



activehouse

BUILDINGS THAT GIVE MORE THAN THEY TAKE

AWARD

WINNERS ANNOUNCEMENT  
2017





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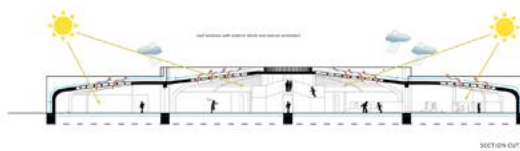
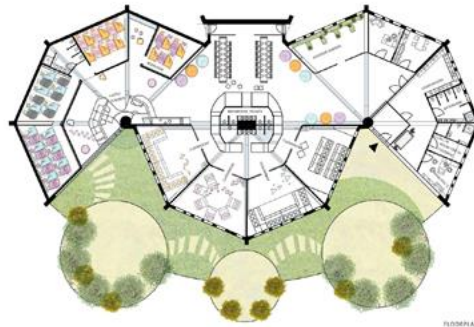
AWARD

KIDS PRIZE





# KIDS PRIZE



The basic philosophy concerning education in my **design of the future kindergarten** deals with children's creativity and the development their skills to make by hand using less modern technology. Children should create and make things for themselves not only use manufactured products which can be bought. they should feel responsible learn basic skills and have the most movement. Therefore the interior is equipped with any kinds of equipment for little children, playgrounds...

As for architecture I use wooden frames are placed around column in the middle in the 45° and this way I get triangle shaped parts. The individual triangle - shaped parts can be added of taken away depending on the number of children or the place. In the triangle -shaped parts of the building, there are certain parts of the kindergarten (bedrooms, classrooms, interior garden).

To have the most movement any climbers are made, also in the interior. With getting older of children the border between sexes is missed, and adventure games or trips to the nature, building some holding places gain ground.

A play is divided into 3 basic categories:  
 --- social play - with an interactions among participants  
 --- cognitive play - the goal is getting to know spare unknown or less known event and elements children are interested in  
 --- kinetic play - supports physical development of a child, e. q. sliding, running, jumping, seesaw and swing, etc.

In my design I have considered 4 groups, each 15 children and the building is divided into 3 main parts. In the entrance part, there are a cloakroom and bathrooms and toilets, the principle's Office is attached to a special room for ill children, a room for detergents and a few seats for parents and visitors.

In the second biggest and he only two - floored room, which is separated from the entrance part with a door (reason is security), there are a teacher's common room, a psychologist's office, an interior garden where children can grow plants (watered with rain water). In the centre, bathroom's and toilets and above them, there is a space themed room with colored light effects.

The walls of the room are decorated with fairy tale characters. Children can get to the space themed area by route around the toilets with low and safe climbers.

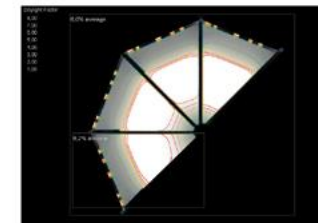
In the northern side there is a Kindergarten canteen which can be easily reorganized for fairy tale projection on the inner side of the northern facade. In the southern side, there are classroom separated with a wall with little openings for children so that different aged groups of children could have contacts and see themselves or get to each others class.

In the third part, there is a relaxation zone for sleeping for children who don't want to sleep just relax and castle themed climber. There also are bathrooms and toilets and exit to the kindergarten playground and an exterior garden.

The building seal to prevent uncontrolled, with the ventilation.

A sensor control air exchange  
 A building cover ...with the standard consumption, exterior shutters/blinds  
 A source of energy is near the building or there is the connection, to a central source of energy, e. q. a housing's estate using biomass a heat pumps different kinds of them earth-water, air-water.....

Usage of saving water taps with lower water flow, usage of rain water for watering plants, an environmentally friendly source, wooden constructions  
 Concrete fundamentals, an isolation made of recycled materials, cellulose (groundings)



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Dávid Magyarics

Slovak University of Technology in Bratislava  
 Slovakia

AHA2017115



# JURY

Kamil Mrva – Kamil Mrva Architects  
Michal Krištof – Chybik + Kristof Architects & Urban Designers  
Martin Jančok - Plural  
Lone Feifer - Velux Denmark, Active House Institut  
Klára Bukolská - Velux Czech Republic



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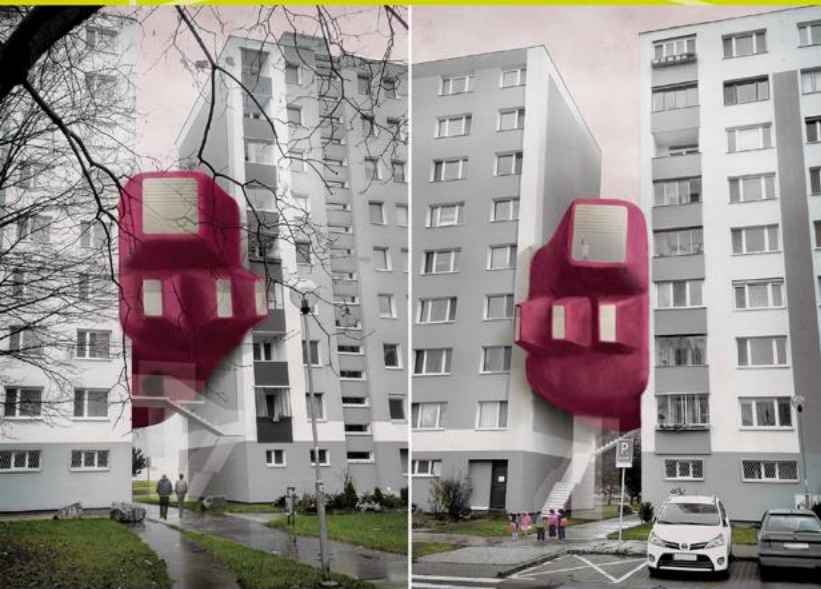
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HONORABLE  
MENTION





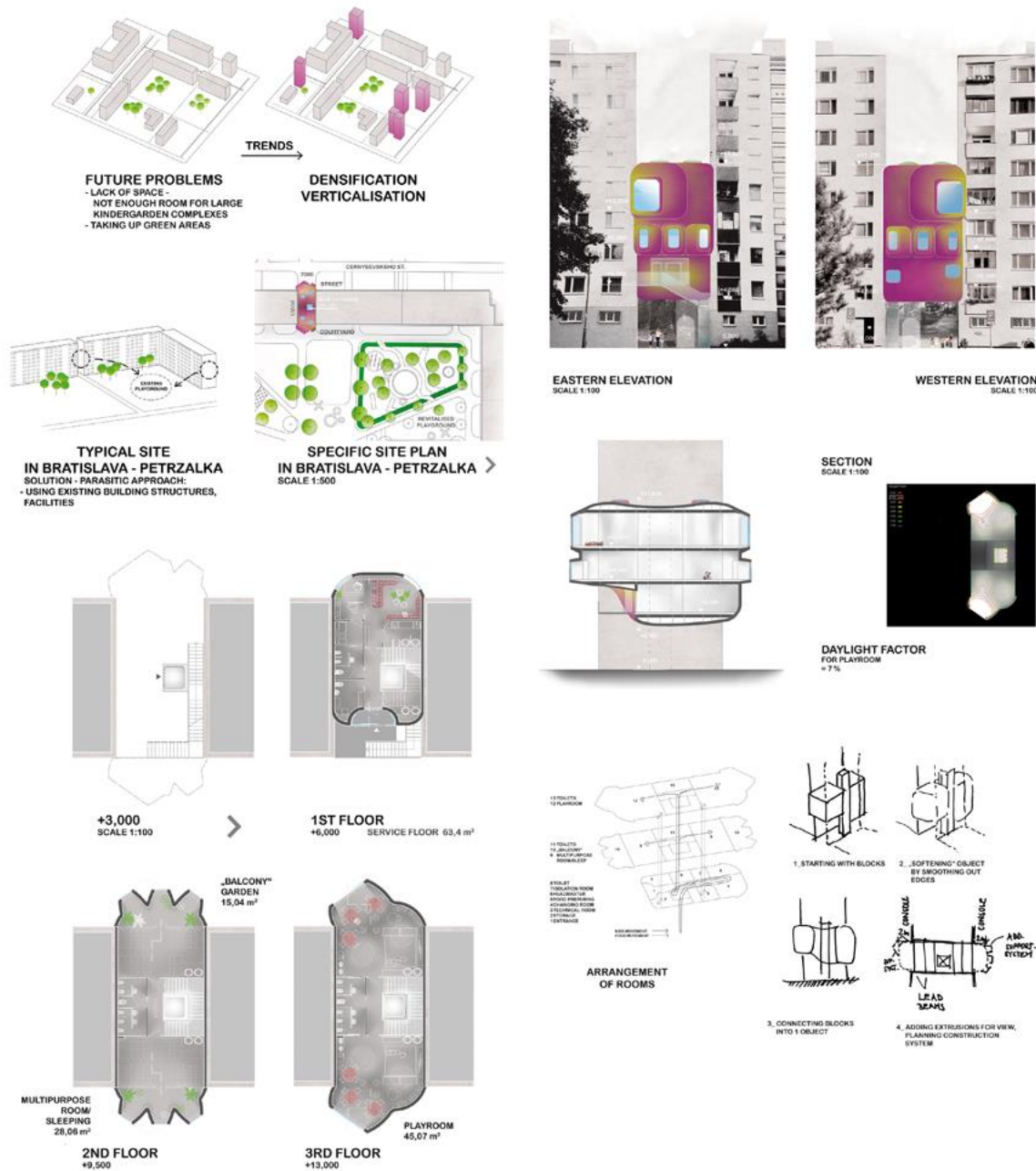
# HONORABLE MENTION



Lenka Bakova

Slovak University of Technology in Bratislava,  
Faculty of Architecture, Slovakia

AHA2017149



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**AWARD**



# HONORABLE MENTION



Tereza Zvolská / Ivona Uherková

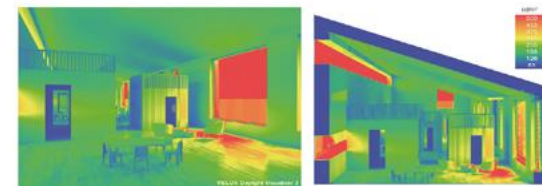
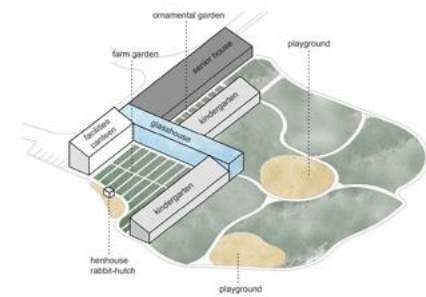
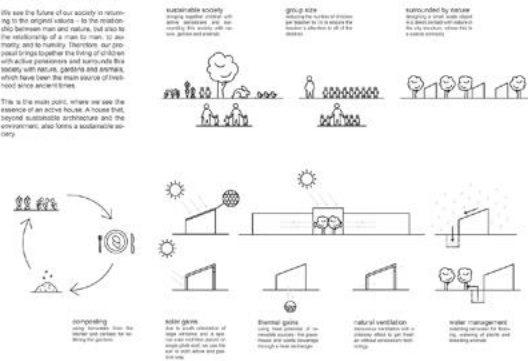
Brno University of Technology  
Czech Republic

AHA2017109

## Back to the Future

We see the future of our society in returning to the original values - in the relationship between man and nature, but also in the relationship of a man to man. In architecture, used to history. Therefore, our proposal brings together the living of children with active processes and connects the society with nature, gardens and animals, which have been the main source of fresh food since ancient times.

This is the main point, where we see the essence of an actual future. A house that, beyond sustainable architecture and the environment, also forms a sustainable society.

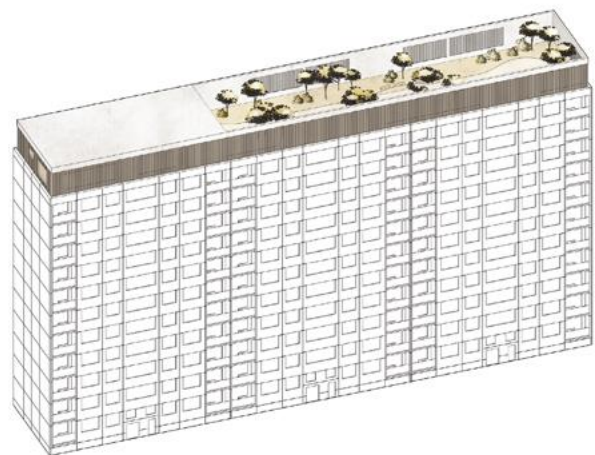


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# HONORABLE MENTION



## THE HEAVENLY KINDERGARTEN

The goal of this design is to propose a solution touching the topic of buildings from socialist era built in the second half of last century.

As it is necessary for a design to have a particular location or context to be able to serve its purpose in an adequate manner, this design is aimed on areas of prefabricated socialist buildings in Czech Republic.

This proposal is not taking the advantage of a particular location as these tall buildings were built in various parts of the country and the conditions of different areas have specific, often not very welcoming conditions for building additional objects. The proposal is rather focusing on the building itself.

These socialist buildings were built in diverse types and large scales of sub-urban areas trying to set an universal solution for modern housing. Therefore this proposal is meant to be an upgrade – not for ideal, but existing wide spread residential structure.

As an example serves the type „OP 1.13“. There are 64 buildings of this type built in 10 different cities across the country. In most cases are these houses built in sets of at least 3 attached units.

The subject of the design is an extension of such set of units – A kindergarten built on top of one unit and attached garden on top of the remaining ones.

Targeted group of users are the residents of the extended buildings. The Kindergarten can provide places for up to 20 children – which is about the average number of pre-school aged children living in such building complexes according to calculation from demographic data.

The advantages of such solutions are both social and environmentally economical. As the children come from close neighbourhood, the social ties are being reinforced. Children having friends in the same building transmit this spirit to their parents and they all have an opportunity to get to know each other as well to make their living environment more familiar and friendly. Having just one classroom with children of various age helps to develop better social skills – the children naturally learn to communicate not only with kids of the same age.

Despite of the placement of the Kindergarten, there is enough outdoor space thanks to the rooftop garden, where children have options of different kinds of play or the possibility of planting small vegetables and fruits. Through these processes they are able to learn responsibility and other important traits.

Small distance between the Kindergarten and the place of residence saves the time and energy consumed for accompanying the child to Kindergarten.

The building itself doesn't require additional land, therefore it saves space in the neighbourhood for other function which would require direct access from the street.

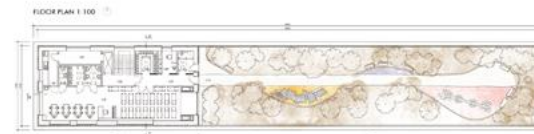
Its position also allows to obtain as much light as needed. Working with just a little space – considering the placement of Kindergarten – the location is asking for a simple and minimalist solution.

The Kindergarten is in the shape of a block with attached garden protected by perforated wall. It's covered all around with boards serving as a shading that unifies the whole expression of the extension, creating a semi-transparent, consistent and simple appearance. As most of the socialist buildings are getting insolated and colourfully painted, white would be a colour of choice for the Kindergarten, as the extension should not contradict its environment, on the contrary, it should work as an interesting element enhancing the perception of the area.

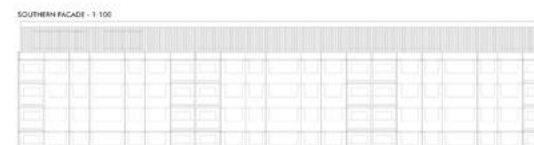
Construction would be light wooden, made of timber frames with OSB covering and mineral wool filling. Width of the construction would be: outer walls - 500 mm and rooftop - 700 mm.

The whole extension is covered with row of wooden boards, which are interrupted in areas of windows and doors, except the southern side of the object. There, the row continues in front of the windows and can be rotated to adjust the amount of light coming in and to provide the cosy and safe feeling for the children.

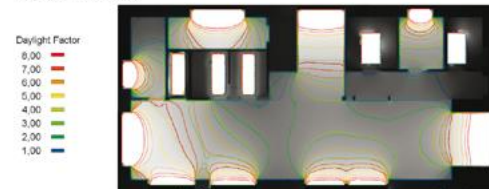
The floor is lifted up above the original rooftop to store all the necessary building equipment. In the garden area, the planted trees are provided with 1 m thick and by tree-size designed layer of soil for enough nutrition.



KEY DESCRIPTION		SECTION A-A' 1:100	
1.1	Roof garden	1.1	Roof garden
1.2	Perforated wall	1.2	Perforated wall
1.3	Shading boards	1.3	Shading boards
1.4	OSB covering	1.4	OSB covering
1.5	Mineral wool filling	1.5	Mineral wool filling
1.6	Timber frame	1.6	Timber frame



### DAYLIGHT FACTOR



### ACTIVE HOUSE RADAR

COMFORT	ENERGY
<b>DAYLIGHT</b> Regarding the position of the Kindergarten on the rooftop, there is nothing that would block incoming light to the building. Therefore all the light is directed by the amount of openings in the building. Daylight coming into the main room can be regulated by shading system.	<b>ENERGY EFFICIENCY</b> Because of its location the Kindergarten lowers the energy spent on transportation of children. Solar collectors on the roof help to lower the energy costs on water heating.
<b>INDOOR ENVIRONMENT</b> Thermal environment is insured by efficient mineral wool insulation and heat exchangers. Overheating is avoided through shading – internal shading of windows in less heated parts on the western and eastern part and with external board shading in southern part which can be rotated in 180 degrees, allowing ventilation and insulation. Floorair circulators in each room would be provided by floor heating system.	<b>ENVIRONMENTAL LOAD</b> Because that it is being used the roof of the last floor, because there is no new plot built on and landscape is left free for next generations.
<b>INDOOR QUALITY</b> Fresh air indoors will be provided by the recovery process using air filter area (mechanical ventilation system) due to the safety of children. Microclimate in attached garden would be possible to rent children's fruit to many different plants growing there.	<b>FRESH AIR CONSULTATION</b> Designers and its garden are collecting information for purposes of gardening and it could also be used as a service walk.
	<b>SUSTAINABLE CONSTRUCTION</b> In the process of designing the model was chosen soft line for easy overall sustainability impact, also mechanical treated wood, and as a last but not least, concrete roof made 75% out of recycled materials and is by itself Recycled.

Jakub Brahmí  
Langnerová Karolína  
Malíková Marieta

Bрно University of Technology, Faculty of Architecture  
Czech Republic

AHA2017102



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AWARD



# HONORABLE MENTION



Kamil Gross

Brno University of Technology,  
Faculty of Civil Engineering, Czech Republic

AHA2017156

## "Future Kindergartens"

### THE ISSUE

The problem of kindergartens is that they are either full or empty. We cannot change the territories, but we can solve some migration problems. Usually the dominant group of migrants are people with same living situations, like families. That means, the need of kindergartens is rising in the future, after the current migration wave, the needs will be lower again and the buildings will go dormant.

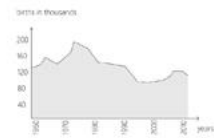
### THE IDEA

The families will not adapt to the kindergartens location requirements but the kindergartens can adapt to their needs of the families. The solution is a variable and mobile addition to an existing buildings of the kindergartens complexes.

- benefits:
- built and unbuilt in a few steps
  - efficient space usage
  - quality possible in village (people will show each other because of their children)
  - shorter distance
  - good for the environment (less buildings - material saving)

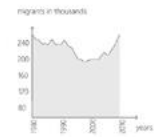
### STATISTICS

birth rate in years



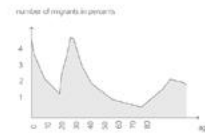
the biggest problem in kindergartens is that they are full or empty

migrants in the Czech Republic



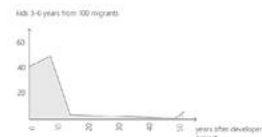
the cause is the birth rate, but more important thing is the migration in the Czech Republic

age of migrants in the Czech Republic from 1980



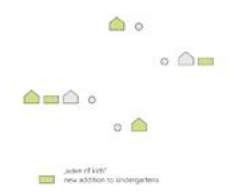
most of them move because of their children

the number of children in a village or in a city after developer project is rising

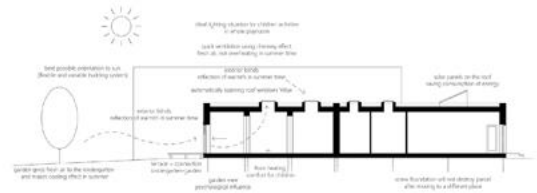


after the new "migrants wave" number of children is dropping

### URBAN SOLUTION



### SECTION - OPTIMIZATION OF INSIDE SPACES



### VARIABILITY OF FLOOR PLAN

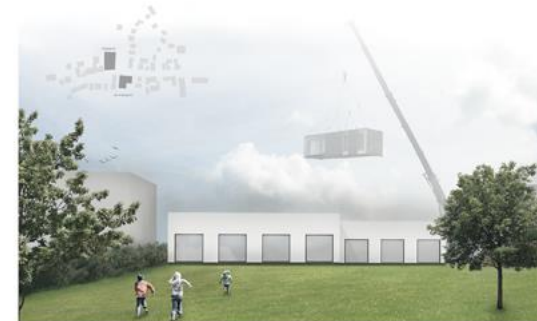


FIRST PART - 6 BLOCKS

Case: 6m x 6m x 10m

SECOND PART - 4-4 BLOCKS

Case: 6m x 6m x 10m



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2<sup>nd</sup> PRIZE



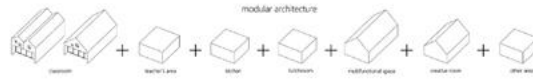
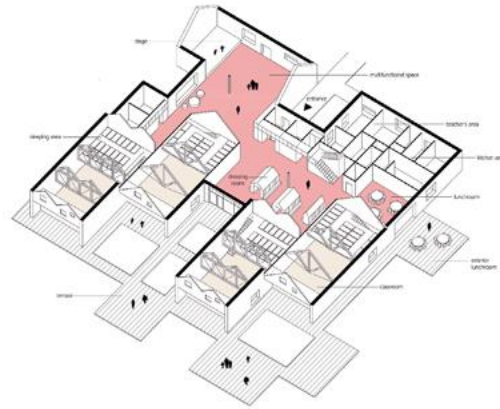
2<sup>nd</sup> PRIZE



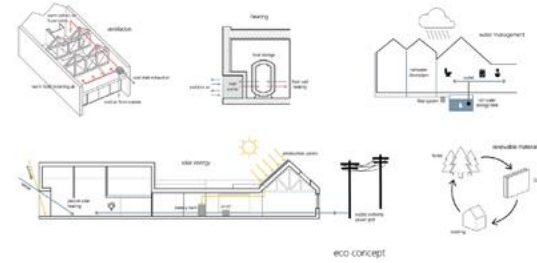
Tomáš Jozefík

Slovak University of Technology in Bratislava,  
Faculty of Architecture, Slovakia

AHA2017I18



The lack of nursery school is a problem that we are facing each day more and more. Nowadays, it is already an alarming situation which definitely needs a solution. Since no specific build land was defined under the rules of the competition, I approached the topic "Future Kindergartens" in a "universal" way so that the architectural design can be applied to different sizes and shapes of land. In order to achieve such variability of the design I chose modular architecture as a working method. Exact modular construction enables us to solve the problem of lack of nursery schools and at the same time offers us many other advantages such as construction speed, innovation, cost savings and environmental friendliness. Different spatial combinations can be created using individual modules. The construction may never be defective, it can vary in space and time, or it can even get a new function. It is an endless game.



Active House Radar

- Conditio
- 01 Daylight  
Daylight will be supplied by window panels in the ground floor as well as by the roof window and skylight from the roof. The daylight factor of the classrooms is 70. The quality of the daylight is measured using pictures from the daylight-simulator program.
  - 02 Thermal Environment  
Summer - protection from overheating is ensured by exterior window shading and night ventilation.
  - 03 Indoor air quality  
The indoor air quality is ensured by constant air exchange with heat recovery. For every classroom an induction unit will be installed which will provide fresh air intake and the suction of the used air from the hygiene rooms.
- Design
- 2.1 Energy demand  
Based on the energy intensity calculation, calculated using the PH program, the necessary heating amount is 12.5 kWh/100 m<sup>2</sup> per month, which is below the passive house construction standard. The heat source coefficients of the individual contributors are the following:
  - 2.2 Energy supply  
The heating will be provided by air/water heat pumps. Illumination together with water heating will be supplied by photovoltaic panels.
  - 2.3 Energy savings (performance)  
The building has an excellent energy performance. 80% of energy usage are covered by natural resources, certified by "hot pump" illumination and water heating will be supplied by photovoltaic panels in area of 200 m<sup>2</sup>.
- Equipment
- 2.1 Green building  
I chose such an type of heat source that needs only small amount of primary energy in the same manner, as construction I used mainly natural building materials, which minimize environmental load.
  - 2.2 Free water consumption  
Rain water is collected in an underground structure and subsequently used as a reservoir for the WC, flush and laundry or in case of hot irrigation.
  - 2.3 Sustainable construction  
In the building I used mostly natural building materials. The section of internal walls and exterior ones wall as well is composed of aerogel CI panels. The roof is made of wooden beams. Glass is clear or white and roof is insulated by mineral wool. Object is based on foundation stone, under which is rigid insulation material in form of 400 mm thick outdoor glass floor in the building is made of insulation.



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1<sup>st</sup> PRIZE



1<sup>st</sup> PRIZE

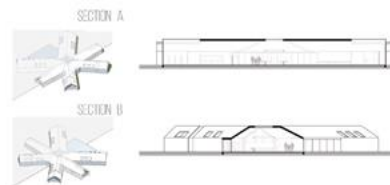
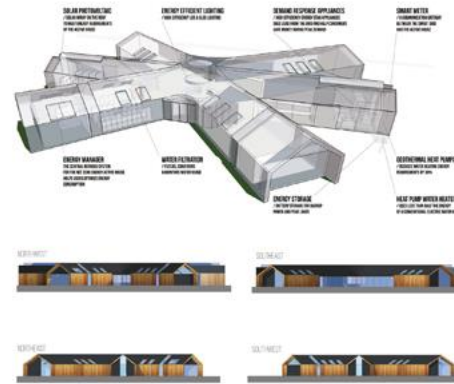


 KINDERGARTEN  
LEONARDO

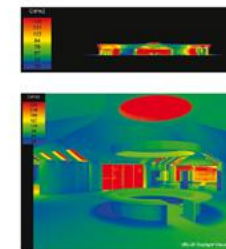
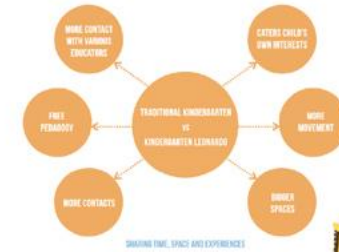
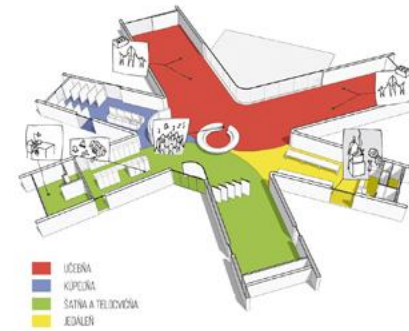
Máté Asbóth / Josef Borák

Slovak University of Technology in Bratislava,  
Faculty of Architecture, Slovakia

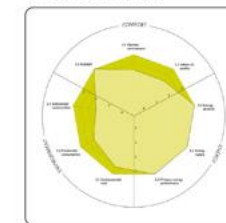
AHA2017123



OUR MAIN AIM WAS TO CREATE A PEACEFUL AND SUNNY ENVIRONMENT FOR THE CHILDREN. WE GOT THE IDEA ON A BEAUTIFUL, SUNNY AFTERNOON WHEN WE SAW A PAIR OF TWINS PLAYING HIDE AND SEEK ON THE PLAYGROUND. THEY WERE AROUND 5 YEARS OLD AS THEIR MOM WAS WAVING HER HANDS. I SAW THAT THE TWINS WERE STANDING BEHIND EACH OTHER FROM MY VIEW. IT SEEMED LIKE THAT FROM A BODY 4 HANDS ARE WAVING. THIS LITTLE STORY INSPIRED OUR ARCHITECTURAL DESIGN. THE CONCEPTUAL MOMENT OF HAPPY KIDS RUNNING AROUND THE PLAYGROUND.



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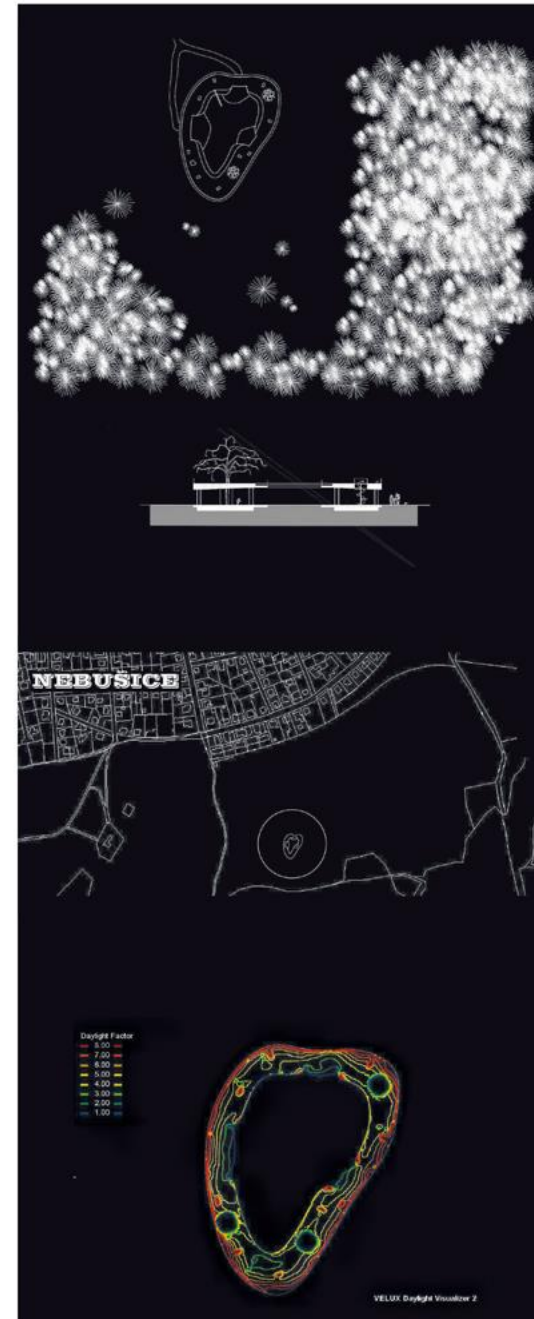
JURY PRIZE



Martin Odehnal / Jakub Marek

High School Josef Gočár in Prague  
Czech Republic

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