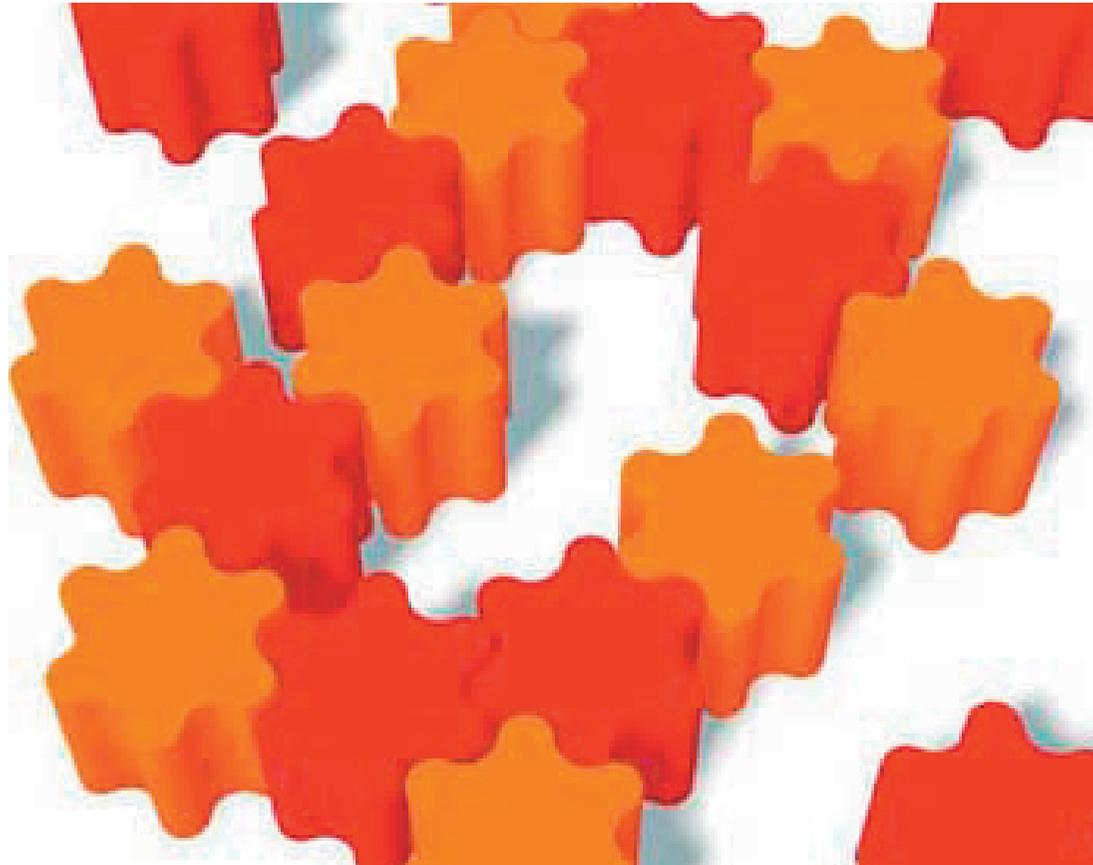# Fish 'n' Cut

Festival della Scienza 2005

Introduction
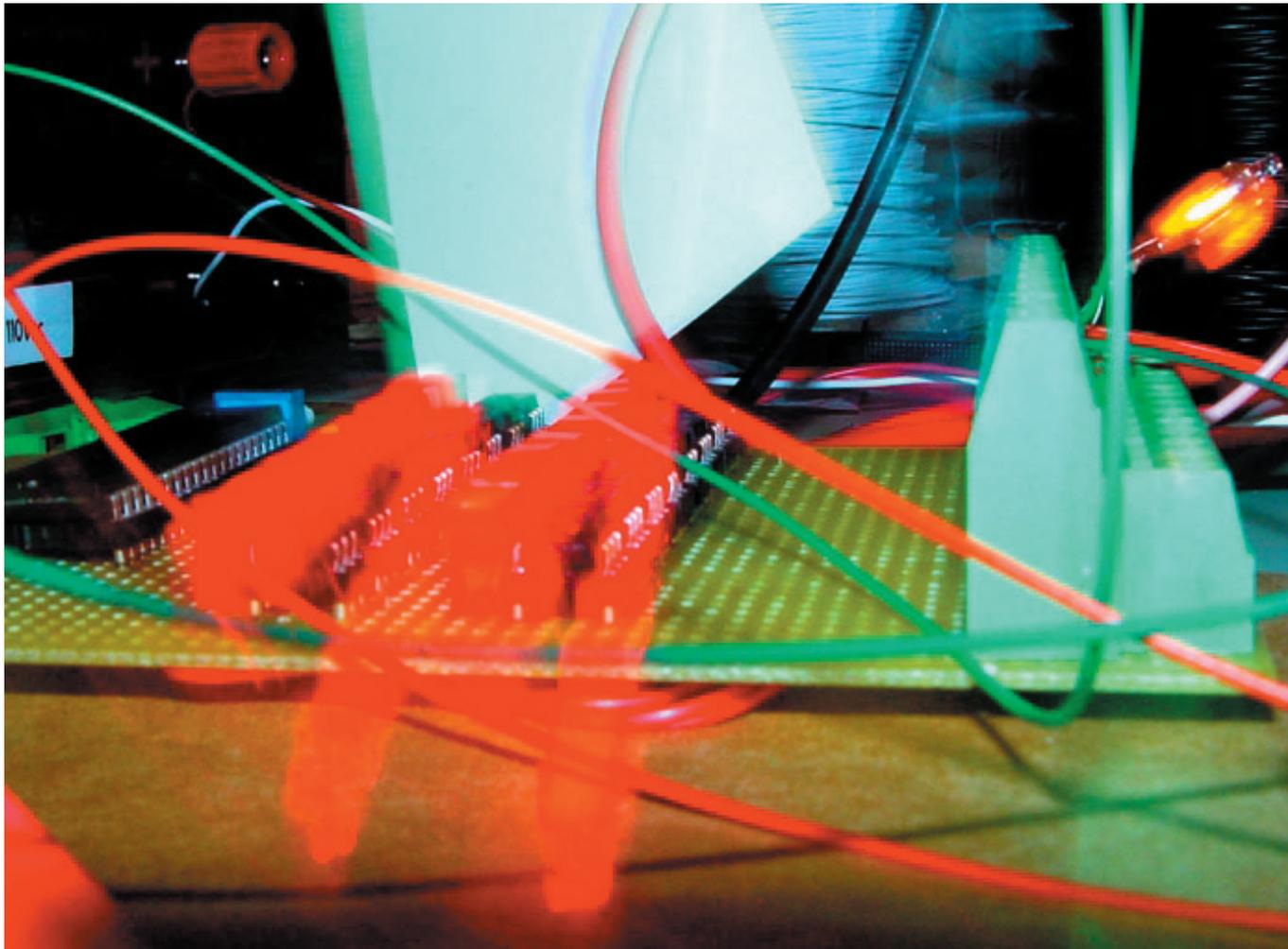
Festival della Scienza

This presentation is part one of idea generation for the Festival della Scienza in Genova 2005.

The brief behind the workshop ask to generate knowledge about simple technology and science. We want to inspire play, especially aimed for kids, using technology as a tool for knowledge.

The festival will be divided into 6 areas covering MTV, TIM, itLab, IDII plus a start point and an end point.

Each of the areas will be presented inside a transparent dome-like structure.
The visitor will experience that each of the structures will present an oppertunity of play.
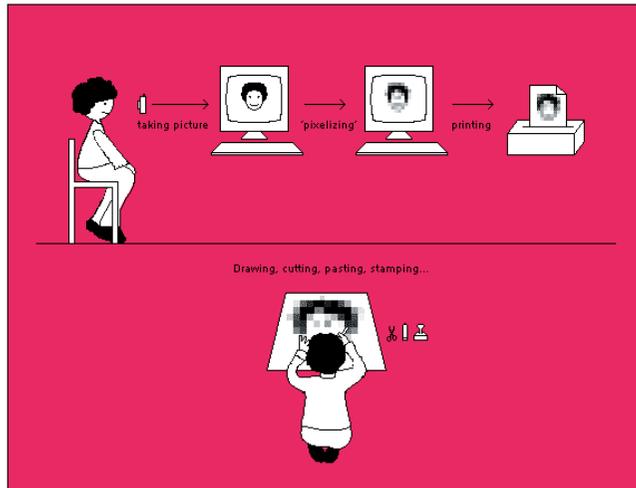
Festival della Scienza 2004

Last year Festival della Scienza was a collection of workshops called the Portrait Workshops.
Here the theme was also to generate knowledge through simple interactions with technology.

The theme was portraits.
Working in small groups the children would observe, communicate and create. Each workshop introduced a topic on the meeting point between design and technology - abstraction, animation, colour relationships, and graphic and photographic representation.

The workshops employed physical materials like blocks, paper and coloured paints. Technology, in the form of cameras, microphones and computers.
From an Interaction Design perspective the workshops explored how the power of technology can be exploited without compromising the pleasure of simple physical interactions, and how aspects of design can be discovered through playful interaction.
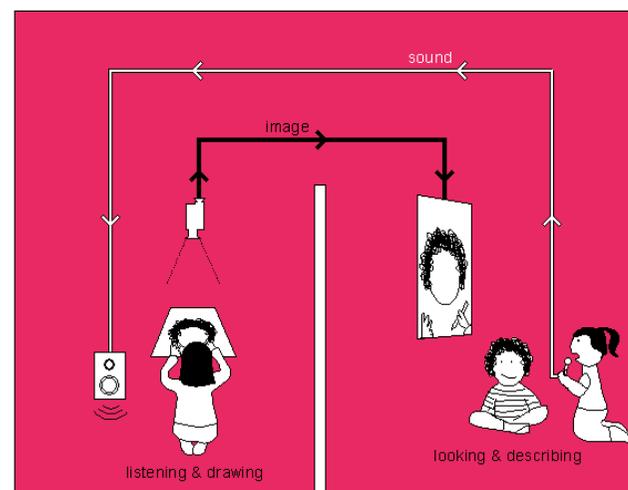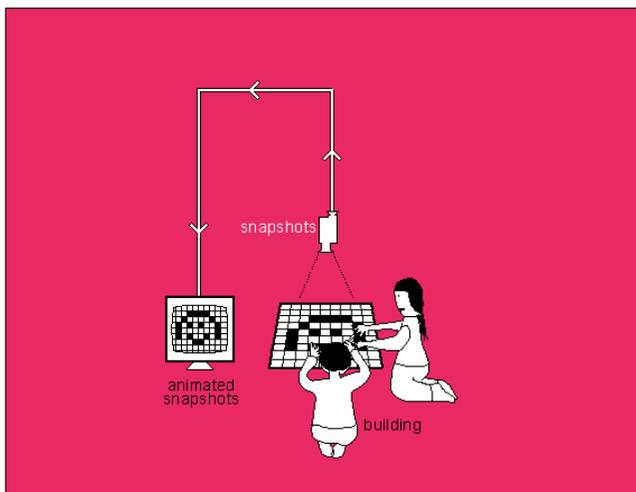
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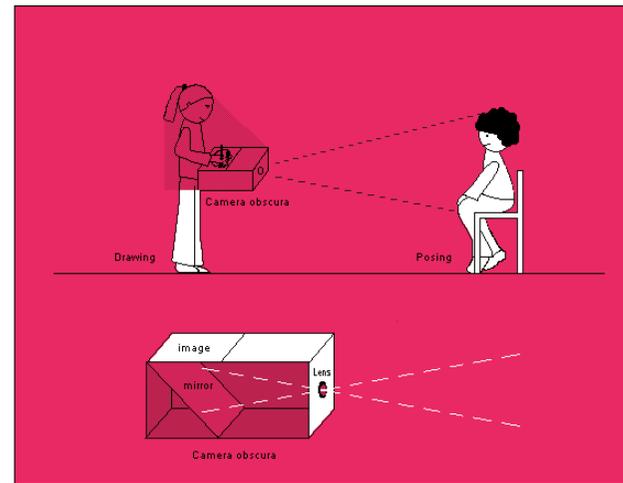
Dialogo disegnato

The Visitor

The Festival della Scienza is open to all but is largely used by schools during the week and in the weekend attracts a lot of families.

Our concept is mainly target towards children in the age between 7-13 years. This is not say that this target will exclude others not within this age group. On the contrary we have experienced that allowing a hands on experience with various simple to complex technologycal systems generate great interest from all ages.
The target group is primarily set in order to make a set frame in which to generate ideas and complexity.

The Concept

Key-System

The Keywords that we work with are:

- experiments
- exploration on your own
- collecting/selecting/assembling
- personal gadget
- public display

We want to let the visitor have the oppertunity to be part of the making in order to understand and view the results of the experiment.
We want the visitor to be inspired to build each of the different explorations from every of the six areas.
Each of the different element collected will then be creating the final 'key' that could lead to some a more public display of your personal created 'key'.

Collecting
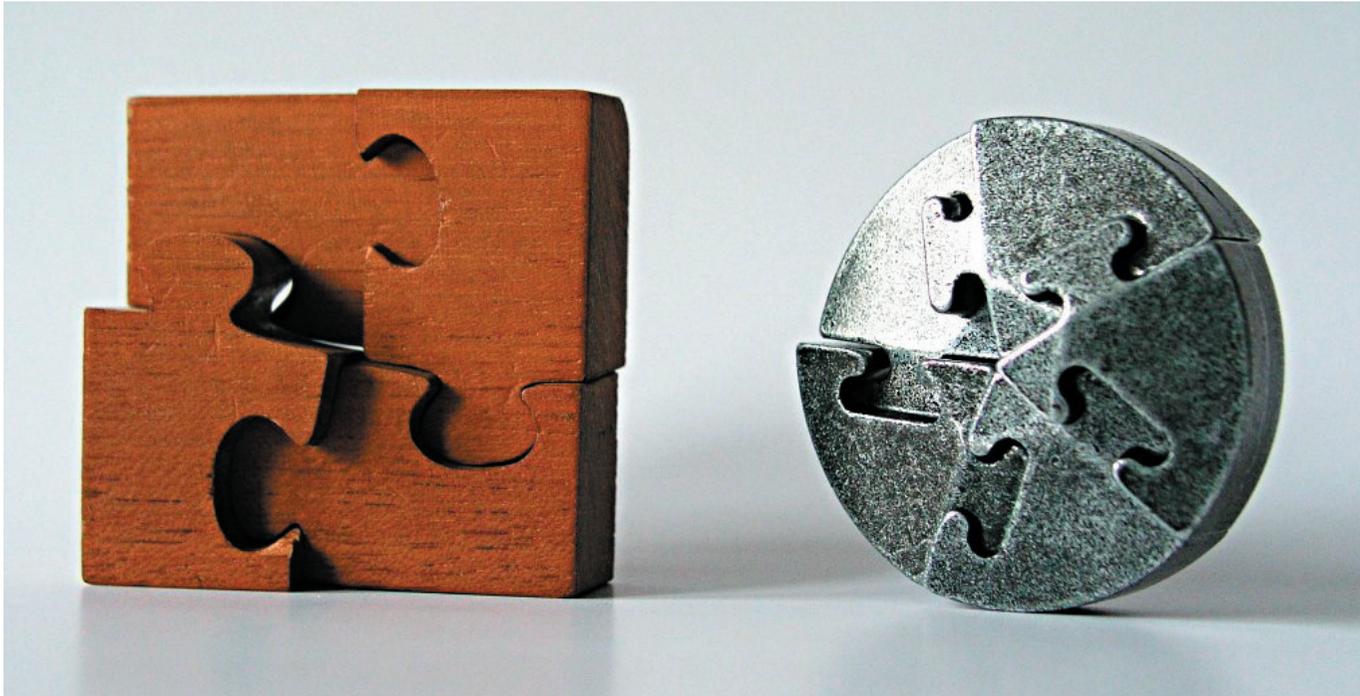
The 'Key-System', as earlier mentioned was a way to make the visitor have the feeling of collecting pieces and experience for something bigger or more complete that could lead to an answer. The motivation and the fun should lie in a game that one would want to collect all pieces to discover the final solution. In the sense that each piece put together generates a 'bigger' picture' or understanding, makes the learning a discovery rather than the regular teaching. We want to have the visitor enjoy the fun and play in all the little experiments that each would create a little gadget to further experience through or to learn the technology behind it.

The idea behind using experiment is the fact that it is always so much more fun when one gets to try the experiment him/herself rather than just being able to watch. That the visitor will be able to take-away all the little gadgets created from the experiments made makes the outcome and the fun while making it so much more valuable.

The Theme:
Give-away fish
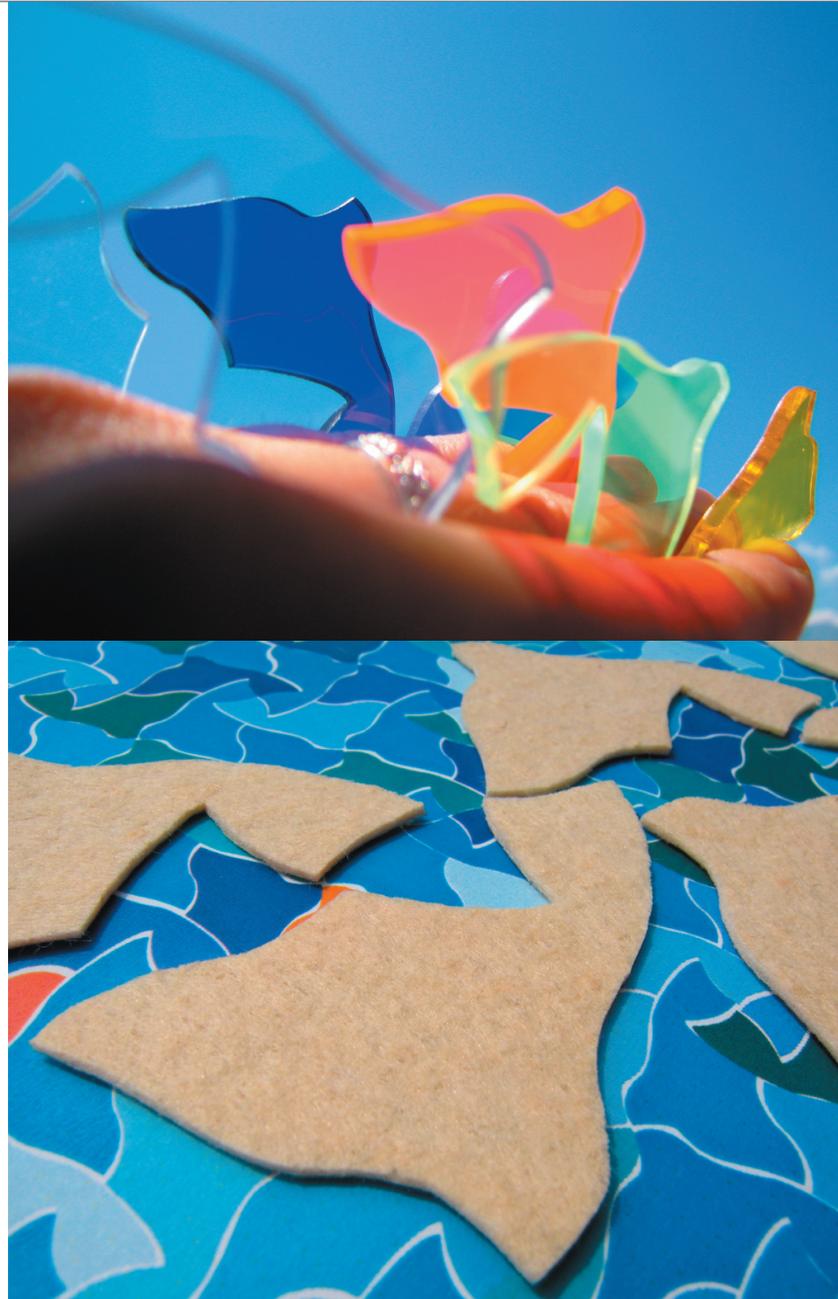
The fish theme

By the end of the first brainstorm we chose the fish theme to continue with as our main theme. The selection of the fish theme was made upon a need for simplicity in terms of development as well as understanding and intrigue for a larger age group of kids in all ages.

With the fish being already a recognizable 'object' it already creates some good constraints in which to work from though still evoke curiosity when the experiments change the fish into much more than the simple representation of a fish. We will get more into that when presenting the concrete ideas.

Being that we are in a seaport and our neighbor is the aquarium the fish is a great theme for exploration that relates to both the natural and artificial surroundings.

Little presents

The give-away fish are smaller fish cut out of various materials. All the fish are the same size and shape but each of the materials has a different feature that can either affect the fish itself or its surroundings.

To mention some of the materials and their behaviors imagine a magnetic foil that can attract different colored magnetic powder, plastic which only glows when hit by light, fish of felt that when put into saltwater will be crystallized. Fishes painted in magic colors that will change color like a chameleon if made wet or heated, using memory metal to make the 'intelligent' fish that will always return to its original shape no matter how one twists and turns it.
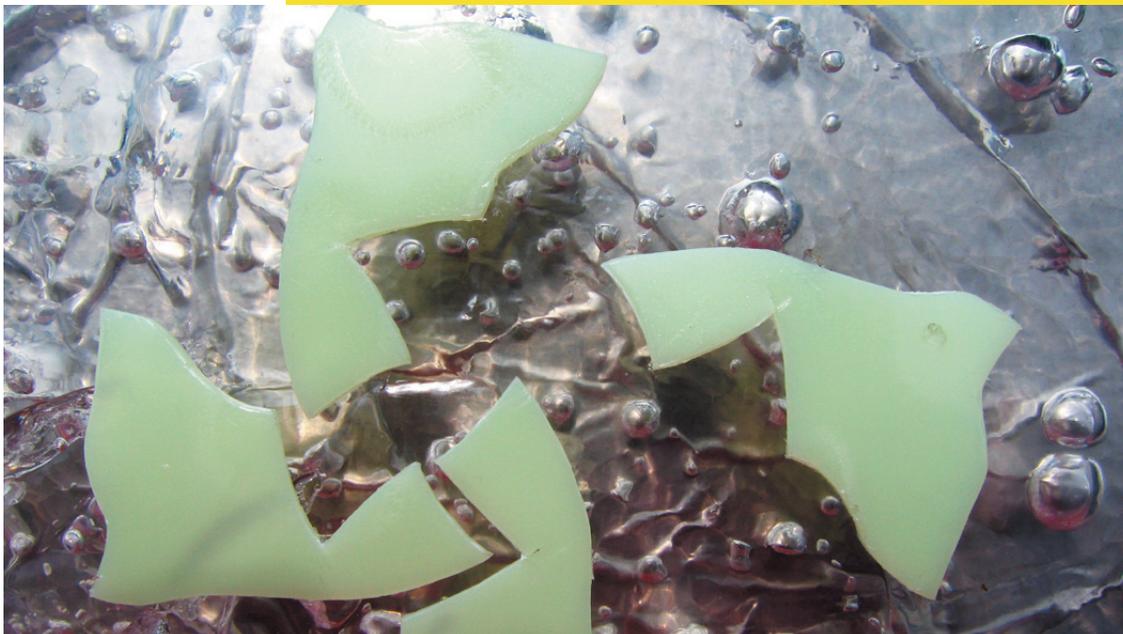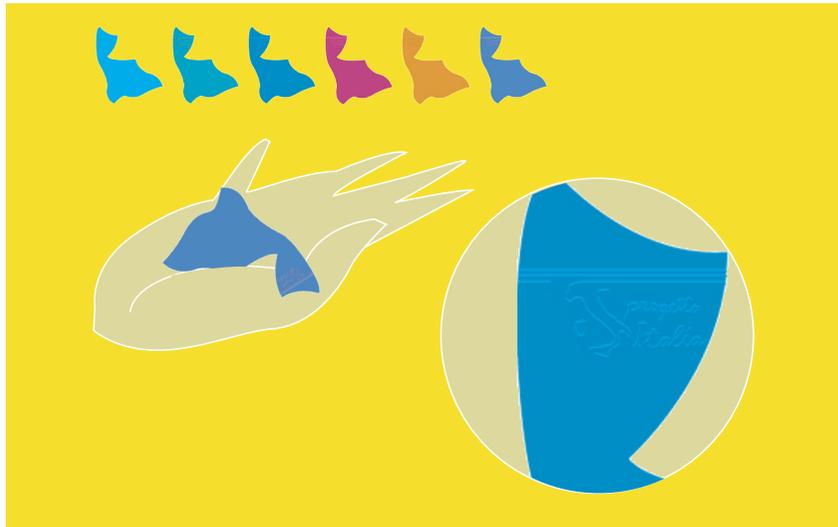
Since the fishes would be of different material it allows to setup a system where the visitor can go from experiment to experiments exploring the different effect one can create.
Being that it would be smaller fishes and therefore possible to carrie, it could inspire to collect all from each experiment and bring them home to continue the experiments there as well.

One important aspect of the experiments and the give-away is that we would like to inspire to further exploration at your home, in your school, with friends or family.
Each of the fish could be supplied with a number referring to a code on a website where they can learn the details for the experiments in order to carry them out at home.
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Materials and techniques

Magnetic materials

Imagine to;
- make a metal fish to magnetize by yourself.
- use a magnetic foil to make a fish shape like origami system.
- create your own patterns on the surface using magnetic powder.
- creating a puzzle having to put different magnets together.

Children could also play with the fish later in the home using the metal objects from the house to add it to their fish and create their own personal fish.

Sun Printpaper

Imagine to;
- the children get a piece of paper in the shape of a fish and asked to draw patterns or whatever their imagination guides them.
Then they will recieve a 'sun-light' paper and layer the two together.
With the two layers of paper they will walk out into the sunlight and expose their drawing for some minutes.
When coming back they can throw the fish in the pond and see the exposure on the 'sun-light' paper.

Memory Metals

Imagine to;

- use a memory wire that you can change in shape but when heated up it will always return to its original shape.

It should be the always changing fish that will in the end always be a fish...
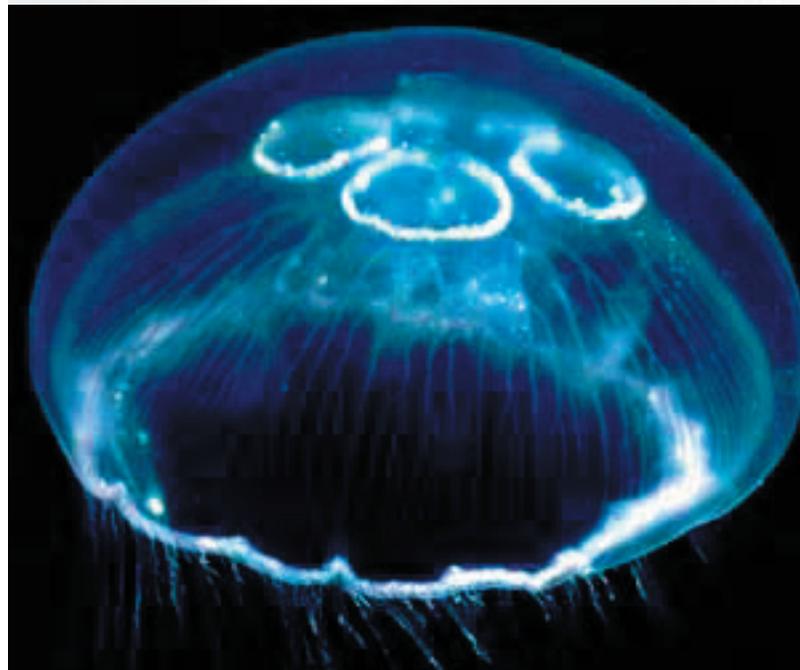
Liquid Plastics

Imagine to;

- make your own fish and see it come a real 3D object.

you would have a 3D form to be filled with the liquid plastic and when dried you have your own 3D fish.

- eat your fish...

again using a form but the filling would be jelly and when dried you would have your own self-made jelly fish to eat as a candy.

Soap Bubbles

Imagine to;
- that all the little fish when being pressed they will produce soap bubbles.
- create your own fish soap bubble with the use of a wire that you form in the shape of you imaginary fish and when dipping it in the soap you could blow the bubbles from your fish.

Holography

Imagine to;
- make your own hologram by mixing two of you fish drawings together.
- to have a wall that is a puzzle becoming a hologram. All the children would have to leave their little 'brick' of a hologram on the wall and finally when all is there you would have a hologram wall of a big fish or many fishes swiming in the ocean.
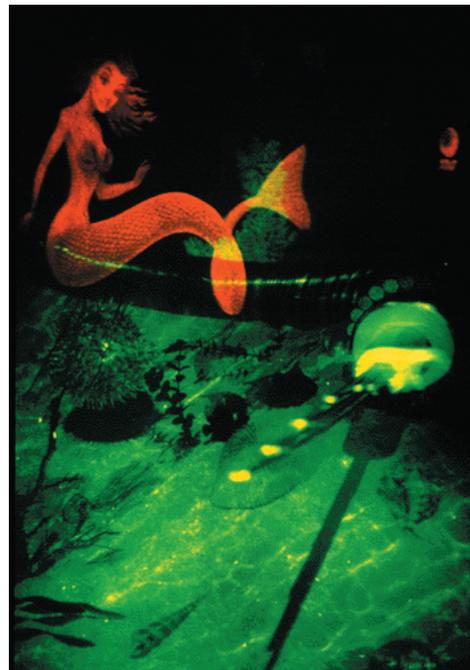
Crystalize

How to;

- you cut your special fish out in cotton or in filt and then place it in the pond of crystals.

After a while depending on the mixture in the water your personal cotton fish will be a beautiful crystalized fish.

Over time your crystal fish will dekay and you will be laft again with your cotton fish from the beginning.

Etching

How to;

- you have a cobber plate in the shape of a sea animal and you can paint on it with a pen and then you set your sea animal out in the pond (that will be a mixture of special chemicals) it transforms it self into and etching of the negative lines that you drew in the cobber plate.
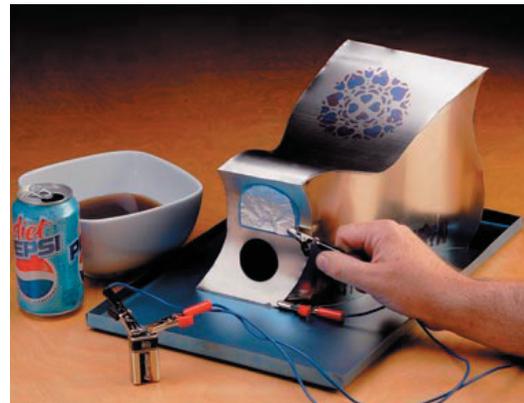
3D puzzle

How to;

- you have a lot of little pieces that is able to make the shape of a fish but you have to place them in the right connection.

- it could be that when all pieces is put correctly together the fish is able to make a sound or wil be blinking etc.

Origami

How to;

- you get a little paper where you have only the indication of the eyes of the fish. You have to draw your own fish but then when folding the fish that you drew that drawing will come out as a more abstract surface in the origamy than the actual drawing of your fish.

- the origami paper could be of special paper that ex. when touched will generate a color by the heat of your hands.
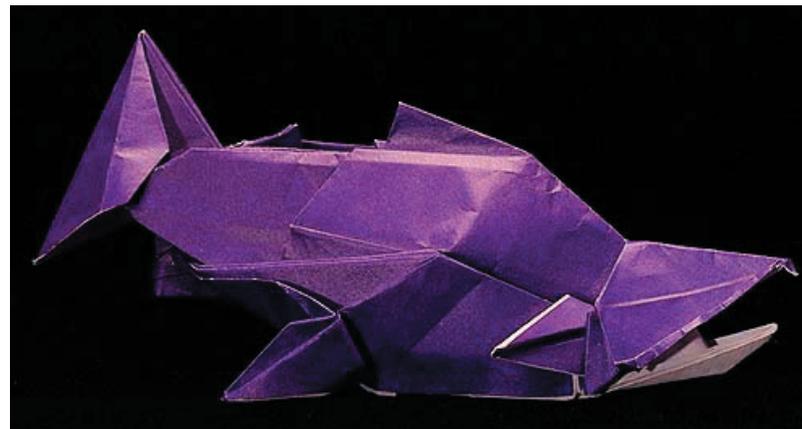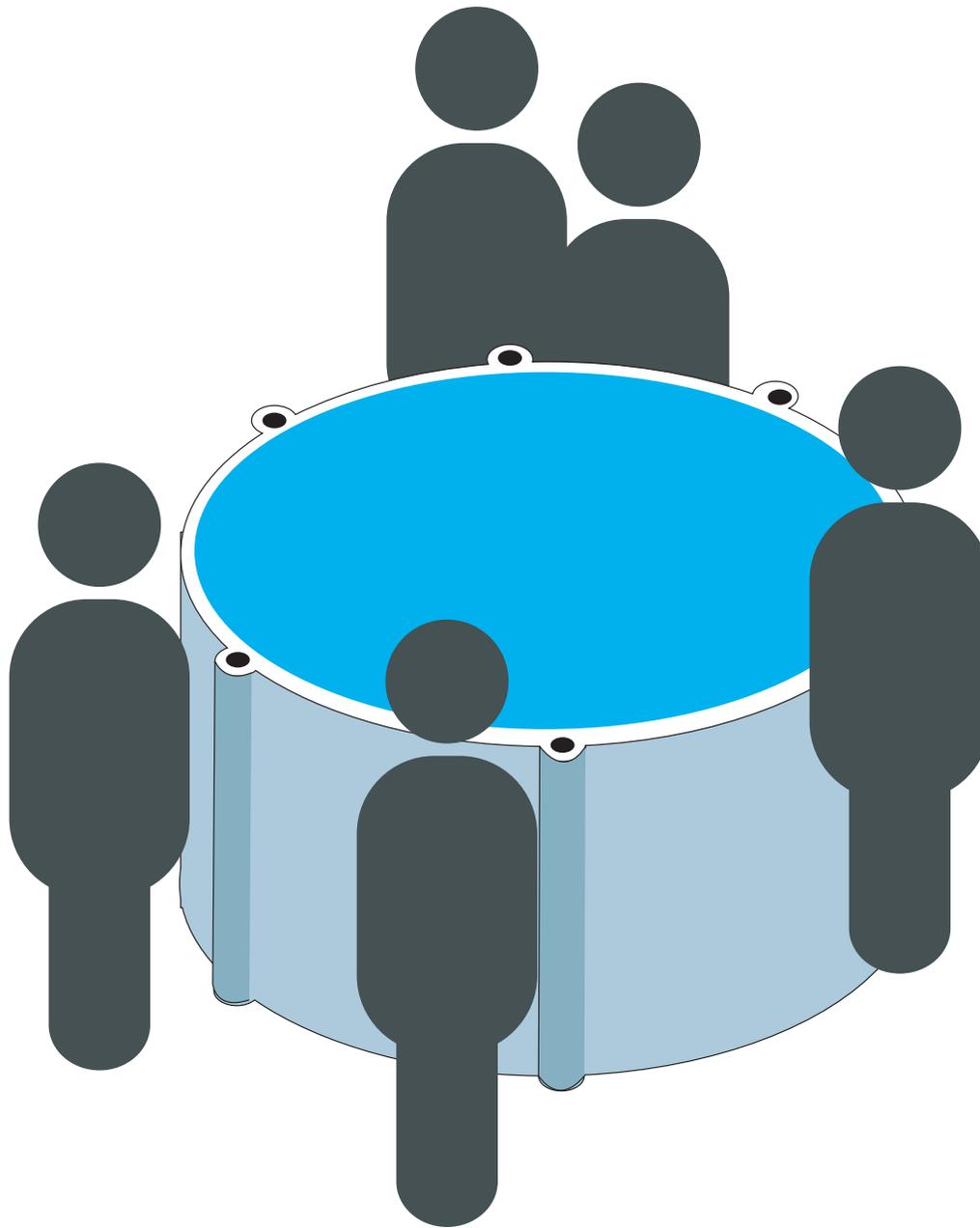
Virtual pool

Game

This installation allows kids to play a virtual game with the fishes they collected around in the different pavillion of the fair.

An interactive table will enable different kids to put their fishes on little round platforms located all around the table at the same time.
As the fishes are located an interactive technique will allow a virtual visualisation of the fish in the projection of a virtual pool on the table.

The swimming pool changes its environment by alternating day and night. The flowing of the time is visualized with a ball running around the circular pool as the clock hour hand.
Different kinds of fish have different behaviour.

For example: the fish out of mirror will reflect the sun light disturbing the other fishes, the fish out of glowing material at night can make jokes to the others ones, the red fish, as soon as he eats some plants of the acquarium, can fight because full of energy, the music fish dances at the musical rythm of random songs played creating water vortices,..and so on.
The kids can play this game by moving their own fish through a tauch pad.
The projection could be even displayed on water to create a better effect.
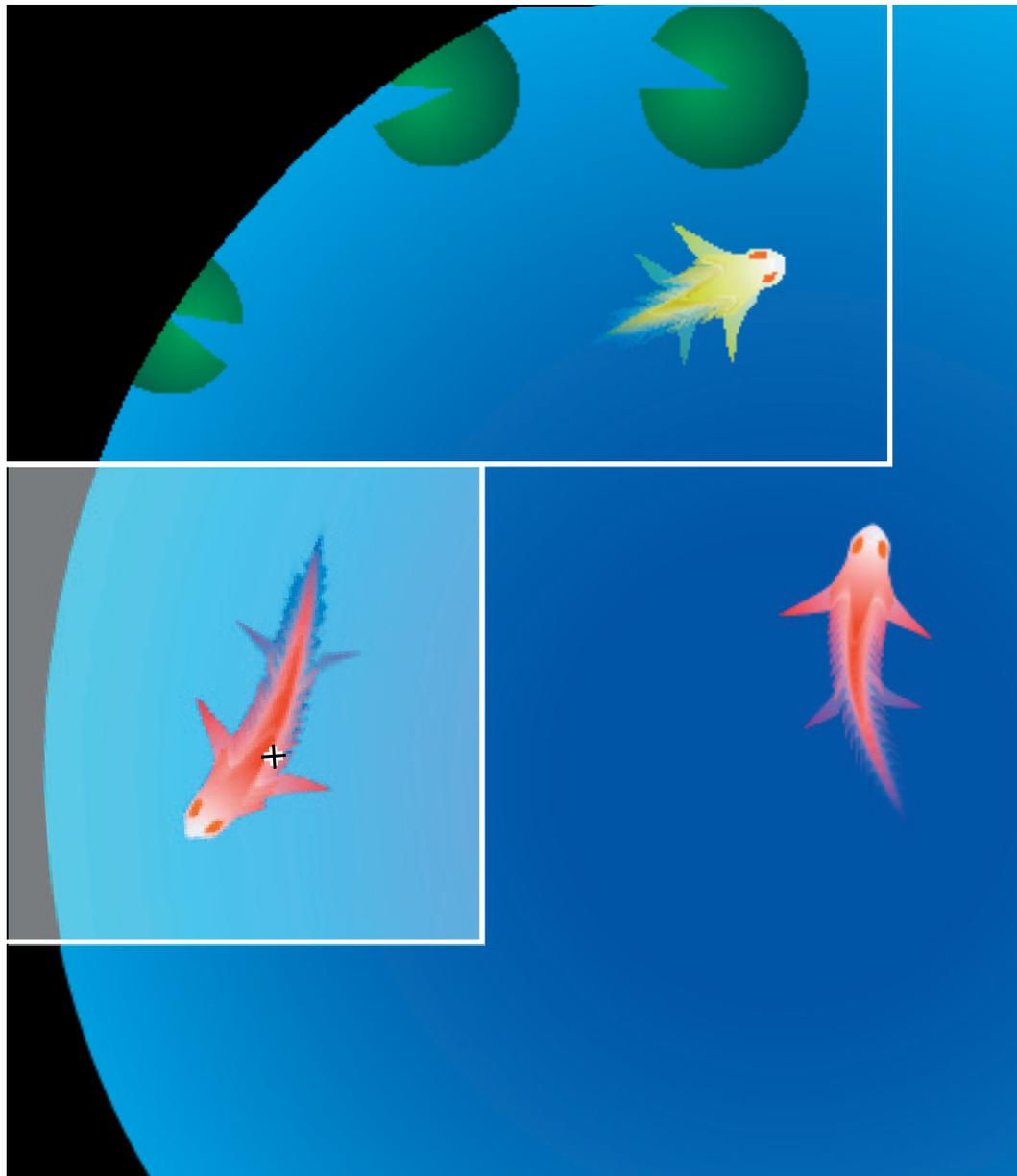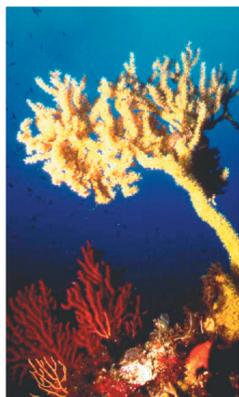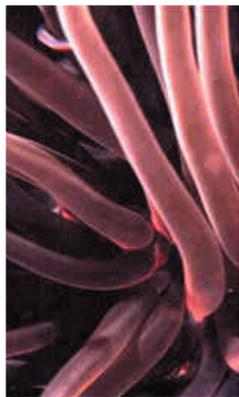
Sea biology

An other possible visualisation for the virtal pool concern the sea biology.

Each fish would be randomly displayed with a special sea animal: a jellyfish, a redfish, a seastar,...

The different animal will present features peculiar of the animal. A prawn will move backwards, a clownfish will be the only one that can get near certain kind of plants,...

In this way the kids will play, investigate and learn something about the underwater world.

When the fish is moved around, makes an invisible path of the way it floats.

This pattern could be recorded and printed out and the drawing you would get from your fish or from your lotus flower would be like 'looing at the cloud' and the game would be for the kid to see some sea animal in the pattern and draw on top to outline what he or she sees.
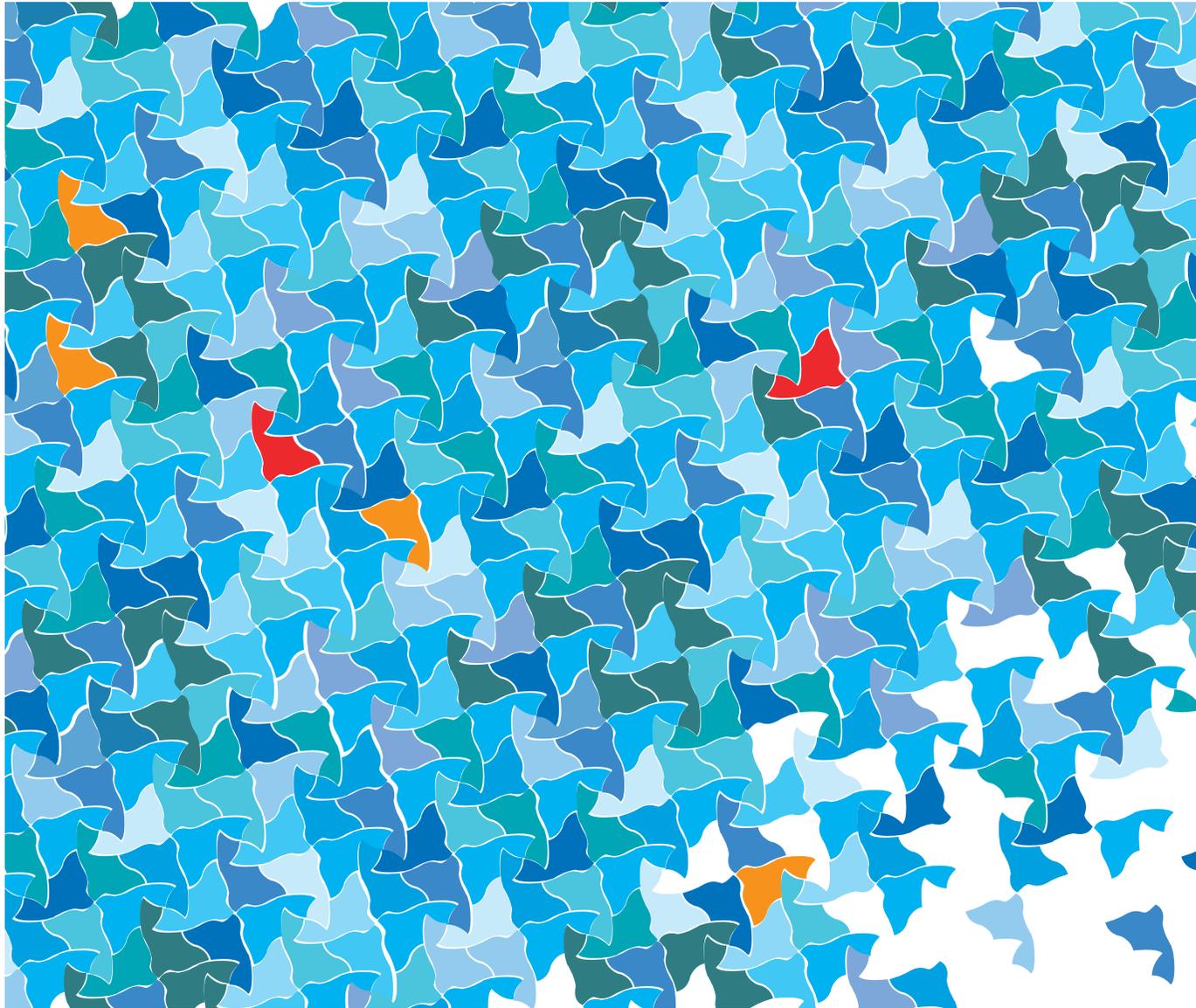
The Tessellation

Collaborative pattern

In terms of space we could image that each person leaves one fish that each day depending on the number of fishes collected could become a colorful, beautiful big tessellation with a mixture of all the experiments possible.
The tessellation idea can range between a very simple solution to a very complex setup where it becomes a platform for interaction amongst the visitors using the fishes.

Imagine an installation where all the fishes collected creates a huge pattern, which will constantly change as visitors, take or leave fishes. All the fishes would function as a pixel where each pixel would be a creation in itself. Finally pictures could be taken over a period of time and creating a small animation of the course of the day. Each little movie should go on the website for people to view in their house or at school.
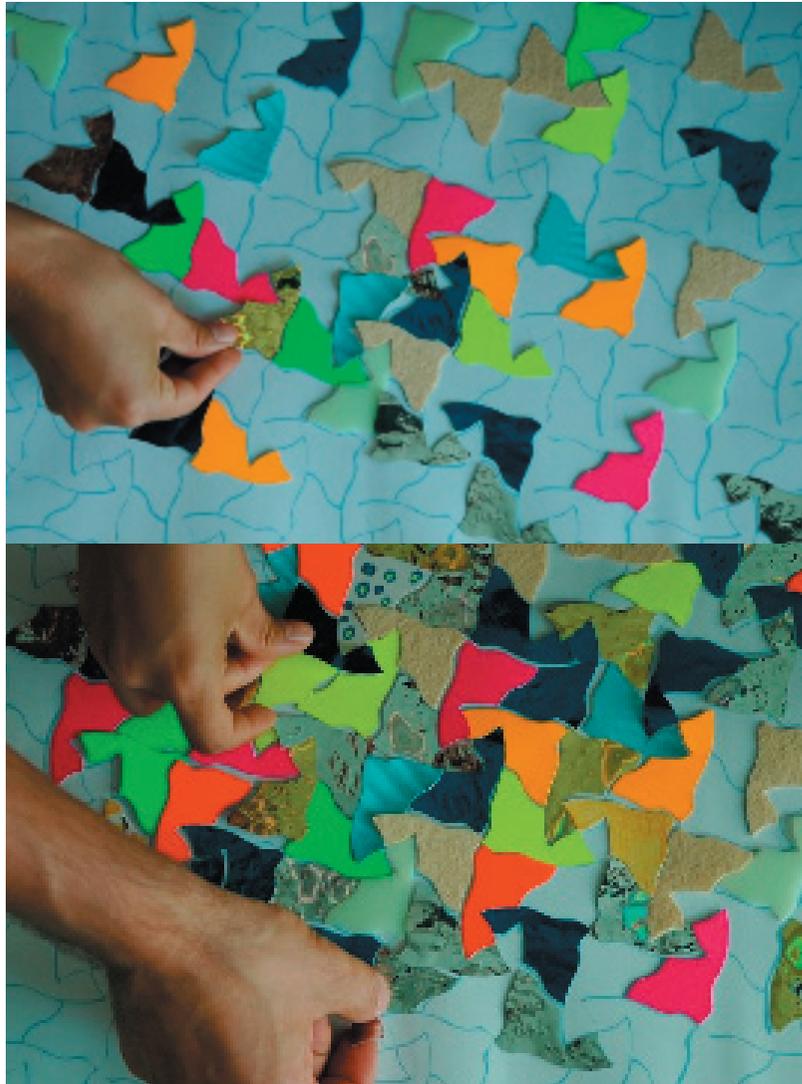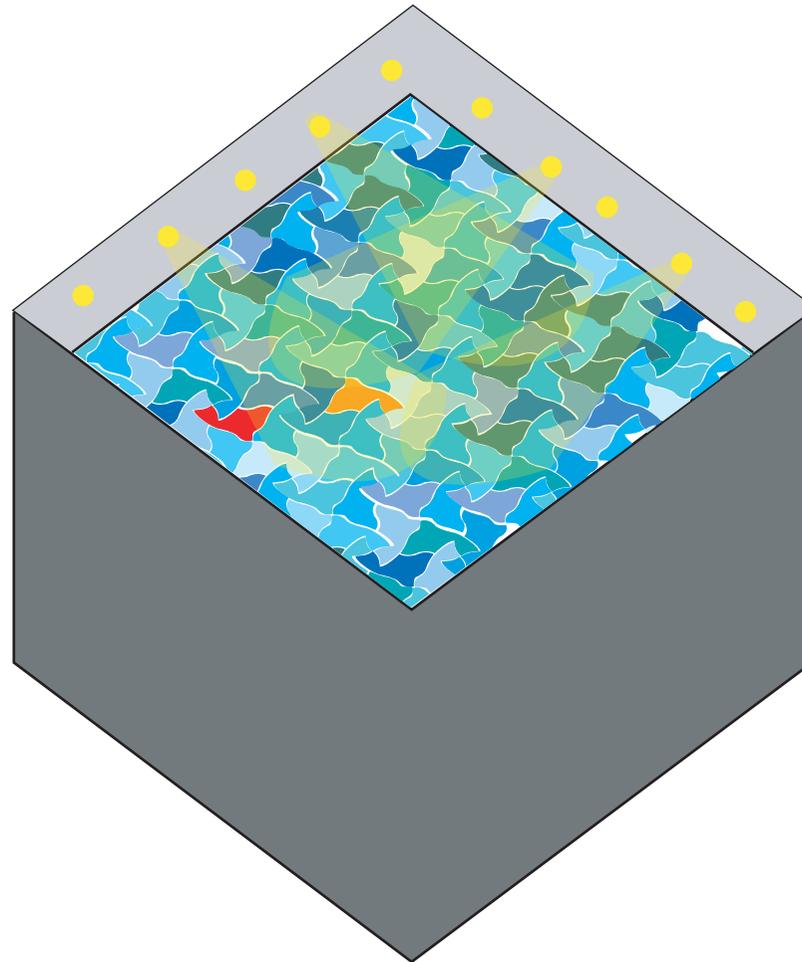
Not only is it a great platform in terms of interactive possibilities but also a frame to show all the experiments and materials places together. It is nice to combine both technological aspect and the physical aspect to show how they can support and inspire each other.

As an example imagine that the fishes in the pattern change their appearance according to their material and the action applied to them. It could be that the interaction is to add heat to the pattern whereas all the fish of material sensible to light or heat will change its color or light. This would show a combination of the material and the interaction with a simple technology.

The Necklace

More than a tool

The necklace refers to a tool of how to carry all your fishes.

The fact that the visitor will be able to collect pieces from each experiment scattered in the area will demand some solution of how to save and carry ones objects.

The idea of a necklace to carry ones fishes came from the desire to show what has been created inside the venue but even more important to show outside the venue and to hang at home as a reminder and as a holder for continuous experiments.

.festivaldellascienza05.it
enter here the fishes names,
you'll be surprised

Website

The necklace could show the link to the site where to learn more about the different materials and experiments.
A website should be created so that one can see examples and get instructions of how to make the games and experiments.

It could even be that the necklace was partly a USB pen and all the images taken of you and your fishes could be downloaded and stored around your neck. Of course this shows perhaps a more complex side of the possibilities as well as expensive in development but the idea generates other more simple ideas of a system where the necklace is not merely the carrier but has an effect in itself.

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