

Czech University of Life Sciences Prague  
Faculty of Economics and Management  
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Diploma thesis  
**Computer graphics in advertising**  
Ladislav Seget'a

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## Declaration

I declare that I have worked on my diploma thesis *Computer graphics in advertising* by myself and I have used only the sources mentioned at the end of the thesis.

In Prague 26<sup>th</sup> of March 2010.

Ladislav Seget'a

## **Acknowledgement**

At this point I would like to thank the supervisor of the thesis Ing. Miloš Ulman and everyone for their advice and assistance in making this work.

Computer graphics in advertising

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**Počítačová grafika v reklamě**

## **Summary**

This thesis deals with a computer graphics in the advertisement. The advertising is narrowed down to a static advertisement (print, internet). The thesis is divided into theoretical and practical part.

The theoretical part describes the advert as one-sided communication medium from the product manufacturer or service provider to a person as a customer. It describes the psychology of perception of colors and shapes a person and overall impression of advertising on the customer.

The practical part of this thesis is devoted to graphic art flyer for an imaginary product. This work is based on the knowledge mentioned in the theoretical part. Author used both bitmap and vector professional software programs.

In conclusion part of this thesis is the examining the results of the practical part and a recommended procedure for creating an advertisement printed in steps, based on author's experiences gained during the diploma practice.

**Keywords:** Thesis, computer graphics, advertising, customer, product, press.

## **Souhrn**

Tato diplomová práce se zabývá počítačovou grafikou v oblasti reklamy. Oblast reklamy je zde zúžena na statickou reklamu (tisk, internet). Práce je rozdělena na teoretickou a praktickou část.

Teoretická část popisuje reklamu jako jednostranný komunikační prostředek od výrobce produktu, nebo poskytovatele služeb k člověku jako zákazníkovi. Je zde nastíněna psychologie vnímání barev a tvarů člověkem a celkový dojem reklamy na zákazníka.

Praktická část této diplomové práce je věnována grafické tvorbě letáku na imaginární produkt. Tato tvorba se opírá o podklady uvedené v teoretické části práce. Využito je jak bitmapového tak vektorového profesionálního softwarového programu.

V závěru, kromě zhodnocení výsledků práce, je uveden doporučený postup tvorby reklamní tiskoviny v krocích podle zkušenosti autora práce nabytých v průběhu diplomní praxe.

**Klíčová slova:** Diplomová práce, počítačová grafika, reklama, zákazník, produkt, tisk.

# Content

1.	Introduction.....	5
2.	Objectives of thesis and methodology .....	7
2.1.	Objectives .....	7
2.1.1.	Theoretical part .....	7
2.1.2.	Practical part .....	7
2.2.	Methodology.....	7
2.2.1.	Theoretical part .....	7
2.2.2.	Practical part .....	8
3.	Computer graphics and advertising.....	9
3.1.	Advertising.....	9
3.1.1.	The origins of advertising .....	9
3.1.2.	A Coca-Cola example .....	11
3.2.	Human visual perception and psychology.....	12
3.2.1.	Human eye .....	12
3.2.2.	Psychology of perception colors and shapes .....	13
3.2.3.	Heatmaps.....	17
3.2.4.	The optical illusions .....	19
3.3.	Design .....	21
3.4.	Computer graphics .....	28
3.4.1.	Color models .....	28
3.4.2.	Raster and vector graphics .....	31
3.4.3.	DTP sphere .....	33
4.	Creation of graphical advertisement.....	34
4.1.	Describing the product .....	34
4.2.	Designing the product leaflet .....	35

4.2.1.	Logo design.....	35
4.2.2.	Graphic elements in the leaflet .....	36
4.2.3.	Creating a color scheme .....	38
4.2.4.	Composing a leaflet.....	40
4.3.	Printing design evaluation .....	41
4.4.	Printing the advert.....	44
4.5.	Evaluation of the work .....	45
5.	Conclusion.....	47
6.	Bibliography .....	48
7.	Supplements	



# 1. Introduction

Today's advertisement is an integral part of propagation of products or services. It can be divided into a several forms, but basic dividing is always according to the point of view. For example if we are ordinary people we can divide the advertising into television, radio, newspaper, poster, internet, cinematic trailer, personal recommendation and so on. This division is based on the source of advert. But if we are lay-out men or graphic designers the dividing will be quite different. It will be according to the type of perception by human. These adverts are graphical, audio or both together. These types of adverts can be then divided into static or moving, with or without a sound or sound alone.

Nowadays the advertisement is all around us. Of course except some places in the world without civilization. Know about the action of the advert on the human is the key of the effective propagation of the products or services. First we must know for whom the product or service is. Second it necessary to know what type of media will be used. If we want to use television or cinema, probably (in most cases) we must create a video spot. Advert in the broadcast will be only sound and newspaper or poster advert is only static picture. Advertising on the Internet is something different, there are used static pictures, videos with or without the sound and sound alone - all together on the same place (meant internet browser or computer monitor). A medium, such as Internet, is interactive. It has many advantages for producers as well as the customers. If the customer just see an advert on some product or service, he can immediately click on it and gets more information about the property interest. Then he can order this thing even he just hasn't any phone or cash, he must have an internet connection available only.

At the present time the Internet becomes most powerful communicate medium between producers and customers. Many of the graphic designers are closely connected with advertisement just on the Internet. They create the look of web pages, advert banners, logos of the companies and products and all what is needed for effective advertisement.

Knowledge in the human perception, psychology and feelings is the key of the proper advert. A plethora of all kind of advertisement pushes designers into being efficient and more visible than product or service competitors. They must either know human psychology and fit in today's trends or create new ones. In many cases a very simple advert is more efficient than sophisticated advertisement. Good idea is more than important. Without some idea an advert gets lost in a competition.

We can show an importance of human perception of advertisement. Imagine for example the TV advert for new car model. The car is staying on the stage and some voice says price, engine parameters, motorcar furniture plus other technical facts which are needed to know to decision to purchase. In this case the advert is focused on customer's thinking. But human has also sensation, feelings. If we show him how it will be pleasant to have and drive this car, we will hit the bull's eye. The creators of advertisement have to charge at human's feelings. Knowing car's technical parameters for potential customer is not enough and in most cases these facts at advert are redundant.

## **2. Objectives of thesis and methodology**

### **2.1. Objectives**

#### **2.1.1. Theoretical part**

The aim of the theoretical part of this thesis is to study a graphical perception by human and general impression of graphical advertising. The thesis shows how important is knowledge human's perception and impression of the advert. Because of many types of advertisement author focused on the static graphic advertisement only.

#### **2.1.2. Practical part**

The aim of the practical part of this thesis is to describe a creation of a graphic design for a product leaflet using contemporary DTP tools. This section was designed to prove whether it is a graphic design according to guidelines developed by professional designers.

This section was designed to prove whether the non-professional user can create a graphic design of effective advertisement by

- principles of professional designers
- knowledge of the psychology of the human visual perception
- knowledge of the heatmap results (maps of the intensity of the eye view attention - explained in the theoretical part)

### **2.2. Methodology**

#### **2.2.1. Theoretical part**

The theoretical part of the work gives general overview of static graphic design in advertising. Briefly is there described the history of advertising and advertising design development. Theoretical section of this thesis also explains the physiological properties of light perception the human eye. It also provides insight into the psychology of perception of shapes, colors and overall impression of static ads.

A separate chapter discusses the principles of contemporary design and the latest theoretical chapter is a treatise on the technical foundations of computer graphics.

### 2.2.2. Practical part

For creating a static graphic advertising was used DTP (DeskTop Publishing) tool Adobe Photoshop and Illustrator (from Creative Suite 4 package).

The chapter 4 (*Creation of graphical advertisement*) is not about a technical description of the work on the computer; by the way, different DTP tools have different managing; but it's the description of the whole process of creating graphical advertisement. During this chapter it is shown all the steps which are necessary in DTP publishing.

## 3. Computer graphics and advertising

### 3.1. Advertising

#### 3.1.1. The origins of advertising

When exactly did advertising begin? It's doubtful that the ancient Egyptians and Greeks were insensible to the benefits of product promotion. The Romans certainly knew how to make a convincing sales pitch, and early examples of advertising were found in the ruins of Pompeii. One of these was a sign promoting a brothel, which is an appealing idea: the two oldest professions benefiting from one another. [6]

“Advertising is show business.”

Mark Tungate, journalist and author

Others claim that prehistoric cave paintings were a form of advertising, which seems altogether more fanciful. But it's safe to say that advertising has been around for as long as there have been goods to sell and a medium to talk them up - from the crier in the street to the handbill tacked to a tree. [6]

#### advertisement

A picture, short film, song, etc. which tries to persuade people to buy a product or service.

*Cambridge Advanced Learner's Dictionary*

Advertising took a leap forward, of course, with the appearance of the printing press and movable type - an invention generally credited to German former goldsmith Johannes Gutenberg in 1447. Other important names loom out of the murk of early advertising history: notably that of 17<sup>th</sup> century French doctor, journalist and unlikely adman Théophraste Renaudot. [6]



Figure 1 - Johannes Gutenberg (1397 - 1468) checking a letterpress proof. [8]

Renaudot's reflections on the Parisian poor led him to create, on the *Île de la Cité*, what he called a 'bureau des adresses et des rencontres' - a recruitment office and notice board for the jobless. This establishment soon became a veritable information clearinghouse for those seeking and offering work, buying and selling goods, and making The public announcements of all kinds. To disseminate this information more widely, Renaudot created in 1631 the first French newspaper, which he called La Gazette (inspired by the unit of currency he'd discovered in Italy, the gazetta). Thus he became the first French journalist - and the inventor of the personal advert. [6]

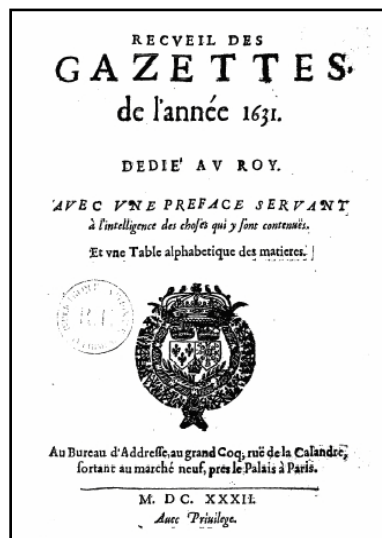


Figure 2 - The first offer sheet from the edition of the famous "Gazette" (July 3, 1631). [9]

In the United Kingdom, the first advertising agent was probably one William Tayler, who opened an office in London's Warwick Square in 1786. The firm later became known as Tayler & Newton, and it acted as an advertising sales representative for printers - several of whom had launched newspapers to promote their trade. [6]

### 3.1.2. A Coca-Cola example

There are not many companies which could be to monitor the evolution of advertising already 120 years. Coca-Cola has always had ads on its pilot product in a similar vein, the words refreshing, delicious, life, right, world, feeling, always, cold, ice, enjoy, smile, summer, Christmas, etc. The print ads can be had since 1890 to see how the graphics developed in advertising. Conservation remains the logo and its color and shape glass. [28]



Figure 3 - The advertisements to Coca-Cola soft drink (from left upper side: year 1890, 1941, 1972, 2007, 2008, 2010) [28]

The slogan is the way how to Since its inception in 1886, Coca-Cola has been notable for its advertising 59 slogans:

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1886 Drink Coca-Cola.	1945 Coke means Coca-Cola.
1887 Delicious! Refreshing! Invigorating! Exhilarating!	1945 Passport to refreshment.
1891 The Ideal Brain Tonic/The Delightful Summer-Winter beverage.	1947 Coke knows no season.
1904 Delicious and refreshing.	1948 Where there's Coke there's hospitality.
1905 Coca-Cola revives and sustains.	1949 Coca-Cola ... along the highway to anywhere.
1906 The great national temperance beverage.	1952 What you want is a Coke.
1908 Good till the last drop	1954 For people on the go.
1917 Three million a day.	1956 Coca-Cola ... makes good things taste better.
1922 Thirst knows no season.	1957 The sign of good taste.
1923 Enjoy life.	1958 The Cold, Crisp Taste of Coke
1924 Refresh yourself.	1959 Be really refreshed.
1925 Six million a day.	1963 Things go better with Coke.
1926 It had to be good to get where it is.	1966 Coke ... after Coke ... after Coke.
1927 Pure as Sunlight	1969 It's the real thing.
1927 Around the corner from anywhere.	1971 I'd like to buy the world a Coke.
1928 Coca-Cola ... pure drink of natural flavors.	1974 Look for the real things.
1929 The pause that refreshes.	1976 Coke adds life.
1932 Ice-cold sunshine.	1979 Have a Coke and a smile.
1937 America's favorite moment.	1982 Coke is it!
1938 The best friend thirst ever had.	1985 America's Real Choice.
1938 Thirst asks nothing more.	1986 Red White & You.
1939 Coca-Cola goes along.	1986 Catch the Wav.
1939 Coca-Cola has the taste thirst goes for.	1989 Can't Beat the Feeling.
1939 Whoever you are, whatever you do, wherever you may be, when you think of refreshment, think of ice cold Coca-Cola.	1993 Always Coca-Cola.
1941 Coca-Cola is Coke!	2000 Enjoy.
1942 The only thing like Coca-Cola is Coca-Cola itself.	2001 Life tastes good.
1944 How about a Coke?	2003 Real.
	2005 Make It Real.
	2006 The Coke Side of Life.
	2007 Live on the Coke Side of Life.
	2009 Open Happiness.
	2010 Twist The Cap To Refreshness.

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Table 1 - The Coca-Cola advertisement slogans since 1886.  
[10]

## 3.2. Human visual perception and psychology

### 3.2.1. Human eye

The individual components of the eye work in a manner similar to a camera. Each part plays a vital role in providing clear vision. So think of the eye as a camera with the cornea, behaving much like a lens cover. As the eye's main focusing element, the cornea takes widely diverging rays of light and bends them through the pupil, the dark, round opening in the center of the colored iris. The iris and pupil act like the aperture of a camera. [11]



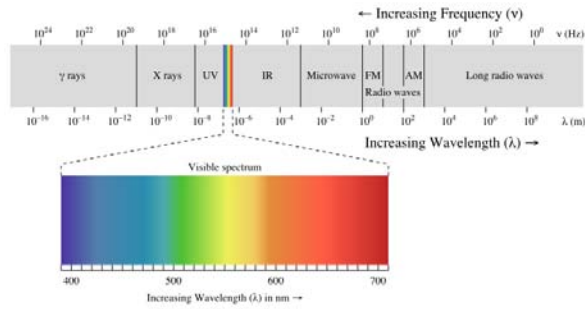


Figure 4 - Complete spectrum of electromagnetic radiation with the visible portion highlighted. [10]

The very back of the eye is lined with a layer called the retina which acts very much like the film of the camera. The retina is a membrane containing photoreceptor nerve cells that lines the inside back wall of the eye. The photoreceptor nerve cells of the retina change the light rays into electrical impulses and send them through the optic nerve to the brain where an image is perceived. The center 10% of the retina is called the macula. This is responsible for sharp vision. The peripheral retina is responsible for the peripheral vision. [11]

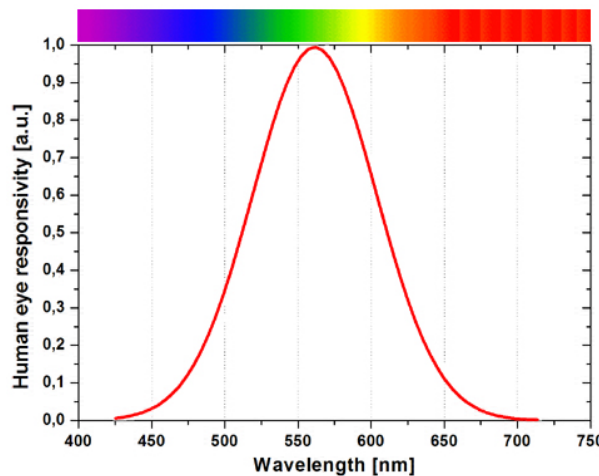


Figure 5 - Human eye sensitivity on visual range of electromagnetic waves. [12]

### 3.2.2. Psychology of perception colors and shapes

If one says “Red” (the name of the color) and there are 50 people listening, it can be expected that there will be 50 reds in their minds. And one can be sure that all these reds will be very different reds. Even when a certain color is specified which all listeners have seen innumerable times - such as the red of the Coca-Cola signs which is the same red all over the country - they will still think of many different colors. This shows that it is hard, if

not impossible, to remember distinct colors. This underscores the important fact that visual memory is very poor in comparison with human auditory memory. Often the latter is able to repeat a melody heard only once or twice. [2]

Another fact, the nomenclature of color is most inadequate. Though there are innumerable colors - shades and tones - in daily vocabulary, there are only about 30 color names. [2]

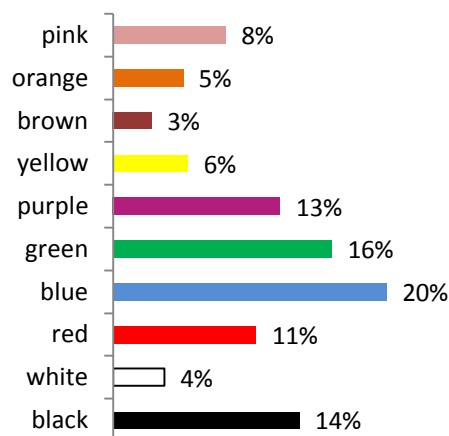


Figure 6 - Poll of question: "What is your favourite color". Total number of votes 168,819. [13]

The next paragraph shows the part of the conversation with Tomas Tyll, the CEO of the Nexen.cz - the communication agency in the marketing strategies of new and traditional media:

"The psychology of colors and shapes is important to make a good design. It's an essential part of the advertisement to be taken by a customer to benefit. That ad is much more 'visible', interesting and more capable of attracting the attention of the observer, can transmit information more efficiently and with greater efficiency. Each good campaign is treated by us in detail coherent strategy how to grip the group of customers, to pass the information about a product or service and evaluate the most effective means which are embedded in our client campaigns. And an integral part of this strategy is the use of psychology, the use of human responses to stimuli, colors, shapes, etc. In practice, we can all meet with a similar action in everyday life, everyone can realize that the most popular color is blue, we

know and understand the importance of a situation where very sexy woman wear a red dress provocative, and even we know exactly what color using soldiers. We know what colors and shapes can raise pleasant or unpleasant feelings, and these information and experiences are part of our strategy.” [14]

The color can affect human mood and perception. But color is property of objects that can themselves tell more than it might seem. Suitable combination of colors and shapes may prove slightly influence the decisions of many people. See the following table: [14]





shape	gender	visibili-ty	enthrall-ment	popu-larity	association
	man woman	low low	low low	high low	strength, vision, security fatigue, heaviness, roughness
	man woman	high	high	low	mystique, excitement, power violence, danger, threat
	man woman	high	high	low high	tenderness, weakness, femininity gentleness, love, warmth
	man woman	high	high	high	pleasant experiences, a sense of security

Table 2 - Four basic shapes with a gender divided associations. [14]

## Square

Squares (slightly beveled, and most of the parallelogram and trapezoid) are typical of popular shapes of men, it is ideally suited to their analytical thinking. Express the strength, rigidity - a focal point or building block for further progress. On the contrary the reaction of women to the rectangles is relatively low or almost slim. Evoke in them a feeling of heaviness, roughness and rigidity.

Often this relationship is compared to the stone. Men see in stone something that can measure the strength (break it), they can build something with it (creativity), or for someone to throw him (aggression). In contrast, women have to respect the stone, seems cold and indifferent to them.

It is worth mentioning the values in the first two categories in the table 2 - the visibility and catchiness. Note that only in this form are low. Why? See our surroundings. Two thirds of the things around us are right-angle square (room, desk, shelves, books, papers). Because it's so normal shape, thus failing to take a man attention. [14]

### **Triangle**

Triangle is a placeholder, because we count all the objects that have many sharp angles into this group. Express a "Mind your eye!" (think of road signs) and attract attention. Although this shape is not popular for both genders, so we can say that the men are after all closer to. It tempts them to an unknown mystery that symbolize. The women feel more fear and threat. It is also good to note that one of the top of the triangle facing straight down (in a reverse direction than in the figure) excites some men, it reminds them a woman. But not vice versa. [14]

### **Ring**

Ring is characterized by a popular female character. Symbolizes tenderness, love, warmth, understanding and peace. It is the exact opposite of all the polygons and then men tend to see him as something too soft, feminine - not for them. Some sources say that this feeling can sometimes lead to fear, which could be described xenophobic. [14]

### **Curves and curve shapes**

Although it may seem strange, these figures are optimal for both men and women, and moreover they are highly visible and attractive. In fact this type of object is a synthesis of previous ones, and all its negative effects are disappearing. The problem of these figures is that they are very variable and sometimes may have a negative effect, but it is very difficult to set this limit. If designer doesn't try to make this form via deformation of another type of object (i.e. a triangle), there's nothing to worry about. [14]



Figure 7 - The difference between two perfume designs. Obviously there is no debate about which product is for men and which for women. [15]

### 3.2.3. Heatmaps

When analyzing the efficiency of advertisements the creator of advertisement can do versatile studies using eye tracking technology. During this study the special hardware monitors the spectator's eye and records his views. After this test it is generated a graphical representation of spectator's views called "heatmap" that shows by color, how long and where he watched.



Figure 8 - The heatmaps of poster advertisements. Above are the original pictures, below the heatmaps. [22]

A heatmap is a graphical representation of data where the values taken by a variable in a two-dimensional map are represented as colors. [10]

See at figure 8. Heatmap on the left shows viewers greater focus on the product through the view of women. In practice this means that if some graphic designer elements to indicate the focus of adverts, viewer's eye, it usually follows automatically. Picture on the right had not received such attention. Total concentration was shorter and more focused on the slogan and a woman, than to the brand and product. [22]

Another example (figure 9) shows how important is the taking the viewer's attention to the advert and also lead his view to the right places in it.



Figure 9 - The heatmaps of poster advertisements. The baby's stare lead the customer's view. [22]

Figure 9. This example indicates that when the viewer lets a person somewhere to watch the viewing behavior also changes immediately. The baby looking straight at the viewer, check viewer too. At the face of the baby is also the longest look. In the second version looks the baby to the header and see the impact there. The right side of the ad shows that there is more to consider. Both the header, the accompanying text as the brand get more attention. The baby, how cute too, will receive less attention. [22]

### 3.2.4. The optical illusions

Illusions are special perceptual experiences in which information arising from “real” external stimuli leads to an incorrect perception, or false impression, of the object or event from which the stimulation comes. [16]

At figure 10 is an example of the color optical illusion. Square A and B on the left image seems to be in different colors.

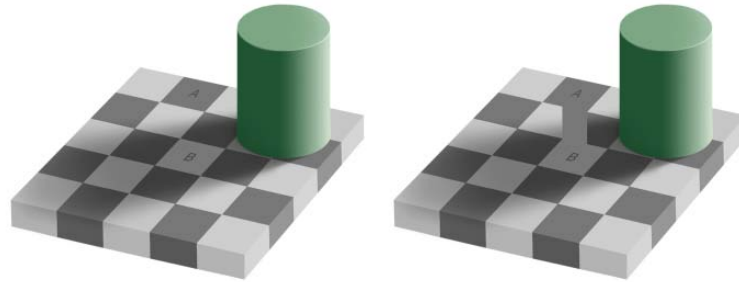


Figure 10 - An optical color illusion. The square A is exactly the same shade of grey as square B (shown on the right picture). [10]

Many sensory illusions may be described as the aftereffects of the stimulation, or overstimulation, of the senses. Sensitivity in any of the senses may be measured as the just-perceptible intensity (threshold, or limen) of the appropriate stimulus. The smallest detectable stimulus is called the absolute threshold, while the smallest detectable change in the intensity of a stimulus is called the difference threshold. Such thresholds can serve as points of reference, or anchors, against which subsequent stimuli are judged or perceived. Yet sensory anchors fluctuate within the same individual under different conditions, and in some cases they can mislead a person about the properties of subsequent stimuli. For example, two successive stimuli may be identical but nevertheless give the illusion of being different. [16]

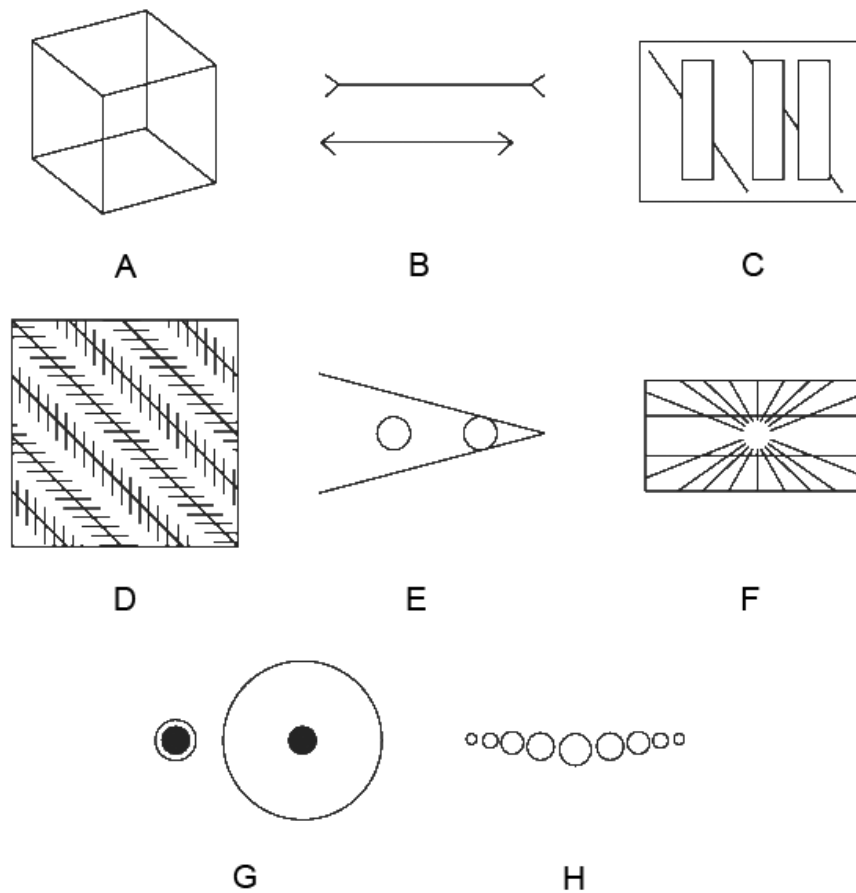


Figure 11 - Examples of optical illusions. [17]

Examples of other optical illusions (figure 11):

- A cube changes orientation (Necker cube)
- B lines are equal in length (Müller-Lyer)
- C lines covered by rectangles are straight (Poggendorff)
- D all long lines are parallel (Zöllner)
- E circles are equal in size (Ponzo)
- F horizontal lines are parallel (Hering)
- G black dots are equal in size (size)
- H tops of circles are on a straight line (König necklance)



### 3.3. Design

Graphic design, as an industry, is a cousin to advertising, both of which were born from the tumultuous period of the Industrial Revolution of the late 1700s and early 1800s, when the working class-finding itself with time on its hands and money to spend in time pursuit of comfort-began to look for stuff to buy and things to do. [5]

“Rules can be broken – but never ignored.”

David Jury, typographer and author

To understand the meaning of design is... to understand the part form and content play... and to realize that design is also commentary, opinion, a point of view, and social responsibility. To design is much more than simply to assemble, to order, or even to edit; it is to add value and meaning, to illuminate, to simplify, to clarify, to modify, to dignify, to dramatize, to persuade, and perhaps even to amuse. Design is both a verb and a noun. It is the beginning as well as the end, the process and product of imagination. [4]

As each discipline has its rules, the graphic design has these too. According to Timothy Samara (author of the book *Design Elements, A Graphic Style Manual*) [5], there are “Twenty rules to making good design”:

1. Have a concept.

If there’s no message, no story, no idea, no narrative or no useful experience to be had it’s not graphic design. It doesn’t matter how amazing the thing is to look at; without a clear message, it’s an empty, although beautiful, shell.

2. Communicate - don’t decorate.

This rule is related to Rule No. 1, it’s about how designer supports the all-important concept. Form carries meaning, no matter how simple or abstract, and form that’s not right for a given message will communicate messages that designer doesn’t intend. It’s all well and good to experiment with

shapes, details and cool effects, but if designer spackles them all over without considering what they mean and how they support or take away from the message he/she ends up with a jumbled mass of junk that no longer qualifies as a design.

3. Speak with one visual voice.

Make all the parts talk to each other... in the same language. Good design assumes that the visual language of the piece - its internal logic - is resolved to address all its parts so that they reinforce, restate, and reference each other, not only in shape or weight or placement, but conceptually as well. The designer should ask himself: "Does everything relate harmoniously to everything else?" .

4. Use two typeface families maximum. OK, maybe three.

Change in type family usually signals a change in meaning or function. A single type family with a variety of weights and italics should be enough all by itself; adding a second is nice for texture, but it shouldn't be overdo it. Too many typefaces are distracting and self-conscious and might confuse or tire the viewer.

5. Use the one-two punch!

The designer should grab the audience's attention, to get them the information they need, and to help them remember it afterward. The aim is to focus viewers' attention on the important thing first, and then lead them through the rest. It can be done via big shape, a startling image, a dramatic type treatment, or a daring color, steadily decrease the activity of each less important item in a logical way it help them get through it.

6. Pick colors on purpose.

Know what the colors will do when designer combines them and, more important, what they might mean to the audience. Color carries an abundance of psychological and emotional meaning. And this meaning can vary tremendously between cultural groups and even individuals. For example blue is for financial services. It is standout color cliché of the past fifty years. Designer should choose colors that are right, not those that are expected.

7. If you can do it with less than do it.

This is a riff on an adage left over from Modernism, sometimes known as the “less is more” theory. The more stuff jammed into given space, the harder it is for the average bear to see what they’re supposed to be seeing. Anybody can load a bunch of stuff onto a dull message and pretend it’s a complex work of art, but there’s a big difference between “complicated” and “complex” a state that often comes about in a simple context.

8. Negative space is magical - create it, don’t just fill it up!

It’s often said that negative space - sometimes called white space (even though there might not be any white around) - is more important than the stuff that’s in it. For the most part, this is true. Space calls attention to content, separates it from unrelated content around it, and gives the eyes a resting place. A lack of negative space overwhelms and confuses the audience, which is likely to get turned off.

9. Treat the type as image, as though it’s just as important.

A sad commentary on typography today is that most of it fails in this regard: it’s either unimaginatively separated from photography in the notorious “headline/picture/body-copy”

strategy seen in countless ad campaigns during the past sixty years or insensitively slapped across images, in quirky type-faces, under the assumption that if it's big and on top of the photo, it's integrated. Type is visual material - made up of lines and dots and shapes and textures- that needs to relate compositionally to everything else included in the design, no matter how different they seem to be.

10. Type is only type when it's friendly.

The aim is to make the work legible, readable, or whatever it's called. It should go without saying that type that can't be read has no purpose, but, unfortunately, it bears repeating. Typography can be expressive and manipulated for inventive interconnection of structural elements within language. Also typography can resonate with its sub cultural audience and reference this or that pop-cultural zeitgeist. But, it must still transmit information.

11. Be universal; remember that it's not about you.

Talking to oneself is the domain of the fine artist. Being universal is the domain of the designer. A very large audience, not a few people who are "in the know", has to know what designer means with those shapes, that color, and that image he/she chose.

12. Squish and separate.

Create contrasts in density and rhythm by pulling some material closer together and pushing other material further apart. Be rhythmic about it. Give the spaces between things a pulse by making some tighter and some looser unless

13. Distribute light and dark like firecrackers and rising sun.

Renowned landscape photographer Ansel Adams advocated a nine-zone system of tonal value. It's mean that the good de-

signer doesn't spread out the tonal range all over the place. He/she concentrates areas of extreme dark and light in separate places; creates explosions of luminosity and deep undercurrents of darkness. Counter these with subtler transitions between related values. Above all, he/she makes distinctions between light and dark noticeable and clear.

14. Be decisive. Do it on purpose - or don't do it at all.

The designer should make a thing appear one way or another. A great deal of the process of understanding visual material is the ability to distinguish the difference between things. It's a strategy left over from millennia of surviving in the bush by knowing that the big object in front of us is a large rock and not an attacking predator. Good designers place visual material with confidence, and make clear decisions about size arrangement, distance from other material, and so on. Decisiveness makes a viewer more likely to believe that the message means what it says.

15. Measure with your eyes: design is visual

A thing is what it looks like - it's important to make it look the way it's supposed to look. The eyes are funny things; they're often fooled by visual stimuli, the notorious optical illusion. Oddly, optical illusions account for ninety percent of the visual logic of composition. Horizontal lines, for example, appear to drop in space and have to be adjusted upward to appear centered from top to bottom.

16. Create images - don't scavenge.

Nothing is more banal and meaningless than a commonly used instance of stock photography that shows up everywhere. The designer shouldn't try to rely on what already exists, even though it might be cheaper or easier. Sometimes a simpler and more meaningful solution is no further away than a couple

of dots and lines, or a personalized scribble that - while not slick, glossy, and full color (and lesser in meaning for graphic project because it was seen last week in a shopping-mall's newspaper ad, a billboard for used cars, or male enhancement product packaging) - might connect powerfully with the audience.

17. Ignore fashion. Seriously.

If the designer designs the project and styles it around the meaning, not the audience's expectations of current stylistic concepts, several good things will come out of it. First, it's likely to mean more to the audience and be useful a lot longer, so it won't end up in a landfill as quickly, polluting the ecosystem. Second, it might even have the staying power to qualify for the history books. Nobody looks at the Pantheon, designed almost two thousand years ago, for example, and says, "Ewww, that's like so First Century."

18. Move it! Static equals dull.

People make a weird assumption about two-dimensional visual stuff, and that is - it's flat and lifeless! If a layout is clearly flat and fails to offer a sense of movement or spatial interaction, a state that is relatively easy to achieve the viewer's brain is likely to be uninterested enough to hang out and see what the message is. Static compositions say, "You've figured me out ... so walk away, nothing to see here."

19. Look to history, but don't repeat it.

The design of the past has its place. It's inspiring and important for a designer to consider how communication strategies and aesthetic have changed over time, and to understand how his or her own work fits into the continuum of thought and practice. Even more useful is the realization that somewhere along the way another designer faced a similar problem ... and

solved it. To slavishly reproduce a particular period style because it's really cool - or worse, because the clients think their "Circus Party" invitation should look like an 1846 wood-type poster - is just unacceptable. The recommendation is to learn from the work of others, but do own work.

#### 20. Symmetry is the ultimate evil.

It's true that symmetry occurs in nature - just look at human body - but that doesn't mean it's a good strategy for designing. Symmetrical visual arrangements are generally static and offer little movement (see Rule No. 18). Worse, symmetrical arrangements make integrating asymmetrical image material awkward, and limit a designer's flexibility in pacing and dealing with content that doesn't quite want to fit into the symmetrical mold. Last, but certainly not least: symmetry shouts very loudly that the designer is lazy and likes to let the format do the designing. The format has a center axis, and clearly everyone can see that. Why let the format tell what to do? The designer tells the format who's the boss.

Graphic design and advertising share one particular goal - to inform the public about goods, services, events, or ideas that someone believes will be important to them; but graphic design parts company with advertising when it comes to ultimate purpose. Once advertising informs its audience about some product or event, it cajoles the audience into spending money. Graphic design however, simply seeks to clarify the message and craft it into an emotional experience. Granted, graphic design often is used by advertising as a tool to help sell goods and services; but the sending of messages is, at its core, its own endeavor altogether. [5]

## 3.4. Computer graphics

### 3.4.1. Color models

For centuries, artists and philosophers have theorized that color is three-dimensional. Contemporary neuroscientists have confirmed this theory, finding that our sensation of color comes from nerve cells that send messages to the brain about [23]:

- brightness of color
- greenness vs. redness
- blueness vs. yellowness

In Ancient Greece, Aristotle developed the first known theory of color (figure 12 on left). He postulated that God sent down color from the heavens as celestial rays. He identified four colors corresponding to the four elements: earth, fire, wind, and water. [25]

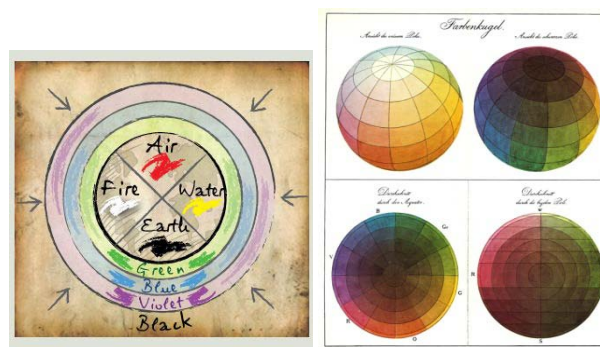


Figure 12 - on left: Aristotle color sphere (ancient Greece) [25]; on right: Philipp Otto Runge's color sphere - Farbenkugel (1810)

At the figure 12 on right is the Philipp Otto Runge's Color Sphere (Die Farbenkugel) from 1810. The top two images show the surface of the sphere, while the bottom two show horizontal and vertical cross sections. "Ansicht" is "Perspective"; "Durchschnitt" is "Cut-out". [10]

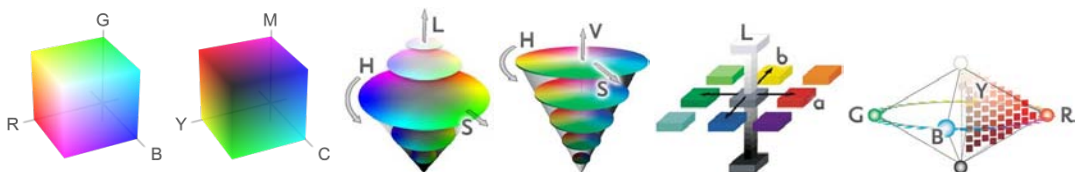


Figure 13 - The visual representations of basic color modes (from left: RGB, CMY, HSL, HSV, Lab, NCS) [23]



Figure 13 shows six color models:

- RGB (Red Green Blue) uses additive color mixing that produces secondary colors where two colors overlap, while equal intensities of all three colors produce white.
- CMY (Cyan Magenta Yellow) is a subtractive color model. Typically used in printing, CMYK assumes that the background is white, and thus subtracts the assumed brightness of the white background from four colors CMY plus K (black or Key). Black is used because the combination of the three primary colors (CMY) doesn't produce a fully saturated black.
- HSV (Hue Saturation Value) model. The angle from the axis depicts the hue, the distance from the axis depicts saturation, and the distance along the axis depicts value.
- HSL (Hue Saturation Lightness) model. In the bicone or diamond of the color structure, all the visible colors can be seen. These are the three dimensions in which our brain analyzes the colors we see. The first dimension is brightness (a vertical slice). The hue is comprised of the second and third dimensions (corresponding to round slices through the diamond).
- Lab (Lightness ab) is three-dimensional model, the L stands for the lightness of the color, with 0 producing black and 100 producing a diffuse white. The "a" is the redness vs. greenness, while the "b" is the yellowness vs. blueness.
- NCS (Natural Color System) colors have three values: darkness, saturation, and hue. The hue is defined as a percentage between two of the following colors: red, yellow, green, and blue. The NCS is expressed as the percentage of darkness, the percentage of saturation, and the percentages of two of the opponent colors. [23]

Computer monitors emit color as RGB (red, green and blue) light. Although all colors of the visible spectrum can be produced by merging red, green and blue light, monitors are capable of displaying only a limited gamut (range) of the visible spectrum. [18]

Whereas monitors emit light, inked paper absorbs or reflects specific wavelengths. Cyan, magenta and yellow pigments serve as filters, subtracting varying degrees of red, green and blue from white light to produce a selective gamut of spectral colors. Like monitors, printing inks also produce a color gamut that is only a subset of the visible spectrum, although the range is not the same for both. Consequently, the same art displayed on a computer monitor may not match to that printed in a publication. Also, because printing processes such as offset lithography use CMYK inks, digital art must be converted to CMYK color for print. Many printers now prefer digital art files be supplied in the RGB color space with ICC profiles attached. Images can then be converted to the CMYK color space by the printer using color management methods that honor profiles if present; this helps preserve the best possible detail and vibrancy. Mixing the colors in both color spaces shows figure 14. [18]

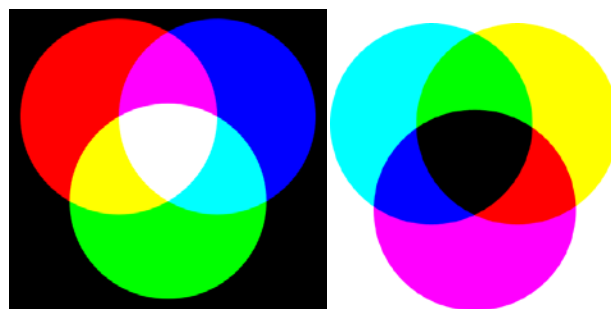


Figure 14 - Additive (RGB) and subtractive (CMY) color models.  
[author]

### Color conversions

In principle there is no problem to transfer images stored as RGB in the same image stored in another model (i.e. Lab). It is a mathematical conversion of most 3 numbers that define the color of each item. In other words - instead of 3 type RGB numbers for each point (pixel) in the new model will be 3 numbers again, but the significance Lab. [19]

More complicated is the situation when converting RGB to CMYK, or Lab. Use of fourth color (black) makes the transfer ambiguous and thus designer can convert RGB to CMYK in many different ways. In practice, then he/she chooses the method that best suits a particular print device. [19] Differences between the reproduction of colors in RGB and CMYK spaces

are generally significant because it is fundamentally different gamut as seen at figure 10. [20]

### CIE Chromaticity Diagram (1931)

The three-dimensional color space CIE XYZ is the basis for all color management systems. This color space contains all perceivable colors - the human gamut. Many of them cannot be shown on monitors or printed. [21]

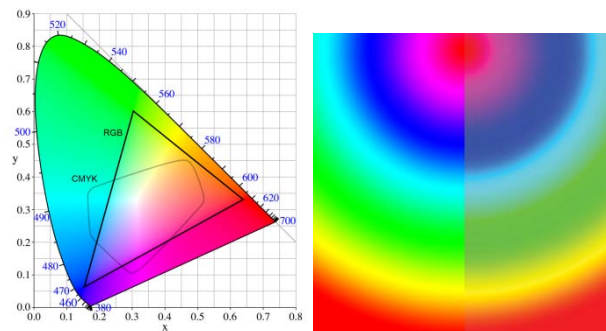


Figure 15 - on left: CIE chromacity diagram (1931) with RGB and CMYK color areas. [21]; on right: Difference between color spaces after conversion the picture from RGB model (left) to CMYK (right). [20]

The two-dimensional CIE chromaticity diagram (figure 10)  $xyY$  shows a special projection of the three-dimensional CIE color space XYZ. Some interpretations are possible in  $xyY$ , others require the three dimensional space XYZ or the related three-dimensional space CIELab. [21]

#### 3.4.2. Raster and vector graphics

In computer graphics, a raster graphics image or bitmap is a data structure representing a generally rectangular grid of pixels, or points of color, viewable via a monitor, paper, or other display medium. Raster images are stored in image files with varying formats. [10]

Typical example is a difference between bitmap and vector fonts. The letter A is in a small font size at first glance indistinguishable, but the increase is seen at the interfering raster bitmap font (figure 16). If it is possible all fonts and images should be in vector representation. [26]

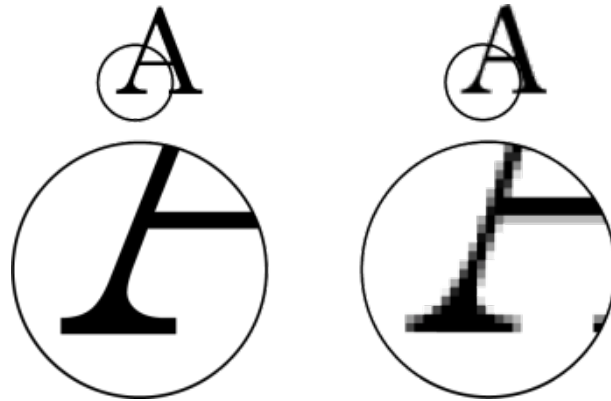


Figure 16 - The difference between vector and raster fonts. [26]

Nowadays graphic designers and also printers require documentation of fonts, logos, and all the simpler forms (including color gradients) in vector graphic files. In contrast, bitmap graphics images require optimal resolution - according to the size and quality of printed output. [26] This differences between bitmap and vector graphic file format shows table 3.

graphic format	advantages	disadvantages
bitmap (raster)	<ul style="list-style-type: none"> <li>• faster rendering of graphics output (monitor)</li> <li>• suitable for representing complicated images, such as photographs</li> <li>• good file portability</li> </ul>	<ul style="list-style-type: none"> <li>• relative large files</li> <li>• in increasing the raster file dimension appears raster distortion</li> </ul>
vector (curve)	<ul style="list-style-type: none"> <li>• relative small files</li> <li>• the image can be scaled without losing the quality</li> <li>• suitable for representing not-complicated images, such as fonts</li> </ul>	<ul style="list-style-type: none"> <li>• slower than bitmap rendering on monitor screen</li> <li>• hard to mathematically describe more complicated images</li> <li>• worse file portability</li> </ul>

Table 3 - The advantages and disadvantages of bitmap and vector picture file formats. [author]

### 3.4.3. DTP sphere

DTP (DeskTop Publishing) currently enjoying high prosperity and interest. In addition to general information processing and computer network problems, the DTP is probably the most dynamic area of computer science. From the perspective of business and advertising the requirements for DTP are to: [7]

- able to deliver
- attract attention
- keep the attention of potential customers

DTP is used for the production of printed advertising such as newspapers, magazines, posters, catalogs, brochures, electronic publications, web pages, etc. In practice, however, often a plethora of random cluster or graphics without regard to the rule that less is more. As a result, when the human capacity to perceive and analyze the information is only to a certain limit, the transfer idea misrepresents, or disappears in large quantities of surplus information [5]. Representation of such "saturation" and the use of information by human, depending on the amount of information is presented in figure 17. DTP is a summary of technologies for the preparation of documents not only for the classical printing but also for so-called electronic publishing. DTP is in fact a set of publications using the computer, i.e. integrates itself in all the work on a document before final printing and presentations. With this support, the computer publishing is shifting from traditional printing to the editorial offices directly to the author. [7]

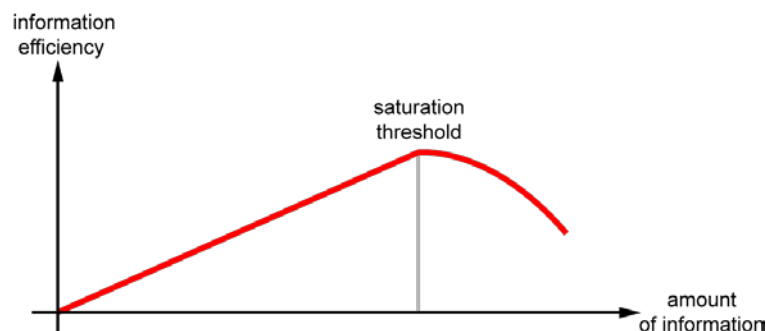


Figure 17 - Course of the usability information by human. [7]

## 4. Creation of graphical advertisement


For the creation of advertising graphics were used information from the theoretical part. It was created by an advertising leaflet for the hair shampoo according to the 20 design principles in chapter 3.3. Second, it were used bases in heatmap as a guide to the location of the main parts of the leaflet. Finally, there is taken into account the psychology of human visual perception.

The leaflet paper is A6, double-sided coated paper. Why was chosen this particular format and other specifications are kept explaining. Flyer is linked to a billboard advertising, citalights and so on. This advertisements bear in the same spirit and have a common design. Brand of shampoo is designing with regard to future use - not only on the packaging of the product, but also on various promotional items, web sites, printed materials, etc.

### 4.1. Describing the product

This chapter describes the basic features of the product placed on the market the product:

- manufacturer (brand): Haircare
- product portfolio: specialized in hair shampoos
- market: European Union
- language: for simplification only in English
- product quality: a higher grade of hair care
- product price: equivalent quality, 120% of estimated average price per 1 ml of competing products
- target group of customers: the people with a dandruff.
- distribution: the classic channel - manufacturers, distributors, retailers, customers
- future product: a product line modification, according to specialization groups - children, men, women, various types of hair, problem hair


	<p><b>The product bottle</b></p> <ul style="list-style-type: none"> <li>• The imaginary product is distributed in opaque white plastic bottles. This provides greater opportunities for development through design, color neutrality of the substrate.</li> <li>• The bottle is 250 ml and is made of HDPE plastic type.</li> <li>• This type of bottles is in fact already produced and used it as proven by some producers.</li> </ul>
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## 4.2. Designing the product leaflet

### 4.2.1. Logo design

The name of the manufacturer is Haircare. According to today's logo design will be composed of letters (words Haircare) and a simple symbol in the spirit of the inscription. The logo was designed so that it can be a symbol or a sign used separately or together. This provides greater opportunities diversified brands design.

The logo was created in a several color variants. Optimal variant, with a view to placing the logo in different ways on different materials, the choice of the same color and symbol legend. Consideration was taken to print the logo in black or grayscale.

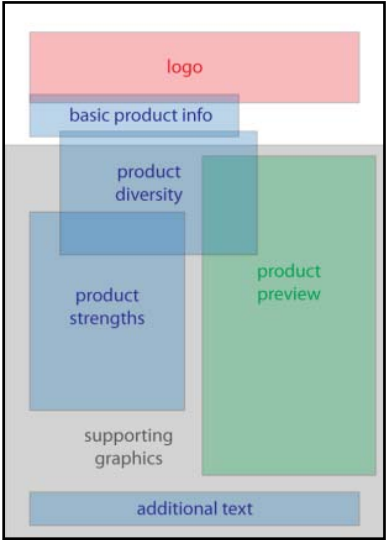
<p style="text-align: center;"><b>HAIRCARE</b></p> 	<p><b>The logo</b></p> <ul style="list-style-type: none"> <li>• According to the length of the text (one compounded word) the text of logo was created in capitals.</li> <li>• The color is black, grey and green or combinations of these colors. Other colors will not be accepted because of the consistency of the logo.</li> <li>• The symbol should complement the logo but also it should be usable as a separated element.</li> <li>• The symbol will be placed above or left of the inscription. So the optimal constraint proposition in this case is square.</li> <li>• The source graphic file is a vector.</li> <li>• The logo color variants are in Supplement C.</li> </ul>
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#### 4.2.2. Graphic elements in the leaflet

The flyer, as has already been said, is the A6 double sided portrait. This format was chosen thanks to convenient size. Smaller size might not be for some people able to read. The bigger format is relatively large and encourages the holder to get rid of him.

On the front of the brochure is text information for quick view of product. By the contrast, on the back are details about the product or company. One side is always more important and main. It is not advisable to try to reach a potential customer to the other side. The reader must be clear which side he/she has started to read.



	<h3>The leaflet concept (front page)</h3> <ul style="list-style-type: none"> <li>• People are accustomed to read from left to right and top to bottom (suitable for EU citizens).</li> <li>• For logo is suitable to place it on top of the page - better closer to the left side.</li> <li>• The main information (the shampoo) can be placed only as a text. But for potential customer is better to give him/her a picture of product bottle. In future, when he/she will pick up the shampoo it will be for him more familiar.</li> <li>• According to the other heatmaps (as a result from the eyetracking research).</li> </ul>
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	<h3>The leaflet concept (back page)</h3> <ul style="list-style-type: none"> <li>• On this page is information for a customer who wants to learn more about the product.</li> <li>• This back page only provides information from the front.</li> <li>• Images here are more supporting than to provide any information.</li> <li>• The logo will be placed at a bottom of the page. Logo closes the leaflet and it is probably the last thing the reader will "read".</li> </ul>
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### 4.2.3. Creating a color scheme

Each graphic publication should have a uniform color scheme. A large number of colors or incorrect color combinations making the document less attractive and readable. For reader it is more difficult to orient in it and he/she has the overall mixed feelings.

For setting the color scheme can be used Adobe Kuler. Kuler is an application that calculates four colors according one set color. The calculated colors match the original color in some way relate. Relationship of calculated colors to the original may be according four different rules: analogous, monochromatic, triad, complementary, compound and shades. It can be also modified in a custom mode or automatic mode with uploaded picture. See in Supplement E.

Adobe Kuler is an internet application from Adobe Systems that lets individuals try out, create and save various color schemes ([kuler.adobe.com](http://kuler.adobe.com)). It is available in browser-hosted variants running on Adobe Flash, and in desktop versions using the Adobe AIR runtime. After downloading Switchboard from Adobe Labs, users using the desktop version of Kuler can export a color scheme straight into Photoshop, Illustrator and InDesign. [10]

Every rule in color picker generated four different colors to the original one. It is not necessary to use all this colors, but it is a good guide to choosing colors. As a reference color was chosen the green from company logo. In generated color schemes (table 4) is this color always in the middle.

As a color scheme chosen bar of colors generated by “triad” and “analogous” methods. It can be picking up any other colors from any generated bars. But it is not recommended to choose too many colors. It can decompose the flyer into many fragments. This type of design brings the viewer into confusion.















generated color scheme	color ring	rule
		analogous
		monochromatic
		triad
		complementary
		compound
		shades

Table 4 - The result from color mixing software Adobe Kuler.  
[29]

#### 4.2.4. Composing a leaflet

	<p><b>Choosing a logo type</b></p> <ul style="list-style-type: none"> <li>• According to the human routine most people are accustomed to read from left. And therefore it is suitable to the left alignment.</li> <li>• Selected logo has its symbol in green - it corresponds with the basic color.</li> </ul>
	<p><b>The product bottle cover</b></p> <ul style="list-style-type: none"> <li>• This visualization was created in Adobe Photoshop.</li> <li>• We suggest that this bottle already exists and now we creating only a leaflet.</li> <li>• On left: the bottle from the front</li> <li>• On right: the bottle from the back</li> </ul>
	<p><b>Placing the graphics</b></p> <ul style="list-style-type: none"> <li>• The front page (on left) and back page (on right) of the leaflet has the same supporting graphic on the background</li> <li>• The front page is main, so it was placed a relatively large picture of product preview according to the leaflet concept.</li> </ul>

	<h3>Placing the logo</h3> <ul style="list-style-type: none"> <li>• At front page the logo is placed on the upper left corner. The customer must “read” this logo at first when he started to read the leaflet.</li> <li>• At back page again in the down right corner. It will be probably the last thing which the reader see.</li> </ul>
	<h3>Placing the texts</h3> <ul style="list-style-type: none"> <li>• According to the concepts there are placed a text boxes (at some places with supporting graphics).</li> <li>• There are used one font in one shape; four sizes (14, 12, 10 and 8 pts) and two colors (black and the company green).</li> </ul>

### 4.3. Printing design evaluation

This chapter describes the press generated by visual assessment of the proposal. The points below are for a description of the graphic elements on figure 18. All graphic elements are situated according to the design concepts.

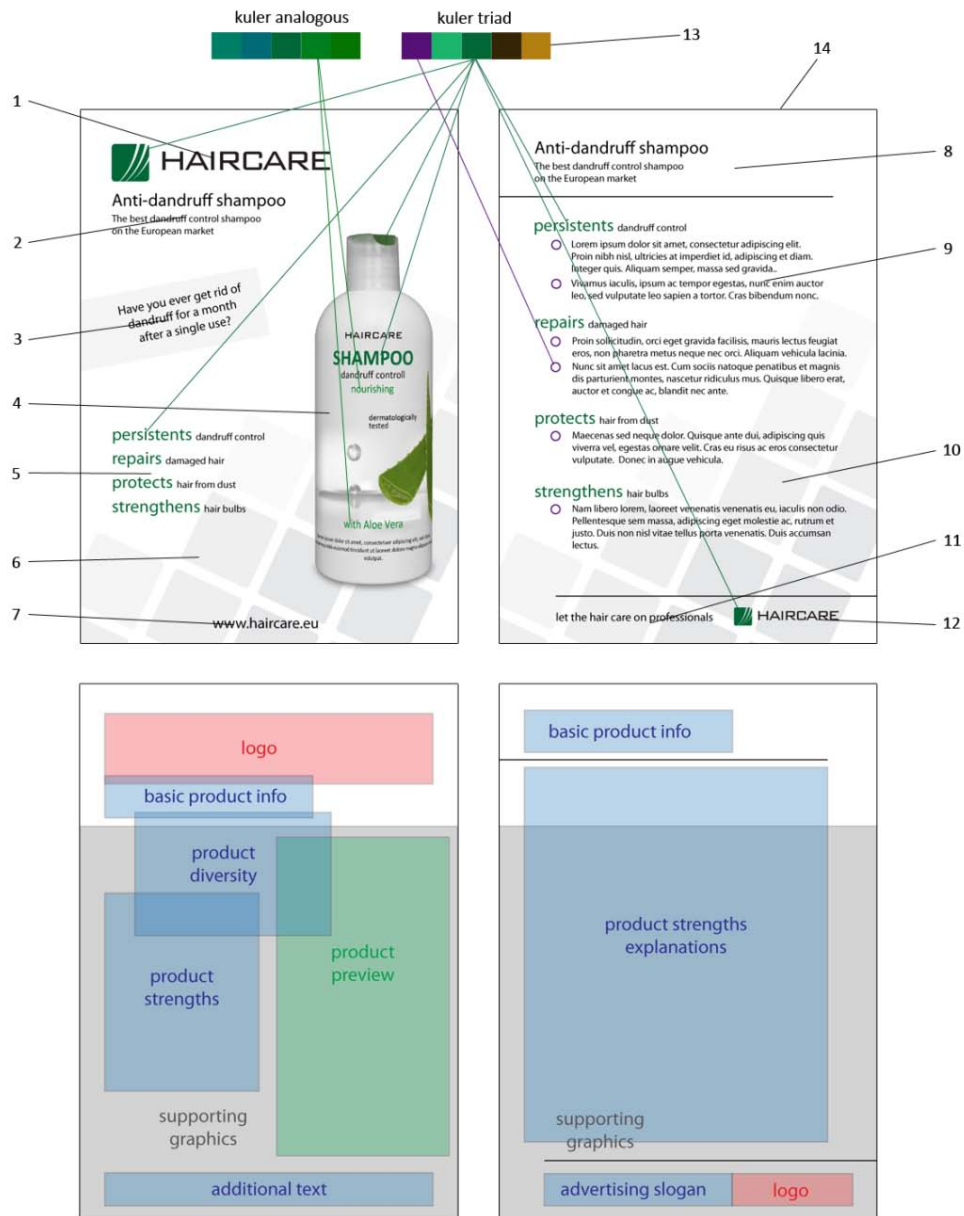


Figure 18 - The final evaluation of the composed graphic design. [author]

- 1 For better remember the logo is composed of symbol and text. Moreover, the symbol optically compensates for aloe image printing on the bottle.
- 2 The basic product info is situated under the logo - it expresses the link brand and product.
- 3 The product diversity is relative important so it's located on place which can the customer read among the first.

- 4 The bottle is placed below due to its optical mass. And it's displayed whole to better remember.
- 5 Main product advantages are located at front page in short.
- 6 Supporting background must be applied gently to disturb the perception of text, image or product.
- 7 Additional text for more information about product or brand fills out the bottom space of the front page.
- 8 Additional to point 2 this part of text forms an bridge idea between this two pages.
- 9 Additional to point 5 make a detailed description.
- 10 Supporting graphics is exactly the same as the front page to keep the graphics style.
- 11 Advertising slogan is next to the brand on left as in the text.
- 12 The logo of the company is situated in the right down corner as the end of the advert.
- 13 Colors were pick up from color schemes generated by Kuler (analogous and triad computing method). The background and normal text are in neutral colors (grey and black).
- 14 Flyer A6 and is on glossy paper for better color rendition.

(Bitmap picture is only the "product preview". Other graphics elements are vectors.)

#### 4.4. Printing the advert

The print offices require edited copies in appropriate file formats. Advantageous for them is the format .eps, with very good portability, the disadvantage is its file size. Another preferred format is .pdf. This format has certain pitfalls, but if the exporter respects the printer's usually prescribed requirements, so it is very useful. Lots of print offices have a professional graphic editors, so they majority prefer Adobe's .ai, .psd; Corel's Cdr, AutoCAD's .dwg etc. The last option is to use bitmap graphics (.jpg, .png, .tif). These files are very portable, but the disadvantages are the raster and a relatively large file size.

There is the recommendations for the export to .pdf file format. According to the needs of most printers offset printing in the Czech Republic.

- .pdf format, up to version 5
- all fonts converted to curves, if it is not possible provide used fonts
- single color model - always CMYK (offset) or Pantone (offset Pantone)
- always at least 2 mm bleed (objects ranging over dimension / edge printing)
- always including crop marks
- bitmaps minimum at a resolution of 300dpi or more 450-600dpi
- all document in one .pdf file with page numbering in the bleed
- preview image of the printing document in bitmap

The edited copy preview is in the Supplements A and B in ratio 1:1.



## 4.5. Evaluation of the work

After creating a sheet according to the information listed above author concluded that graphic design can be created without previous practical experience (but remains requires knowledge managing graphics software and a knowledge of printing technologies and the author's aesthetic of course).

Further, the author's experience gained from the practical part of this process suggests the graphic design for graphics advertising (information in round brackets are only demonstrates):

- 1 To get acquainted with the business plan of the company for which the proposal is being created.  
(type of product, price, quality, duration of the planned sales, ...)
- 2 Define the target group for which the product is intended and find out what this group prefers.  
(young - modern design, dynamics; middle ages - the accuracy of the information, product stability; seniors - legibility, ...)
- 3 Identify a location for static advertisement.  
(web, billboards, citylights, journals, newspapers, type of paper, presentation monitors, ...)
- 4 Consult the form of graphic design with the client  
(design style, the "spirit" of the proposal, ...)
- 5 Define the basic color.  
(color logo, product view, web color scheme, color of the company, ...)
- 6 Create a color scheme for oncoming design.  
(use Kuler, personal experiences, feelings, ...)
- 7 Create some simple sketches of the ongoing design and consult with client to select the minimum number of variants.  
(various locations of graphics elements, the selection of the right photo, pick up a proper variant of the logo, ...)
- 8 Create a design proposal for those selected sketches by using DTP tools. Print or electronically present at client.  
(present for more people, use a heatmap, empathize with the target group of customers, ...)
- 9 Select one or more variants graphic design options.

- 10 Consult with the client last modification of the proposal.  
(The exact location of the elements, smaller changes, ...)
- 11 Produce final draft.  
(use vector graphics, bitmap sufficient resolution, respect the printing gamut, ...)

Other items are related to printing:

- 12 Export files for print.  
(choose proper file format, color conversion, bitmap downsampling, bleeds, crop marks, ...)
- 13 After the press preview at checkout sheet, consulting with the supplier of the press.  
(background papers, color fidelity, precision press, ...)
- 14 Reconciliation of the press, enter the number of copies.
- 15 Watch the audience reaction to advertising.

## 5. Conclusion

The practical part of this thesis is the procedure for creating the graphic design flyer. This leaflet was created with Adobe Photoshop and Illustrator CS4 (the preview of the Illustrator layout is in Supplement D). The proposal was designed according to the information contained in the theoretical part - *20 principles of the good design*, knowledge of psychology perception of colors and shapes, and knowledge of the heatmap.

If it is calculated with a larger distribution of the proposed advertisement is appropriate to analyze the effect of advertising on a selected group of respondents. Heatmap can be helpful or opinion of an experienced expert in the field. It can also test multiple variations of the proposal. The actual effect of the proposed advert, however, proves the market.

According to the real printing price list. This price list is in cost per one sheet A6 double-sided coated, 115 g/m<sup>2</sup>, 4 colors (CMYK), offset. The average costs of three Czech print offices are following:

print load (pieces)	price (CZK/sheet)
1 - 500	1.3
501 - 1000	0.98
1001 - 2500	0.75
2501 - 5000	0.48
5001 and more	0.35

Table 5 - Costs for printing designed leaflet. Source: ZTC electronic, s.r.o. price orders.

When considering the distribution of leaflets author assumes that the actual distribution price significantly exceeds the cost of the printing. And therefore the promotion of more than about 15.000 copies of leaflets can be given to marketing research on several dozen respondents. If this marketing strategy has proven successful, can be considered for further promotion of the another product of this brand in the same way.

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# Supplement A

page 1



## Anti-dandruff shampoo

The best dandruff control shampoo  
on the European market



Have you ever get rid of  
dandruff for a month  
after a single use?

- persists** dandruff control
- repairs** damaged hair
- protects** hair from dust
- strengthens** hair bulbs



[www.haircare.eu](http://www.haircare.eu)



# Supplement B

## Anti-dandruff shampoo

The best dandruff control shampoo on the European market

### persistents dandruff control

- Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin nibh nisl, ultricies at imperdiet id, adipiscing et diam. Integer quis. Aliquam semper, massa sed gravida..
- Vivamus iaculis, ipsum ac tempor egestas, nunc enim auctor leo, sed vulputate leo sapien a tortor. Cras bibendum nonc.

### repairs damaged hair

- Proin sollicitudin, orci eget gravida facilisis, mauris lectus feugiat eros, non pharetra metus neque nec orci. Aliquam vehicula lacinia.
- Nunc sit amet lacus est. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Quisque libero erat, auctor et congue ac, blandit nec ante.

### protects hair from dust

- Maecenas sed neque dolor. Quisque ante dui, adipiscing quis viverra vel, egestas ornare velit. Cras eu risus ac eros consectetur vulputate. Donec in augue vehicula.

### strengthens hair bulbs

- Nam libero lorem, laoreet venenatis venenatis eu, iaculis non odio. Pellentesque sem massa, adipiscing eget molestie ac, rutrum et justo. Duis non nisl vitae tellus porta venenatis. Duis accumsan lectus.



let the hair care on professionals



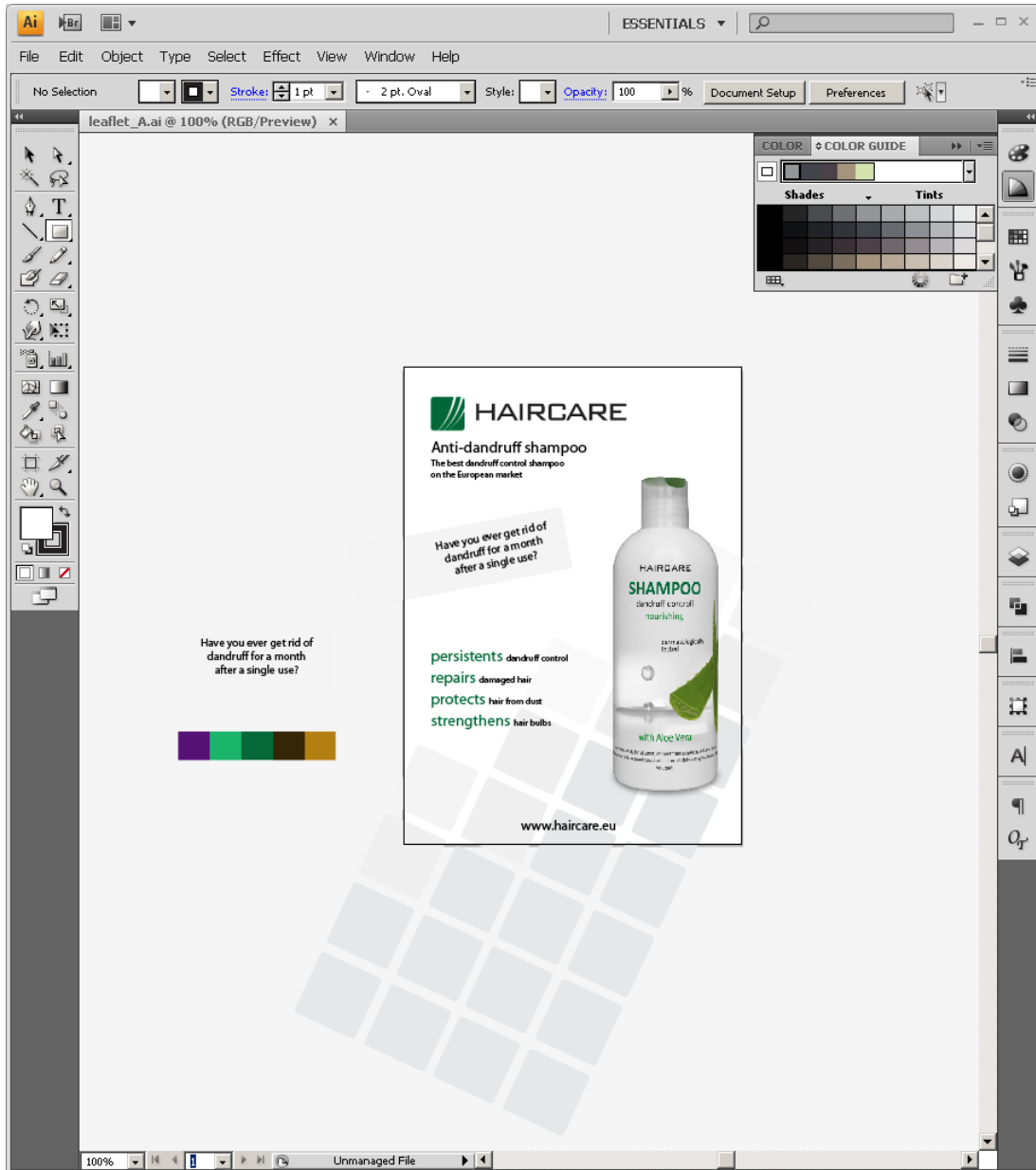


# Supplement C



	black
	grey #969696
	green #006838

# Supplement D




# Supplement E

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**Create**  
From a Color  
From an Image  
Themes  
Community  
Pulse BETA  
Links

Select a Rule  
Analogous  
Monochromatic  
Triad  
Complementary  
**Compound**  
Shades  
Custom




Title:

Tags:

Please sign in to save your theme.

Base Color




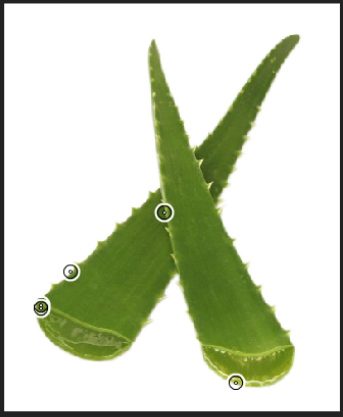
HSV 185   55   81	HSV 185   85   61	HSV 152   95   41	HSV 356   70   46	HSV 326   85   61
RGB 92   196   206	RGB 23   144   155	RGB 5   104   57	RGB 117   35   41	RGB 155   23   98
CMYK 55   5   0   19	CMYK 85   7   0   39	CMYK 95   0   45   59	CMYK 0   70   65   54	CMYK 0   85   36   39
LAB 74   -27   -14	LAB 54   -27   -15	LAB 38   -38   19	LAB 27   36   16	LAB 35   57   -9
HEX #5CC4CE	HEX #17909B	HEX #056839	HEX #752329	HEX #9B1762

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Select a Mood  
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Muted  
Deep  
Dark  
Custom



Title:

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