Sustainable transport
- 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

We want to come with the idea inspired sustainable transport, that may help to make it more popular, affordable, to find a new way of make it works. There are many different ways to work with this topic. Thus we need to start our journey with narrowing it down. We will use a simple but powerful method: mind map.

Mind map will help us to organize our knowledge, associations, informations, believes and thanks to make our decision process easier.
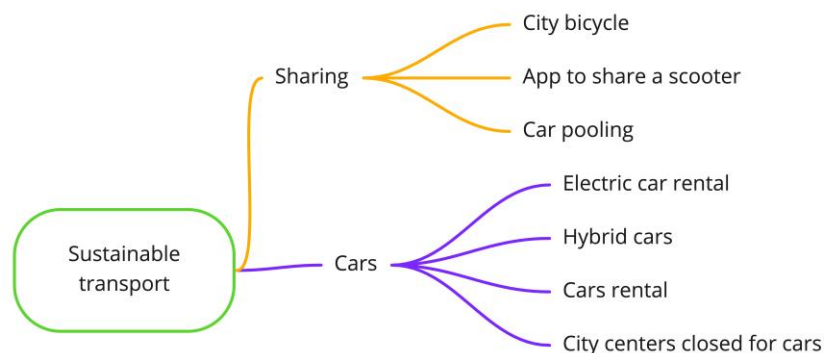
Activity: In the middle of the paper write down our key word: sustainable transport. Then write first thoughts that come to your mind. When you will hear one association probably others will come to your mind. Don't hesitate to write them. To make your work easier: instead of writing on a big sheet of paper, use sticky notes. Write one idea/word on separate sticky notes. It will help you to organize your ideas.

You can also use one of many digital tools such as: miro.com, coggle.it, sketchboard.io

After you will finish your work, look at your map and decide as a team which aspects of green transport are most interesting for you and you would like to work on it. You can also decide to merge some topics. In this case be careful and don't make it to extended.

Designing a new world

Designing the change starts with the dream of how the world should look like. Before we begin to think about activities, we need to define how we want to change the current situation. This perspective helps to come with more exciting ideas and open our minds for new solutions.

Activity: The approach we will use, sometimes it's called „thinking backwards". It means that we start with thinking how we would like the situation look after our projects, what's the expected outcome. To make our vision more tangible we will use a collage technique to present it. Collect old magazines, prepare: glue, tape, scissors and at least A3 paper. Create together a collage that depicts expected impact of your work: how your community/school/word have changes thanks to you. Use photos from magazines, write key words, make some drawings. Feel free to express you ideas the way you like the most.

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 transport. Narrow your exploration to the theme you decided to work on e.g. green transport during leisure time; green transport from suburbs of the city to the center/school etc.

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 together the 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 your project.

Activity: Create a list of organization, institutions, type of users that need to be engaged in the change.

Split them into three groups:
- crucial for the project
- important
- less important

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.

Defining the design challenge

After we will learn more about potential users of our solution we are ready do define so called „design challenge". Design challenge defines what we want to achieve. Its simple sentence, but not so easy to formulate as it needs to be inspiring and ambitious. To make it harder: while formulating it, you need to remember that is should be something what's important for potential users of the solution.

Example

To make one day each month all citizens use just sustainable transport
To make all schools coming for classes with sustainable transport
To become city with the most sustainable transport in Europe

Activity: Write down all challenges that come to your mind. Discuss them in your team and decide which one are linked to you users needs. Then choose one that you would like to work on.

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

Negative brainstorming

Activity: It's a simple tool that can lead you to surprising ideas. Write down your design challenge e.g., Make each citizen of our city to select sustainable transport at least one additional time each week.

Then write down 50 reasons why it won't work, e.g.

• People don't see the reason why to choose sustainable transport
• We don't have an electric bus in the city
• There are no alternative eco such as scooters
…

In this part of the activity, it is essential to write 50 reasons. This significant number will motivate us to look for reasons that are also not so obvious.

After we create our list, we need to make the second step. Read defined problems one by one and think about at least one idea that can help to solve them. Ideas don't need to be practical but need to be concrete so that we can imagine them

Example

- People don't see the reason why to choose sustainable transport -> organize a campaign with funny stickers all around the city, especially in parking places
- We don't have an electric bus in the town -> organize a crowdfunding campaign together with the city hall to gather money for such bus
- There are no alternative eco such as scooters -> open rental where scooters, bikes citizens don't use (keep them in the basement) will e renovated and rent to other

Write all your ideas on sticky notes, so it will be easier for you to work with them during the selection phase.

Drawing session

Activity: Most of the time, we talk about ideas, or we write them down. This time we will draw them. Drawing wakes up our creativity, empower us to think differently.

Take the first card from the set. In 5 minutes, each team member should draw six ideas. Present ideas to each other and share with feedback. Mark on your colleagues' ideas elements you like most, and you think that they should be developed and with red pencil elements that should be rejected.

After review of all the ideas, we start the second drawing session. This time, each team member task would be to draw three ideas. Your starting point is elements of your previous solution that wee marked green. For this task, you have 6 minutes.

Like previously present ideas to each other, and mark with green - what you like, red - what should be rejected.

It's time for a final round. This time you will have 6 minutes to prepare one drawing (individually). Use the best elements from your previous work — present ideas to each other and mark the best and worst elements.

Now, based on the best elements from each idea, work together to create one consist concept.

Select ideas

It finally comes the time to select ideas we will further develop. We will choose those that have the most significant potential, and we believe most. Sometimes it's easier to decide if instead of asking yourself which idea you like the most you ask: in which idea I would like to invest.

Activity: Put all ideas from your previous activities on one board. Print our „energy units" and cut them. Prepare some tape so you will be able to put them next to selected ideas.   Each team member should have 246 „energy units" to invest in ideas. Divide your units between ideas. You can choose as many as you like (as long as you have points to invest in them), you can also invest just in one concept. Don't be too shy and if you want to invest in your idea, don't hesitate to do so.

Prototype

Probably at this stage of your work the idea is very general e.g., organize a contest in the school about waste segregation

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 paper and cardboard mock up that present the solution, make a short movie to show how rental can work, draw storyboard etc.

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