Personal Project
Eco neighborhood

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Introduction

Ever since I was young, I wanted to design, draw and show my skills to the world. I had several ideas about my future, the very first was an artist, then I wanted to be an inventor and the last idea which occurred during MYP 2 was an architect. During the years 2012-2014 we traveled a lot, USA, Russia, France, Turkey, etc. These countries had different architecture and had a different taste for modern architecture. This fascinated me. The traveling and also my passion to drawing -and designing led me to this decision. When I first met with the topic "Personal Project" I was thinking what to do, I have several hobbies which I wanted to apply in Personal Project, but my final decision was to make a model.

Architecture is a matter of design, arts and emotions. I find this very interesting, by only looking at a product of some kind of an architect we can see his thoughts, emotions, style, and mainly how big is his fantasy. Without fantasy not even the basic houses would exist, not even some kind of fancy buildings, no decorations as in renaissance and similar. I find myself very sensitive and also somehow can define the reason or the motive to creating such an artistic product. My very first idea of my Personal Project theme was making one or two modern houses. Then after some brainstorming I wanted to make the two house models but so they would have the characteristics of economic since today people have large problems with saving the nature around us. Eco-living is also very useful **"Wood has the ability to absorb large amounts of moisture and absorbs a lot of various harmful substances"[1]**. After developing this idea I thought "One house can't have all the elements of economic living." So then I decided to "rebuild" my neighborhood to have the characteristics of ecologic living.

Goal

My goal firstly was to create a model of the neighborhood with the characteristics of ecologic living, but the main goal was to show the real characteristics of true eco living which can be fun through the model. People do not know what is the true meaning and details of eco living. The most common questions are **"Are green buildings realistic or is it just a dream? Is it possible to calculate the price of the operating expenses? Can we decrease the price of the construction and still have the characteristics for an eco-house?"[2]** People also think that "ECO" means only planting a lot of trees, the house has to be made from wood, and using only wood for furniture. "**Paper, textiles, plastics, wood, no inclination not materially and articles of these materials, although my limited life, but their "death" is not the end. Conversely,**

reuse of these materials and waste products resulting therefrom, for which you will be in the interior, did not need to be embarrassed."³ which means that all waste materials and that there are a lot of various materials that can be defined as "ECO materials".

The world has large problems with pollutions, GMO and other. To make these problems the past of our life, we need to live naturally and decrease the hazards as much as possible. People want to ease their lives, but this also costs something, the main cost is destroying the nature, using fossil fuels, unnecessarily using too much plastics which leads to lavishing too much of crude oil. All this is unnecessary for our lives, in the past people considered the nature as a very important factor; they farmed a lot, and lived ecologically. Houses were made from natural materials like word, hay, clay and mud. Today people do not want to come back to those times; they consider this type of living as boring, not modern and very unattractive. But they are wrong, my neighborhood will be in such a way that they will not have to say goodbye to modern technology, but only with minor changes that will require work, but also be fun.

Global Context

The Global Context that I had choose is "Personal and cultural expression" because my goal is making an innovation for living which will save the nature, showing the true values of ecology, showing how could ecological living affect our lives (culture, physical and mental changes). I had a hard time while considering which Global Context would be fine for my project. I was thinking to pick Scientific and technical innovation since I will be changing the neighborhood in a scientific way. The wind mills, farming, solar panels, street lights, natural materials and etc. are categorized as science and technology. I find my final Global Context as the best since my project is mainly changing the environment of personal living, saving the nature and also health of the people. Plus also I want to socialize the people in a form of creating a natural park, playground and arbor which is meant for all the people, not just for the people that are living in the neighborhood.

Selection of sources

My project is based on ecology, and to have the right information, I need to gain some knowledge, need to get various sources. I made some interviews, with people that have experience with eco-living, work with wood and make products based on ecological materials, and also people that make other products that are ecological and a good solution for eco living. I choose people that we know, and also gave us some products to our household and one neighbor which built a house from eco bricks, from the outside it is a variation of wooden planks and natural rocks. Then instead of original roof top from tiles, he planted a special grass part from his house is that his roof is made from grass type with flowers and little bushes that create thrice as much oxygen as original bushes and trees. And another plus for the neighborhood itself is that directly behind it we have large woods and within there is a lake for swimming and catching

fishes.

Another source is magazines. I have several magazines containing eco solutions for houses, information and some tips for eco living, crucial information for eco living, and some how to make some products at home, in a way of recycling. These magazines were very useful, I learned a lot of new information that was in the magazines, which is very useful for eco living. A big problem now is that we heat the house a lot mainly during winter, but the problem is that a lot of heat is lost, through the windows, bad isolations and other. There are a lot of solutions like special windows which are cheap, or a thing called "Heat Bridge" which is a special construction that is inside the concrete and stops the temperature from outside getting in, and the temperature from inside escaping. So then we use less energy for heating. There are a lot of articles which are useful like this one that I described.

The last variations of sources are from internet. I have a video from **youtube.com (1)** that is another Personal Project by a girl that made/ designed an eco-house virtually, from which I got some basic ideas for my Personal Project. Then I have several sources that helped me, for example I have some online articles from pages **sme.sk (2)** and **cas.sk (3)**. These articles were about some things that happened that shows us that eco living is important, or also show that there are already some occasions that people had started somehow to live with nature. For example there are people in Slovakia, Prešov that had made a garden behind their flat, in order to farm their own vegetables instead of buying the GMO´s in the shop. This fascinated me that even Slovaks which live in flats wanted to create a garden for themselves and even are willing to take care of the farm itself.

Process

The whole project started with a brainstorm. The very first idea was during the previous MYP5 mini fair, I wanted to create some kind of a computer game or program. I found this very hard and without a great use. After some time I decided that my project will be in the theme "Architecture" since I want to be an architect. I was very interested by all kinds of these things, so the second idea was to create two large models of modern houses. This would be great, but what would be the aim? I made several ideas, and the final one was to reconstruct my neighborhood to have the characteristics of ecology and saving the nature as much as possible.

Planning

At the very beginning I have to develop a plan to have everything organized. I have to have a plan, to do things according to it so when doing the whole project; I would have no problems and know what to do exactly.

1. Write the whole process down in a diary
2. Make a research
   a. Search for some books and magazines
   b. Make some interviews
3. When having enough knowledge create designs
4. Develop the designs for every building
5. Get all the materials needed for the model
6. Sketch the final model on a large format
7. Make the model

With all of this I have to manage the time, and have to put a time limitation for every step to be able to end the whole project on time.

Research

The very first thing that I did for my project was gaining a lot of information. For example people think that wooden houses will capture the moist and then collapse and be destroyed. **"The life span of the house depends on the material quality, solution of construction, way of building and expositional conditions"[4]** Magazines, internet, videos, and also some interviews. I had to gain some information because without it the project wouldn't be done correctly, as if we would want to write a test without learning for it. I was looking for books in several shops, online books, magazines and then found many useful sources. After the research, I made some designs based on the information that I gained. After then I had to make a PowerPoint presentation(overview seen in appendix) for the mini-fair based on the information I gained and had to think over the whole project, what will there be, some factors, and other. After then I made some interviews, but the most interesting was with my neighbor which lives in an eco-house. The very most interesting part from his house is that his roof is made from grass which **"in summer protects the interior from overheating"[5]** and **"isolates the house from outside noises, and decrease the noise by 3 dB."[6]**

Designing

After having full storage of much information and also having a plan, I started to make some designs (found in appendix). The very first drawing was my neighborhood itself. I wanted to create my own measurements based on the pas measurements and comparing the sizes. I placed the buildings, playground and other things so I would know where it could be placed. Then I started with a free hand sketch of the playground, and then of the first house. The first house was only made from some ideas, it wasn't the final look yet. After then I made a complete design of the first house from a bird view. Made the walls, furniture, and precise measurements. The same thing was with the second house. Then I made several free hand designs/looks of the

arbor and the playground. Several styles, looks, and then choose the best one and made it to scale. Most of the designs were in scale 1:1. But after when thinking that how big is the house, and how big will other things are, it would be unsymmetrical. I put a scale to each and every building. The very last thing was making designing the farm. I was deciding what the farm will contain. The final solutions were to make a large chicken house, and also a large stall which will be separated for two different animals.

Creating the model

After the designing I could start with the model. The very first thing was that I made the houses. This took me a long time since I had to make the walls connected 90° and also the glue was drying a long time. I made 3 houses together, and then made the seesaw and the slide for the playground. To make the grass I used a special paper with rocks and covered in green paint. I cut the shapes out, put glue, put some weight on it and waited so it would dry. Meanwhile I was creating the streetlights. Connected wires, connected the wires to the light bulb and the put it in a special bought metal tube, which I angled a little at the top and glued a squared paper on each one as a solar panel. After all of this and also when the glue was dry, I made the football court, lake, road, and sidewalk, drilled the holes for the streetlights, and then finally glued the houses on the wooden deck. When all the glued buildings were dry, I flipped the deck and then I put the lamps in the holes and took the cables to the bottom of the deck. I flipped it so I would have better access to the cables. I started to connect them, all from the right side, and all from the left side. Then put one cable that goes from the left to the right so all of the streetlights will be connected creating a circuit. From the special cable gatherer I put one cable and connected it to a switch, and also put a connector for two 9V batteries so I can stop the light any time I want. The final step for the electricity was to drill a hole in the leg (on the deck) and inserting the switch inside. I put some nails from the bottom so it would hold the cables and not letting them to hang which could mean that the cables can rip off. The very last step was decorating the neighborhood. I bought some materials, and made all trees at home with a little help of from my mom. She taught me how to do it and then I continued by myself. I found a plastic tree which is large at home, so I put it next to the lake. Each house has several trees. The last elements of the decorations were the recycle bins and the CO_2 collectors. I made the bins from wood, and for the CO_2 collectors I connected three Kinder eggs with a furry stick. Then I glued them at place, and my project was finally finished. It took me about 1 and a half month.

Analysis

The Personal Project was very special for me, everything that I did, every mistake, success was only depending on me. Every step had to be organized, planned and always looks two steps in advance. It was the very first time that I did such a thing, I never had the pleasure to

do some models from wood. I had a lot of support from my family, friends, neighbors and also other people that I made an interview with. After a long time, lot of solved problems and hard work I successfully made the model of my ECO-neighborhood.

Analysis of planning

Before doing anything, we have to make a plan. I made a plan and done everything according to it:

1. Write the whole process down in a diary
2. Make a research
    a. Search for some books and magazines
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We cannot make a model before having a design in scale, and not making a design without having a lot of knowledge. I was making several plans and thought out that the very first step will be making a record of the whole process, and then making a research. After then based on the gained knowledge I made some sketches, and from the sketches made a final design of the buildings and the neighborhood itself. I did everything according to the whole plan. I managed the time, and finished the project on time.

Analysis of research

The research started a strange way, I went to buy a magazine and directly before me they stocked the shop with new magazines. I saw a poster of a magazine about living, I was looking at the poster and thinking if I shall buy it or not for my PP. After a while the employee from the shop asked me if I want a copy of the previous edition. He took it out and it was directly what I needed. It had tons of information about eco living. He gave it to me for free, and so I looked for some more magazines and bought one more. After then I started search for information on the internet, searched for books, even tried to contact several people. I decided to make some interviews with several people that have some experience with something that can help me. I think that I choose the correct process for researching and also think that I have enough and various kinds of sources of information. Over all I used a lot of knowledge that I gained and symbolized it in my model.

Analysis of designing

After a long research, I started to design some things, and made several sketches during September. When we were abroad I saw some fascinating and also inspirational buildings and gardens. I thought that the part of designing will be one of the hardest, but I was wrong. It was easy but very long. I used several ideas that I seen and finished the final designs in November. I can say that it took me quite long but I couldn't think of the complete design of the house and didn't want to copy any layout of a house that I can find in magazines or see it somewhere. I was combining the structures, but when I think about it, I could make it easier by looking for a layout of a house and just make minor changes.

Analysis of modeling

When I finished with the designs, showed it to my parents and when they agreed that it is complete, directly on the other day I bought the materials that I needed. On the following day I sketch the models on the wood, and made precise measurements. When I sketched everything I re-measured everything, took a right-angled ruler to make sure that it is perfect and that the pieces will fit in. The very last thing was to glue everything together and inserting the decorative elements like trees, grass and other.

Conclusion

The whole process of research, designing and creating the model went as planned from the beginning. There were some minor problems, but after all I solved all problems. I had problems only with the research (insufficient count of various sources) and then during the modeling (it was hard to cut the paper for grass straight and precise). After the whole project I think that have improved in several ways. I learned how to manage my time, learned to- search for correct sources, how to select certain parts of information from texts, how to work with wood, how to work with certain electrical components and improved my crafting and designing skills.

I think that my Personal Project will show the actual meaning of ECO-living, and hopefully someone will approve my model and realize it and even better would be if the whole world would learn a lesson how important it is to live ecologically and use my ideas somehow in the future. I find the model very innovative, since people think that ECO-living is a whole new life style, no modern technology, but they are wrong. ECO-living is about taking care of the nature; stop being egoistic and start thinking about others (in this case nature). Use new technology for all house hold actions (as heating) which is based on electricity, and make the electricity ourselves. People have to learn the actual elements and meaning of ECO-living to be able to judge.