1. What does “Leonardo da Vinci” programme mean?

Part of the European Commission’s Lifelong Learning Programme, this programme funds many different types of activities of varying scales. These include ‘mobility’ initiatives enabling people to train in another country, co-operation projects to transfer or develop innovative practices, and networks focusing on topical themes in the sector.

Who is this programme addressed to?

Students aged between 15 and 18 years old.

Summary

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- 2. What is ArchiCAD and AutoCAD?
- 3. A short parallel between ArchiCAD and AutoCAD.
- 4. A summary of the three weeks spent at the company.
- 5. The final project: a district.
- 6. The houses’ presentations.
- 7. The cultural training.

Leonardo da Vinci

Teenagers will have the opportunity to work in a professional environment in different countries across Europe at an institute focused on skills in various fields of work.

Leonardo da Vinci and National College Iasi

National College Iasi was first accepted in the ”Leonardo da Vinci” project in 2003. It took place in countries such as: Spain, Greece, United Kingdom, Italy and Portugal.

All years brought even more and more interesting programs for the students to develop in, making it National College’s most prestigious collaboration programme.

”Leonardo da Vinci” programme has a rigorous selection and only the best students may participate. A file full of school and extracurricular results is required also language and cultural knowledge are a vital part of the selection.

“Simplicity is the ultimate sophistication.”
Leonardo da Vinci
What is its goal?

"Leonardo da Vinci" project focuses on giving the students an opportunity to study in initial vocational training. The participants who complete the training will leave with an European certificate — Europass.

Why is it a life experience?

You can only participate once as a student but the experience of improving your knowledge in different work areas and getting to know a country’s culture through Leonardo’s cultural and linguistic training is a priceless moment in your life.

How does it end?

It might change you and might show your way through life. It might be a one time experience in this project but it might also be a chance for you to study abroad through this programme’s long term participation.

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2. What is Archi CAD?

Archi CAD is an architectural BIM CAD software designed for Macintosh and Windows developed by the Hungarian company Grafisoft. Archi CAD offers specialized solutions for handling all common aspects of aesthetics and engineering during the whole design process of the building environment such as buildings, interiors, urban areas, etc.

Development of Archi CAD started in 1982 for the original Apple Macintosh. Archi CAD is recognized as the first CAD product on a personal computer able to create both 2D drawings and parametric 3D geometry. In its debut in 1987 ArchiCAD also became the first implementation of BIM under Graphisoft’s “Virtual Building” concept. Due to the fact that it is a program essential for the next generations of architects, ArchiCAD requires higher qualification than ordinary programs for the computer on which you are working.

Furthermore the popularity and the efficiency of this program is regarded to the amount of architects who are using it in order to

What about AutoCAD?

AutoCad (computer-design and drafting) is a CAD program, developed and commercialized by the American company Autodesk. This program is used for the construction of projects and plans in 2D and less in 3D. The files specific for this system are widely spread and they are known as: DWG and DXF.

At the beginning the program has been created for specific platforms such as Unix and Macintosh but lately the development has been abandoned in favor of Windows. This application is famous for its particular features such as a smaller price than other competitors and the unique possibility of automation of the process. This includes AutoLisp Visual Lisp, VBA, Object ARX. Moreover, the first version MicroCAD appeared in December 1982 and it was designed by John Walker and it has been improved until the version of 2013 due to the technolo-
These programs (AutoCAD, ArchiCAD) maintain dynamic links with construction of documents and specifications resulting in more accurate projects. As an example, when a person is able to delete or modify the sizes, the schedule can be automatically updated. Spaces and areas are updated automatically when certain elements are changed, calculations such as square footage are always up to date.

Another similar point about the architecture programs is that they are able to open the most known and used extension in architectural process (DWG and DXF). Moreover, both programs offer the possibility for architects to work at the same time on project by supporting and encouraging team work.

Similarities

1. These programs (AutoCAD, ArchiCAD) maintain dynamic links with construction of documents and specifications resulting in more accurate projects. As an example, when a person is able to delete or modify the sizes, the schedule can be automatically updated. Spaces and areas are updated automatically when certain elements are changed, calculations such as square footage are always up to date.

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Particularities

1. ArchiCAD is a more efficient program than AutoCAD due to the speed of work it provides. AutoCAD is the ideal programme for the 2D work because architects are able to modify each thing they draw in detail. However, when people advance to another level (3D) it is an exhausting and unpleasant activity and it forces architects to spend more time in front of computer than a person who is working in ArchiCAD.

The program developed by the Hungarian company transforms automatically everything an architect designs from 2D to 3D. Furthermore, the changes do not have a higher level of difficulty to be done. As a perfect example for this theory are two young architects who designed the same building with similar details one using ArchiCAD and the other one AutoCAD. The person who chose the American programme finished in 3 days while the other one managed to finish in less than 20 hours.

2. Despite the opportunity of working faster and prevent future generations of architects from health problems ArchiCAD has some negative parts. Due to working at a higher scale than AutoCAD the Hungarian program is not able to make design at a lower one. The best solution for architects is to use both programs in order to improve their technical skills and improve their projects.
4. A short summary of the three weeks

We started by learning to make drawings. Then we learned to implement on computers. The very first step was making a line. Then we continued with polylines and shapes.

Our first learned skill was how to draw little people!

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Now that we knew how to draw anything we wanted, the next step was to add color and make everything look better. We also learned how to change the pattern of our drawings not only on the entire object but also on the outlines.
After all this work we were ready for something bigger! The next project was designing our classroom. The most difficult thing was trying to guess every dimension, but after a lot of hard work we managed to finalize our plan!

The goal of the week!

The second week came faster than we expected and we were introduced to a completely new side of the program we were learning. Before we knew it we had already learned the ropes of CAD platform and could now make 2D plans and drawings using diverse tools.

But this week we went on a whole new level and, step by step, we entered the amazing world of 3D, where the simple plans we made in the work zone turned into dream houses.

We started the week by learning about the new tools in the planning toolbar which we could use for 3D presentations. We found out how to adjust the properties of elements in order to reach our goal.

The main tools we used were Walls, Doors, Windows, Floor, Objects, etc.

Our first assignment was designing our classroom in 3D. We thought it was no difference at first, but then we discovered that as opposed to the simple 2D plan, we could view the new drawing in the third dimension. One of the most important things we learned was setting the exact measures such as height and length, so that the object would fit perfectly in the space designed. We planned even the smallest details, from the pattern of the column to placing the computers on the tables.

During this week we also made a model of the Alfatraining building and in this process we learned how to add more stories. As a matter we designed our own stairs and

Finally we knew enough to start our very own project: houses where we

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The last week, although apparently easy and without any difficulties, actually caused trouble to every single one of us. The beginning of the week seemed to be calm and usual, because we’ve learned in these days new information about layers and building sections. Our tutor thought us how to use, create, edit and analyze the properties of a layer. He help us very much in the case that we have an elaborate project, because using it we can hide temporarily from the plan some elements which confused us and also make the program work slower. The section of the building is one of the most significant aspect of the CAD platform, because it offers us a large perspective: one in detail and one by cutting it.

The next days, everything became more complicated, each one of us had to apply all the skills that had been assimilated during the training. An important element which was necessary this week was the text tool that we created in the previous weeks, because it gave us the possibility to revise everything that we’ve learned over time and to use it. The team tried to prove the fact that the classes were useful and, working really intensely, they managed to design the final project. The whole group co-operated very nicely, setting up the website and also its brochure. Also the teachers helped us in this rough period, and they gave us moral support that we needed to stay together and to keep our target intact.

After long hours of working we succeeded to come to an end and also to sum up all the knowledge in one final design of houses “ensemble” thus creating a brand new modern district.
Ulmang House

Mangalagi Ioan, Theodor Ulman:

Our first problem with the house was naming it. Me and Ioan worked very hard to design and create our house in Archicad. After a while, we decided to combine our family names to show the unity and cooperation between us into this project. So we named it Ul-Manghaus.

(Pointing at the picture of the house in 2d) This is the 2d view of the house, how we first designed it. We designed the walls in standard fashion: 0.3 meters for the outside and 0.1 and 0.15 for the inside. This way the walls are thick enough to provide maximum safety and comfort.

With a unique design we divided the inside of our house so it is both practical and efficient, so that every possible owner of the house would enjoy it. As you can see the house layout is very simple yet making use of all the space.

We used the piano room as a metaphor for life. The walls are plain, creepy and a bit ugly, but the piano stands for freedom. It stands for an idea which I very believe in, that art is the only way we can be free, fulfilled. Maybe even happy.

(Pointing at the 3d views) Here you can see more views of our house in 3d, showing warm and comfortable dormitories. The intense blend of colors gives you a welcoming feeling.

In the last 3 slides we intended to show the evolution of our house, from raw building to a real house. After adding the finishing touches we looked at our house, and thought that: “This is our dream house.”

When I first started drawing this, I wanted to make my real home, but it was quite impossible because I didn’t have the plans, so I had to approximate everything. It took me a pretty long time to build the house, but it was definitely worth doing it!

I started with the ground floor. The dimensions are 0.3 m for the outside walls and 0.1 m for the inside walls, but I don’t want you to get bored with all these numbers! First floor was next. I kept the structure of the ground but I added a big balcony. Then I started placing the windows and the doors. After this I began decorating the rooms. I chose the walls color, the furniture, the place of every object and many other things to make it look as good as possible.

This way I got one simplistic living room, two big bathrooms, one kitchen and four bedrooms.

That was the time when I realized that I don’t have a foundation, so this was the next step. Building it I obtained two more rooms: a dressing room and one with the central.

I also designed a big garden around the house and I finalized my project by putting the roof.

Now that the house was done, I finally received the plans of my real home, so I started to modify the entire building in order to make it closer to reality. It was a hard work considering that I needed to move all around, but I did it!!! Almost...

So, at the end, this is how it looks like! Probably it doesn’t seem special, but it is very important to me and I wish you like it!
A&M Haus

Our house has a modern design with straight dramatic lines that impress with their unproportional dimensions.

As we can see the roof is quite unusual as it is divided into two pieces and the angles are opposite one to the other.

The walls combine two different materials, a normal one which is elegant because of its color and the granit style which is tuff, strong.

The windows and the glass doors too are a representative aspect of the house for they are almost as high as the walls leaving the light of the sun enter the entire place.

The yard is full of trees and on the left side there is a special place for children and also a swimming pool.

From the terrace there are for entrances into the house: one from the kitchen and the other one from the hall.

The ground floor
The kitchen is quite small because the dinning room is part of the living room. There are two big windows which give us a warm pleasant atmosphere because of the view and also there is a big door from the terrace.

The hall is quite big because there aren’t any doors to the living room and there are stairs who leads us to the first floor. Here are two entrances: one from the right side and another one from the front side.

The living room is big and it has a big glass door from the outside, in the left side, and also two big windows. As you can see, there are big windows everywhere who gives us the illusion of a larger space. This illusion is useful because we could put there every kind of furniture.

At the ground floor we also have a bathroom and a storage room where you can deposit everything you want.

The first floor
The first floor is divided into three matrimonial spacious bedrooms. From the left bedroom you can enjoy the view from a huge balcony and in one of the right bedroom is an entrance to a smaller balcony from where you can see the pool and the special yard for the kids.

From the last bedroom you have access to a dressing room and from the hall you also have access to a bigger dressing and a more spacious bathroom.

The end
This house is designed to combine both the requirements of a woman and a man. It’s perfect for a large family with kids and it can also be seen as a holiday house as it can guest 10 persons. The yard and the trees give a plus to the house as it can offers a more natural environment and releases the stress out of you after a long day spent at work, in the city.
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5. The district

When I first started to build this house, I wasn’t going to present it as my final project. I just wanted to practice 3D drawing so I started to design this floor. As you can see, it’s not exactly interesting; there is nothing more than just some walls and just some doors.

Then, I started to add the furniture. I began with the kitchen where I placed the table, the chairs and all the other stuff you can find in any kitchen, but because I was drawing in 2D all I could see was just this plan. I selected a random color and put it on all the objects on my kitchen. Only then I saw my design in 3D and... I fell in love with it.

That is when I decided to present this house as my final project.

Therefore, I started to add windows and furniture on the ground floor, which now looks just like this.

With the ground floor done, it was time to build the second story of my house. As you can see, there are three bedrooms, two of which have balconies and one bathroom. Since my house doesn’t have spectacular elements such as walls on a particular angle, or round floors, the things that make it special are the details. As you can see, I tried to make every single room as realistic and filled with details as I could. Therefore, you can observe in each of them, not only beds, wardrobes and desks but also the heaters, the computers, or even the trash cans.

Since the inside of the house was done, the only thing left to do was to decorate the outside walls, and design my garden. I had a little trouble with finding the right colors for my home, but finally, as you can all see, my house is done and it is the perfect home for me and my family.

Nicoletahaus
Hello, our names are Ioana and Relu and this is our house! Although it may seem simple on the outside and not very complicated in general, I can assure you that we had to put everything we learned to good use.

Let’s start by introducing the outside of the home. We selected the materials in such a way, that it looks vintage and slightly old, but modern and practical on the inside. The garden offers a sense of freshness and intimacy.

Moving on you can observe a front terrace and a back terrace. We had a bit of trouble creating the round part but we got it and it ended up well eventually.

Inside the first floor you can notice a couple of more interesting rooms, the living room, the office and the kitchen. However this was the easy part, as we only had to get the measurements right.

On the second floor you can see three bedrooms. Those were harder to create, because of the balconies and the brick part of the room. The bathroom was easy to do but harder to put furniture in, because of the size. This is where we encountered some slight troubles, because initially our floors didn’t match when we put them on top of each other. However, we got this fixed by cutting and adjusting some walls.

The hardest part however was the roof. Because of the fact that it has so many different angles and shapes, we had to turn it into a morph, modify it and then cut the walls and we even put a ceiling, beneath it in order to cover the 1st floor.

The finishing touches, such as the furniture, were only a matter of "find and place" and therefore not that hard, with some little problems here and there, with the rails, and fences. The garden you saw was also a later addition and we tried to make it as relaxing and easy on the eye as possible.

And with that folks, ends the tour of our house. I hope you enjoyed it because we sure enjoyed making it, as it is a unique and fascinating experience.
After we found out that we have to design a final project which will have an important influence on our education, me and my partner David decided that we have to draw a house which should not have in its description ORDINARY. Due to some specific research we decided that the project which is entitled “house” fits the best with our requirements.

The unique design and the warm color yellow offer to our personal project an interesting image and a lovely atmosphere which are two main characters of which a person is looking for when he wants to buy a house. Furthermore, the roof built in a slope and the perfect mixture between straights and circular walls provides safety and permanent sensation of a bigger space than it is mentioned in the plans.

The difference between other common plans is that the first floor is located at the level -1 the access to it is provided by the stairs located near the garage. Moreover, in the back of the house there is a small court which offers the possibility for the owner to see the magnificent garden. The glass door and the windows make possible for the sun to illuminate the inside of the house creating a pleasant atmosphere for intellectual activities such as reading. The inside plan of the first floor provides to the owner of the house well furnished rooms the living room and the kitchen are separated by a glass door. Furthermore, the owner has a personal room where he is able to work and some technical space required for maintaining the house clean and safe. What attracts the attention of the viewer when he sees the plan is the mini-bar a special place designed for meetings and friendly talks.

The next floor is located at the 0 level is designed one. It takes two bedrooms and the two bathrooms where are able to live two or three families. These rooms are separated and interspersed by the dressing room fully equipped but also with two halls which allows the people to move through the house without intersecting. The special aspect of this floor is the small terrace where the owners could spend some time or doing family activities.

The last floor of the house is the attic which is equipped with a billiard table and a piano and it was designed especially as a rest room, a place where you can spend some time with a friend or with yourself. These three floors are covered and protected by a special roof which has the same design as the house (with round parts) which is made from two parts. One which is located over the terrace and the garage and the second one is defined in two parts which are designed to cover the 0 level and the attic.

Considering all the facilities the original design and the amount of space required for building it, we consider that our house is the perfect place to have a peaceful life and to build a family.
Dracon Haus

This house was our first challenge, or more specifically our first real challenge. We started of with thing of different sizes and forms. Each step took us even further to the design of our desired house. Step by step we started using the most common things in the program and these were the walls. One wall was the beginning and with each new wall, our house was starting to have a real shape.

The first real problem was finding the right sizes for each room. After long times of thinking, a small argument, and hours of work, our two story house had its structure finally completed. All sizes are the ones generally used in building houses, such as walls of 0.3m. After completing the structure we headed on to its design.

And so we decided to create a house with the upper story bigger than the ground floor. What was next?

We decided that simplicity is our greatest feature and so we went for an elegant and vintage design.

After designing the main part of the building, we jumped right on the interior details. Here it all went smooth, clean, and with every item placed our house was getting even more detailed, with columns enhancing it.

The hardest moment was using the right colors because we encountered problems with the software. We eventually finished our smooth and elegant design of the house fitting the right colors.

The roof was a challenge because of the house’s trapeze like design, but we finished it in record time.

After completing the main building, we mostly got excited about designing the garden. We created a special rock floor to look like an alley. On the sides we placed small trees and the beginning of the alley we designed to huge oak trees to suit the house and give it an old style design. In the backyard we made a pool to further give a finishing touch to the house.

And so after hours of hard work, full of arguments between us (each wanting a different thing but getting at a decision together in the end) and after encountering some problems, we finally built our desired two storied building and with the final touches, it contained up to three bedrooms, a kitchen, two bathrooms and one detailed living room which stood out through its vintage like design, unique shape and elegant but simple features.

Our real challenge is finally completed and we proudly present it to you!
Welcome to our humble residence! We created it during our training, and we like to think that it summarizes pretty much everything we learned about ArchiCAD. Several elements were integrated in the making of this building and used different materials for the walls and objects we included. It might not look as fancy or complicated as the houses that our mates have built, but it took a lot of time and hard work to design it. We think it has its own unique charm that makes it different from the rest. Our house consists of a ground floor, two upper stories and a peaceful garden, where you can find a large swimming pool and very diverse species of trees. For the construction of our house we used a wide range of materials such as stone, wood, metals and glass. What is the most impressive about our house is its unusual positioning of the exterior walls, which don’t come perfectly together but go from small to big to small again, offering the house’s original style.

Main design:

The ground floor

The ground floor is a mixture of utility and modernity so that it may become a favorite for many. Its large, open living room brings out the beauty of warm tones and the comfort of the big sofa and armchairs. When it comes to reunions or meetings with friends and family, its ideal size becomes advantageous in spending quality time with your loved ones. The kitchen is modernly equipped, offering the right amount of space for you to be able to do everything you want. It is decorated in soft, cream colors, with the only contrasting element being the electronics. Right next to it we can find a small dining room, a cozy place to enjoy your meal after a hard day. On the ground floor you can also find a bathroom and a large bedroom, cleverly designed in an L-shape with a mesmerizing view outside, including the swimming pool. The many windows always allow natural light to come into the house, making everyone feel warm and welcome even from the entrance. The garden is a magnificent combination between beauty and style, with a modern swimming pool and a diverse collection of trees.

The first floor

The first floor is bigger than the others and this gives an edge to the overall look of the house. One should note the fact that the rooms are bedrooms, and because of this we could easily say that this space is meant especially for resting and relaxation. Each bedroom has its own dressing and private bathroom, as well as balconies, proving that the construction is practical and that it was built in a clever and efficient way. The vast number of bedrooms offers the owner of the house the possibility of inviting friends over and spending unforgettable moments in a spacious and welcoming home. All rooms are connected through a wide hallway which can also be used like a living room; here we can even find sofas and TVs and people could enjoy their spare time. The balconies of the house are also remarkable. Thanks to their impressive dimensions and advantageous position, people can see the magnificent view of the garden and the other modern houses of the complex.

Second floor

We finally arrive at the last floor, which might seem the most plain and boring, but in fact has quite a number of interesting features. Probably the largest parts of this floor, the two terraces are perfect for relaxing in your own private space. On one of them, the more spacious one, you can find comfy chairs, perfect for sunbathing, a little table between them and, the highlight of this area, a billiard table. The other terrace is a bit smaller, but it’s even more interesting than the other thanks to its unique roof, sustained by two columns, which protects you by extreme heat when you’re tired of all the sun. There’s also a narrower balcony-like area where you could enjoy the view. Inside, you find an area with small chairs and a little table, made just right for you to have fun on a relaxing evening. There’s also a storage room where you could deposit your things (and especially your clothes, as it is equipped with racks and a wardrobe) and a study where you can concentrate on your work, away from the busy rest of the house. You can also find a modern bathroom suited for everyone’s taste.

As it is, we hope you made a good impression about our house which we think is ideal for a trip or for spending a holiday in it, as it offers all comfort needed.
6. Karlsruhe
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6. Durlach
6. Baden-Baden
6. Baden-Baden
6. Stuttgart
6. Heidelberg
6. Heidelberg
6. Heildelberg
Colegiul National Iasi

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