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Introduction

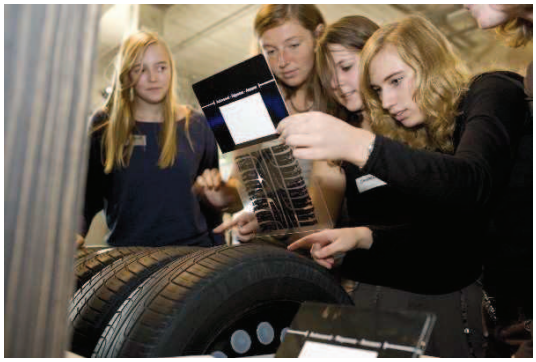
Theme

TOP SECRET is a travelling theme exhibition where visitors of every age can learn about science and have fun by exploring subjects as spying, security, forensics, cryptology…
The 'top secret' theme is used as an exciting medium to connect exhibits covering a large scope of different topics, ranging from simple coding techniques to high tech equipment.
The exhibition gives visitors the opportunity to discover that spying is a very broad subject, ranging from the traditional image of the spy as an international agent who spies on other countries, to industrialists monitoring competitors and everyday aspects like security cameras following our daily to and fro, luggage scanning at the airport, policemen finding out what a suspect has done.

Atmosphere and feeling

TOP SECRET shows the visitor a side of society we normally don't talk and think about: spies, how they operate and what techniques they use to break in on our privacy.

Throughout the entire exhibition, visitors get the feeling that things are not what they seem to be. They feel they never know if someone is watching or overhearing them – certainly after they have discovered they can do it to others. They regularly are taken by surprise and cheated a little bit. Sometimes they are left behind with questions: What is true and what is false here? Who and what can be trusted? The atmosphere in the exhibition is one full of secrets. Try to lift the veil of them.
Through the exhibition visitors can train to be a good spy. Find hidden cameras, listen in on that secret conversation. Break the lock on the security safe. Try to hide from the cameras or fool the sensors. Enter a highly secure area while avoiding all the surveillance equipment. Break or make a code. Pose as someone else and look through other people's disguise.



While visitors play their way through the exhibition, they not only experiment with spy and police techniques, they also learn about the real world of spying and the real gadgets that are used.

Goals

The main objective is to increase the interest for **science and technology** of the visitors, through a broad range of **interactive exhibits** on a thrilling subject. While playing and generally enjoying themselves, they almost unconsciously soak up information on al kinds of sciences and technologies.

Target group

The topic of this exhibition makes it a very suitable theme to attract visitors of all ages. The theme is also attractive for teenagers and young adults, a group that normally is difficult to reach.

Collaboration

For this travelling theme exhibition **Technopolis, the Flemish Science Centre** (Mechelen, Belgium) and **Experimentarium** (Copenhagen, Denmark) bundled their knowledge and experience.

TOP SECRET

Mission system

To heighten the interactivity, and to encourage the participation of the individual visitor, a **mission system** has been developed. It increases storytelling in the exhibition, and it helps the visitors to be engaged emotionally, and to experience the relevance of espionage in real life.

Missions are ‘for your eyes only’, which helps to get personally involved. They stimulate role playing and they incite the visitors to do their best.

Two multimedia kiosks invite the visitor to use a fingerprint scanner. As soon as the visitor has done so, a screen lights up and asks him/her to enlist as a spy and go on a training mission. The visitor then gets some realistic background story and is directed towards an exhibit to solve a question and to get a clue. The visitor then reports back to any terminal in the exhibition and – if he did well – gets the next part of the case, to be solved at another exhibit. If the visitor did not find the clue, he is thanked for the effort and dismissed – with the suggestion to train himself on a few exhibits and then come back for a new assignment. After three tasks a mission is fulfilled. Each visitor can do seven different missions consecutively, bringing him to every corner of the exhibition.

The system recognizes the visitor by his/her fingerprint. This interface is fast, accurate and easy to use. At the end of the day, the fingerprints are deleted from the system.

The rooms

The exhibits of **TOP SECRET** are grouped in a few different “rooms”. This makes the exhibition more coherent and at the same time transparent, and it gives the opportunity to logically incorporate scenery that adds to the mood and the experience.

The airport focuses on security and identification.
The police station groups the forensic exhibits, from fingerprints to ballistics.
The secret service is concerned with code cracking and observation.
The office focuses on hidden messages and secrets.
The street physically connects the other zones and gives opportunity for eavesdropping and disguise.

Each room has its own ‘look and feel’, but without endangering the overall coherence of the exhibition. Each room for instance has its own dominant colour. The wall panels separating the zones and bordering the street are covered in blown-up pictures, to give the impression of a real – but mysterious – city.

Overview of the interactive exhibits

Metal detector?

You probably have met one in an airport, when an official swept you with some stick that beeped when it encountered metal. Here you can use the detector yourself, to check up on mannequins, or your friends.
And how clean are you yourself? Walk through the portal.

What does the visitor see from a distance?
Two life-size dummies, a table with two hand scanners on a cable.

What's the game?
Visitors can scan the dummies, themselves and their friends. They have to find metal objects, some in plain sight, some hidden.

What do you learn?
Metal has specific electrical properties, and can be detected from a distance. Security and privacy collide.

Technical details

Title	Metal detector
Code	SP01
Printed label	yes
Dimensions (cm)	
width	2m
depth	0,6m
height	0,7m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Burglar proof

A mysterious passage is traversed by several green laser beams. Can you pass without interrupting any beam? You better do, because …

What does the visitor see from a distance?

A closed volume, with one opening and green rays inside.

What's the game?

Try to pass through the room, without disturbing the laser beams crisscrossing your path. If you interrupt one, a spotlight pins you down and the alarm goes of.

What do you learn?

Laser light is coherent and focused. You can't see light rays without some particles in the air that scatter it. Burglar alarms do work.

Technical details

Title	Burglar proof
Code	SP04
Printed label	yes
Dimensions (cm)	
width	3m
depth	3m
height	2,5m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	haze fluid

Stepping stones

In a film suddenly a gate closes behind the hero, or a chasm opens under his feet. We wont go that far, but it remains a good idea not to step on the wrong tile when you pass this corridor.

What does the visitor see from a distance?

A checkerboard pattern on the floor, 5 x 8 tiles, with a railing alongside (to keep visitors off the tiles, not to block the sight). Each tile has a symbol on it.

What's the game?

At both ends on a pole you find an array of symbols. Memorize it. Then walk over the tiles, according to the memorized succession of symbols. When you step on the wrong tile, a red led strip around the tile lights up, when standing on a correct one, it turns green.

What do you learn?

The working memory of a human is astonishingly small: seven symbols is about the maximum. Muscle coordination is not easy. You need some spatial insight if you want to follow your route and at the same time avoid a person coming from the other side, following his own route.

Technical details

Title	Stepping stones
Code	SP06
Printed label	yes
Dimensions (cm)	
width	2m
depth	4m
height	1m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Luggage scanner

A real airport scanner to X-ray luggage. And some real suitcases, with content. What do you want more? Ah, you want to X-ray your own things? Can be done.

What does the guest see from a distance?

A real X-ray machine for airport luggage.

What's the game?

Try to operate a realistic airport system, and scan the specially made pieces of luggage for interesting objects hidden there. To the naked eye, they contain nothing suspicious.
Scan your own belongings in some empty, small cabin-suitcases provided for that purpose. Potential terrorist cannot experiment on the system, only the provided suitcases will yield an image.

What do you learn?

X-rays can be used to discriminate between different materials, but the human eye still is needed to recognise what they are used for. Not much remains hidden for a trained eye.

Technical details

Title	Luggage scanner
Code	SP07
Printed label	yes
Dimensions (cm)	
width	3m
depth	1,5m
height	1,5m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	3 small suitcases
Consumables	

Border control

Study the content of one of our suitcases, and study it well, so you can assume the identity of its owner. Then go to border control, and answer the questions – including trick questions – of the official. Will you pass, or do you get Security on your heels?

What does the visitor see from a distance?

Three small tables, with three suitcases on it. A booth with a security officer (a dummy) and a computer screen.

What's the game?

Study the content of one of the suitcases, so you can assume the identity of its owner, then go to the customs booth and answer the questions the officer will ask you to asses your identity. When you answer all of them correctly, you are allowed entrance.
When you blunder, a camera flash goes off and on the flashing red screen appears YOU ARE UNDER ARREST.

What do you learn?

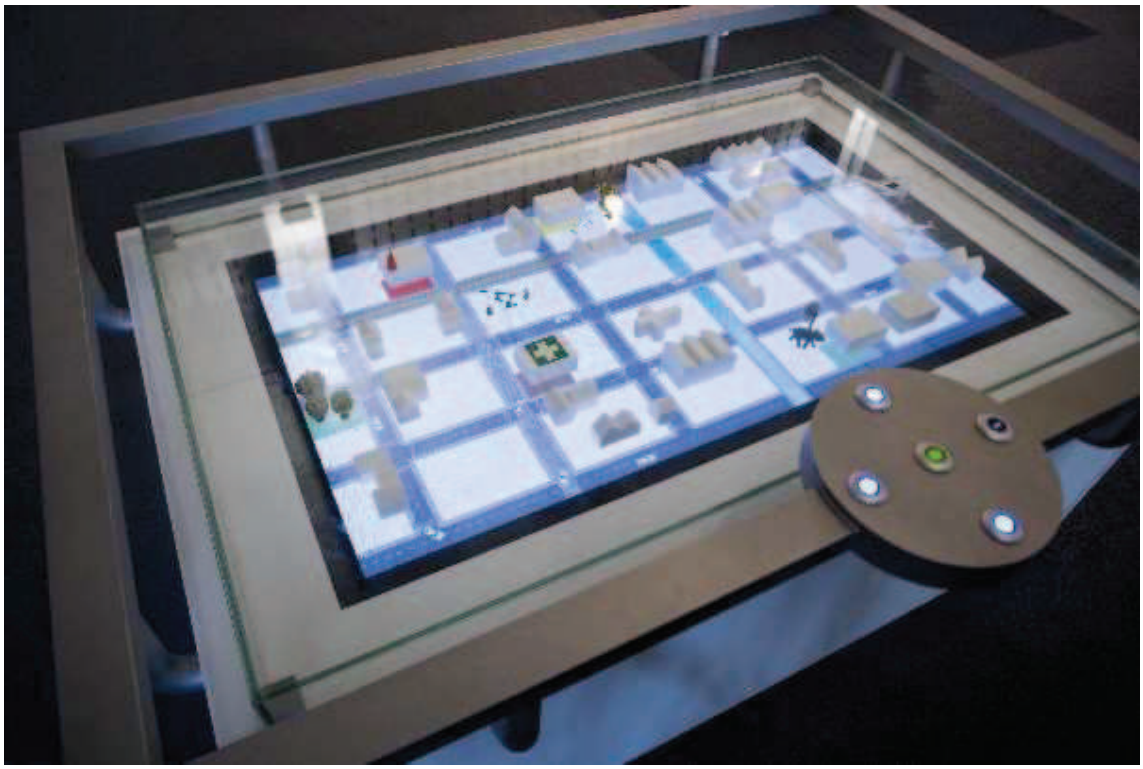
It is very difficult to assume an identity and to tell a coherent story when questioned. It is not sufficient to know the content of a persons luggage, you must take time to deduce how the items fit together, and how they fit the person.

Technical details

Title	Border control
Code	SP08
Printed label	yes
Dimensions (cm)	
width	1m
depth	1m
height	2m
Multimedia	yes
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	3 suitcases on tables
Consumables	

Follow that car!

Your agent has been kidnapped, but she could call you and leave her mobile phone open. So you have all sounds from her transport. Listen to a sound fragment, and steer your car to its source. Listen to the next fragment, and so on, until you reach the place where she is being held. Then the police turns out…



What does the visitor see from a distance?

A scale model of a neighbourhood on a horizontal flat screen monitor, with a railing around it, and a panel with buttons.

What's the game?

Your contact has been kidnapped, but has been able to call you and leave her mobile phone open. Listen to the message on your voice mail and use the ambient sounds you hear to deduce where the kidnapper's car has passed. Listen to a sound fragment, then steer a car through the scale model to the place of origin of the sound. Continue until you reach the destination where the hijackers are hiding.

What do you learn?

You have more than one sense. Sound contains a lot of information, too. Even spatial information.

Technical details

Title	Follow that car!
Code	SP19
Printed label	yes
Dimensions (cm)	
width	1,4m
depth	1m
height	0,75m
Multimedia	yes
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	yes
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Mask your voice

In this professional sound studio you can record your voice, normal, backwards, distorted… Or listen in on gangsters through hidden microphones. But these pick up so much background noise that you will need filters. Can you recover the information from the noise?

What does the visitor see from a distance?

A cabin from a sound studio or listening lab: a set-up with a computer, a microphone and a headphone.

What's the game?

Sit down at the sound studio and record your voice either as it is, backwards, distorted or with external noise. There are also pre-recorded messages making use of the external noise option. Can you filter the message out of the noise?

What do you learn?

With electronic means, sound can be altered and distorted, but also retrieved. Sound can be hidden under other sounds.

Technical details

Title	Mask your voice
Code	SP20
Printed label	?
Dimensions (cm)	
width	1,7m
depth	1,7m
height	1,8m
Multimedia	yes
Includes printed label	?
Includes text on the exhibit	no
Includes audio fragement	yes
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Fingerprints

You get traces of fingers, recovered by your forensic team on the place of the delict. And you have filing cards with fingerprints, taken from known criminals, with the typical characteristics already indicated. Do you find a match?

What does the visitor see from a distance?

A work bench with cards and transparencies of fingerprints.

What's the game?

You get some unknown fingerprints, partial and somewhat smeared. Locate the 'typica' (loops, bifurcations etc) on each print and compare them to the archived prints and their typica. Do you find a match?

What do you learn?

Fingerprints – and even parts of fingerprints – are individually unique, if well studied. You need a series of typica to be sure of your identification. But being at a crime scene is not the same thing as committing the crime.

Technical details

Title	Fingerprints
Code	SP32
Printed label	yes
Dimensions (cm)	
width	1,6m
depth	1m
height	1,4m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	8 task cards
Consumables	

Pollen analysis

Your agent got hold of a handkerchief from someone working in a suspect biological lab. It was full of pollen. But which pollen? Put the pollen under your microscope and study it. Does it match one of the microphotographs in your archives?

What does the visitor see from a distance?

A work bench with a microscope and pictures of some colourful but mysterious objects.

What's the game?

Put real pollen samples under a microscope. Compare what you see to the wall display. Can you identify the plant from which the pollen originates?

What do you learn?

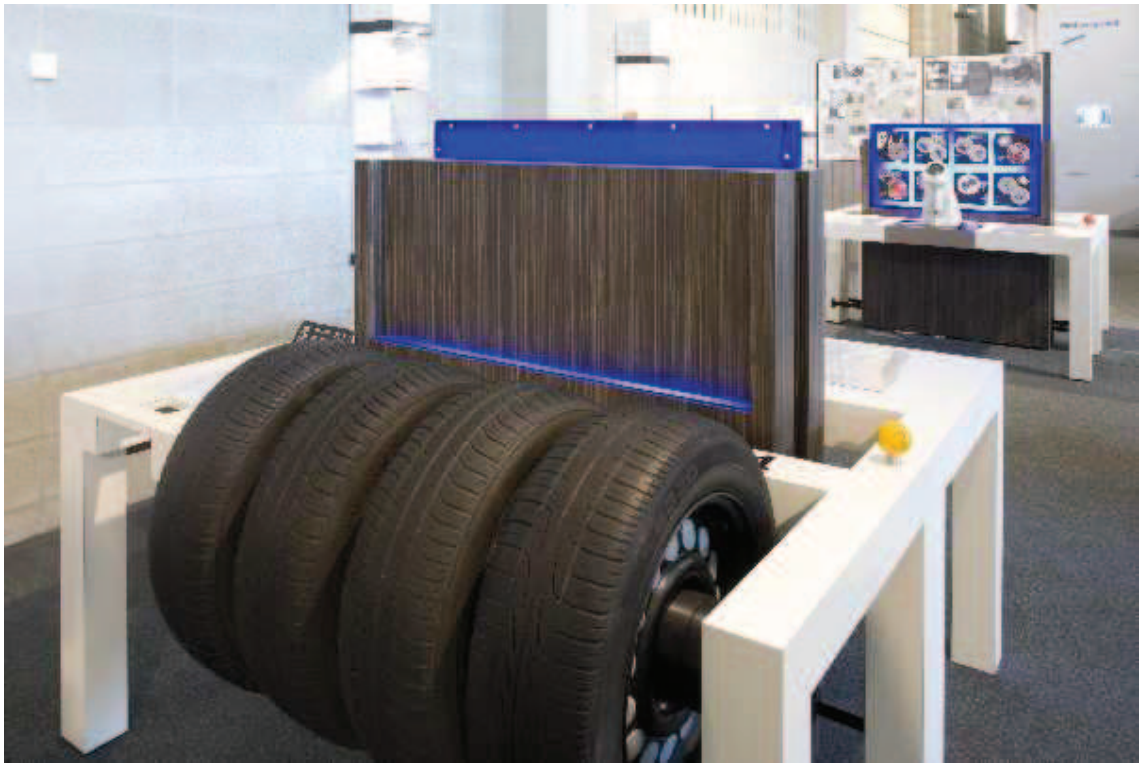
Pollen is very tough, and each plant species has its unique pollen. Pollen can be used to prove someone has been in contact with a specific plant. If that plant is specific to a certain region or terrain (a railway verge, for instance), the pollen indicates you have been there.

Technical details

Title	Pollen analysis
Code	SP33
Printed label	yes
Dimensions (cm)	
width	1,6m
depth	1m
height	1,4m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Tyre tracks

Real tyres, from real cars, and tyre tracks. Which track matches which tyre? This is not so easy as it sounds, because some tyres are almost identical. Do you find the typical details?



What does the visitor see from a distance?

A lab bench with a set of tyres on a common axle and file cards with a tyre track and details concerning car and owner.

What's the game?

Prints have been made of tyre tracks. Compare them to the real tyres. Can you identify the owner?

What do you learn?

Tyres – and shoes, and hooves, and paws – leave tracks. Wear and tear individualize tyres, and their tracks. With a bit of luck, a track can be coupled to a specific tyre, and its owner.

Technical details

Title	Tyre tracks
Code	SP34
Printed label	yes
Dimensions (cm)	
width	1,6m
depth	1m
height	1,4m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	5 task cards
Consumables	

Ballistics

During a hold-up on your premises three different weapons have been fired. You have recovered undamaged bullets from a sofa. Put them under the enlarging camera and compare them to a series of bullets, fired with different weapons. The scratches on the bullets tell from which barrel they came. Do you have a sharp eye?

What does the visitor see from a distance?

A lab bench with a camera, bullets and a screen. Dented bullet-proof vests and bullet-proof glass with stars.

What's the game?

Criminals have raided your premises, and shot with three different weapons at the bullet-proof glass and at the guards. They did not succeed. Bullets have been recovered. Compare them to reference bullets of ten weapons, magnified on the screen. Use a small camera to navigate over the bullets and show them on the screen. What types of weapons were used?

What do you learn?

When bullets pass through a rifled gun barrel, they get grooved. The pattern of grooves is peculiar to a weapon. Bullets can be traced back to the weapon that fired them. (If the bullet is not too much damaged on impact.)

Technical details

Title	Ballistics
Code	SP35
Printed label	yes
Dimensions (cm)	
width	1,6m
depth	1m
height	1,4m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Who's who?

You get a series of pictures of suspects, and of the same suspects in disguise. Can you match the pictures? The computer will tell you how good you where. Congratulations if you got them all correct. Then you really are good!

What does the visitor see from a distance?

A wall with some portraits and a bin with more portraits.

What's the game?

From a bin take twelve portrait pictures, to be hung on the wall. Hang them next to one of the six pictures already on the wall. To each picture of an undisguised person, two disguised pictures correspond. They magnetically stick to the wall. Then push OK. Below the pictures appears a red cross or a green tick for feedback on your result.

What do you learn?

Disguises work! It is notoriously difficult, even in close up, to recognize a well disguised person. Even a small disguise can be enough.

Technical details

Title	Who's who?
Code	SP41
Printed label	yes
Dimensions (cm)	
width	1,6m
depth	1m
height	1,6m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	12 cards
Consumables	

Control room

From here you can operate ten different cameras throughout the whole exhibition. Zoom, follow visitors, move images, record them… In one of the recordings you see a secret transaction between two spies. Can you find it?

What does the visitor see from a distance?

An environment typical to the one, you would expect from such a place: Monitors mounted into the wall and a place for a guard in front of the desk.

What's the game?

Choose between 10 on-line working surveillance cameras and follow what is happening around in the exhibition right now. Some of them are high-resolution cameras, some ordinary, some infrared. Tilt, zoom or turn certain cameras.
Choose between libraries with archived images (some are pre-recorded scenes, to be used in the mission storytelling).

What do you learn?

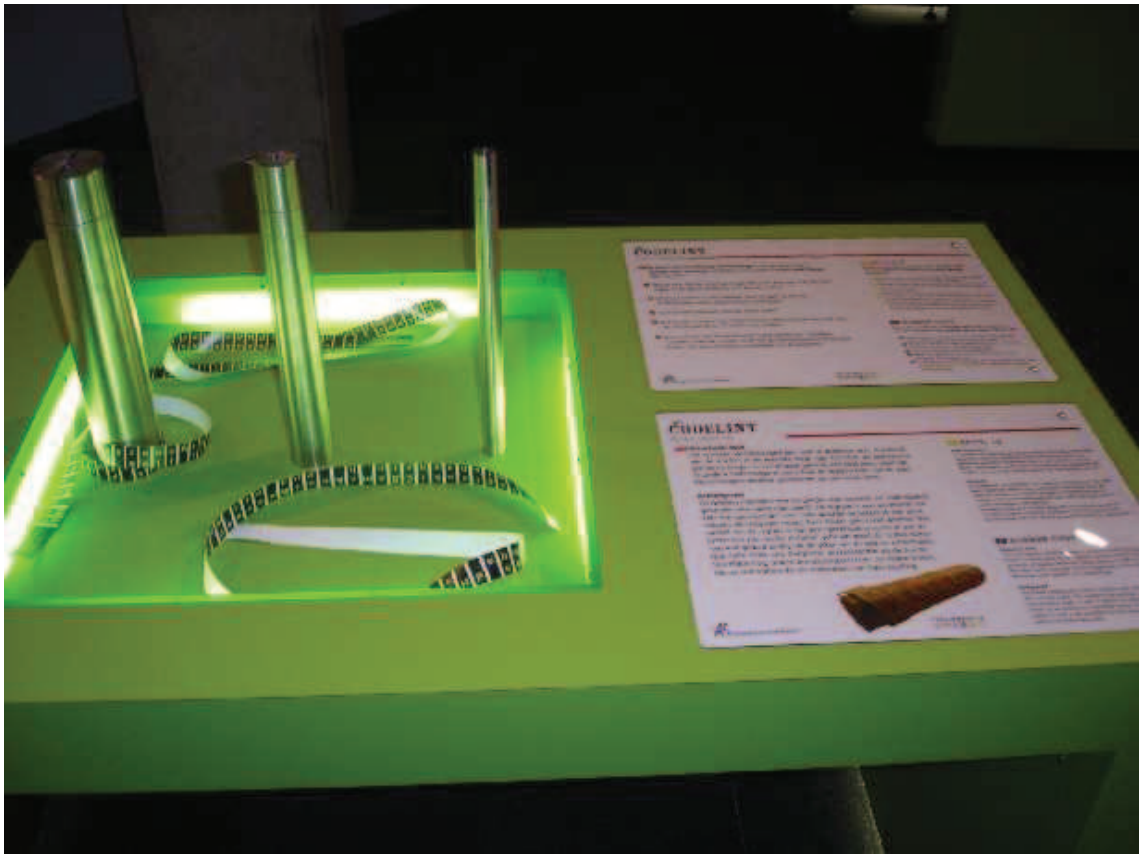
Cameras are everywhere, and you often are watched and recorded without your knowing. What do you think about this infringement of your privacy? And now you had the chance, did you respect the privacy of others?

Technical details

Title	Control room
Code	SP12
Printed label	yes
Dimensions (cm)	
width	3m
depth	1m
height	2m
Multimedia	yes
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	yes, linking the camera's
Accessories	
Consumables	

Ribbon code

A centuries old coding technique, already being used by the Spartans, but still useful. And indecipherable. Or is it?



What does the visitor see from a distance?

A work bench with three poles of different sizes on it.

What do they do when they arrive at the exhibit? What is the game?

You have three cylinders of different diameter, and a number of ribbons with a muddle of letters on them. Wind the ribbons round the cylinders. If properly wound round the right cylinder, the text on the ribbons becomes readable.

What do you learn?

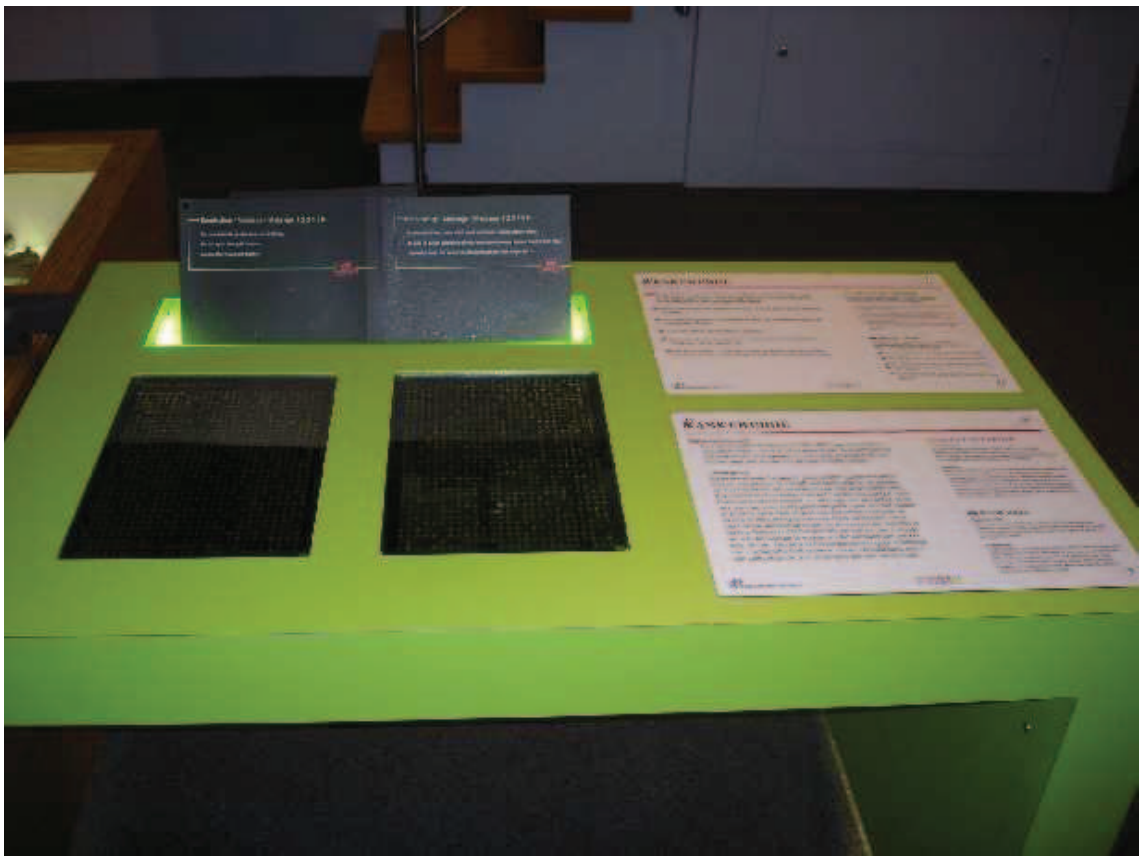
Coding a message can be surprisingly simple. Without the right knowledge and tools, decoding is difficult. This technique already was used by the Spartans.

Technical details

Title	Ribbon code
Code	SP21
Printed label	yes
Dimensions (cm)	
width	1,4m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	3 ribbons
Consumables	ribbons

Mask code

Ministers, kings and their spies have used this code. We give you all you need to break it. What message has been hidden in this harmless text? More than one, it appears.



What does the visitor see from a distance?

A table with two texts on it, some sheets with holes.

What's the game?

You have two innocent normal texts (one in Latin, for those who want to decipher it, the second one in Malaysian), and a few sheets of a sturdy material with holes punched in them. Combine and a message becomes visible through the holes.

What do you learn?

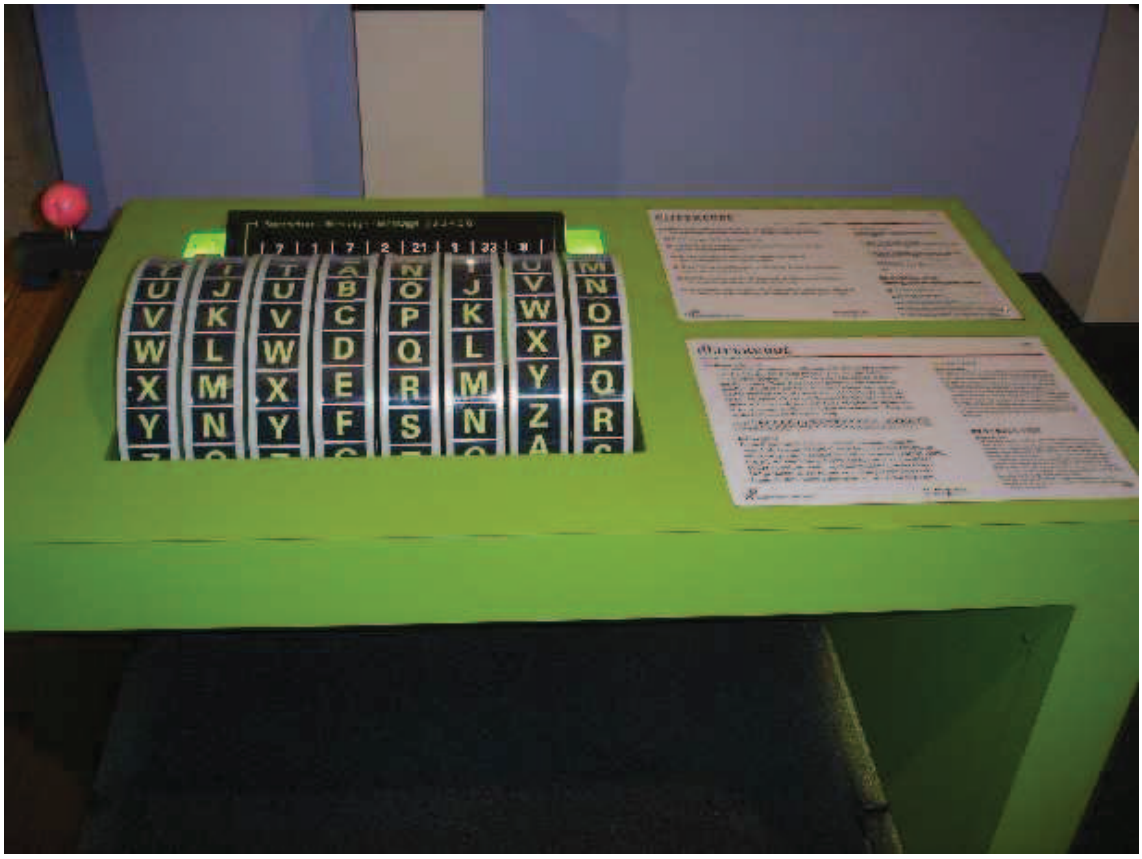
You don't need to encode a message to keep it secret. You just as well can hide it in plain sight. Without the mask, it is impossible to know which letters of the text are important. Cardinal Richelieu used this technique.

Technical details

Title	Mask code
Code	SP22
Printed label	yes
Dimensions (cm)	
width	1,4m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	6 templates
Consumables	

Number code

You are provided with message cards with a series of numbers. And a key to turn them into letters. Anything sensible coming out?



What does the guest see from a distance?

A work bench with a set of eight letter wheels, some task cards.

What's the game?

Decipher a sheet with a series of numbers. The key is given on the same sheet (an array with numbers and corresponding letters). To help you memorize your result while still working on it, store each new letter on a letter wheel.

What do you learn?

A message can be encrypted by replacing each letter by another symbol – in this case a number. Without the key, it is difficult to decipher. Though you can break longer messages if you know the frequency with which each letter is used in a given language.

Technical details

Title	Number code
Code	SP23
Printed label	yes
Dimensions (cm)	
width	1,4m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	6 task cards
Consumables	

Caesar code

Julius Caesar himself did use this code. And his successor, emperor Augustus. They got away with it, because most of their adversaries couldn't read anyway. But you can read, and we hand you the key. Then it's up to you. Defeat an emperor!

What does the visitor see from a distance?

A work bench with a set of eight letter wheels, some task cards, a slide ruler.

What's the game?

Decipher incomprehensible texts of shuffled letters with a slide rule. With the slide rule, you can align two alphabets. To help you memorize your result while still working on it, store each new letter on a letter wheel.

What do you learn?

Julius Caesar already replaced the letters in his message by the letters a fixed number of places further up in the alphabet. He normally shifted three places, but any other interval of course is possible. And nobody forbids you of reversing one of the alphabets. Easy to use, but also easy to crack.

Technical details

Title	Caesar code
Code	SP24
Printed label	yes
Dimensions (cm)	
width	1,4m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	6 task cards
Consumables	

Triplet code

Nature, too, uses codes. The most famous example is the genetic code of the DNA in your cells. The scientists who in then years cracked this code, got a Nobel prize. With a little help from us, you should be able to do the same, aren't you?

What does the visitor see from a distance?

A work bench with a set of eight letter wheels, some task cards.

What's the game?

Decipher a text in a DNA-like code, using the provided key.

What do you learn?

Living cells use a code, too. In this code, each group of three symbols (chosen from a set of four possible symbols) indicates one item (an amino acid in biology, an alphanumeric character in our case).

Technical details

Title	Triplet code
Code	SP26
Printed label	yes
Dimensions (cm)	
width	1,4m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	6 task cards
Consumables	

Enigma

The most famous coding machine of all times certainly was the German Enigma. The people that cracked this code, shortened World War II with some 2 years. In this exhibition you can see a real Enigma – and try your hands at the code. Because you know how the machine is preset, you should be able to solve it. Now you can win a war!

What does the visitor see from a distance?

A work bench with a set of eight letter wheels, an array of four code cylinders and some task cards.

What's the game?

Using a simplified enigma machine, decode a text. In a real enigma machine, an electrical current zigzags through the cylinders from the 'clear' letter to its encrypted equivalent. Here you have to trace the path of the signal with your finger.

What do you learn?

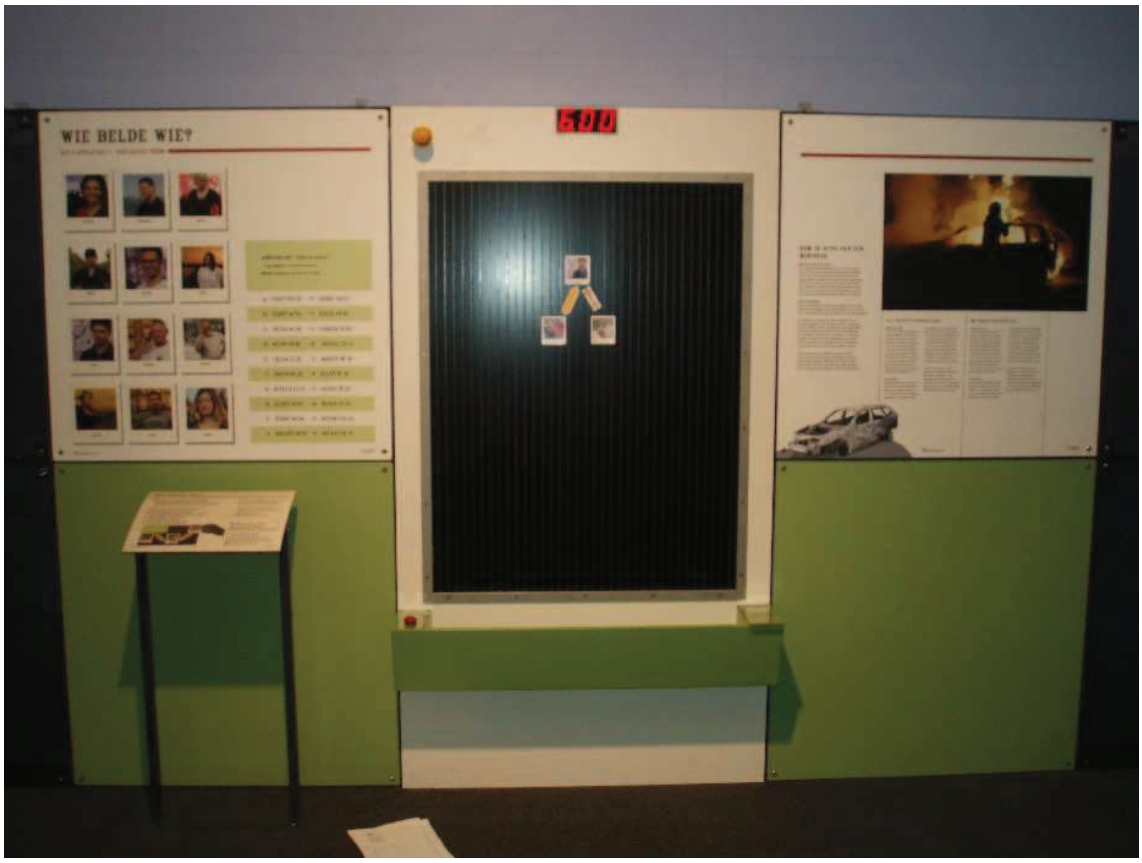
How did the fabled enigma code machine work?

Technical details

Title	Enigma
Code	SP27
Printed label	yes
Dimensions (cm)	
width	1,4m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	6 task cards
Consumables	

Who called whom?

At the time the bomb in the minister's car exploded, a lot of people have phoned one another. Most of them completely incidental, but some of the callers must have been terrorist. Is there a pattern in the calls? Who is the spider in the web? It's up to you to find out.



What does the visitor see from a distance?

A large magnet board. A set of phone numbers. A poster with a huge network of thousands of interconnected persons.

What's the game?

From a list of telephone calls, with magnet strips construct a network of who called whom. Is there a spider in the web? After some time the board is demagnetized and ready for the next person.

What do you learn?

Cluster analysis is a good way to discover relations among people, even without knowing the content of their phone calls.

Technical details

Title	Who called whom?
Code	SP40
Printed label	yes
Dimensions (cm)	
width	3m
depth	0,5m
height	2m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	magnetic cards
Consumables	

Spy satellite

Study real spy photographs from Afghanistan, from a Russian satellite. Feel free to use the magnifying glass provided. You see the same mountain valley, before and after an American bombardment. If you were an American military analyst, what would you tell the general staff?

What does the visitor see from a distance?

A large picture of a satellite, behind two tables with background lit satellite pictures.

What's the game?

After hearing an audio news real to introduce the situation, compare two satellite photos ('before' and 'after') of real situations: a valley in Afghanistan, before and after an American bombardment; a Chinese airport where a captive American spy plane is dismantled.
Decide what happened, then compare your explanation to ours.

What do you learn?

This is how real satellite pictures look like. One can see a lot of information on them, but information does not mean comprehension. Quite some room for (mis)interpretation remains.

Technical details

Title	Spy satellite
Code	SP44
Printed label	yes
Dimensions (cm)	
width	1,2m
depth	1m
height	1m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	yes
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Crack the safe

You've got 1 chance in 258 to be right. Press the right combination of eight buttons, and the safe opens. Luckily, you can learn from a wrong combination, so your next try should be closer to it. In how many turns do you get the safe open? And what secrets are hidden in it?

What does the visitor see from a distance?

A big safe. On the door are mounted 8 rows of two buttons and a big green "check" button.

What's the game?

Open the safe with a combination lock. To do so, press the right combination of eight buttons, each to be chosen from two possibilities. Which means you have one chance in 258 to guess it right. You get the code as a 'normal' number; you have to translate it to a digital number. When you hit the right code, the door really opens. The next visitor will need a different code.

What do you learn?

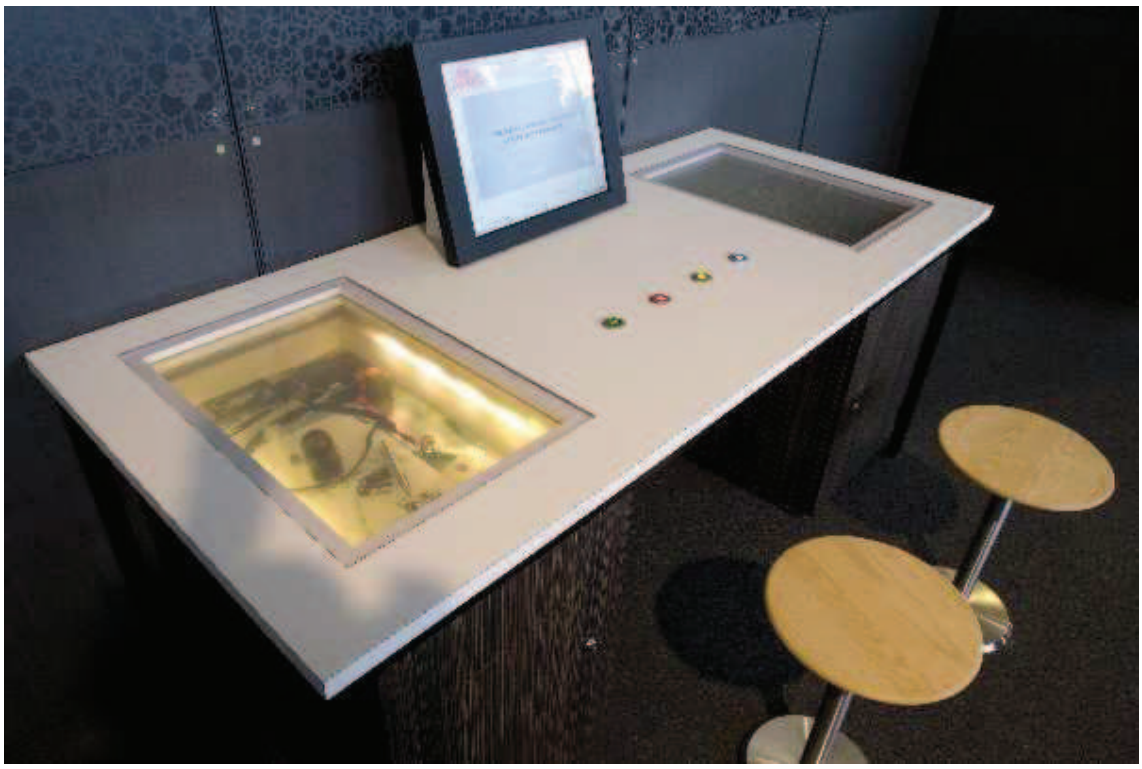
The code on the safe is a digital code (two possibilities on each position). A 'brute force attack' (trying all possibilities one after the other) really is hard work. In the real world the number of possibilities is much higher. Then even a computer has to work thousands of years to try them all.

Technical details

Title	Crack the safe
Code	SP30
Printed label	yes
Dimensions (cm)	
width	1,4m
depth	0,5m
height	1,6m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

What did you see?

You have broken into the office, to rummage through the desk of a possible spy. Use your eyes well, because the time is short. Now answer the questions of your boss.



What does the visitor see from a distance?

An office desk, with a computer screen and two opaque glass plates on it.

What's the game?

The glass plates one after the other become transparent for a few seconds, so you can look into the drawers below. Remember what's in it, then answer the questions on the screen.

What do you learn?

Memorizing is a tricky business.

Technical details

Title	What did you see?
Code	SP39
Printed label	no
Dimensions (cm)	
width	1,6m
depth	0,8m
height	0,75m
Multimedia	yes
Includes printed label	no
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Where is the camera?

This office – and you – are being watched by four security cameras. You see your own image live on screen. Can you deduct from the images where the cameras are? Then blind them with your laser gun.

What does the visitor see from a distance?

In the office environment you might notice the (visible) surveillance cameras. On a stand you find a camera sweeper.

What's the game?

On the screen in front of you, see yourself from four different angles, each one from a different camera. Work out your relative position, then point the sweeper to the camera to 'shoot it down'.

What do you learn?

Working out angles and lines of sight from a 2D screen is horribly difficult. Nevertheless, surgeons more and more often have to operate while following their instruments on camera.

Technical details

Title	Where's the camera?
Code	SP11
Printed label	yes
Dimensions (cm)	
width	0,5m
depth	0,5m
height	1m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	yes, linking the camera's
Accessories	
Consumables	

Faraday cage

How can you make a room impenetrable for radio waves? And has your mobile phone become inaccessible, too? Here you can try.

What does the visitor see from a distance?
A radio with two wire mesh cages next to it.

What's the game?
Put on the radio, then lower a cage over it: the radio stops playing in the metal case, not in the plastic one.

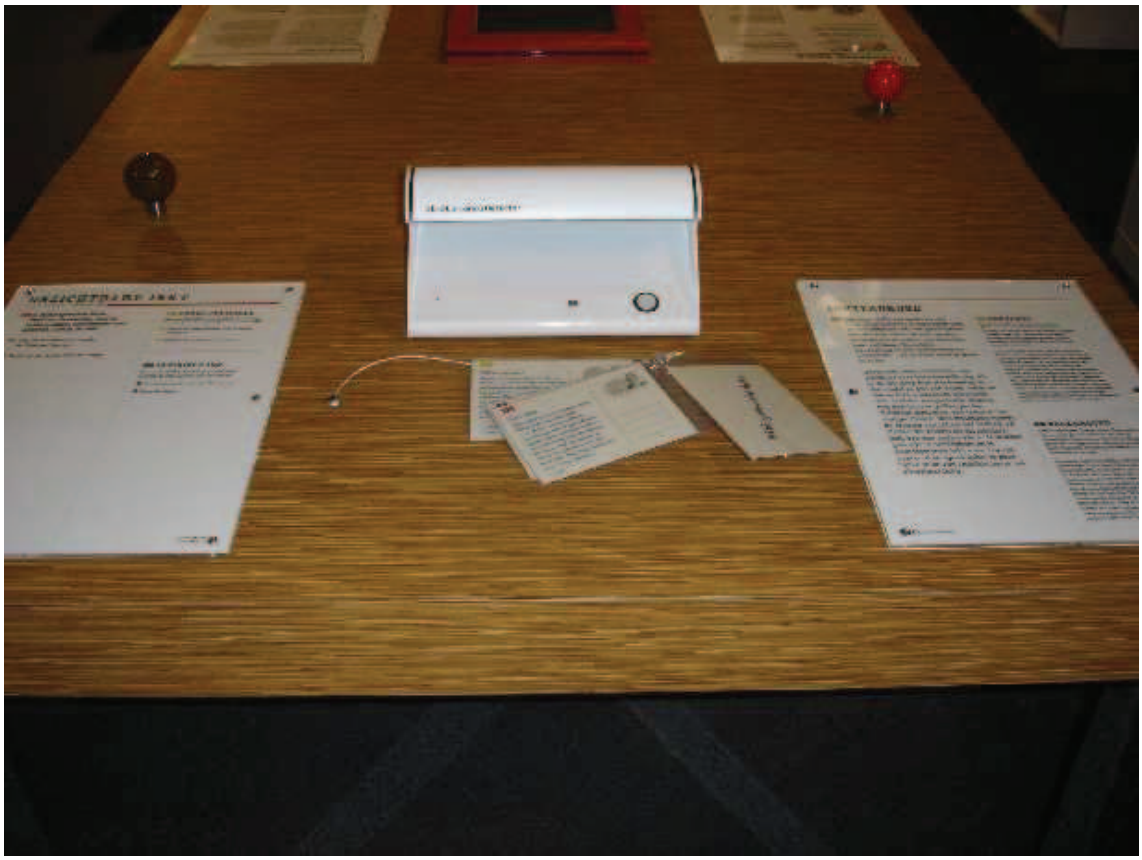
What do you learn?
Faraday cages really work!

Technical details

Title	Faraday cage
Code	SP18
Printed label	yes
Dimensions (cm)	
width	1m
depth	1m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Invisible ink

One can code messages, so nobody can understand them, but one also can hide them, so nobody can find them. Can you do find the message?



What does the visitor see from a distance?
A table with some sheets and a ‘blue’ lamp.

What’s the game?
Slide text examples with hidden UV-sensitive ink messages under a UV-lamp and read/see the messages.

What do you learn?
UV-light has enough energy to initiate chemical reactions. Some dyes change colour under UV-light.

Technical details

Title	Invisible ink
Code	SP28A
Printed label	yes
Dimensions (cm)	
width	1,2m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Microtext

Do you see something unusual on the papers on this desk? No? Then look again. There are illegible small texts hidden in them. But a good secret agent of course knows what to do now.

What does the visitor see from a distance?
Some sheets and magnifying glasses on a table top.

What's the game?
Under the magnifier the text becomes readable.

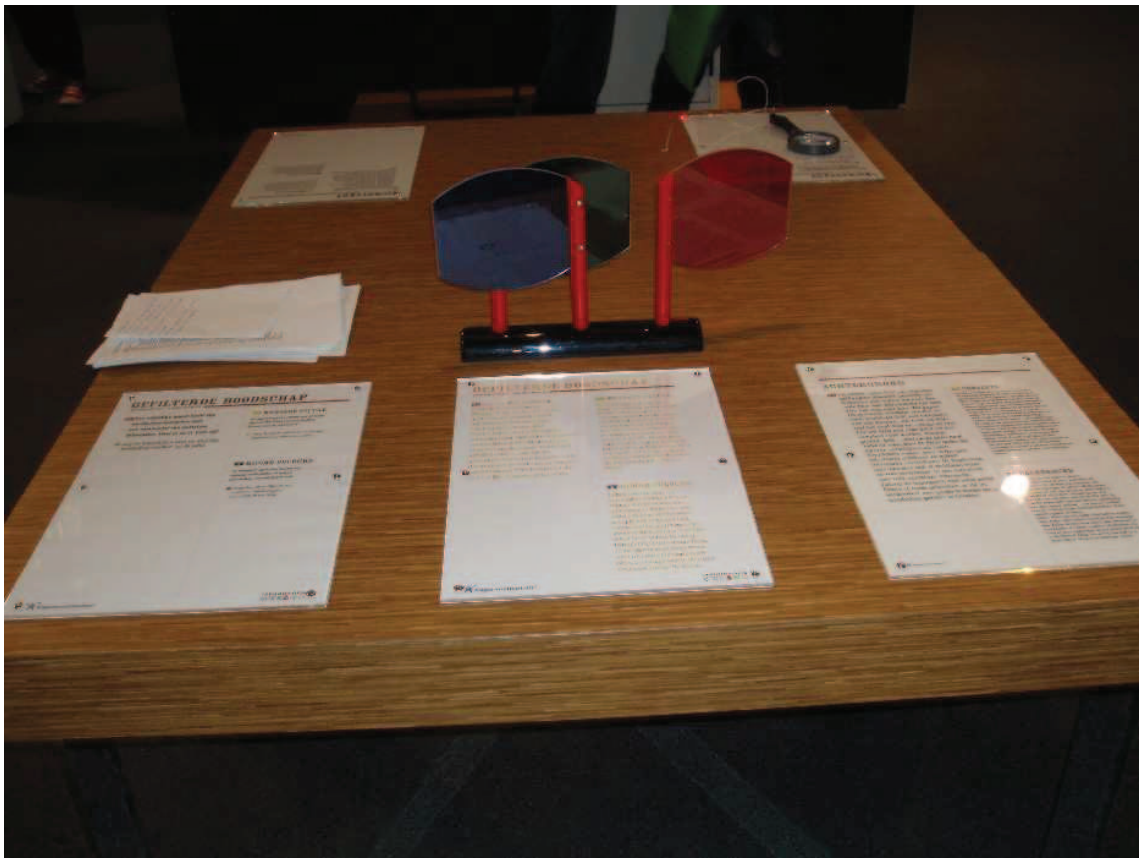
What do you learn?
Microdots with photographically reduced texts are often used to transmit messages. Before the cheap computer memories, microfiches and microfilms were used as storage media in archives.

Technical details

Title	Microtext
Code	SP28B
Printed label	yes
Dimensions (cm)	
width	1,2m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	no
Needs network	no
Accessories	
Consumables	

Hiding colours

This agent has guts. She left a message in plain sight. But all the same it doesn't catch the eye, because it has been drowned in a mass of needless details. This is a question of filtering away the superfluous. A job for a good spy. Are you?



What does the visitor see from a distance?
Some A4 coloured sheets on a table.

What's the game?
Use colour filters to decipher pre-prepared messages.

What's the message?
Colour filters make information of the same colour disappear. That way one can lift a message from coloured noise.

Technical details

Title	Hiding colours
Code	SP28C
Printed label	yes
Dimensions (cm)	
width	1,2m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	yes
Includes audio fragement	no
Needs electricity	no
Needs network	no
Accessories	
Consumables	

Hidden picture

Two sheets full of dots. Nothing to recognise in them. But bring them together in the right way and an image appears. Only, what is ‘the right way’?

What does the visitor see from a distance?
Two sets of transparencies on a desk

What’s the game?
Put the right transparencies on top of each other and a message appears.

What do you learn?
Two sets of seemingly random points can be added up to a meaningful sum.

Technical details

Title	Hidden picture
Code	SP31
Printed label	yes
Dimensions (cm)	
width	1,2m
depth	0,7m
height	0,75m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Bug detector

Beware, the enemy is listening in! This office is bulging with monitoring equipment. Minuscule and well hidden. A job for you and your bug detector.

What does the visitor see from a distance?
A pole with a sweeping instrument on a cable.

What's the game?
In the office area four bugs are hidden. The sweeper gives a signal when it points at them. Now you know where they should be, can you recognize them?

What do you learn?
Electronic gadgets produce an electromagnetic field while working. Another electronic gadget is sensitive to electromagnetic fields and gives a response, proportional to the strength of the field in a given direction. Bug sweepers really exist.

Technical details

Title	Bug detector
Code	SP45
Printed label	yes
Dimensions (cm)	
width	1,6m
depth	0,8m
height	1,7m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Chez James

Get a free table on the terrace of café Chez James. This city is teeming with spies, so here you certainly will find someone of the other side. Be seated and put on your rearview glasses. Or peek through your newspaper. And would there be something to overhear behind those doors?

What does the visitor see from a distance?

A café terrace with some chairs, a newspaper and sunglasses on the tables, three doors in the wall.

What's the game?

Sit down and relax. Use the (mirrored) sunglasses to look behind you, spy on other people through a hole in the newspaper. Listen at the doors. Is there some information below the table top?

What do you learn?

Real world spies sometimes use simple, but efficient gadgets.

Technical details

Title	Chez James
Code	SP15
Printed label	no
Dimensions (cm)	
width	5m
depth	3m
height	3m
Multimedia	no
Includes printed label	no
Includes text on the exhibit	yes
Includes audio fragement	yes
Needs electricity	yes
Needs network	no
Accessories	
Consumables	

Eavesdropping

Did you already encounter some inconspicuous microphones? No? Nevertheless, they are present, because here you can listen in. On the floor plan, choose the site you want to eavesdrop on. And maybe then you should walk back and find out where that microphone was hidden.

What does the visitor see from a distance?
A map of the exhibition, some headphones.

What's the game?
On the map some buttons indicate microphones. Choose one and listen to that area.

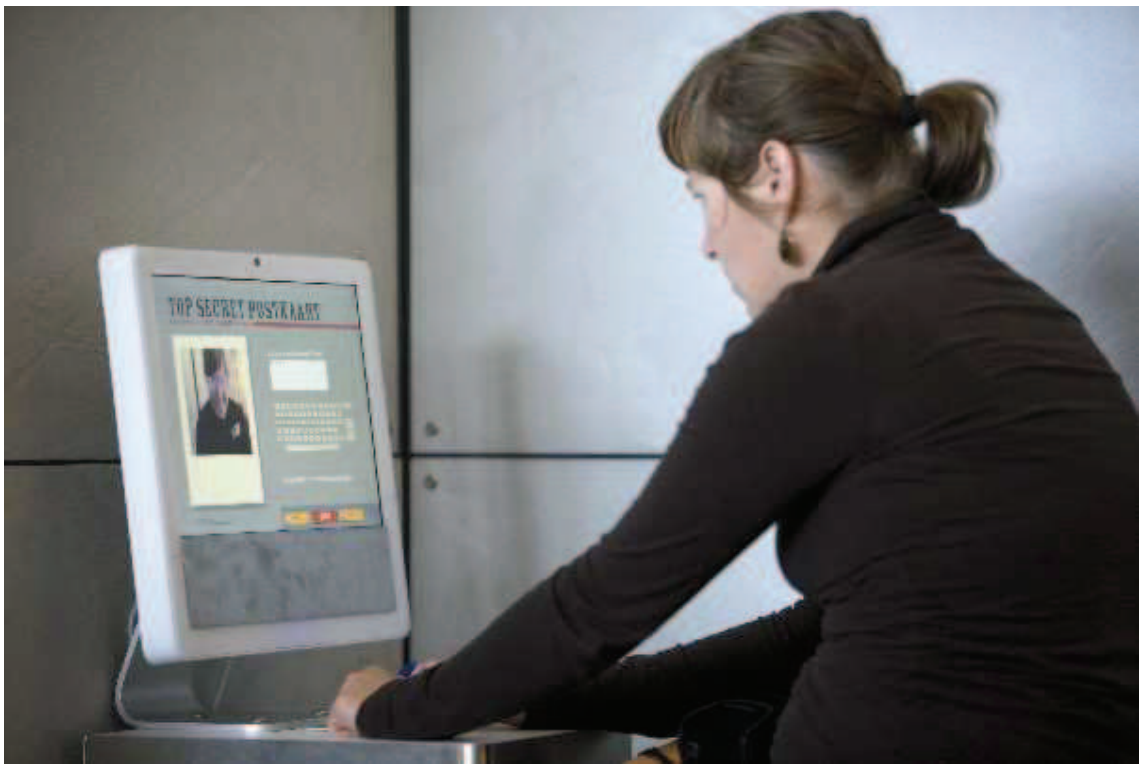
What do you learn?
Technically, eavesdropping is not that simple. Microphones do not filter background as human ears do. Most of the time, your curiosity easily wins from your respect for other people's privacy.

Technical details

Title	Eavesdropping
Code	SP17
Printed label	yes
Dimensions (cm)	
width	1m
depth	0,2m
height	2m
Multimedia	no
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	yes, linking the microphones
Accessories	
Consumables	

TOP SECRET postcard

Seat yourself in front of the camera, and rework your image with beards, moustaches, hats… Then e-mail the picture to your friends.



What does the visitor see from a distance?

A computer screen with typical disguise elements: false beards, moustaches, hats, sunglasses, a camera above the screen and a control unit with a trackball.

What's the game?

Take a picture of yourself, disguise it, and send it to your friends.

What do you learn?

Disguises work!

Technical details

Title	TOP SECRET postcard
Code	SP47
Printed label	no
Dimensions (cm)	
width	1m
depth	1m
height	2m
Multimedia	yes
Includes printed label	no
Includes text on the exhibit	no
Includes audio fragement	no
Needs electricity	yes
Needs network	yes, needs internet connection
Accessories	
Consumables	

Iris recognition

In high security areas it already is in use, and here you can try it: scan your iris. Once the system has scanned and stored your iris, the second time it knows you. Now you can pass.

What does the visitor see from a distance?
A camera booth as seen in shops to make passport photos.

What's the game?
Step inside and have your iris scanned. Then see if the system recognizes you the second time round.

What do you learn?
Biometrics is a new technology, that uses your body to recognise you: fingerprints, voice prints, iris scans, the way you walk …

Technical details

Title	Iris recognition
Code	SP10
Printed label	yes
Dimensions (cm)	
width	3m
depth	0,5m
height	2m
Multimedia	yes
Includes printed label	yes
Includes text on the exhibit	no
Includes audio fragement	yes
Needs electricity	yes
Needs network	no
Accessories	
Consumables	