PROPUESTA
PROYECTO FIN DE CARRERA

"Design of the logo, of posters' series and advertising materials for extreme sport in mountains events: the case of "Vitosha Extreme"

Departamento de Ing. Matematica e Informatica

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I. Stage pre-project (before we start the project we have to think of the main idea)

1: Introduction.

Every age has its own problems and sick, unhealthy areas. The greatest problem of nowadays is our own health. This is complex condition derived from the way of life. One of the main postulates, except for the food and the fresh air, is the dynamic lifestyle. The active lifestyle is the perfect way to keep ones fit. By using "active" and "dynamic" we don't mean busy daily live, but doing sports and hiking in the mountain. Living passive and being so called "couch potato" cause all kind of healthy problems. The statistics show that in the past it was normal to have serious problems at the age of forty, nowadays it is normal at the age of thirteen. Very often the younger generation replaces sports with virtual computer games. Our life is most the time in a hurry always tense struggle for survival and people haven't got time for valuable things.
Most people are locked in very small flats and offices, where they spend most of their days, indoors without doing any sports activities. It is a pity that we are far away from our natural way of life, and also from the resources of inspiration and tranquility. People usually can't appreciate colours of the nature and birds' songs, just because they rarely see and hear and rarely spend their free time in the mountain or in the parks, outdoors. Maybe because people say that we are very busy or because they have forgotten what is to enjoy the beauty and tranquility, they have forgotten what it is to live fully. That is the reason why organizations and municipalities started different campaigns for outdoor activities. They are usually connected with the movement - day marathon, cycling, mountaineering or other physical activities. The main idea of that is to make it a tradition. It is also important that people will practice sports with big pleasure and will participate in different marathons and competitions. This kind of events are planned without ages restriction and racial divisions, they are made for each person, who wishes to participate.

2. Finding the main problem.

The idea of developing this project is to promote and advertise this active day in the mountain. Although this event has the characteristics of competition, the main goal is to persuade each participant that he or she can overcome himself or herself and will be able to finish the path without giving up. The objective aim is to provide equal rights and conditions for participating. What I mean is that the age, gender or nationality does not matter; the only thing that matters is the willingness to take part. In this way the useful and the pleasant can be united. The people will stop thinking for their daily issues and they will practice sports outside where the air is fresh, in the nature among beauty and harmony.
This active day will include extreme feelings and a lot of adventurism motion. The plan is to make a whole tour in the mountain "Vitosha" – round trip by bicycle for one day. Over a certain distance will have a check points (the place), the participants have to pass through these check points and the fastest will win the reward. There must be good researches made in advance and a lot of preparation.
It is important to know what will be the appropriate path for the participants, how the check points will be organized, where will be placed, how can be ensured that no one cuts the road. On the other hand it is very important to encourage athletes and people who would like to take part. The more people we attract the better result the campaign will

have. The most important task is to reach more people and to promote in such friendly and simple way that everyone even small kids will understand it.

This is the time when the advertisement strategy must be planned. How will be advertisement campaign made in order to be easily accessible for everybody.

Firstly, it depends on the size of the event. The advertisement campaign will be closely connected to the size, especially when it comes to TV commercials or radio adds. When a person sees something new - in this case an advertisement of the future event - it is highly important how it will be presented. For instance what will be the vision, and what kind of materials will be used, the logo of this event and what will be the motto. It is extremely important whether it will reach very interested potential users so that it can become a participant in a future event, but not limited to the younger generation.

In conclusion, defining our target group is the first step before starting to design the logo, poster or create an advertisement.

3. Motivation of the need to solve the problem.

Each user or eventual participant has different idea for their life, different life style, attitude etc. For some people a priority is to spend their life in the city between high buildings and in overcrowded places.

On the other hand there are people who prefer nature and active holidays. There are all kind of people, but the main point of view is to attract everyone's attention and to change at least a little bit those who are not used to being in the nature and to remind them that outside of the polluted city there are beautiful and peaceful places filled with flavors and colors.

As the vision of every event is very important, popularizing it and presenting it in front of public, we need to devote adequate time and resources that have a good outcome. It must be an exciting and vivid presentation, easily perceived and easily memorable. The motto of this event is very important; this issue must attract everyone who sees it. Although mountain bike can seem difficult to certain type of people, it is not impossible that the advertisement can inspire confidence. It can even succeed in being interesting and useful for those who read or see it. So they can take part only because of curiosity.

4. Actuality of the basics of the main problems and topics.

We live in a society which needs advertising. Everywhere is full of advertisements, introducing different products and providing information for future events. It is extremely hard to attract people's attention. That's why it usually takes a lot of recourses for the advertising campaigns. And at the same time users became more and more demanding as far as the design is concerned, so it is very difficult to attract their attention. The main problem is that everywhere is full of advertising materials, which keep the peoples' minds occupied, they can't find the main idea among all colors, pictures and words, which usually make them lose the essence, symbols and the hidden message.

5. Social Responsibility

The following paragraph introduces the main terms in the current diploma work. Explaining the used terms is essential in order to clarify the roles in such and advertising campaign

- User: This is the person, who uses the information without obligatory consuming anything, buying anything or changing his or her life somehwo. The target group in this cause is wide range of users. There are no racial or gender differences. It should be appropriate for people at the age of 7 and at the age of 80.
- Author: Who is the author? It can be an artist, designer, painter and people of art. In this particular cause the author is the writer - student: Lora Svetoslavova Valcheva.

-Client: a person or enterprise that invest resources in this project to became real. Also he can be a user if the case closely its activities and performance of the device. In our case the entity is our University - Sofia.

- Introducer: This is the company, which distributes the products at the market so they can reach the end users. It is the relationship between the production company/ printing factory, factory and consumer audience, which consist of supply outlets.

- Executor: this is the supporting staff, who takes part in the process of accomplishment the product to prototype. The staff doesn't participate in creative activities, but only help in the tasks. These are craftsmen maketisti, computer operators and others. In this project the role of implementation is performed by the author. She is the expert who determines the various stages and creates every part of advertisement campaign and makes up studies and forecast.

II. Project stage

1. Concept design

1.1 Historical and geographical research

There's a lot of history and information floating around about the origins of mountain biking, some that's recognized and some that depends on who has the best public relations firm. Mountain biking would have happened somewhere and it did.

Let starts with the Buffalo Soldiers, in August 1896, who customized bicycles to carry gear over rough terrain. The riders, black enlisted men and a white lieutenant, rode from Missoula, Monta na, to Yellowstone and back, an arduous trip. Their mission: to test the bicycle for military use in mountainous terrain.

Between 1951 and 1956 Velo Cross Club Parisien (VCCP) of France Comprised developed a sport that was remarkably akin to present-day mountain biking. On this picture you can see 20 young bicyclists from the outskirts of Paris, These riders juiced up their French 650-B bikes with an extraordinary degree of technical sophistication.

Another very important person for mountain bike history is John Finley Scott, who was probably the first mountain bike enthusiast in the United States. In 1953 he built what he called a " Woodsie Bike", using a Schwinn World diamond frame, balloon tires, flat handlebars, derailleur gears, and cantilever brakes. John was more than twenty years ahead of his time, and while he remained an off-road cycling enthusiast, at the time there were not many others who shared his passion.

The Mountain Bike Hall of Fame believes that the inception of mountain biking needed to be a continuous series of events that connected with one another as opposed to an isolated incident. Another example, in the early 1970s there were a band of cyclists, The Cupertino Riders, aka. the Morrow Dirt Club, from Cupertino California, 75 miles south of Marin, who were modifying their bikes. They were grafting thumbshift-operated derailleurs and motorcycle lever-operated drum brakes to their klunkers to help them get up and down the south bay hills. They competed against some future hall-of-famers at a Marin County cylcecross race in late 1974, where their technology was noticed. Then they disappeared.


There have a lot of evidence that the continuous history of the mountain bike is most evident in Northern California. There are a few areas that will claim to be the first mountain bike community, but every history book will lead you to Marin County. The origins of mountain biking were totally innocent. It came into being not as some faddist vision of profit-oriented marketing types, but rather as the product of true cycling enthusiasts trying to find something new to do on two wheels. These cyclists found through fun and competition that the old one-speed klunkers they were using could be improved with modern cycling technology. One thing led to another and mountain biking "the sport" was born.

In the 90s mountain biking was developing so fast that is impossible to record all changes. At those time mountain biking has already dominated as a market share in the USA and Western Europe, which naturally focused the efforts of the producers to continue developing new technologies for it. Some of the biggest achievements of materials in the frames is that they used fiberglass and aluminum alloys. Modern mountain bikes are very

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fast, lightweight, reliable and of course more expensive bikes if you compare with the past. Not only the bike itself has been developed, but also events which are organized and their purpose too. The way the bike has become popular is very interesting too. Advertisement is one of the basic things in every event and in every new product and it has been developing too. During the organization of competition a lot of advertising materials are been produced: logos (the special sign for the event or company) , specialized magazines for the mountain bike, catalogs, posters, leaflets, specialized advertising clothes for the competitors and etc. Use multiple text, pictures and colors that represent the underlying message to consumers. With development of modern technology, start enter modern printing facilities, and the advertisement star to graduate, not only of the materials that are used but with the design attractive appearance.
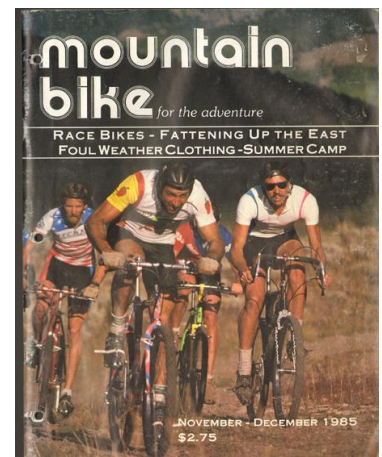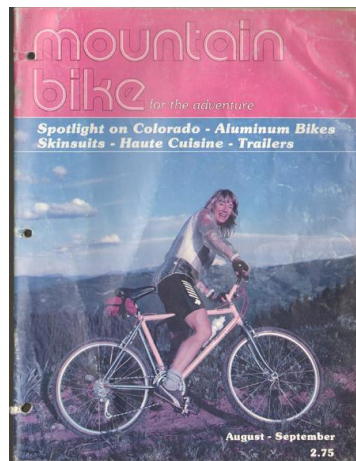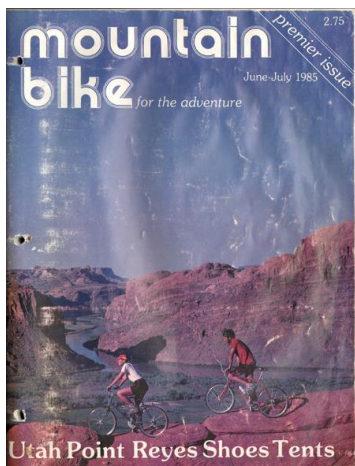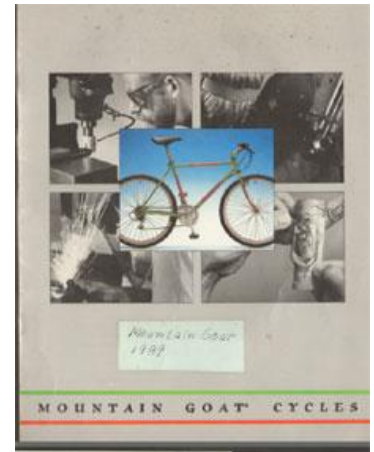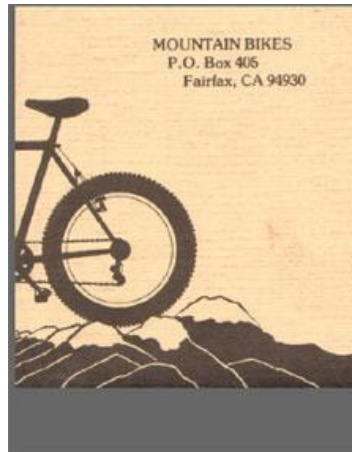

On picture1,2,3 are presented tree advertising covers of magazines for mountain bike from 1985.
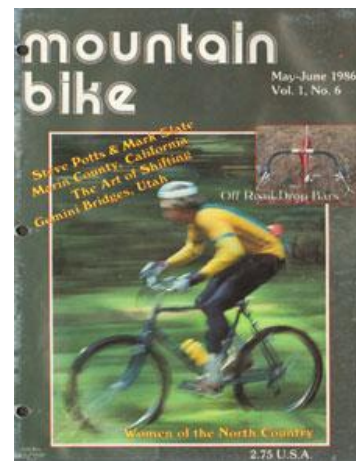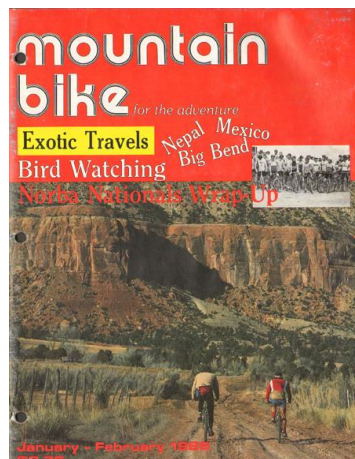
On picture4,5,6 are presented tree advertising covers of magazines for mountain bike from 1986.
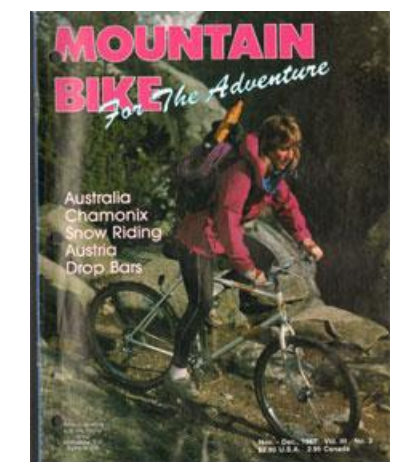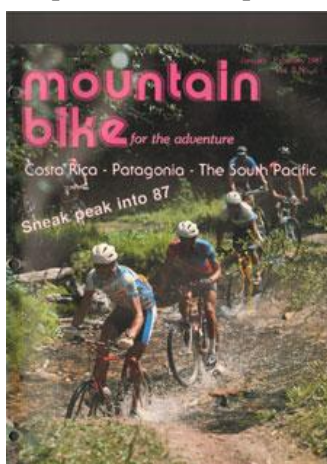
On picture7,8,9 are presented tree advertising covers of magazines for mountain bike from 1987.

On picture10,11 ,12 are presented tree advertising coves of catalogs connected with mountain bike race. from 1987.

On picture13,14, 15 are presented tree advertising posters of different mountain bike races. 9 82, 84 and 86 race) .

On picture16,17,18 are presented tree advertising leflet of different events connecting with mountain bike.

On picture19,20,21 are presented tree advertising logos from different events connected with mountain bike race.

Nowadays advertisements have the main role in the modern marketing. There are different multiple marketing techniques using newspapers, magazines, television, radio, posters, billboards, the Internet. and many others to be marketed goods and services. Important for the advertising message is what kind of text will be used, what font and what size, illustrations, trade name, trademark Extremely important id where the message will be placed in order to reach more potential users.

1.2. Information Research (Stage theoretical and analytic)

In Bulgaria just like all over the world mountain biking is extremely popular. There are all kind of events organized during the year. Such an event is the race near the town of Sopot. There more than three hundred competitors took part in the event. The place was especially built park trails for mountain biking. There were three disciplines - downhill, Fort - Cross Tarja. Downhill was individually cycling for 4 kms. Fort Cross is a relatively new discipline which is group format and elimination races. Competitors start in a group of four people simultaneously. The route is short with artificially made numerous jumps and kickers. Traja is a discipline in which cyclists pass extremely large and difficult hurdles with a series of jumps and spins, which requires almost superhuman balance and concentration. Obstacles are natural - large stones and logs, as well as artificial - drums, tractor tires, pallets, etc..This discipline has a lot in common with a moto trail.

Another famous cycling event associated with one active day is organized every year on "Vitosha" Mountain. It is one whole tour of the mountain - one hundred kilometers for 24 hours. The track consists of 8 control points, through which contestants have to pass, at the beginning and in the end of Bulgaria boulev.

1.2.1 Basic design requirements, standards, in terms of an "Objective Consumer"and an"Informed User".

- Socio-user Address (the connection between the product and the user)
The main task of this project is to attract as many people as possible. The reason of organizing such kind of events is to popularize them and to inform the society.

What does it mean an "Objective Consumer"

"An Objective Consumer" is the average citizen who does not expect anything special from the advertising campaign. The product is intended for wide range of consumers, who are not limited by age, gender, social status etc. On the contrary it is supposed to be as massive as possible.

The objective consumers are the people, who want the information for a product to be easy presented, not too complicated and demanding. The objective consumer would be satisfied by interesting and attractive adverts. What does it mean an "Informed User"

"Informed Users" are those people who expect good and qualified design, attractive products, special advertising campaigns which have an idea. And mainly this idea is presented in smart and attractive way.

Example:
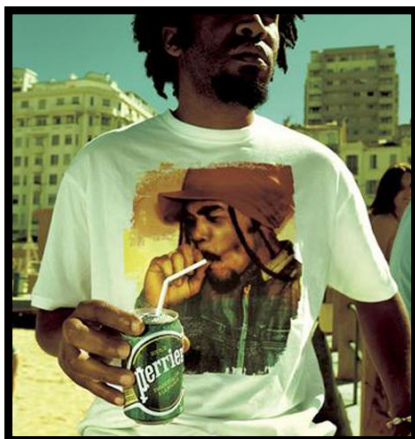
On both pictures you can see that the advertisements are intended to reach wide range of consumers. These are the advertisements of water, the main message is clear and it is quite attractive.

- Functional and Performance requirements of the product (safety, services, availability)
What is the purpose of one product, one event or one campaign? The answer to this question is extremely important in order to be able to prepare a proper advertising campaign. The design of such advertisements must be affective and clear.

There are difference between those two kinds of users – the "Objective Consumer" and the "Informed User":
As far as the "Objective Consumer" is concerned – the requirements of the product is to be comfortable, easy for use. All safety requirements should be kept, it has to be produced in such way that won't endanger the health of its future users. There must not been any danger sharpen stabs. The drawings, colours and paintings must not be danger for the skin.

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The design of the product's cover, the design of the advertisement of the product or the design of the products' user manual has to be mainly clear not too colourful, with legible fonts and clear readable and understandable message.

An "Informed User" would like some different not typical materials. For example materials that are pleasant for touching, that have an interesting vision without harmful coatings, which can endanger the user and manufacturer. It is very important if they can be recycled and harmless for the environment. The exploitation of a product must be for the long period. During the process of producing the product, it is necessary to think about the shape, size and how to be produced with minimum resources. The colours,that we used must be chosen, in a way not to irritate the consumers.

For instance:

This example shows a wooden postcard, which have an original idea and attractive vision.

- Human features-ergonomics and anthropometry requirements

When it comes to the "Objective Consumer":
The construction of the advertisements must be made for easy use, and to be for all ages. It has to provide an operative comfort without sharpen borders and dangerous areas. The dimensions are extremely important, they must comply with the anthropometric requirements. Consumers must have possibility to operate easily with the product. The size of the object and text of the information must be easy for understanding. The colours should not irritate the eye.
When it comes to the "Informed User":
The product must be designed according to the target group. The device, or the advertising billboards, posters and items must be compact, easy for transport if necessary and with the possibility easy usage. The structure must be strong, but ergonomic and technologically feasible.

Examples:
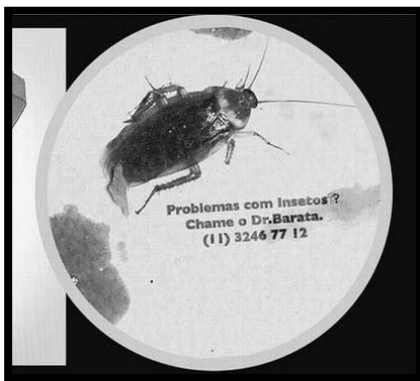
This advertisement campaign is one of the worst advertising campaigns ever. It is not made professionally, unclear font and text; instead of this it is difficult to understand the meaning.

- Environmental friendly
In order to be environmental friendly and to satisfy the "Objective Consumer" it is highly important to be sensitive with the material used. The environment must not be polluted. The materials are supposed to be recycled or reused.
"Informed user": The production of advertising materials is connected with the usage of a lot of energy and resources. Such as paper, electricity, water, chemicals etc. The paper is the most popular material, because it's cheap and can be recycled. The water also can be reused, but the most important is to inform the user that our product is environmental friendly or so called "ecological".

Example:

This example is part of one report, named: "Recycling of paper - a second chance for the forest" - foundation „ The earth and people"

- Selection of materials and technology
"Objective consumer": The product must be built by materials, which are stable and make it durable. The graphic part must be clear and easy for correspondence. The construction should not be heavy, on the other hand it's necessary to be easy for producing. Technology - the technological method that is used should not to be harmful for the environment and the people.
"Informed user": Technology and construction are important part of the process of producing. This is a symbiosis between form, function and operation. It is good to use standard sizes, which are easier to facilitate production. If a client wants more special materials, it would increase the price of the product.
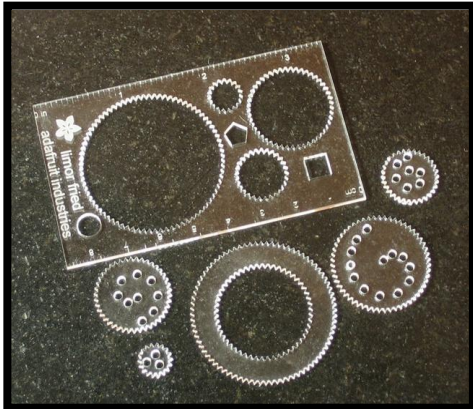
Example:

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These are the not standard visit card, which are made from paper. The technology is connected with special cut and bend, which don't increase the price. But the vision is more attractive, if we compare it to the sample design of the visit card.
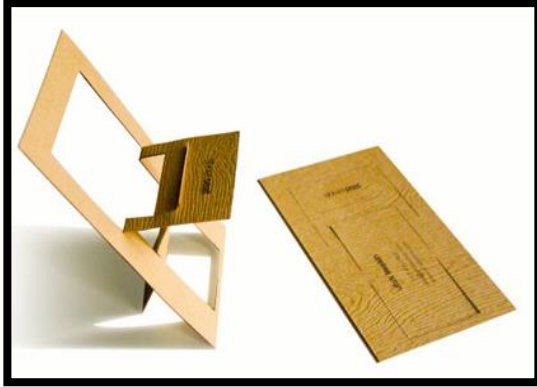
This example show attractive vision of visit card with interesting form and fitting.

This business card is built by Plexiglas. The technology is easy, laser machine is used – which is more expensive but is very attractive.

- Surfaces

"Objective Consumer": The coating and additional vanish must be pleasant for touching and it should not leave a trace after touching. They can be smooth or rough, but their roughness must not be unpleasant and dangerous.

"Informed User": While preparing the project for business cards one must think about different thinks – quality, deadlines… The print must be of good quality.
It is important to choose the right place for the advertisements, posters – whether to be outside or inside of a shop or place. In case we decide to put it outside, we should consider using more protections coats. For example, the ground floor stickers on supermarkets, posters on the streets, billboards on the highways and etc. The coating is put to protect the vision. They can be mate or gloss. But the gloss has to be a little because if we overuse it, it can be difficult for reading and understanding.
During this project we will have different materials for using – mate, gloss coating and protecting UV.

Example:

This is the example of the mate material for business card. This is the example for flayer made by gloss material

- Mnemonics (clear knowledge of the use, maintenance, safety)

"Objective Consumer":
Mnemonic is an art, which is connected with the technique for memorizing the information. The consumers would like the advertisements to be clear and understanding in order to memorize the new information they were provided.

"Informed User": A mnemonic device is a mind memory and learning aid. Commonly, mnemonics are verbal such as a very short poem or a special word used to help a person remember something but may be visual, kinesthetic or auditory. Mnemonics rely on associations between easy to remember constructs which can be related back to the data that is to be remembered. This is based on the principle that the human mind much more easily remembers spatial, personal, surprising, sexual, humorous or otherwise meaningful information than arbitrary sequences. Mnemonics in antiquity were most often considered in the context of what is today known as the Art of Memory.

The major assumption in antiquity was that there are two sorts of memory: the "natural" memory and the "artificial" memory. The former is inborn and is the one that everyone uses every day. The latter is trained through learning and practicing a variety of mnemonic techniques. It can also be used to perform feats of memory that are quite extraordinary or impossible to carry out using the natural memory alone.

Mnemonic takes the main part in advertisement campaign. The ability to create associative sense to consumers, so when they see a company logo or reserved style to think immediately of any firm in mind. Before developing the design conception, you have to think about the connection between advertisement and activities of the company. This can be created by special colors, signs, pictures and clear style.

Example:

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This is very popular logo all over the world. It have unique fort and reserved color. Everyone can recognize it and connect it with the company and their activities.

- Knowledge of the color-functional information, safety, accordance with the ethnography
"Objective Consumer": The colours are every important part of presenting each product. This element intrigues the consumers. They can present the meaning of the product, that they can make a connection between the type and the materials that were used. It is nice your product to be colorful but somehow limited.
"Informed User": The colour is the visual perceptual property corresponding in humans the categories called red, green, blue and others. Colour derives from the spectrum of light interacting in the eye with the spectral sensitivities of thelight receptors. Colour categories and physical specifications of colour are also associated with objects, materials, light sources, etc., based on their physical properties such as light absorption, reflection, or emission spectra. By defining a colour space, colours can be identified numerically by their coordinates.These physical or psychological quantifications of colour, however, do not fully explain the psychophysical perception of colour appearance. The science of colour is sometimes called chromatics. It includes the perception of colour by the human eye and brain, the origin of color in materials, colour theory in art.

In this case the colour tonality must be connected with the colours of the products or the firm characterization. They must be in the harmony with the firm style.

Example:
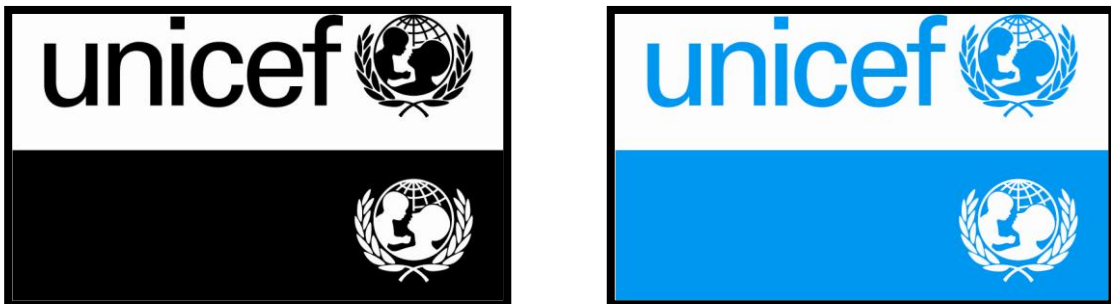
These logos are very famous, they are built using only white and blue colors. And they are produced for the general public.

1.2.2. Additional requirements for the design in terms of open-minded and informed consumer.
- Package-depends on the exploitation (resistance, protection, graphic standards and readability)
This project isn't connected with developing an exploitation package. The advertisement materials will be placed in a container after leaving the production facilities. It will be single cycle and will serve to protect the materials in their design.

Example:
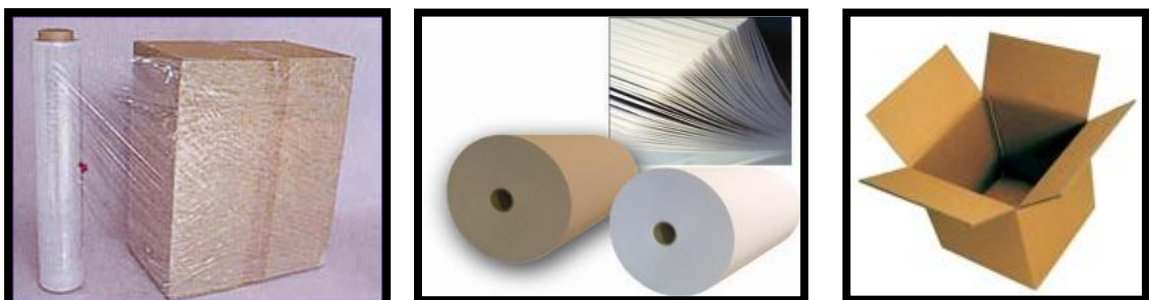
Temporary package for promotional materials after they leave the facility may be wrapped stretch film (shown in first photo), or kill with a single molded corrugated cardboard (shown in second picture) or to put in a box made of three-ply cardboard.

1.2.3. Recommended design requirements in term of open-minded and informed consumer

"Objective Consumer": The forms that we think to use must be simple and easy for use. There must be a connection between advertisement materials and the company policy and purpose.

"Informed Consumer": While designing these products it is necessary the used elements to be in one style. It is better if we use different forms but from the same category, because they must be in balance and harmony. The products must have attractive images so the clients would like to buy it.

Example:

You can see the company style, presented by simple but attractive elements.

- Knowledge of colour – colour environment, psycho-emotional impact of working and the environment that we work in.

"Objective Consumer": People receive sensory emotional impact of various colors, tones and shades, shadows and glare, but everyone sees, feels and reproduces in different ways. The user perceives the outside world and even in colour may itself create new routines and combinations. For example, when they see the bright red colour in the minds of the people arises a danger signal, and light blue shades are associated with air and lightness. Green is associated with a sense of nature and ecology. In our case, suggesting the colors for the advertised product or event and they must be associatively linked.

"Informed Consumer": The different colours influence in a different way to the psychological state of mind of the customers and to their mood. According to the researches made every colour has its own symbolic. So when we have to choose the colour we should take in consideration its purpose. The colour depends on the target groups and to the age of the target group and also their social status. Choosing the right colour give us the opportunity to influence on the consumer auditory. The colours should be well balanced and harmonic.

Examples:

Above you can see adverts of „ UNITED COLORS OF BENETTON". The marketing strategy is aimed to the young generation . This is the reason why so many bright colours are used. In this way they are connected to the target group, to the company's symbolic and to the company's history.

- Mnemonics / are- esthetic qualities, combination of graphic symbols and printer types /
"Objective Consumer": The consumers need clear and easy to understand signs. The main purpose of the advertise has to be visible also the company organizer or producer. All the used symbols have to be from one style only.
"Informed Consumer": The symbols are to be easy for reading and recognition without any unnecessary details. The signs are to be well known by the consumers, so that the associative filling could be easily done. The information is not to confuse the consumers, but to be understood easily and push them to action.

Example:

In the originally presented advertisement can be seen clear connection between the product and the symbolism of the advertisement. Thus the consumer could understand what the company is doing easily.

-Covers and surfaces /art- esthetic qualities and characteristics for improve of technological imperfections /
"Objective Consumer": The covers and the materials which could be used in the product have to be pleasant to touch – with smooth surfaces and if there are some relief parts they have to be not to visible and/or intrusive. Everything has to be in proportions so that comfort could be created. The product has to be easy for cleaning. In our case the materials of the product have to be esthetically approved, pleasant to touch, easy for technological processing and easy for maintenance.
"Informed Consumer": The materials we choose for the project of the product are with the required technical characteristics, so that the quality and reliability are quarantined. They are easy for technical processing, they are pleasant to touch and easy for maintenance. The surface parts have to give us clues for the purpose of this part of the product. If there are hidden visual zones, the project has to be done thus so their existence is to be known and their purpose understand. The most common used materials are paper (gloss and mat with different weight, definite relief and structure), PVC foil, plexiglass, polystirol – they are all high quality materials often used in the advertisements and in people homes. In our case some of the products will be exposed to outside influence – sun, moisture, temperature changes, so they have to be protected by using different varnish cover.

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Examples:

For the example are shown business cards with different relief and surface: gloss and mat paper for different visual effect.

-Packing / art- esthetic qualities when choosing graphical symbols, author printing and calligraphy and advertising presentation of the product /- The packing is very important stage from the design of the product. It has several dimensions: art- esthetical and practical. The esthetical dimension is connected with the final shape of the product. In the first moment when the consumer see the product, when the product is with good packing – appropriate colour solutions have deen used, as well as appropriate materials and stylish vision – then his attitude towards the product will improve. In most cases the packing is selling the product. It is possible for the company producer to do its own packing, which to use in the production carrying the company identity.

Another aspect of the packing is the product preservation and easy transportation. In our project the packing will be used for preservation of the product during its transportation. It wont have the esthetic and presentational functions.

1.2.4/Program assignment.
1 Basic design requirements.
- **Social-consumer address**
  There is not another analog
  Age borders from 7 to 90.
  Special technical skills are not required
  Without sex limitations, social lifestyle, esthetic, religious and sex belongings.
- *Functional- exploitation requirements*
  - Safety
  Safety usage
  Smooth surfaces without sharp edges
  Use of special paints, allergy free
  - Service
  Easy to use
  Standard size and shape easy for transportation, conservation and visual spreading.
  Long exploitation period
  - Service suitability
  Possibility for easy change of spare parts
  Clear visualization of the necessary information
- *People characteristics*
  Easy visual understanding

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Easy for reading and understanding
Universal
- *Ergonomic – anthropometric requirements*
Shape solidity
Dimension sizes compared with P50 women and P50 man;
Without sharp edges.
- *Ecological adaptation*
Eco production;
Usage of recycled paper;
Harmless paints;
Constructional- technological
Easy for execution
Project design through sketches and after that with graphic programs
Realization of the product through offset printing, plotter, laser and other
Materials- easy for processing
Maximal exploitations of the materials
Covers and surfaces
Easy for cleaning;
No harmful substances;
Gloss or mat;
Relief or smoothness
Mnemonic
Easy to read symbols and signs
Attractive
Easy to remember
Semiotic
Expressive graphic style
Signs for easy exploitation
Coloristic
Pastel colors
Correspondence to the company vision, market segment
Pleasant to look at

2. Additional design requirements
- *Exploitation packing*
Recyclable;
Protection of the product
Superb graphic project
Low prime cost

- The synthesis of the basic and the additional design requirements is to be done for meeting the optimal product design.

3. Recommended requirements for design
Artistic – esthetic shaping
Plastic – variation solution for a better visual perception
Decoration –additional presentation of advertising style of company promote this product
Style differentiation – adopted to the corporate style of the advertised products.
Coloristica

Coluor climate –saturated and bright colors, cheerfully active and stimulating
Contrast between background and main elements
To attract attention
Not to have different colors which can smear the eyes of the consumer.

☐ *Mnemonics*
Symbols have to be clear and easily legible
Stylistic unity
Fast memorizing
Cause not confusion

☐ *Covers and surfaces*
The coating makes the technology operations more easily and improving the life of the products

☐ *Packing*
Artistic and athletics main graphic symbols
Advertising presentation of the products
- Synthesis of the main, recommended additional requirements in the form of keywords. In order to produce a good product, the following things are required: - attractive design - easy opportunity for technological performance - low cost - high quality construction and reliable performance.
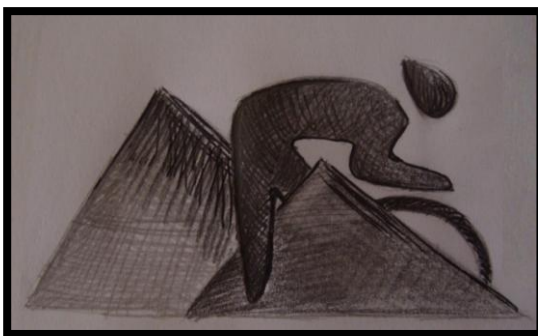
- 1.3. Design concept by:
Sketches and drawing variations are presented by three different groups, depending on the products: advertising logo, series of poster, flyer, special form of participation, advertising T-shirt, bracelet, stickers, prize for the winner
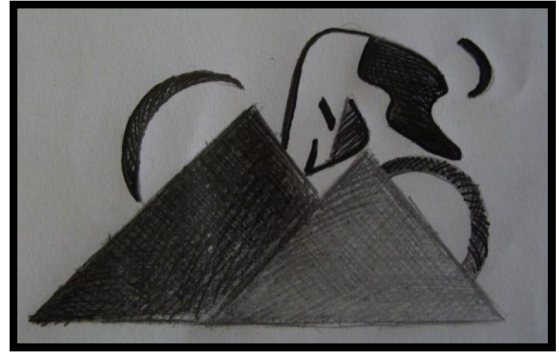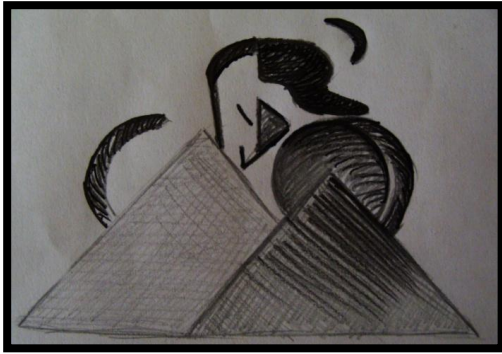
- Drawing variations
- Sketches

Developing of the advertising logo – several versions:

Variant 1:

The main idea is to use the special pictograms of the person who is riding a bicycle, which is combined with the mountain hills. There is an idea implemented, but the symbols are not very clear – the mountain picks look like geometrical triangles.
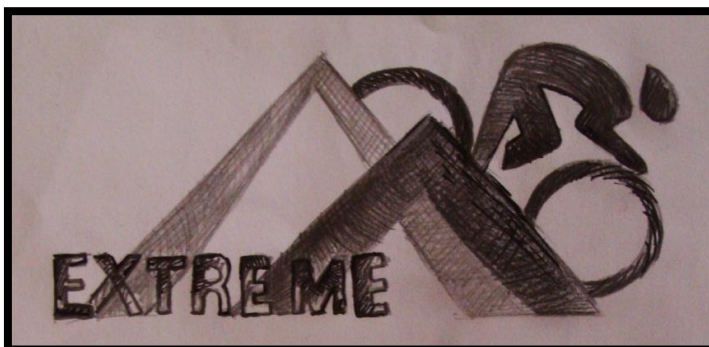
19

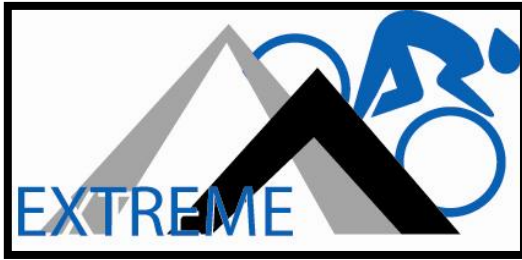Variant 2:

Graphic colorful variants:

There is again a search of symbolic between the person with the bike and the mountain hills, and in this version the person is divided into parts, and the main idea is presented by the movement. Still there is no clear imagination and symbolism.

Variant 3:

Graphic colourful alternate designs:

In those different versions a variant which will be somewhere between the pictogram with mountain hills and the text information is needed. This information makes clear the basic ideas of this activity day but the used font is not appropriate.

Variation 4:
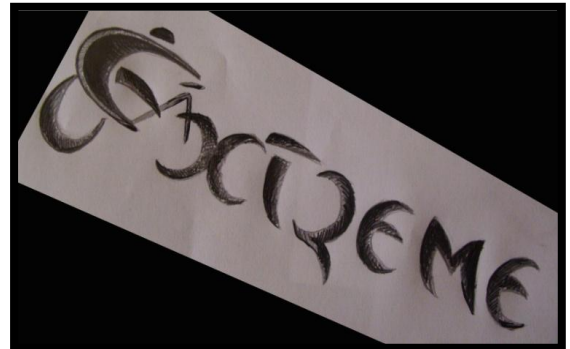

Graphic colourful variant:

In this variant the elements of the mountain hills disappeared. Only man with the wheel symbol of the event add elements such as semi circle symbol on the wheel and the circumference of the mountain. The font is changed and the current one is more appropriate. With this elements the advertising logo starts look like as if it's divided into different parts.

Variation 5:

In this variation there is a better symbolic and more original ideas. From those three samples: 1- is not appropriate, because the characteristics of the man and the first two letter do not have anything in common with the font of the rest letters; 2 – there is a harmony between the rider and the original letters; 3 – similar to the second sample, but the letters 'I' and 'R' are not acceptable, the title looks too , split.

Variations of the graphic colours:

From those samples, the second one - 2 (sample) will be developed.

22

Colours:

The main colours will be: green and grey.

Variant 1: it is created using the grey colour, but in this way it looks too dark and conservative

Variant 2: grey and green colours are used. It is not very good decision for the final look of the logo. The usage of two colours splits the shape into two parts: the first part is the man and the bicycle and the second one is the rest of the text, this way the letter „x" looks divided.

Variant 3: Again the main used colours are green and grey, there is more green than grey. But this sample is also not good because it again leaves the impression of dividing the logo.

Variant 4 : this variant is the most balanced one, due to the green colour the man is highlined and at the same time it doesn't split the whole shape.

Variant 4 is the final variant.
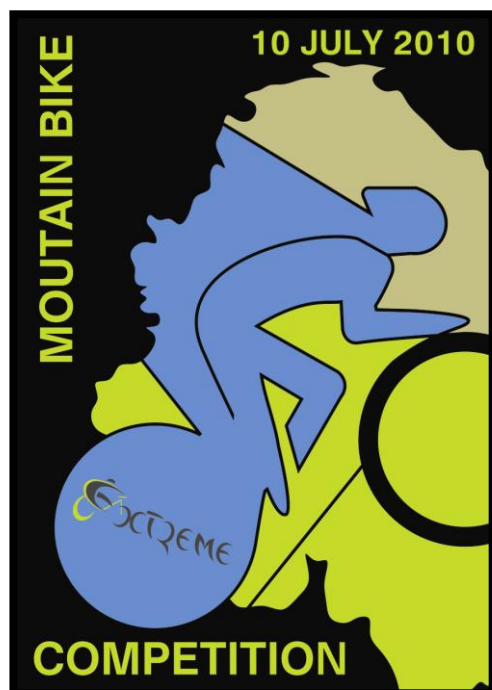

Only outlines:

Logo negative:

Logo positive:

24

Series of posters: first ideas and variants:

Poster 1:

Variant 1:
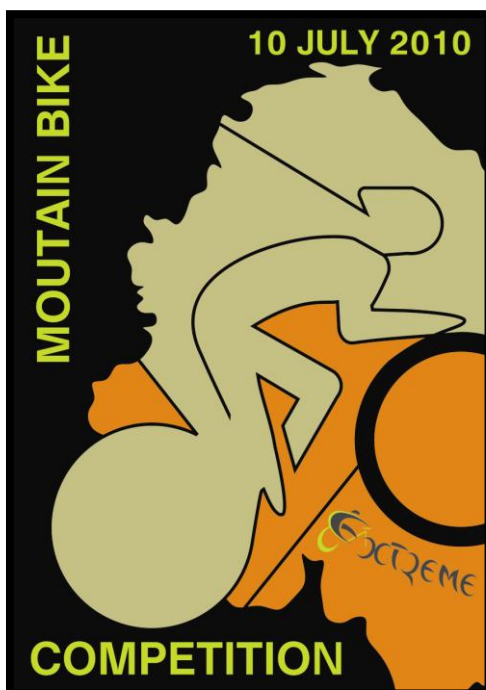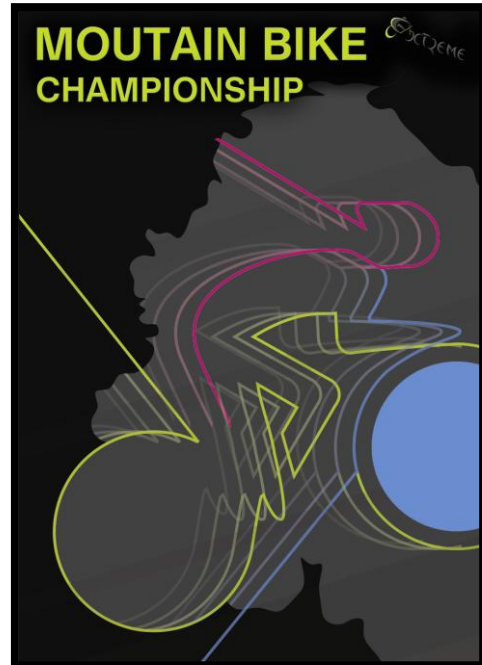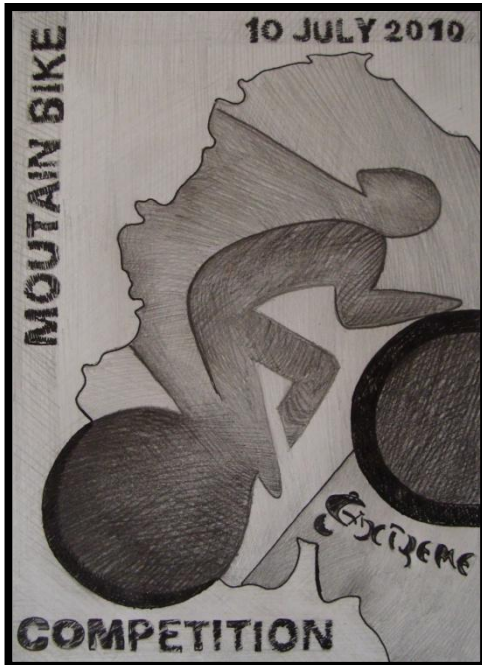
This variant relies on the compilation between the rider, made by 3 main lines and the map of the trace. The poster has good idea, but again the lines split the shape.

25

Variant 2:

The idea of this poster is to show the Mountain bike.

Two riders are drawn and the accent is that the slopes are steep and other accent is the special mountain tires. The disadvantage is the changed font doesn't look well and its' illegible.

Possible variants:

1:

2:

3:      Variant 3 is the final variant for a poster 1. This time the font is not so compressed and it is easier for reading it. The letters 'O' are 'M' са вплетени една в друга. Variant 2 is not very appropriate as well, because there are too many images and the attention cannot be focuse on one.

Poster 2:

Variant 1:

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The idea of this poster is to show the start of the competition. There is a good a idea and it is quite attractive, but the letters and the pictograms make the poster look too conservative. There is no dynamic. The logo is not appropriate, it is deformed. The accent is on the logos of the sponsors but not on the logos of the event.

Variant 2

The idea in this variant is to show the beginning of the competition, the "big start" and again the mountain bike is in the foreground, the special tires. Disadvantages: the poster is too static. There is n dynamic. The logo is not very legible.

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Varinat 3: This poster is supposed to show the dynamic of the race. There are two competitors in different situations.

The final chosen variant for poster 2 is variant 3. In comparison to the others variants this variant definitely shows dynamic and it looks more active. The configuration is more interesting

Variations:

1 Variant:

2 Variant:

3 Variant:

Poster 3: This poster must show the route of the riders.

From those variants, the second looks better and this is the final chosen variant. It is the most interesting. There is a good combination between the white background and the white parts of the bike. The text is bight enough and easy for reading.
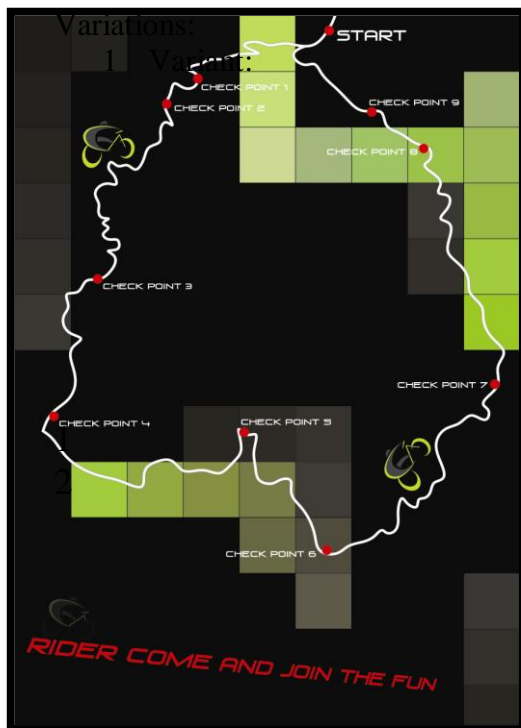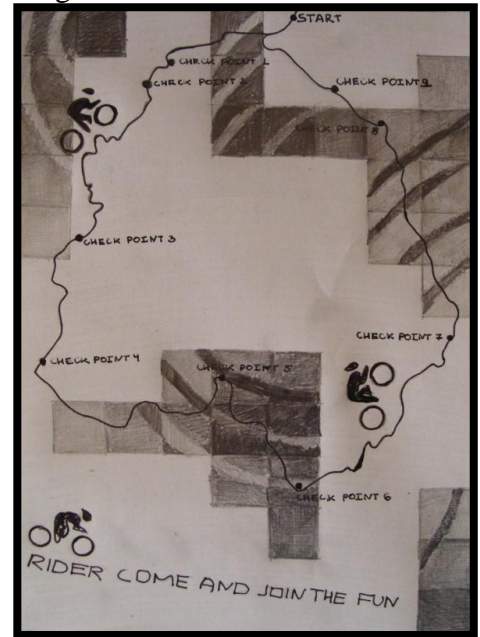
This sample shows the route and its 9 check points and each of them is named. There are elements from the logo used that must show that this is the right road. It is an interesting attitude but the square shapes issued in the background are not in the same style as the others elements in the poster. The used element from the logo which shows a rider who passes the route is not very good.

30
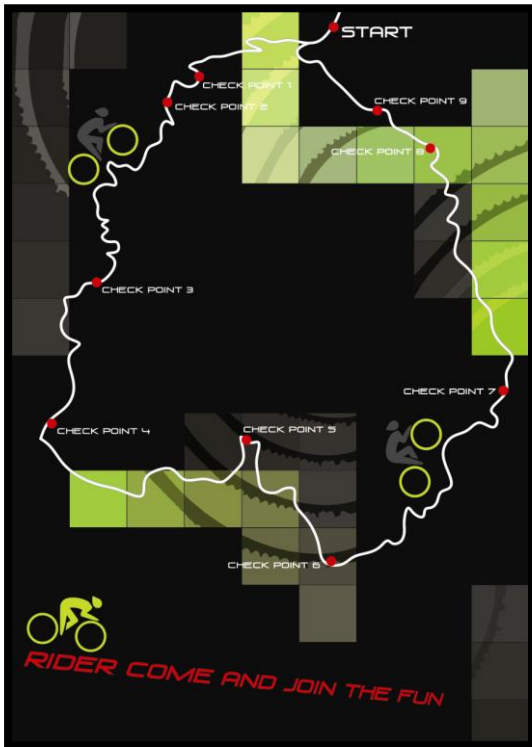
2 Variant:

In the second variant a better background can be seen. Traces from mountain tires are been used. These traces and prints change the conservative outlook. There are no elements from the logo anymore, but some new pictograms appear. These pictograms show that this is the right road.

Advertisement leaflet:

Variant 1:

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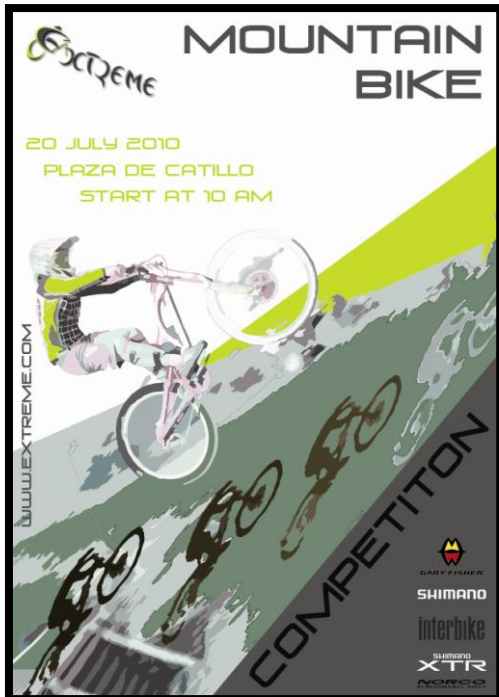
This is leaflet with two faces. The information is presented clear and brief for the possible consumer. There is a good color decision. There is a style connection with the other advertisement materials for the event. From financial point of view the brochure could be with only one face in order to implement cost cutting.

Variant 2: one face brochure.

The main purpose of this brochure is low cost of production. The idea is interesting. The information is presented clear and brief to the possible consumer.

For final variant is chosen variant 2.

Blank for participation in the race:

It consists of all needed information for the participants.

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Advertisement t-shirts – developed variants:

Variant 1:

The idea introduced in this variant is to be created a universal t-shirt for every age. It is good to be unisex. The main information for the participants is ready: the logo of the event and web page for additional information. In spite of this a simple t-shirt would be also good idea for this sport event.

Variant 2:

This sample has the same idea, but the colour is black. The black colour is not very proper for an outdoor activity, which takes place in the summer. On the other hand black is popular enough. Still there will be a lot people who are not keen on black, it is not the most massive colour.

Variant 1 is the best and will be the final variant.

Bracelet:

Sample 1:

It is an interesting sample of bracelet but it is a little bit too chaotic. There is too much information. The colours and the design are not connected to the other advertising items.

Sample 2:

This variant is better as the style is kept. The colours are well combined. There is no extra information.

As final variant we will choose the second one (Sample 2).

Stickers

Variant 1:

The design in this variant is simple. There is just the logo and the web page for more information. There is no other information needed. It is easy for creating.

Variant 2:

This sticker has the same basic information. The design is based on square shapes. But these shapes are not in harmony with the design of the rest items.
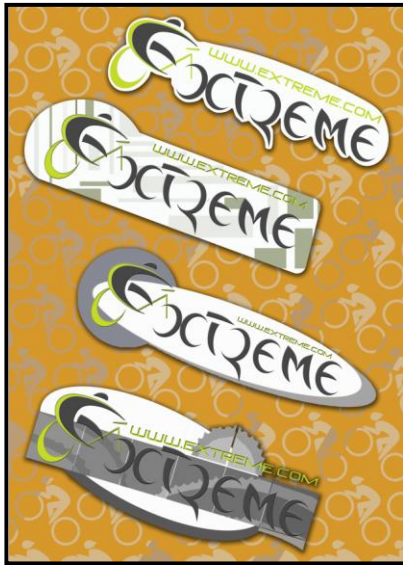
Variant 3:

This alternate design expresses symbolic which is not connected with the event.

Variant 4:

This sticker consists of too many elements having different style.

From those alternate designs, we choose the fist design.

Price:

While designing the price it was considered the social factor towards the essence of the competition.

1.3.1 Ergonomic research. Work ergonomic project.
Anthropometric indicator:

- Ethno- geographic specifications – the products are aimed for customers from the whole world. The advertisement products are to be in accordance with the anthropometric indicators of the customers. The anthropometric characteristics of the population are presented with the method of the percentiles. (P). They are examine in the border from P5 to P95 – P25, P50, P75, P95 while the most used is P5 and P95. During the design of this products must be created easiness to use so that 90% of the customers (P5 women and P95 man) are to pleased while using it.

- Nationality – its not aimed towards certain type of customers. The products are aimed for the Bulgarian market, but they will be translated also in English which will allow to customers from all over the world to participate in the competition.

-Sex – there is no limitation for usage.

- Age – because of the competition character – the customer's group could be people from 7 to 90 years.

- Percentile – the product is designed to be according the anthropometric and physical characteristics of customers P5 women up to P95 men.

· Work application – the main work applications which will be used are: taking, holding, passing, reading. Most used will be the eyes and the hands.

Main work applications:
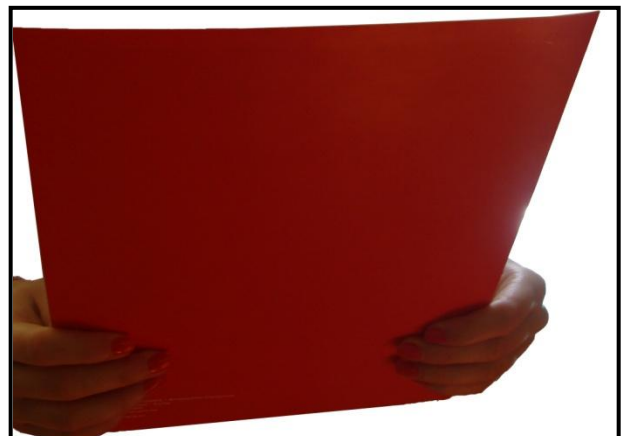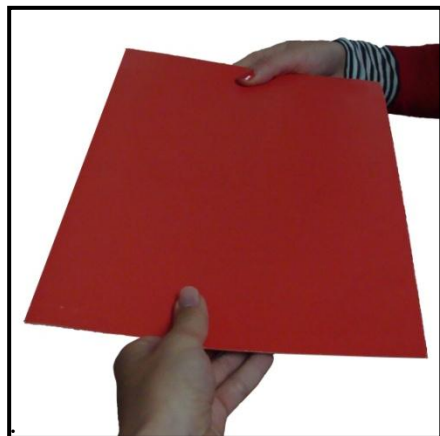
Dimensions of the human body – must be considered the anthropometric data in the diapason from P5 women to P95 men in both static and dynamic conditions. The main moments during the design of the advertisement materials are their size and the customer's hands dimensions.
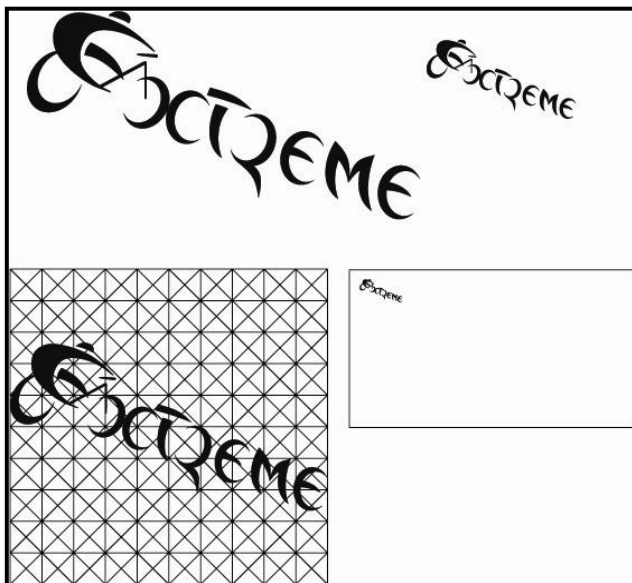
Ergonomic research of the advertisement logo – easy to read and clear correspondence no matter the size of the advertisement materials.

38
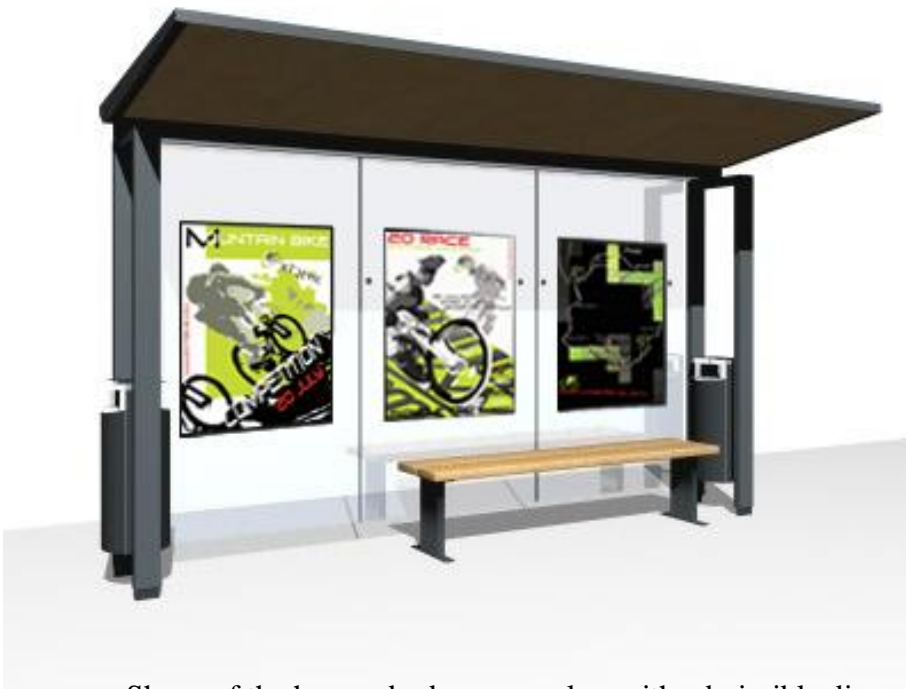
-Shape of the human body – normal or with admissible diversion from the normal. The products are design for a large circle of customers. Direct correspondences with the human body have the t-shirts and the bracelets.

 - Weight with the human body - the products (posters, brochures, logo, stickers and etc.) could be used from every type of customers with normal and over weight. While choosing the size of the t-shirts will be used standard sizes: XS, S, M, L, XL to cover the whole range of the possible participants.

	XXS	XS	S	M	L	XL	2XL	3XL
Chest (inches)	29-31	30-32	34-36	38-40	42-44	46-48	48-50	50-52
Waist (inches)	27-29	28-30	30-32	32-33	33-34	36-38	40-42	44-48

Bracelet: The standard bracelet sizes for men and women are: 7 inches for women, and 8 inches for men, each depending on the style and manufacturer. But as for everything else, there are exceptions and sometimes the standard bracelet sizes for men and women don't always fit the right way. Some wrists are too small or large to be comfortably adorned with these sizes.
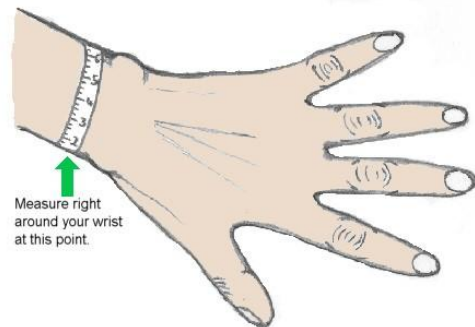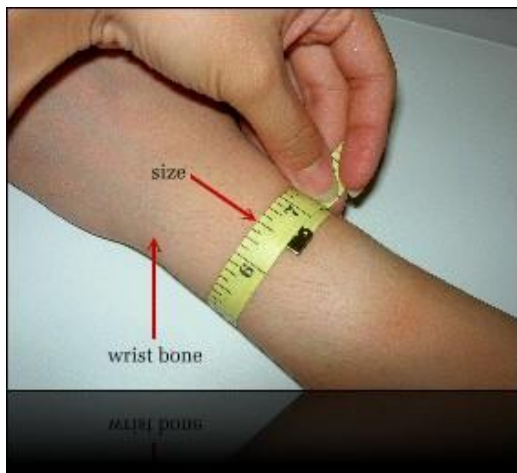
Women's Bracelet/Anklet Size Guide

Size	Bracelet	Anklets
Small	5.5"-6.5	7.5"-8.5"
Medium	6.5"-7.5"	8.5"-9.5"
Large	7.5"-8.5"	9.5"-10.5"
x-Large	8.5"-9.5"	10.5"-11.5"

1 (inch) = 25,4mm.

-Work zones of the motor organs.
View zone – in the process of usage with the constructive elements of the product very important is taking in consider the optimal view zone. The view zones usually are in the zones of vertical and horizontal level:
- Optimal view zone 15◦
- Normal view zone 30◦
- Maximal view zone 60◦
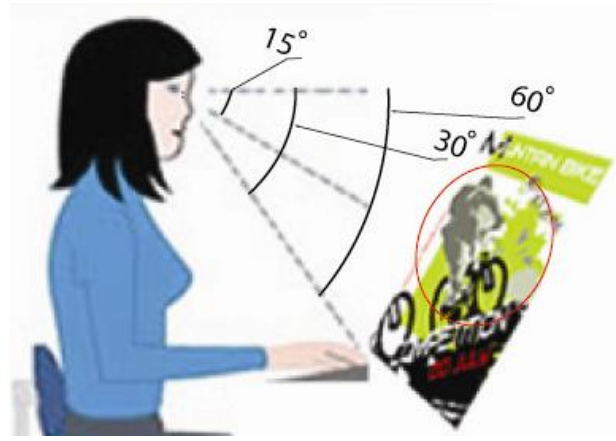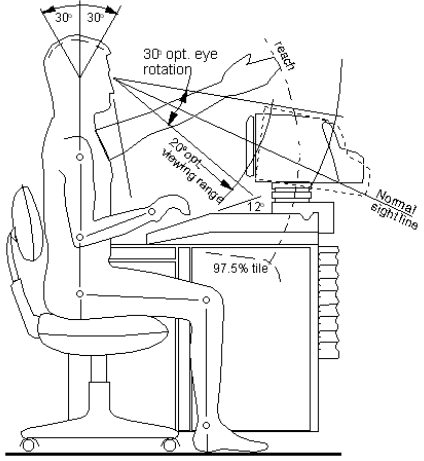
Clear vision zones (15,30, 60◦)

Optimal distance – 50/60мм.

Towards P5 women

Towards P95 man
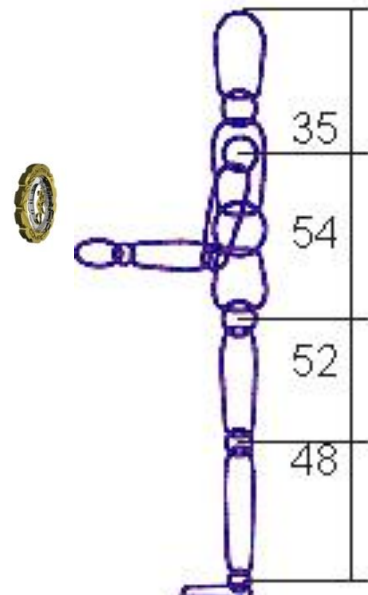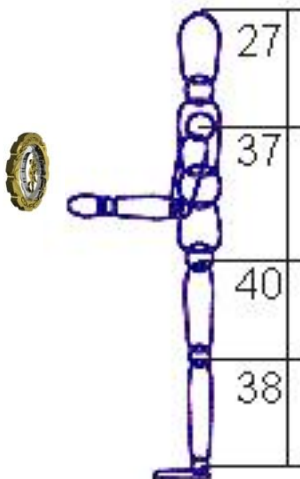
Hygiene indicators

- Noise – this products do not produce any noise.
- Vibration - this products do not produce any vibrations.
- Temperature – this product do not emit any temperature by itself.
- Radiation – the product is not radioactive.
- Toxicity – the toxic materials could be found in the colors and varnishes during the production stage. But the final product is not toxic.
- Ventilation – Only considered in the production stage.
- The atmosphere pressure – without relation to the product.
- Humidity – main problem for the materials. The product could be deformed.
- Contamination level – The material is not harmful to the environment. The materials should be recyclable.
- Light – the objects on the materials should be design so that to be visible no matter the light quantity or the light source (natural or artificial).
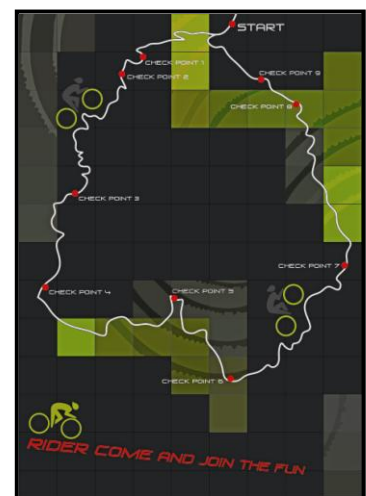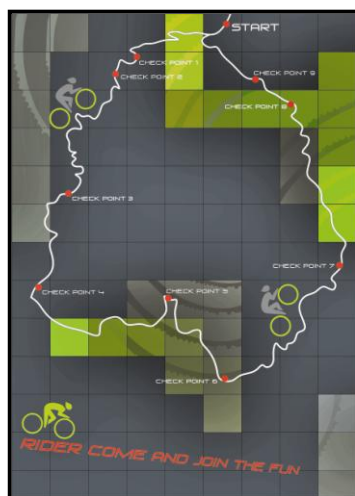
Physiological indicators
- Force – the materials are light so they could be used even from the users P5 women.
- Speed – not related
- Energy – not related

Psycho- physiological indicators

- Visual –through the eye man perceive more then 80% from the information in the surrounding world. In the design of the product this is one of the most important criteria.
- Acoustic – not related.
- Perceptive – the shape and the materials are to be pleasant to touch and not harmful for the health.
- Olfactory – not related.
- Gustatory – not related.

Psychological indicators

- Type of service / constant, periodical/ the life of the product is till the end of the competition. The logo could be used also for future events. Attending personal – not necessary qualification, not additional skills or knowledge is required.
- Attention – main purpose of the product is to attract attention.
- Concentration – not needed special concentration while using the product.
- Thinking – easy to use not necessary special thinking activity.
- Remembering – easy to remember product. This is put on the design stage.
- Knowledge- not necessary special knowledge.
- Skills- not necessary special skills
-Qualification- not necessary special qualification

Reading the function of the human reflexes both conditional and unconditional
- Relation between learned and conditional – the user could easy receive and the learn information in the materials. The learned information could be used to participate in the event.

1.3.2. Project Design (materialization)

Composition decision based on the following functions:
- Learning: Stile unity of all advertisement materials for the event. Every material is connected with the others. The logo could be seen on all of the materials.

- Silhouette entirety: The Silhouette entirety of the products must be simple, but to show us the modern designer approaches. Simple shape and attractive vision.

The advertisement logo: Silhouette entirety, original and easy to read. At forst glance the "E" letter looks like human riding a bike, which is connected with the idea of the event.

The letters themselves have the same style characteristic.

-Hierarchical connection of the main components and elements. The hierarchical connection is made to ease the usage of all the materials for the users.

Logo:

The logo could be divided in two parts:

1-the biker represented with green and grey which associatively show us the nature of the event

2- the sign which is one entirety with the biker and also show us the nature if the event.

The two parts are competing for attention, but the biker goes first.

Posters:

Poster 1: In front is the biker going up the hill. This image is competing with the advertisement text and in the back is the logo. At second view at the poster we can see the bike tire it directs us towards the competitive character of the event.

Poster 2: In front are the bikers and the competition information, in the back plan are the start, the logos and the web page of the organization.

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Poster 3: Trace plan is shown with the main points marked on it. As additional information are the text signatures and the biker pictogram. In the back plane there are many square shapes and bike tires races.

Flaer
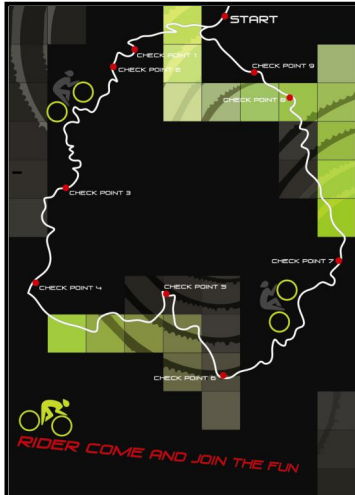
Brochure:
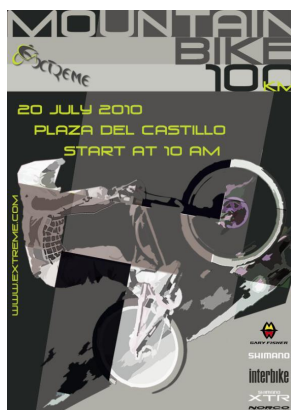
In the front is the information for the competition and its character. In the back are the biker picture and the sponsor's logos.

- Application of the main group and color contrasts.
To make the right statement we have used the following contrasts: big-small, light-dark, structure-smooth, center- periphery, bright colors.

Style adaptation and company style
- Style condition- It is an author conception based on modern style. It represents the company style, which represent the company on the market and which could be distinguished by its customers. In our advertisement campaign we have used one style for all the materials which is easy to read. There are repeating elements and common characteristics for all the posters, brochures, stickers, t-shirts and the price.

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1.3.3. Design /materialization/

- Tectonic in the connection between function and the chosen and applied shape categories and materials. The main shape category which is used is differentiation. The materials could be place din the category direction- anti direction. The logo show us motion. The vision of the advertisement materials also show us motion, dynamic and sport.

- Application of the main plastic situations: In the price design are used two plastic categories: two surfaces with variety of the angles and smooth transition between different sections.
- Modality – The modality is connected only with the production of the materials.
- Total print – The product is designed with the possibility for a batch production. Its simple shape and technological production and prime cost.

1.3.4. Graphic and color design

- Chose of color with definition of function, mnemonic and psycho- emotional effect:
The red color: a wide range of associations – impulse, dynamic, activeness. Thus is the reason most of the important information in some of the materials to be in red color. It not only underlines the important information but also inspire the users for action.
The green color: this is a positive color in most of the cases. Its psychological symbolism is nature, grow, relax, health. This color is pleasant for the eyes. Thus is the reason the green color to be the most used in all the advertising materials.
The yellow color: psychological symbolism – joy, hope, philosophy, optimism. This is the firs color to be perceived by the human eye. It is used only in one of the posters – as the biker's pictogram.
Black color: it is used to tune up some objects and for background of some of the posters. It symbolizes revolt, sadness, dark. In our case we use it for contrast.
White color: symbol for glory, light, faith, piece. To the psychic level it could be sensed as silence. It is used as background of some of the materials mainly for contrast.
Grey color: symbol of all spiritual, truth, eternity. It keep the color balance of the composition between the black and the wait colors.
- Expressing functions and command organs with the mnemonic principals

The logo is made of two parts. The letter "E" participate in the logo as an element from the biker and in the same time as a letter from the word "ETREME".

The biker's size is larger but the letter's size is the same so thus the image and the topography are in balance. The symbolism is clear and easy to understand by the users. Associative connection between the logo and nature of the event is at hand.
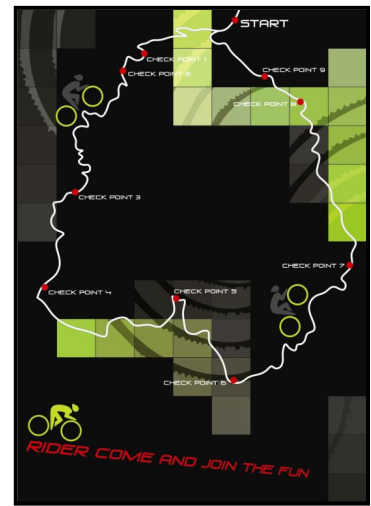
The posters are also designed based on the hierarchy:

The first poster: the attention is attracted by the biker going up the hill. Underneath is the text information for the event, which is not full for the moment, the logo and the web page of the organization. Thus the user could see all the information without loosing focus. The poster is easy to understand and to remember, because as for the logo are used associative shapes connected with the organization activities.

The second poster: the attention is attracted by the biker at the start, which is biggest object on the poster. The text information comes next, which in this poster is more detailed. In the background are the logo, the second biker silhouette and the sponsor's logos. All the objects are different at shapes, contrast and position.

The third poster: the attention is attracted by the white line, which represents the race track, together with the check points after which the attention is drawn towards the poster's motto and the pictograms of the biker. The simple composition of poster allows easy understanding o the information by the users.

Brochure:

The hierarchy principal is at hand in the brochure. The attention is firstly attracted by the biker's image, and together with it to the head line of the brochure (the biggest text) after which comes the additional information, the logo.

The participation blank: taking in mind the characteristic of the advertisement the user's look stop mainly at the text placed as head line, after which to the text with the open boxes which he/she gave to fill and in the end towards the logo and the company information.

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T-shirt:

The user's look stop first to the pictogram of the biker with its dynamic, after which to the logo and the web page of the organization. The objects are presented in different sizes, colors and position.

Bracelet

The user's attention is attracted first to the motto and the pictogram of the biker and after that to the images in the background.

Sticker:

Attention to the logo of the organization as leading information after which is placed the web page.

Price:

The attention is attracted in the center of the price: the figures of the bikers and the transparent circle, after which the signatures could be see. The images are different at sizes, place, color, material and contrast.

1.3.5. Trade mark/Specific design – product for which all the above requirements are available/
The trade mark is: "A sign, capable to distinguish the products and the services of one person from the products and the services of other persons and that could be presented in graph". This place the fixed requirements towards the trade mark:
To be a sign, to have a distinguishing power, to be presented in graph.

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Eskubide guztiak erresalbatu dira

The trade mark is part of the marketing strategy. The aim of the present project is to prepare a logo, motto, advertising materials and thus to create a whole advertising campaign for a mountain bike competition. The creation of such a advertising campaign is not an easy task, because all of the different parts should be connected in one eternity and to be presented in new innovative way.

- Innovativeness – This is a key element for the advertisement campaign. The logo is different from the other used in the same sector. The posters, brochures and the rest of the advertisement materials are designed on the basis of images of bikers reflecting the nature of the event. All the elements are designed in one stile - visual communicative: capturing in them the adventure feeling of the race.

-Suggestiveness – The key for the fastest remembering is in hidden in the associations. The whole project is trying to create associations for motion, sport, maintain bike, nature etc.

- Alternatives /topography or image signs/ The Image signs are connected with the creation of the logo. The logo itself could be presented in many different ways – only by text, only sign or could be combination of them.

Only sign:

Sign and text:

- Harmony / slogan – this is the advertisement text/ It must not only be placed on central place, but also to be visually clear and with understandable meaning. In the series of posters every one has different information for the users. It starts with lightly directing the nature of the event, through the details up to the competition trace.
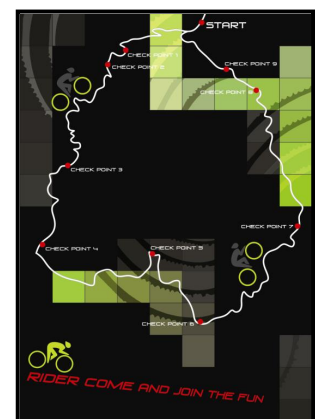
- Easy to remember – when the whole campaign is in one style it helps the users to remember it easily. The logo and the motto also train the user's memory.

- Communicativeness – it's important to be created communication between the different parts of the project. Thus all the different advertisement materials are becoming advertisement campaign.

- Graphic- plastic transfer – connected with transfer from two dimensional to three dimensional variant.

- Monochrome and color versions – the color versions should carry the color preferences of the company assignor.
For the final logo variant are chosen the colors: green and grey.

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- Total print – one series for the mass user.

1.3.6. Package

- Correspondence between package and contents: The designed product needs a package suitable for preservation and transport.
 - Materials – usually for this type of products are used the following materials: corrugated cardboard, stretch foil, foil or panelist.

 - corrugated cardboard

stretch foil

- Exploitation parameters –

The suggested dimensions are from 10 up to 30 microns

Roll width	Roll length
250мм	1500m
300мм	1500m
350мм	1500 m
400мм	1500m
450мм	1500m
500мм	1500m

- Firmness – The stretch foil is very firm material has a percent for extensiveness 150-300%.

- Ecological parameters – the package should be produced from recyclable materials.

- Total print – as the product.

2. 2. Work project

2.1 Construction and technologies
Production address:

- Total print (reproduction) – The posters will be printed in circulation of 15 000 each. They will be distributed in the whole capital. The brochure will be distributed at hand by a special trained employees around the city center, the circulation will be 50 000. The stickers, t-shirts, brecelets will be in circulation of 150 each, the prize – 5, participation blank 150.

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- Country producer - Bulgaria.

- Main sizes:
The poster's size is A3(297mm – 420mm), brochures (105 mm – 148 mm), participation blank A4 (210 mm - 297 mm), sticker (85 mm – 45 mm), bracalet (203 mm – 15 mm), t-shirt (XS,S,M,L,XL), prize (175 mm – 185 mm).

- Weight: The weight of the posters and the brochures is 150gr/square meter, the stickers weight is 650gr/ square meter. The prize is made of etalbond with weight 7,3kg/ square meter.

- Main constructive principles – Principles of offset, digital and screen printing. Cutting with rooter, plotter, laser, punching.

- Main constructive elements- in the prize there are three constructive elements: outside wheel, inner wheel and two bikers.

- Main materials: printing inks, paper 150gr., Gloss, PVC foil – 0,5mm (roll dimensions 1370x4000mm), Plexiglas transparent (list size 2050/3050mm), Etalbond – with golden color (list sizes 1250/610mm), silicon rubber.

- Production technologies –

The main technological operation is the offset print: it is chosen because it ensures high quality and low costs.

Offset printing is a commonly used printing technique where the inked image is transferred (or "offset") from a plate to a rubber blanket, then to the printing surface. When used in combination with the lithographic process, which is based on the repulsion of oil and water, the offset technique employs a flat (planographic) image carrier on which the image to be printed obtains ink from ink rollers, while the non-printing area attracts a water-based film (called "fountain solution"), keeping the non-printing areas ink-free. Development of the offset press came in two versions: in 1875 by Robert Barclay of England for printing on tin, and in 1903 by Ira Washington Rubel of the United States for printing on paper.

Lithography was initially created to be a low cost method of reproducing artwork. This printing process was limited to use on flat, porous surfaces because the printing plates were produced from limestone. Tin cans were popular packaging materials in the 1800s, but transfer technologies were required before the lithographic process could be used to print on the tin. Compared to other printing methods, offset printing is best suited for cost-effectively producing large volumes of high quality prints in an economically sound manner that requires little maintenance. Offset Lithography is one of the most common uses to create printed matter. A few of its common applications include: newspapers, magazines, brochures, stationery, and books. Many modern offset presses are using computer to plate systems as opposed to the older computer to film workflows, which further increases their quality.

Advantages of offset printing compared to other printing methods include:

- Consistent high image quality. Offset printing produces sharp and clean images and type more easily than letterpress printing because the rubber blanket conforms to the texture of the printing surface.
- Quick and easy production of printing plates.
- Longer printing plate life than on direct litho presses because there is no direct contact between the plate and the printing surface. Properly developed plates running in conjunction with optimized inks and fountain solution may exceed run lengths of a million impressions.
- Cost. Offset printing is the cheapest method to produce high quality printing in commercial printing quantities.

Disadvantages

Disadvantages of offset printing compared to other printing methods include:

- Slightly inferior image quality compared to rotogravure or photogravure printing.
- Propensity for anodized aluminum printing plates to become sensitive (due to chemical oxidation) and print in non-image/background areas when developed plates are not cared for properly.
- Time and cost associated with producing plates and printing press setup. As a result, very small quantity printing jobs are now moving to digital offset machines.

Several systems for color images printing are used as for all of them the principle is layering of separate raster images from different colors one over another. The most commonly used for the color print is the Fier Farben (four colors) also known as CMYK. From the colors - **C**yan, **M**agenta, **Y**ellow and Blac**K**.

Digital printing is a method of printing using digital techniques in which the data and images are printed directly from a computer onto paper, including those developed for computer printers such as inkjet or laser printers. The process differs from lithography, flexography, gravure, and letterpress printing in several ways:

- Every print can be different, because printing plates are not required, as in traditional methods.
- There is less waste chemical and paper, because there is no need to bring the image "up to colour" and check for registration and position.
- The ink or toner does not permeate the substrate, as does conventional ink, but forms a thin layer on the surface and may in some systems be additionally adhered to the substrate by using a fuser fluid with heat process (toner) or UV curing process (ink).

Because there is less initial setup, it is useful for rapid prototyping, and cost effective for small print runs.

Digital Printing is used for personalized printing, or variable data printing (VDP or VI), for example personalized children's books, which are customized with the specific child's

name and images. Print on Demand (POD) systems also use digital printing, for short run books of varying page quantities, and binding techniques.

Digital prints can also be done on photographic paper, exposed with RGB laser lights from computer files, and processed in photographic developers and fixers. These prints are continuous tone images, and have the dyes imbedded in emulsion layers within plastic coatings.

Screen print over textile – the screen print is very dynamic sphere of the polytrophic production. In the present moment this type of printing allows printing of images on almost all types of surfaces. The process could be separated to four different stages.
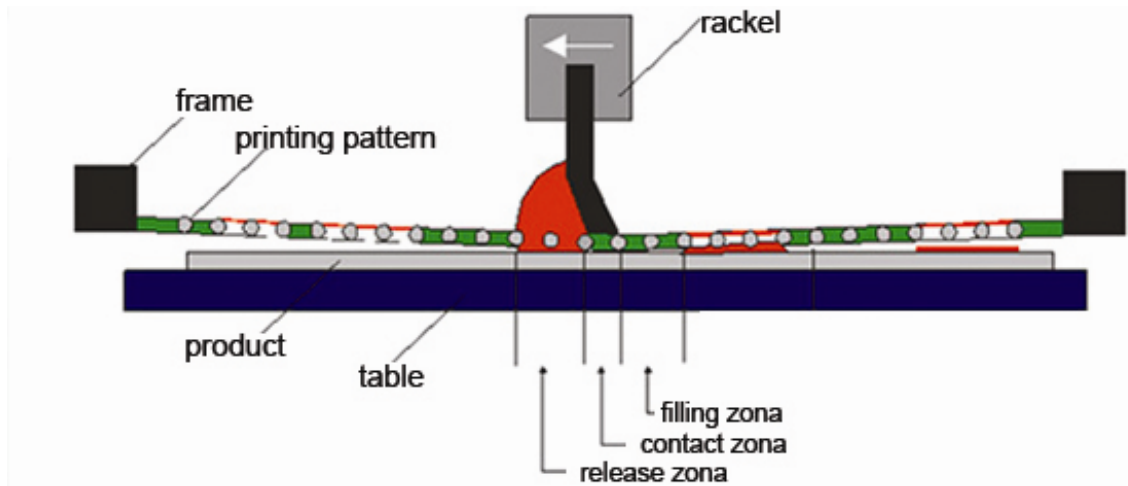
The screen pattern is placed over the frame. The material over which we will print is on the printing table. The ink which is in the screen pattern is moved by the rackel as wave. This zone is called "filling zone". In front of the printing tooth of the rackel is the "contact zone", where the ink is transferred through the printing form towards the material. The powers of elastic in the "release zone" are stretching in fiber shape part of the ink layer. Thus part of the ink stays in the screen net, which is part of the printing form. As a result over the printing material there is a part of the printed image made with even ink layer. This type of print is used for printing advertisement t-shirts and souvenirs.

Plotter cutting: It is used for cutting PVC foils. In our case we will use it for our stickers.

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Rooter cutting:

This machine could cut through variety of materials. We will use it for cutting the etalbond for the prize.

Laser cutting:
Possibility for carving and cutting. We will use it for the prize.

- Production methods- The project starts on a paper, this are the sketches of the designer, with the basic ideas. On the next stage is the evolving of the idea with computer programs into 2D and 3D model.
For the 2d model: we proceed with pre print, computer montage and color separation. The color separation is a process in which the image is separated to the four printing colors Cyan, Magenta, Yellow, Black. After which follows the printing, glossing, stamping and the final product is ready.
For the 3d model: a selection of the separate parts is made, choosing the materials for all of them, choosing the proper machines. Cutting out the materials, cutting the separate parts, installing the parts and the final product is ready.

- Standardization is the process of developing and agreeing upon technical standards. A standard is a document that establishes uniform engineering or technical specifications, criteria, methods, processes, or practices. Some standards are mandatory while others are voluntary. Voluntary standards are available if one chooses to use them. Some are de facto standards, meaning a norm or requirement which has an informal but dominant status. Some standards are de jure, meaning formal legal requirements. Formal standards organizations, such as the International Organization for Standardization (ISO) or the American National Standards Institute, are independent of the manufacturers of the goods for which they publish standards.

2.2 Optical model

- Real model of the product for real experience of the product. In the end of the project are applied this optical models. For them is used normal paper I scale 1:1.

- Virtual models /CAD – CAM – CAE/
The project is prepared with virtual 2d and 3d programs. The models are made with Adobe Photoshop, Illustrator, CorelDraw, Rhinoceros and other.

2.3 Optical Requirements

Etalbond : is a technological advanced and innovative aluminium composite panel sutable for exterior cladding of new building and retrofit application. It consists of a care firmly bonded between fine aluminium facing and backing sheets, and it is available in two versions:

1) Etalbond – pe which is standart version of etalbond consisted of a non – toxic polyethylene core.
2) Etalbond –Fr is the Fire resistant version consisted of a non – combustible mineral filled core.
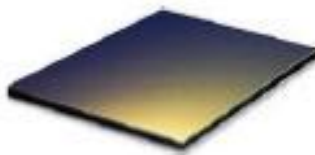
Combined effect of Composite Material:
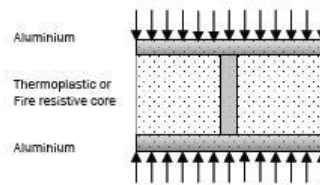
Material Advantages: - Lightweight and rigid, Flat surface, Design flexibility, Weather resistant, Simple assembly and easy interface with other systems.

The material is sutable for a wide variety of applications: wall cladding and facades, fire resistant structures, roof edging and fascias, interior decoration, light supporting structures, exhibition stands, false ceilings, machine corerings, signage.

Product information: etalbond and etalbond-FR is produced in the following standard dimensions.
● Standard dimensions

Thickness (mm)	Width Sizes (mm)	Length sizes (mm)	Surface Area (m²)	Width Sizes (mm)	Special Lengths UP to (mm)
3	1250, 1500	3200	4.0, 4.8	1250, 1500	4000
4	1250, 1500	3200	4.0, 4.8	1250, 1500	7000
6	1250, 1500	3200	4.0, 4.8	1250, 1500	7000

● mechanical characteristics
The mechanical properties of the etalbond panel is determined by the 0.5 mm thick aluminium 3105 /H44 face sheets.

Tensile strength, $R_m \geq 150$ N/mm²
Yield strength, $R_{p0.2} \geq 120$ N/mm²
Elongation, $A_{50} \geq 4$ %
Modulus of Elasticity, E $= 70.000$ N/mm²

Panel characteristic properties:
Flexural strength, ≥ 85 MPa
Flexural modulus, ≥ 12.000 MPa

PROTECTIVE PLASTIC FILM
PVDF COATING
ALUMINIUM
ADHESIVE LAYER
POLYETHYLENE
PRIMER
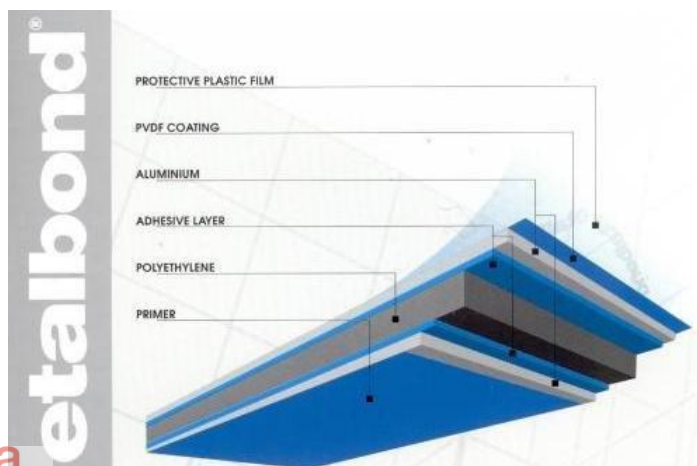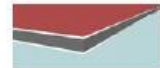
-Rigidity and weight: The composite structure of Etalbond provide an impressive strength to wight ratio advantage compared with other solid materials and makes etalbond a preferred material of chose, easy to transport and handle in the warehouse and on project site. The combination of high rigidity and high strength make the panel retain their shape and remain flat, even when exposed to extreme temperature changes.

Panel thickness (mm)	Weight of etalbond® Kg/m²	Weight of etalbond-FR Kg/m²	Rigidity (ExJ) kNm² / m	Moment of Inertia cm⁴ / m	Section Modulus cm³ / m	Equivalent Aluminium thickness mm	Aluminium Weight Kgr /m²	Equivalent Steel thickness mm	Steel Weight Kgr /m²
3	4,6	-	0,125	0,159	1,25	2,7	7,3	1,9	14,8
4	5,5	7,6	0,240	0,310	1,75	3,3	8,9	2,4	18,7
6	7,4	11,2	0,590	0,751	2,75	4,5	12,2	3,2	25,0

Equivalent Rigidity in relation to thickness and weight

Etalbond 4 mm — 5.6 kg

Aluminium 3,3 mm — 8,9 kg

18,7 kg
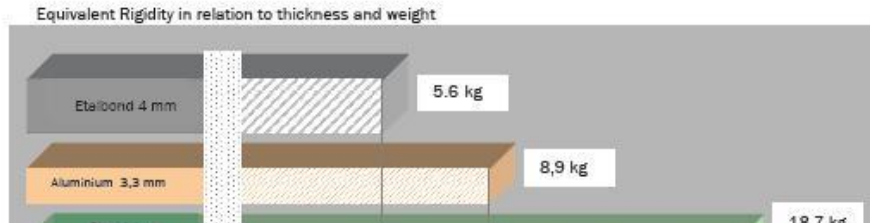
| etalbond® /FR Thickness			3 mm	4 mm	6 mm
Technical and Physical properties	Symbol	Unit			
Moment of Inertia	I	[cm⁴ /m]	0,159	0,310	0,751
Section modulus	Z	[cm³/m]	1.25	1.75	2.75
Rigidity	EJ	[kNm²/m]	0,125	0,240	0,59
Aluminium Alloy			3105		
Linear Thermal Expansion of Aluminium			2.4 mm/m at 100°C temperature difference		

-Flatness- Etalbond is very flat, compared to solid metal sheets. Solid aluminum sheet, for example, has a slight distortion stemming from its rolling process: buckles, edge waves and overall warping are common. Composite panels flatness stems from the laminating process itself in which most of such distostions are eliminated.

Buckles

Edge Waves
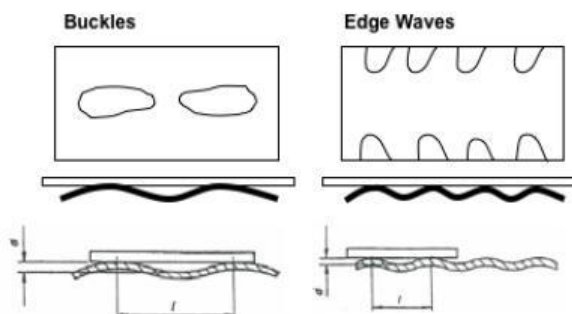
Poly(methyl methacrylate) (**PMMA**) is a transparent thermoplastic, often used as a light or shatter-resistant alternative to glass. Chemically, it is the synthetic polymer of methyl methacrylate. The material was developed in 1928 in various laboratories, and was first brought to market in 1933 by Rohm and Haas Company, under the trademark **Plexiglas**. It

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has since been sold under many different names. PMMA is an economical alternative to polycarbonate (PC) when extreme strength is not necessary. Additionally, PMMA does not contain the potentially unhealthful bisphenol-A subunits found in polycarbonate. It is often preferred because of its moderate properties, easy handling and processing, and low cost, but behaves in a brittle manner when loaded, especially under an impact force, and is more prone to scratching compared to glass.

Properties
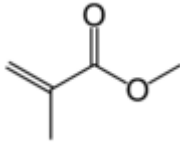
PMMA is strong and lightweight. It has a density of 1.150–1.190 g/cm^3 about less than half that of glass and similar other plastics. It also has good impact strength, higher than both glass and polystyrene; however, PMMA's impact strength is still significantly lower than polycarbonate and some engineered polymers.

PMMA ignites at 460 °C (860 °F) and burns, forming carbon dioxide, water, carbon monoxide and low molecular weight compounds, including formaldehyde.

- Transmits up to 92% of visible light (3 mm thickness), and gives a reflection of about 4% from each of its surfaces on account of its refractive index of 1.4893 to 1.4899.
- Filters ultraviolet (UV) light at wavelengths below about 300 nm (similar to ordinary window glass). Some manufacturers add coatings or additives to PMMA to improve absorption in the 300–400 nm range.
- Allows infrared light of up to 2800 nm wavelength to pass. IR of longer wavelengths, up to 25 µm, are essentially blocked. Special formulations of colored PMMA exist to allow specific IR wavelengths to pass while blocking visible light (for remote control or heat sensor applications, for example).
- Has excellent environmental stability compared to other plastics such as polycarbonate, and is therefore often the material of choice for outdoor applications.
- Has poor resistance to solvents, as it swells and dissolves easily. It also has poor resistance to many other chemicals on account of its easily hydrolyzed ester groups.
- Has maximum water absorption ratio of 0.3-0.4% by weight[]. Tensile strength decreases with increased water absorption

Transparent glass substitute

- PMMA Acrylic glass is commonly used for constructing residential and commercial aquariums.
- PMMA is used in the lenses of exterior lights of automobiles.
- The spectator protection in ice hockey rinks is made from PMMA.
- Motorcycle helmet visors
- Police vehicles for riot control often have the regular glass replaced with acrylic to protect the occupants from thrown objects.

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- In some Motor racing championships the glass windows in the cars are replaced with acrylic to prevent glass shattering on the driver and track during a crash. They also help to save some weight making the car lighter and faster.
- Polycast acrylic sheet is the most widely used material in aircraft transparencies (windows). In applications where the aircraft is pressurized, stretched acrylic is used.
- Acrylic is an important material in the making of certain lighthouse lenses.

Daylight redirection

- Laser cut acrylic panels have been used to redirect sunlight into a light pipe and, from there, to spread it into a room.
- Attenuation being quite strong for distances over one meter (more than 90% intensity loss for a 3000 K source), acrylic broadband light guides are then dedicated mostly to decorative uses.
- Pairs of acrylic sheets with a layer of microreplicated prisms between the sheets can have reflective and refractive properties that let them redirect part of incoming sunlight in dependence on its angle of incidence. Such panels act as miniature light shelves. Such panels have been commercialized for purposes of daylighting, to be used as a window or a canopy such that sunlight descending from the sky is directed to the ceiling or into the room rather than to the floor. This can lead to a higher illumination of the back part of a room, in particular when combined with a white ceiling, while having a slight impact on the view to the outside compared to normal glazing.

· CAD-CAM-CAE – Virtual simulative test

Blur 5

Blur10

Blur 15

Blur 20

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Conclusion: After the test the logo is visible but the contour is blurred.

Blur 5   Blur 10

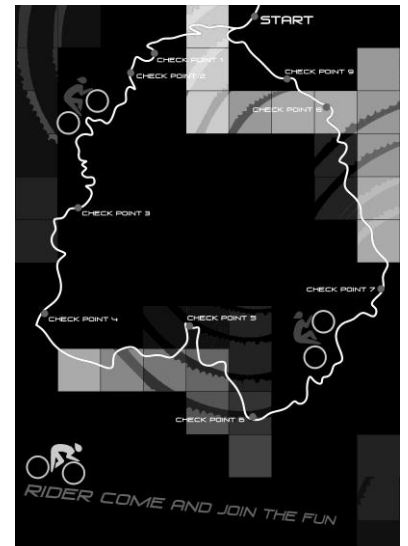Blur 15   Blur 20

Conclusion: After the test the image clearly visible at blur 20 but the contour is blurred.

Test with gradation of the grey colors:

Conclusion: Although that the products are entirely in the harmonic gamma they are readable and understandable.

· Psychoemotional test: Psychological Properties Of Colours

There are four psychological primary colours - red, blue, yellow and green. They relate respectively to the body, the mind, the emotions and the essential balance between these three. The psychological properties of the eleven basic colours are as follows.

RED. Physical
Positive: Physical courage, strength, warmth, energy, basic survival,fight or flight', stimulation, masculinity, excitement.
Negative: Defiance, aggression, visual impact, strain.

Being the longest wavelength, red is a powerful colour. Although not technically the most visible, it has the property of appearing to be nearer than it is and therefore it grabs our attention first. Hence its effectiveness in traffic lights the world over. Its effect is physical; it stimulates us and raises the pulse rate, giving the impression that time is passing faster than it is. It relates to the masculine principle and can activate the "fight or flight" instinct. Red is strong, and very basic. Pure red is the simplest colour, with no subtlety. It is stimulating and lively, very friendly. At the same time, it can be

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perceived as demanding and aggressive.

BLUE. Intellectual.
Positive: Intelligence, communication, trust, efficiency, serenity, duty, logic, coolness, reflection, calm.
Negative: Coldness, aloofness, lack of emotion, unfriendliness. Blue is the colour of the mind and is essentially soothing; it affects us mentally, rather than the physical reaction we have to red. Strong blues will stimulate clear thought and lighter, soft blues will calm the mind and aid concentration. Consequently it is serene and mentally calming. It is the colour of clear communication. Blue objects do not appear to be as close to us as red ones. Time and again in research, blue is the world's favourite colour. However, it can be perceived as cold, unemotional and unfriendly.

YELLOW. Emotional
Positive: Optimism, confidence, self-esteem, extraversion, emotional strength, friendliness, creativity.
Negative: Irrationality, fear, emotional fragility, depression, anxiety, suicide.The yellow wavelength is relatively long and essentially stimulating. In this case the stimulus is emotional, therefore yellow is the strongest colour, psychologically. The right yellow will lift our spirits and our self-esteem; it is the colour of confidence and optimism. Too much of it, or the wrong tone in relation to the other tones in a colour scheme, can cause self-esteem to plummet, giving rise to fear and anxiety. Our "yellow streak" can surface.

GREEN. Balance
Positive: Harmony, balance, refreshment, universal love, rest, restoration, reassurance, environmental awareness, equilibrium, peace.
Negative: Boredom, stagnation, blandness, enervation. Green strikes the eye in such a way as to require no adjustment whatever and is, therefore, restful. Being in the centre of the spectrum, it is the colour of balance - a more important concept than many people realise. When the world about us contains plenty of green, this indicates the presence of water, and little danger of famine, so we are reassured by green, on a primitive level. Negatively, it can indicate stagnation and, incorrectly used, will be perceived as being too bland.

VIOLET. Spiritual
Positive: Spiritual awareness, containment, vision, luxury, authenticity, truth, quality.
Negative: Introversion, decadence, suppression, inferiority.

The shortest wavelength is violet, often described as purple. It takes awareness to a higher level of thought, even into the realms of spiritual values. It is highly introvertive and encourages deep contemplation, or meditation. It has associations with royalty and usually communicates the finest possible quality. Being the last

visible wavelength before the ultra-violet ray, it has associations with time and space and the cosmos. Excessive use of purple can bring about too much introspection and the wrong tone of it communicates something cheap and nasty, faster than any other colour.

ORANGE.
Positive: Physical comfort, food, warmth, security, sensuality, passion, abundance, fun.
Negative: Deprivation, frustration, frivolity, immaturity. Since it is a combination of red and yellow, orange is stimulating and reaction to it is a combination of the physical and the emotional. It focuses our minds on issues of physical comfort - food, warmth, shelter etc. - and sensuality. It is a 'fun' colour. Negatively, it might focus on the exact opposite - deprivation. This is particularly likely when warm orange is used with black. Equally, too much orange suggests frivolity and a lack of serious intellectual values.

PINK.
Positive: Physical tranquillity, nurture, warmth, femininity, love, sexuality, survival of the species.
Negative: Inhibition, emotional claustrophobia, emasculation, physical weakness. Being a tint of red, pink also affects us physically, but it soothes, rather than stimulates. (Interestingly, red is the only colour that has an entirely separate name for its tints. Tints of blue, green, yellow, etc. are simply called light blue, light greenetc.) Pink is a powerful colour, psychologically. It represents the feminine principle, and survival of the species; it is nurturing and physically soothing. Too much pink is physically draining and can be somewhat emasculating.

GREY.
Positive: Psychological neutrality.
Negative: Lack of confidence, dampness, depression, hibernation, lack of energy.

Pure grey is the only colour that has no direct psychological properties. It is, however, quite suppressive. A virtual absence of colour is depressing and when the world turns grey we are instinctively conditioned to draw in and prepare for hibernation. Unless the precise tone is right, grey has a dampening effect on other colours used with it. Heavy use of grey usually indicates a lack of confidence and fear of exposure.

WHITE.
Positive: Hygiene, sterility, clarity, purity, cleanness, simplicity, sophistication, efficiency.
Negative: Sterility, coldness, barriers, unfriendliness, elitism.

Just as black is total absorption, so white is total reflection. In effect, it reflects the full force of the spectrum into our eyes. Thus it also creates barriers, but differently from black, and it is often a strain to look at. It communicates, "Touch me not!" White is purity and, like black, uncompromising; it is clean, hygienic, and sterile. The concept of sterility can also be negative. Visually, white gives a heightened perception of space. The negative effect of white on warm colours is to make them look and feel garish.

BROWN.
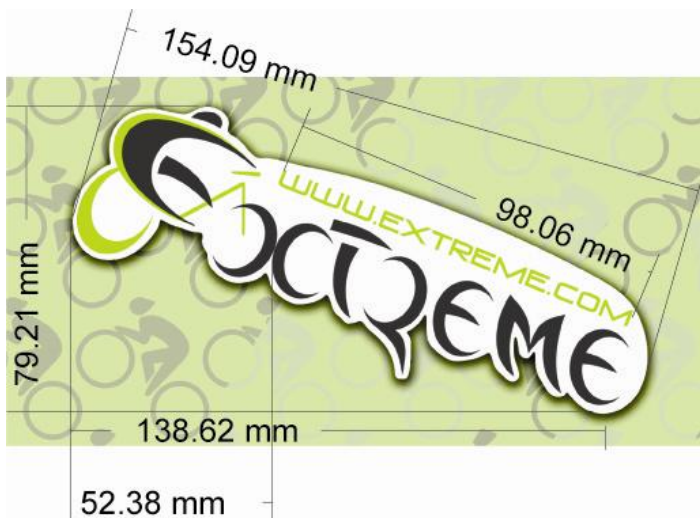Positive: Seriousness, warmth, Nature, earthiness, reliability, support.
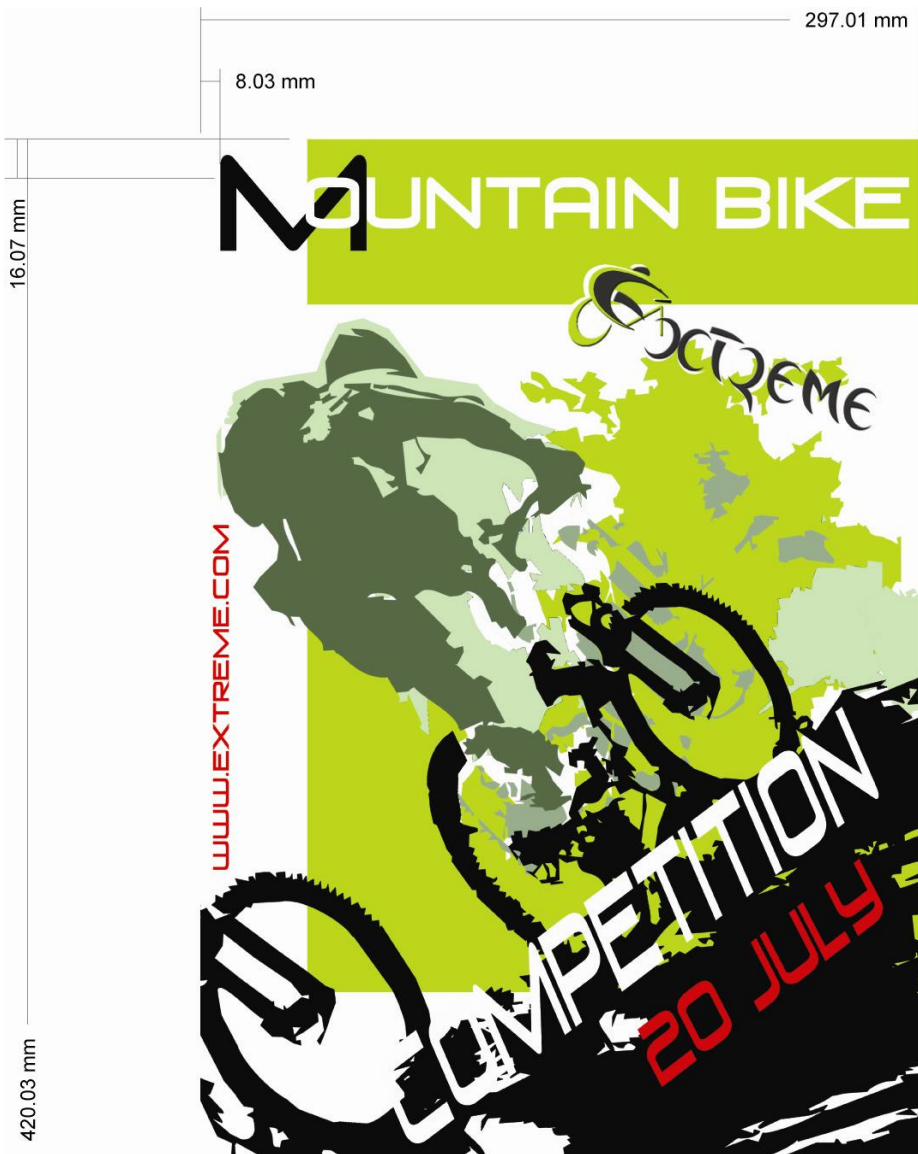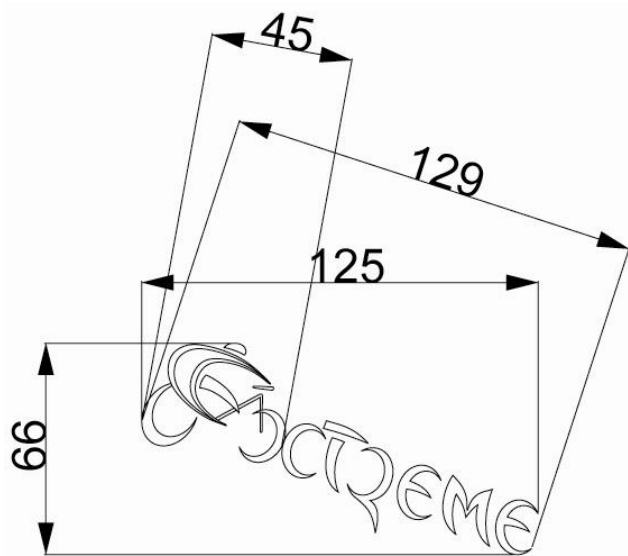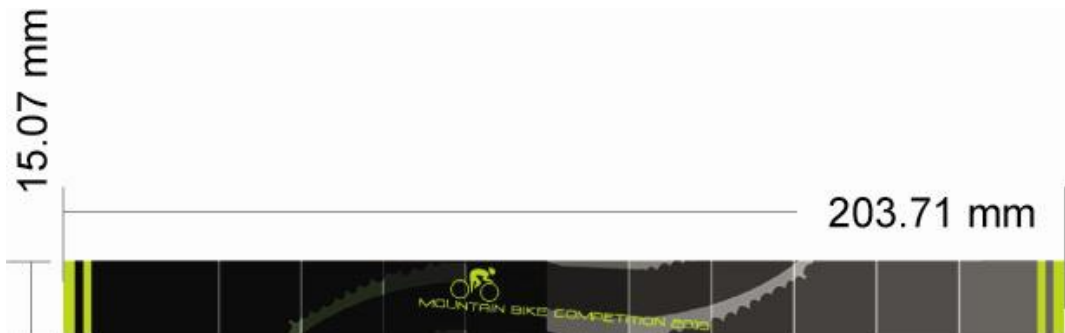Negative: Lack of humour, heaviness, lack of sophistication.

Brown usually consists of red and yellow, with a large percentage of black. Consequently, it has much of the same seriousness as black, but is warmer and softer. It has elements of the red and yellow properties. Brown has associations with the earth and the natural world. It is a solid, reliable colour and most people find it quietly supportive - more positively than the ever-popular black, which is suppressive, rather than supportive.
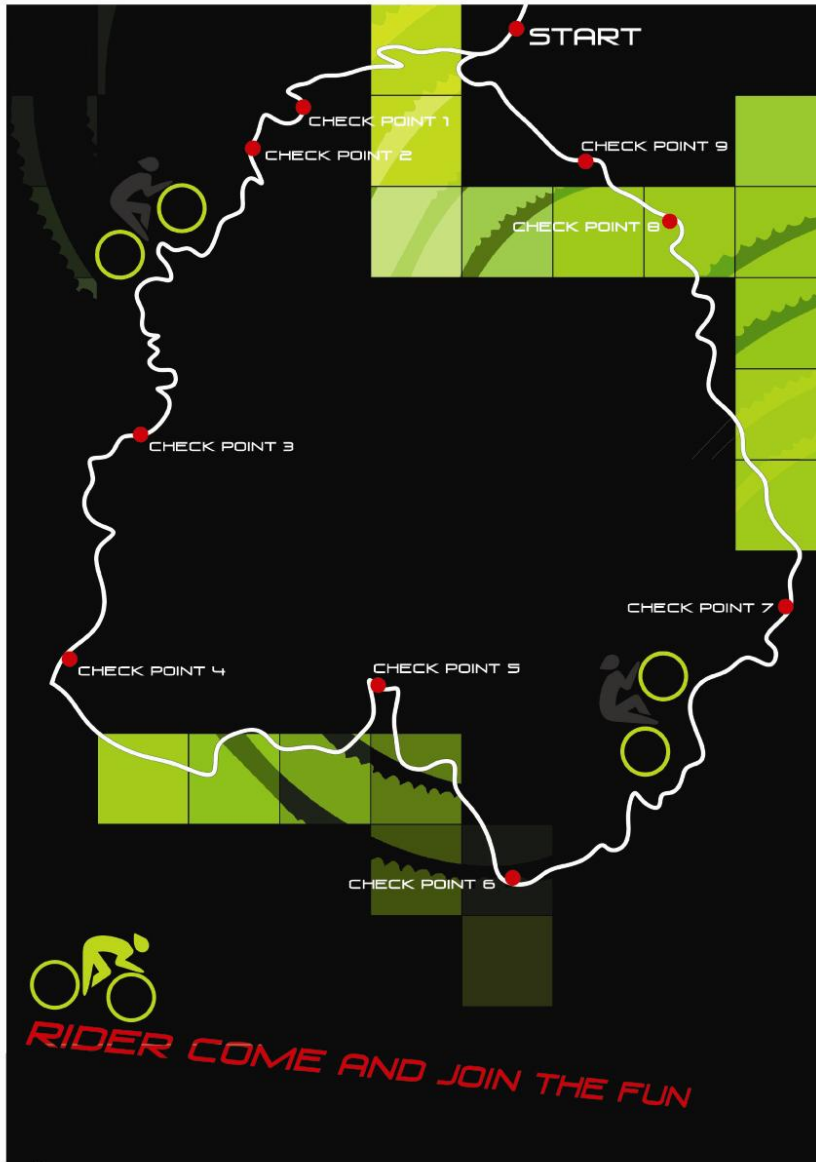
2.4 Details, sketches and documentation
· Arising of the documentation registration the project condition with readiness for prototype preparation / according the requirements of engineer graphic/
· Correspondence of the documents with the correspondent standards / ISO, CAE, GS /
· Type of presentation: by hand drawings or documentation extract from the working software

8.65 mm

299.55 mm

9.62 mm

20 RACE
2010 EUROPE CHAMPIONSHIP

WWW.EXTREME.COM

EXTREME

20 JULY 2010
START AT 10 AM
PLAZA DEL CASTILLO

GARY FISHER

SHIMANO

InterBike

SHIMANO
XTR

NORCO

BICYCLE TRIP

422.57 mm

15.07 mm

203.71 mm

MOUNTAIN BIKE COMPETITION

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START

CHECK POINT 1

CHECK POINT 2

CHECK POINT 9

CHECK POINT 8

CHECK POINT 3

CHECK POINT 7

CHECK POINT 4

CHECK POINT 5

CHECK POINT 6

RIDER COME AND JOIN THE FUN

297.01 mm

420.03 mm

20.44 mm

43.72 mm

MOUNTAIN BIKE RACE
SUNDAY, JULY 20, 2010

Name (print):_____ Race Day Age: _____

Address: _____ Phone: _____

City: _____ State: _____ Zip: _____

Who to notify in case of emergency: _____

Phone: _____

Signature: _____ Date: _____

CONSENT AND RELEASE OF PARENT OR GUARDIAN (Required if under age 18).

I am the parent or guardian of _____ (child).

I consent to my child's participation in this Mountain Bike Race.

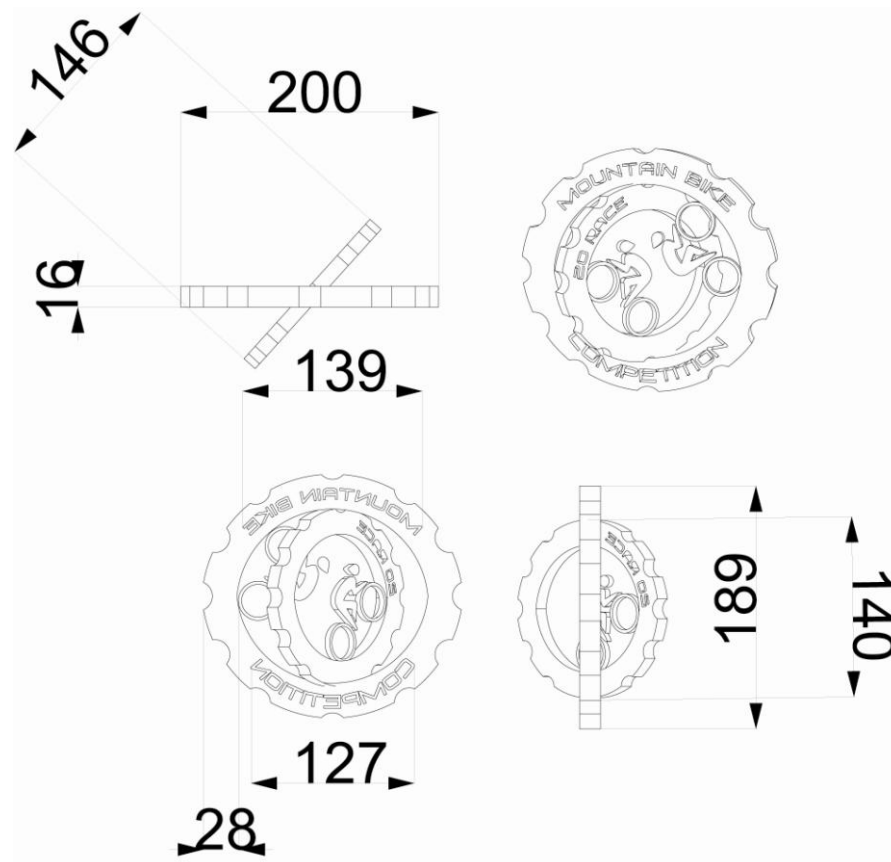Signature of parent/guardian: _____ Date: _____

"VITOSHA EXTREME" - 100KM.
WWW.EXTREME.COM. 0034673248303

209.97 mm

297.01 mm

6.08 mm

67

2.5. Graphic originals, etalons and samples

· Functional break to certain amount of functional layers for screen print, offset print and etc.
· Color samples according: RAL, CMYK, RGB, STNC and etc.

The advertising materials can be devided on four main functional layes for CMYB:

Advertising logo
First layer – Cyan
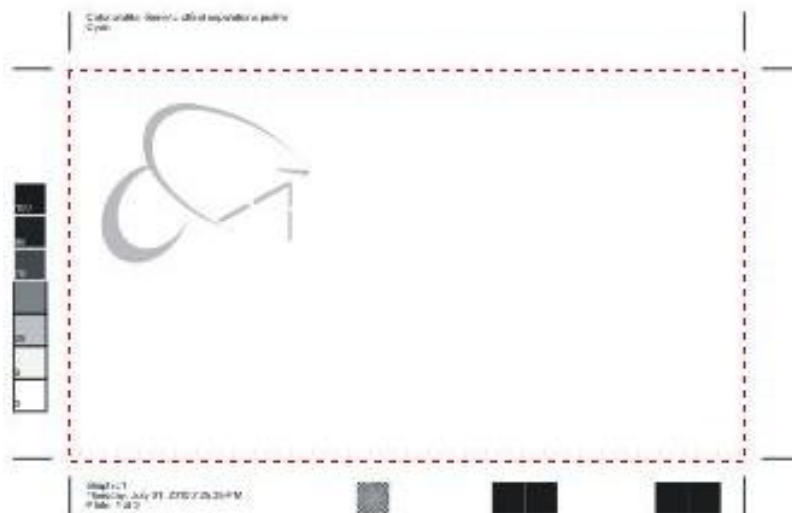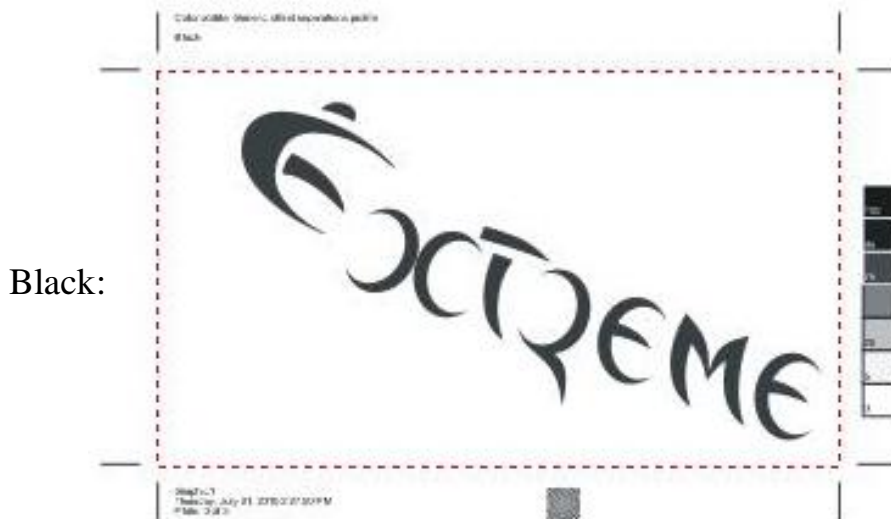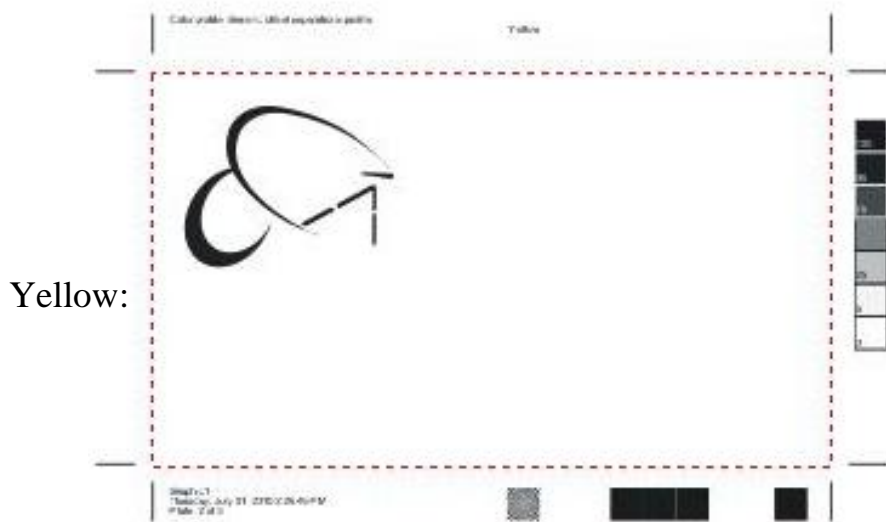Second leyer -Magenta
Third layer - Yellow
Fourth layer- Black

The colors of the logo:
Cyan:

Yellow:

Black:

Used colors:
Grey: PANTONE 425C, which is RGB– 88 89 91 and CMYB – 0 0 0 80
Green: PANTONE 380C, which is RGB– 198 217 53 and CMYB – 27 0 96 0

· Etalon samples for materials: foil, paper, Plexiglas, etalbond and etc.

· Etalon products as standard elements: connecting elements, packaging.

· Etalon samples for covers and quality of the surfaces: according ISO, CAE, GS also according to STANDEX – International

3. Test sample

· Prototype – zero series. This is the test sample of the products.
· Print issue – using a print equipment
· Print total – single for the course project.
· Design - unique

4. Constructive- technological basis of the project

The present project is made of several different advertisement materials. The posters, brochures and participation blanks are made of paper. For their production will be used offset print. The stickers are made of foil. They will be done by digital printing. The t-shirts will be made with screen printing. The prize will be made from Plexiglas and etalbond made by rooter and laser machines. For the bracelets we will use silicon rubber.

5. Control of the realization /Author's monitoring/

The author's monitoring is the monitoring which is during the whole process. Starting from the stage of the ideas - sketches, design alternates and through computer visualizing till the technological execution. Every stage of the project is been monitored in order controlling the mistakes and the successful realization of the project.

6. Territory and analytical part of the project.

Nowadays people live dynamic and difficult life full of problems, stress and difficulties. People do not find time for sports and leisure activities and hiking in the mountain. Their daily life is monotone full of repeated action. Free time is not very much and its planned till the last second.

The aim of this project is to encourage the society to change their attitude to , to start living in a more active way. The idea is to spend more time outdoors breathing fresh air. This activity is one active day in the mountain full with adventurous. For its advertising a special advertising campaign is done which will be promoted around the country. ont, text, the advertising campaign is more modern and attractive. The logo is made of simple elements which are connected by association with the main idea of the event, so it can be easier memorized. It is a special sign which will be connected with this event. Even in the beginning of creating the logo there is one style of drawing, certain colour category, font and text information, which are used in the whole advertising campaign. For the design of the posters and flyers the image of mountain rider is used. It expresses the idea that mountain bike is not only sport but lifestyle. Te hard terrain is also depicted and the characteristics of the race. In the other advertising materials he style is kept and identical graphics elements are used.

7. Bibliography of literature sources

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8. Bibliography of the techniques, prospect, company, advertisement and normative documentations.

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3.Applications
   -technical documentations
   -3D visualization

Contents:
I. Stage pre-project (before we start the project we have to think of the main idea)

1: Introduction.
2. Finding the main problem.
3. Motivation of the need to solve the problem.
4. Actuality of the basics of the main problems and topics.
5. Social Responsibility
II. Project stage
1. Concept design
1.1 Historical and geographical research
1.2. Information Research (Stage theoretical and analytic)
1.2.1 Basic design requirements, standards, in terms of an "Objective Consumer"and an"Informed User".
1.2.2. Additional requirements for the design in terms of open-minded and informed consumer.
1.2.3. Recommended design requirements in term of open-minded and informed consumer
1.2.4/Program assignment.
1.3.2. Project Design (materialization)
1.3.3. Design /materialization/
1.3.4. Graphic and color design
1.3.5. Trade mark/Specific design – product for which all the above requirements are available/
1.3.6. Package
2. 2. Work project
2.1 Construction and technologies
2.2 Optical model
2.3 Optical Requirements

2.5. Graphic originals, etalons and samples
3. Test sample
4. Constructive- technological basis of the project
5. Control of the realization /Author's monitoring/
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7. Bibliography of literature sources