

# Evaluation

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Virtual  
Hackathon



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# 1

## Hackathon as a Tool for Learning / Research



# Definition of Hackathon



- It can be synthesised from the literature as:
  - “An invention development method in which experts from interdisciplinary fields attempt to solve a challenge or a group of challenges in a specific amount of time” (Rys, 2021)\*
- The hackathon may be used in various environments and on different occasions, as it is very flexible in its nature and development.
- Because hackathons are focused on a challenge, they always require invention on the part of the involved people. For example:
  - If the participants are required to solve a challenge, they are expected to come up with a solution
  - If participants are asked to create a new business, it is necessary for them to invent a way to do so
- However, the hackathon influencing invention development process remain under-described.



# Hackathon as a tool for learning (1/2)



- Hackathons have previously been utilized as a tool for education and learning, and in fact, learning has been cited as one of the key motivations for participants to participate.
- While learning can be considered an essential part of every hackathon, prior work provides indication that what organizers want participants to learn at a hackathon can be different from what they actually learn or are interested in learning.
- It is thus necessarily to design a hackathon approach that specifically focuses on activities related to the problem-solving context.



# Hackathon as a tool for learning (2/2)

- The designed of the learning approach requires to consider
  - Complex problems
  - A real-world environment
  - Opportunities for realistic interactions
  - Student ownership of the process
  - Student reflection, facilitation and instruction
- This approach encourages
  - Active participation by the learners, and
  - Collaboration with their peers
  - The role of the mentors is crucial in helping participants consider the challenge in a holistic way rather than simply jumping straight into design



# Hackathon as a tool for research



- Hackathons pose a major challenge when it comes to research
- It is relevant to highlight that the event itself is very intense and requires a lot of focus and dedication all the time
- It is extremely difficult to observe, as there are many things happening at the same time
- Participants, after interaction with peers or the public, have to recognized the relevance of the engagement with users and realise that they are dealing with a human problem.



# 2

## Evaluation Approaches





# Observation



- This is the dominant method to gather data and observe the culture and behaviours of people from various perspectives such as:

- Participants
- Mentors
- Observers
- Organisers
- Advisors



- INTERACTIONS AMONG PARTICIPANTS
- PERCEIVED SATISFACTION OF PARTICIPANTS
- REACTIONS TO RESPECTIVE INTERVENTIONS
- INTERACTIONS BETWEEN TEAMS & MENTORS

- And at different stages:

- Preparation
- Hackathon itself (perceptions at the early, mid and late phases of the hackathon), and
- Aftermath



# Post-hackathon questionnaire



- Participants' perception of learning gains from interventions
- Learning benefit from completing the problem-solving project
- Participants' competencies (kind of knowledge, skills and values) gained
- Participants' perception of specific team properties
  - Size,
  - Team familiarity with the challenge to solve
  - Leadership
  - Skill diversity
  - Product satisfaction
  - Collaboration process
- Participants' experience during the event



# Semi-structured interviews



- They allow gathering more personal opinions and understand people's actions
- Interviews among 10 and 15 minutes to discuss:
  - the hackathon experience,
  - learning gains at the hackathon, and
  - the hackathon outcome
- Some questions as an example:
  - How was the hackathon from your perspective in the form of:
    - What did you do after your arriving and before starting?
    - How did you feel? What did you expect before arriving to the event?
  - Did you understand the idea generation at the beginning of the hackathon process?
    - What idea did you develop? How else collaborated with you formulating the idea?
  - How do you perceive the outcome of the hackathon? Were you satisfied? How did you see your teamwork?
  - What about the continuity of your project? Have you use anything learned during the hackathon already? Are you planning to use it in the future?



# Evaluation process



## Hackathon design aspects:

- Duration
- Additional inputs
- Goal/Theme
- Embedding
- Repetition
- Kick off
- Participant presentations
- Team formation
- Ideation
- Idea/project ownership
- Specialized participant tools
- Hacking
- Energizing activity
- Mentoring
- Feedback
- Competition

## Participants:

- Skills
- Demographics
- Personality
- Role
- Motivations

## Team:

- Size
- Demographics
- Diversity skills
- Leader
- Goals
- Project
- Self-organization
- Familiarity
- Hacking tools

## Hackathon outcomes:

- Technical artifacts
- Non-technical artifacts
- Learning
- Networking
- Interdisciplinary collaboration
- Ideas
- Entrepreneurship
- Fostering awareness about hackathon topic/theme

## Stakeholders:

- Industry
- Non-profit
- Public sector
- Potential users
- Academia
- Support
- Domain experts
- Civic society

## Organizers:

- Expertise
- Responsibilities

## Mentor:

- Mentoring approach
- Expertise

## Juror:

- Expertise



Thanks!

