

# Introduction

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This document contains a collection of survey measures we have successfully used to study more than 40 hackathons. The measures are divided into eight categories covering the individual's motivation to participate in an event, their prior hackathon experience, their perception of the team composition, the team process, the team's project, the mentoring approach, the community that organized the hackathon, the event itself, their individual programming experience, and their demographics.

We know that this is quite a lot, but please don't be intimidated by this long list. We do not suggest using all measures for a single event. In fact, measures are often only suitable for specific events (e.g., programming experience might only be relevant for a programming-related event). Moreover, there are also measures that assess very similar aspects of an event but slightly differently (e.g., the participants' overall satisfaction with an event).

We suggest a set of questions that we perceive to be useful for any hackathon. These are marked with an **asterisk (\*)**.

Going through the measures, you will also notice that some only require a single response while others contain multiple statements that are closely related (e.g., FutureParticipationIntentions and RecommendationLikelyness). These so-called measurement scales need to be kept together to yield meaningful results. They are marked with a **hash (#)**.

# Individual measures

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\* **Motivation:** Why did people participate in the hackathon? (Not at all, To some extent, To a moderate extent, To a large extent, Completely)

*based on Filippova et al. (2017) [6], Nolte et al. (2018) [10]*

- Having fun
- Making something cool / Working on an interesting project idea
- Learning about [PURPOSE]
- [HACKATHON\_THEME]
- Meeting new people
- Seeing what others are working on
- Sharing my experience and expertise
- Joining friends that participate
- Dedicated time to get work done
- Win a prize

\* **MotivationOther:** If your participation is motivated by other than the above reasons, please describe additional motivations below. (*text entry*)

\* **EventParticipation:** How many hackathons have you participated in in the past? (*number entry*)

**ProgrammingExperienceYears:** How many years of programming experience do you have? (*number entry*)

**ProgrammingExperienceComparison:** Referring back to the people you collaborated with at this hackathon, how do you estimate your programming experience compared to them? (Very inexperienced, Inexperienced, Comparable, Experienced, Very experienced)

*Siegmund et al. (2014) [11]*

# Team composition

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\* **TeamId:** What was the name of your team / project? (*text entry*)

\* **TeamSize:** How many people were in your team (including yourself)? (*number entry*)

\* **CodeRepo:** Did your team use a code repository? If yes, please provide the URL of that repository below. (*URL*)

\* **ResourcesURL:** Did your team use any other online resources to e.g. create documentation? If yes, please provide the URL of that resource below. (*URL*)

\* **TeamLeader:** Was there a team leader? (Yes, I was the team leader, Yes, someone else was the team leader, No, there was no clear leader in the team)

\* **TeamFamiliarity[#]:** How well do you know your team members? (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*based on Janssen et al. (2009) [7]*

- I knew my team members well.
- I have collaborated with some of my team members before.
- I have been close to some of my team members before.
- I have socialized with some of my team members (outside of this hackathon) before.

# Team process

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\* **SatisfactionWithProcess[#]**: Would you describe your team process as more...

*based on Filippova et al. (2017) [6]*

- (1) Inefficient to (5) Efficient
- (1) Uncoordinated to (5) Coordinated
- (1) Unfair to (5) Fair
- (1) Confusing to (5) Easy to understand

\* **GoalClarity[#]**: Please indicate your level of agreement with the following statements related to your GOALS as a team. (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*based on Filippova et al. (2017) [6]*

- I was uncertain of my duties and responsibilities in this team.
- I was unclear about the goals and objectives for my work in this team.
- I was unsure how my work relates to the overall objectives of my team.

\* **Voice[#]**: Please indicate your level of agreement with the following statements about your TEAM. (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*based on Filippova et al. (2017) [6]*

- Everyone had a chance to express his/her opinion.
- The team members responded to the comments made by others.
- The team members participated very actively during the project.
- Overall, the participation of each member in the team was effective.

# Project measures

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**\* SatisfactionWithOutcome[#]:** Please indicate your level of agreement with the following statements related to your SATISFACTION with your project. (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*based on Filippova et al. (2017) [6]*

- I am satisfied with the work completed in my project.
- I am satisfied with the quality of my team's output.
- My ideal outcome coming into my project achieved.
- My expectations towards my team were met.

**PerceivedUsefulness[#]:** Please indicate your level of agreement with the following statements related to the USEFULNESS of your project. (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*Ajzen (1991) [1], Bhattacharjee (2001) [2], Erikson and Nilson (2007) [5], Liao et al. (2007) [8]*

*Note: Only works for projects that are related to a participant's daily work. Can be modified to be suitable for learning outcomes.*

- My project improves my performance during my everyday work.
- My project improves my productivity during my everyday work.
- My project improves my effectiveness during my everyday work.
- Overall, my project will be useful during my everyday work.

**ContinuationIntentions[#]:** Please indicate your FUTURE INTENTIONS related to your project. (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*Ajzen (1991) [1], Bhattacharjee (2001) [2], Erikson and Nilson (2007) [5], Liao et al. (2007) [8]*

*Note: Can be modified to be suitable for learning outcomes.*

- I intend to continue working on my hackathon project rather than not continue working on it.
- My intentions are to continue working on my hackathon project rather than any other project.
- If I could, I would like to continue working on my hackathon project as much as possible.

**BehavioralControl[#]:** Please indicate your level of agreement with the following statements related to your ABILITY to continue working on your project. (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*Liao et al. (2007) [8] based on Ajzen (1991) [1]*

*Note: Can be modified to be suitable for learning outcomes.*

- I would be able to continue working on my hackathon project.
- Continuing to work on my hackathon project is entirely under my control.
- I have the resources, knowledge, and ability to continue working on my project after the hackathon.

# Mentoring

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**MentoringExperience:** To what extent do you agree with the following statements about THE SUPPORT THE MENTORS PROVIDED during this hackathon? (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*based on Nolte et al. (2020) [9]*

*Note: Needs to be adapted for the specific context.*

- The mentors supported us to scope our project.
- The mentors took decisions about the direction of our project.
- The mentors provided us with solutions to technical problems we encountered.
- The mentors helped us to find our own solutions to technical problems we encountered.
- The mentor were mainly focused on our learning progress.
- The mentors were mainly focused on our project progress.
- The mentors were part of our team.
- The mentors showed interest in us beyond the project we were working on.
- We could reach the mentors when we needed help.

**MentoringOther:** What could the mentors have done to IMPROVE YOUR EXPERIENCE during the hackathon? (*text entry*)

# Community measures

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**CommunityIdentification[#]:** Do people identify with [COMMUNITY\_THAT\_ORGANIZED\_THE\_EVENT]? (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*Ellemers et al. (1999) [3] based on Brown et al. (1986)*

- I identify with other members of this community.
- I am like other members of this community.
- This community is an important reflection of who I am.
- I would like to continue working with this community.
- I dislike being a member of this community.
- I would rather belong to another community.

**SocialCapital[#]:** To what extent do you agree with the following statements about your relationship with [COMMUNITY\_THAT\_ORGANIZED\_THE\_EVENT]? (Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree)

*Ellison et al. (2007) [4]*

- I feel I am part of this community. (*bridging*)
- I am interested in what goes on in this community. (*bridging*)
- Interacting with other members of this community makes me want to try new things. (*bridging*)
- I am willing to spend time to support general activities in this community. (*bridging*)
- Through this community I come into contact with new people all the time. (*bridging*)
- There are several people in this community that I trust to help me solve my problems. (*bonding*)
- I know someone in this community that I can turn to if I urgently need help. (*bonding*)
- There is someone in this community that I can turn to for advice about making important decision. (*bonding*)
- The other members of this community would be good job references for me. (*bonding*)
- I do not know people in this community well enough to get them to do anything important. (*bonding*)

# Event measures

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**SatisfactionWithHackathon[#]:** How do you feel about your OVERALL EXPERIENCE participating in this hackathon?

*Bhattacharjee (2001) [2] based on Spreng et al. (1996) [12]*

- (1) Very dissatisfied to (5) Very satisfied
- (1) Very displeased to (5) Very pleased
- (1) Very frustrated to (5) Very contented
- (1) Absolutely terrible to (5) Absolutely delighted

**FutureParticipationIntentions:** Do you plan to participate in a similar event in the future? (Definitely not, Probably not, Might of might not, Probably yes, Definitely yes)

**RecommendationLikelyness:** How likely would you recommend a similar hackathon to a friend or colleague? (0 – Wouldn't recommend to 10 – Highly recommend)

**SessionSatisfaction:** Please rate how SATISFIED you were with the following sessions. (Not at all, To some extent, To a moderate extent, To a large extent, Completely)

*Note: Needs to be adapted based on the design of each event.*

- [SESSION 1]
- [SESSION 2]
- [SESSION 3]

**SessionUsefulness:** Please rate how USEFUL you found the following sessions. (Not useful, Slightly useful, Moderately useful, Useful, Very useful)

*Note: Needs to be adapted based on the design of each event.*

- [SESSION 1]
- [SESSION 2]
- [SESSION 3]

**SessionEnjoyment:** Please rate how ENJOYABLE you found the following sessions. (Not enjoyable, Slightly enjoyable, Moderately enjoyable, Enjoyable, Very enjoyable)

*Note: Needs to be adapted based on the design of each event.*

- [SESSION 1]
- [SESSION 2]
- [SESSION 3]

**HackathonLike:** What did you like about this hackathon? (*text entry*)



**HackathonWish:** What would you wish to be different about this hackathon? (*text entry*)

**OpenSharing:** Is there anything else you would like to share with the organizers? (*text entry*)

# Demographics and individual background

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\* **Age:** How old are you currently? (18 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74, 75 or older, Prefer not to say)

\* **Gender:** Are you...? (Female, Male, Non-binary, Prefer not to say)

*Note from Hack the Hackathon: Instead use text entry field with the following statement "If you feel comfortable, we invite you to share your gender with us."*

**Education:** What is highest level of formal education that you have completed until now? (High school diploma or GED, Some college, Associate and/or bachelor's degree, Bachelor's degree, Professional degree, Master's degree, Doctorate, Prefer not to say)

\* **Minority:** Do you consider yourself a minority? (For example in terms of race, gender, expertise or in another way) (Yes, No, Prefer not to say)

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