

Future Lab / Interface Design /

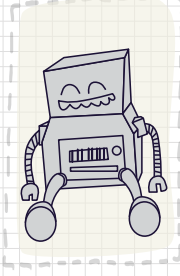
Master Project / WS 2013/2014



PRINTING ELECTRONICS  
INNOVATION LAB HEIDELBERG



LEI ZHANG



NATALIA SUAREZ



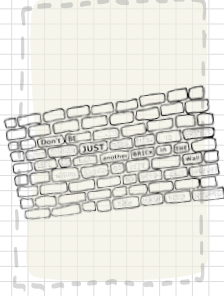
REINALDO VERDE



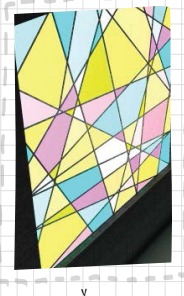
APASRI TITATARN



JONAS LIDEIKIS



MARIAM GIGUASHVILI

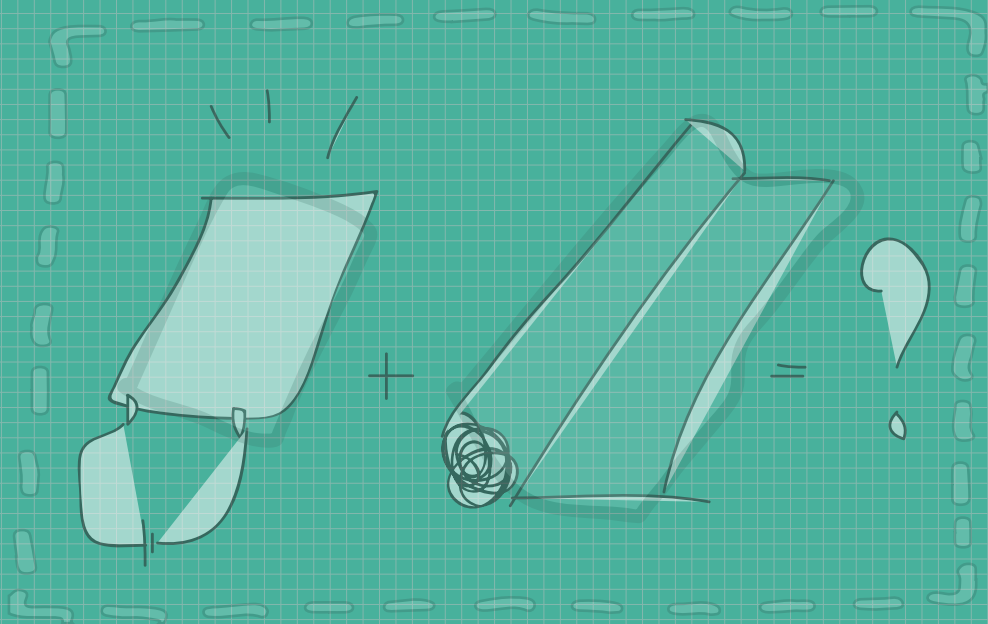


AIDAS ČERĢELIS



JEORGELINA GARCIA

# WHO MADE IT?



DESIGN BRIEF

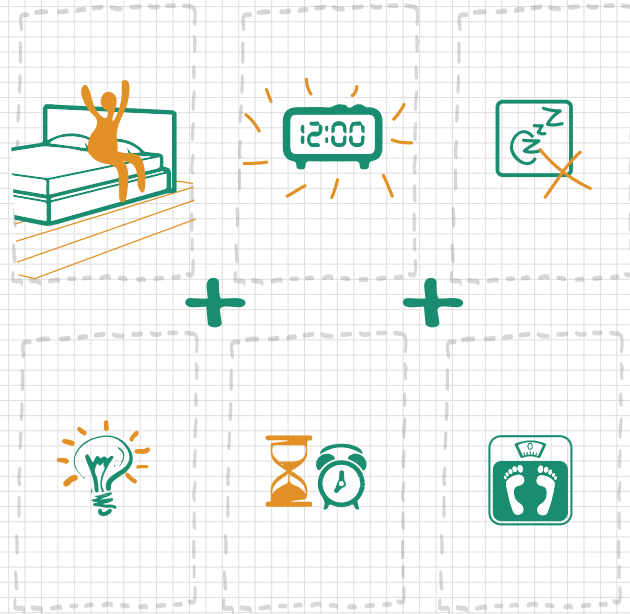
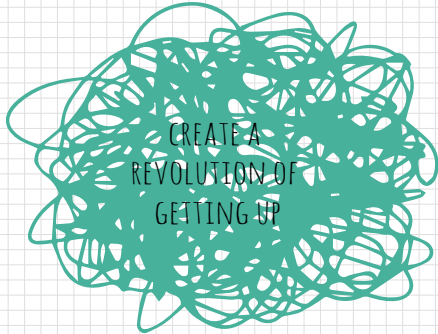
- AWAKING BOARD
- LAMP TOY
- LUMINESCENT SMART DOOR
- WALL CLOUD
- INVISIBLE SWITCH
- QUOTE OF THE DAY
- STAINED GLASS + EL FOIL
- INTERACTIVE LIGHT GAMES

# WHAT MADE THEM?



# AWAKING BOARD

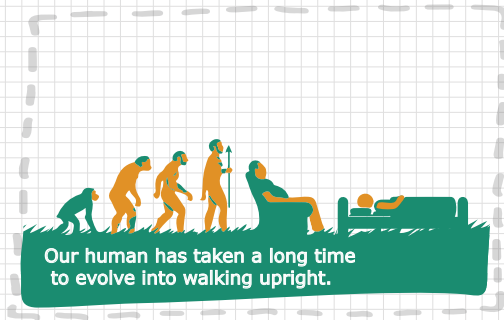
LEI ZHANG



# INTRODUCTION

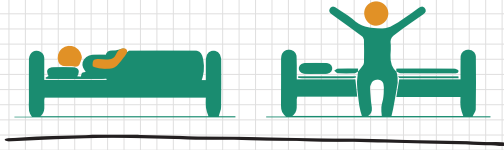
Organic and Printed Electronics is a new type of electronics: thin, lightweight, and flexible, produced at low cost, enabling single use, ubiquitous electronic devices and new applications. With the flexible and printed electronics, we could develop some commercial productions. Thus, new applications are required to be focused on the best capitalize on the printed electronics technology.

The printed electronics product could be expanded with various smart modules, adding sensing, display, and close-proximity, wireless communication to the core technology platform. So, the core task is developing new applications as a combination of decoration, lighting, sensor, and communication. They are designed to improve and inspire people's daily life.



## THE PROBLEM

Our human has taken a long time to evolve into walking upright. Today, snoozing before officially coming out of bed is a pretty standard practice. A survey revealed that more than a third of American adults hit the snooze button at least three times each morning, and more than half of people ages 25 to 34 press snooze daily. There are some reasons for why we could not get up.

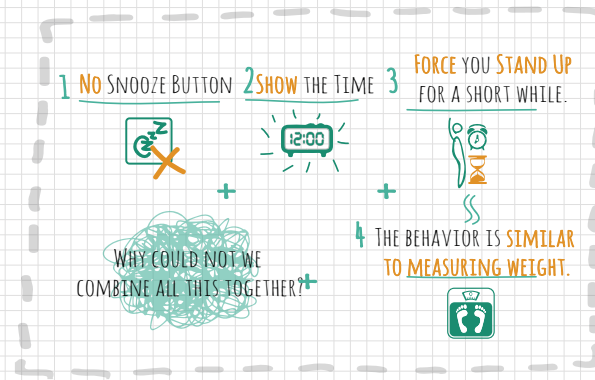


Weird but true: Relying on the alarm clock's snooze button can actually make us more tired. Especially after a night of too little sleep, hitting snooze won't make getting up any easier.

Here is the problem: What help us to get out of bed faster and more efficiently?

## THE SOURCES OF INNOVATION

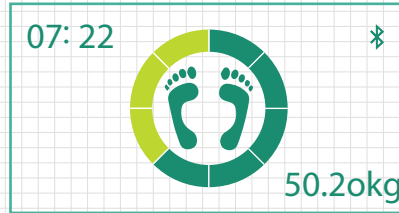
- 1 .Alarm clocks have a simple snooze button or an easy way to turn them off. Thus, I delete snooze button.
- 2 .When the alarm sounded, we turn off often because we do not see the time. So, we need to see the time or clock.
- 3 .If were not forced to get out of the bed, we are easily be allowed to fall back asleep. A highly competent alarm is designed to force you stand up for a short while.
- 4.The behavior, keeping standing up for a short while, is similar to measuring body weight.



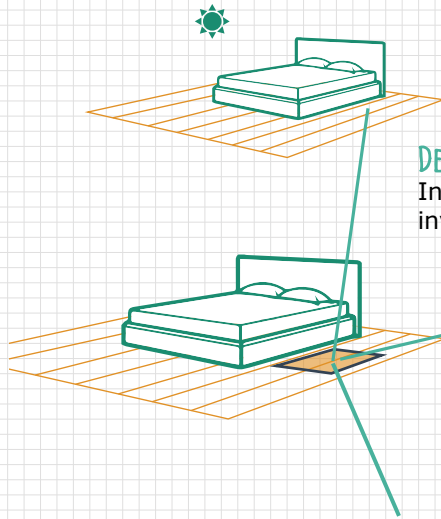




# AWAKING BOARD

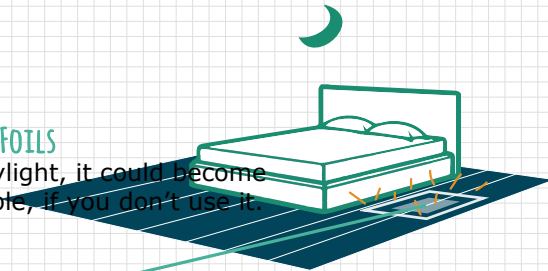


Awaking-Board is designed to create a revolution of getting up. Awaking-Board is a printed electronic application, which is a combination of electrical alarm clock, human electronic weigher and some technical terms: decor foils and electroluminescence.



### DECOR FOILS

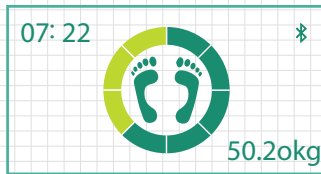
In daylight, it could become invisible, if you don't use it.



### ELECTROLUMINESCENCE

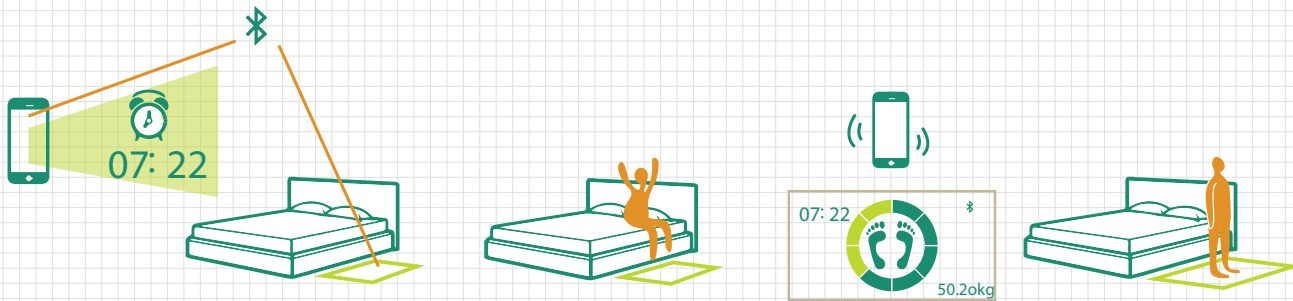
When it works, it will be glowing or blinking in the dark.

### AWAKING BOARD



## THE SOLUTION

Awaking-Board, with the help of technic electroluminescence and decor foils, could be plugged in your bedroom floor. In daylight, it could become invisible, if you don't use it. At night, it could sense you and light up for you going to the bathroom during the night.



1 Before go to bed, connected board with bluetooth, use your smart phone and set a alarm.

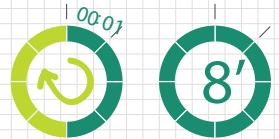
2 When is comes the time to wake up, your phone will ring

6 After maintaining 8s-staying in the Progress Bar Circle, you will turn off the alarm clock successfully.

Awaking Board will flash, and you are required to step on it.

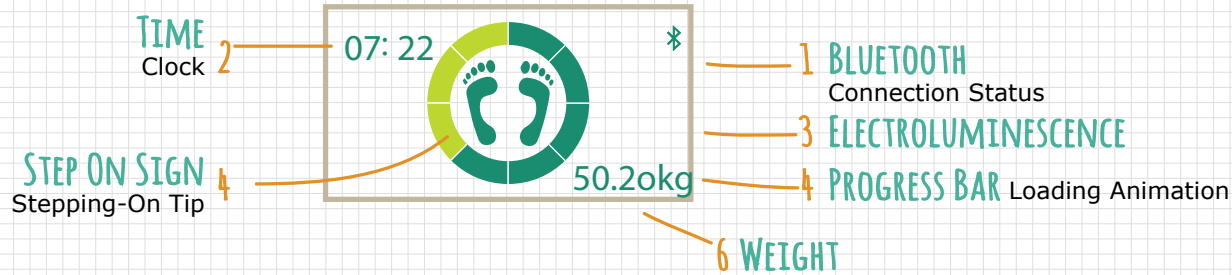
Progress Bar Finnish Loading need 8s

In the 8 s, the floor will weigh your body and send your weight to your smart phone.



# STORYBOARD

# FUNCTION & INTERFACE ELEMENTS



	Functions	Sensor	Interface Elements		
	<b>Bluetooth</b>	Bluetooth Connectivity	Bluetooth	Connection Status	1
	<b>Clock</b>	Set Alarm through Smart Phone Share the official time	Weighing Sensor	Watch	2
	<b>Night Illumination</b>	Guide your night activities	Pressure Sensor	Electroluminescence	3
	<b>Alarm</b>	Only way to turn off Alarm is by stepping on Awaking Board for a short while.	Weighing Sensor	Progress Bar (LOADING)	4
	<b>Human Weigher</b>	Weighing yourself, while you maintain standing on Awaking Board.	Weighing Sensor	Stepping-On Tip (ON/OFF)	5
				Weighing Value	6

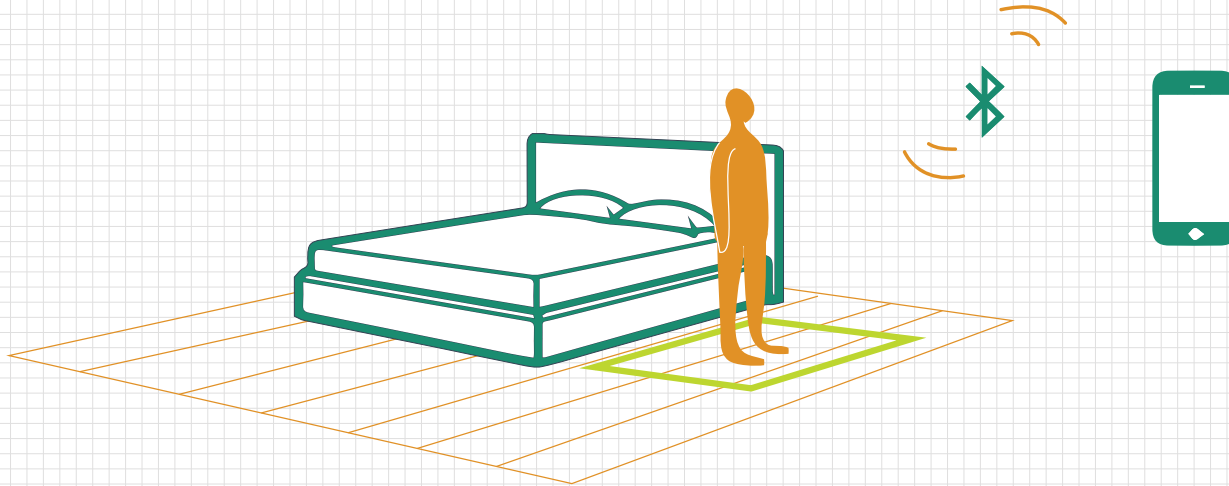
1. **BLUETOOTH CONNECTIVITY.**

2. **SET ALARM** through **SMART PHONE**

3. Only way to **TURN OFF** an alarm is **BY STEPPING ON** awaking board **FOR A SHORT WHILE.**

4. Whenever you want to **WEIGH YOURSELF**, step on awaking board and maintain standing on it.

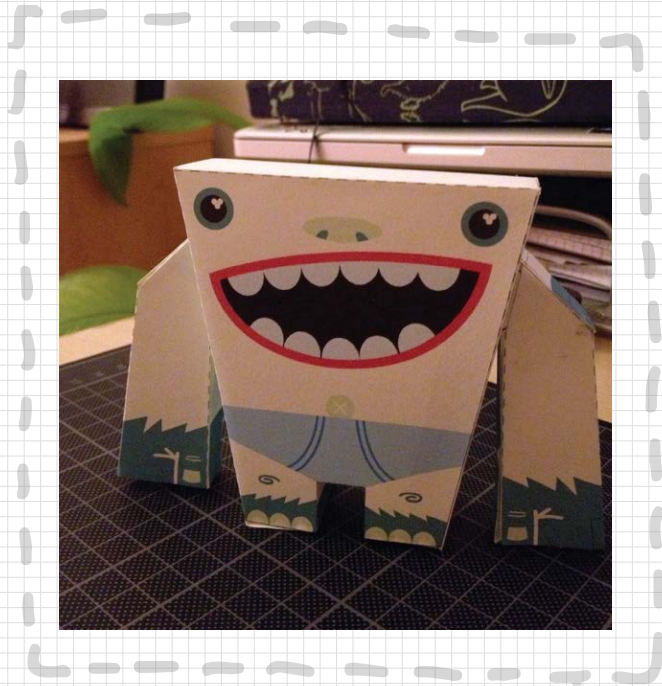
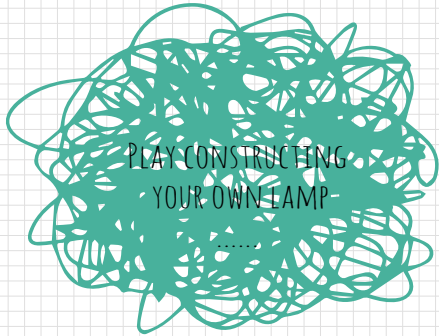
5. You can **MANAGE YOUR WEIGHT RECORD** on your phone.



KEY FEATURES

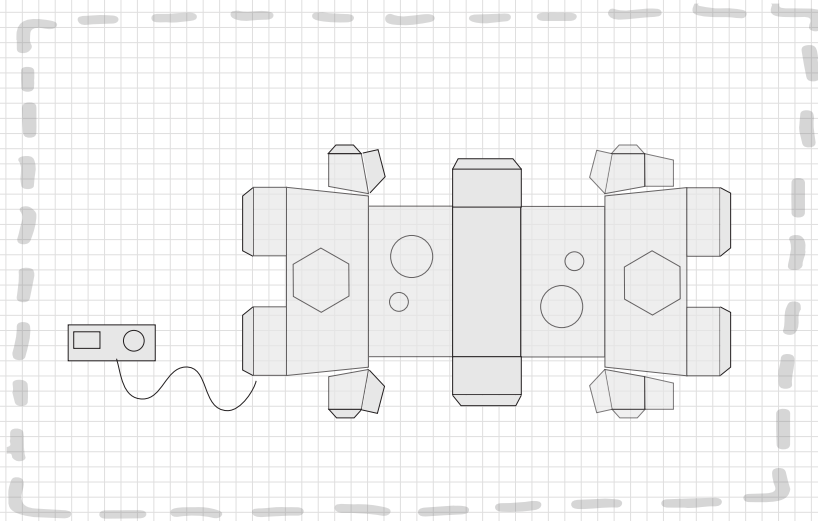
# LAMP TOY

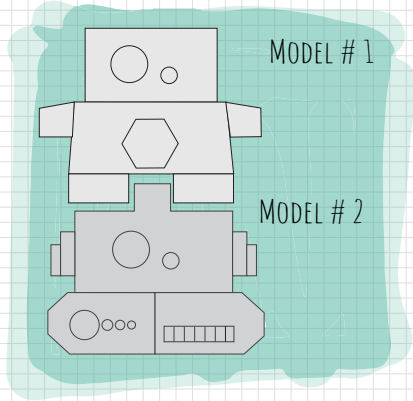
NATALIA SUAREZ



# CONCEPT

The idea Of the Project is to use Paper Toys design as Collectionable “Lamp” toys. So the Light will be “Printed” in deco foils wich will have the Lamp Toy design (Illustrations, textures even White) and people also will have and instruction paper with intructions to create the 3D figure, as the regular Paper toy





MODEL # 1

MODEL # 2

## MODULAR

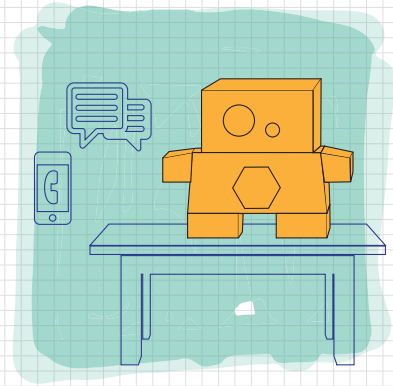
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After making ensambling the "Toy Lamp" people will be able to Conect it with the Switches or even with the internet or to my phone (and through an app, Maybe change between simple animations).

## COMUNICATIVE

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Another posibilidad of having not just one but may of this lamps is the idea to make it MOD-ULAR so depends on the "Collection" the person would be able to stack them on side to side or up to down, making in that way a totally diferent lamp from others.







*Paper toy // creaturekebab //  
We are paper Toys*

“Paper Toys” and “Vinil Toys” have become a new trend between young people surrounded by social media communities and artist groups. These toys are developed as collectible items or most of the time as DIY crafts (Do it Yourself). The basic idea with this kind of elements is to construct it, assemble it, paint it, and have them as decorative



*The use of a  
especial Glue for  
the lamp*



pieces Wherever you want, (Room, Kitchen, Livingroom, Office, ...).  
The possibilities can be so variable that the market can be a constant growing market; big companies as designers will be able to develop their own modular system or design series. Thinking about a long future, it might be also possible to create special lamp to be used just in certain places of the world, under water or in caves or why not even the moon, of course this special item will have other technologies.

## DESIGNER TOY

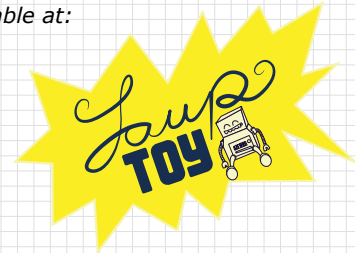
Designer toys are toys and other collectibles produced in limited editions (as few as 10 or as many as 2000 pieces) and created by artists and designers. Designer toys are made of variety of materials; ABS plastic and vinyl are most common, although wood, metal, and resin are occasionally used. The term also encompasses plush, cloth and latex dolls. Creators of designer toys usually have backgrounds in graphic design, illustration or self-described low brow art; some are classically trained in art and design, while others are self-taught. Designer toys first appeared in the 1990s and are still in production today.

By Wikipedia. 15 November 2013. Creative Commons [consult 06.02.2014]. Available at:

[http://en.wikipedia.org/wiki/Designer\\_toy](http://en.wikipedia.org/wiki/Designer_toy)

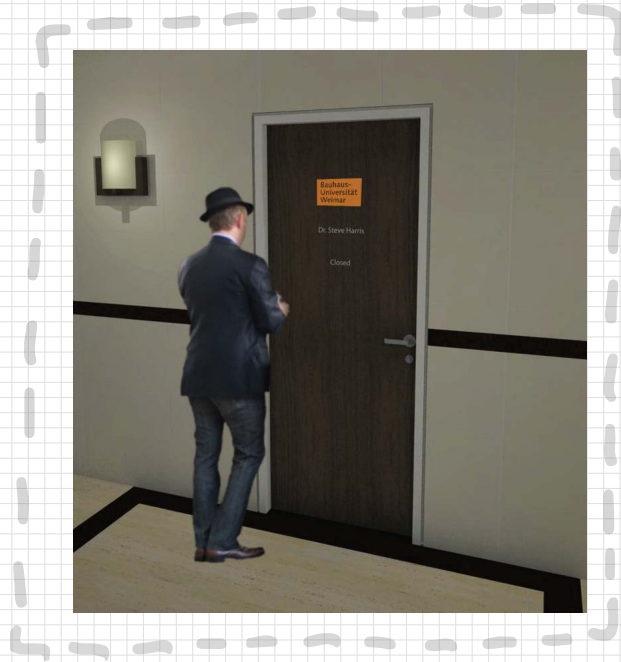
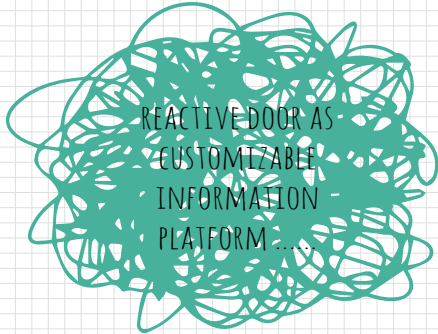
Glue image. Creative Commons by Artist: Mattahan, Available at :

<http://www.iconarchive.com/artist/mattahan.html>



# LUMINESCENT SMART DOOR

REINALDO VERDE

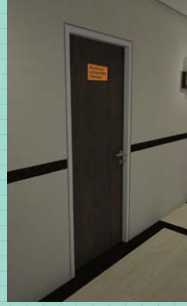


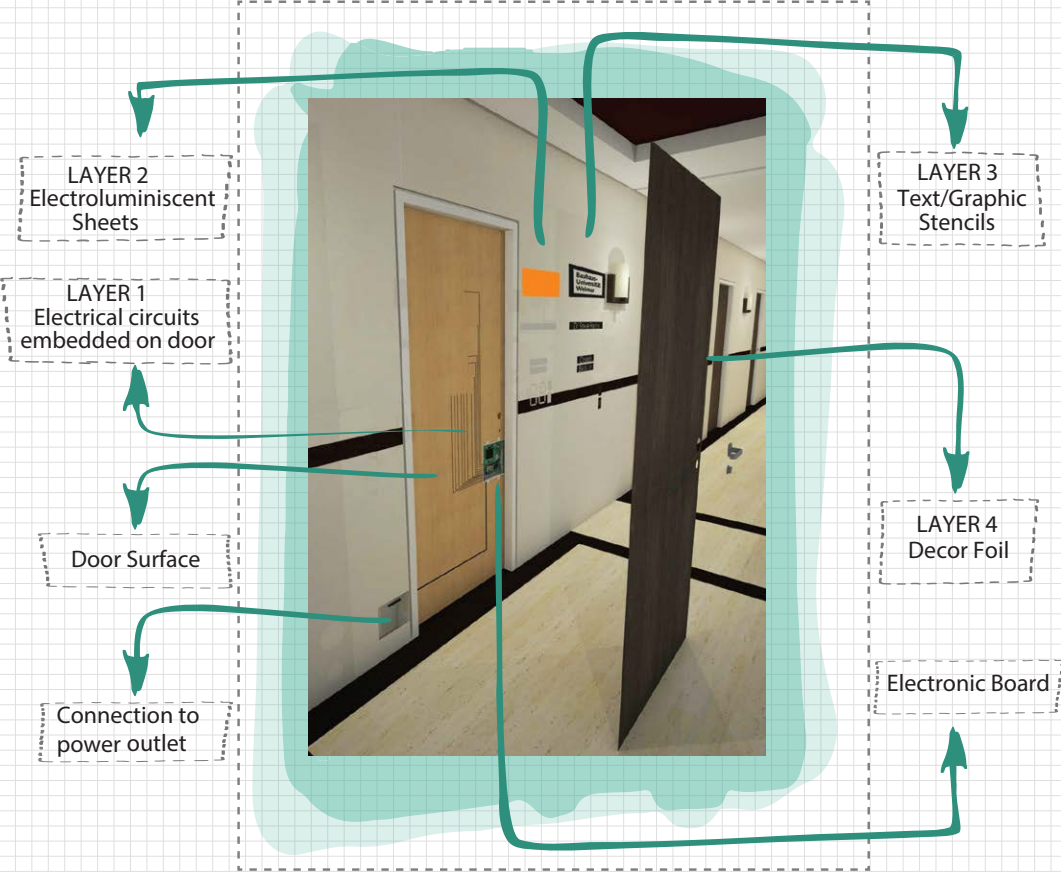


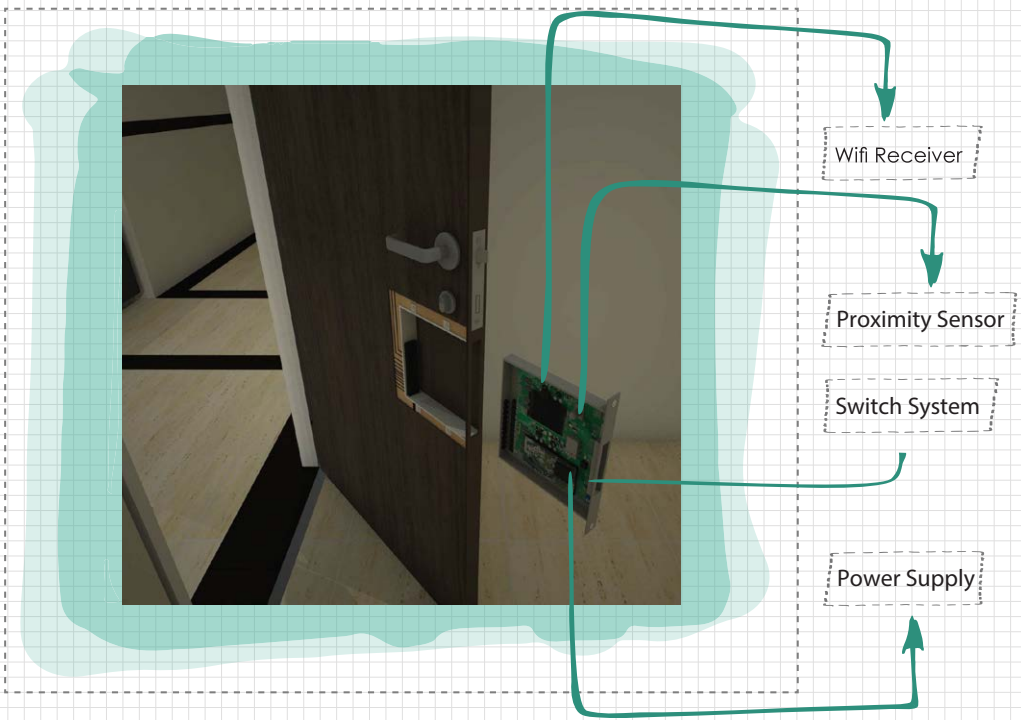
## CONCEPT

The objective of the Luminescent Smart Door proposal is to integrate electroluminescence into architecture to create a reactive information platform connected to and controlled by the everpresent smartphone.

The door would be covered with electroluminescent surfaces containing predefined text and images, which would be covered by decor foil. Then such images and text would appear when people

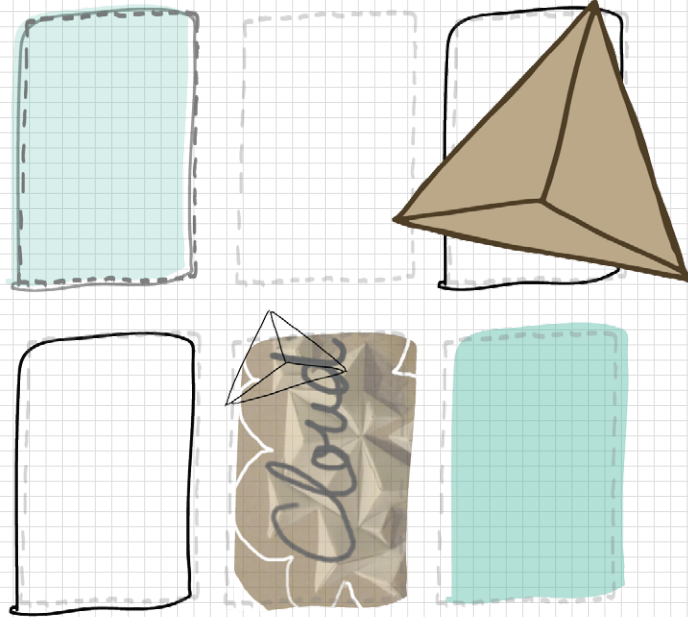
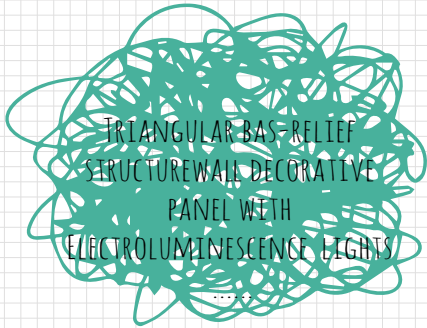


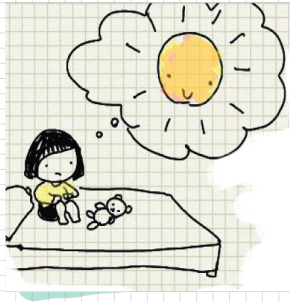




# WALL CLOUD

APASRI TITATARN



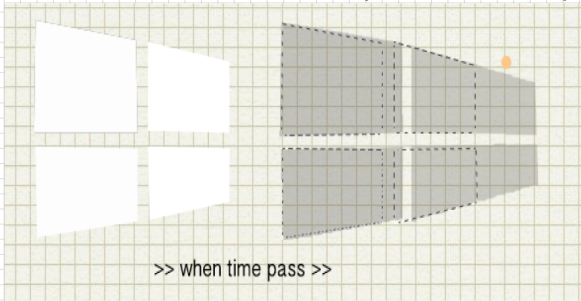


Waking up in the nice atmosphere with the sun shine through your window is an ideal moment in the morning.

The "Sun always shine" light wall can help enhancing your emotion, by creating artificial drop of sunlight on your bedroom wall.

### How to...

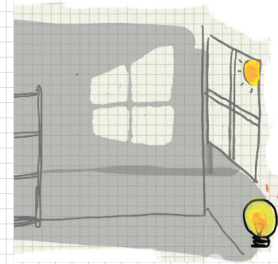
1. On the bedroom wall: apply the designed pattern of electro luminescence
2. Cover the whole wall with Decor Foil >>due to the flatness of EL, the wall will look not differnt from a normal wall with wallpaper.



### As an alarm ....

The wall is controlled by the alarm clock of your smart phone, the wall will gradually light up 5 mins before your alarm in the shape of the drop of sunlight through your window on the wall.

As decorative lighting.. the drop of sunlight expands as time pass.



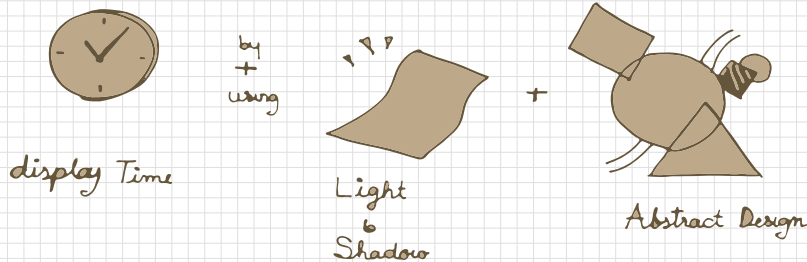
# FIRST IDEA...WAKE UP WITH SUNSHINE



# NEW CORE CONCEPT DESIGN

Due to the limitation of production technique and for a wider market, the first idea has to be developed.

There are two core concepts for the design. Developed from the "Wake up with sunshine" idea, first core concept is **using light to display the flow of time in a more abstract design**".



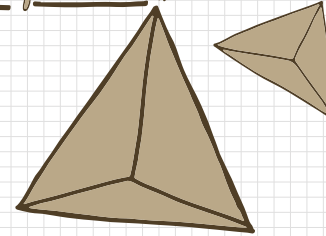
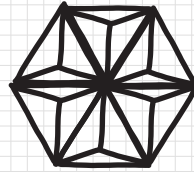
The second purpose is set to show **the special properties of Electroluminescence** which other types of light such as normal light bulb or LED cannot serve the design.

- Flatness >> can be hidden under Decor Foil can become invisible when turned off
- can be cut into any shape >> can be used to light up free-form area
- light up the surface equally (not brighter in the middle area where the bulb located and gradually fade out toward the border)
- Flexibility

## PATTERN DESIGN

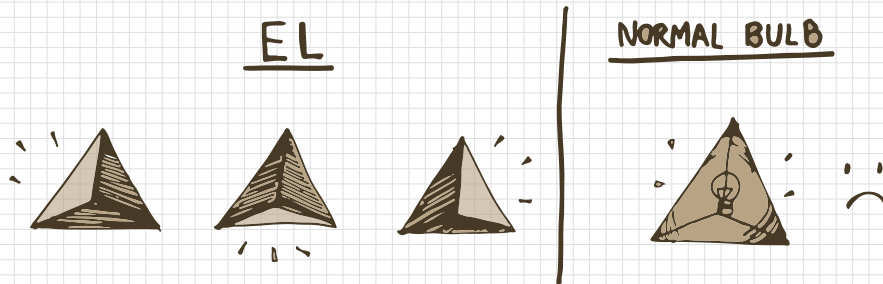
The idea is to create a base pattern which can be compiled together and formed into other abstract shapes in the larger scale and at the same time can show the properties of Electroluminescence.

▲ choosed „Triangular bas-relief Structure“




## WHY TRIANGULAR LOW BAS RELIEF STRUCTURE ?

The structure provides the perfect condition to use EL to light up each planar of the triangular structure because the entire area of each planar cannot be lit up equally when using other types of light which do not provide the ability to control the specific form of the lighting area. Moreover, the group of different sizes of 2.5D components creates a beautiful drop of shadow on the structures themselves due to the different angles of the surfaces.



This pattern also has high flexibility to form themselves into any other shapes. This provides the unlimited space of creativity in design to produce a series of different design wall panel or even expand the product line to something else such as other form of furniture or 3D sculpture installation. Regarding the size, it can be scaled from small wall panel to the large building architecture scale.

start from ...  a Cloud:

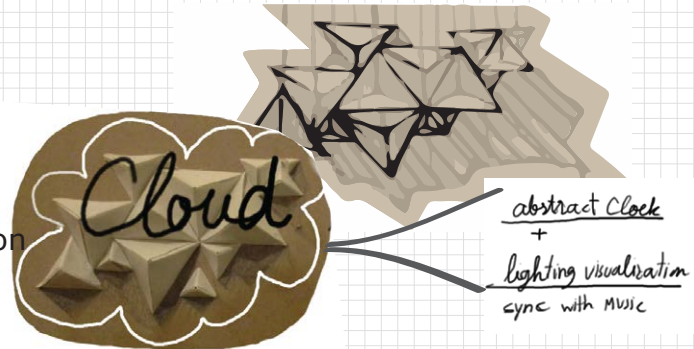
... here come many design possibilities

A TRIANGULAR BLOCK AS MODULAR

EXAMPLE DESIGN:

## WALL CLOUD

Decorative Wall Panel :  
displaying time and music visualization



# WALL CLOUD FUNCTION

## Displaying Time

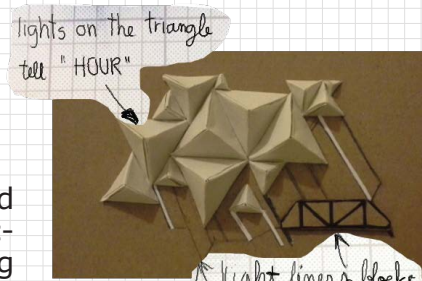
With three different angle planar and those lines from the outline of structure, many creative way of displaying time can be created.

### 1. Graphic style

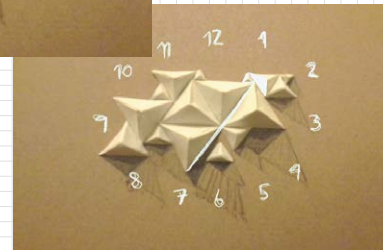
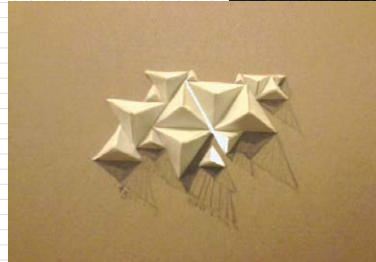
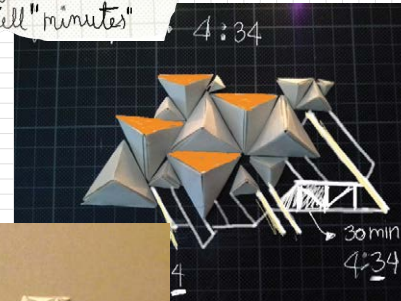
Use different light colors on the surfaces of the triangular structures to display time. The lights on the triangular structures show the number of Hour. The light lines underneath tell the amount of minute. Although it is look complicated but the light will display randomly, only the amount of light is fixed to tell the correct time, so that in every minute the display of light will be different. The clock will have different lighting pattern from minutes to minutes, from day to day.

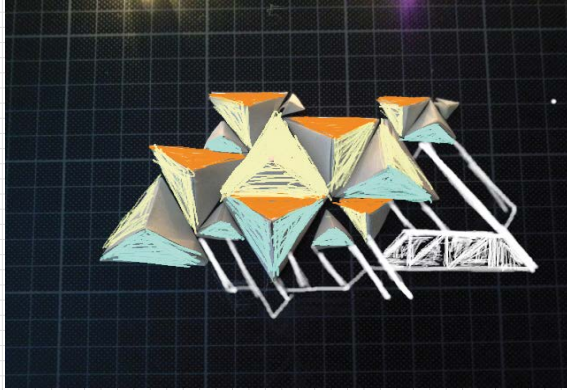
### 2. Minimal light Clock hand style

The light line on the outline on the triangular structures display as the hand of the clock in an abstract way.



light lines & blocks tell "minutes"



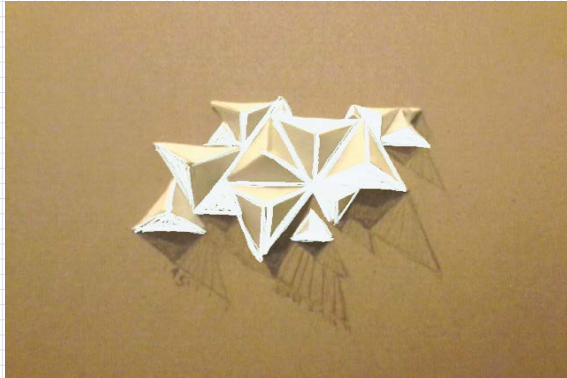


## WALL CLOUD FUNCTION

### Music Visualization

This wall panel can also be used as a music visualization interface. When a music device, or a smart phone is connected to the panel. The behavior of the panel changes and show music visualization

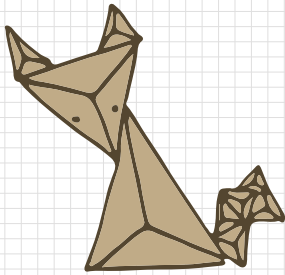
The implementation of this function can be achieved by recognizing the wavelength of the music file and according to the data, the visualization will be animated on the panel. Thus, emulating an abstract visualization with the music.



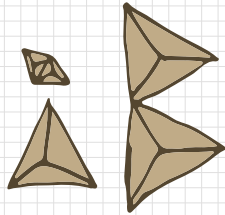
## FURTHER DESIGN DEVELOPMENT

Due to the potential of triangular shape as a module which can be form into any other figure, the proposing design 'Wall Cloud' is only an example of the making use of the light on this pattern. The design can be developed further to unlimited design possibility.

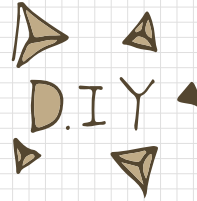
For example, create a character from these structures and design some animated patterns of light on each part of the character to make it look animated. This might lead to a wider market and marketing opportunity , or even a niche market as 'personal design' which the consumer can create their own design from the triangular structure is possible.



Character



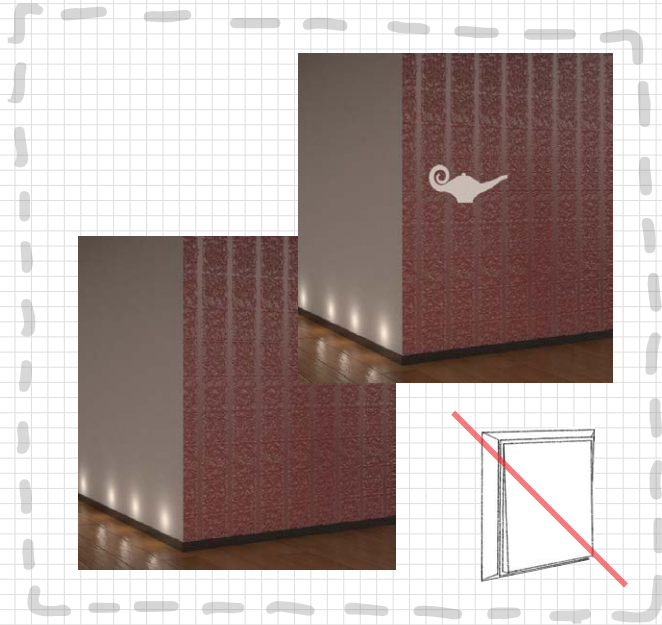
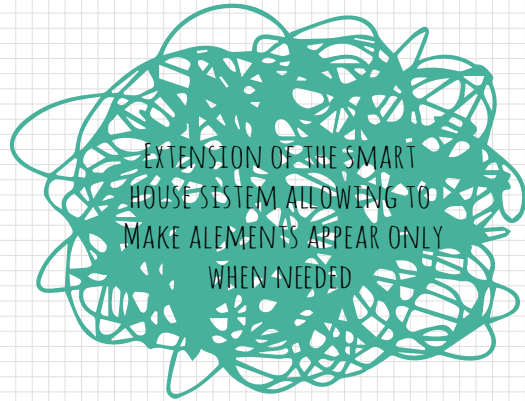
Informative



Personal Design

# INVISIBLE SWITCH

JONAS LIDEIKIS





## CONCEPT

A switch is installed into a sticky foil and connected to the smart house system. When it gets dark, the switch appears and once it is touched it activates a certain preprogrammed function (turns on the light).

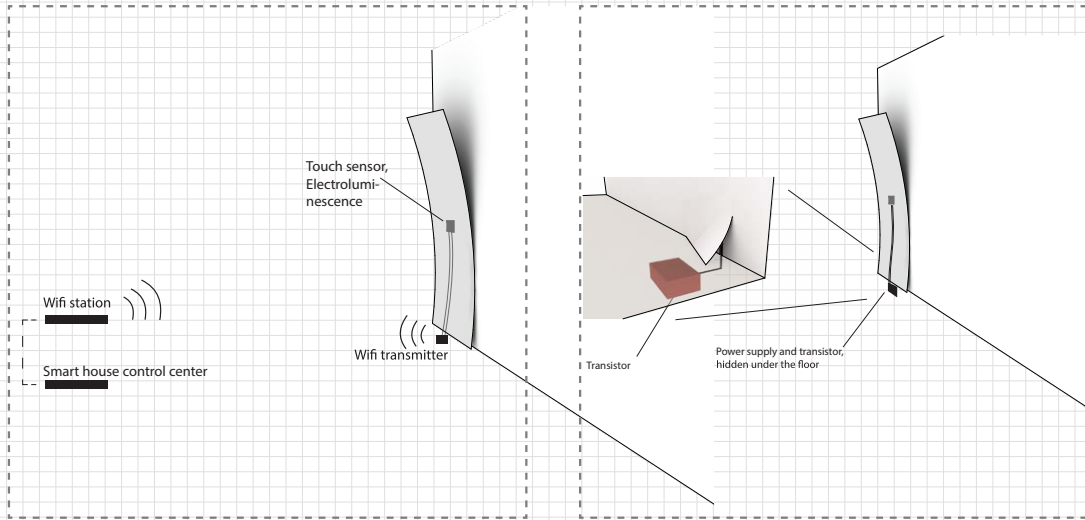


## ADVANTAGES

- Free layout
- Programmable switches
- Switch serves both: functional and decorative purposes
- Only seen when needed
- Preserves clear and clean architecture of the space







## TECHNICAL

By touching the touch sensor a certain function is sent via wifi network to the smart house control center to execute a certain function (e.g. light up the light, turn on the music, etc..)

## INFO

Electroluminescence is powered by making a sticky foil large enough to reach electricity source (e.g. floor, ceiling)

# VISUAL

- Motivation/Inspiration (live healthy, be creative, etc..)
- Reminders (e.g close window before leaving, turn off some electronic devices, etc..) Visualization of information (any parameter of the smart house system)
- Abstract (decor..)
- Combined (e.g Information/ Inspiration/Decor)

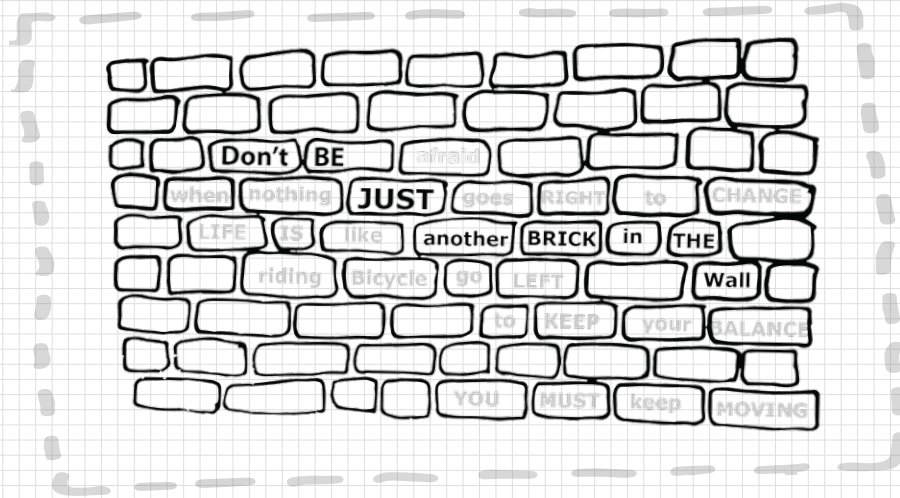


# INFO

Abstract ambient animation indicates the basic parameters of the smart house system ('heart of the house'). According to the type of animation it tells whether everything is optimal or not (e.g. smooth animation and blinking animation). It consists of three groups of squares, which are lit separately or in combinations. Therefore it is simple to operate.

# QUOTE OF THE DAY

MARIAM GIGUASHVILI





## STREETS AND WALLS IN URBAN SPACE

Nowadays the life in a big city is very busy and stressful. People are working hard, sleeping less and mood is mostly gloomy. Especially if in urban space there is a lot of ugly and monotonous walls and surfaces.

To make those places more interesting and useful I decided to put daily inspirational quotes on the walls. Using OLED folio having different textures, like a concrete, or bricks, or tiles of stone, and install behind it special word patterns, allows a boring surface to be turned to the interactive display.

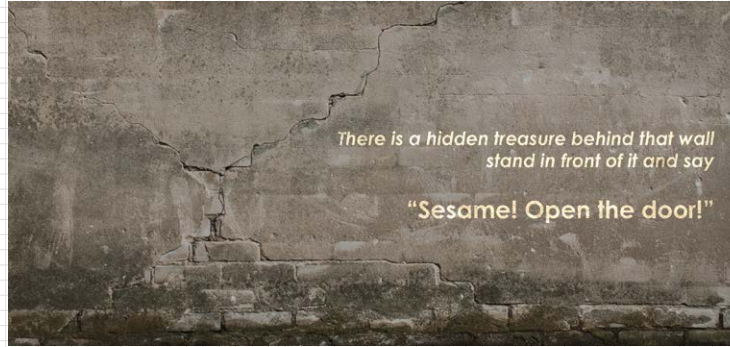
# INSPIRATIONAL QUOTES

On the same surface will be located several word combinations. I will use different objects as a switcher of quotes e.g. the random tiles on a pedestrian area. When somebody steps on it, word combination on the wall changes. Using a doors and windows as a switcher is also possible. Whensomebody will open the door or window, quote will change.



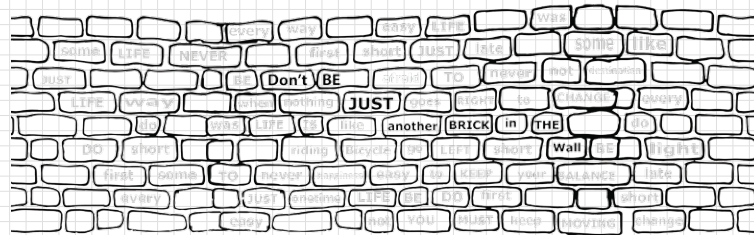
# CITY GAMES

Hidden text for city games



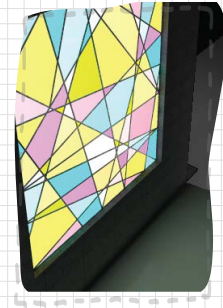
# PATTERNS

People go every day at work, sometimes sleepless or with weariness, they can find some inspiration-aphrases on a corner of the street, or behind the bus stop, or entrance of the office building and make their day.



# STAINED GLASS + EL FOIL

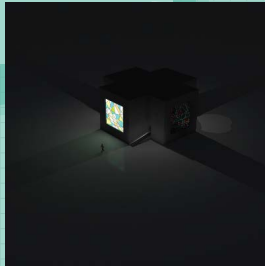
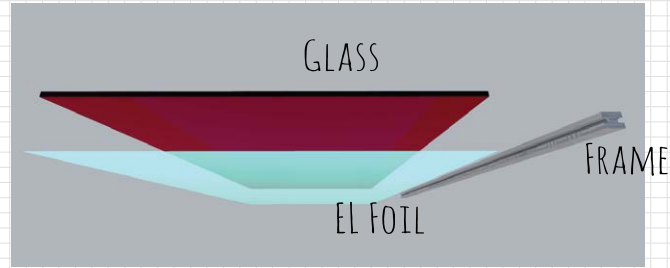
AIDAS ČERĖELIS



THE IDEA IS TO COMBINE STAINED GLASS WITH ELECTROLUMINESCENCE FOIL. A LAYER OF EL IS USED INSTEAD OF PAINT. SEMI-TRANSPARENT EL FOIL GIVES THE EFFECT IN DAY TIME AND AT NIGHT WHEN IT IS LIGHT UP.

# COMPOSITION

Stained glass consists of different pieces of glass which is connected and fixed with the metal frame. The EL foil is stuck on the glass. The wires are hidden in the frame.



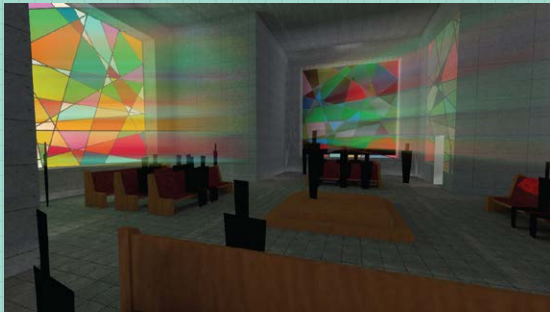
## IN DAY TIME

A symmetrical building with four facades faced to east, west, north and south looks like usual building in day time.

## AT NIGHT

The north facade stained glass window with electroluminescent foil lights up at night.

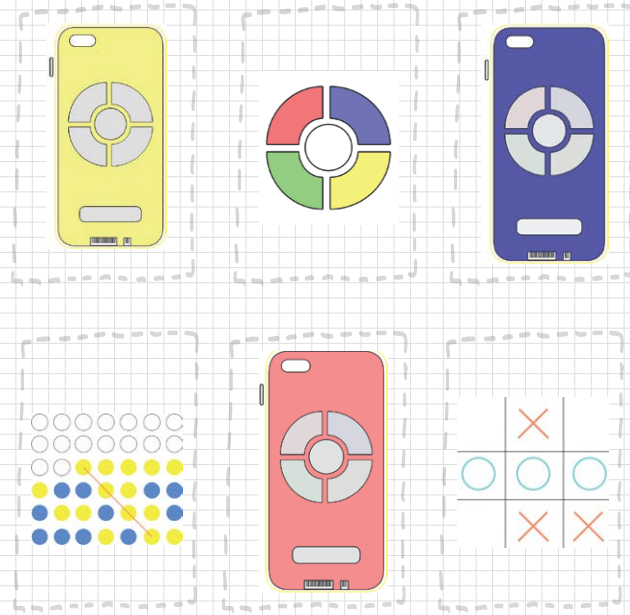
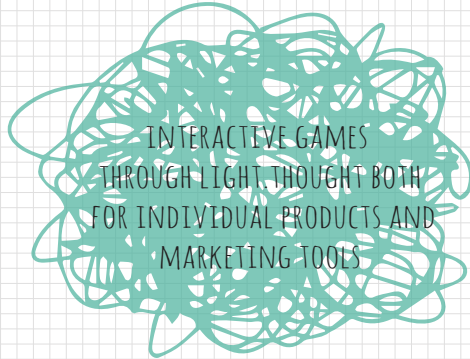




Interior in day time and night. EL light through the glass creates the unique atmosphere inside and outside of the building.

# INTERACTIVE LIGHT GAMES

JORGELINA GARCIA



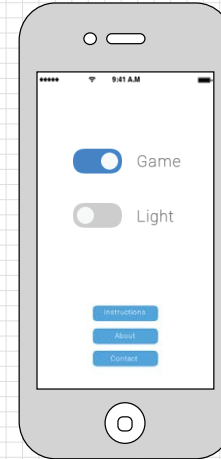
# ISOCIAL CASE

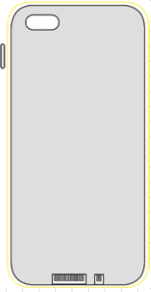
## CONCEPT

iSocial Case offers a new way of playing, a new way of communicating. It intends to slowly change the behavior of the user without he/she even noticing it. The user is still interacting with his/her overvalued device, but at the same time he/she is being aware of what is happening outside.



The iSocial Case is activated through an app. But for a change, this time the user has to turn the device around to play. It is a subtle way of taking the user away of their notification world, and letting her/him look around, interact with their real environment and see if somebody is there to join the game.

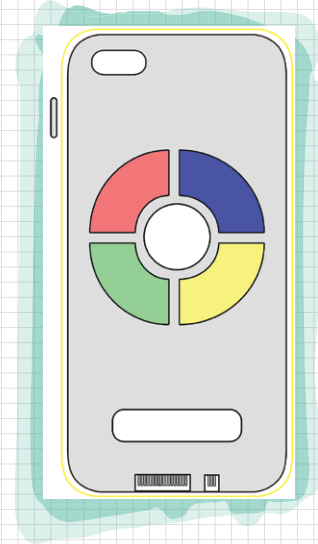




The case is plugged to the phone to receive power.  
If the device does not find a player  
to play with, it looks like a normal protector.

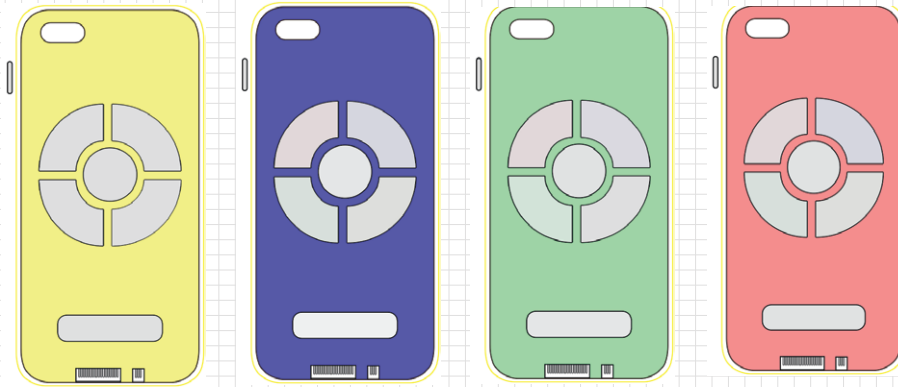


If a second player is ready to play the case  
and the start button begins to blink.



Simon Says is a basic memory game where one user leads and the other one has to follow; this could be an example of a simple but very entertaining game that works through lights and sound. Any other simple games could be developed for this product. The idea is to make the smartphone users interact with people that are next to them.

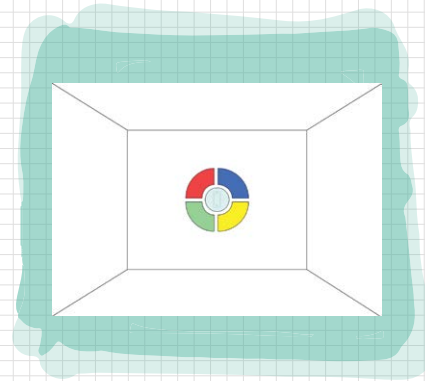
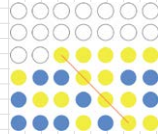
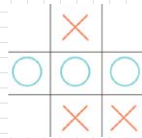
The case can also work as a decorative light for the phone. The potential customer can choose one color for the light of the device. The whole case lights up when the mode is on, excluding the foils that belong to the game.



# PLAYING IN WAIT

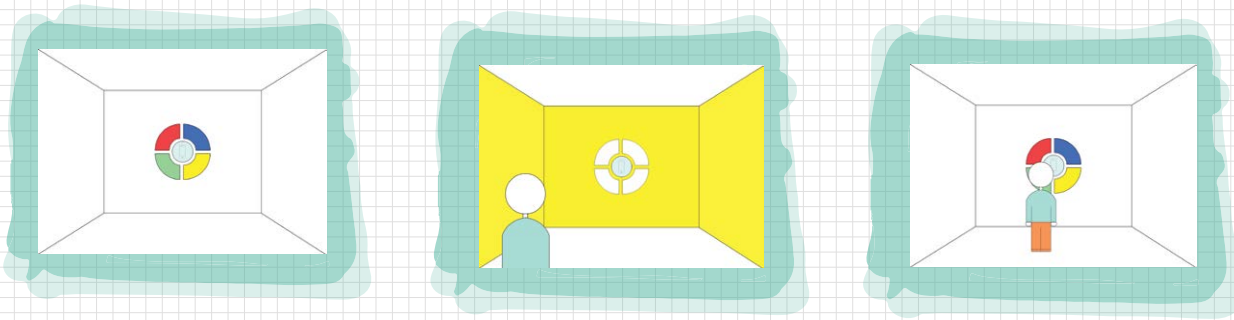
## CONCEPT

Playing in wait is a gaming media concept that is thought to be displayed on walls in public spaces. The planned scenarios are those where people have to wait, where the attention of potential users is easier to catch. Train, bus stations, airports, shopping malls, bars are some examples.



The games suggested are those that can be played through lights, some existing examples are Simon Says, Tic Tac Toe, Connect four, etc. New ones could be invented depending on the use of the game. Each waiting station is connected to each other and let two real time players play against each other.

This proposal could be used as a new advertising media. The game has a code that is scanned by the user with the use of an app. The game can activate a message, a discount code, something special that relates to a special brand, event, company just by playing.



The game will be specially designed with the decor foils with different styles depending on the waiting station adapting the context to the display. The foils work with a movement detector sensor and it lights up if someone walks by in order to induce users to play the game.

# MASTER PROJECT

Media Art & Design (MFA)

Media Architecture (MSc)

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InnovationLab\_Heidelberg



Bauhaus-Universität Weimar



A red brushstroke background with the text 'Bauhaus Universität Weimar' written in white cursive script.

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Future Lab / Interface Design /

Master Project / WS 2013/2014