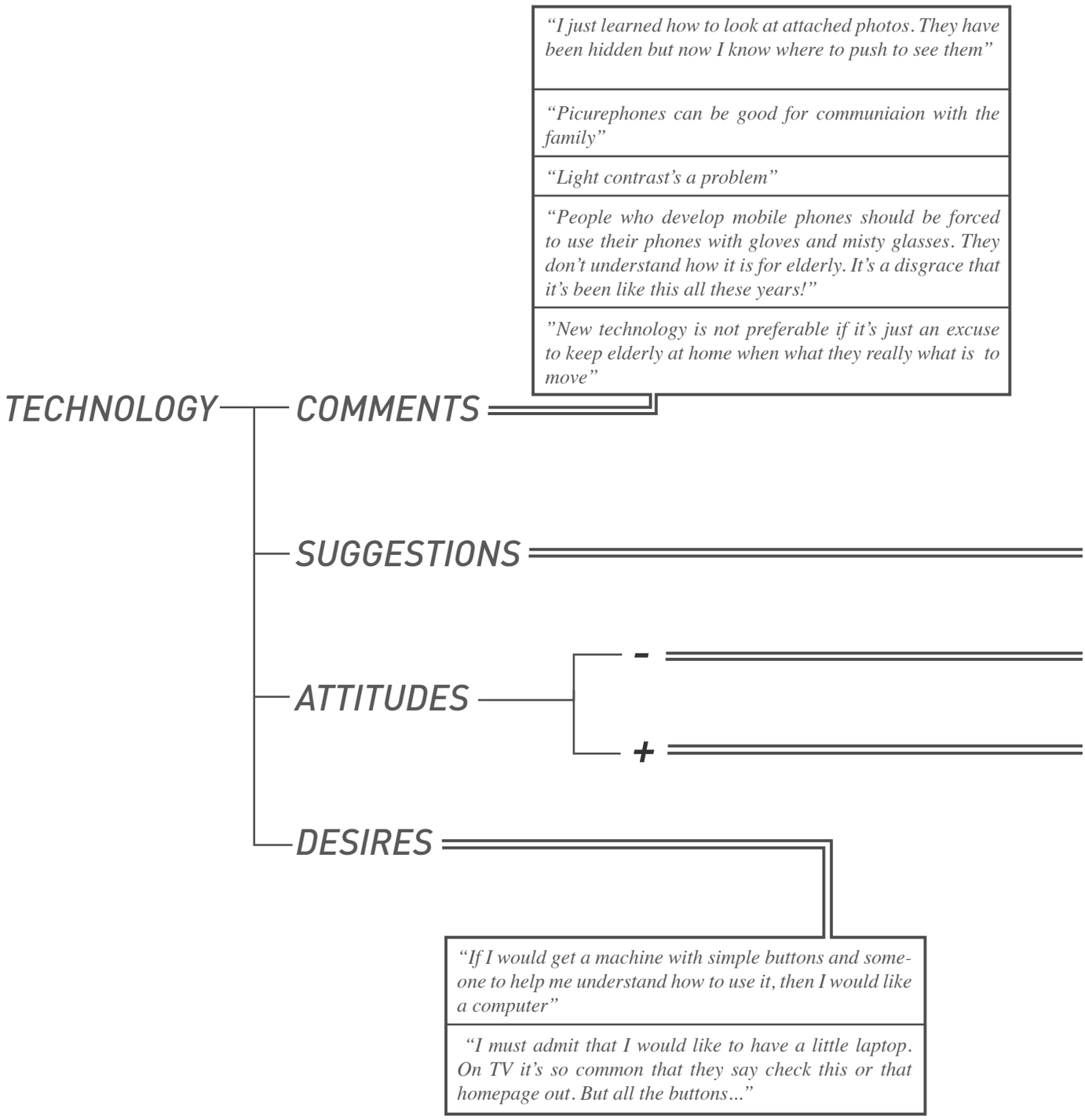

Worries and concerns about the future
Independance is vital
INFORMATION, SOMEONE TO SPEAK TO
Health issues takes up more and more time
DOCTORS, NURSES, THERAPISTS, PHARMACY
Crucial for the integrity
A requirement for perform activities
ASSISTANCE, HOME-HELP SERVICE
E-HEALTH
SERVICE NETWORK
"In order to have a high quality of life it's important to feel needed and liked, heard and respected"
"The best in life is my family and the contact with them"
"I don't want to burden my family, they're so busy and I respect that"
"Sure, I can speak about memories with people who were not involved but no one ever asks"
"I always look forward to meetings. It doesn't matter of which kind, it could be with the physiotherapist or someone else"
"Friends are very important, unfortunately I don't have any left"
"Most of the time I prefer company to loneliness"
"Answering lonley-heart ads is nothing to be ashamed of nowadays"
Important for the self-confidence
WORK, HELP, CONTRIBUTE
How does this contact happen?
TELEPHONE, MEETINGS, LETTERS
Independance and freedom
How do we create more valuable encounters? Sharing of memories and information.
PHOTOS, SENSES, LETTERS, ETC
Human contact and communication are important
MEETINGS, COMMUNICATION
Relationships
Physical contact and closeness
HUGS, HOLDING HANDS, EYE CONTACT
Need for contact with others
MEETINS, PHONE, E-MAIL, LETTERS
Memories are a part of the everyday life
PHOTOS, SENSES, LETTERS ETC
Need for security and safety in the activity
ALARMS, CELLPHONE, COMPANY
Trapped at home. Is it possible to change?
COMPANY, ENCOURAGEMENT, ASSITANCE
Freedom and independance
OPTIONS, TOOLS TO SUPPORT ABILITIES
Experiencing the world from home
TV, RADIO, INTERNET, NEWSPAPERS
Opportunities has to be provided
INFORMATION, CALENDAR, OPTIONS
SOCIAL NETWORK
MEETINGS
COLLECTED DATA

Quotes from the interviews



"It should be simple. At least simpler variants of the products should be available in the stores"

"It shouldn't be too many functions in the devices"

"There should always be few and clear buttns on cellphones for elderly. Both on and off buttons, ribbed surfaces to point out the front and back, it should also be easy to hold"

"Manuals are tiresome and badly written"

"It's not possible to learn all the functions on devices, it's impossible to know everything. The machines know more than we do"

"I don't want to be dependant on technical devices that indirect says that I'm available. It scares me but I do see the special point about it"

"I think it's scary to buy things on internet, so I have never tried but people have helped me to book flight tickets which is good"

"It feels insecure to buy tickets on the internet. Will there really be a reservation when I get to the airport"

"A computer can be an asset"

"Computers are much better than mobile phones, it's possible to manouver them. It's good that I can enlarge things"

"New technology is fun if someone shows me how to use the things"

"Telephones and computers are good alternatives to meetings. It's more neutral in a way and sometimes I don't feel like getting together"

"The telphone is the best alternative means of communication. When I write cards I miss the direct contact"

"I can't use my cellphone. I hate buttons, I don't know which ones to push"

"When it comes to cellphones I have a resistance to learn"

"No one is interested in a device with lots of functions. Elderly don't want to learn, it's difficult and involves to many actions"

"Many eldelry are reluctant to what's new. I would say that we've been very bad in adjusting the pedagogics for the elderly"

Analysis of qualities

ALL-EMBRACING QUALITIES

Intuitive/ familiar/ foolproof

Human approach:
- Voice
- Video
- Photos
- Illustrations

User centered design
User in control of product

Few functions and easy set-up

No manuals/ self explainatory

Skype/ Videoconferances/ Facebook
Secure ways to meet new people

Visual feedback/ visual presence

"I just learned how to look at attached photos. They have been hidden but now I know where to push to see them"

"Picurephones can be good for communication with the family"

"Light contrast's a problem"

"People who develop mobile phones should be forced to use their phones with gloves and misty glasses. They don't understand how it is for elderly. It's a disgrace that it's been like this all these years!"

"New technology is not preferable if it's just an excuse to keep elderly at home when what they really what is to move"

ATMOSPHERIC QUALITIES

Generate curiosoty/ needs/ desires

Relevant technology/ added value

The 5 senses
Supporting experiences around the senses

PHYSICAL QUALITIES

Big icons and simple adjustments

Bigger/ tactile buttons

Few buttons

Contrast in:
- Color
- Light
- Material
- Sound

"If I would get a machine with simple buttons and someone to help me understand how to use it, then I would like a computer"

"I must admit that I would like to have a little laptop. On TV it's so common that they say check this or that homepage out. But all the buttons..."

- *"It should be simple. At least simpler variants of the products should be available in the stores"*
- *"It shouldn't be too many functions in the devices"*
- *"There should always be few and clear buttons on cellphones for elderly. Both on and off buttons, ribbed surfaces to point out the front and back, it should also be easy to hold"*

- *"A computer can be an asset"*
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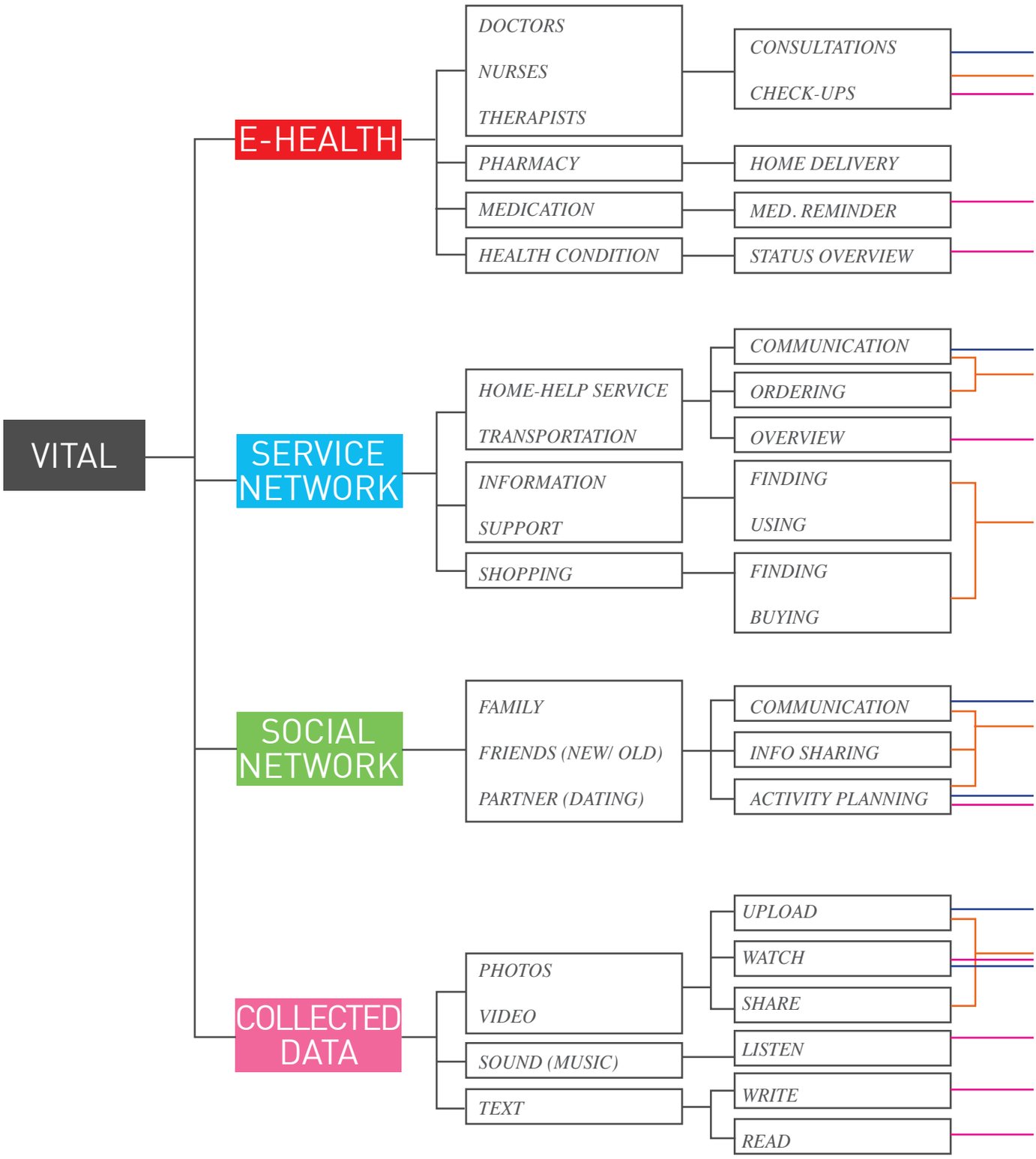
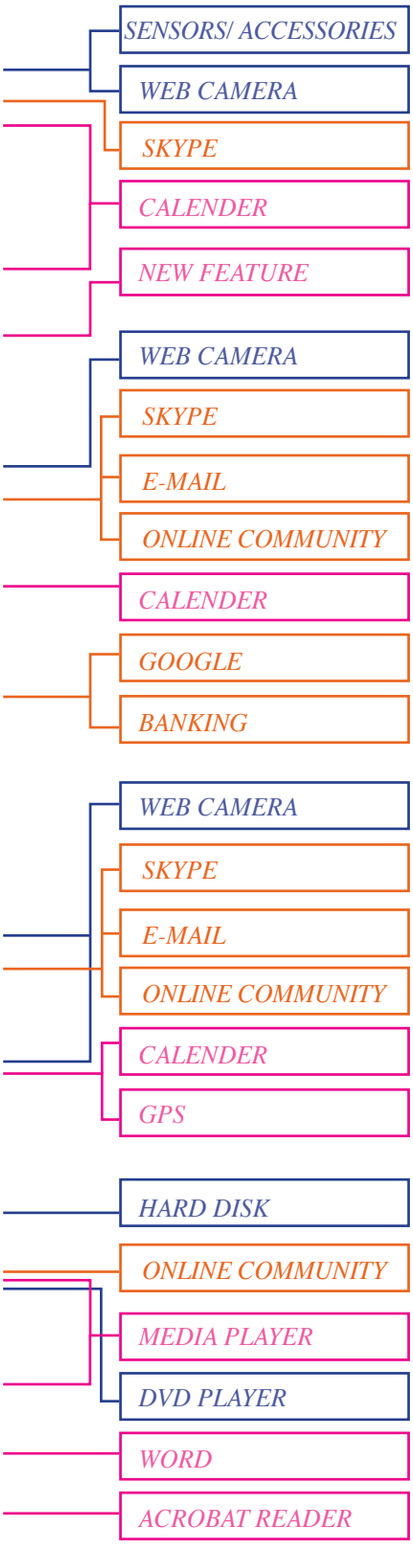

VITAL
E-HEALTH
DOCTORS
NURSES
THERAPISTS
CONSULTATIONS
CHECK-UPS
PHARMACY
HOME DELIVERY
MEDICATION
MED. REMINDER
HEALTH CONDITION
STATUS OVERVIEW
SERVICE NETWORK
HOME-HELP SERVICE
TRANSPORTATION
COMMUNICATION
ORDERING
OVERVIEW
INFORMATION
SUPPORT
FINDING
USING
SHOPPING
FINDING
BUYING
SOCIAL NETWORK
FAMILY
FRIENDS (NEW/ OLD)
PARTNER (DATING)
COMMUNICATION
INFO SHARING
ACTIVITY PLANNING
COLLECTED DATA
PHOTOS
VIDEO
UPLOAD
WATCH
SHARE
SOUND (MUSIC)
LISTEN
TEXT
WRITE
READ



SOFTWARE

Calender

New feature

GPS

Media player

Word

Acrobat reader

HARDWARE

Sensors

Accessories

Web camera

Hard disk

DVD player

INTERNET

Skype

E-mail

Online community

Google

Google Maps

Buddy Beacon

Banking

BASICS (INTEGRATED)

Screen (touch)

On/off

Keyboard

Trackpad (multi touch)

Microphone

Loudspeaker

USB

BASICS (SEPARATE)

Navigator

Microphone

Loudspeaker

Charger

Printer

Telephone

By finding out about products and service on the current market I got a deeper understanding of what was still missing. The following research summary shows products and services that inspired me in my choices. Concepts with similar focus as Vital are also represented.

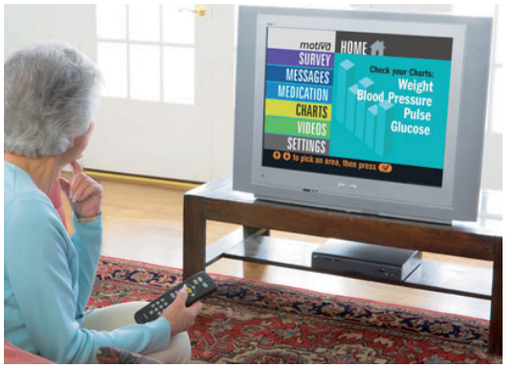
On the market

With ippi™ , your TV is able to receive and send video clips, photos, text, voice messages and e-mails from and to mobile phones and computers.
http://www.inview.se/index.html

Your TiVo® box, powered by the amazing TiVo® service, automatically finds and digitally records all of your favorite shows, every time they're on. Every episode of your favorite series. Every Coppola movie. Every home improvement program. Even Dora cartoons! Whatever you choose. All while you're out living life. Plus, only TiVo lets you watch your favorite shows any time, anywhere
http://www.tivo.com/

Motiva is a kind of backwards TiVo for the elderly. It transforms the TV into a way for nurses and doctors to monitor patient's level of knowledge and track their lifestyle and medication habits. Then health care providers can give feedback to the user if there's any changes to be made or reminders about future doctor's visits.
http://gizmodo.com/gadgets/gadgets/motiva-home-health-monitoring-172685.php

The box is linked to medical devices and a remote control in the patient's home to keep daily track of their blood pressure and weight. The information is sent wirelessly through the set-top box to doctors, and patients fill out on-screen questionnaires using a specially designed remote control. Doctors on the receiving end review the information and send out personalized responses to televisions, thereby giving patients daily feedback about their health status.
http://www.buzzle.com/editorials/6-9-2005-71363.asp



Exercise is the key to good health, both for body and mind - and now there's finally a way to make mental exercise simple, fun, even competitive. Inspired by the work of prominent Japanese neuroscientist Dr. Ryuta Kawashima, the Brain Age games feature activities designed to help stimulate your brain and give it the workout it needs like solving simple math problems, counting currency, drawing pictures on the Nintendo DS touch screen, and unscrambling letters.
http://www.brainage.com/launch/what.jsp

By automatically detecting speech patterns of the elderly, the technology automatically boosts incoming and outgoing audio while simplifying menu structure and increasing font size.
dditionally, the graphical user interface is automatically changed to adjust based on visual characteristics of elderly users. Font size is increased and menu structures are simplified, making the phone easier to use.
http://www.mobiledia.com/news/46473.html

Doro Handle easy is an easy to use mobile phone for when you simply want to make and recieve calls.
Direct memory buttons labeled A to D and a large keypad and display make dialiing easier, while a vibrating ringer alerts you of incoming calls.
The Soft touch surface provides better grip, and there is an easily activated speakerphone for added convenience.
It has a white on black screen for better clarity when reading the display and contrasting colors to enable the buttons to be more clearly defined.
It is easy to grip and designed for ease of use.
http://www.doro-mobile.com/shop/page/11?sessid=cHz8qlFfJxMkb209kz5vOAL7xQztmLrWZ7PY61PWsVRg4emawoFLFarMoTlZFIQk&shop_param=

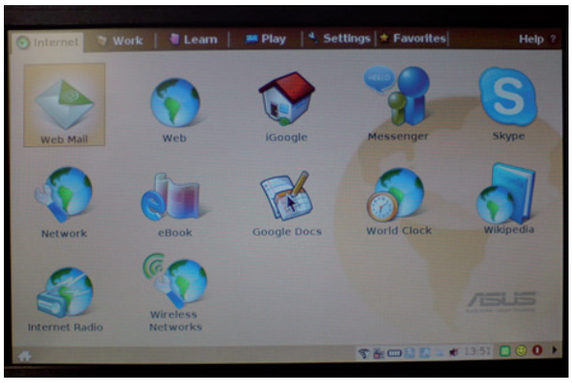
Emporia Life - med nödknapp
EmporiaLife - mobilen med stora knappar, stor display, lätt navigerad meny och försedd med nödknapp som bevisligen kan rädda liv!
Om knappen trycks in rings i ordning fem lagrade nummer till exempelvis någon släkting, grannen eller SOS upp.
http://www.mediaemporia.biz/product_info.php?cPath=112&products_id=306&osCsid=756180b8b705a42c7868aa7e41e68a84

The Pill Pets are brightly coloured, cuddly toys made of silicon, with a computerised screen that gives instructions on taking medication, such as how many times a day pills should be consumed and if they should be taken with food or drink.
The Pill Pet just one of the devices the Ageing Lab, which is presenting its work to the American Association for the Advancement of Science annual meeting in Boston, is developing in a bid to make peoples' increasingly long lives as active and productive as possible.
One of the Lab's other ideas is a real-life version of TV Knight Rider's Kit Car.
Named Miss Daisy - after Driving Miss Daisy, the film about an elderly lady who was chauffeured around in her old age - the car is filled with high-tech devices, including a device to warn of imminent collisions, and a night-vision system.
http://news.bbc.co.uk/1/hi/in_depth/sci_tech/2002/boston_2002/1822904.stm

Nintendo's efforts seemed to have paid off. The Chicago Tribune is reporting that the Wii is now the latest rage at the Sedgebrook retirement community in Lincolnshire, where the average age is 77. In particular, the Wii Bowling component of Wii Sports has members of the retirement community hooked on playing the Wii installed inside the Sedgebrooks's clubhouse lounge.
http://www.dailytech.com/article.aspx?newsid=6191

Eee pc Asus
Share photos of your travels without waiting till you get home. Shop the world wide web without attaching any lines or wires. Learn through the latest technology without a technical manual. Play, relax, and entertain on the go with shock-proof design. Connect with friends and family with just a few clicks.
http://eeepc.asus.com/global/product.htm

iPhone is a revolutionary new mobile phone that allows you to make a call by simply tapping a name or number in your address book, a favorites list, or a call log. It also automatically syncs all your contacts from a Windows PC, Mac, or Internet service. And it lets you select and listen to voicemail messages in whatever order you want — just like email. iPhone is available in an 8GB model for $399 and a new 16GB model for $499.
Maps application approximates your location using cell tower information and enabled local Wi-Fi networks. Drop a pin on a map, then move it to a specific location to get directions or find nearby points of interest. View hybrid maps that display major street names over satellite imagery. Even check real-time traffic information. All with the remarkable, easy-to-use Multi-Touch interface on iPhone.
With the large multi-touch touchscreen display and innovative new software, iPhone lets you control everything using only your fingers. You can type using the predictive glide through albums with Cover Flow, scroll through photos with a flick, or zoom in and out on a section of a web page — all with the iPhone Multi-Touch display.
http://www.apple.com/iphone/



Tell your friends where you are and what you're doing. Link this app to your mobile phone to send updates and view buddies while on the go!
http://www.facebook.com/apps/application.php?id=5989766750

Buddy Beacon is the new way for Helio members to synchronize their social lives and tell friends where the fun is. Rather than calling or texting, Helio members can switch on their Buddy Beacon and use satellite technology to broadcast their location to the friends they add to their Buddy List. When they turn on Buddy Beacon, their Buddy List friends can see their location on a map along with a nearby address. Members can add up to 25 Buddies to their Buddy List. When members change locations and want to let everyone know the party is on the move, one simple command refreshes the location. Want to hide out? Just leave Buddy Beacon off to enjoy a night of privacy or to slip out the back of the club into the VIP room.
http://www.helio.com/page?p=press_release_detail&contentid=1163038493005

Nabaztag – which apparently is Armenian for 'rabbit' but Nabaztag sounds so much more sinister. The purpose of this little cutey is to alert you whenever you get mail and other things, thanks to in-built Wi-Fi.
As soon as a new email arrives on your PC, this tyke will start humping your coffee mug. Well, not really. He wiggles his ears and flashes when some info arrives. Not only do you get email alerts, but he will read out the time on the hour, tell you what the weather is like outside, keeps tabs on the stock market and even read out news headlines via RSS feeds. He can even blush different colours depending on the message source. Did I mention he can sing songs to your loved one and apologise for you, too?
http://images.google.com/imgres?imgurl=http://uk.gizmodo.com/nabaztag.jpg&imgrefurl=http://uk.gizmodo.com/2006/11/06/wifi_bunny_keeps_you_in_touch.html&h=600&w=496&sz=19&hl=sv&start=12&um=1&tbnid=oMrs9jnC3tuqJM:&tbnh=135&tbnw=112&prev=/images%3Fq%3D%2522in%2Btouch%2522%26um%3D1%26hl%3Dsv%26client%3Dsafari%26rls%3Dsv-se%26sa%3DG

A collaboration with the Media Lab at MIT presented an opportunity to design a low cost laptop intended for use by children in developing nations. The laptop is poised to empower and educate children through the use of technology, and connect the world's next generation of thinkers.
http://www.dcontinuum.com/content/show.php?id=4

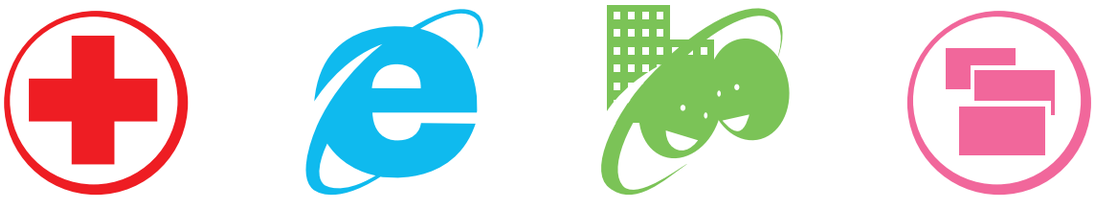
Micro-Star International has taken a new challenge to incorporate its advanced solution in today's medical and hospital information systems. MSI's excellent R&D team has designed a revolutionary notebook, which supports the ECG (electrocardiogram analysis). The H3 NB stands for Digital Home, Hospital Online, Heart Healthy Monitor and will be known as HATO (H eartbeat A udition T ransceiver O n-the-Go) NB . This notebook is designed to monitor the patient's electrocardiogram record and to enable online access to doctor who can view the results anytime in the hospital. The HATO (H eartbeat A udition T ransceiver O n-the-Go) NB . is great solution for doctors and patients who want to get immediate monitoring and diagnosis.
http://global.msi.com.tw/index.php?func=newsdesc&news_no=504

The first demonstration started off in a bathroom. The bathroom mirror doubled up as a health and fitness information display. Using a special set of bathroom scales, the user obtains accurate readings of weight, body fat and hydration levels. These results are then sent wirelessly to the display in the bathroom mirror. Using the mirror display you can view your current levels, compare them to your target levels, and plot your progress over time. Magnetically attached to the mirror display is a digital measuring tool. This can be used for measuring waist, chest and hips – the information is then sent across to the display and again can be compared to previous measurements to judge your progress.
http://www.trustedreviews.com/peripherals/review/2006/10/04/Philips-Simplicity-Showcase/p2

THE VITAL PRODUCT RANGE

When designing a product for elderly it is important to remember that added value is decisive. The product has to provide something extra that makes it worth including in an old persons life. Curiosity and motivation has to be triggered in order for the user to accept and appreciate an unfamiliar device. The Vital product range adds value by providing four additional products to the laptop; a scale, a blood pressure-pulsimeter, a pedometer and a telephone. These quality-of-life-products are easily connected to the computer to which the information is automatically transferred.

When deciding on which products to include in the Vital basic product range it was essential to find out which categories they would fit into. It was also necessary to sort out which purpose they were serving and why they made sense to design. Since health has been one of the focus areas of this project I have been in contact with competent people who have guided me in the right direction.



HEALTH

Already today health information can easily be found online. If it also would be possible to be connected to health establishments via a laptop with internet access the opportunities would almost be endless. For example appointments could be made, proper overviews of the personal health status could be available and prescriptions could be received/ sent online. Since many elderly are dependant on medication on a regular basis and spend a lot of time at hospitals it would be a huge advantage to access information such as case sheets from home. It would make the individual feel more involved in different procedures and could also make an impact on the desire to stay well. In this specific project the focus has been on health rather than on sickness. If someone is already sick it might be more difficult to accomplish adequate health checks at home than if the purpose is to maintain the wellness of every individual. In the purpose of keeping it simple it was important to figure out which health checks that could be executed at home and which procedures were necessary to include in basic health monitoring system. It turned out to be two basic things that were very important for a routine procedure; blood pressure/ pulse checks and body weight measuring. In addition to a blood pressure -pulsimeter and a scale simple self estimation forms, that could be filled out online would lay the foundation of a healthier life with more accurate treatments.

INTERNET

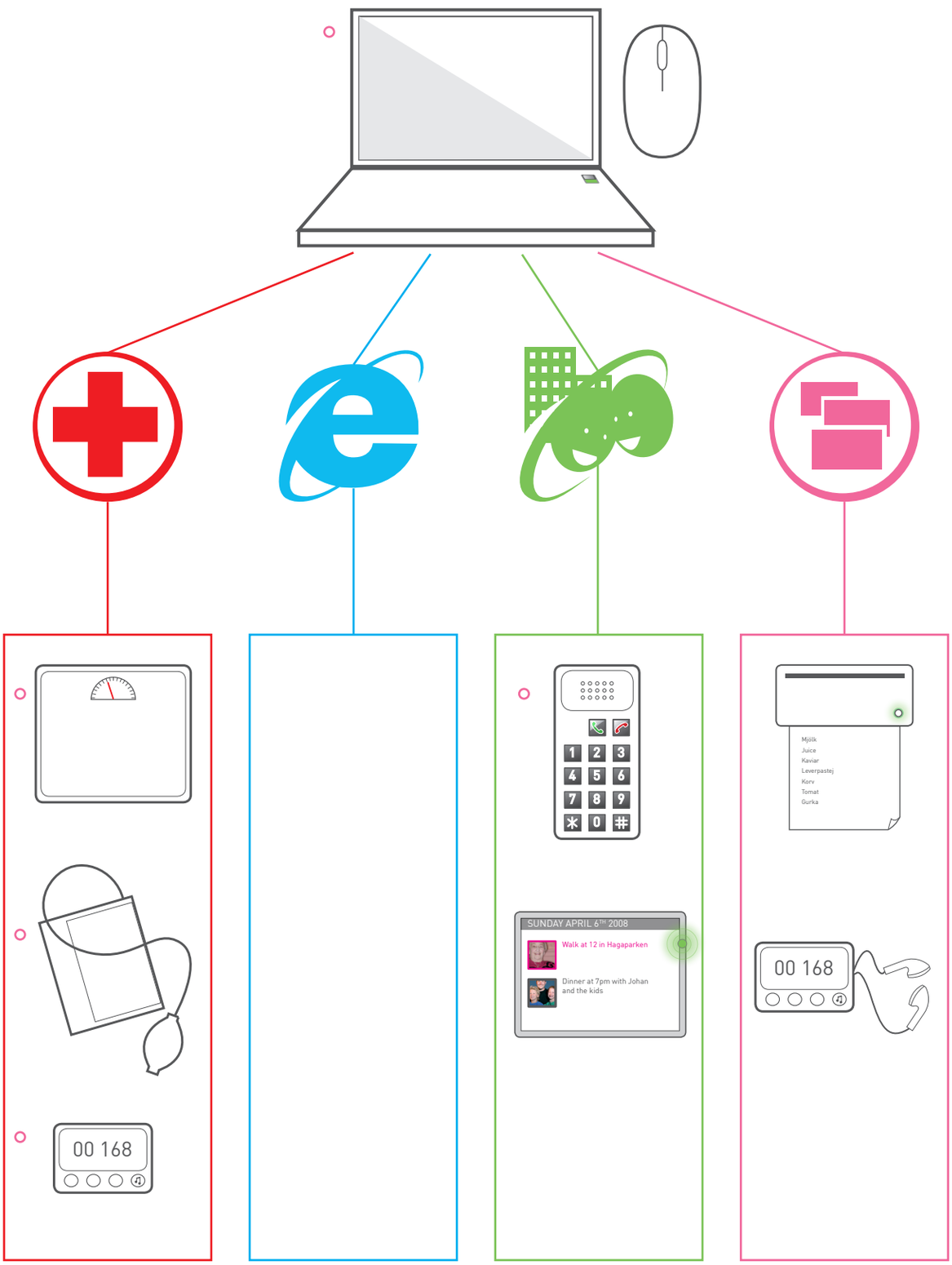
Elderly are often left behind when others explore the endless possibilities of cyberspace. A obvious component in a computer designed for elderly is internet access. It is needed for the other applications to function and will bring loads of new possibilities for an unexperienced user. The web browser has to be simplified and favourite web pages has to be saved automatically and displayed in a much more intuitive manner than today. Nowadays it is very common for people to do errands online. To visit an actual bank or post office is no longer customary. Accounts are often settled directly through internet from home. Society is changing and everyone has to be included, even elderly.

NETWORKS

The network application makes it possible to keep in contact with family and old friends but it will also make it easier to meet new friends. It would be possible to choose how to contact people; via telephone, chats or messages. A way to meet new friends would be to join a network like Facebook but for elderly. It would be adjusted for the needs and desires of seniors. One example would be to have interest groups where poetry evenings, museum visits or common dinners were organized. A GPS function in connection to the network site would facilitate for neighbours to discover that they have common interests. Skype is another effective tool to stay in touch with people. It would be with Skype or any similar system developed with elderly in mind, that most of the contact with grown up children and grandchildren would happen. Videoconferencing would add value to well established relationships.

DATA

Under the data icon files and documents are saved. It is under this category that programs such as Word and Excel can be found. This is also where digital photo albums are stored. The Data section should be flexible and adjusted to the level of knowledge that the user possesses. Maybe a S, M, L or XL interface and programme package is ordered together with the Vital products.



○ = *Products selected for the Vital product range*

LAPTOP

The Vital laptop is unifying all Vital devices. The medical information is collected and visually represented on the laptop screen. Non of the accessory devices have a screen but communicate via the laptop. It should be simple to take in the whole situation, which is why all necessary feedback is projected on a main screen and not on the devices themselves. The four accessory products are in that way dependant on the computer and become a natural part of the concept; five products become one.

SCALE

Many elderly suffer from malnutrition or are in the danger-zone of malnutrition. If the patient measures his/her weight regularly it will show if he/she is on the verge of malnutrition. If the weight information is automatically sent to the family doctor it will be discovered if it is necessary to take further action. A virtual doctor could also give recommendations on diets and remind the patient to drink water more often.

If someone loose weight rapidly it might be an indication on a serious illness. In that case an ordinary doctors appointment has to be set up.

BLOOD PRESSURE AND PULSIMETER

A blood pressure and pulsimeter can give indications on possible illnesses. It is very common for elderly to have low blood pressure (hypotension) which can lead to fall accidents and tiredness. Fall accidents are common among elderly and often lead to need for more care earlier than necessary. On the other hand, if the blood pressure is too high (hypertension) it may cause senile decay, stroke or heart attack. In all routine health checks at hospitals blood pressure measurements are done.

PEDOMETER

It is widely known that people benefit from keeping active. It is not always easy to feel motivated to move, especially not in old age. The Vital pedometer is meant to trigger motivation to exercise. It stores information of your daily activities and makes it fun to compete with yourself or others through social networks online. All the results are transferred to the laptop and stored for a lucid overview.

TELEPHONE

The Vital handset is a crucial part of the concept. It is the only product in the range supporting human social relationships. With the Vital telephone elderly can keep in contact with their family and friends at the same time as they can see them on screen. It should be done in an intuitive and easy way. The connection between the phone and the laptop is seamless, a plug and play function is provided. Keeping in contact is not only essential for the elderly but also for their relatives. It is common for close family to feel inadequate and experience that they are not doing enough. Videoconferencing is relieving this kind of feelings.

CALENDER

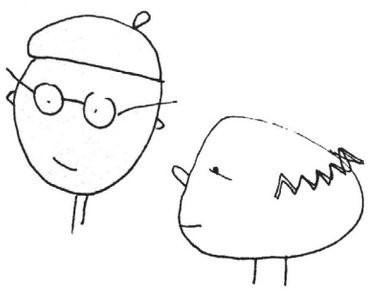
When getting older people tend to forget quicker, which is why it makes sense to support memory functions. The Vital calender would automatically be updated with appointments registered on the computer. When something is about to happen the calender would send a signal to the user.

PRINTER

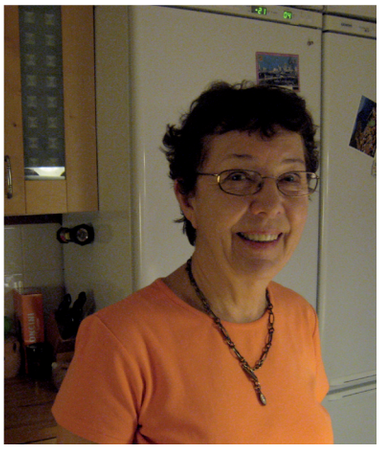
A printer would connect the digital world that Vital provides with the real world. It could deliver physical photos, letters and recipes. In doing so a printer would be a demanded product in an extended Vital product range.

PEDOMETER + MP3

If the pedometer contained an MP3 player it would bring additional value to the user. Sound books are appreciated among elderly and many like to be entertained by radio shows. One disadvantage with multifunctional devices is that they always become more complicated to utilize. Consequently it could create more confusion than joy. This product would be provided in the extended product range for more advanced users.



Already at the starting point of the project the target-group was defined as elderly in the Swedish society. In the following section of the report I wanted to explain the motive of designing a computer for elderly. Is Vital only applicable amongst elderly of today, or does the concept have potential to work for future generations of elderly too?



WHO?

People using the quality-of-life-product Vital are in the third age (over 65), fairly healthy and still have many years to come. They live at home or in service flats and are often alone in their daily doings. Time together with family and friends is in most cases highly treasured. Among other activities walks, concert and exhibitions are common. A typical user of Vital is curious on technology but is also reluctant to it. To use Vital no previous experience of computers is required. The only necessary qualities to appreciate Vital is motivation and curiosity. Qualities that are meant to be supported by the design.

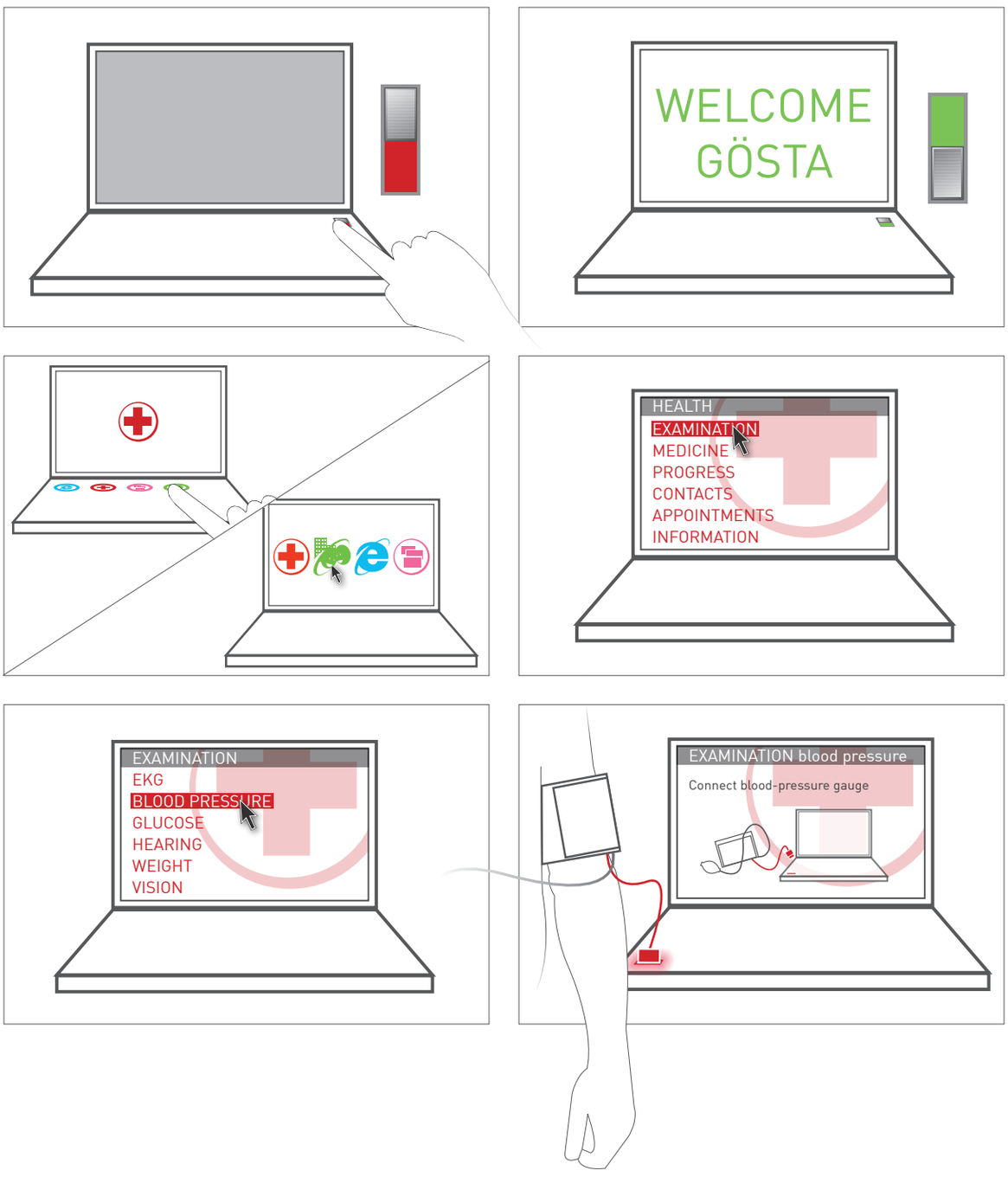
THE HEALTH ASPECT

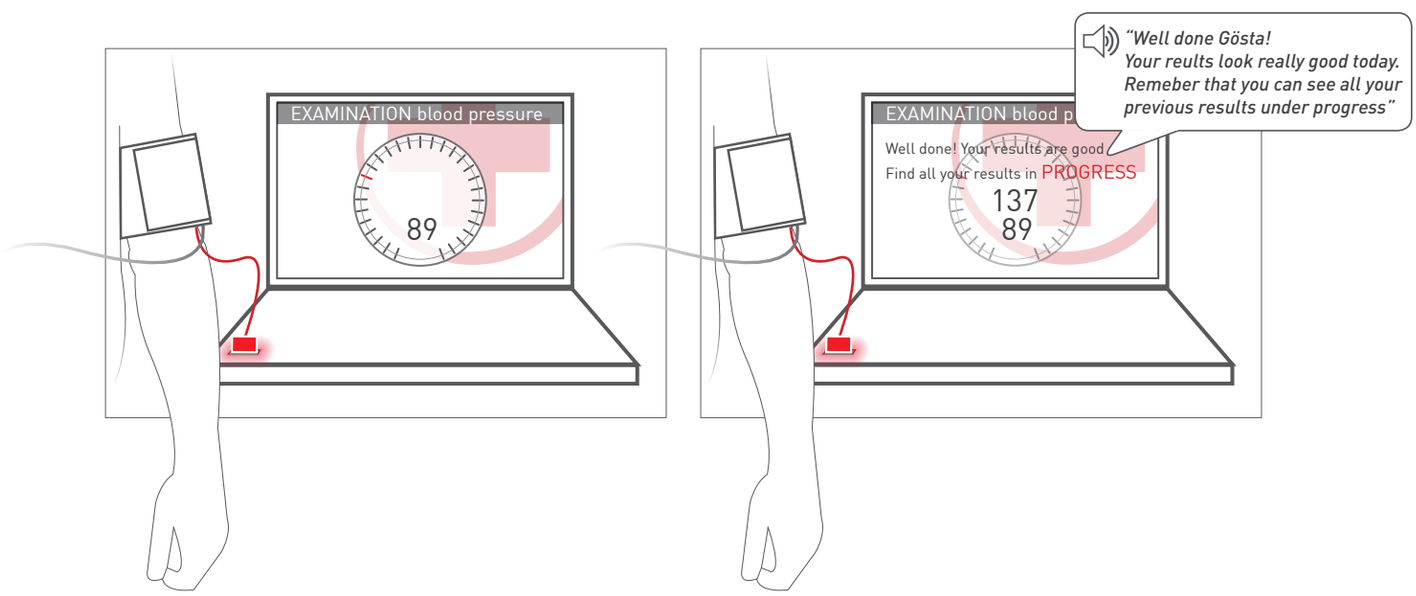
Since even healthy elderly have regular contact with health establishments this product provides additional value also for more experienced computer users with its wellbeing approach.

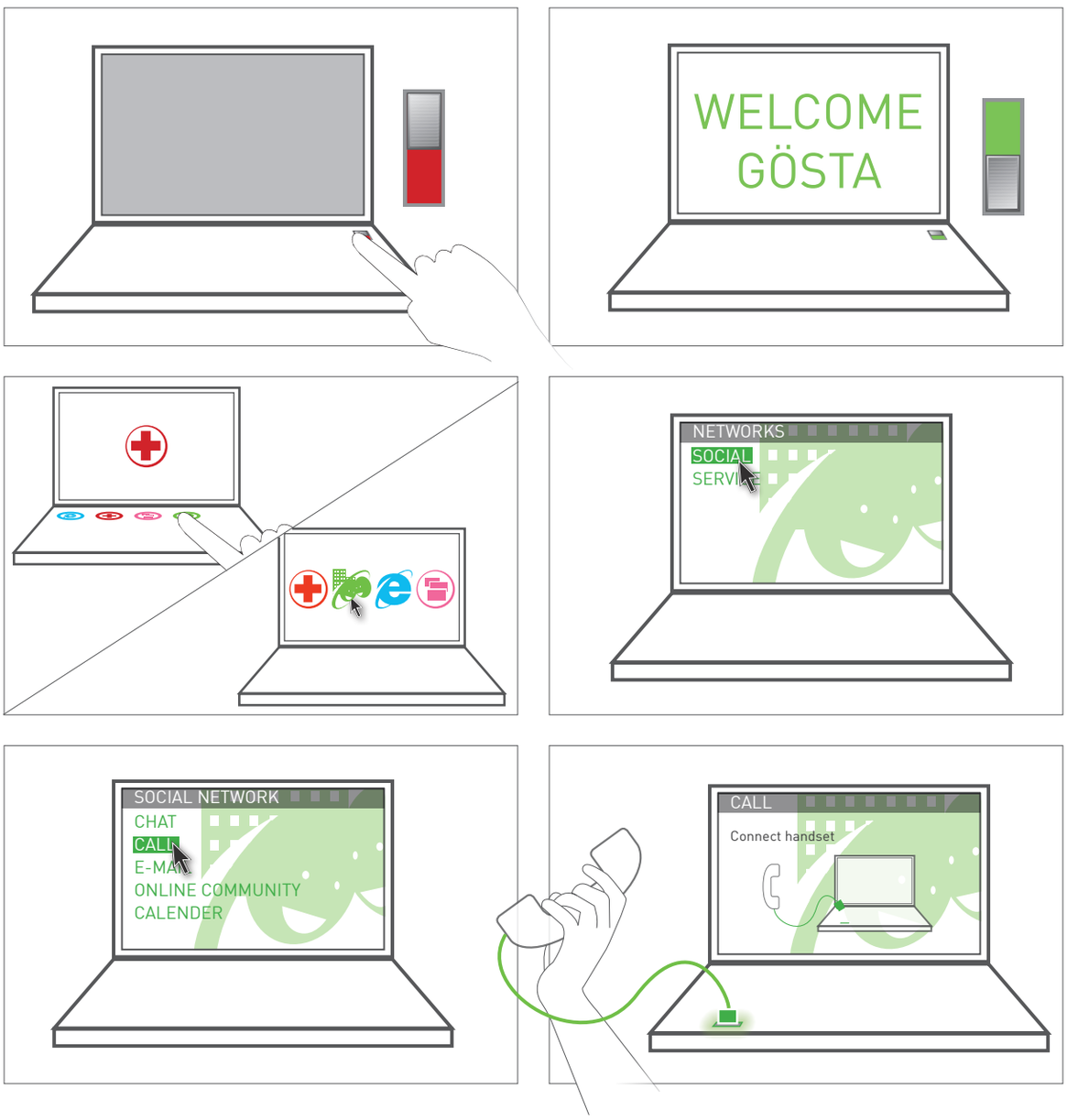
IN THE FUTURE

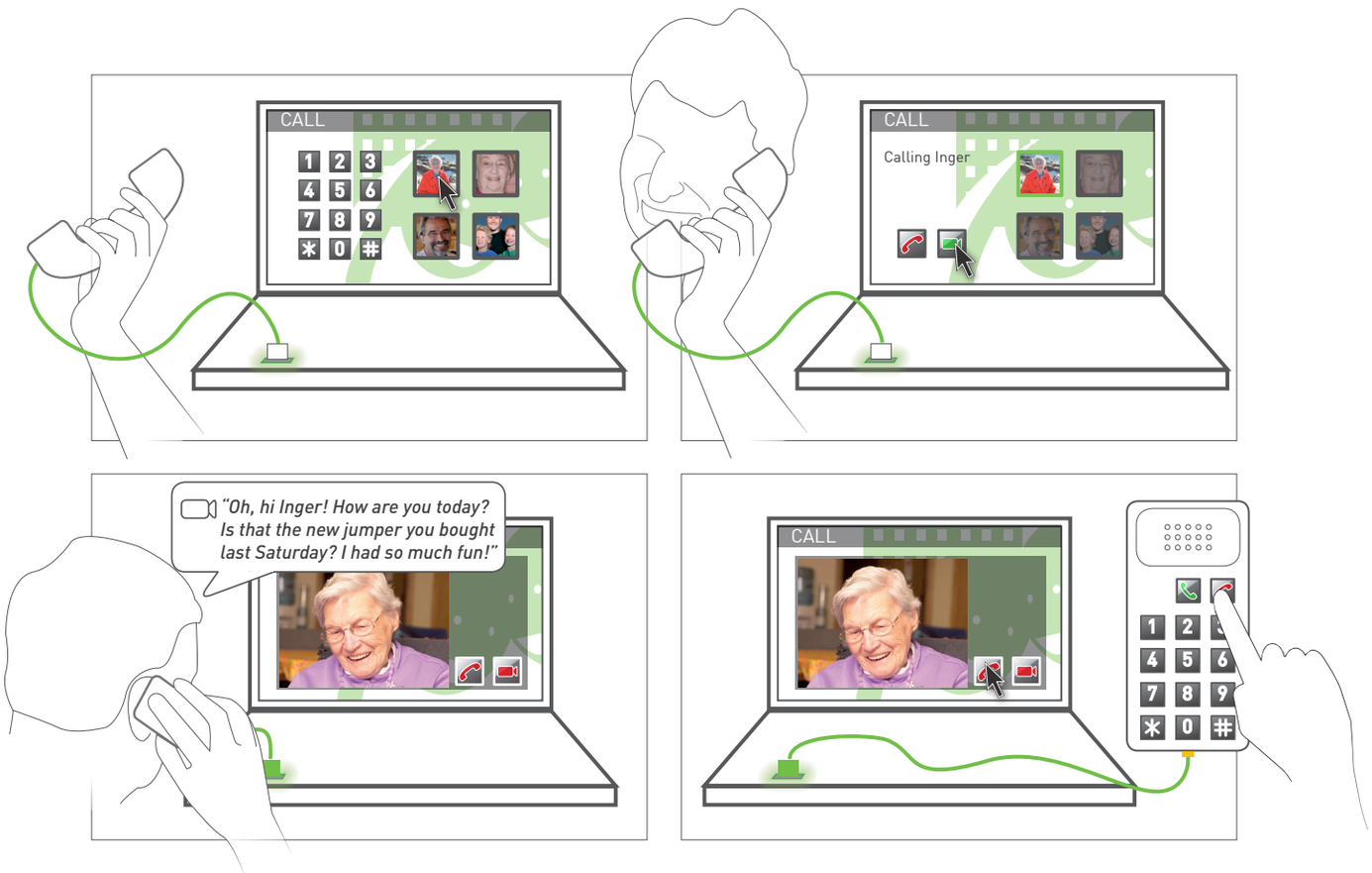
Within a few years more and more seniors will have computer experience. It will be easier for them to navigate through complicated interfaces and software but physical abilities still deteriorate with age. As this computer is designed for people with impaired vision, reduced hearing and poor memory even people with PC awareness will benefit from it. The desire to learn weakens with age and as computer programs and other software constantly become more complex this quality-of-life-product will be useful to most elderly.

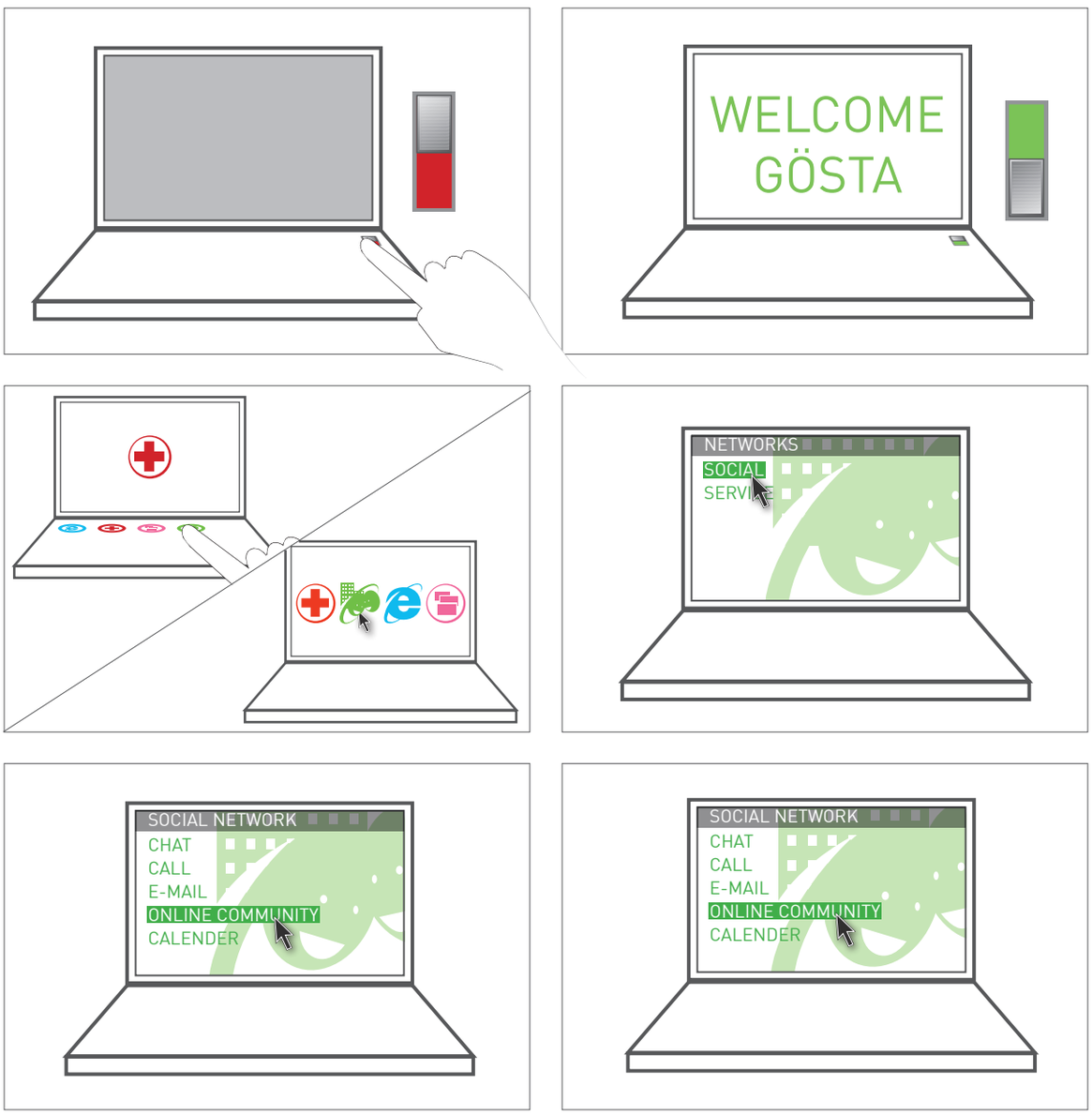
At this point I knew that I was designing a laptop with four belonging products. What I did not know was how these products would be linked to the computer and in which way they would be beneficial to the user. When people buy a laptop they also buy an interactive tool. Vital is about making that interaction become seamless.

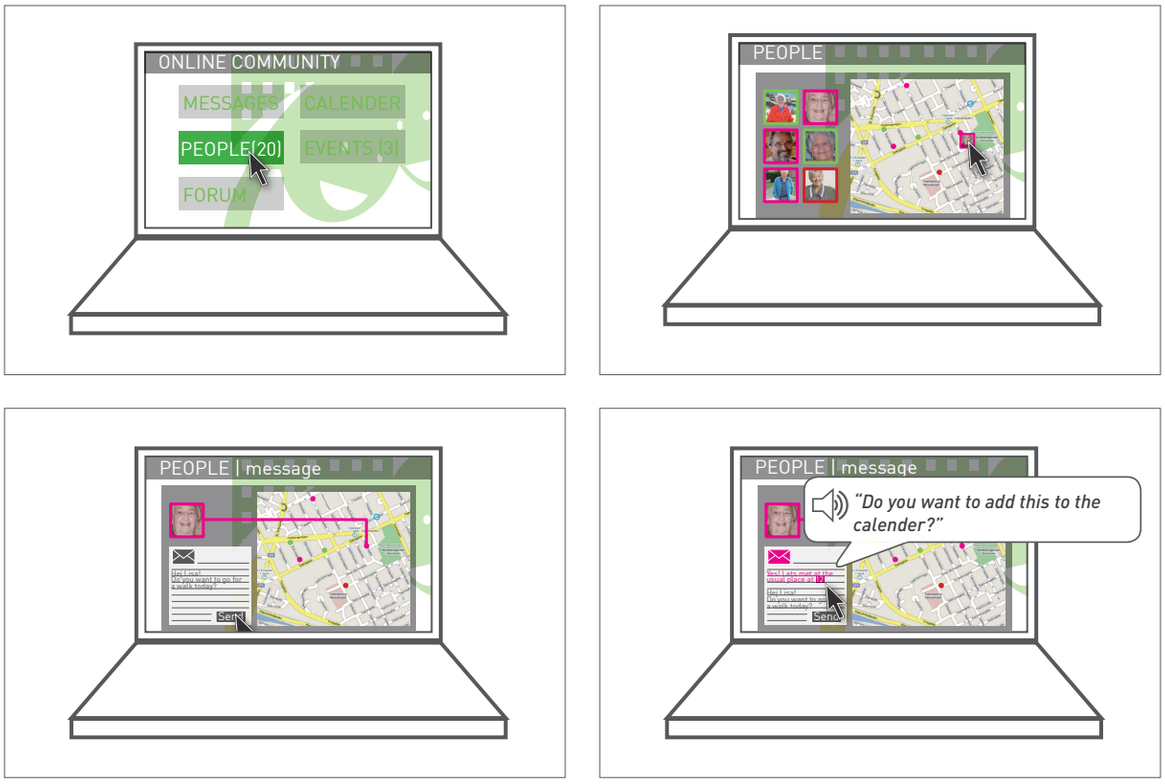

WELCOME
GÖSTA
HEALTH
EXAMINATION
MEDICINE
PROGRESS
CONTACTS
APPOINTMENTS
INFORMATION
EXAMINATION
EKG
BLOOD PRESSURE
GLUCOSE
HEARING
WEIGHT
VISION
EXAMINATION blood pressure
Connect blood-pressure gauge


EXAMINATION blood pressure
89
EXAMINATION blood p
Well done! Your results are good
Find all your results in PROGRESS
137
89
"Well done Gösta!
Your reults look really good today.
Remeber that you can see all your
previous results under progress"


WELCOME
GÖSTA
NETWORKS
SOCIAL
SERVI
SOCIAL NETWORK
CHAT
CALL
E-MA
ONLINE COMMUNITY
CALENDER
CALL
Connect handset

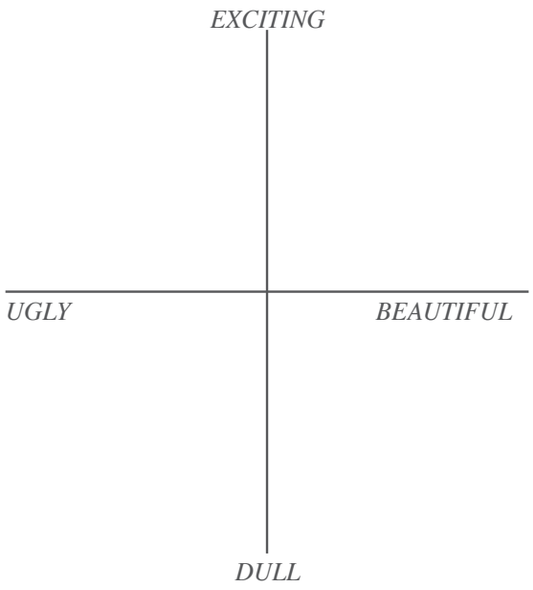

CALL
1 2 3
4 5 6
7 8 9
* 0 #
CALL
Calling Inger
"Oh, hi Inger! How are you today? Is that the new jumper you bought last Saturday? I had so much fun!"
CALL
1 2
4 5 6
7 8 9
* 0 #

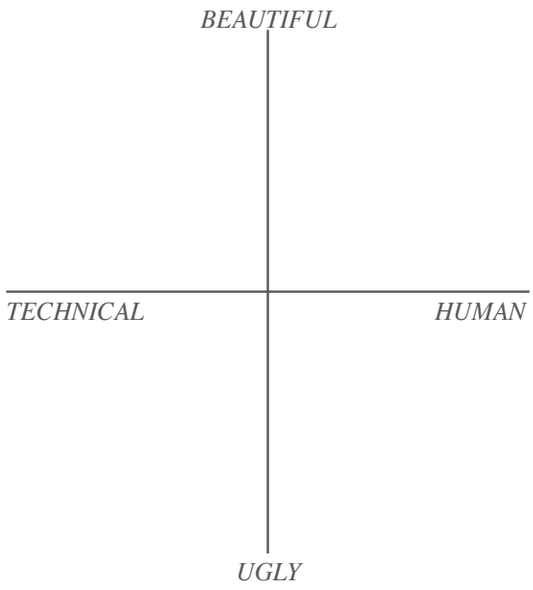

WELCOME
GÖSTA
NETWORKS
SOCIAL
SERVICE
SOCIAL NETWORK
CHAT
CALL
E-MAIL
ONLINE COMMUNITY
CALENDER
SOCIAL NETWORK
CHAT
CALL
E-MAIL
ONLINE COMMUNITY
CALENDER

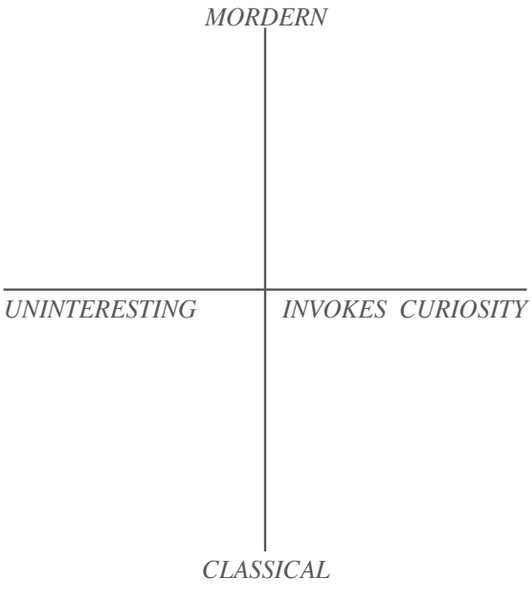

ONLINE COMMUNITY
MESSAGES
CALENDER
PEOPLE(20)
EVENTS (3)
FORUM
PEOPLE
PEOPLE | message
Send
PEOPLE | message
"Do you want to add this to the calender?"
Send

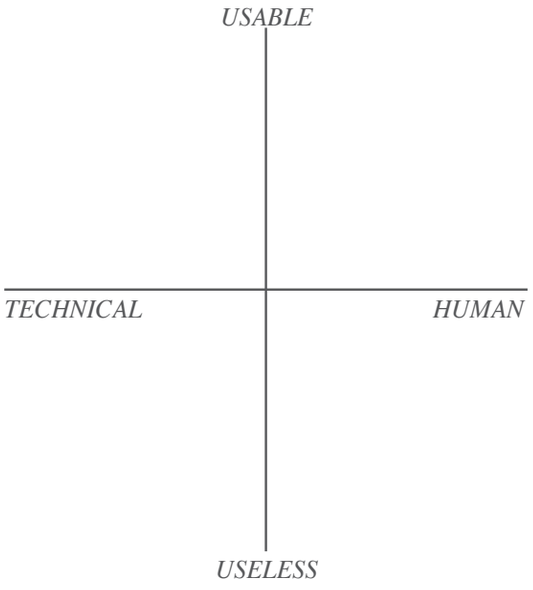
PREFERENCES IN COMPUTERS, KEYBOARDS AND MICE

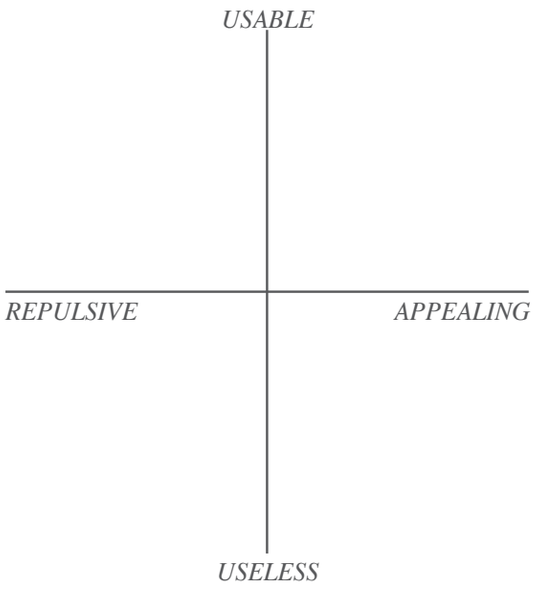
The following mappings are results from the second round of interviews where the interviewees were asked to place pictures of computers, mice and keyboards on a sector chart according to their first impression of the objects shown. Only the appearance of the pictured products was judged, the function was completely left out. The axes "beautiful vs ugly" and "uninteresting vs invokes curiosity" were chosen because of their relevance for the design phase. Clear antitheses were also needed in order for unexperienced computer users to judge the appearance of the products shown.

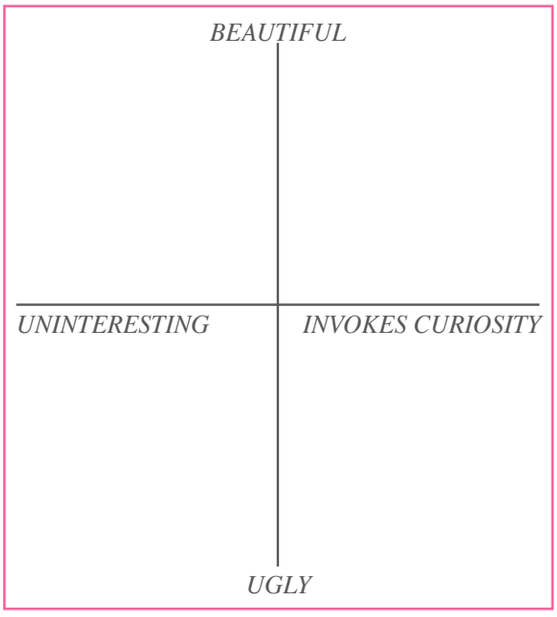

EXCITING
UGLY
BEAUTIFUL
DULL

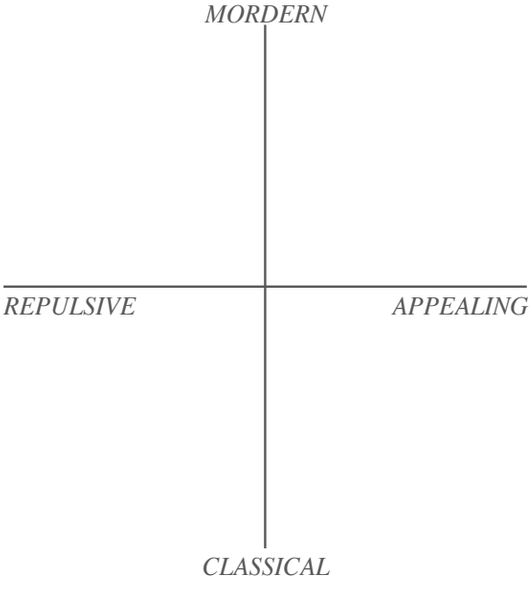

BEAUTIFUL
TECHNICAL
HUMAN
UGLY

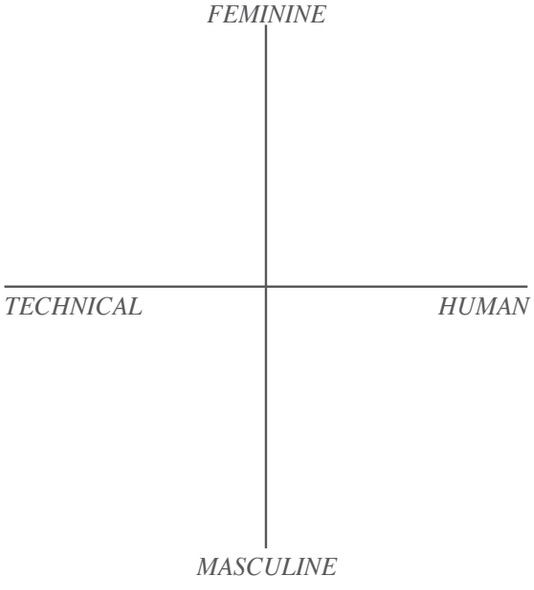

MORDERN
UNINTERESTING
INVOKES CURIOSITY
CLASSICAL

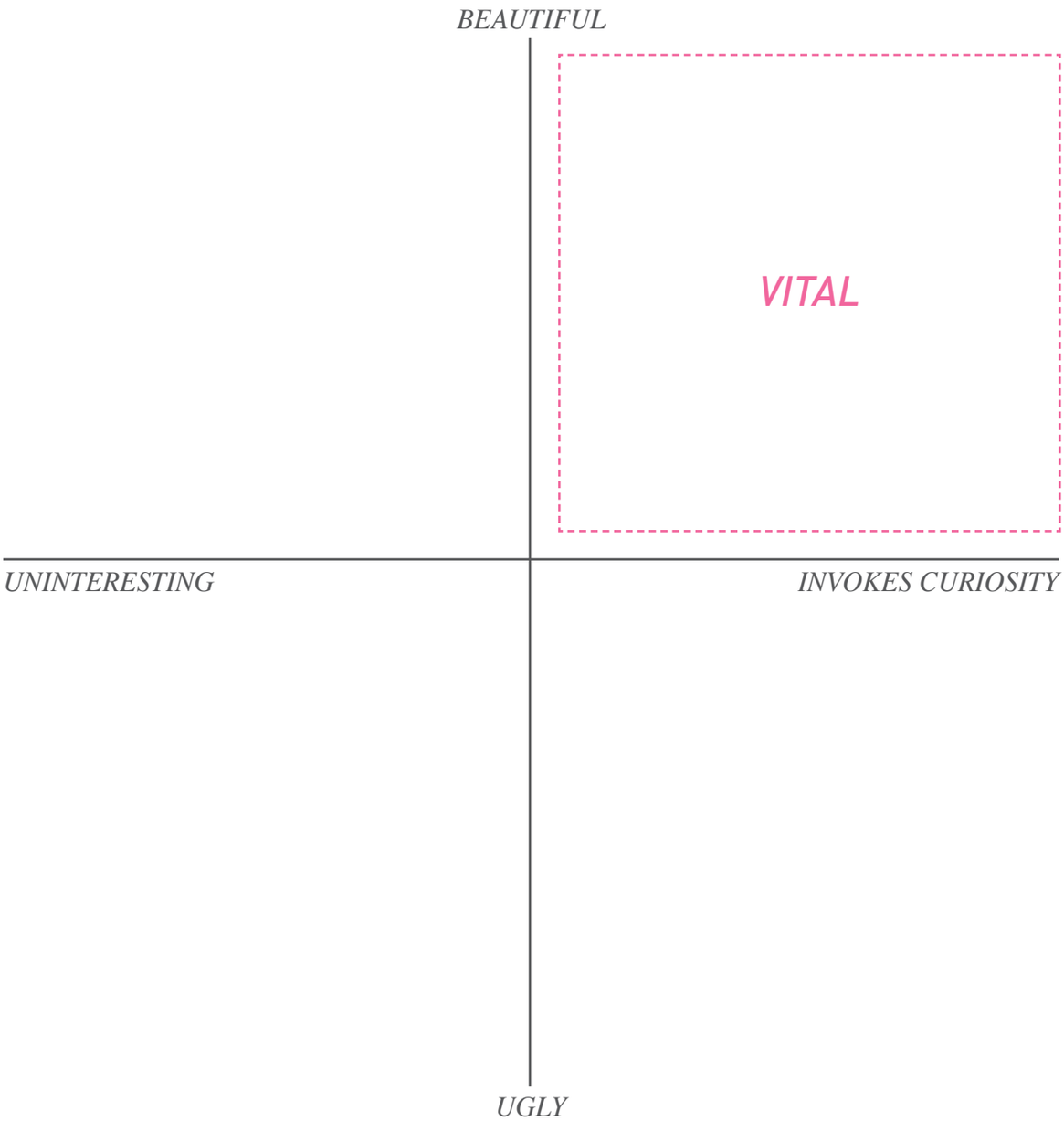

USABLE
TECHNICAL
HUMAN
USELESS


USABLE
REPULSIVE
APPEALING
USELESS


BEAUTIFUL
UNINTERESTING
INVOKES CURIOSITY
UGLY


MORDERN
REPULSIVE
APPEALING
CLASSICAL


FEMININE
TECHNICAL
HUMAN
MASCULINE


BEAUTIFUL
VITAL
UNINTERESTING
INVOKES CURIOSITY
UGLY

Mapping of computers

Simple and clean look
Handle makes it easier to carry
Contrast; black and white

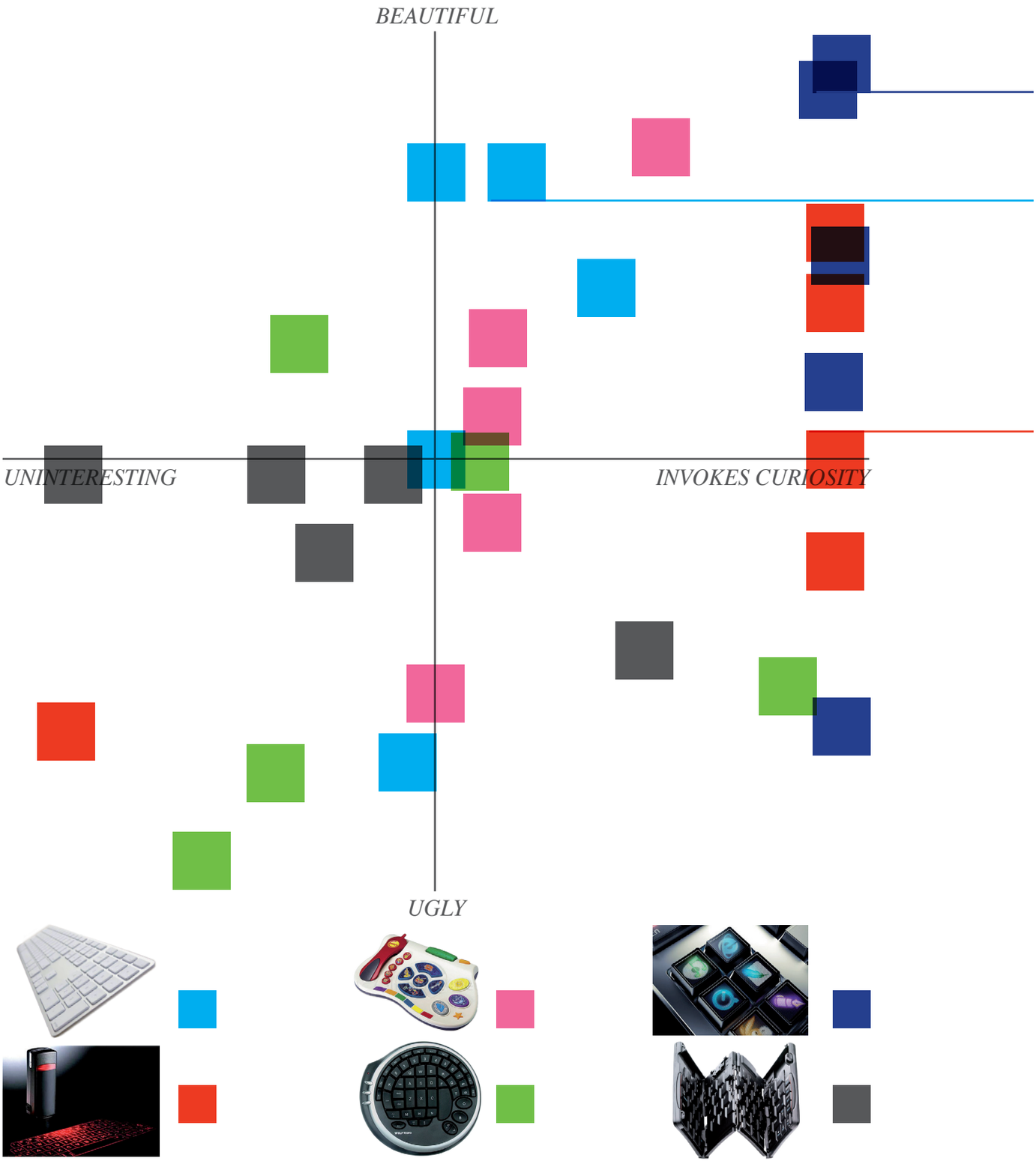
Simplicity
Small and lightweight

Flexible
Few buttons
New and exciting

CONCLUSION

In contradiction to my expectations I discovered that the elderly involved in mapping of the sector charts preferred new and more conceptual computers. All of them appreciated laptops with an integrated handle. Furthermore the majority found that the cat computer invoked curiosity and that the gray ordinary Compaq laptop was ugly and fairly uninteresting. These results supported me in my future design decisions. Since the targetgroup liked new and conceptual laptops more than old fashioned typewriters I could be free and experimental in my shape finding process.

Mapping of keyboards



Oled icons
Changeable
Light

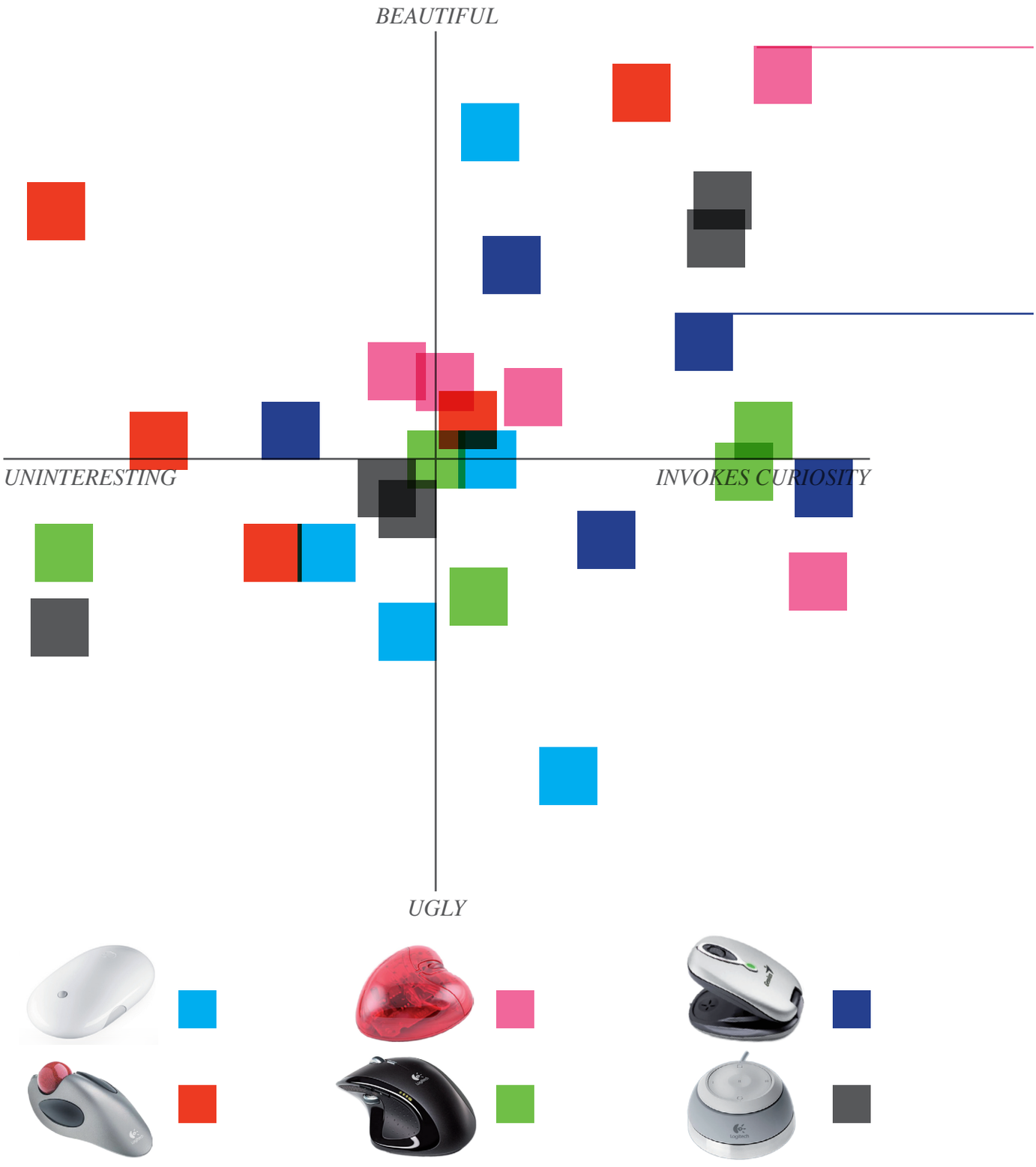
Simplicity
Small and lightweight

Lightweight
New and exciting

CONCLUSION

Even the keyboard mappings demonstrated that modern keyboard versions were preferred. The focus group appreciated keyboards with contrast in both color and light. Another advantage was if the keyboard was squarish in its shape and if it contained fewer buttons that ordinary keypads.

Mapping of mice

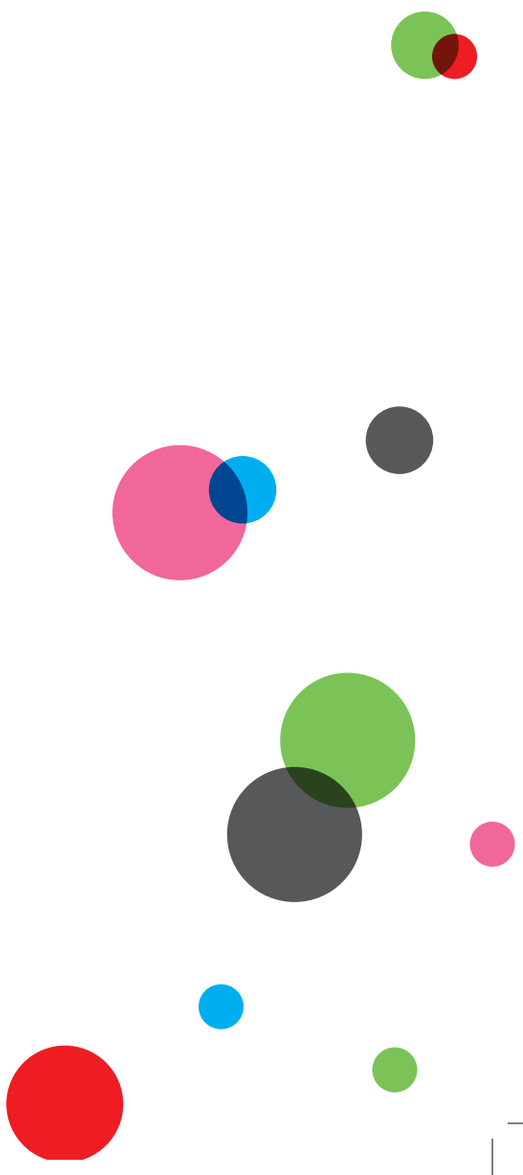


Friendly look, not treatening
Colorful
Cute

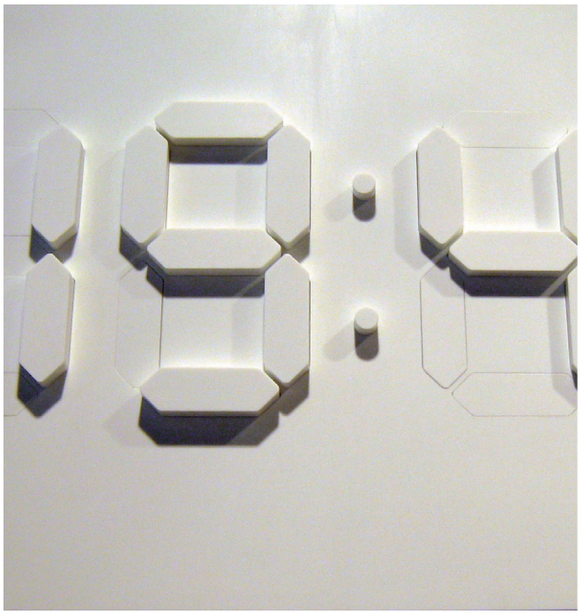
Two in one; mouse and telephone
Soft shapes

CONCLUSION

In the mappings of mice the results were more varying. The conclusion is that taste differs. Some prefer light colors and some dark. Most of the interviewees mapped the mouse with integrated telephone function in the upper right corner.

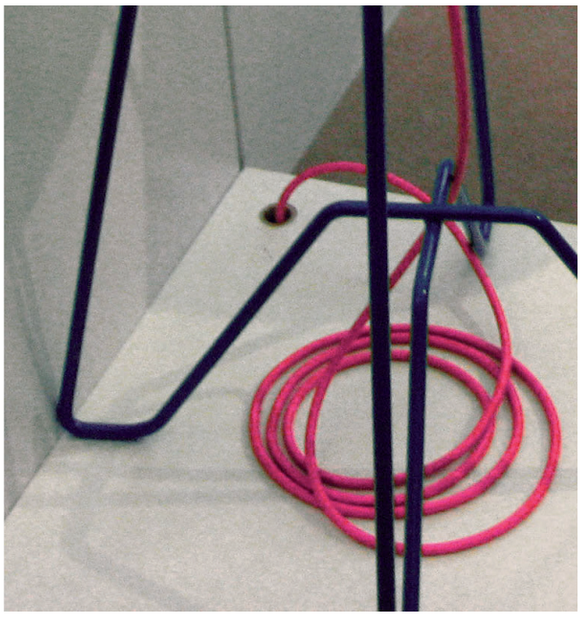


In the inspiration section shape, material, function and color choices are presented. The pictures indicate in which direction the design was heading.



TACTILE

HUMAN; *warm and inviting*



SOFT-TOUCH DETAILS

CONTRAST; *material, color, structure*

LIGHTWEIGHT/PORTABLE

CONTRAST; *edgy and soft*

MODULAR/PERFECT FIT

INTUITIVE INTERACTIONS

BLACK *(C=100, M=100, Y=100, K=100)*

WHITE *(C=O, M=0, Y=0, K=0)*

MUSHROOM *(C=3, M=3, Y=8, K=2)*

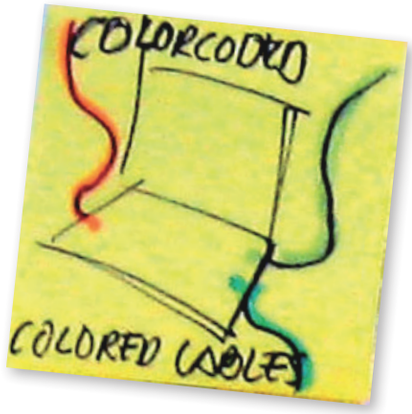
PINK *(C=O, M=75, Y=9, K=0)*

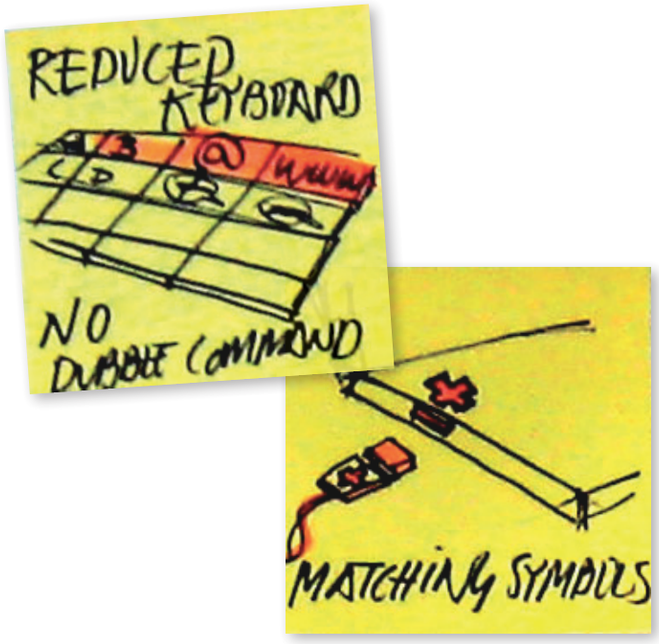
RED *(C=O, M=91, Y=100, K=0)*

GRANITE *(C=O, M=0, Y=0, K=80)*

TURQUOISE *(C=78, M=24, Y=8, K=0)*

LIME *(C=65, M=0, Y=100, K=0)*


COLORCODED
COLORED LABELS


REDUCED KEYBOARD
NO
MATCHING SYMBOLS

On the following pages the documentation of a functional analysis is presented. It forms a good base to fall back on during the visualization process. The initial ideas on page 130-135 are extracted from a comprehensive brainstorm session divided into different sections. The brainstorm was executed in matrix style that allowed the Vital products to be filtered through overarching functional claims. The used claims were; Intuitive usage, inviting appearance, contrasts, modularity, portability and familiarity.

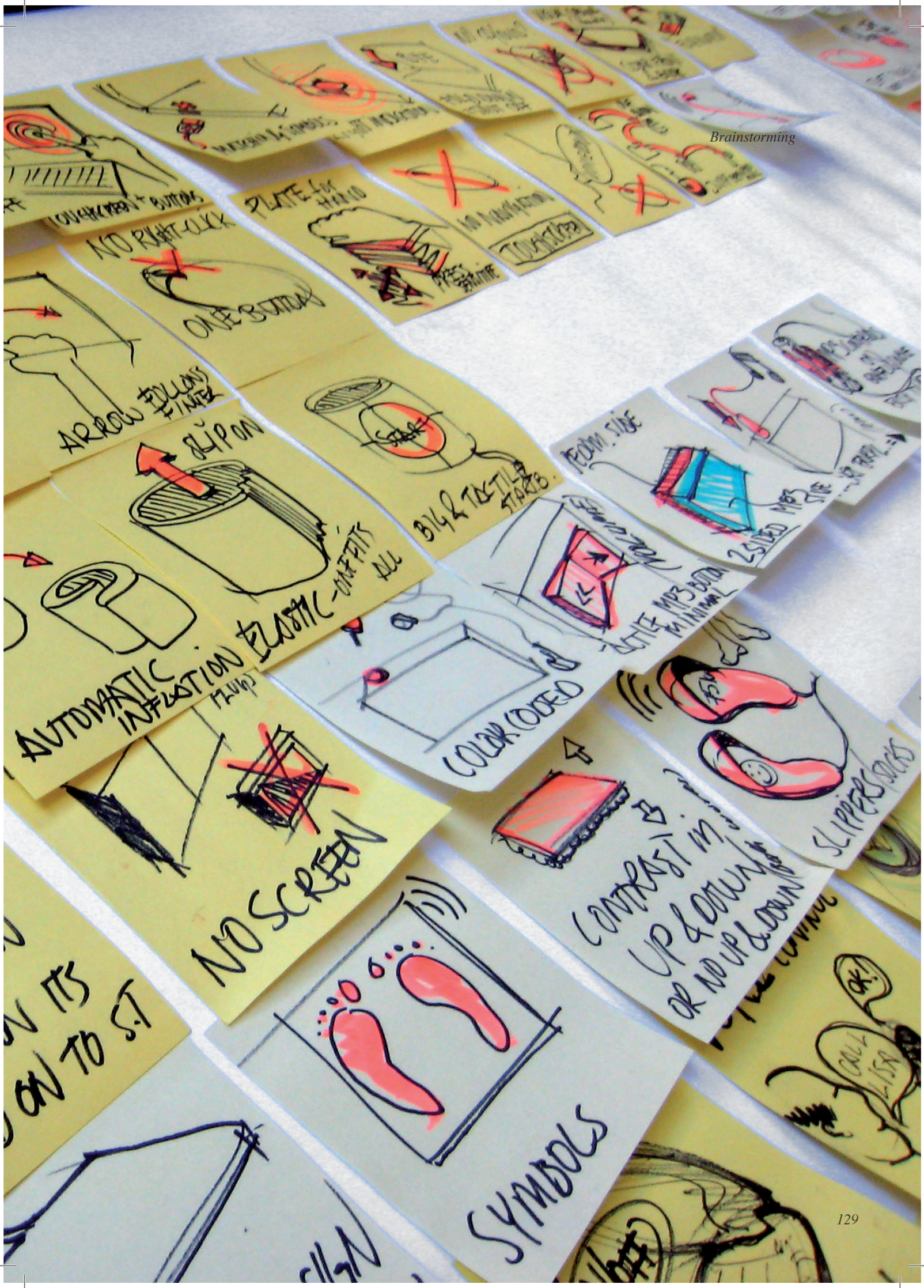
MAIN STATION			
Enhance quality of life	HF	Wireless internet	DF
Intuitive	NF	Health applications	NF
Inviting	NF	Social network	NF
Attrective	NF	Videoconferencing	NF
Colorful	DF	Magnifying function	NF
Lightweight	DF	Photo browse	DF
Portable	DF	Internet banking	NF
Plug and play	NF		
Hidden technology	NF		
Few functions	NF		
Added value	NF		
Human	DF		
Easy connect	NF		
Tactile buttons	DF		
Big icons	DF		
Virus free	DF		
Help service	NF		
Color contrast	NF		
Light contrast	NF		
Material contrast	DF	HF= Head Function	
Sound contrast	DF	NF= Necessary Function	
Invoke curiosity	NF	DF= Desirable Function	
Text editiong function	NF		

NAVIGTION DEVICE		HANDSET	
Easy software navigation	*HF*	*Easy communication with others*	*HF*
Intuitive	*NF*	*Inuitive*	*NF*
No dubble-click	*NF*	*Landline calls*	*DF*
Wireless	*DF*	*Cellphone calls*	*DF*
Slow	*DF*	*Skype calls*	*NF*
Scroll function	*DF*	*Big buttons*	*NF*
Voice control	*DF*	*Tactile buttons*	*DF*
Multi-touch function	*DF*	*Color contrast*	*NF*
Visual functions	*NF*	*Picture buttons (OLED)*	*DF*
Easy connect to main	*NF*	*Automatic up-date of pic buttons*	*DF*
For clumsy hands	*NF*	*Dial function*	*DF*
Charged when connected	*DF*	*Clear sound*	*NF*
Easy internet browse	*DF*	*Comfortable to hold*	*NF*
Easy photo browse	*DF*	*Easy connect*	*NF*
Integrated telephone	*DF*	*Wireless*	*DF*
Familiar appearance	*DF*	*Voice control*	*DF*

CALENDER		PRINTER	
Helper in the everyday life	*HF*	*Easy print of pics/text/webpages*	*HF*
Reminder function	*NF*	*Intuitive*	*NF*
Shows date and time	*NF*	*Plug and play*	*NF*
Autimatic up-date of info	*NF*	*Paper tray*	*DF*
Familiar appearance	*DF*	*Color print*	*NF*
Few functions	*NF*	*Inkjet*	*NF*
Two-way communication	*DF*	*Small*	*DF*
Wireless	*DF*	*Lightweight*	*NF*
Other location than main	*NF*	*Wireless*	*DF*
Battery powered	*DF*	*Buttonless*	*DF*
Low energy consumption	*DF*	*Integrated in main*	*DF*
Clear messages	*NF*	*Photo print size*	*NF*
Screen	*DF*	*A4 print size*	*DF*
Light indicatior	*DF*	*Scan function*	*DF*
Sound indictor	*DF*		
Big icons	*NF*		
Big text	*NF*		
Sleep mode	*DF*		
Screen-saver mode	*DF*		

PEDOMETER + MP3		HEALTH MONITORING (BP+HR)	
Count steps+play music	*HF*	*Measures BP and HR*	*HF*
Intuitive	*NF*	*Accurate*	*NF*
Encourage to move	*NF*	*Easy to place on body*	*NF*
Company when walking	*DF*	*Easy connect to main*	*NF*
Easy connect to main	*NF*	*Clear instructions on screen*	*NF*
Compare result with others	*DF*	*Small*	*DF*
1GB memory	*DF*	*Friendly appearance*	*DF*
Wireless transfer of info	*DF*	*Soft material*	*DF*
Display	*DF*	*No buttons or controls*	*DF*
Contrasty buttons	*NF*	*Result direct on main*	*NF*
Few buttons	*NF*	*Result sent to hospital*	*NF*
Few functions	*NF*	*Automatic inflation*	*DF*
Allow any earphone	*NF*	*Wireless*	*DF*
MP3 is optional	*DF*		
GPS function	*DF*		
Battery powered	*NF*		
Low energy consumption	*DF*		
Charges when walking	*DF*		

SCALE			
Measures weight	*HF*		
Accurate	*NF*		
Ease of use	*NF*		
Easy connect to main	*NF*		
Clear instructions on screen	*NF*		
Small	*DF*		
Friendly appearance	*DF*		
No buttons or controls	*DF*		
Result direct on main	*NF*		
Result sent to hospital	*NF*		
Wireless	*DF*		



Brainstorming

Ideas/ Intuitive

LAPTOP

Colored cables; colorcoded

Reduced keyboard

Slider switch; visual feedback

Touchscreen+ keyboard

Matching symbols

Clear opening

Clear up/down and front/back

NAVIGATION

Trackball system

Arrow follows finger movement

No right-click function

Press sensitive plate

Voice control

Wireless= componant from nav. to main

BP + HR

No buttons or controls

Automatic inflation

Elastic fit

PEDOMETER + MP3

Smart clip; reacting on material

No display or controls

Tactile buttons

SCALE

Symbols indicating position

Slippers; familiar usage

HANDSET

Oled buttons with pictures

Clamshell appearance

Voice control

Light indication

Clear directions of device

CALENDER

One way communication

Automatic update of info

Familiar appearance

Clear overview

Simple ineraction; Iphone

PRINTER

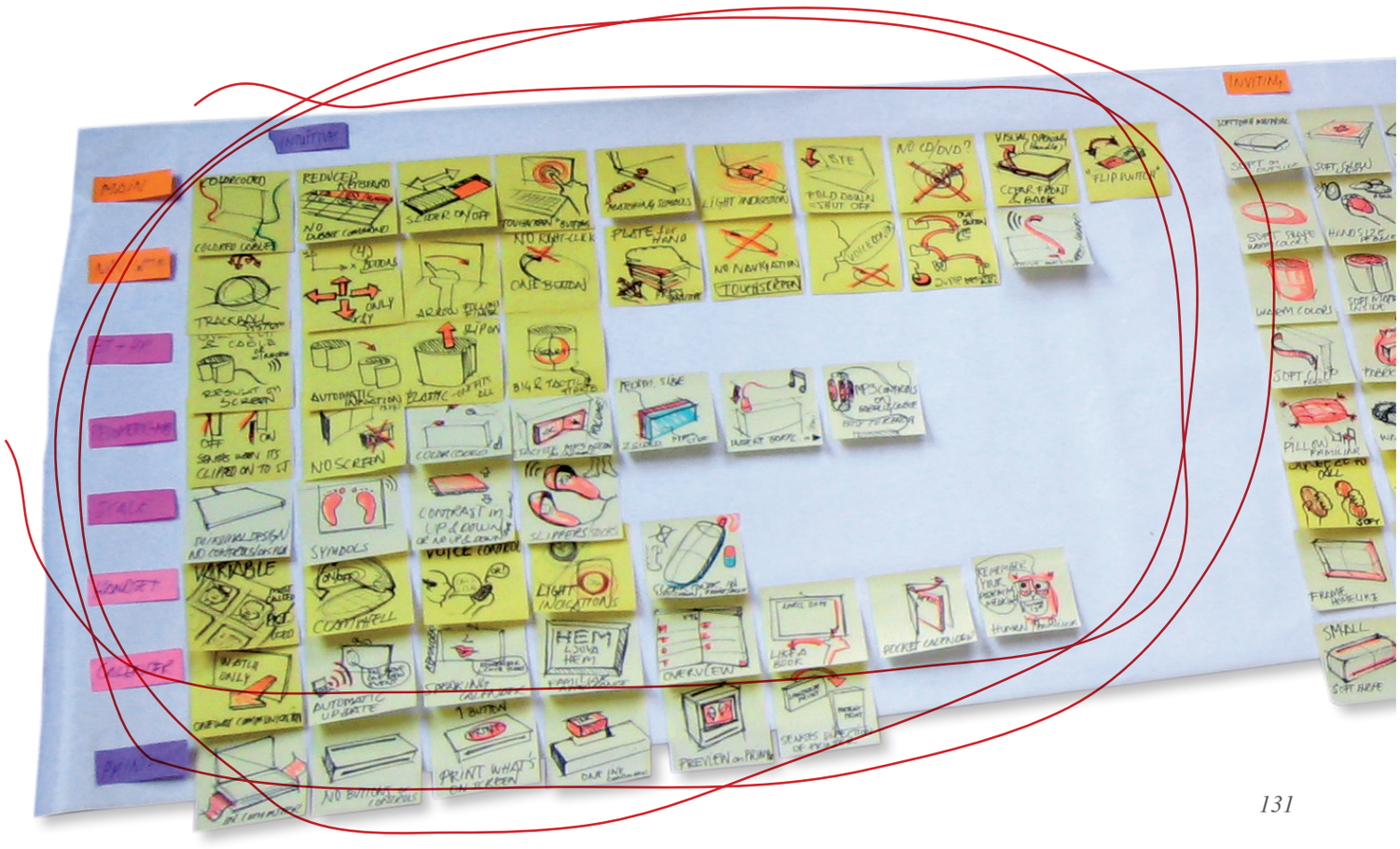
Integrated in laptop

No buttons or controls

Print-what's-on-screen-button

Print preview on printer

Change direction of printer for landscape or portrait


INVITING
MAIN
SCALE
REDUCED KEYBOARD
SLIDER ON/OFF
NO RIGHT-CLICK
ONE BUTTON
PLATE for HAND
NO NAVIGATION
TOUCHSCREEN
NO CD/DVD?
COLOR FRONT & BACK
"FLIP SWITCH"
TRACKBALL
AUTOMATIC INFORMATION
NO SCREEN
SYMBOLS
VOICE CONTROL
LIGHT INDICATIONS
HEM
OVERVIEW
LIKE A BOOK
POCKET CALENDAR
WARM COLORS
SMALL
SOFT SHAPE
PRINT WHAT'S ON SCREEN
NO BUTTONS CONTROLS
PREVIEW on PRINT

Ideas/ Inviting

LAPTOP

Soft outside

Glowing from within

Individual

Real life resemblance

Soft shapes

NAVIGATION

Perfect fit in hand

Fragile look; desire to nurse

Glowing heart

Interesting accents; color, material

BT+HR

Contrasts; color, material

Soft material inside

Glove appearance

PEDOMETER+MP3

Making it wearable

Grandpa watch appearance

SCALE

Cushion appearance

Slipper appearance

Contast from surrounding

HANDSET

Soft; squeezable

Replaces landline phone

Picture phone

Soft touch

CALENDER

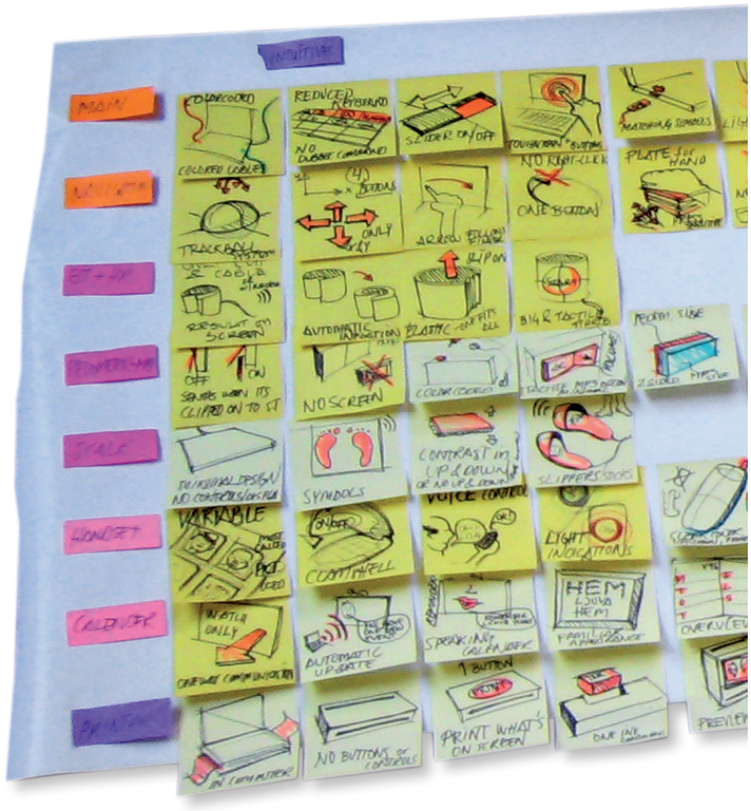
Familiar appearance

Friend telling the user what to do

PRINTER

Small

Intersting accents; color, material



INVITING
NO CD/DVD?
NO NAVIGATION
TOUCHSCREEN
WARM COLORS
CONTRAST
SOFT SHAPE
PICTURE PHONE
FRAME HOMELIKE
SMALL
BOOK
OVERVIEW
LIKE A BOOK
POCKET CALENDER
PREVIEW on PRINT

Ideas/ Modular

LAPTOP

Landscape/portrait

Picture frame and laptop

Small preview screen

Turn screen 360°

Screen can be separated from laptop

Touchscreen and keyboard

NAVIGATION

Navigation and phone in one

Removable trackpad= phone

PEDOMETER+MP3

One side pedometer, other side MP3

MP3 only when earplugs is connected
Making it wearable

SCALE

Fabric; folds up

HANDSET

Docks to laptop

Magnetic; holds notes on refrigerator

Clips to walking frame/stick

CALENDER

Hang/stand

Pocket format

Landscape/portrait

PRINTER

Hide in bookshelf

GENERAL

LIGHTWEIGHT AND PORTABLE

Fits in walking frame basket

handel on the different parts

Small and lightweight

wheels

Carried lika tray; two handles

Wearable; straps/elastic band/velcroe

Pocket fit

CONTRAST

Inside vs outside; color/material

Interactive parts in one execution, static parts in contrasting execution

Extruded shapes; eg. symbols on buttons

Illuminated symbols

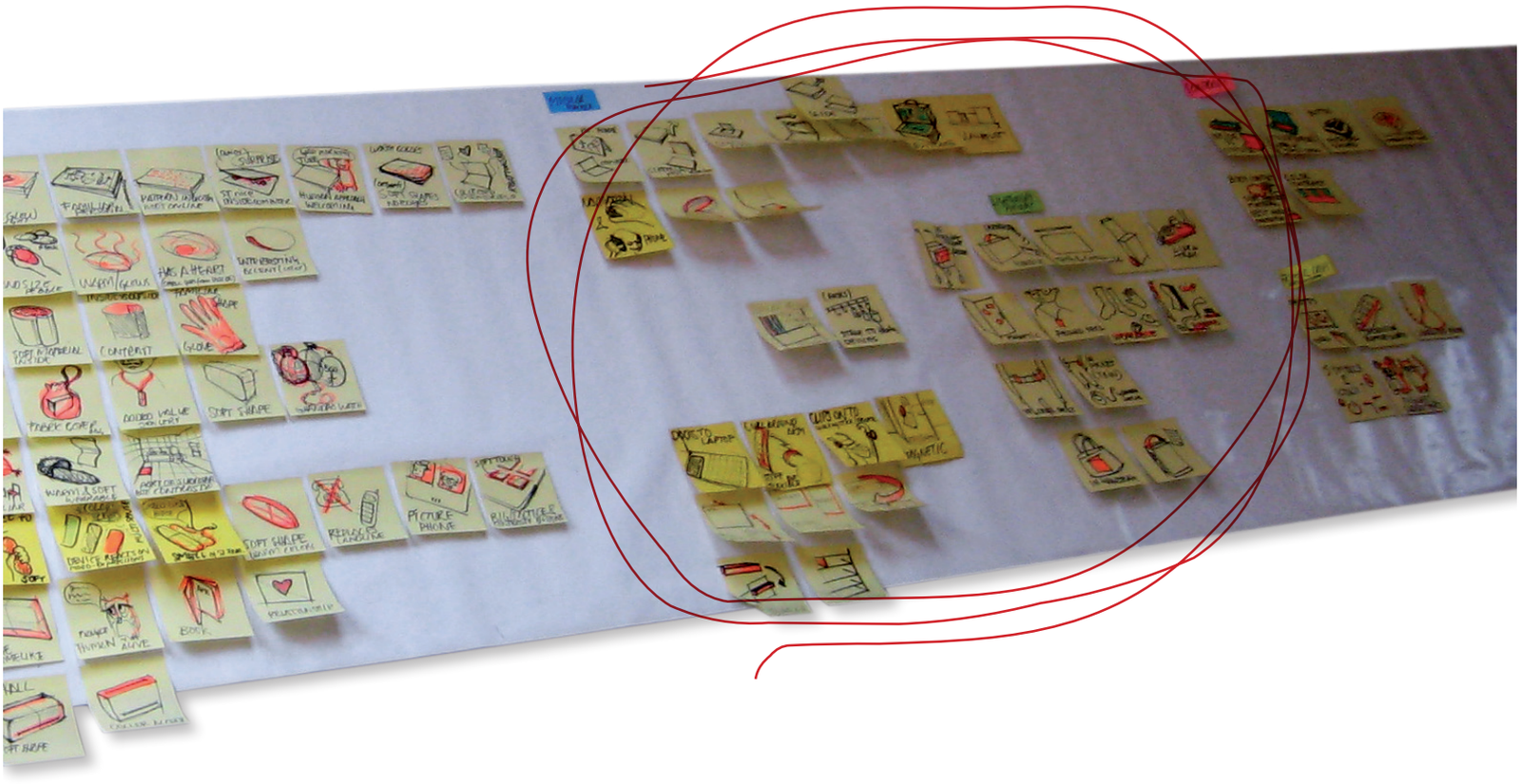
FAMILIAR

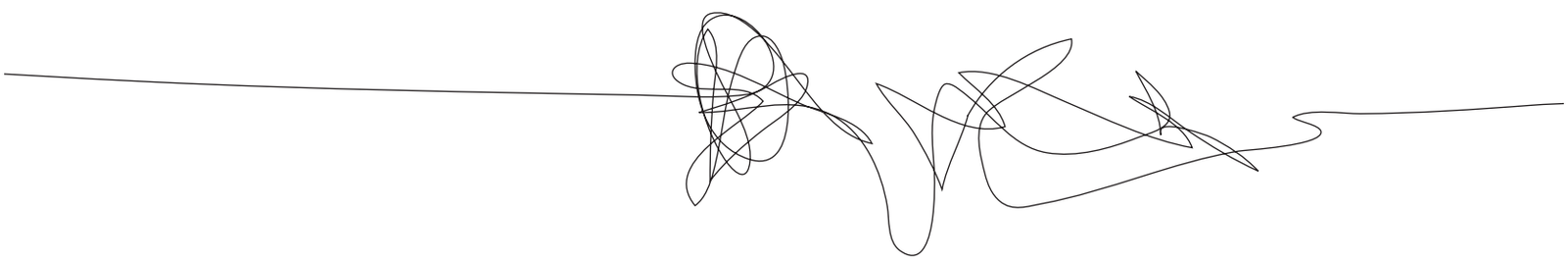
Photos of family and friends

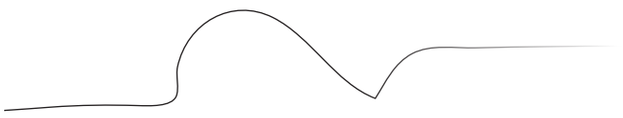
Product in character shape

Costomizable

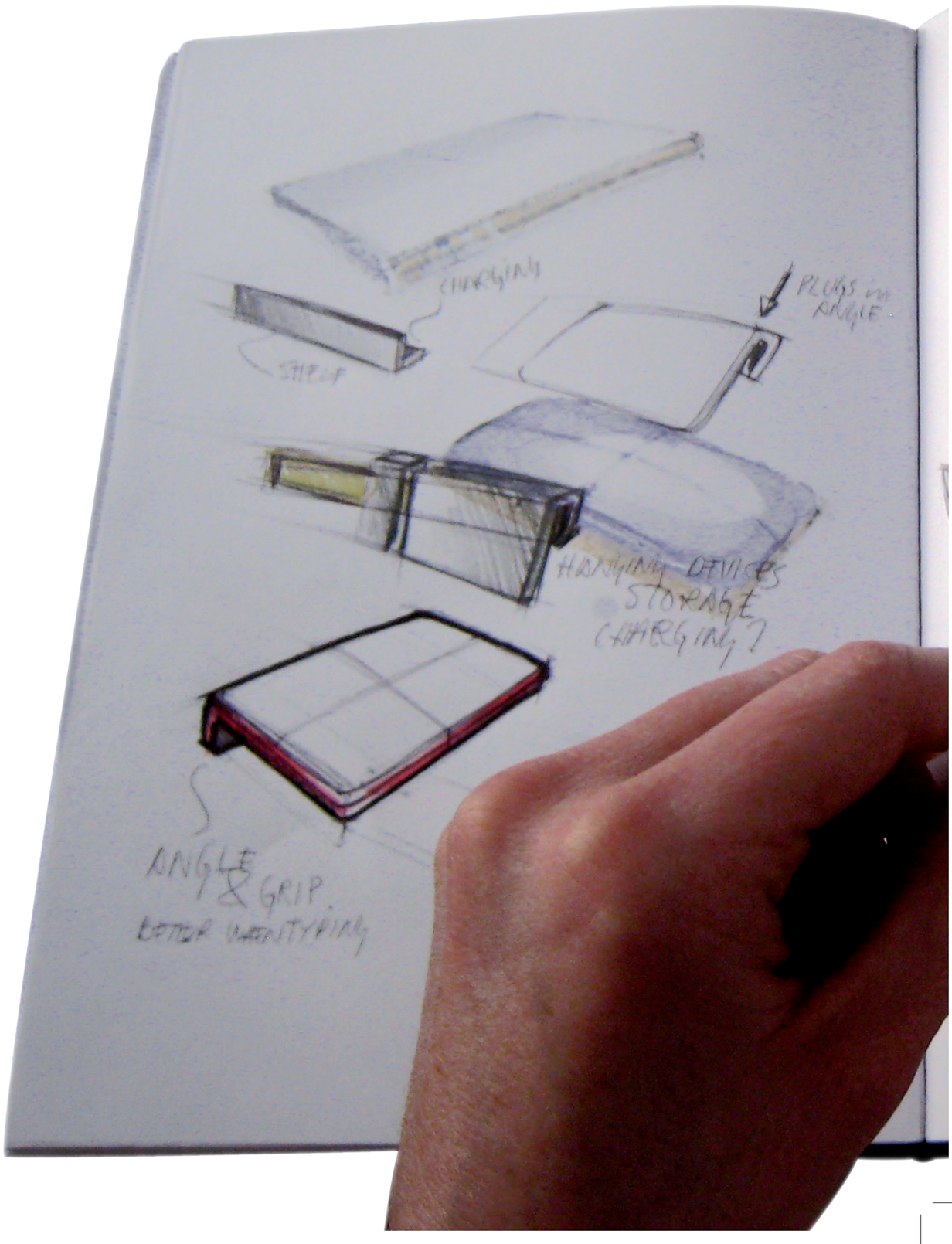
Create relationship; love

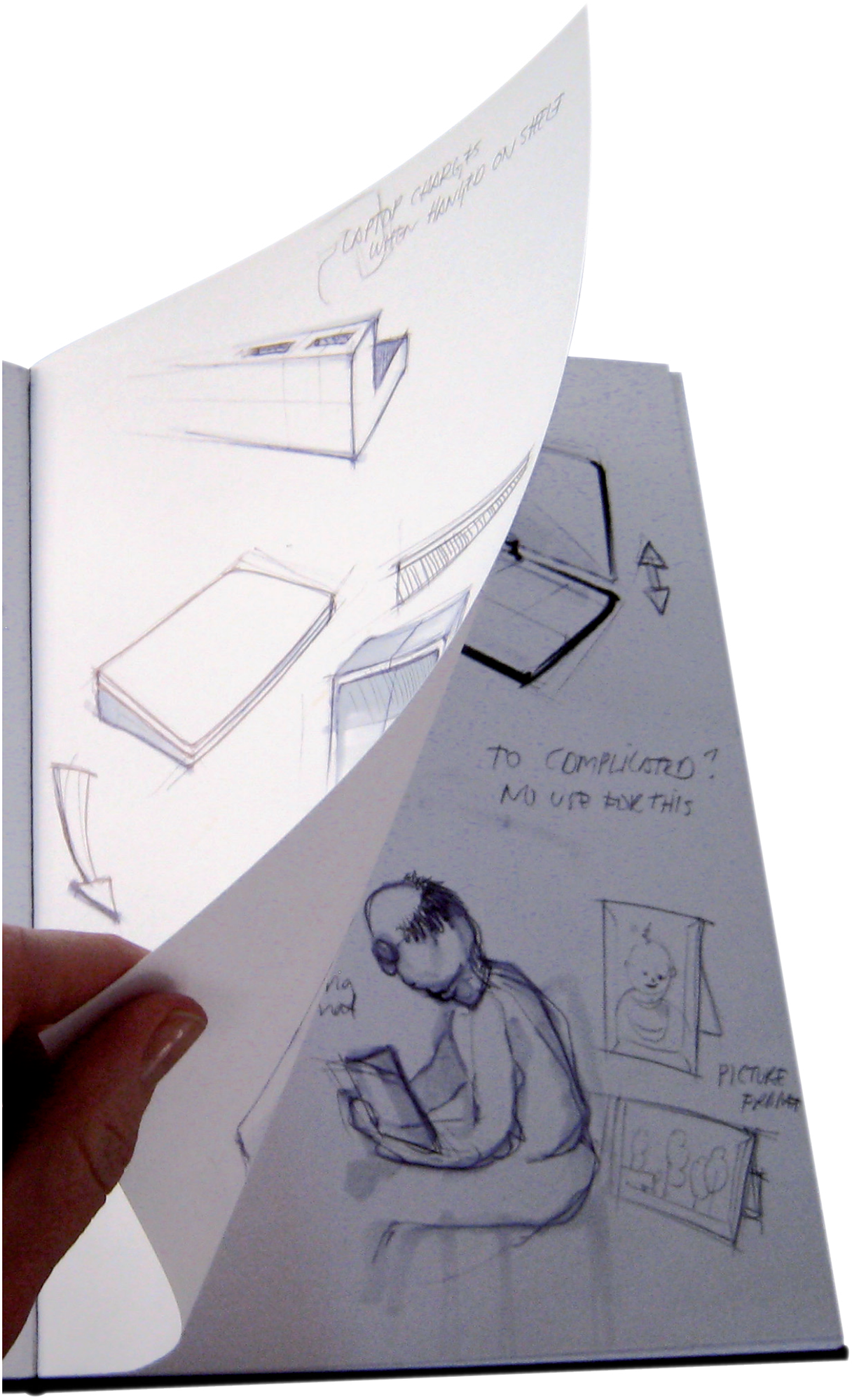


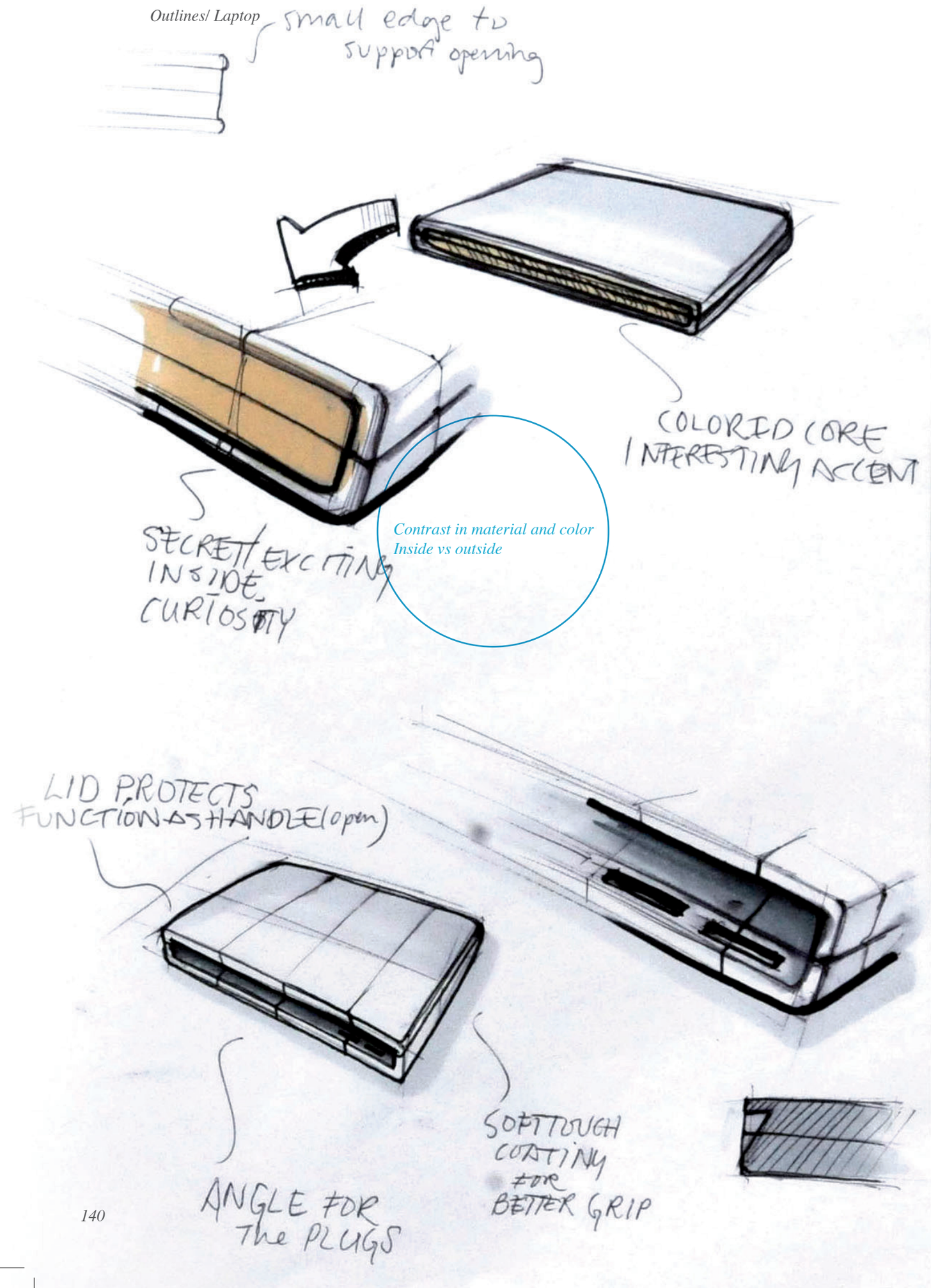


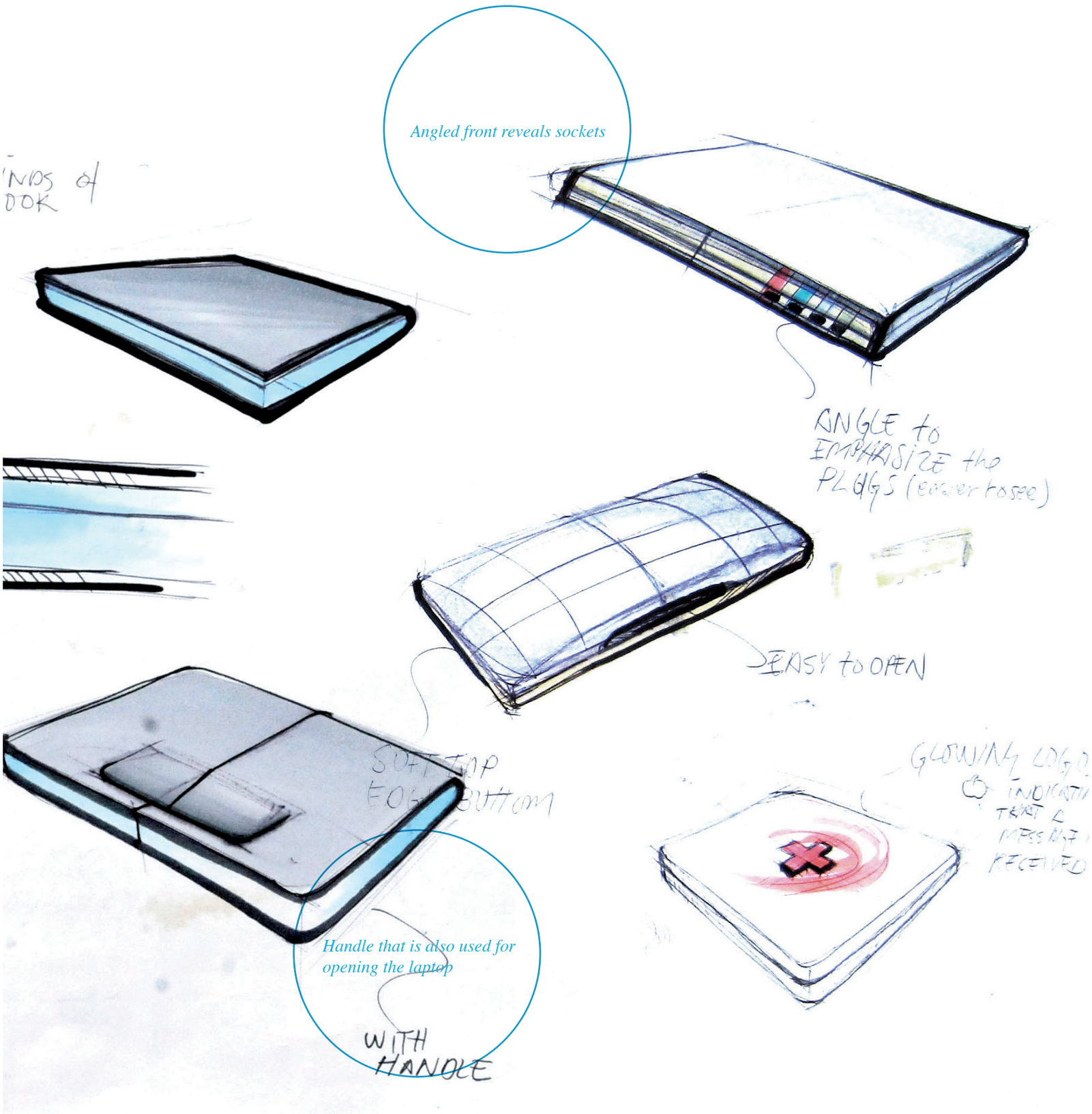


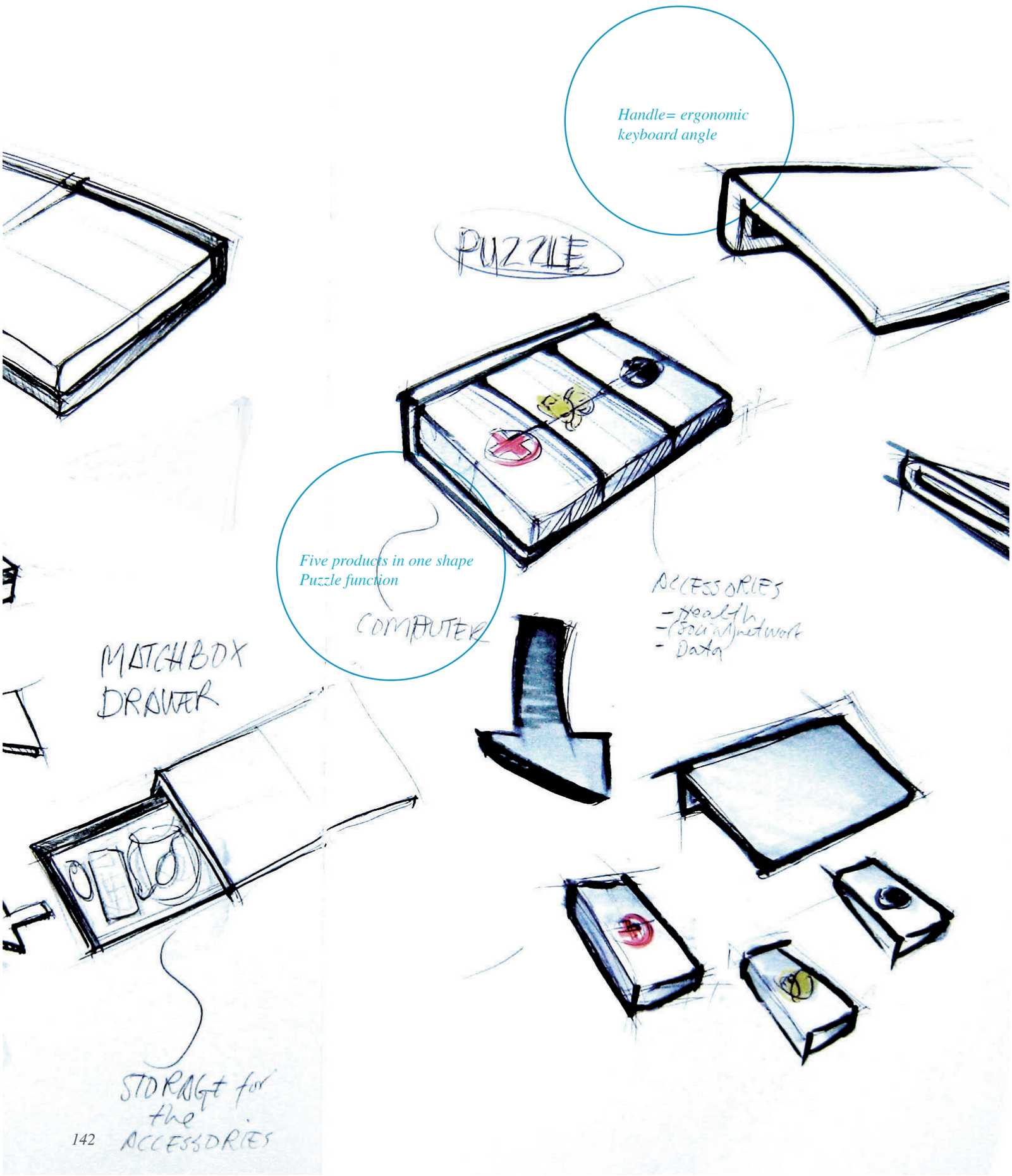
Quick and dirty sketches conclude the initial concept and ideas. Sketching is a way to transfer fuzzy thoughts to graspable suggestions. A sketch is the first step to discover the final shape. Thoughts of the design language is projected on the computer and later transferred to the other products.

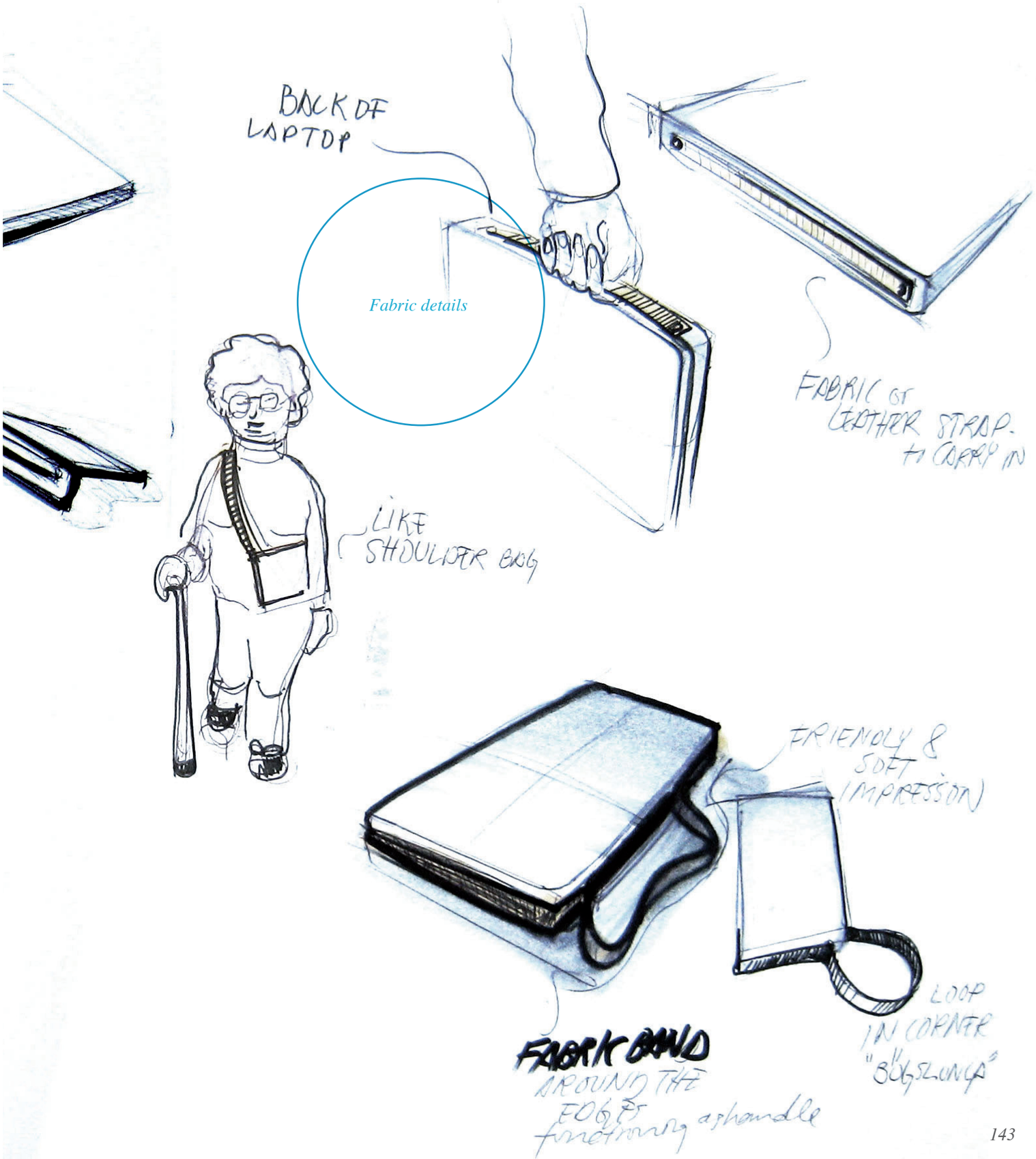

CHARGING
SHELF
PLUGS IN ANGLE
HANGING DEVICES
STORAGE
CHARGING?
ANGLE & GRIP
BETTER IDENTIFYING

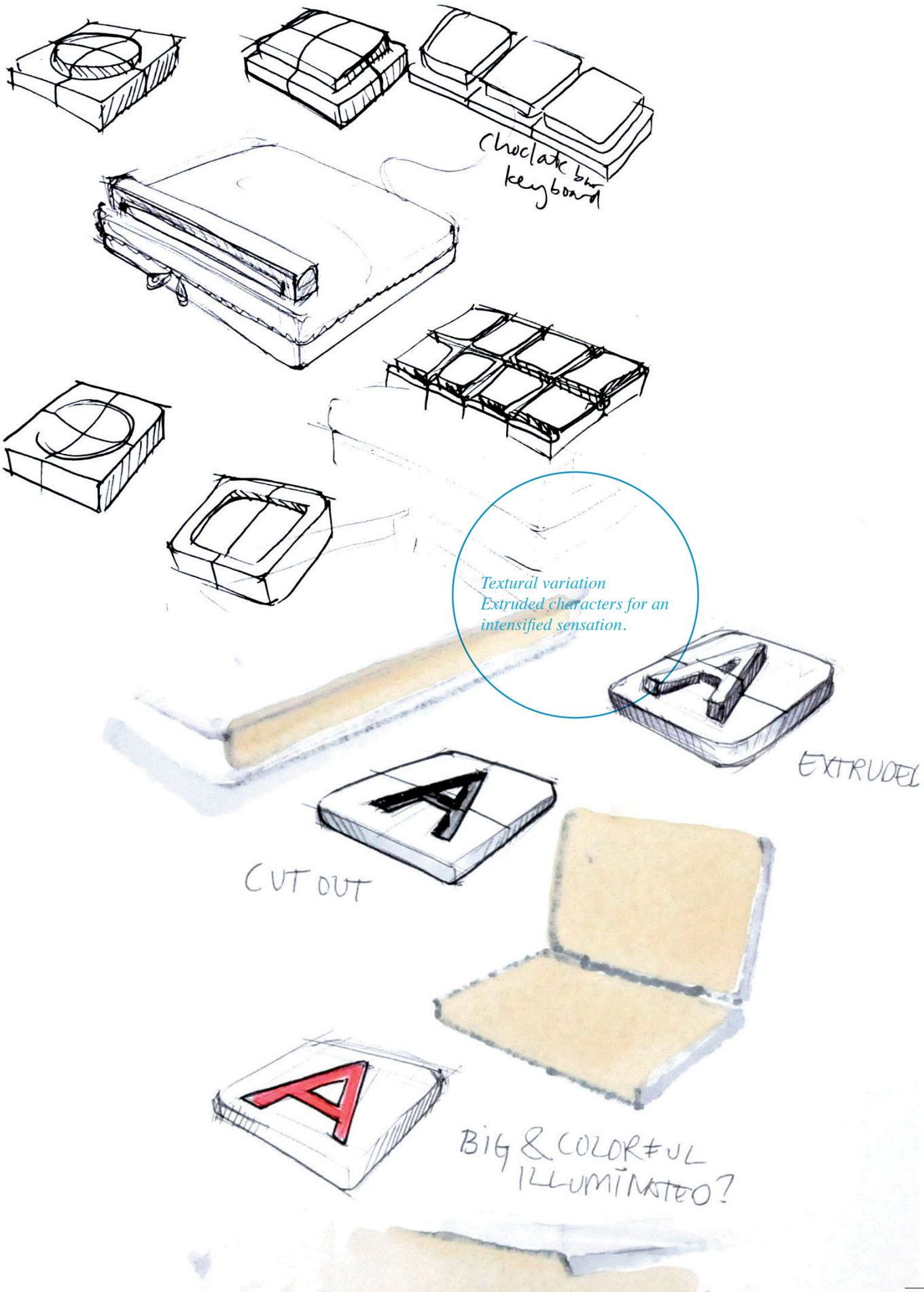

LAPTOP CHARGERS
WHEN HANGED ON SHELF
TO COMPLICATED?
NO USE BOX THIS
PICTURE

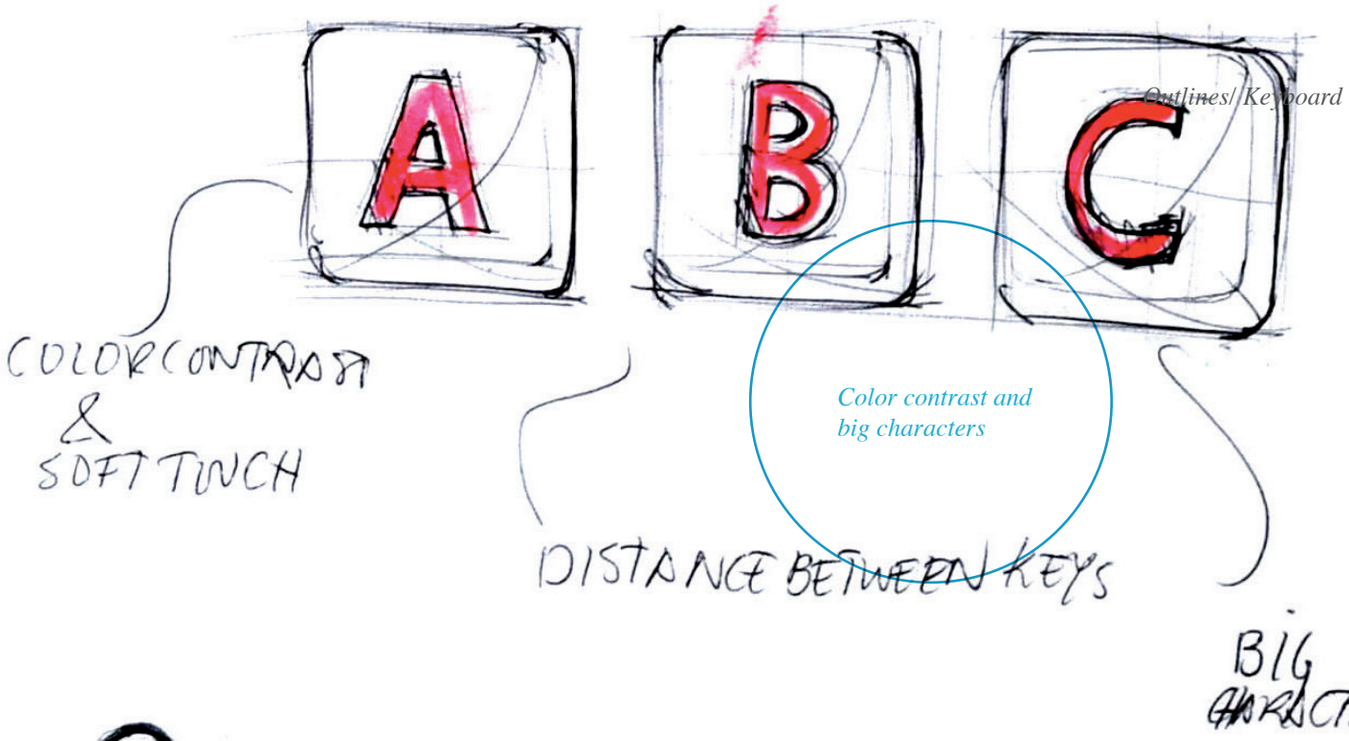

small edge to support opening
COLORED CORE / INTERESTING ACCENT
SECRET/ EXCITING INSIDE. CURIOSITY
Contrast in material and color
Inside vs outside
LID PROTECTS FUNCTION AS HANDLE (open)
ANGLE FOR The PLUGS
SOFT TOUCH COATING FOR BETTER GRIP


Angled front reveals sockets
ANGLE to EMPHASIZE the PLUGS (easier to see)
EASY to OPEN
GLOWING LOGO
Handle that is also used for opening the laptop
WITH HANDLE

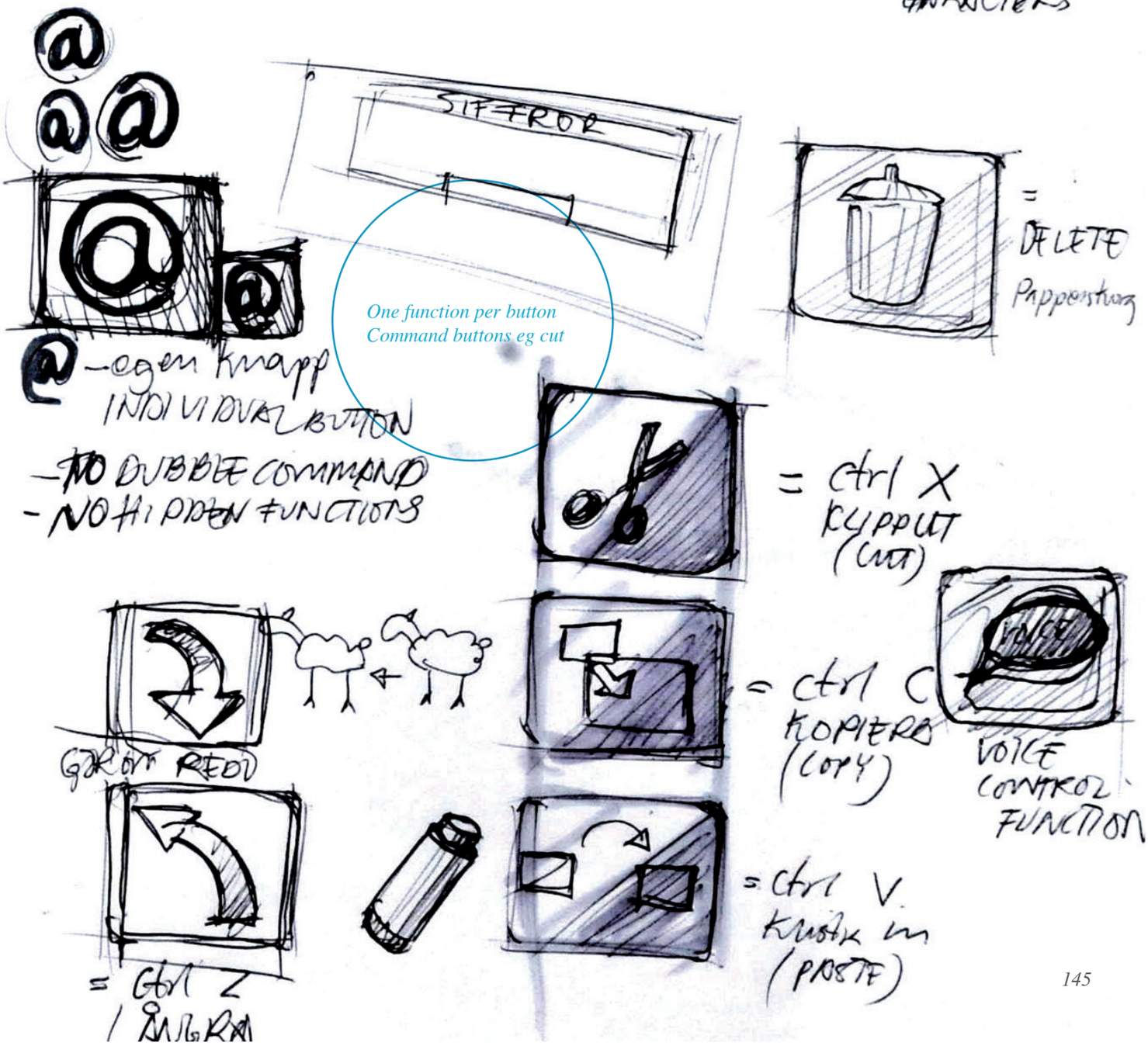

Handle= ergonomic
keyboard angle
PUZZLE
Five products in one shape
Puzzle function
COMPUTER
ACCESSORIES
- Health
- Security Network
- Data
MATCHBOX
DRAWER
STORAGE for
the
ACCESSORIES


BACK OF LAPTOP
Fabric details
FABRIC or LEATHER STRAP. to CARRY IN
LIKE SHOULDER BAG
FRIENDLY & SOFT IMPRESSION
LOOP IN CORNER "BUGSLUNGA"
FABRIC BAND AROUND THE EDGES functioning a shandle

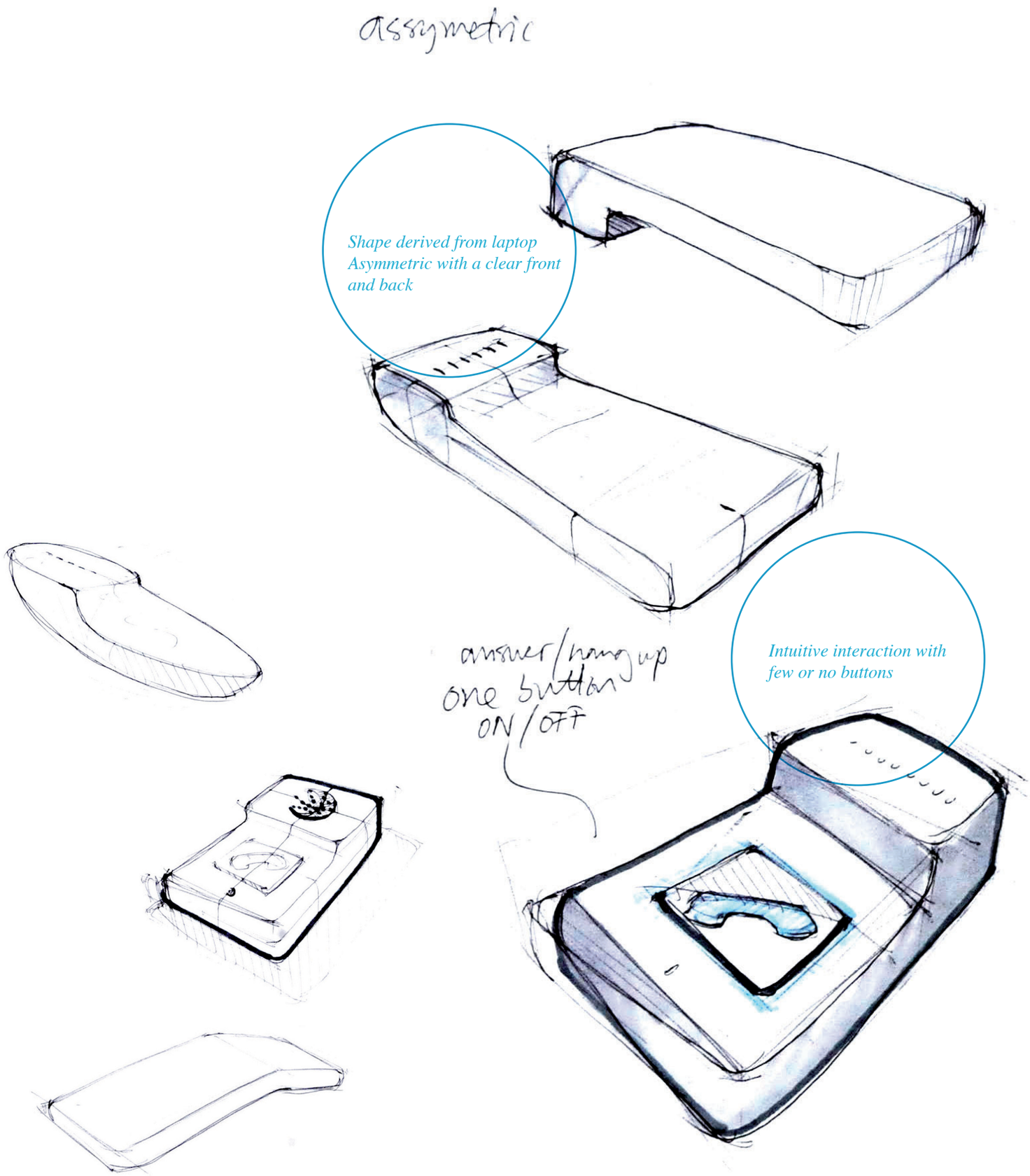

Choclate bar keyboard
Textural variation
Extruded characters for an intensified sensation.
EXTRUDED
CUT OUT
BIG & COLORFUL
ILLUMINATED?

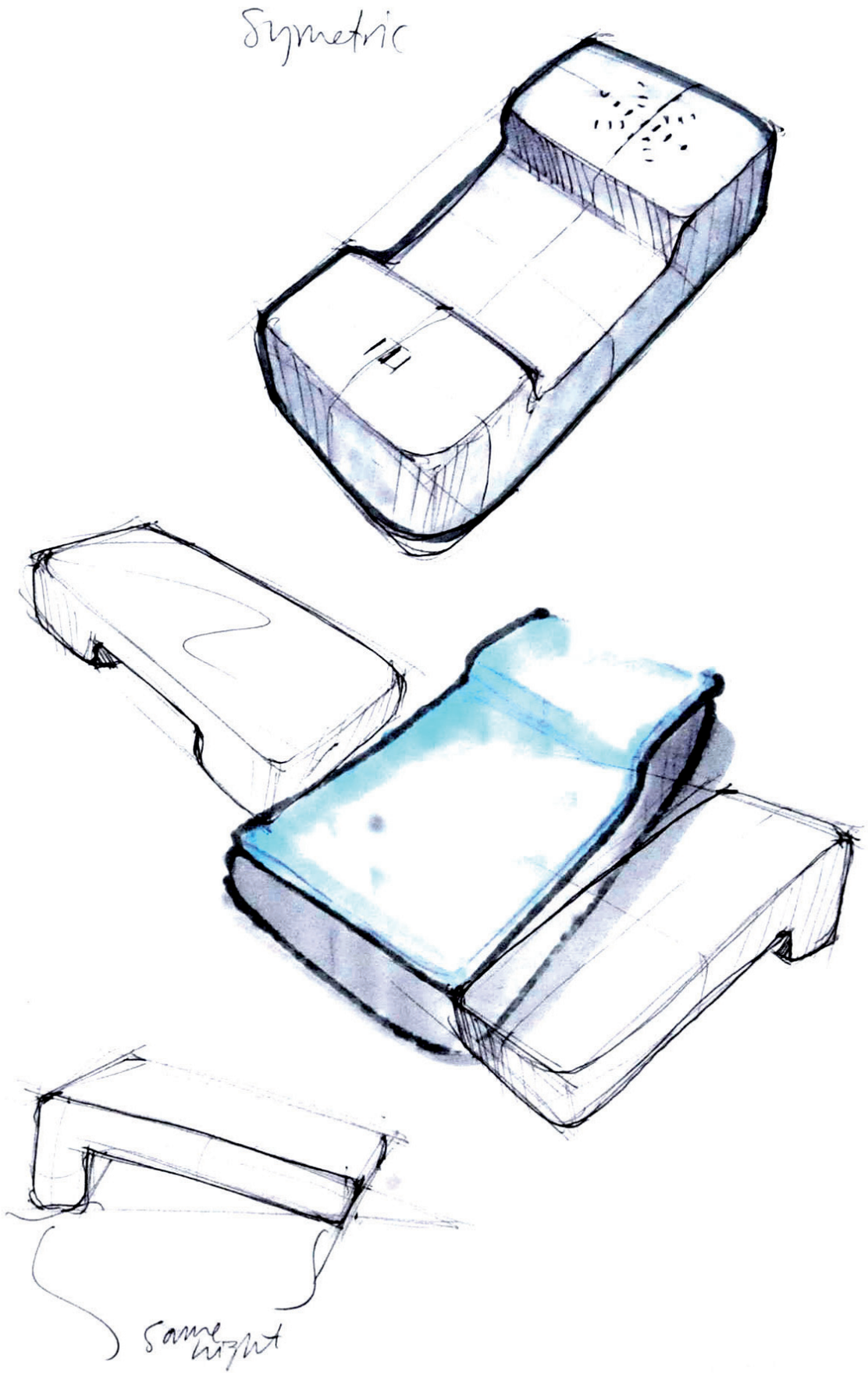


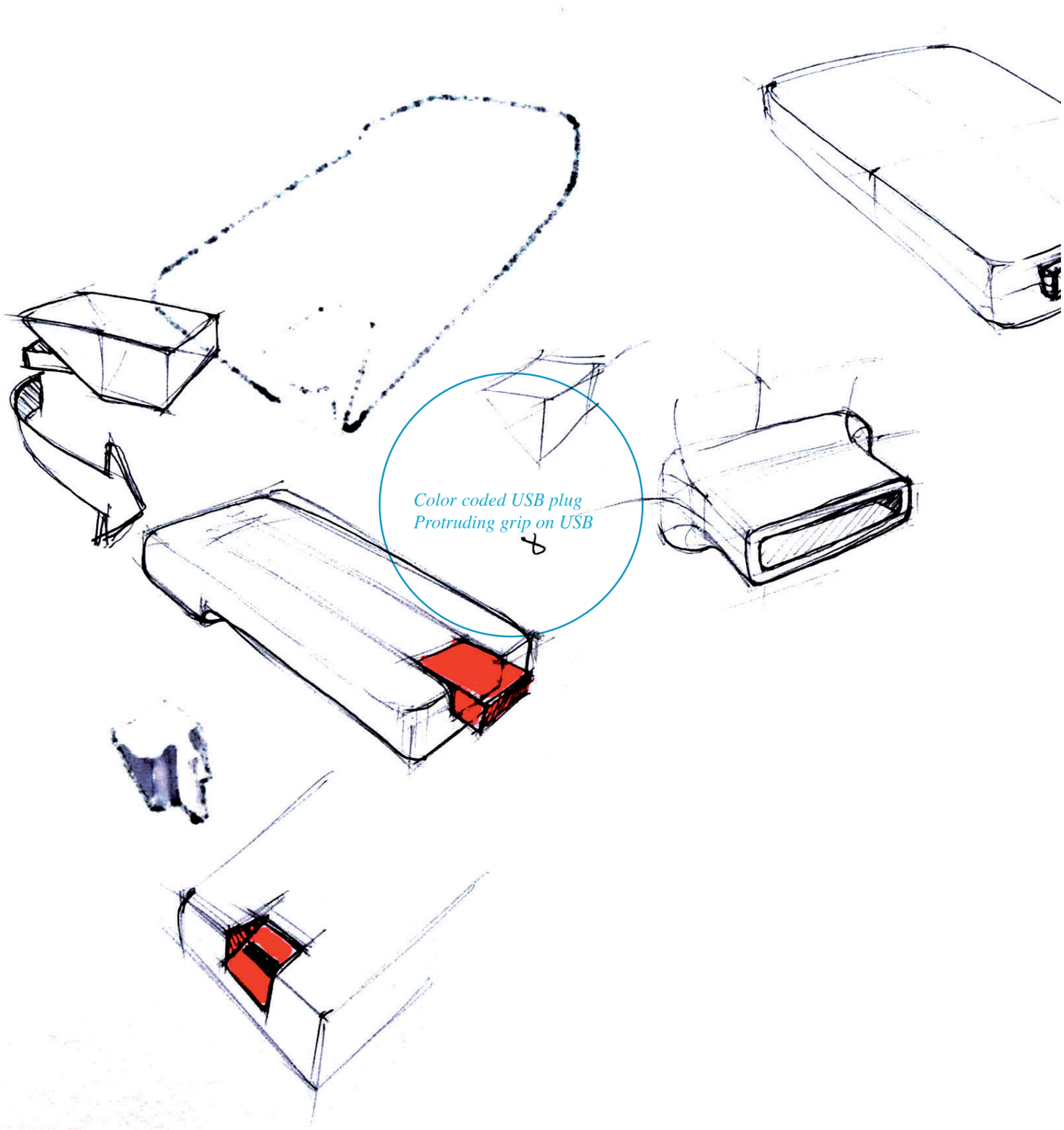
Color contrast and
big characters

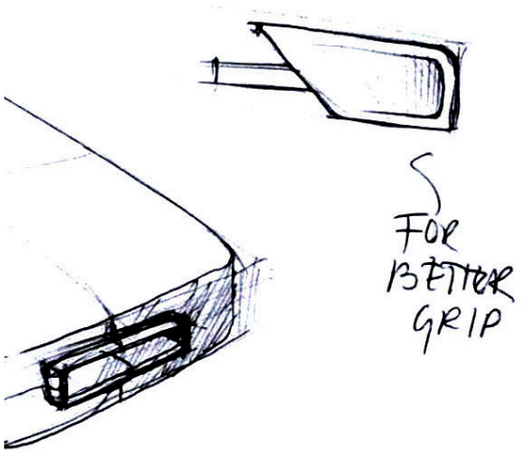


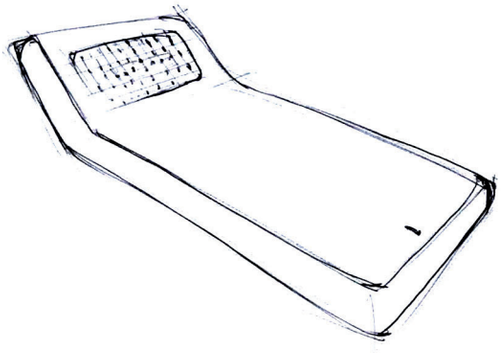
One function per button
Command buttons eg cut

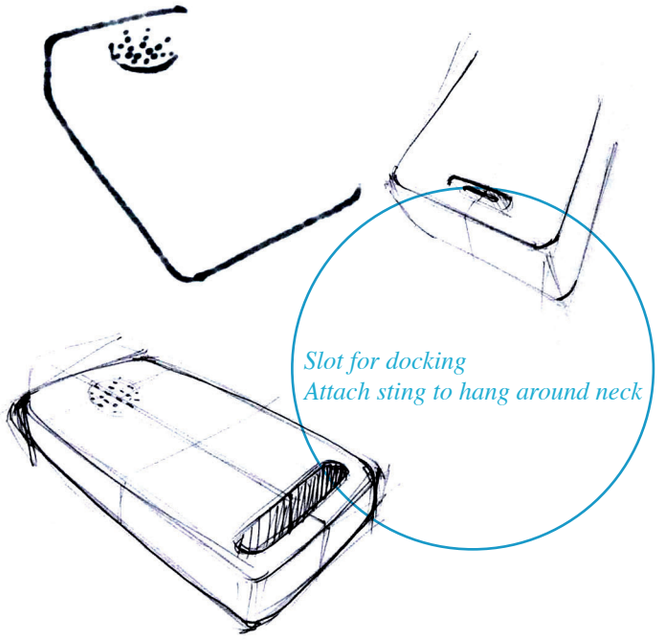

assymetric
Shape derived from laptop
Asymmetric with a clear front
and back
answer/hang up
one button
ON/OFF
Intuitive interaction with
few or no buttons

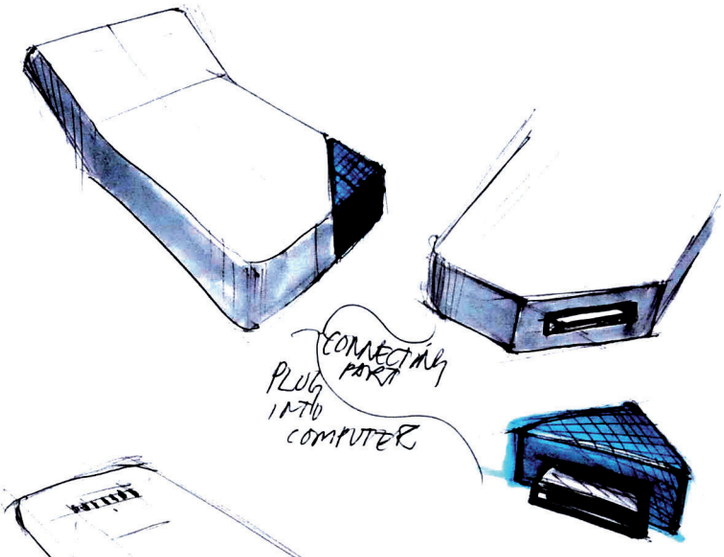

Symetric
same weight

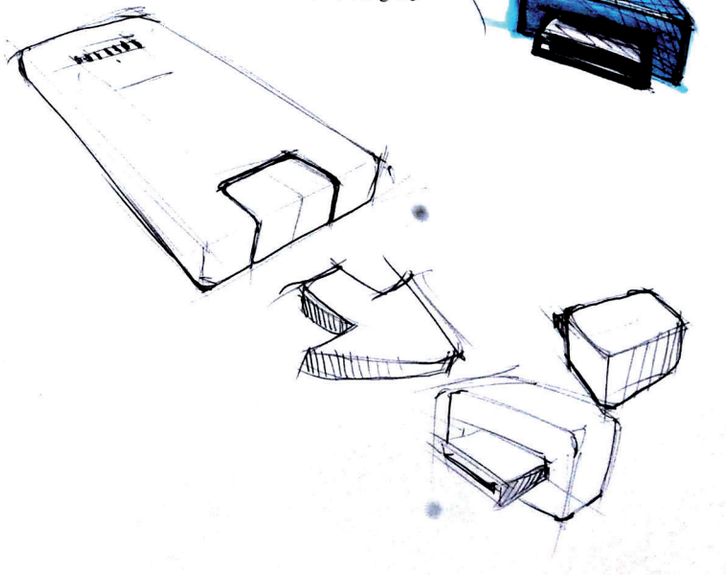

Color coded USB plug
Protruding grip on USB

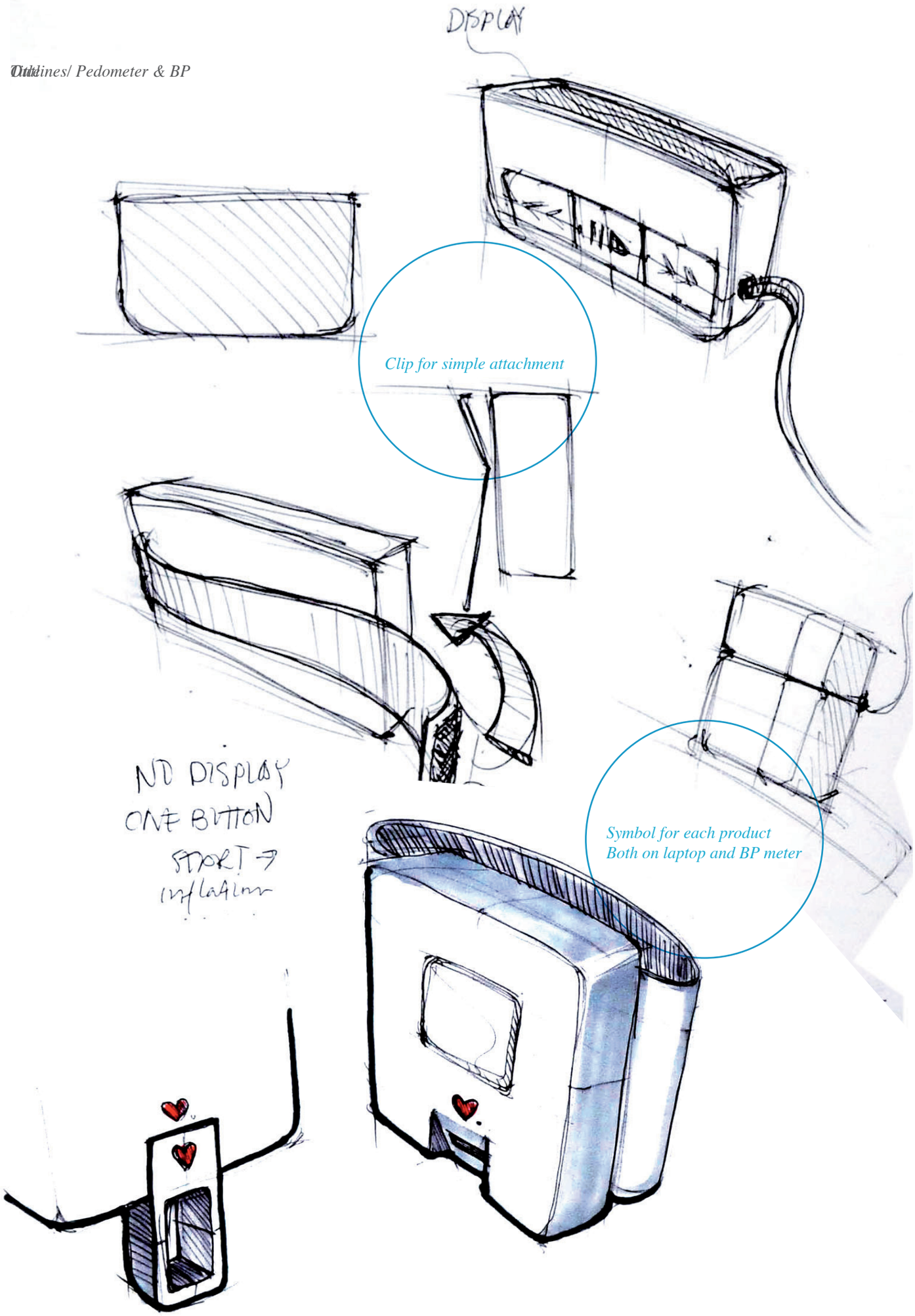

FOR
BETTER
GRIP

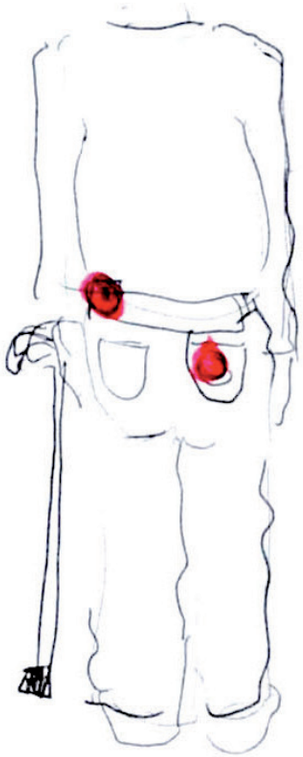


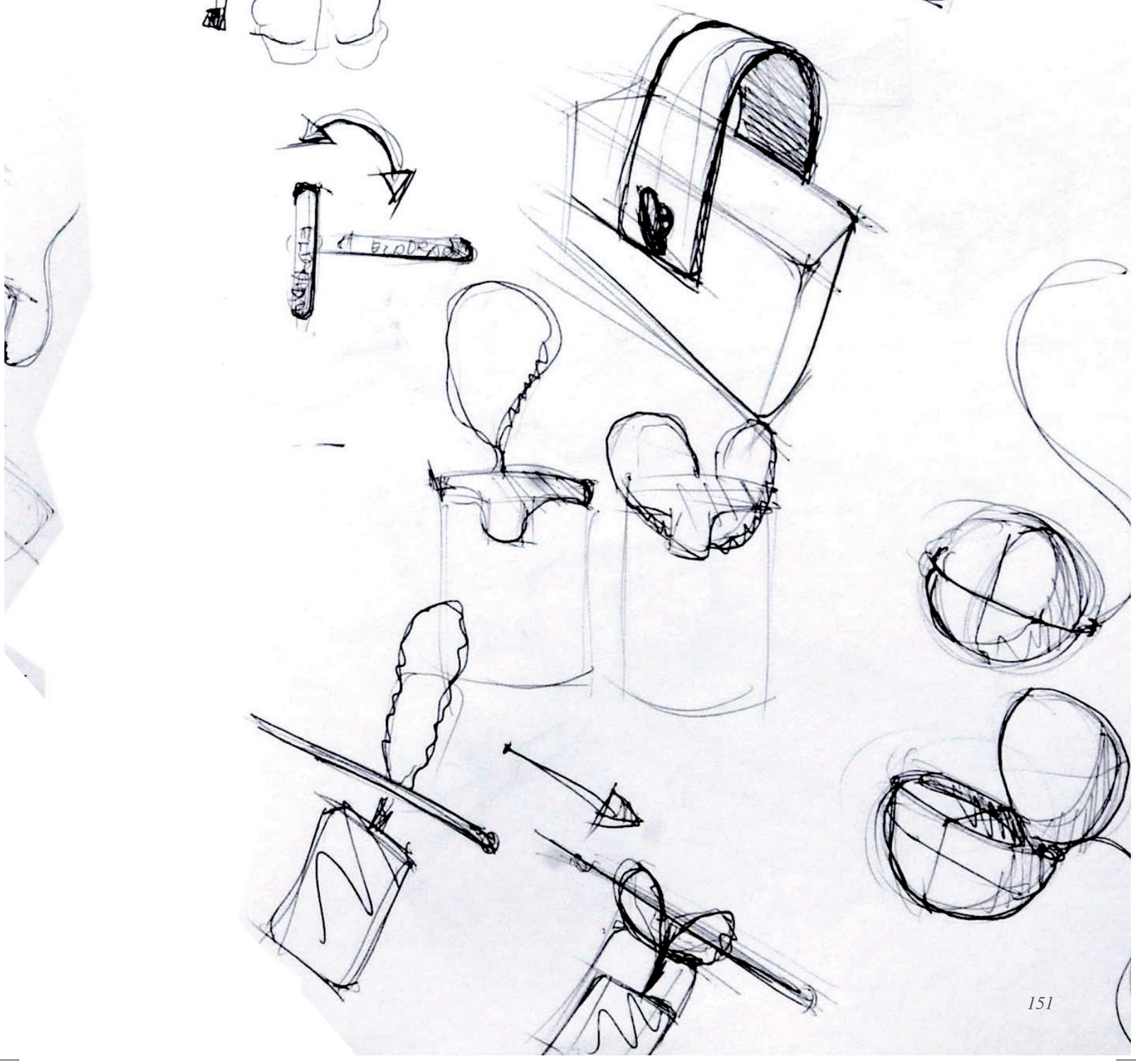

Slot for docking
Attach sting to hang around neck


CONNECTING PORT
PLUG INTO COMPUTER



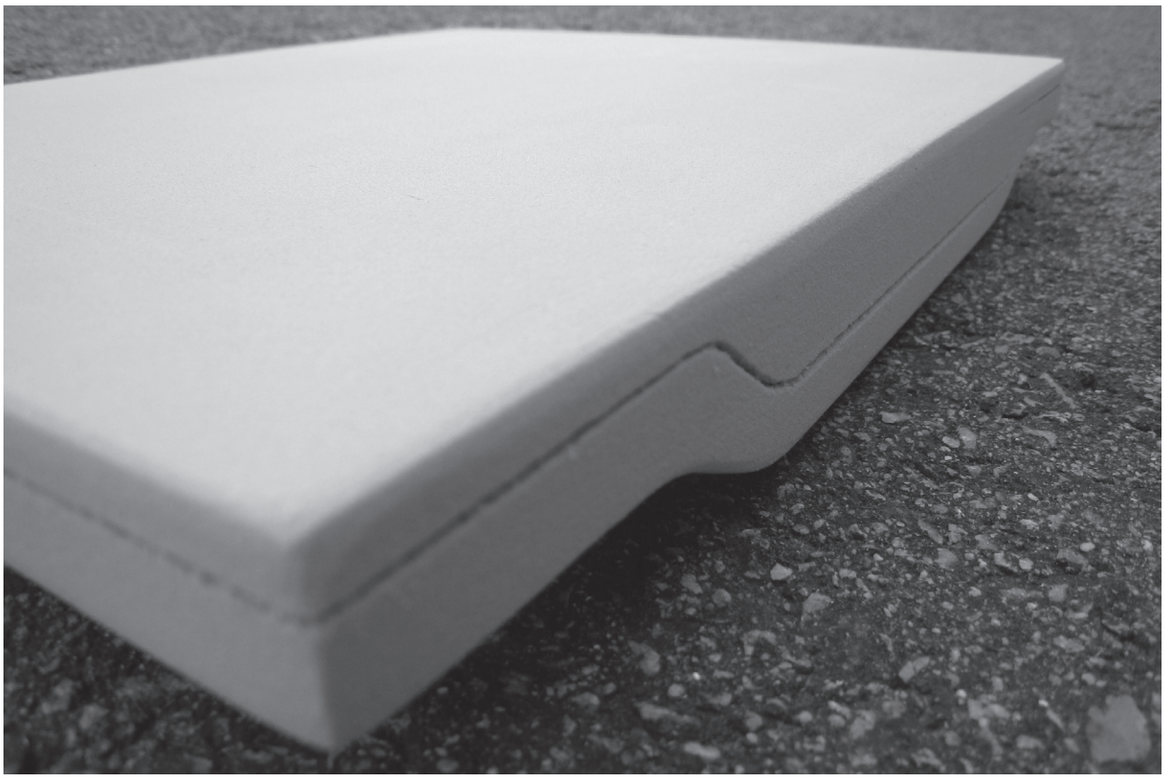

DISPLAY
Clip for simple attachment
NO DISPLAY
ONE BUTTON
START →
Symbol for each product
Both on laptop and BP meter

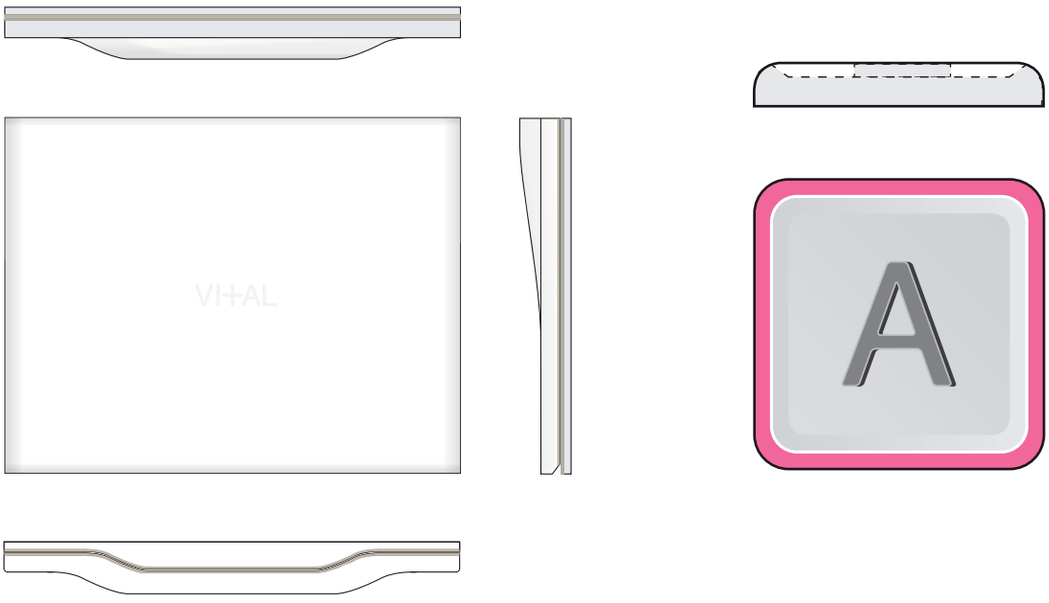

IN POCKET
OR
ON BELT



p
cut myself™
clear bandages. Two sizes
help
I have a
12 acetaminophen

Three illustrations of potential laptop designs were selected to come closer to the final version of Vital. The three paths were further explored in sketchmodels.




VI+AL
A

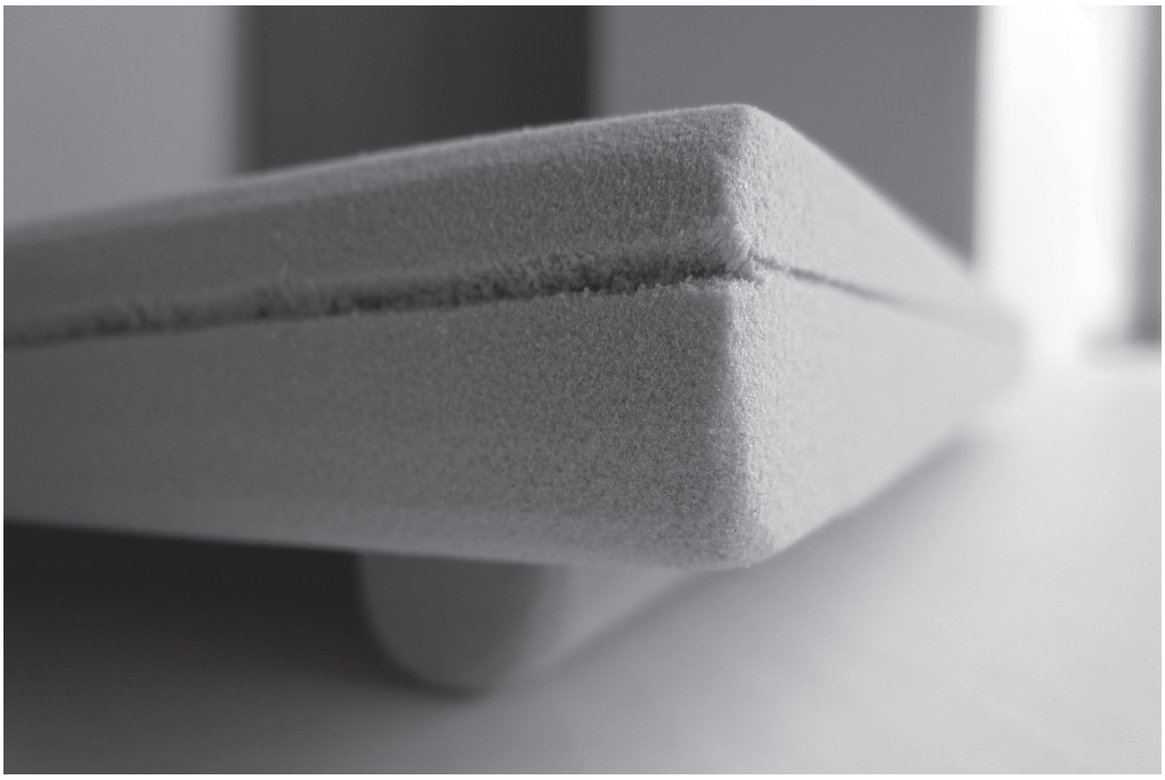
FLOW

Contrast

Floating

Friendly

Flow



VITAL
A

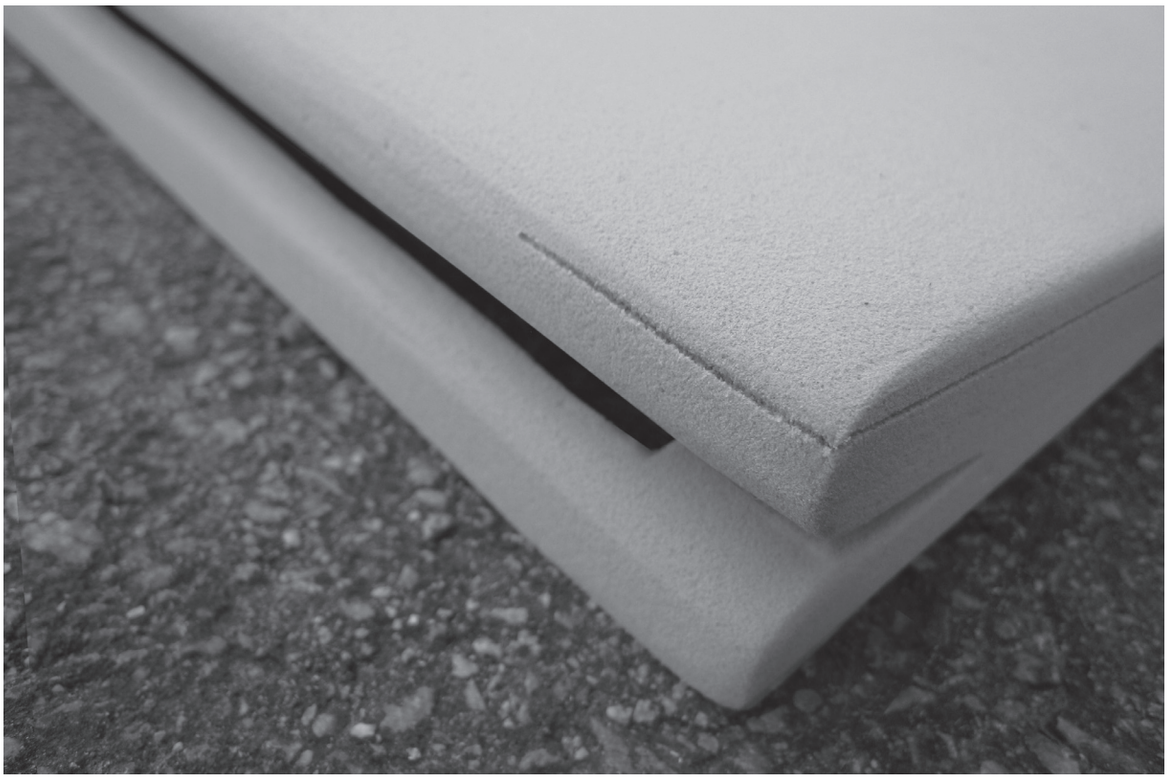
RAIL

Contrast

Floating

Simple

Straight



VITAL
A

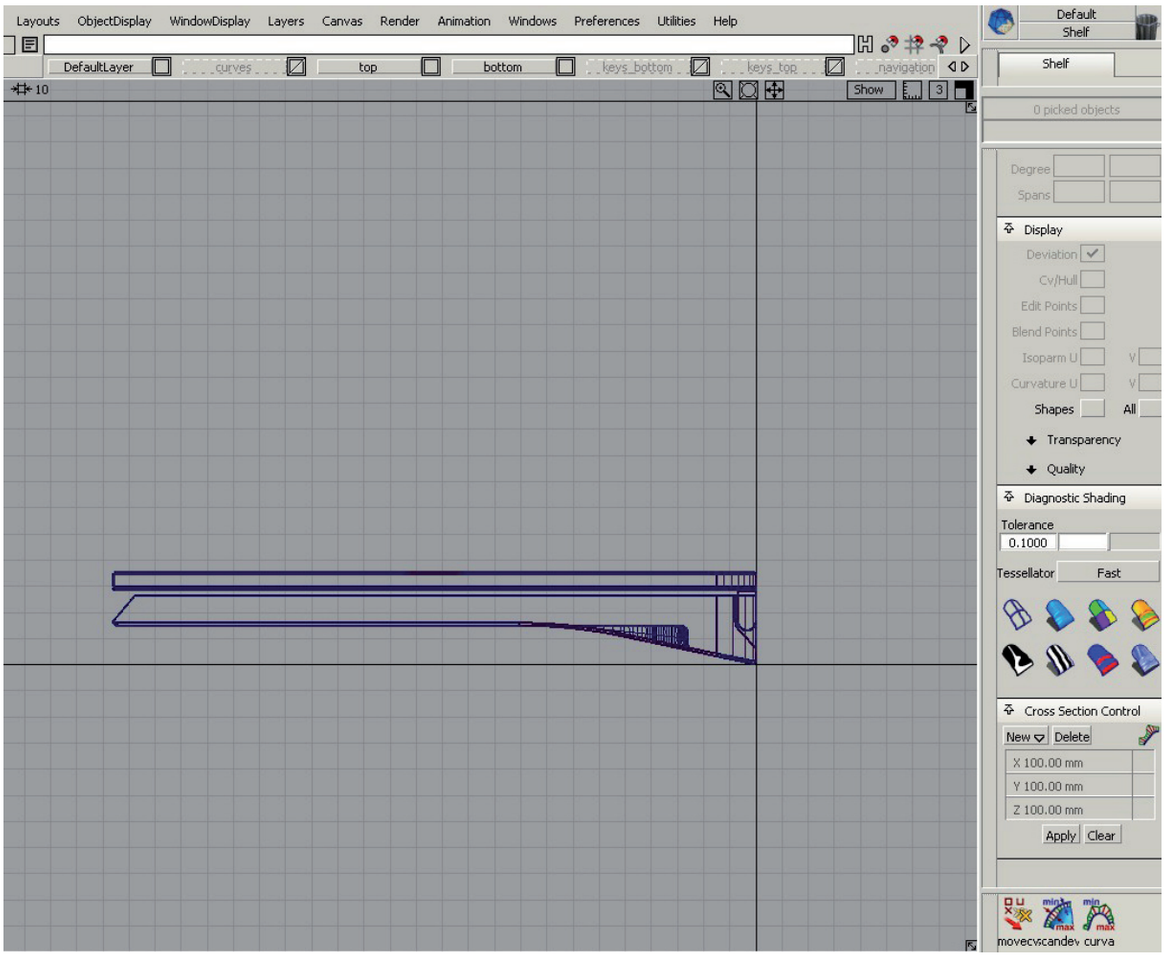
BRANCH

Contrast

Ergonomic

Robust

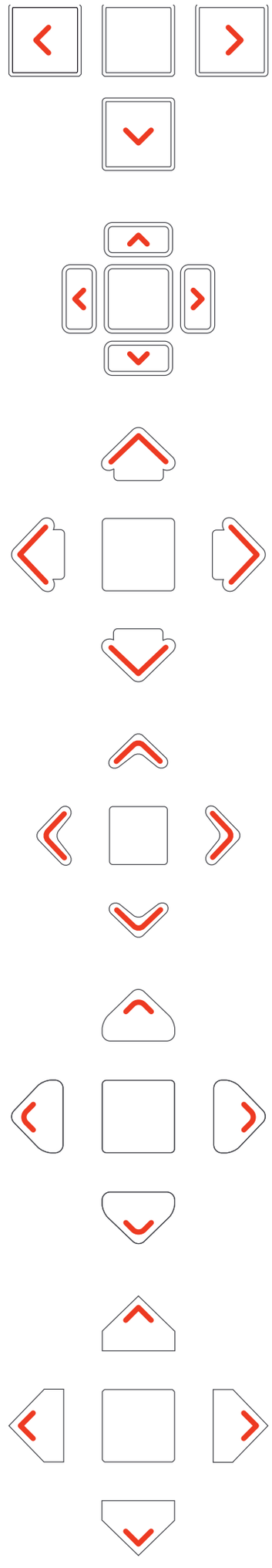
Reliable

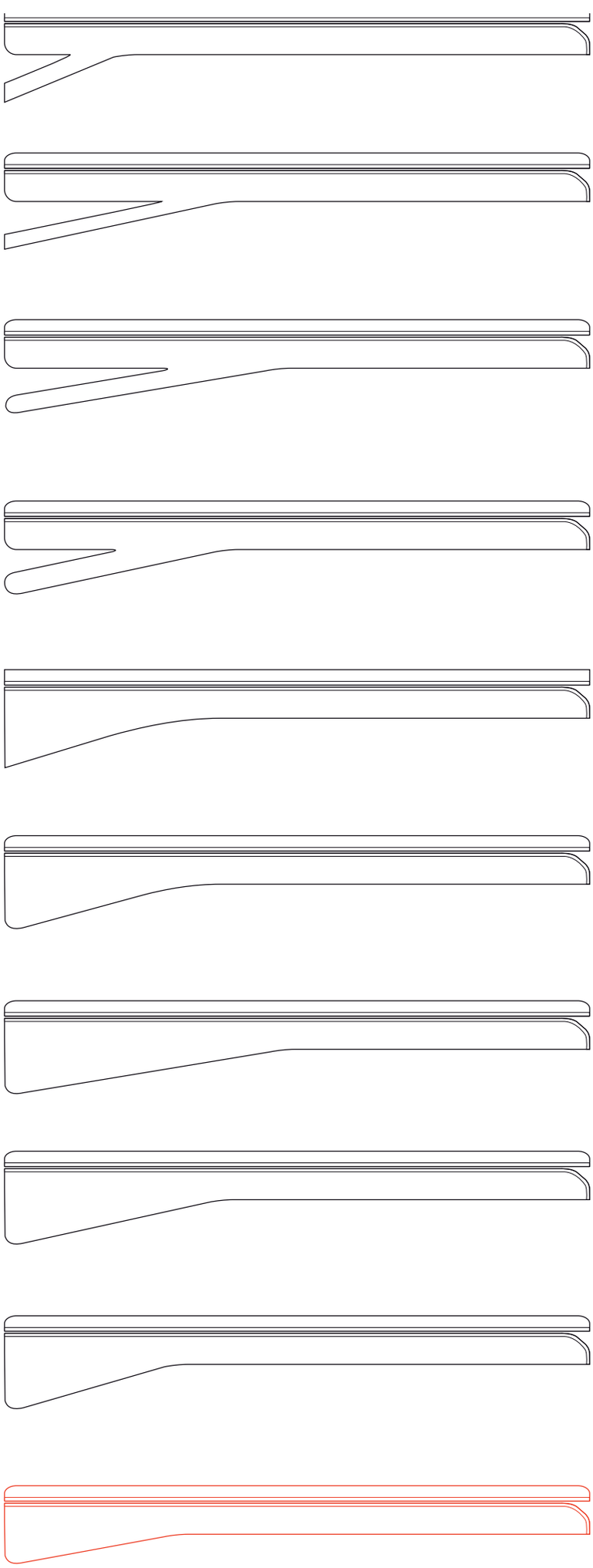

Layouts
ObjectDisplay
WindowDisplay
Layers
Canvas
Render
Animation
Windows
Preferences
Utilities
Help
DefaultLayer
curves
top
bottom
keys_bottom
keys_top
navigation
10
Show
3
Default
Shelf
Shelf
0 picked objects
Degree
Spans
Display
Deviation
Cv/Hull
Edit Points
Blend Points
Isoparm U
V
Curvature U
V
Shapes
All
Transparency
Quality
Diagnostic Shading
Tolerance
0.1000
Tessellator
Fast
Cross Section Control
New
Delete
X 100.00 mm
Y 100.00 mm
Z 100.00 mm
Apply
Clear
movecvscandev curva

Further development of the "Branch concept" lead to the final version of the Vital laptop and furthermore to the design of the four belonging products.

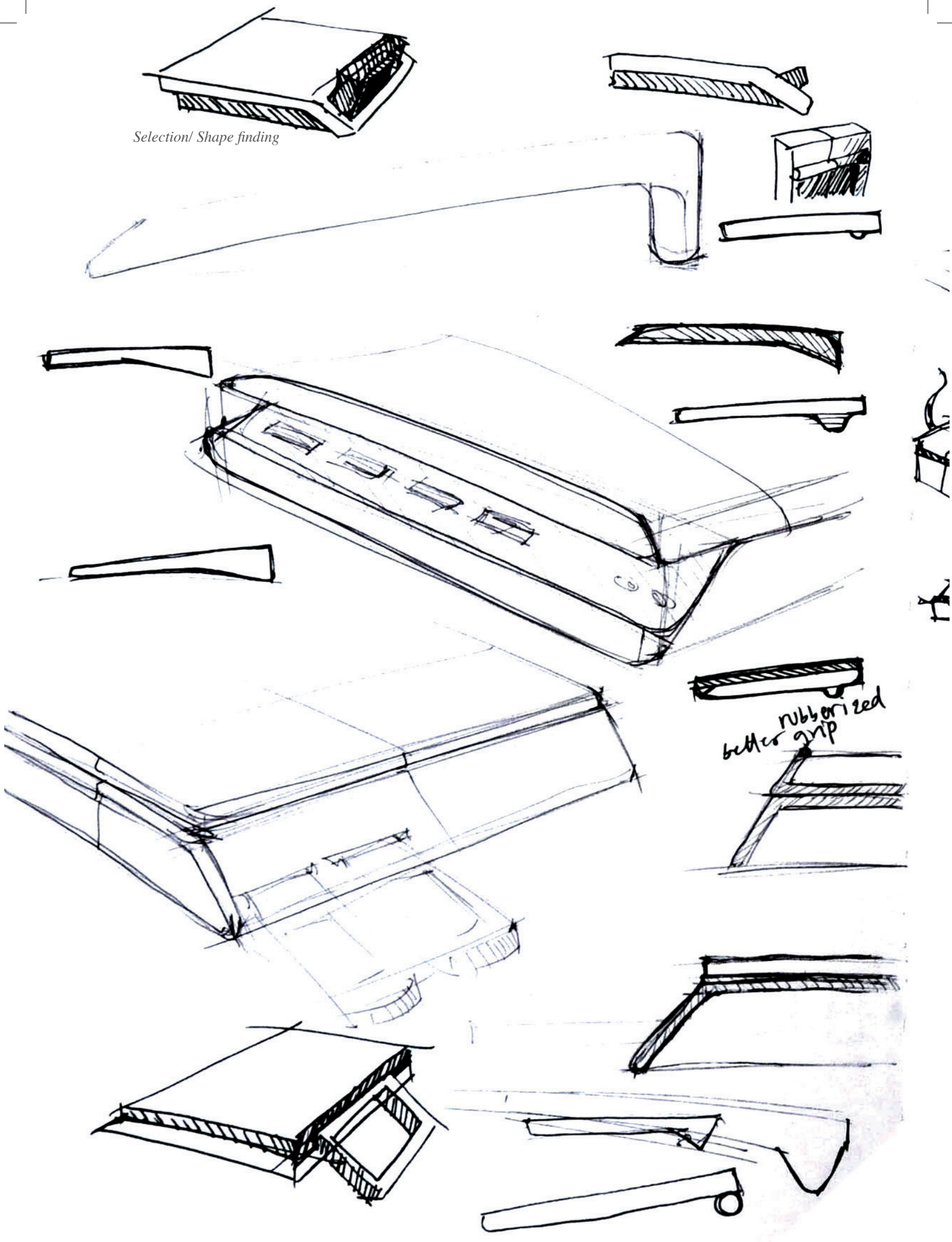
Selection/ Shape finding

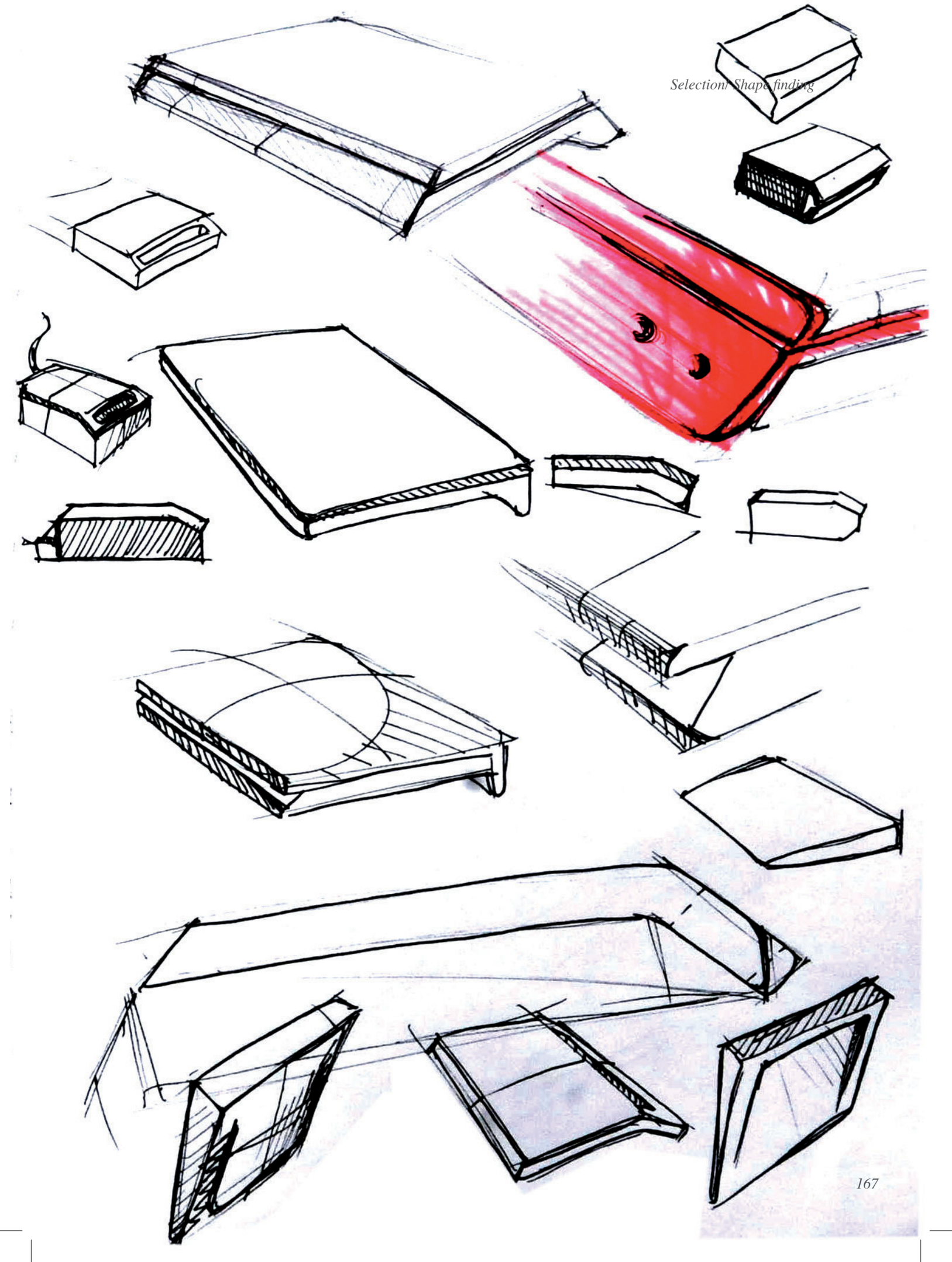
In order to find the right shape different proportions were drawn up. Both two dimensional drawings in Adobe Illustrator and three dimensional ones in Alias Studiotools were used to come to a conclusion regarding the final design.





Selection/ Shape finding





All the way through the process I wanted to include the people I was designing for. For revision of my ideas I showed a simple cardboard model of Vital to some of the elderly involved in the project. Their comments have been documented and taken into account. If Vital would be brought into production a huge amount of user tests would have to be executed and the results would be analysed and used in the final design. I have chosen not to incorporate all of the initial feedback presented in this section in my final design.

GÖRAN HEDÉN

"It would be better if there were white symbols on a black keyboad. It would boost the contrast"

"The symbols and letters on the keyboard could be a bit bigger"

"All of the symbols are good. I like the VERSAL/gemen button and it is great to have the cut and paste function visible. "

"I always need to zoom in to see properly. I think I would use the zoom buttons a lot."

"I would use the undo button but I do not think that the redo button would be very useful."

"It would not be annoying to use this simplified keyboard even though I have computer knowledge from before. I think that there is a market for it!"

"It would be good to have a string connected to the telephone so that it can be hanged around the neck and used if something happens."

PÄR WINGE

"Both on and off should be visible. Otherwise it might be difficult to understand. Maybe it could be written under the power button"

"I like the @-button."

"I never used the functions cut and paste. I would not miss if those buttons were not there."

"When you explain how the symbol-button works I understand and like it but I would not have understood that myself."

"There is enough contrast in the keyboard coloring. The keys are also just the right size."

"Maybe it should say stor/liten bokstav instead of versal/gemen. (In the Swedish version of the laptop).

"If you would design another accessory for Vital I would like a printer."

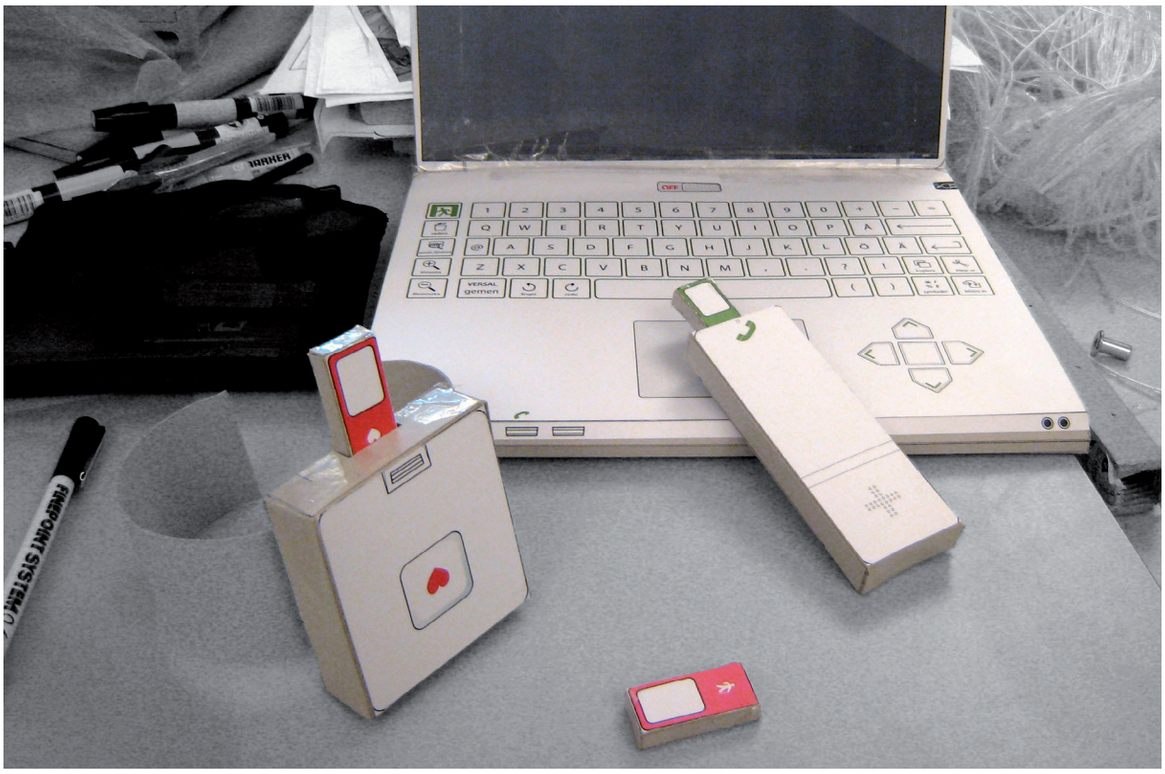
FEEDBACK FROM A GROUP SESSION AT THE CONGREGATION OF ADOLF FREDRIK

"It is a good idea but I don't like that there is so much focus on health. It is always about health when it concerns elderly."

"It doesn't bother me that it is about health, it has so many other qualities."

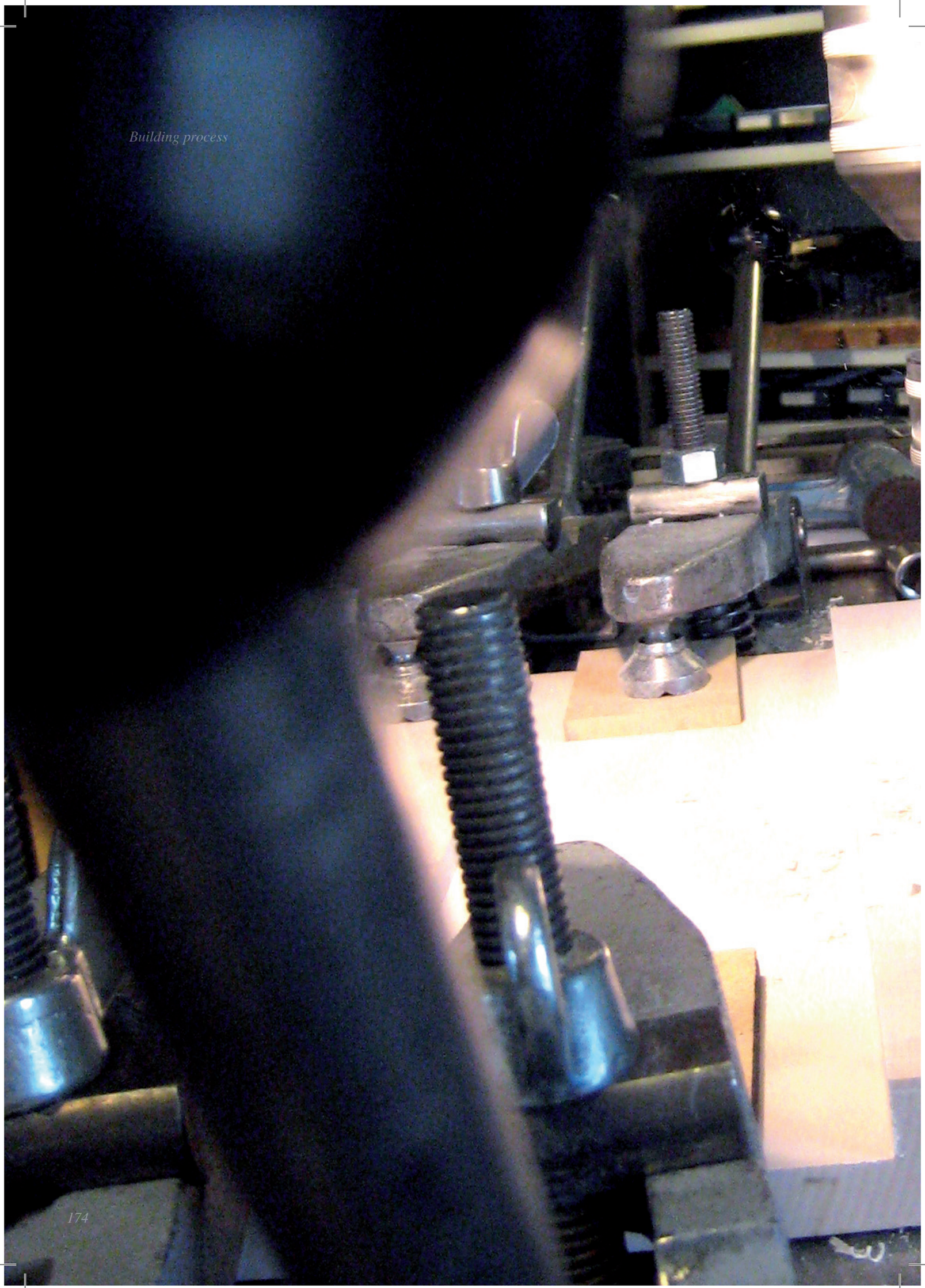
"I think you have done a great job! There is really a market for it"

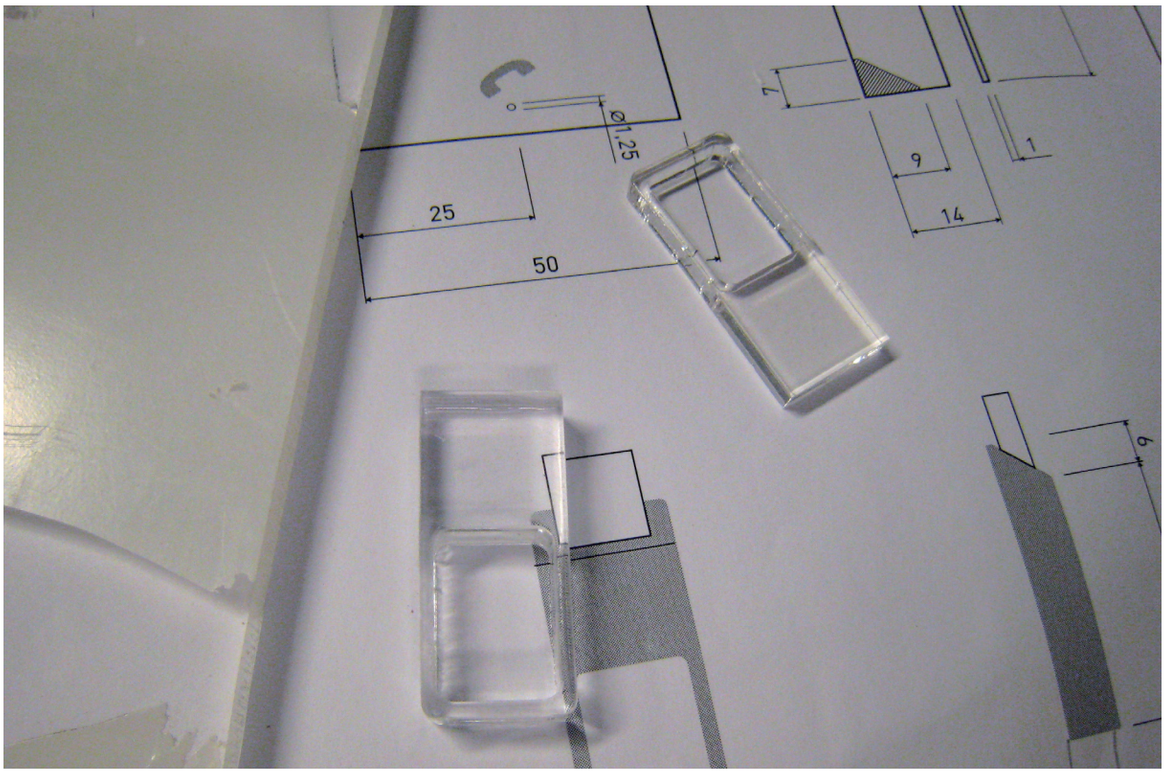
"It is good that the buttons are bigger and separated. But if you have really poor vision it might be better to have something connected to the TV."

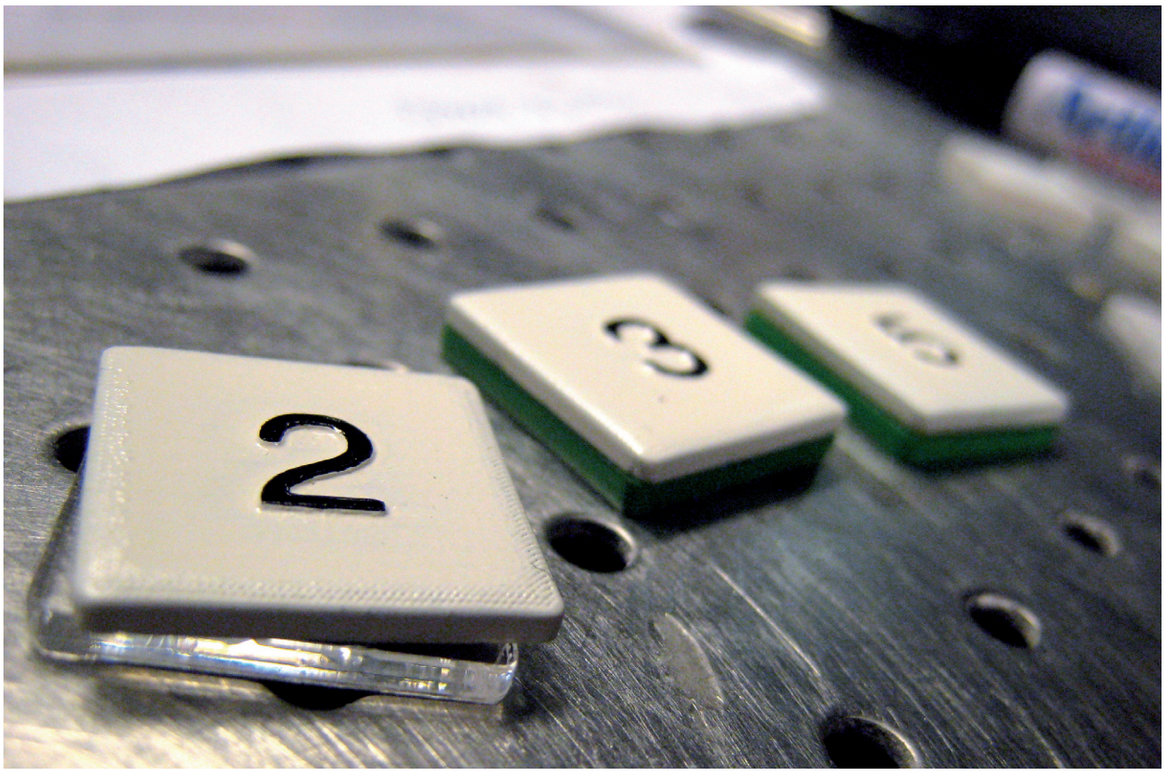


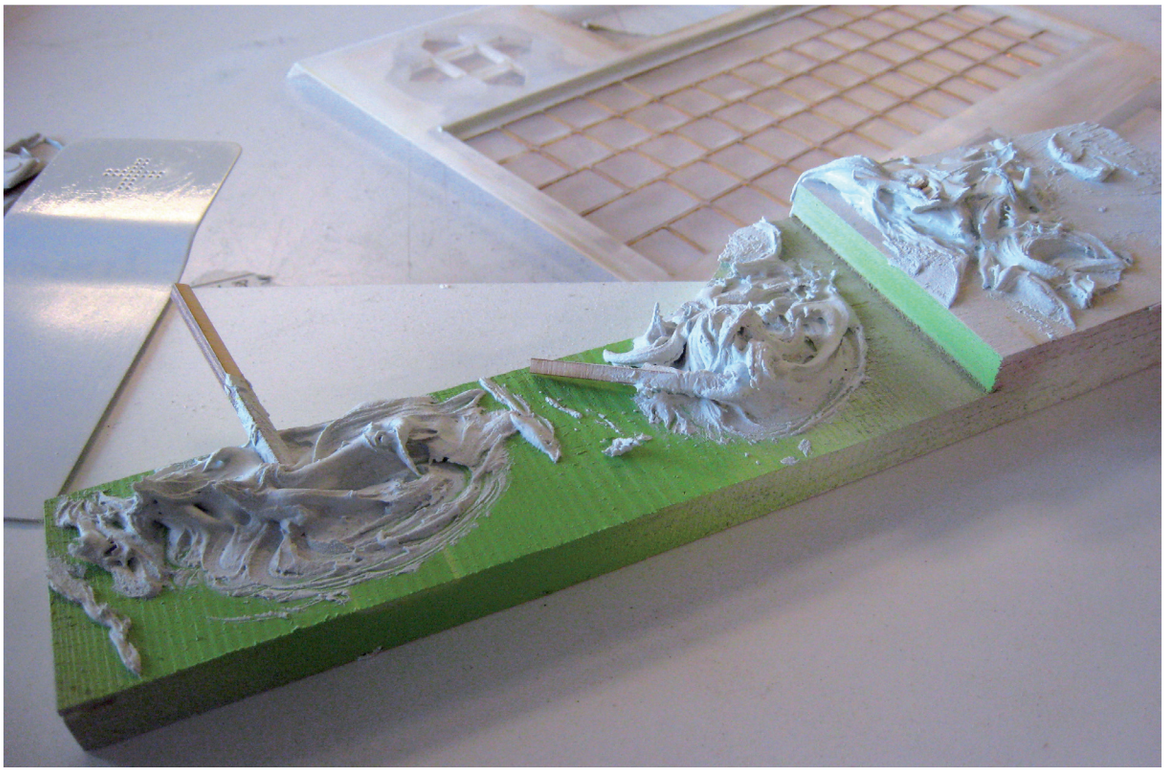
VITAL

On the following pages the final result of my master project is presented. Both 3D renderings and pictures of the mockups are included.




Ø1.25
25
50
7
9
14
1
6


2
3

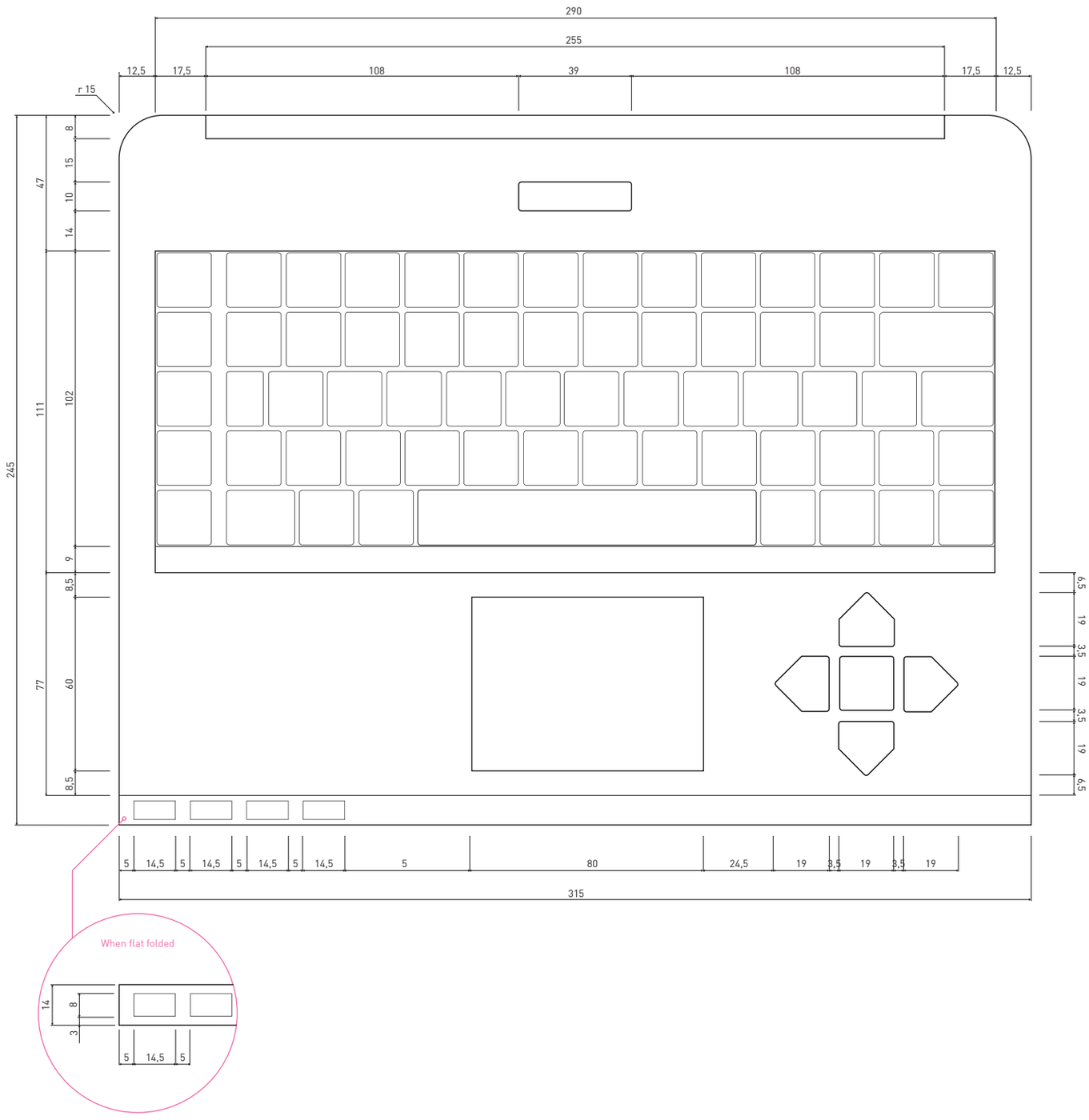


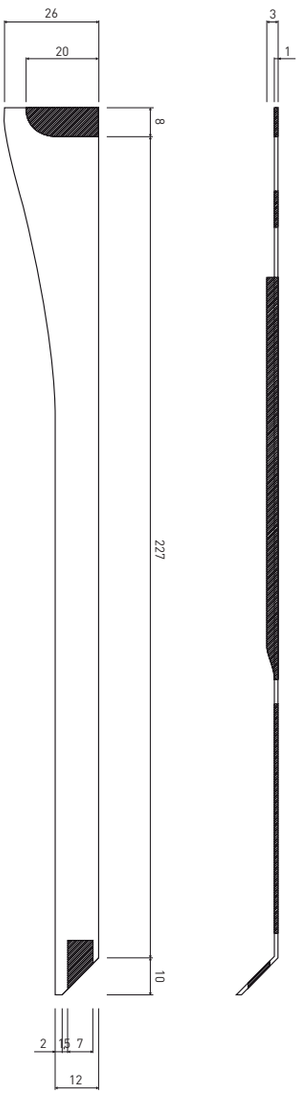
The Vital laptop

The Vital laptop has a characteristic shape that clearly indicates the difference between the front and the back of the computer. The back part is higher than the front and gives an ergonomic angle to the keyboard. On the opposite side the lid is reaching further than the bottom part which makes a natural gripping area for opening the laptop. The materials chosen are white rubberized plastic on the outside and on the inside a satin beige colored plastic is used. The Vital logo is embossed down on the lid of the laptop.

Rendering/ Laptop closed

The Vital laptop/ Technical drawing

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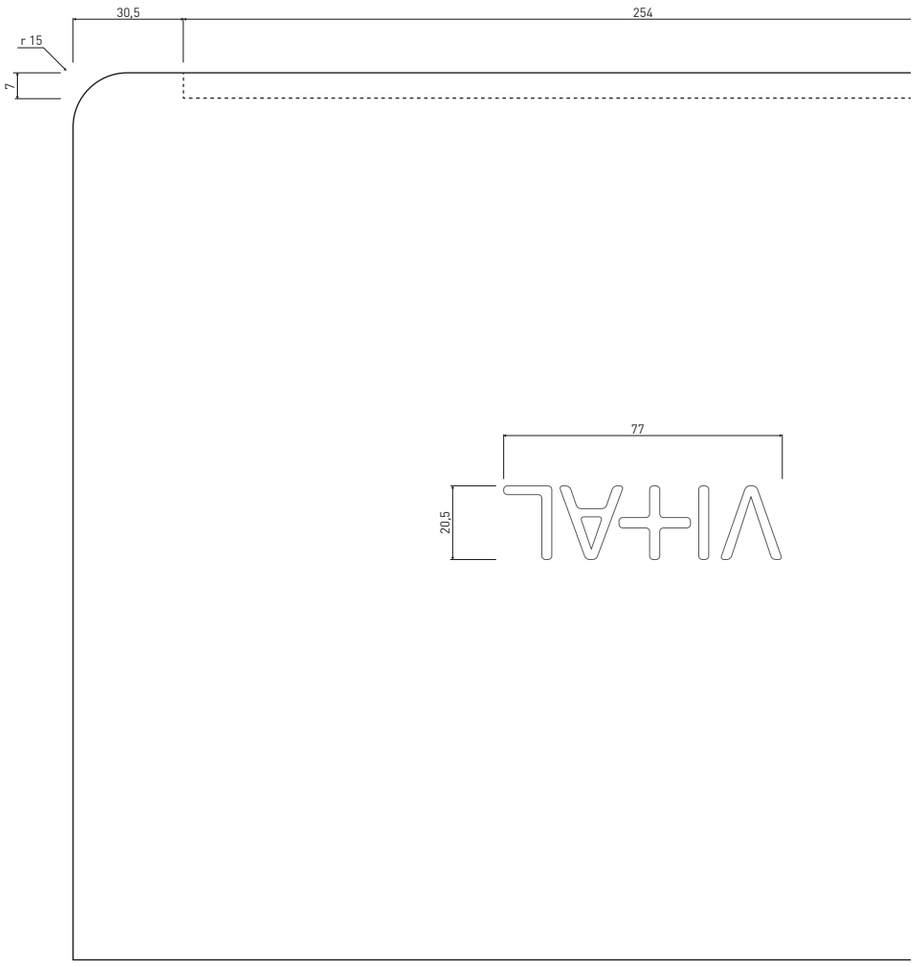
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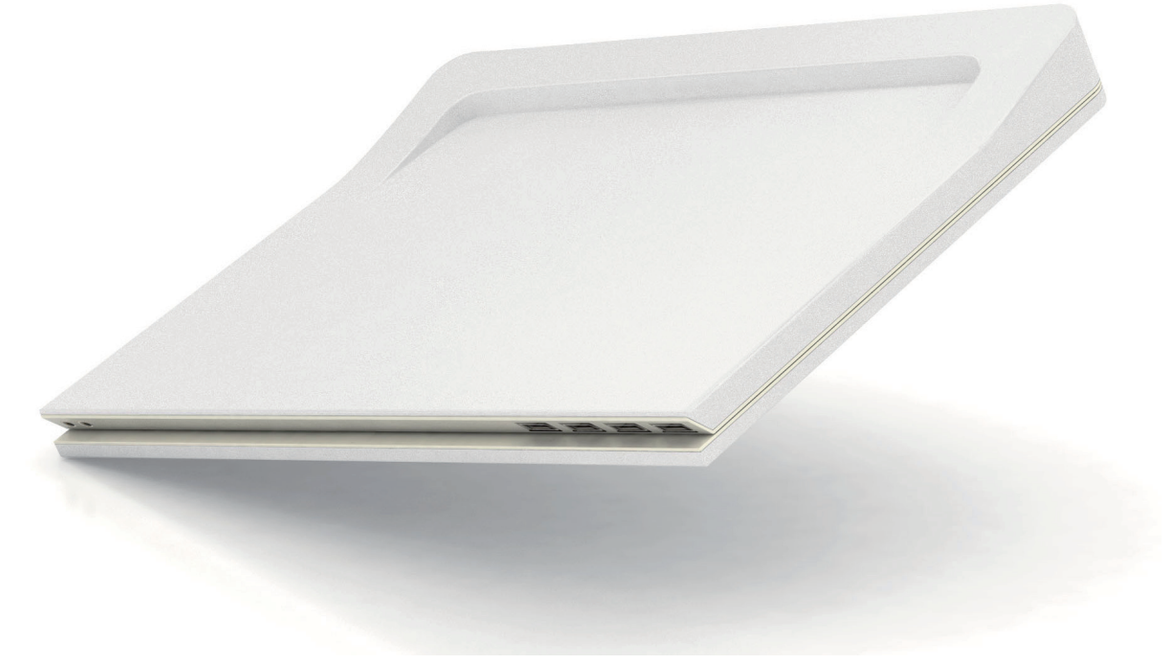
VITAL

The Vital laptop



The USB ports are positioned on the front panel of the laptop. In order to make the connectors more accessible the angle of the panel is 45°. Printed symbols matching the additional products are located above the USB ports. On the backside of the laptop a cut out handle is revealed. The handle indicates that it is possible to bring the computer. It could be placed in the walking frame basket or just carried from one place to another.

On the Vital keyboard each button has only one function. Confusing buttons like Ctrl, alt, altGr and shift are all excluded. F1-F12 are also removed from the Vital keyboard. The purpose is to simplify as far as possible and to make it easy to comprehend for a first time user. In addition to the alphabet and numbers some special feature buttons have been added. An explanation of each of special feature buttons can be found below. Many elderly have deteriorated senses which also has been taken into account. All characters are bigger and more contrasted than on standard keyboards. The characters are also extruded for an additional sensation when touching them. There is a distance between each key which facilitates manoeuvring with clumsy fingers. To further separate the keys from each other an auxiliary green stoke is added. The power button is a slider button with green on one side and red on the other. Since the power button is physically moved when the laptop is switched on it is impossible to mistake the computer for being off.

Replaces the esc button. In occasion of a computer jam the user will get instruction how to handle it

Delete button with a garbage can symbol

When using the touchscreen the spot zoom function enlarges the area closest to the finger

An easy way to enlarge the view

An easy way to zoom out again

CAPITAL
lower-case

Instead of the caps lock key and the enlarged arrow normally used

Instead of ctrl+z

Instead of ctrl+shift+z

Instead of ctrl+c

Instead of ctrl+x

Instead of ctrl+v

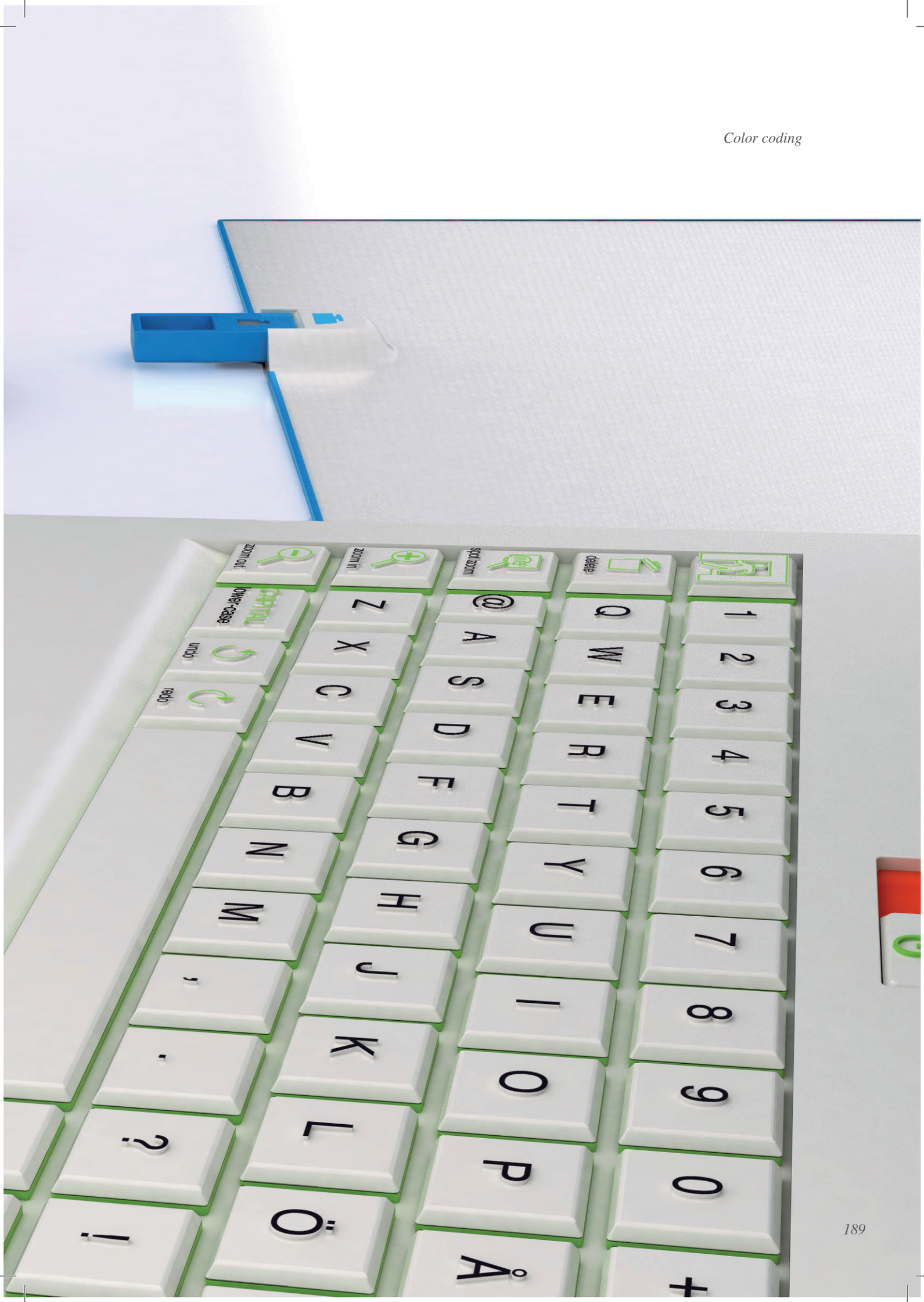
* ‘
% #
characters

Replaces all the character keys normally spread out and hidden behind other keys

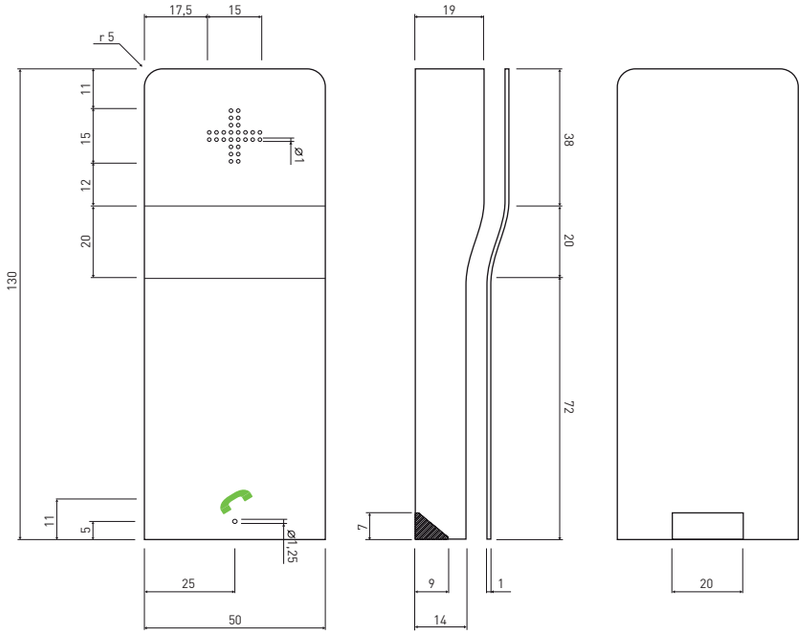
1
2
3
4
5
6
Q
W
E
R
A
@
delete
spot zoom
zoom in

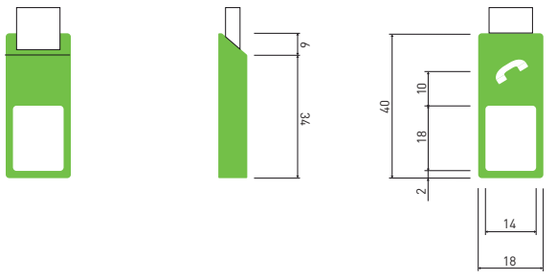
Navigation through the operating system and webpages can be done in different ways with the Vital laptop. Some people would navigate by using the integrated touchscreen and some would prefer to use the touchpad. The third alternative would be to use the arrow keys which are extracted from the keyboard and can be used for horizontal or vertical navigation. For example the arrow keys would be good when flickering through a photoalbum.

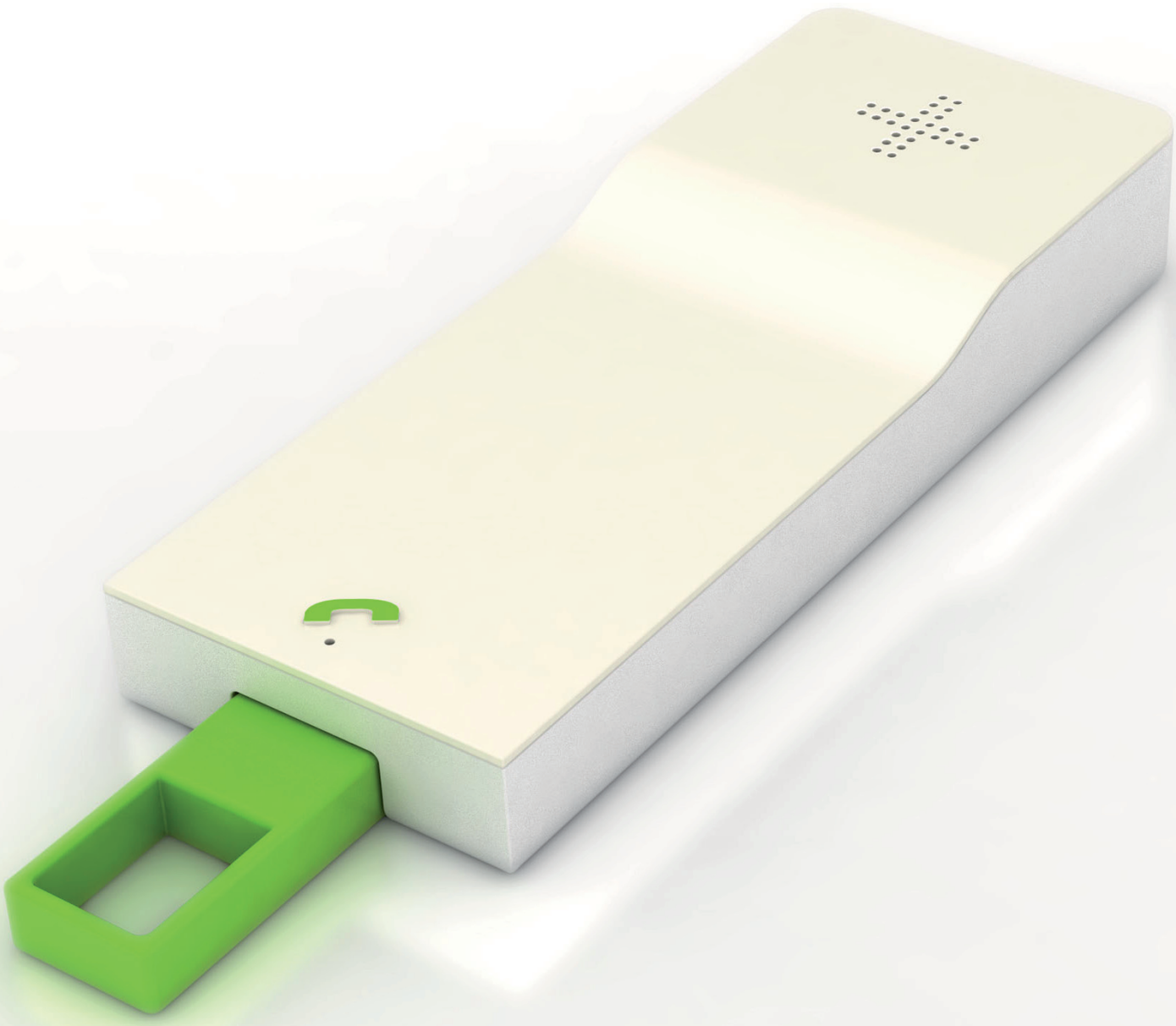
Rendering/ Touchpad & arrow keys


zoom out
zoom in
spot zoom
delete
CAPITAL
lower-case
undo
redo

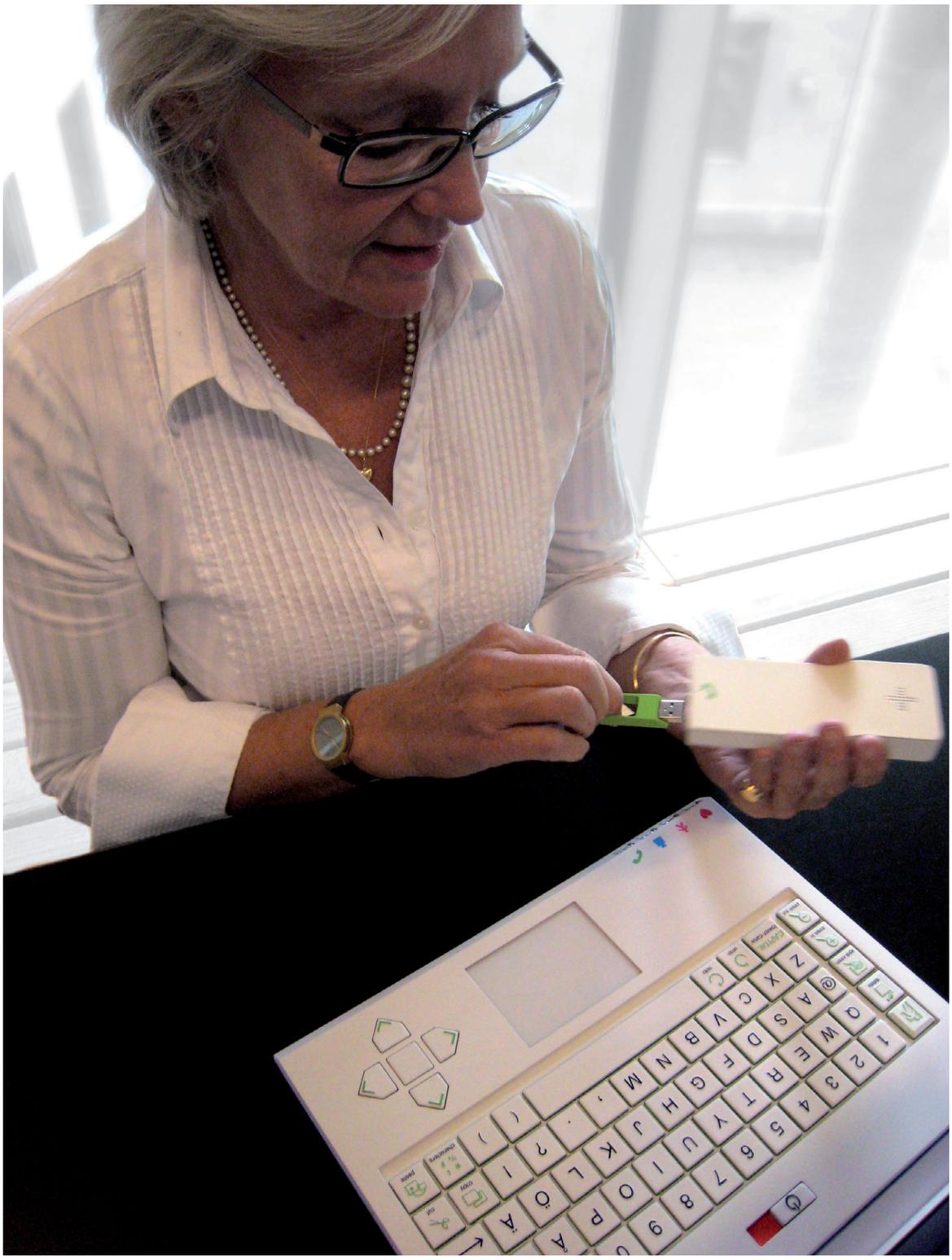
It is important to use a design language that people can relate to. For example the Vital telephone reminds of a regular landline phone. The purpose of the Vital phone is to facilitate for an everyday contact with family and friends via the web. It works as a complement to meetings in a better way than regular phones since it (in an intuitive way) provides the opportunity to see the person you are speaking to. Video calls are proved to amplify the feeling of belonging.

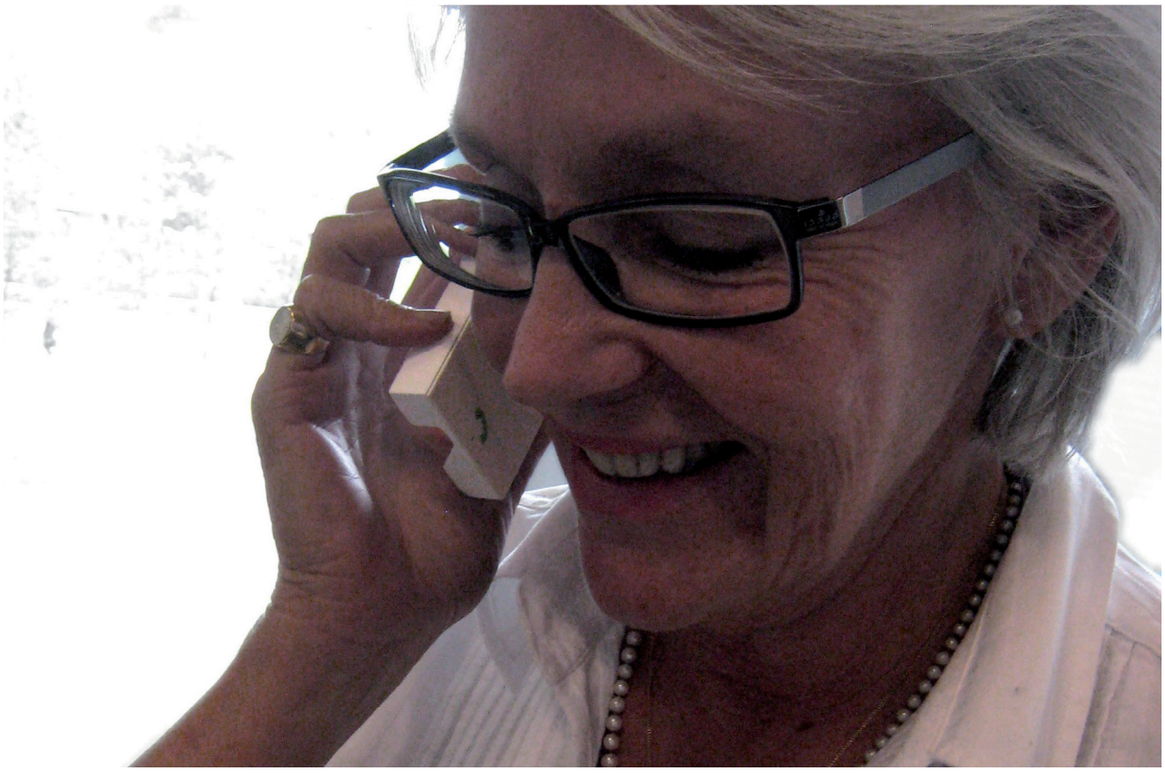






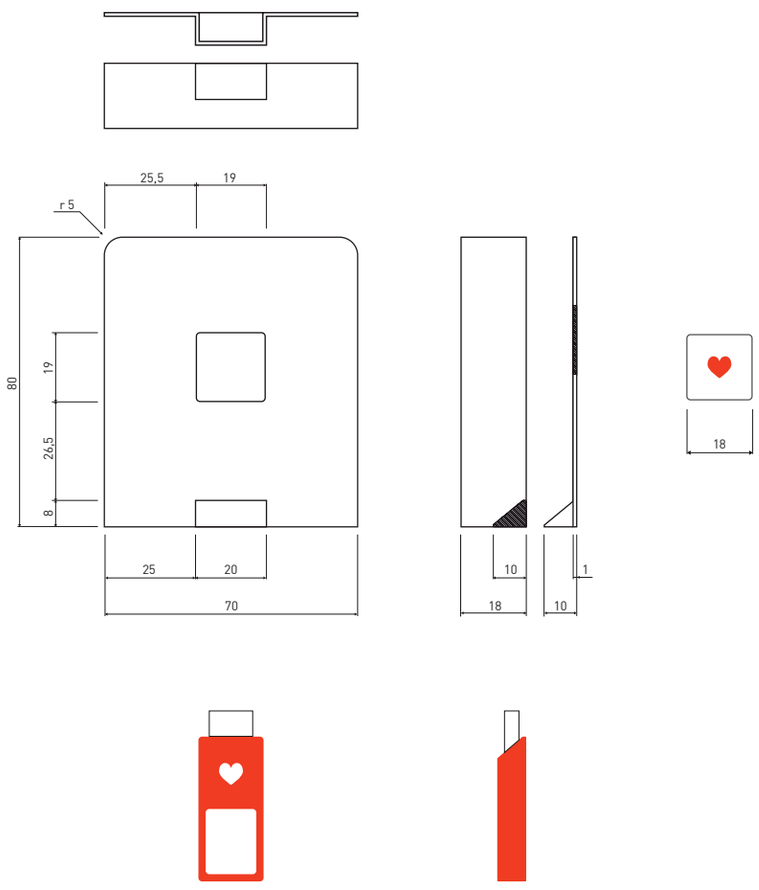
The Vital laptop & telephone





The Vital blood pressure and pulsimeter

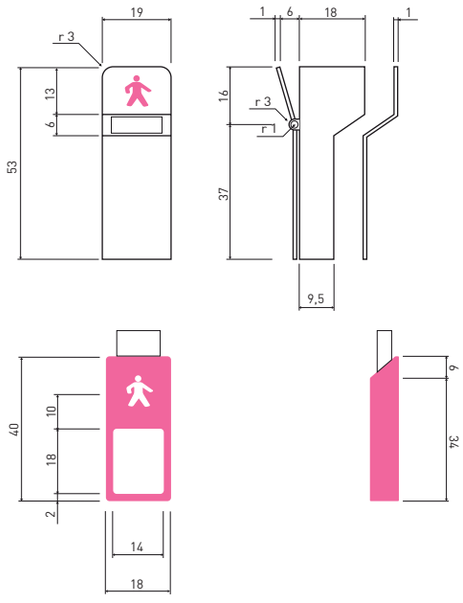
The Vital blood pressure and pulsimeter makes it easy to monitor blood pressure and pulse at home. The intention is to use home monitoring as a complement to health checks with the family doctor. The results would provide a good background information for any doctor to diagnose illnesses and to come to a decision on appropriate medication. A home-check would be done approximately every other week. Measuring would be done in both standing and sitting position. The button with the heart symbol gives the user control of the inflation of the wristcuff. After the examination the wristcuff automatically deflates.



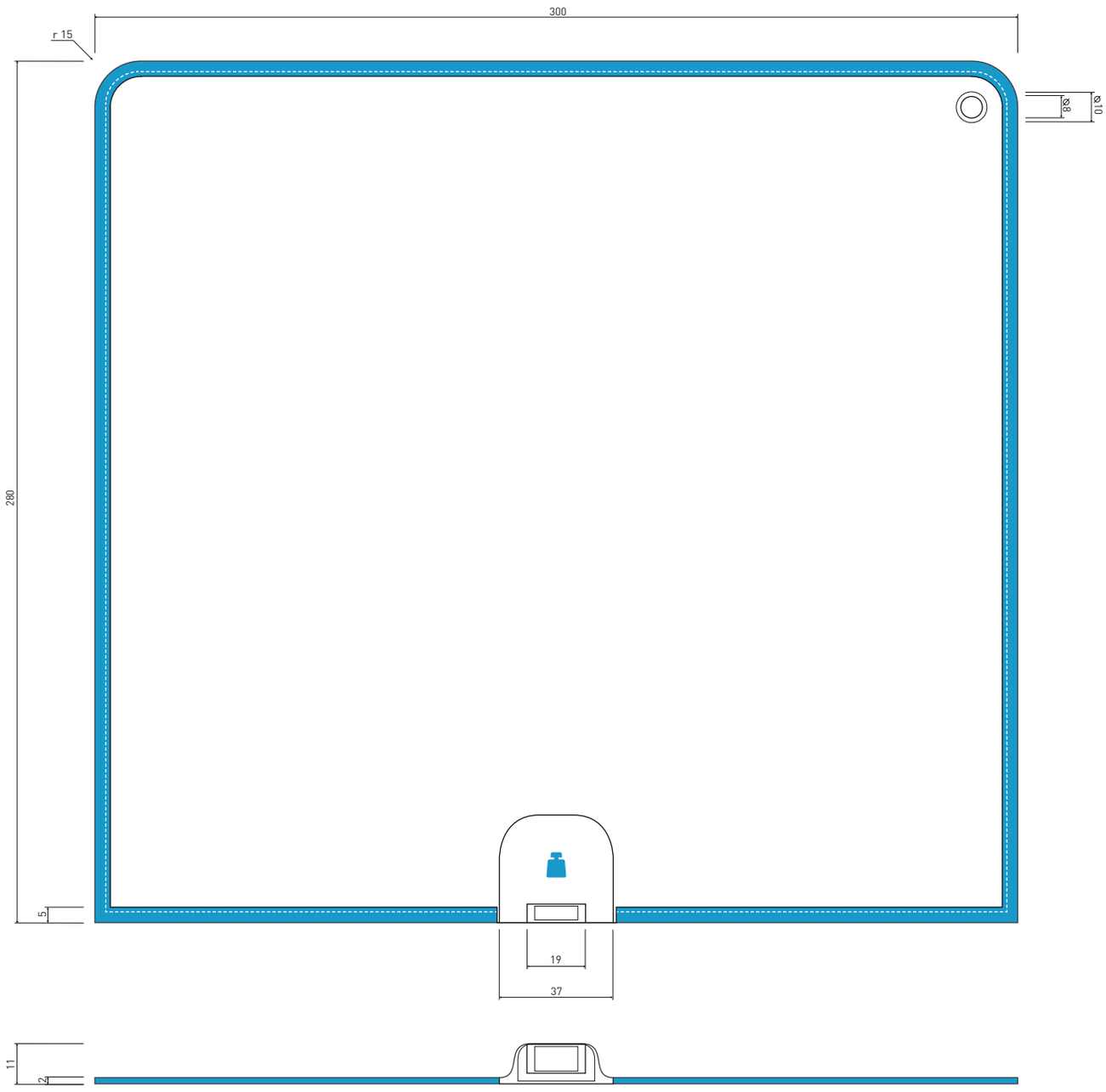
The Vital blood pressure and pulsimeter

The Vital pedometer

The Vital pedometer is the only product in the rage designed with the USB incorporated into the main shape. The reason is to remind the user that the USB should be connected to the pedometer while out walking. Not until after the stroll the USB plug should be connected to the laptop where the result automatically appears on screen. Also results from previous days would be shown, giving the user a proper overview of his/her performance. If desired the results could be shared in between friends. Sharing results could motivate the user to move even more.



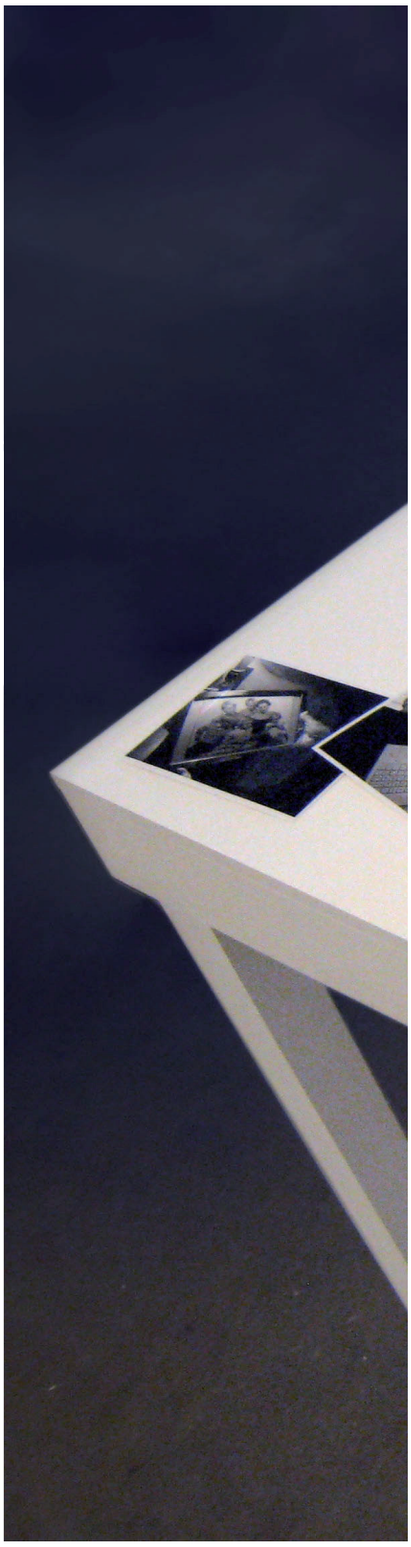
The Vital scale is made out of pressure sensing sheet. It makes the scale lightweight, flexible and easy to store. In the upper right corner a hole with an eyelet provides the user with the possibility to attach a string to the scale. The string would make it much easier to remove the scale from the floor after usage. No back ace or soar knees would restrain any senior to use the Vital scale. Weight measuring would be done once a week.



Mock-up of the Vital laptop & telephone

Mock-up/ USB connection

22°/ Master Exhibition at Kakel och Tegel in Malmö, Sweden



The Vital exhibition stand

Surftips – Seniorer: Vital – för ett vitalt liv på äldre dar

gspot.com/2008/10/vital-fr-ett-vitalt-liv-p-ldre-dar.html

Netlogon Apple Apple (75) Yahoo! Nyheter (525)

Seniorer

– länkportaler, seniorwebbar, lathundar till datorprogram, IT-aktuellt, Webb2.0

2008-10-14

Vital - för ett vitalt liv på äldre dar

Tänk om tangenterna på datorn visade med bild vad som h
man trycker på dem! Då blir det lättare att använda datorn
utbildning. Det kan snart bli möjligt med **Vital.** Den består
lättanvänd dator för nybörjare, en USB-telefon och möjlig
via USB-porten ansluta blodtrycksmätare och våg samt steg
för att hålla koll på hälsan hemma och skicka uppgifterna t
vårdcentralen.

Vital vänder sig till äldre som inte är vana att använda en dator. Med utrustning som är lätt att hantera kan den här stora gruppen äldre få möjligheter att upptäcka allt värdefullt som står till buds på Internet.

Vital kommer att visas på Tekniska Mässan i Älvsjö den 21 - 24 oktober 2008. Emelie Hedén har tagit fram Vital som magisteruppgift i Industridesign vid Lunds Tekniska Högskola.

För några år sedan kunde vi läsa om Victoriadatorn, som utvecklades i Danmark utifrån en liknande idé. Där använde man tryckkänsliga datorskärmar så att gränssnittet med knappar som hade lättläst text var enkla att trycka på för ovana äldre datoranvändare. Projektet blev mycket uppskattat av användarna. Men Victoriasystemet kunde inte kommunicera med personalens handburna enheter - en allvarlig begränsning.

via **CIO Sweden:** Dator för äldre personer

Bildkälla: Vital©Emelie Hedén, Lunds Tekniska Högskola

-vitalt-liv-p-ldre-dar.html", inläst 68 av 75 objekt (1 fel)

Idé: Dator för äldre personer

Av Jon Rähne | CIO

En svensk industridesigner har tagit fram en dator för äldre med begränsad datorvana. Med ett tangentbord där varje knapp motsvarar en funktion skulle datorn enligt uppfinnaren kunna höja livskvaliteten rejält för många äldre.

Det är industridesignern Emelie Hedén som i sitt examensarbete utformat datorn "Vital".
– Äldre är ofta rädda för datorer men känner sig också utanför, de får ju dagligen i nyheterna höra "läs mer på vår sajt på Internet" till exempel. Andra kommunicerar med epost, googlar och umgås via Facebook, men det är en stängd värld för många äldre, säger Emelie Hedén i ett pressmeddelande.

Hennes koncept bygger på enkelhet. Varje knapp motsvarar en

it i vård

Partner: SIEMENS SYSteam TELIA

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COMMUNITY

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2008-10-13 15:39

En förenklad underlätta fö

Av **It i vården**

En svensk industridesigne med begränsad datorvana. motsvarar en funktion skul livskvaliteten rejält för mån

– Äldre är ofta rädda för datc de får ju dagligen i nyhetern Internet" till exempel. Andra och umgås via Facebook, m äldre, säger Emelie Hedén i universitet.

Hennes datorkoncept, Vital, motsvarar en funktion. Här fi förstoringsglas för den som "snabel-a". Man slipper att m

Projektet omfattar mer än en koppling kan datorn trådlöst stegräknare, blodtrycks- och också ingår i konceptet för e av dessa saker har en egen underlätta sammankoppling förenklat. Den är dock än så fungerar inte som dator.

Ett fel uppstod när sidan öppnades. Välj Aktivitet från menyn

Datoranvändandet

http://www.sr.se/ekot/artikel.asp?artikel=2399466

TV Links IKDC mail Google serienummer Netlogon Apple Apple (75) Yahoo! Nyheter (495)

SR LYSSNA PÅ WEBBRADIO LYSSNA IGEN OM SR

P1 P2 P3 P4 NYHETER / EKOT RADIOSPORTEN KANALER PROGRAM & TAB

Nyheter från Sveriges Radio – Ekot

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- Seger för Endre i Elitserien
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- Omtvistade träd till Länsrätten

Välj din lokala kanal: Gotland

HELA SVERIGES NYHETER

Alla Sveriges Radios lokala nyheter på en sida.
Lyssna och läs

NYHETSDYGNET

Alla nyheter på SR:s webb under det senaste dygnet

P3 NYHETER

Misstänkt smugglade irakier på E6:an

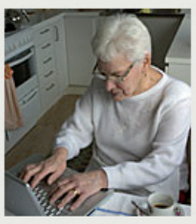
Majoritet för ny äktenskapslag

RADIOSPORTEN

16:45 | söndag 26 oktober 2008

Datoranvändandet bland äldre ökar

Användandet av datorer och internet har ökat kraftigt bland äldre, men många pensionärer är fortfarande väldigt ovana vid datorer. Det har Emelie Hedén tagit fasta på. Hennes examensarbete från Lunds tekniska högskola har bestått att ta fram en dator som ska vara lättare för äldre att använda, pensionärsdatorn Vital.



Populärt bland äldre.

Emelie Hedén, industridesigner

– Det började långt bak med att jag blev inspirerad av min farfar som har väldigt mycket idéer och som själv pratar om gamla som om att han själv inte var gammal. Han jobbar väldigt mycket med dator, men när jag tittar på honom märker jag att han inte kan allting, säger industridesignern Emelie Hedén.

Hon visar upp sitt examensarbete på Tekniska mässan i Stockholm. Datorn Vital ser nästan ut som vilken laptop som helst men med några undantag. Tangenterna är större och färre och varje tangent har till skillnad från på vanliga datorer bara en funktion, en knapp för att spara, en knapp för att klippa ut och så vidare.

SENASTE EKOT

EKONOMIEKOT

KVART I FEM

Hjälp med att lyssna

Lyssna arkiv

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P1
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Minoritet & språk
SR International

ONSDAG 15 OKTOBER 2008

Lundastudent byggde enklare dator för äldre

VISAS PÅ MÄSSA. Emelie Hedén presenterar sin dator på Älvsjömässan om en vecka.
Foto: HELEN EDVALL och LUNDS TEKNISKA HÖGSKOLA.

Lockar med telefon och blodtrycksmätare

Googla, skicka e-post och chatta är en avlägsen värld för äldre.

Nu har en lundastudent tagit fram en dator som gör det möjligt att hänga med ut i cyberrymden.

– Jag kände att det inte finns tillräckligt med design för äldre. De är lite bortglömda, säger LTH-studenten Emelie Hedén.

Vital, har ett ...gentbord. Varje ...unktion så att ...omma ihåg en ...ioner.

...and annat ett ...a knapp med ett ...ör dem som vill ...okstäverna och siffrorna är också mycket större.

– Man kan känna bokstäverna, berättar Emelie Hedén.

Blodtrycksmätare

För att de äldre ska ha koll på sin dator finns även en blodtrycksmätare, våg och stegräknare. Allt i olika färger. Sedan är det bara att mejla resultatet till sin läkare.

Emelie Hedéns syfte med projektet är att kombinera hälsa, aktivitet och sociala relationer. Därför är också en telefon kopplad till datorn.

– Då kan man hålla kontakt med familj och vänner och se dem man pratar med.

Hon har gjort datorn helt på egen hand utan några sponsorer.

– Det har varit kul att designa fram datorn. Jag tror att det finns en marknad för datorn. Så nu håller jag tummarna!

Än så länge är datorn bara en prototyp. Men den ska visas på Tekniska mässan 21-24 oktober i Stockholm.

Ester Kohn
ester.kohn@kvp.se

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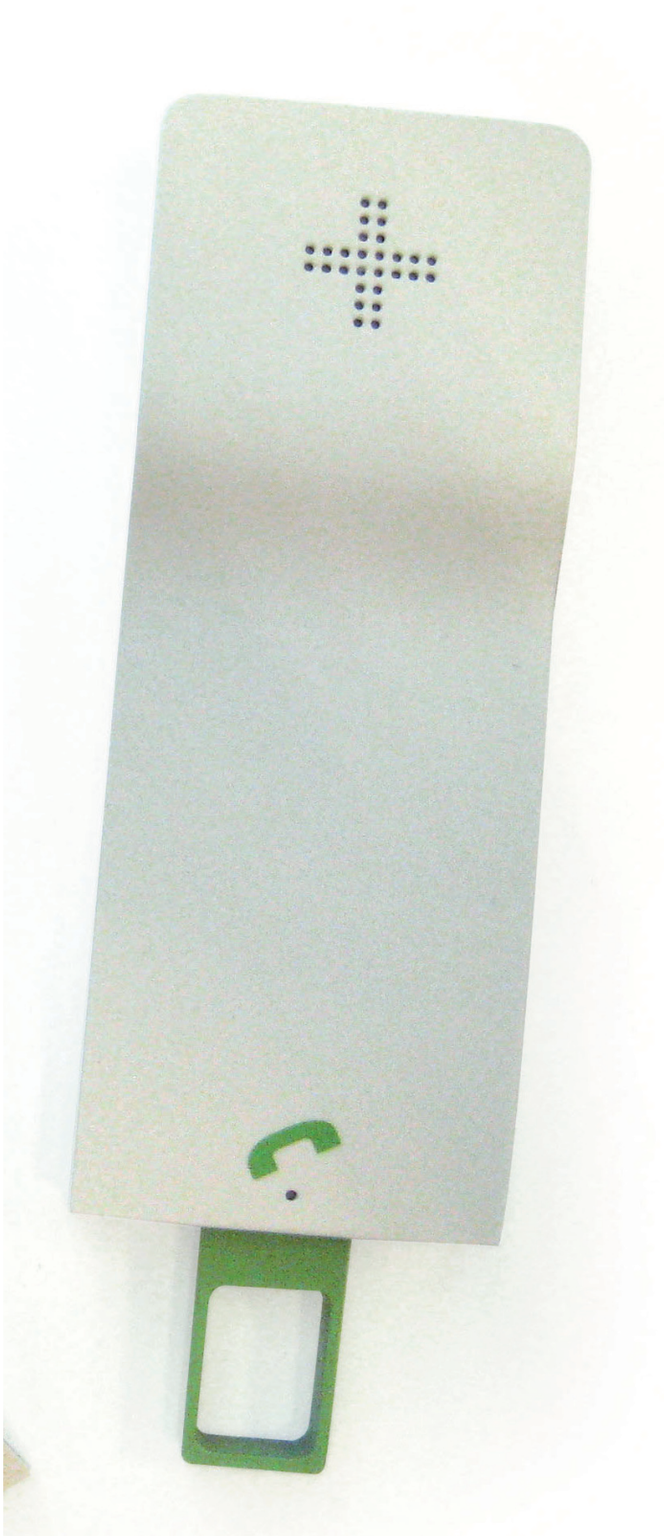
per månad i 1 år, oavsett storleken på ditt
villkor på **www.modulenthus.se**

I am much obliged for all support during the execution of my master project. Together we made Vital possible, thank you all very much!

Mock-up



One determining factor for choosing the theme "quality of life in old age" was that elderly are an increasing and consuming target group often forgotten in contexts concerning technology and design. Within just a few years one fifth of the Swedish population will be over sixty years of age and most of these people have more than one third of their lives left to live. During the development process of Vital I learned to appreciate knowledge and insight possessed by the intended user. I believe that the outcome of my master project has been worth all the hard work. Vital is a result that actually fills a big gap on the current market. During the research phase I learned that there are three areas that above all influence the experience of a high quality of life; health, social belonging and activities. In discovering these three fields a wealth of possibilities opened up but it was still difficult to come up with one product that supported all of the three areas. Finally I decided to design a computer since it is the single most important tool to provide the user with information from anywhere in the world. A computer could in an efficient way include and combine the three important values concluded in the interviews. So the result is Vital. Vital consists of a laptop, a telephone, a pedometer, a blood pressure-pulsimeter and a scale. Five products that together form a quality-of-life concept designed for elderly in the Swedish society. The project has been demarcated to the hardware design of the products. Only ideas about the interface, software and operating system has been considered.

Throughout the process three design phases have been thoroughly dealt with. It began with reading, interviews and analysis of the research. The first session was followed by ideation, sketching and sketchmodeling. Also a second round of interviews was carried out in connection to the ideation phase. The final stage was to refine and visually represent the concept. A fullscale model and computer renderings explain the final Vital concept. All the way from beginning to end it has been extremely important to meet people and to develop a design with elderly in mind. Therefore I interviewed seniors in all of the project phases. My expectation was to find a solution that would reflect what I discovered in the encounters. The result is Vital.

The Vital concept helps to overcome reluctance to adopt to technology and triggers lasting motivations to explore a wealth of possibilities.

ACKNOWLEDGEMENTS

Examiner; Prof. Claus-Christian Eckhardt

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Support in health research; Prof.Gunnar Akner, Berit Björnestam

Workshop support; Janne, Bengt and Göran

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Emelie Hedén Industrial Designer