Green building
- an introduction to design thinking

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Using the service design approach, she designed solutions for corporations, SMEs, public institutions and NGOs. The service design approach is also used to collect requirements for IT systems. Experienced moderator of processes and workshops based on service design and design thinking methodology.
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What is design thinking?

Design thinking is an approach that helps us to find a satisfying solution for wicked problems. Wicked problems are the one that:

- have many potential solutions,
- engage many stakeholders,
- are vague (we know that there is a problem, but we can't call it precisely).

Design thinking helps us to look for solutions systematically and support us with various tools. Design is as much about creation as it is about exploration and analyzes.

The process is composed of five main stages:

	**Exploration**	learning about the context, users; trying to understand the topic deeply we will work on
	**Defining the design challenge**	deciding what exact problem we need to solve to have an impact on the current situation
	**Ideation**	generating ideas that will solve the problem
	**Prototyping**	making ideas tangible with limited resources
	**Testing**	validating the concepts with others

Design thinking is all about people, their needs, expectations. We try to discover them and find a way to answer them.

Note: If you already have a solution then you don't need to go through the design thinking process. It can be helpful if there is a change required but you are still looking for an idea that will help you to reach it.

Design thinking in practice

Design thinking is about doing, experimenting and exploring. We selected for you some tools that will help you to go through the process and take most out of it.

Note: Don't work alone

Design thinking is a collaborative activity. It works when you have people with different experiences and passions around you. Think which colleagues you can invite to your project. Usually, project teams have from 4 to 6 members.

Defining the scope

Green building is an exciting topic. We can think about it in many different ways: how to build such a house from scratch, how to make our homes and flats a little bit closer to the „green building" etc. We may also be interested in making the theme more popular among our peers.

When you want to use a design thinking approach to develop this area, you need to be very careful in defining the scope. First of all, there are already many ways of making places we live in more environmentally friendly. And the worst thing that can happen is to conduct the process and finish will well-known idea. Especially, having in mind that design thinking is used to create new, innovative concepts.

Secondly, in many cases, to find the solution, you will need professional expertise. In the process, we will mainly rely on our knowledge. Thus we need to spend some time not only exploring the topic but also be open to learning from others, validate our ideas.

We should start our work in defining what new topic we can work on. We need to be careful not to make it to width either to narrow.

Examples of topics:

- Summer green buildings
- Making our school more „green."
- Raising awareness about green building among the local community

Activity: Each member of the team should prepare a short description of the themes related to a green building he/she is interested in and would like to spend time working on them. You can use our Theme Card to prepare the description. Each team member should make at least two proposals. Present each other result of your work. Check if any topics are similar and can be merged. Discuss each idea and decide which one all of you wants to work.

While selecting the topic, think how critical the problem is in general, but don't forget to use your interests as criteria — working on something important for us to keep us motivated and more engaged in the process.

Discovery

Before solving the problem, you need to learn about it. We need to immerse in the topic, understand different aspects of it. Our discovery phase will be composed of three main stages:

- general information
- surrounding
- users

General information

Let's start with the big picture of the topic. We need to learn a bit more about green building. Narrow your exploration to the theme you will work on e.g., green summer houses.

Activity: Each member of your group should find and read some articles about the subject. Try to find some case studies that present how different communities, institutions were implementing changes related to your topic. Write down essential and interesting facts. Share your notes with other members of your team. Prepare a poster not to lose any critical piece of information.

Surrounding

Identify what places, institutions, are related to the scope of your projects, who may have an impact on the area you are interested in.

Activity: Create a list of organization, institutions, competitors, potential users of your solution.

Split them into three groups:

- crucial for the project
- important
- less important

Additionally make a list of factors that can have any impact on your idea, for example city/government policy, location (for instance if your home town is located next to the lake it can be worth to consider to organize your green summer houses there).

Users

Last but not least, think about people: Who will benefit from your solution? For whom you are designing it for?

While working on solutions, we need to define what problems we want to solve and who has them. Even if you think that everyone can benefit out of your concept, decide for whom you will dedicate it in the first place. Understanding users is crucial for our process.

At the beginning of your decision process, take a look at the effect of your work, and see what users type were selected as a crucial one. You should concentrate your design process on them. It may also happen that there were no chosen users as critical stakeholders - just institutions. Then

spend some time in your group and try to find an answer on a question: For whom we should design our solution. Name 1 or 2 groups.

Activity: Prepare the Persona using the prepared canvas. Persona is a way to present and communicate to others easily for whom you are designing for. If you want to learn even more about those you are creating for, fill in Empathy Map. It will help you to be in someone's shoes and understand better users perspective. You can think about it in the following way: Persona is an actor, empathy map presents how he/she feels in a particular situation.

After you have prepared the persona and empathy map, there is a tricky part. While filling in the canvas, you have written down your impressions. Now you should challenge your perspective with real users.

Meet with people who fit in the profile: for example, people for whom it is important to be environmental friendly,

During the meetings, you should learn why they behave that way? Why the theme is or isn't essential for them.

Before the meeting prepares the list of a few questions, you want to ask. **Don't ask if, but why, how. Give them a chance to tell you their story.**

You should meet with around six people who fit into your profile.

Note: Don't educate or correct anyone during your meeting, try to understand. Don't judge anyone's behavior.

The Internet can also be a valuable source of information on our topic. You can find groups on social media, comments under articles related to the problem, check what photos people publish adding hashtags related to the topic. Collecting this data, you may learn about others point of view, learn what wakes peoples emotions.

Defining the design challenge

Usually the design challenge is formulated in a follow way:

How might we help (who) in (what), so that (effect)?

Who - write down what groups your persona represents
What - what problem of our persona we want to solve
Effect - what is the expected outcome of the solution

However in our case we will try to work wit a bit different approach. We will create a sentence - challenge that will define our goal

Example

To create the greenest school building in the region.

To create simple solutions that can make each house a bit more environmental friendly.

Activity: Write down your design challenges. The challenge should be ambitious, inspire us, show direction.

Ideation

During the next stage of the process, you will have a chance to generate some ideas. We will use two methods that will help you to find exciting solutions for your challenge.

Before you start, remember about fundamental rules of the ideation phase.

	There are not bad ideas
	During the first stage of the process don't think if it's practical and implementable
	Work as a team - inspire each other
	Have fun

Filters

Activity:

Read carefully, 3 prepared profiles of unique personalities. If you haven't heard about them before and you feel that presented information are not enough to find some more information about them.

Write down at least ten ideas (per character) how each person/character will answer for your challenge. All in all, you should have a list of 30 ideas. Don't be afraid of exaggerating. At this stage of our work, we need brave ideas.

Example:

If our challenge would be: How to make our houses more environmentally friendly and our character:
Little Price we could have such ideas as having plants in each room that are adjusted to the conditions, organize a meeting with neighbors to exchange with good practices in making our houses more green etc.

Lotus Flower

Activity: In the middle of the paper, write your challenge, ex. Green building school

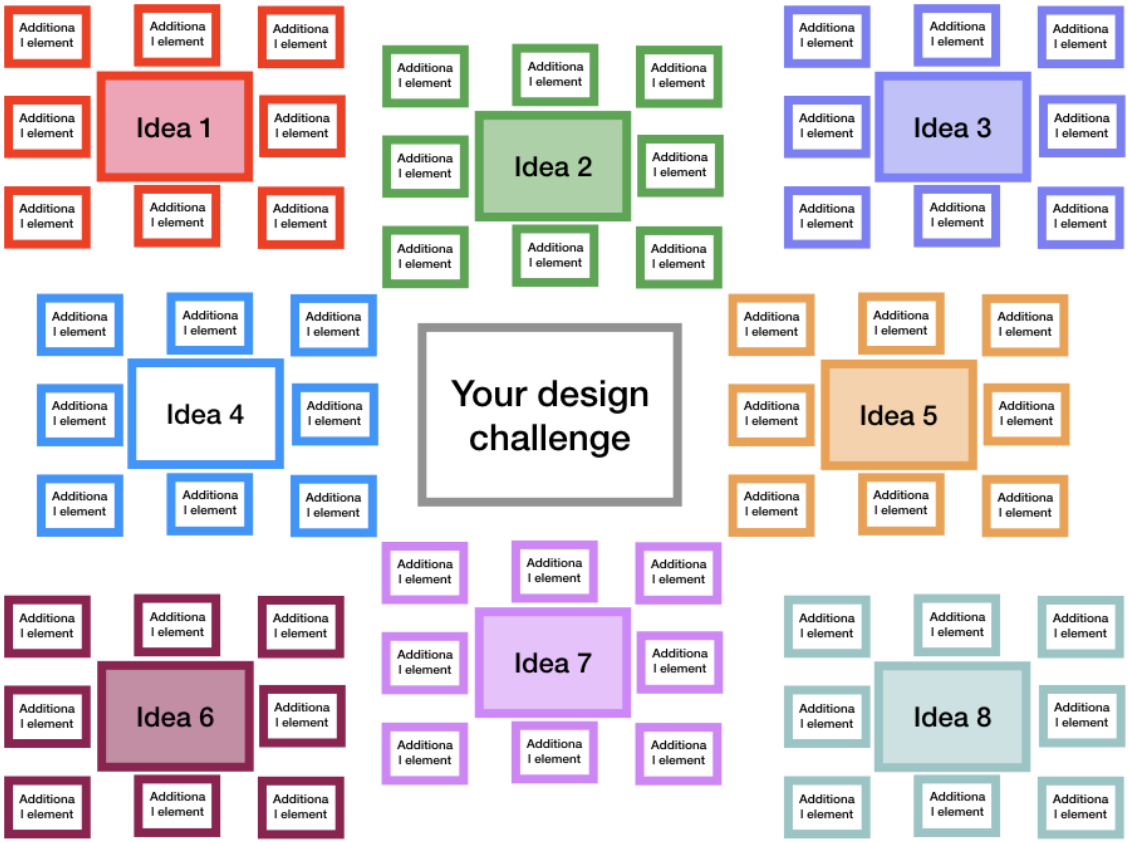
Work as a team and write eight ideas that come to your mind when you hear the challenge. You should write down the first thing that comes to your mind. To go through the activity, we need to have eight ideas. Ask each team member to share his/her association. If your group is smaller than 8, decide together about missing one.

Now take each idea and develop it or transform: add new elements, make it more precise. To each idea, you should write down eight additional descriptions. Why we need 8? First 2-3 usually come very easy to our heads, but also often are obvious. Writing eight requires waking up our creativity, thinking outside the box.

If you will write to „fluffy" features the outcome of the activity won't be satisfying. When you develop the idea don write adjectives that describe the idea but precise actions, features.

Example:

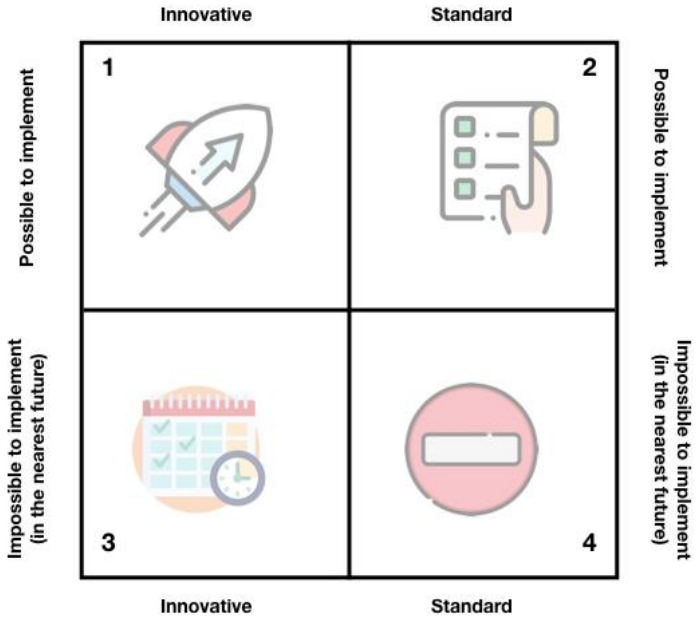
If your association was: solar energy, you can write such ideas as portable energy panels that can be put on the balcony when we don't use it for other reasons; using solar energy to light basketball court, etc.



Select ideas

It finally comes the time to select ideas we will further develop. We will choose those that have the biggest potential. What does it mean? Of course, in different projects, you can decide to concentrate on various criteria. In our case, we will focus on two aspects: if we solve the problem, you have defined and do we answer user needs.

Activity: Look at ideas from two previous activities. Organize them using a chart below



1 - ideas we concentrate on and further develop
2 - ideas that should be implemented as it is easy to imagine how they should work and no creative brainstorm is needed to clarify them
3 - ideas we can come back to after circumstances will change, and resources will be more available
4 - we cross out those ideas from our list

Prototype

Probably at this stage of your work the idea is very general e.g. 100% eco summer house

Everyone who will read it may have a completely different concept of how it should work. Prototyping will help us to develop the idea and have a common understanding of it.

Prototyping is about doing not talking, so take the materials you have next to you and try to make a board game as you see it, prepare the poster that could promote the event, etc.

Activity: Look at examples of prototype and prepare a prototype of your solution.

Testing

Problem with the ideas is that we easily fall in love with them. That's why to minimize the risk that we will be only one who will enjoy them, and we need to validate it with others.

Activity: Present your idea to at least six people who fit into your persona profile. Gather information:
what they like in the solution, which elements of it they perceive as useful and valuable
What improvements they would like to implement, which elements are not clear, raise their concerns

Testing usually is composed of the following parts:

- prototype presentation (if it's possible don't explain how your prototype works, give people a chance to interact with it)
- Collecting general opinion (what our testers liked about the idea and what didn't
- Asking questions about particular elements f the solution (especially the one that are still vague, or wakes up a lot of emotions in your team)

The hardest thing in testing is not trying to sell your idea. While testing, we need to listen, not convincing that our solution is right.

Plan your testing and fill in prepared form.

Celebration and implementation

Congratulation! You just have finished your first process using a design thinking approach. If you won't be able to implement the idea by yourself think who may help. Look at the institutions you mapped when discovering the surrounding and try to set up the meeting when you can present your concept.