

Training module:

Coaching for Innovation: Training Module for Applied Research Hackathon Coaches



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1 Introduction

Welcome to the Hackathon Coaching Training Module, developed as part of the BARCOVE project: Building an Applied Research Facility into a Center of Vocational Excellence. This training module is specifically designed for teachers, professionals, and practitioners who will play a coaching role in a hackathon setting, where the focus is on solving real-world industry challenges.

Hackathons - such as the one held in the BARCOVE project - are intensive, collaborative events where teams work diligently to develop innovative solutions that directly address the pressing challenges faced by companies. These events serve not only as a bridge between vocational education and industry needs but also as an arena for exploration and experimentation. By fostering creativity, encouraging out-of-the-box thinking, and promoting an entrepreneurial spirit, hackathons empower VET students and industry professionals alike to push the boundaries of traditional approaches.

The primary goals of a hackathon in the BARCOVE project are to:

- Facilitate a direct exchange between vocational education and industry, addressing relevant and timely challenges.
- Encourage innovative thinking and practical experimentation in a dynamic, real-world environment.
- Build foundational skills in critical thinking, teamwork, and adaptability, fostering a pioneering collaboration model within WP3 of the BARCOVE project.

By bringing together a diverse group of stakeholders—including companies, VET institutions, and other relevant parties—hackathons break down the barriers of “silo-thinking.” This collaborative environment supports the development of novel solutions to complex urban space and water management issues, encouraging participants to think and act beyond traditional limitations. Through this training, you’ll gain insights into guiding participants through the structured phases of exploration, ideation, prototyping, and pitching, contributing to an enriching learning experience that aligns vocational education with real-world applications and industry impact.

This training module is your toolkit for success as a hackathon coach, empowering you to lead your team through an exciting journey of innovation and problem-solving. Designed by experienced moderators as part of the BARCOVE project, this module prepares you to guide your team with confidence, purpose, and insight. Through this training, you’ll gain not only the practical skills needed to navigate each stage of the hackathon but also the mindset to inspire creativity, resilience, and collaboration within your team. Your role as a coach is pivotal—by mastering these coaching strategies, you’ll help unlock the full potential of your team members, foster a spirit of entrepreneurial thinking, and contribute to the success of a hackathon experience that transcends traditional boundaries, driving forward impactful solutions for real-world challenges.



1.1 Objectives

The overall objectives of the Training Module are to prepare teachers to play a coaching role at the Hackathon.

The Training Module seeks to achieve three major immediate objectives:

- Introducing the development of the hackathon, outlining the stages to be followed.
- Providing techniques/tools for coaches to guide attendees in discovering the challenge.
- Explaining the dynamics of design thinking and the steps that will be taken.



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2 Chapter 1: What is a Hackathon?

A **hackathon** is an intense, time-limited event where participants from diverse backgrounds collaborate to develop creative solutions to real-world challenges. Originally used in the tech world, hackathons now span many fields, from business and education to environmental sustainability. In the educational context, hackathons are valuable because they foster innovative thinking, teamwork, and hands-on problem-solving skills.

During a hackathon, teams follow a structured process (often called **design thinking**) that guides them through stages of **understanding the challenge, generating ideas, prototyping solutions, and presenting their final concepts**. Each step is designed to encourage participants to think creatively, work collaboratively, and produce solutions that can be applied in real-world settings.

As coaches in a hackathon, your role will be to **guide, motivate, and support** the teams. Coaches are there to ask thought-provoking questions, help teams navigate challenges, and ensure they stay on track. You don't need to provide answers—instead, encourage teams to explore different angles, validate their ideas, and refine their solutions. Coaching in a hackathon is about fostering a supportive environment that allows participants to unlock their full creative potential.

Hackathons offer a unique opportunity to develop skills like critical thinking, collaboration, and adaptability, making them an excellent fit for education and professional development.

2.1 Goal of a Hackathon

The main goal of a hackathon is to produce a focused, solution-driven response to a specific challenge. It emphasizes practical experimentation and iterative development, encouraging participants to create tangible outcomes, whether that's a prototype, a new process, or an actionable plan.

Hackathons are designed to accelerate innovation by concentrating effort and ideas in a short period, allowing participants to test out and refine solutions quickly. They serve as a testing ground for novel ideas, where diverse perspectives merge to tackle complex issues in unique ways. Ultimately, hackathons aim to move beyond traditional brainstorming by enabling participants to bring concepts to life and make meaningful, rapid progress toward impactful solutions.



3 Structure of a Hackathon

This structure provides a comprehensive, step-by-step approach to conducting a hackathon, guiding participants through each phase from exploration to final presentations. Coaches and facilitators can follow this structure to ensure that all teams are adequately supported, focused, and motivated throughout the process.

Here is a brief overview summarizing the five sprints of the hackathon:

Five Sprints of the Hackathon

Teambuilding

The hackathon begins with activities to build trust and cohesion among participants. Teams are formed, roles are defined, and an engaging start is established through introductions, icebreakers, and inspirational talks from guest speakers. A schedule overview and example videos prepare participants for the journey ahead.

Explore the Challenge and Choose the Main Problem

Participants dive into the presented challenges, breaking them down to identify key issues. Using guided problem analysis, design thinking exercises, and insights from expert keynotes, teams clarify the scope and select the central problem they want to address. A collaborative and inquisitive mindset is encouraged through questions and group discussions.

Develop Possible Ideas and Choose the Best One

Teams brainstorm solutions using techniques like mind mapping and “How Might We” questions. By interviewing experts and refining concepts, they evaluate ideas based on feasibility, innovation, and alignment with the challenge. A final idea is chosen, backed by team discussions and creative visualization.

From Idea to a Solid Solution/Prototype and a Roadmap

Participants transform their chosen idea into a tangible prototype and develop a roadmap for implementation. Prototyping activities encourage iterative feedback, and teams outline core components, benefits, and challenges. Design thinking and real-world insights ensure the solution is both practical and impactful.

Prepare and Deliver Your Pitch

Teams craft and refine a concise pitch to present their solution, focusing on clarity and engagement. Pitches are delivered to a judging panel, emphasizing innovation, feasibility, and impact. Judges evaluate and provide feedback, and the event concludes with awards, networking opportunities, and celebration of achievements.

The following section develops each sprint, providing specific examples and activities for participants to carry out during the hackathon



3.1 Teambuilding

3.1.1 Welcome

Set an informal start to the day and establish initial contact between organizers and participants. This introduction serves to set the tone, create expectations, and guide the audience on the event's purpose and agenda.

- **Activities:**
 - Event welcome from key organizers.
 - Brief outline of logistics and hackathon goals.

3.1.2 Welcome by Distinguished Guest

To inspire and motivate participants, a distinguished guest—such as a key figure in education, government, or industry—is invited to deliver a welcome address. This person highlights the importance of the hackathon's theme, the value of collaboration, and the impact of innovative problem-solving in today's world.

- **Example:** In past hackathons, speakers have included leaders such as government ministers or industry pioneers, who provide unique insights and set a high-energy tone for the event.
This approach sets the stage for the hackathon, framing it within broader societal goals and enhancing participants' engagement.

3.1.3 Self-Introduction

Help participants get acquainted by introducing themselves and sharing relevant information about their identity, background, interests, and experiences.

- **Activities:**
 - Participants give brief introductions, sharing key details about their skills, goals, and what they hope to contribute to the hackathon.
 - Coaches may also introduce themselves, setting a foundation for collaboration.

3.1.4 Teambuilding

- **Purpose:** Build team cohesion and trust, creating a strong foundation for collaboration.
- **Activities:**
 - Icebreakers and group exercises to help team members understand each other's skills and working styles.
 - Set team goals and roles, aligning on how to tackle the challenge.



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3.1.5 Interactive Video

Provide a tangible understanding of a hackathon by showcasing a real example. This helps participants feel acquainted with the structure and prepares coaches by showing what will unfold over the next few days.

- **Activities:**
 - Play an example video of a previous hackathon (e.g., EPLUG Deep Dive, [Aftermovie day 1 of the DeepDive Blue for green 2023](#); BARCOVE Hackathon, [Aftermovie of BARCoVE's Blue-Green Innovation Challenge Hackathon 2023 in Aarhus, Denmark](#)).
 - Hold a Q&A session to answer any questions and ensure clarity about the event format.



3.1.6 The Hackathon Schedule

Share the agenda and explain the hackathon's dynamic flow. The schedule guides participants through ideation, creation, and presentation phases.

- **Activities:**
 - Walk participants through the detailed schedule, noting key milestones and deliverables.
 - Provide an overview of what participants will be expected to accomplish each day.



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3.2 Explore the challenge and choose the main problem

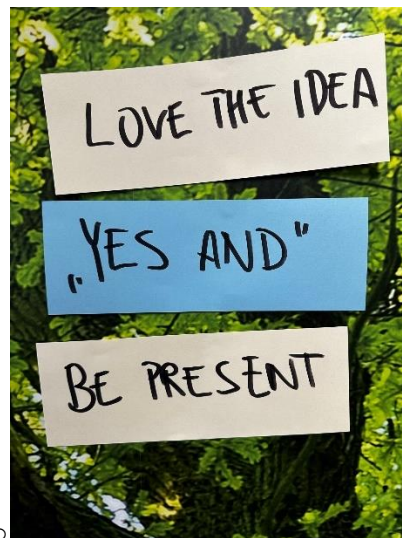
3.2.1 Presenting the Cases and Daily Assignments

Introduce the specific cases or challenges to help coaches and participants understand the tasks ahead.

- **Activities:**

- **Presenting the Cases:** Share the context and origin of each challenge, crafted by companies or start-ups, to serve as focal points for innovation. This presentation acts as a roadmap, ensuring coaches are well-prepared to guide teams.
- Communication Tips:

- **“YES, AND...”:**
Encourage positive collaboration by building on ideas.
- **“BE PRESENT”:**
Emphasize full engagement for effective teamwork and learning.
- **“LOVE THE IDEA”:**
Motivate teams with enthusiasm, boosting morale and creativity.



- Daily Assignments:
 - **Day 1:** Explore the challenge, define a main issue, and prepare a 3-minute pitch.
 - **Day 2:** Develop and visualize the solution, then prepare a 5-minute pitch with Q&A.

3.2.2 Design Thinking Method

Design thinking is a human-centered approach to problem-solving that focuses on deeply understanding the user, exploring a wide range of solutions, and continuously testing and refining ideas. In the context of a hackathon, you can work on the following activities.

- **Activities:**

- Quick Empathy & Define Exercise (10 minutes): Split the group into pairs and ask each pair to select a common challenge (e.g., "organizing a workspace" or "improving communication in teams"). In the Empathy phase, have one participant interview the other for 3-4 minutes to understand their frustrations or needs around the challenge. Afterward, in the Define phase, each pair writes a clear problem statement (e.g., "People struggle to keep their workspace organized



because they lack an efficient system"). This gives participants a practical feel for how understanding user pain points informs problem definition.

- Mini Ideation & Prototype (10 minutes): After defining the problem, have each team brainstorm at least three solutions in 3 minutes (Ideation), encouraging wild ideas and creative thinking. Then, using basic materials (like paper, pens, or sticky notes), teams quickly sketch or build a low-fidelity Prototype of their best solution in 5 minutes. This activity demonstrates how rapid prototyping and testing can lead to improved ideas, even within a short timeframe like a hackathon.

3.2.3 Exploration of the Challenge

Help teams thoroughly explore the challenge to identify key issues and opportunities.

- **Activities:**
 - Guided problem analysis where teams break down the challenge.
 - Clarify scope and expectations, allowing participants to ask questions and establish a clear understanding.
- Questions? Break the silence and invite active participation. Questions are invitations to engage, to share thoughts, and to contribute to the collective learning experience. It's time to ask questions that transform learning from a passive exercise into an immersive and participatory endeavor.

3.2.4 Keynotes from experts

Provide inspiration and real-world insights from industry experts, giving participants new perspectives on the challenge.

- **Activities:**
 - Keynote presentations from experts relevant to the hackathon's theme.
 - Interactive Q&A to deepen understanding and apply insights to the challenge.

3.3 Develop possible ideas and choose the best one

3.3.1 Generate Ideas

Facilitate creative brainstorming and idea generation to develop innovative solutions.

- **Activities:**
 - Use brainstorming techniques like mind mapping or "How Might We" statements to explore a wide range of ideas.
 - Teams discuss and prioritize ideas that align well with the challenge.

3.3.2 Interviewing the experts

Validate assumptions and gather practical insights to refine ideas.

- **Activities:**



- Teams interview experts, seeking feedback and clarifying technical or feasibility concerns.
- Based on feedback, teams adjust or strengthen their solutions.

3.4 From idea to a solid solution and a roadmap

3.4.1 Exploration to Work on Main Idea

Focus on refining one main idea with further research and planning.



- **Activities:**
 - Teams concentrate on a single solution, building out its structure and identifying next steps.
 - Develop a roadmap that outlines the main idea's core elements, benefits, and challenges.

An example of activity could be the following-

Work on the main idea		
Time	Overview	Description
20 minutes	<ul style="list-style-type: none"> ● Elaborate on your idea ● For whom is it a solution? Who is the end user? What consumer insights do you have? ● How does it work? ● Develop the storyline of your idea ● Use all the knowledge and network available in the workshop ● Visualize!!! Use drawings, films, whatever! 	<p>This segment of the workshop focuses on delving deeper into participants' ideas, considering the target audience, end users, consumer insights, and the overall functionality of the proposed solutions.</p>

3.4.2 Pitching

Practice delivering an effective pitch to convey the solution's value.

- **Activities:**
 - Teams perform informal pitches to mentors or peers, receiving constructive feedback on content and delivery.
 - Teams refine their pitches, focusing on clarity, persuasiveness, and engagement.

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An example of what we are explaining would be to carry out the following activity.

Prepare pitch		
Time	Overview	Description
No time	<p>Prepare your 3 mins presentation to the group</p> <ul style="list-style-type: none">● What problem did you identify?● What is your idea to solve it?● What (or who) do you need to develop an idea into a proper solution?● What expertise do you lack?	<p>This activity guides participants in preparing a concise and impactful presentation to communicate their identified problem, proposed solution, and the necessary resources or expertise required.</p>

3.4.3 Prototyping

Create a tangible representation of the solution to demonstrate its concept.

- **Activities:**
 - Teams use available materials to build a prototype or digital model.
 - Document the prototyping process, noting any adjustments made for improvement.

3.5 Prepare your pitch

3.5.1 Prepare Pitch and Plan

- **Purpose:** Develop a polished pitch and outline a clear implementation plan.
- **Activities:**
 - Finalize a concise pitch script that covers the problem, solution, and expected impact.
 - Teams prepare visual aids or slides that support the pitch and clarify key points.



Prepare pitch	
Overview	Description
<p>Prepare your 5 mins presentation to the group</p> <ul style="list-style-type: none"> ● What problem did you identify? ● What is your solution ● What (or who) do you need to develop the solution into reality? ● What do the next 6 months look like? ● What type of follow up is necessary in terms of calculations or other very specific company knowledge? <p>Visualization + roadmap</p>	<p>This final pitch isn't just a presentation; it's the culmination of weeks of ideation, collaboration, and innovation. It's the moment where your idea transforms into a narrative that resonates, inspires, and lays the foundation for its tangible realization. As you step into the spotlight, remember that your pitch is more than words — it's a beacon guiding your innovation into the future.</p> <p>The use of creative visualization tools like drawing, filming, etc., is emphasized to bring ideas to life.</p>

3.5.2 Final Pitches

- **Purpose:** Showcase the completed solutions to the judging panel.
- **Activities:**
 - Teams deliver a 5-minute pitch with a follow-up Q&A session.
 - Emphasis on the solution's feasibility, creativity, and alignment with the challenge.

3.5.3 Judging

- **Purpose:** Evaluate each team's solution based on specific criteria such as innovation, viability, and clarity.
- **Activities:**
 - Judges assess each pitch using a scoring rubric, focusing on the effectiveness and impact of the proposed solution.

3.5.4 Verdict

- **Purpose:** Announce the winning teams and provide feedback on strengths and areas for improvement.
- **Activities:**
 - Judges share their verdict and provide general feedback on the event.
 - Recognition for standout ideas, innovation, and teamwork. An example of a certificate for the winners could be the following figure.



3.5.5 End of Program

- **Purpose:** Conclude the hackathon and celebrate the participants' achievements.
- **Activities:**
 - Closing remarks from organizers and a recap of the hackathon's highlights.
 - Networking opportunities, team photos, and distribution of certificates.



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4 Coaching tools

4.1 Discovery Techniques

- *Get curious!* Help your team dig deep into the challenge by asking open-ended questions and encouraging all ideas. Think of it as setting the stage for exploration—no idea is too out there at this point! An example of what we are explaining would be to carry out the following activity.

Explore challenge & choose main problem (1 hour 30 minutes total)		
Time	Overview	Description
30 minutes	<ul style="list-style-type: none"> ● Explanation / presentation of start-up: really dig into the innovation and the challenge! Ask questions! How? Why? For whom? 	<p>Engaging in the exploration of a startup through detailed questions is a critical and strategic approach to understanding its innovation and challenges.</p> <p>Begin with a comprehensive introduction to the startup, outlining its core innovation and the challenges it aims to address. This can include details about the product, service, or solution it offers.</p> <p>Encourage participants to delve deep into the intricacies of the startup by asking probing questions. This involves examining the core innovation, understanding the problem it solves, and exploring the unique approaches it takes.</p> <p>Emphasize the importance of exploring the "how," "why," and the target audience ("for whom") in the startup's narrative. This involves understanding the methodology behind the innovation, the motivations driving the startup's mission, and the specific demographic or market it aims to serve.</p>
30 minutes	<ul style="list-style-type: none"> ● Black hat (3 minutes on sticky notes) What 2-3 big problems can you come up with – regarding water & green? 	<ul style="list-style-type: none"> ● Black hat (3 minutes on sticky notes) What 2-3 big problems can you come up with – regarding water & green? <p>The Black Hat technique involves a focused examination of potential challenges and problems related to a specific topic. In this case, participants</p>

Explore challenge & choose main problem (1 hour 30 minutes total)		
Time	Overview	Description
	<ul style="list-style-type: none"> ● Brainwriting: Make a good analysis 	<p>are tasked with generating 2-3 significant problems within a three-minute timeframe. Each participant writes their ideas on sticky notes, allowing for a quick and concentrated exploration of potential obstacles.</p> <ul style="list-style-type: none"> ● Brainwriting: Make a good analysis <p>Brainwriting is a collaborative and structured technique that facilitates idea generation and analysis within a group setting. The focus is on producing a wealth of insights through a written exchange of ideas.</p>
30 minutes	<ul style="list-style-type: none"> ● Summarize on Flip Over: what are the clusters of problems? ● Choose the 'best' problem to work on (dot voting) / check with start-up! (start brainstorming on solutions only if you have time left) 	<ul style="list-style-type: none"> ● Summarize on Flip Over: what are the clusters of problems? <p>Following a discussion or workshop session where various problems or challenges are identified, participants gather around flip charts to collectively summarize and categorize these issues into clusters. This visual representation helps to organize and prioritize the challenges, making it easier for participants to understand the broader themes.</p> <ul style="list-style-type: none"> ● Choose the 'best' problem to work on (dot voting) / check with start-up! (start brainstorming on solutions only if you have time left) <p>Dot Voting:</p> <p>Participants are provided with a set number of dots (usually stickers or markers). Each participant places their dots next to the problems they believe are most critical or worth addressing. This democratic approach allows the group to visually highlight the challenges considered most significant by the collective.</p> <p>Check with Start-Up:</p>

Explore challenge & choose main problem (1 hour 30 minutes total)		
Time	Overview	Description
		<p>Before finalizing the problem to be tackled, it's crucial to check with the startup or relevant stakeholders. This ensures alignment with the startup's objectives and goals. It's an opportunity to verify that the identified problem is relevant and impactful from the perspective of those directly involved.</p> <p>Start Brainstorming on Solutions:</p> <p>Once the 'best' problem has been determined through dot voting and validated with the startup, participants can initiate brainstorming sessions focused on generating potential solutions. However, this step is conditional on the availability of time; if time constraints are a concern, it may be more efficient to defer detailed brainstorming to a later stage.</p>

4.2 Enhance Creativity

- *Let's get creative!* Use tools like mind mapping or “what if” exercises to shake up their thinking. Encourage them to brainstorm “wild” ideas—sometimes the best solutions start as the craziest thoughts. An example of what we are explaining would be to carry out the following activity.

Idea generating		
Time	Overview	Description
10 minutes	● Silent brainstorm	<p>Silent brainstorming is an innovative approach to idea generation that leverages the power of individual thought and creativity within a group setting.</p> <p>Participants are provided with materials such as sticky notes, markers, or digital tools, depending on the context. Each</p>



Idea generating		
Time	Overview	Description
		participant is encouraged to find a comfortable space.
15 minutes	<ul style="list-style-type: none"> ● Present to each other & cluster 	<p>After the silent brainstorming session, this activity involves participants presenting their individual ideas to the group and collaboratively clustering them based on common themes or patterns. Participants can share their thoughts, discuss similarities or differences, and build upon each other's ideas.</p> <p>Following the presentations, the group collectively works to cluster related ideas or findings. This involves identifying patterns, similarities, or thematic connections among the presented information.</p>
30 minutes	<ul style="list-style-type: none"> ● Magic wand: What would different superheroes do? (Pick one) 	<p>In this creative and imaginative activity, participants are encouraged to step into the shoes of various superheroes and envision how these fictional characters would approach a given challenge or situation.</p> <p>The "Magic Wand" activity not only stimulates creative thinking but also encourages participants to consider diverse approaches to problem-solving inspired by the heroic feats of fictional characters.</p>
20 minutes	<ul style="list-style-type: none"> ● Write on the tablecloth: use images, texts, drawings, arrows etc. Build upon each other ideas 	<p>In this dynamic and interactive activity, participants engage in a collective brainstorming session using a tablecloth as a canvas. The goal is to generate ideas collaboratively,</p>

Idea generating		
Time	Overview	Description
		<p>incorporating a mix of images, texts, drawings, arrows, and more.</p> <p>The activity continues with participants moving around the table, contributing, connecting, and expanding upon the evolving visual narrative. The goal is to create a rich tapestry of interconnected ideas.</p>
10 minutes	<ul style="list-style-type: none"> ● Dot voting: choose the best 3 ideas 	<p>Dot voting is a participatory decision-making technique where participants are given a set number of dots (usually stickers or markers) to cast votes for their preferred ideas. In this case, participants are asked to choose the best three ideas among a selection.</p> <p>Dot voting is a powerful tool for group decision-making that provides a visual representation of the collective preferences within a team or workshop setting.</p>

4.3 Teamwork

- *Teamwork makes the dream work!* Use icebreakers and assign team roles to get everyone involved. Remind them to build on each other's ideas with a "Yes, and..." approach to keep collaboration positive and flowing. An example of what we are explaining would be to carry out the following activity.

Team Building (30 minutes total)		
Time	Overview	Description
15 minutes	<ul style="list-style-type: none"> ● Who are you? ● What do we not know about you? 	<p>Introduction of every person in the team. These questions aim to uncover personal and professional aspects of an</p>

Team Building (30 minutes total)		
Time	Overview	Description
	<ul style="list-style-type: none"> ● What would your mum say is your talent? ● What can you add to the group? ● What is your talent in blue-green innovation? 	individual, fostering a deeper understanding of their background, talents, and potential contributions.
15 minutes	<ul style="list-style-type: none"> ● In couples: interview each other ● Pitch the other to the group ● Make a talent map for these two days! 	<ul style="list-style-type: none"> ● Interview each other: Participants will be paired up, and each person in the pair will take turns interviewing the other. The interviews can cover a range of topics such as background, experiences, skills, and personal interests. The goal is to gather information about each other in a conversational and informative manner. ● Pitch the other to the group: After the interviews, each individual will then pitch the other person to the larger group. This pitch should highlight the key insights gained during the interview, emphasizing the unique qualities, talents, and contributions of their partner. The pitch should be engaging and provide a positive perspective on the individual being introduced. ● Make a talent map for these two days: Following the pitches, participants will collaborate to create a talent map for the pair. This map should visually represent the collective skills, expertise, and potential contributions of the two individuals over the course of the next two days. It can include key strengths, shared interests, and areas where their skills complement each other.



4.4 Overcome Obstacles or Roadblocks

- *Stuck? Let's problem-solve!* When teams hit a wall, help them brainstorm options, get feedback, and reframe obstacles as learning moments. Roadblocks are just part of the journey! An example of what we are explaining would be to carry out the following activity.

Choose the best & check assumptions		
Time	Overview	Description
20 minutes	<ul style="list-style-type: none"> ● Interview experts about your 3 ideas 	In this activity, participants engage in structured interviews with experts to gain valuable insights and feedback on their top three selected ideas. The process involves reaching out to individuals with expertise in relevant fields to gather specialized knowledge and perspectives.
10 minutes	<ul style="list-style-type: none"> ● Choose the very best combination between innovation and available talents: the one idea 	<p>Deliverable: from 3 to 1 idea</p> <p>Work on your idea as soon as you agree on which one you will focus on.</p>

4.5 Make It Fun

- *Keep the energy up!* Add fun activities or quick breaks to keep spirits high. Celebrate small wins, and remind everyone that the hackathon is about learning, connecting, and enjoying the ride. An example of what we are explaining would be to carry out the following activity.

Exercise (10 minutes total)		
Time	Overview	Description
10 minutes	<ul style="list-style-type: none"> ● Active exercise <p>For example: brief stretches, active breaks, active mind games, team games, etc</p>	Integrating interactive exercise into the presentation, it's a powerful strategy to invigorate both our bodies and minds. Engaging in physical activity sparks a surge of endorphins, those feel-good neurotransmitters, which not only enhance our mood but also act as natural stress relievers.



5 Design Thinking Method

In the applied research hackathon, Design Thinking is the primary approach guiding teams through structured phases to develop innovative solutions. This method is ideal for hackathons because it encourages exploration, experimentation, and a user-centered focus.

Think of Design Thinking as a chain of diamond-shaped steps, each with open and closing stages. The open stages allow for broad exploration of ideas, while the closing stages focus on refining, decision-making, and moving toward actionable solutions.

5.1 Phases of Design Thinking

- 1. Empathize (OPEN STAGE)** The purpose of the Empathize phase is to understand and connect with the users or stakeholders who will benefit from the solution. In this phase, teams immerse themselves in the users' experiences, often through interviews, observations, and surveys, gathering insights into their needs, behaviors, and challenges. This initial phase helps participants gain a deep, empathetic understanding of the problem they're addressing.
 - **Coaching Tip:** Encourage teams to remain open and curious, gathering as much information as possible about their users.
- 2. Define (CLOSING STAGE)** The Define phase aims to synthesize the insights gathered during the Empathize phase and frame the problem clearly and concisely. Here, teams analyze their findings to identify key needs and pain points and then articulate a focused problem statement that centers on the user's perspective. This step creates a strong foundation for developing a meaningful and targeted solution.
 - **Coaching Tip:** Help teams focus on framing a human-centered problem statement that will guide their solution development.
- 3. Ideate (OPEN STAGE)** The purpose of the Ideate phase is to foster creativity by generating a wide range of potential solutions without judgment. During this phase, teams engage in brainstorming sessions using techniques like mind mapping or "How Might We" statements, allowing them to explore various ideas and possibilities. This phase encourages expansive thinking, helping participants break free from conventional approaches.
 - **Coaching Tip:** Create an encouraging environment for "wild" ideas. Remind teams that the goal here is quantity over quality to spark innovation.
- 4. Prototype (CLOSING STAGE)** The Prototype phase focuses on creating tangible, low-cost representations of ideas that can be quickly tested and refined. Teams build simple models or sketches of their solutions to visualize and experiment with core functionalities. These prototypes are designed to be adaptable, allowing for fast feedback and iterative improvements.
 - **Coaching Tip:** Support teams in keeping prototypes simple, focusing on core functions rather than perfection. Encourage fast, low-fidelity prototypes to promote quick learning and adaptation.

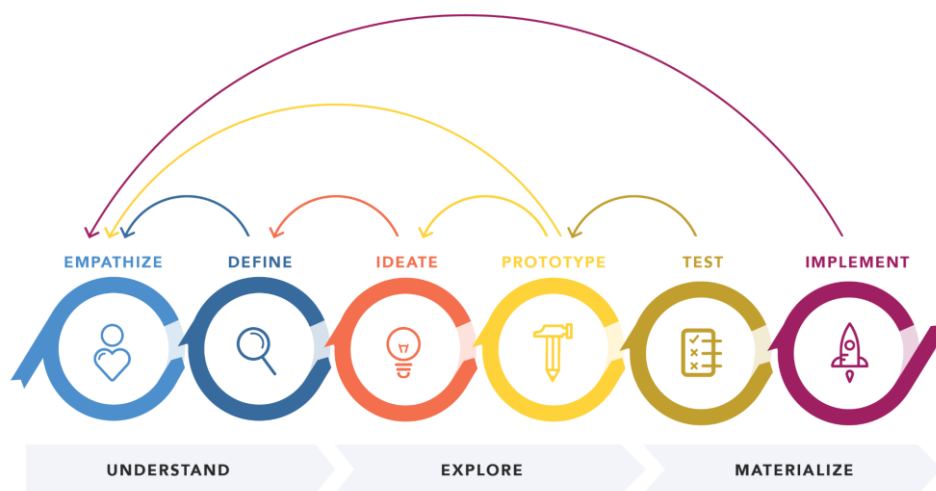


5. **Test (OPEN STAGE)** The purpose of the Test phase is to gather feedback from users or stakeholders to assess the effectiveness, appeal, and usability of the prototypes. Teams present their prototypes to users or experts, actively collecting feedback on strengths, weaknesses, and areas for improvement. This feedback is essential for validating the solution's value and feasibility.
 - **Coaching Tip:** Encourage teams to approach feedback openly, using it constructively to refine and improve their solutions.
6. **Iterate (CLOSING STAGE)** The Iterate phase is dedicated to refining solutions based on feedback, making adjustments that align with user needs and insights gained through testing. Teams revise their prototypes and may revisit earlier stages if necessary, ensuring that the final solution is both viable and user focused. This phase emphasizes continuous improvement and adaptability.
 - **Coaching Tip:** Remind teams that iteration is key to innovation. Encourage them to see each cycle of feedback and refinement as a step closer to an impactful solution.

Visualizing the Process

Imagine each phase as the following diagram:

- **Open Stages** (Empathize, Ideate, and Test) are the wide parts of the diamond, where teams explore as many ideas and possibilities as possible.
- **Closing Stages** (Define, Prototype, and Implement) are the narrow points, where teams focus, make decisions, and refine ideas.



DESIGN THINKING 101 NNGROUP.COM

Why Design Thinking Works in a Hackathon Setting

Design Thinking is effective in hackathons because it provides structure while encouraging creativity and user-centered problem-solving. As a coach, you'll guide teams through each phase, ensuring they stay open during exploration and focused during decision-making, ultimately helping them develop solutions that are innovative, practical, and impactful.



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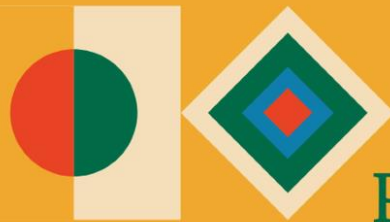
By mastering Design Thinking, you're equipping yourself to support a dynamic, solution-focused process that benefits not only the teams but also the users and stakeholders who will experience the solutions.

6 Annex

Here's an example of a two-day hackathon schedule: Day 1 focuses on problem discovery, user research, and ideation, while Day 2 is dedicated to prototyping, testing, and preparing final presentations.

Time	Day 1: Team building and exploration
07.15	Transfer to venue
08.00	Registration and Coffee
08.30	Welcome and introduction
09.00	Welcome by Distinguished Guest
09.15	The four frames of the hackathon
09.45	How does this hackathon work: the methodology
10.00	Teambuilding
10.30	Exploration of the challenge at hand
12.00	Lunch & mingle!
12.45	Get inspired: keynote speeches
13:15	Exploration of possible solutions: idea generating
14.30	Coffee break
15.00	Interviewing: checking assumptions
16.00	Further exploration: work on main idea
18.00	Pitches
19.00	Dinner

Time	Day 2: design solution and pitching
07.45	Bus from Green Academy
08.30	Walk in and coffee
09.00	Welcome and start of day 2
09.15	Get inspired: keynote speeches
10.00	Make a prototype of your idea
12.00	Lunch
12.30	Prepare Pitch and Roadmap
14.00	Pitches (5 minute pitch and 5 minutes question per team)
16.00	Jury consultation and break for the teams
16.30	Jury verdict, wrap up & what's next
17.30	End of program and goodbye



Project Collaboration!

Have you ever heard of *VET applied research*?

It's a collaboration between vocational education and training (VET) institutions and industry partners to conduct research on real-life problems and create innovative solutions.



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