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Introduction

Governments today are faced with unprecedented challenges that require a new level of speed, adaptability, and collaboration across the public sector (and oftentimes, other sectors) to find solutions.

There are numerous methodologies for rapid innovation events, including sprints, ideathons, design sprints, hackathons, datathons, codefests, innovation challenges, and more. Each type of event has distinct timelines, team sizes, and itineraries; some events last only a few hours while others can spread out across a week.

In this report, we will focus on one of the most useful and widely deployed innovation events: the hackathon. Over 80% of Fortune 100 companies conduct hackathons to drive innovation. Furthermore, more than 50% of hackathons are recurring events, indicating that they are a reliable tool for sustained innovation. During a 2-year analysis of 1,000 hackathons conducted around the globe, the United States hosted the most at 35%, followed by India and the United Kingdom. The Arab World needs more hackathons!

This report additionally includes two successful recent case studies. The first is the UAE Hackathon 5.0 from 2022, which gathered over 2000 participants that included school, university students and local startups. The second is the renowned #hackthecrisis and #theglobalhack, ignited in a public-private partnership between Accelerate Estonia, Garage48, and Guaana. The global movement gathered over 200,000 participants in over 58 individual events. Eight solutions are now in use by government organizations in Estonia. Another success story from 2020 is Shield48, who signed a contract with the Latvian government to produce 10,000 masks only five days after their hackathon finished.

A few weeks later, their production capacity was at 4,000 face shields per day.



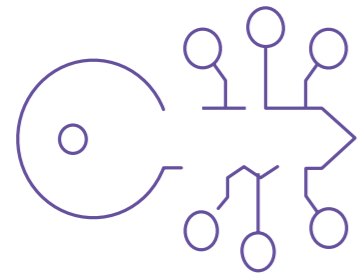
What is a hackathon?

But first, we need a solid definition. What is a hackathon? A hackathon is a tool to crowdsource innovative solutions to address pressing real-life business problems and social issues. A hackathon is typically a time-bound competitive event where participants collaborate to build proofs of concept or minimum viable products for a specific pre-defined problem. A hackathon is generally casual, chaotic, and spans 13- days. Participants break into teams of 5 or less to prototype a concept to be pitched to a panel of judges. They generally involve businesspeople, technologists, marketing people, data engineers, designers and randomly selected people – wildcards – working together to solve common challenges.

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Friendly competition can bring out the best of us, and when developing government innovation, hackathons can help solve certain challenges through crowdsourcing as well as build engagement across the public sector.

Along with generating new ideas and futureproofing a business, hackathons help de-risk product development, improve employee engagement and retention, find excellent talent, enable customer focused innovation and engagement, accelerate the speed of innovation and problem solving, enhance collaboration between teams, bring about cost savings through research and development, and build community, brand, and leadership.



Role of hackathons in the public sector

For governments, well-run hackathons help boost innovation as part of a broader business development program. Around ports, for example, hackathons can generate ideas in areas as diverse as sea rescue applications, smart ports, shipping, GPS technology, underwater data, even ocean tourism, fashion or food. They can provide a really interesting mechanism to crash together different sectors that wouldn't ordinarily work together, like a slightly more traditional marine and maritime sector together with a more cutting edge, fledgling ICT sector.

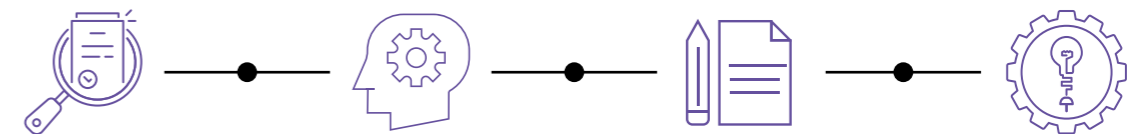
Cities also use hackathons to co-create urban solutions as well as improve policymaking. With colleagues of all levels, future partners and stakeholders, hackathons quickly shake up ideas, spontaneity, excitement, for people who may have been looking at each other for years, especially in public administration.

So, how do hackathons work, and how can you hold an effective government hackathon?



Processes of Innovation and the Role of Hackathons

Process of Innovation

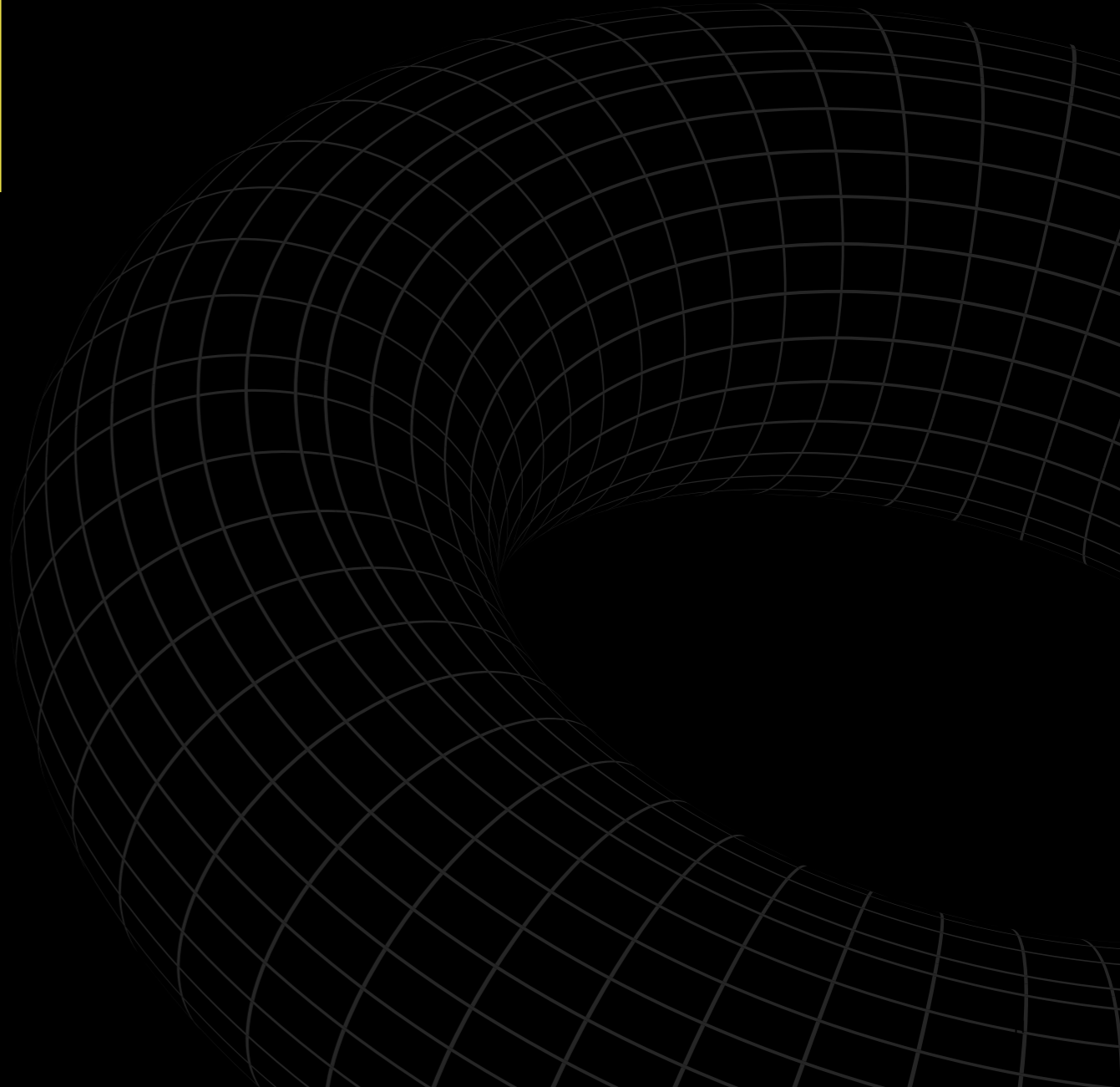


DISCOVERY	IDEATION	POC CREATION	EXECUTION
Identify the strategic focus area	Idea collection & idea 'graduation'	Conceptualize ideas	Test the PoC for feasibility, market viability 'scale'
Insight comes from the top management	Bottoms-up ideation on strategic goals	Check for novelty, functionality, feasibility alignment to strategic goals	Undertaken by the innovation wing, Emerging business division, Incubators & R&D
Translated into themes of innovation & problem	Can be crowdsourced Internally & externally		

Role of hackathon in the innovation process



Planning a hackathon



Key actions and checklist for this phase:



Choose the hackathon topic



Choose the format: length of event, desired number of attendees, inclusion of parallel events like workshops or trainings, etc.



Choose the logistics: date, time, location, etc.



Choose the required sponsors or partners



Choose the judges and prizes (if any)



Choose the rules and regulations for the event

Basic format and timeline for a hackathon:



12- months beforehand	decide on theme, identify target audience
1 month beforehand	decide on event format, decide on day and time, decide on venue, decide on event rules, decide on prizes and judges and sponsors, launch event website / social media channel
2 weeks beforehand	promotion of event
1 week beforehand	prepare for event
Day Zero	put it all together
Afterwards	follow up with all stakeholders

Overall, the entire process of organizing a hackathon, marketing the event, driving registrations, ideating, and creating prototypes **typically takes 30 to 40 days**. A larger event might take 6 months to pull off.

Much of the up-front logistics are similar to any typical event planning, with a need to secure a time, location, materials, and partners.

Choosing a hackathon goal



You need to first frame the problem and ask yourself: what specific needs will the hackathon address?



For a government hackathon, the organizers will need to: identify key areas that are suffering because of definite challenges or that haven't been addressed satisfactorily. A well-defined problem statement will define your hackathon strategy.





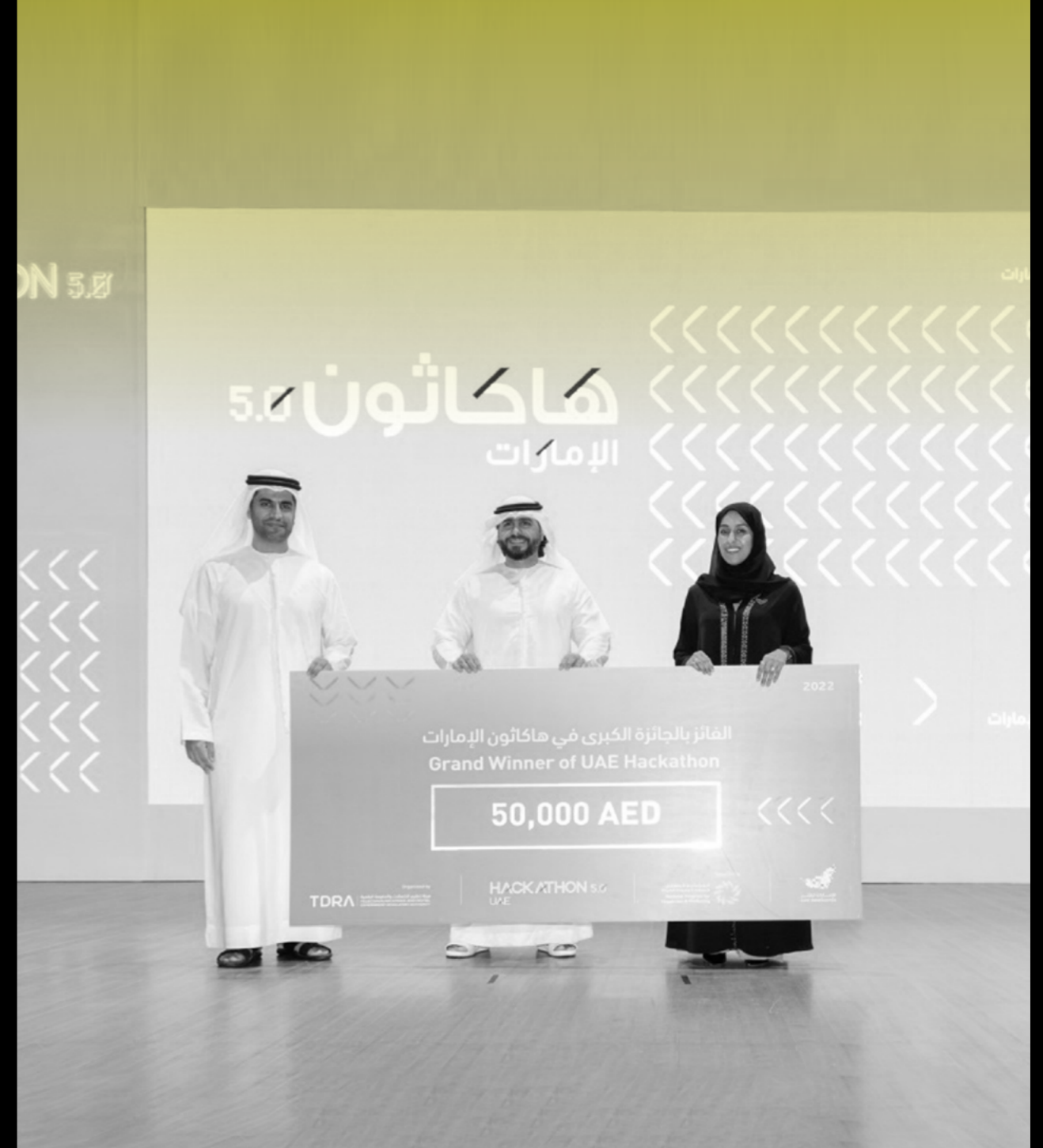
Focusing on the challenge during the event will require mentors in the form of managers, experts, or public sector employees to provide real-time feedback to guarantee solutions are designed keeping in mind the end user.



Themes can be anything from boosting the visibility of a product, to creating a new startup, to developing a new app for disaster management, to designing a launch campaign.

Here's a list with a few possible hackathon themes:

 <p>Green government</p>	 <p>Agriculture and rural development</p>	 <p>Healthcare and biomedical devices</p>	 <p>Communication channels</p>
 <p>Security and surveillance</p>	 <p>Waste management</p>	 <p>Robotics and drones</p>	 <p>Food processing</p>
 <p>Big data</p>	 <p>GovTech</p>	 <p>Predictive analytics</p>	 <p>Financial services</p>
 <p>Blockchain</p>	 <p>IoT</p>	 <p>Cybersecurity</p>	



While it can be tempting to put out an aspirational goal and allow participants a wide interpretation, the best innovation occurs from a clear goal that addresses a specific need. A hackathon that focuses on creating a tool for specific data sets can be equally as useful as a broadly focused app for every citizen.

Not every project makes a good hackathon project. It is extremely important to maximize the following qualities in the projects at your event:

Clearly articulated

Projects should have a clear question or problem they are trying to solve.

Attainable

Most hackathon teams will accomplish perhaps 25% of what they think they can accomplish in the limited time they have. Manage each project's goals so participants are able to feel accomplished at the end of the event, not interrupted.

Easy to onboard newcomers

Projects should have ready-to-go tasks for newcomers with a variety of skills and at a variety of skill levels.

Led by a stakeholder

A stakeholder or subject matter expert guides a project to real-world relevance. Projects without a stakeholder can "solve" a problem that doesn't exist.

Note about Themed Hackathons



A "themed" hackathon is one in which the projects are confined to a particular problem, such as food sustainability or returning citizens.

Themed hackathons are better able to attract relevant subject matter experts – which some open-ended hackathons struggle with -- and projects typically revolve around problems that the subject matter experts bring to the table.

When themed hackathons are also technology hackathons, there is a common problem: subject matter experts can readily identify problems in their field, but cannot always turn those problems into workable technology projects.

Other participants may be ready to apply their skills but not know anything about the hackathon's theme. Bridging that gap requires careful planning ahead of time.

Set attainable goals



It's nice to think that you'll create the next Careem from an hour of brainstorming, but that's not likely. Instead, aim for attainable goals so your participants walk away feeling satisfied and eager to participate again.



Decide beforehand what you want to accomplish. Generally, only one major task will get accomplished. Of course, this will vary based on how many people you invite, the length of your event, and the type of goals you are setting.



Are you looking to upgrade an existing software or element of your services? Perhaps you'd like to fuse together two aspects of your industry for a more robust service. Or maybe you want to find the latest innovation that can help you pull ahead in the industry. Whatever it is, be specific.

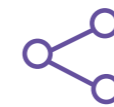
Set up a clear set of rules



A clear set of rules is another requirement that mostly concerns the competitive nature of running a hackathon. Since the competitive environment forces different groups of experts to go head-to-head, it's highly important for the entire event to have a defined set of rules that applies to everyone with no exceptions.



This goes for both the competitors, having the same amount of time for the job, and the organizers, having specific rules about judgement, submissions, permitted or forbidden technologies, and so on.



At the same time, a less competitive and more collaborative hackathon event might not need to have a strict and complex set of rules in place to succeed.



Create a pleasant, safe, and non-discriminatory event for a diverse set of participants. Having a well-defined set of rules helps in case of any issues cropping up during the event.



To maintain a welcoming environment, formulate policies to deal with all kinds of harassment and lack of respect for others' opinions, and remind all attendees that it is up to them to make the experience amazing.



Communicate the code of conduct via the website, posters, and any other published material sent to sponsors, participants, speakers, hosting team members, and make people acknowledge their agreement to the terms and conditions.

Date



Does your proposed date fall on public holidays or in the holiday season? Check websites or social media to find out it clashes with niche conferences or other similar hackathons.



Your target audience will tell you what days are most likely to work; for example, students could find weeknights tough. Weekends are generally the most popular.



Ensure you factor in extra minutes to prepare the venue and clean up after the event.

Materials



A good hackathon gives everyone who takes part in what they need to succeed. Take an inventory of what resources you can provide, whether it's data, access to public servants, engaged audiences who want to test the apps created by the hackathon, or other materials like legal documentation or regulatory guidance. Also, make sure that you can provide them to every team so that everyone is on an equal footing and aiming for the same goal.



Moreover, be sure to set specific rules on resources teams can bring to the competition. No team should be using proprietary data or code, for example. Make sure the rules are clear, evenly applied, and have no loopholes that some teams might use to coast through.

Location: Physical or Virtual?



At an onsite hackathon, participants work collaboratively to innovate at a physical location. In this format, organizers will need to consider time, geographical, and logistical constraints while designing the event. Organizing workshops, hosting knowledge-sharing sessions, and getting the venue, tools, and other aspects of the working environment ready are highly important.



When should you consider an online hackathon?



One of the few positive developments from the COVID-19 pandemic was helping virtual events go mainstream. Online hackathons can engage participants simultaneously across different geographies and time zones to solve a unified problem or drive innovation. They can also be used for narrowly-defined programming/coding challenges, which will need to draw from a wider range of talent.

A dedicated online platform, such as HackerEarth Sprint, can be used to host the event. Social media or other promotional campaigns will have an improved chance for success if all the participants are already online. Plus, it will be easier for organizers to shortlist, monitor, and coach participants as well as evaluate their ideas afterwards.

Unless you have experience running hackathons already, it is recommended you do deploy a dedicated hosting platform of some sort; this will minimize the logistical stress of preparing the event while maximizing its success for you, the organizers.

Hybrid events, which have both online and onsite phases, can also improve levels of engagement. The initial ideation phase might be online, which gives more control over the shortlisted ideas, and the prototyping/building phase might be onsite to ensure quality final products.

Choose an Audience



Choosing your target audience depends on the problem you are trying to solve and the success criteria.

Before you find your community of interest—employees, developers, startups, customers, or students—decide how creative and technically competent you want them to be. You would want the deliverable to be an idea, a scenario, a prototype, an app, an interface, a proof of concept, or a turnkey solution; these different levels of completion also decide your participant group.

While some competitions should be open to anyone, others should have a more targeted audience. Consider local tech companies, university students, or another team with the specific skill sets you're looking for. For example, if you're looking for solutions for your water system data, invite local engineering firms and university teams to the hackathon.

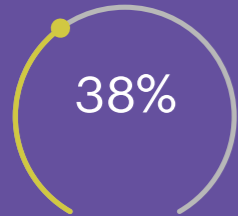


Your audience should also be more than just code experts. Coding has become a skill in demand across a huge number of industries, so “coder” is less and less a job itself and more a role contained within broader jobs. Tap into the broader community, and work with local coding enthusiast groups and educational organizations.

The hardest thing about running a successful hackathon is being welcoming to newcomers and helping them get involved in an activity.

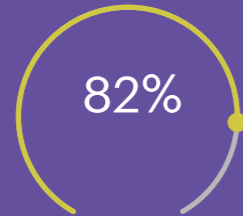
Newcomers often suffer from “imposter syndrome”, the feeling that they don't belong because they don't have skills, aren't smart enough, etc. It is the hackathon organizer's job to help them realize they have something to contribute.

Also keep in mind the motivations behind people joining the hackathon. Ideally, yes, everyone involved is looking to reshape the world, but the fact of the matter is people will join the event for a variety of reasons. In fact, one study found the following reasons most common (participants were allowed to answer multiple times):



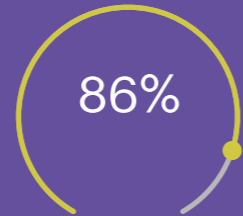
38%

change the world



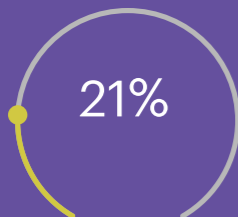
82%

meet new people / networking



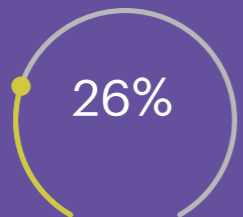
86%

learning



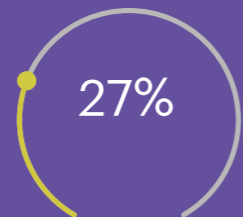
21%

competition



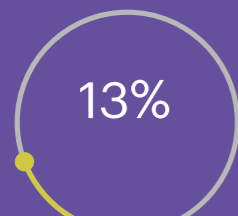
26%

build a product



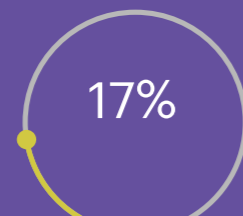
27%

free food



13%

attract investors



17%

potential to get hired for a new job



20%

finding a team with similar interests

Choose judges



Tell your judges what the winning criteria are before the event. This might include potential for government use, relevance to the theme, practicality, technical complexity and so forth.

Prepare them about what features each team's deliverables must have, talk about a scoring system, and encourage them to jot down notes during demos.

You can either let your judges pick winners or you could have a voting system where a selected group of people (employees, the public, sponsors, consumers, etc.) can also help select the best projects.

Don't have too many finalists because your judges most likely will not have the bandwidth to test and evaluate so many submissions.

Sample judging criteria can be found in the appendix at the end of this manual.

Choose hackathon prizes



Nothing draws people to a competition as the promise of awards and recognition! Depending on the goal and sponsors, you can offer valuable chances of getting into an incubator or accelerator program, internships for winning team members, and scholarships.



If you are organizing a tech hackathon, consider giving the best gear in the market; it will be much appreciated.



Announce these prizes before the event with other promotional material, because this will be your primary hook for attracting talent.



On the other hand, if you want your hackathon to offer superb opportunities to learn and network with peers, cash prizes or gadgets do not need to be advertised as prizes. Giving all participants some sort of memento rather than only awarding the winner can be more motivating.



Of course, try to make the prizes available on the day of the hackathon, or else give the teams clear instructions on how to collect them later.



Sponsors can play an important role here. Commercial sponsors within the chosen hackathon industry are capable of helping you with covering the costs of large hackathons in multiple ways, from guaranteeing prizes for your hackathon to providing you with event funds.

Design agenda

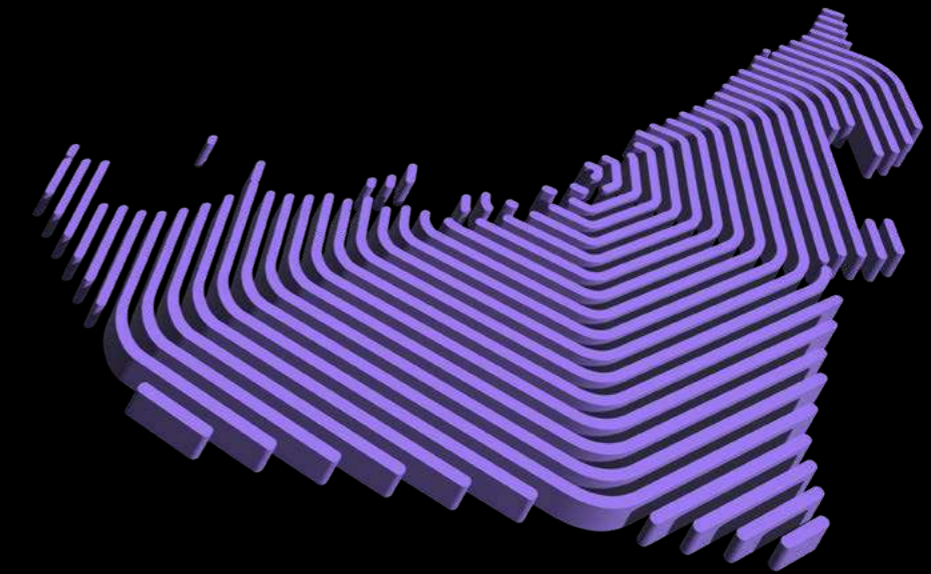


For a free event, estimate that about 65% of those who register will actually show up. This number is very consistently seen across events. So consider capping registration at 150% of your actual maximum capacity.

A successful hackathon might be just hacking, or additionally include motivational speakers and training sessions.

If you have a significant number of newcomers, having training workshops is a great way to give them something to do that they will be more comfortable with than diving into hacking.

You can run workshops to introduce participants to the subject of the hackathon or to particular technical skills useful for the hackathon. Workshops can also be places to have a discussion about issues in the field related to the hackathon. Workshops should be interactive as much as possible.



At the 2018 UAE Hackathon on Data for Happiness, for example, there were 27 different training sessions offered throughout the event, with some topics including:



How to think about open data



How to develop a mobile app or website



AI strategy



Blockchain strategy

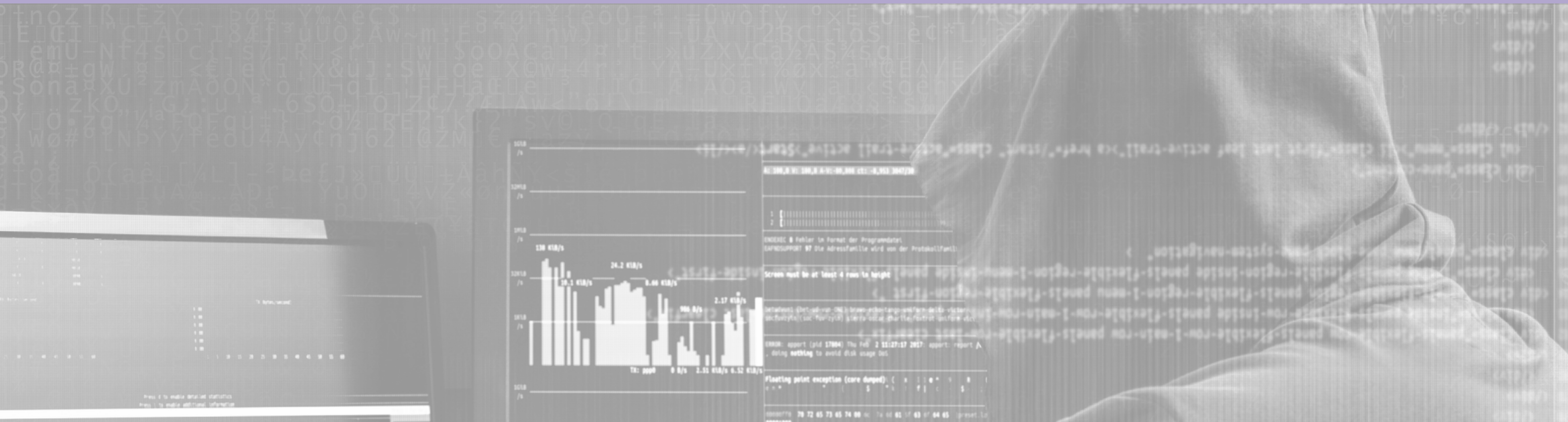
Avoid pitfalls



It is very difficult to organize a really effective hackathon, especially with the expectation of coming out with smart, innovative, easy-to-realize, ready-to-market ideas.

Some hackathons suffer by setting a challenge too broad, complex, or poorly defined. Others have been blamed for rewarding easier-to-pitch solutions, or more competitive personalities. Meanwhile, some government actors later regret not involving moderators, tech people, schools or inspiring entrepreneurs.





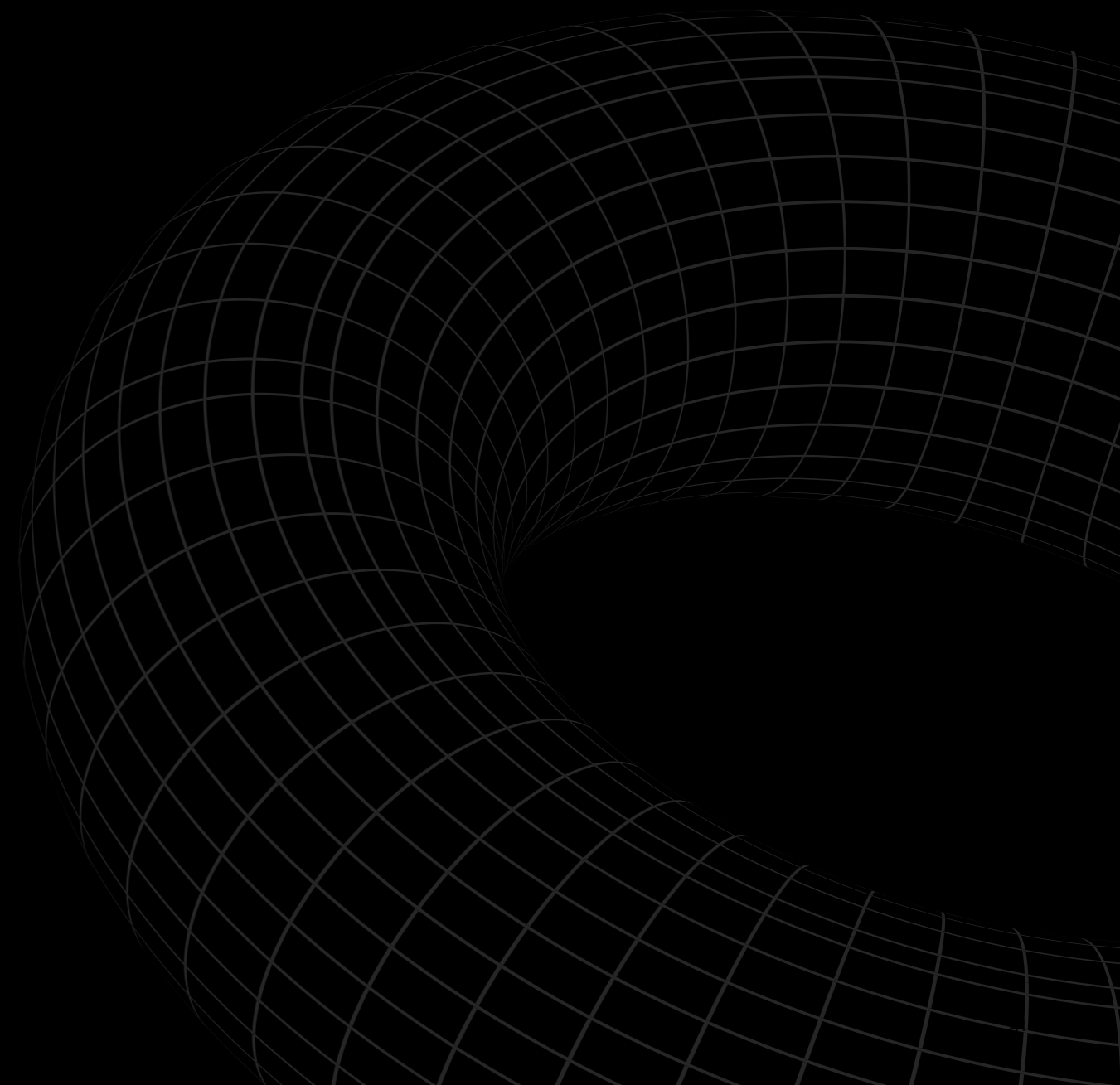
The key pitfall is that when participants head home, their freshly created solutions disappear. There are plenty of hackathons where people come up with interesting ideas that never make it to market. Even when winning creative teams do get quality incubation services, mentoring and finance, they don't always stay as enthusiastic as their mentors.

Every project has the potential to go wrong, but the time-critical aspect of hackathons adds complexity. To give yourself and your stakeholders some relief, compile a list in advance that outlines different risks and how you would mitigate them.

For example, if you're doing an online hackathon and your participants' internet connection is spotty, they won't be able to deliver on time. How much additional time would you want to give them? How would that work in the process that follows?



Setting up a hackathon



Key actions and checklist for this



Promote event beforehand



Set up communication channels for participants and organizers

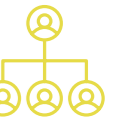


Prepare the venue



Remind all participants about logistics

Set up group communication channels



Set up a way for your participants to communicate digitally and stay in touch during and after the event. Some options are:



A chat room, like Slack



A social media channel, like a hashtag on Twitter or a Facebook group



A shared document space, like Google Docs



An email list, like a Google Group



Communicate with the attendees



A simple communication strategy with participants might follow the model below:

10 days before the event

email the registered attendees with as much of the logistics information as you know, so that they can plan ahead.



12- days before the event

logistics email that includes: host contact information, contact information if participants cannot find the venue, Any pre-event and post-event information; address of event with map and directions, reminder to bring ID. Also provide a schedule of workshops, if applicable



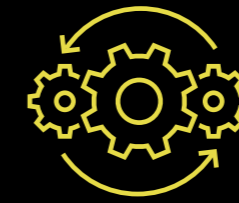
12- days after the event

send an email survey to the attendees to solicit feedback and improve for next time



Two sample advertisements for previous UAE-based hackathons can be seen below.





Running a hackathon

Key actions and checklist for this phase:



Execute everything from the planning and setup phases






Keep participants engaged and satisfied throughout the entire event



Set expectations for post-hackathon communication and (hopefully) further product development

Sample Timeline



 Day /  Time	 Activity
6pm Friday	Registration and snacks
7pm Friday	Opening remarks
7:30pm Friday	Defining the hackathon problem to be solved and goals
8pm Friday	Ideas pitch
9pm Friday	Form teams
11:59pm Friday	Building closes
8am Saturday	Doors open
8:30am Saturday	Breakfast
10am Saturday	Team check-in
12pm Saturday	Lunch
12:30pm Saturday	Workshop or keynote speaker 1
5pm Saturday	Dinner
6pm Saturday	Mentor feedback
7pm Saturday	Workshop or keynote speaker 2
11:59pm Saturday	Building closes
8am Sunday	Doors open
8:30am Sunday	Breakfast
10am Sunday	Team check-in
11am Sunday	Lunch
3pm Sunday	Presentations due
4pm Sunday	Dinner
6pm Sunday	Presentations start
7:30pm Sunday	Winners announced
8pm Sunday	Event ends

Throughout the day

Communicate timelines and rules for every step of the hacking process—brainstorming, pitching, formulation, and presenting, including meal times. Make sure mentors, advisors, or subject matter experts are available to the participants.

Check in with each team periodically to ensure that every project is going smoothly. Designate someone to remain available and responsive so all the teams have a resource for support. See if anyone needs anything or can't find something to work on. Stick to the overall schedule as much as possible. Leading up to wrap-up, make sure each project is prepared to explain what they did.

Leverage your operations team. The tireless work of our ops team is crucial to the success of every hackathon. From handling catering to freeing up meeting rooms to chasing down missing cables, they keep things running smoothly so the teams can gallop toward the finish line.

Have someone managing workshops. Make sure workshops stay on schedule. Be around to ensure that the workshop leader doesn't have any technology problems. An organizer should be on hand at the workshops at all times.

Be sure to collect nice videos and photos of the event for future marketing purposes. Consider recording portions of the hackathon, too.

Always be prepared for improvisation. Technical hiccups, workshop blunders, venue snag -- these things happen. Just act like nothing is going wrong and keep moving forward.

Wrap-up



The wrap-up session gives everyone a chance to hear what everyone else worked on during the event. For each group, ask volunteers to report what they accomplished or what they learned. Publicly listing hacks afterwards is recommended; use a service Google Drive to store and distribute materials from the event.



Post-hackathon activities



Thank your participants, sponsors, hosts, speakers, judges, mentors, data providers, press, and volunteers.



Do a thorough analysis of the participant data and any other relevant statistics, channels used for outreach, quality of the hackers and their submissions, and get “like-dislike” feedback from the attendees. Do this both directly following the event as well as a couple days afterwards via email.



For hackathons that are limited to employees within the organization, communicating details about the events, hacks, and winners plays a big part in boosting a department’s image, be it in terms of employee satisfaction, collaboration, or innovation; departments can recruit the best talent or roll out feasible projects after the hackathon or fund and incubate the winning idea.



For online hackathons, once qualifying submissions have been judged and winners declared, ensure that you publish the results and let them know.



Turn interviews or particularly insightful projects into blog posts or case studies.



Work with them to nurture their ideas or develop their prototypes if possible.



Plan your next hackathon! A single hackathon is a great way to spend one or two days, but the cumulative effect of regular, ongoing innovation sessions cannot be underestimated.

هـاكاـثون 5.0
الإمارات



Successful case study #1

UAE Hackathon 5.0 (2022)

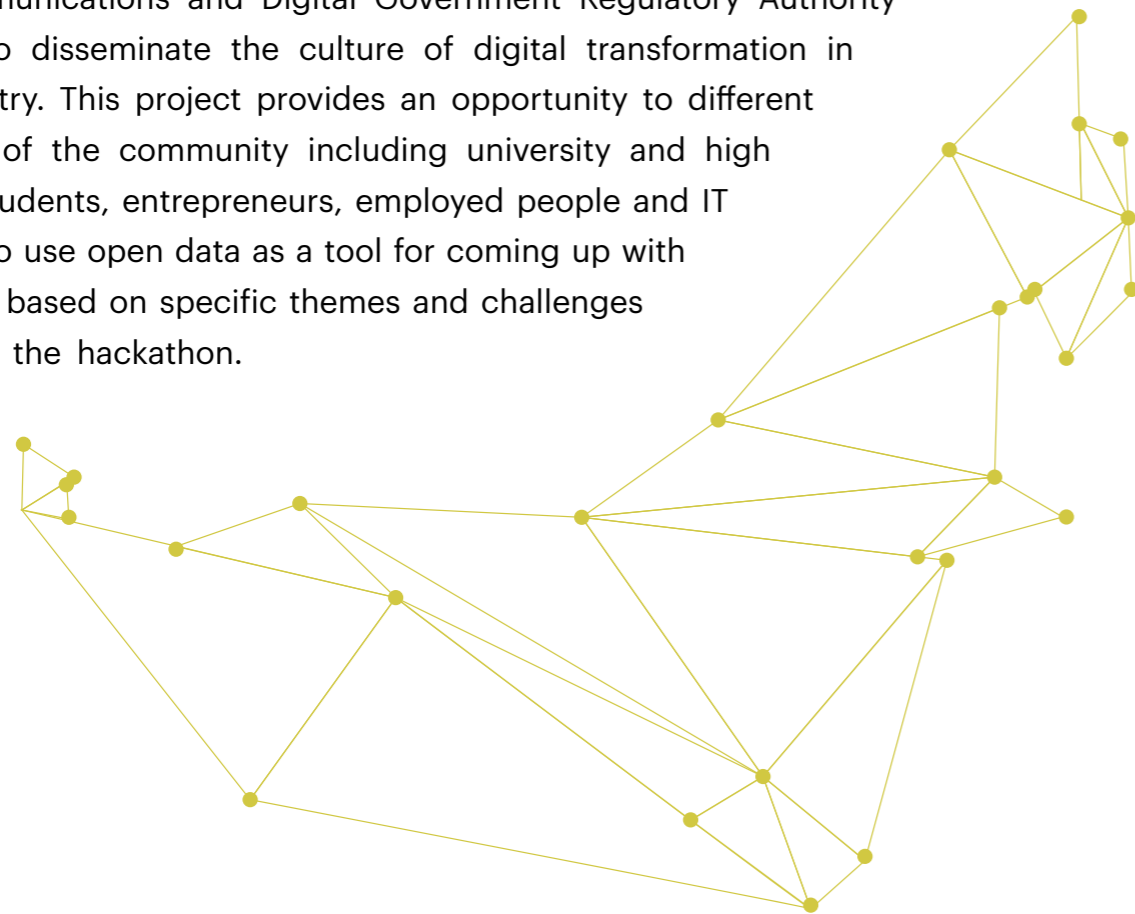


Throughout the day

The UAE is pursuing an active role in the era of the 4th Industrial Revolution. It is widely known that data has become one of the most important features of the digital era, and the focus on data in terms of understanding, analysis and employment has become one of the most important highlights in the transformation towards a digital economy.

In view of this, the wise leadership of the UAE launched the 4th Industrial Revolution Strategy, the National Innovation Strategy, and other national plans that form part of the mechanisms of making the future.

UAE Hackathon is viewed as the largest competitive event for innovation at the national level, the UAE Hackathon reflects the efforts of the Telecommunications and Digital Government Regulatory Authority (TDRA) to disseminate the culture of digital transformation in the country. This project provides an opportunity to different sections of the community including university and high school students, entrepreneurs, employed people and IT experts to use open data as a tool for coming up with solutions based on specific themes and challenges listed for the hackathon.



The Fifth Edition of the UAE Hackathon

The UAE Hackathon is an integral part of these national trends, and it aims to draw attention to the high value of data and the solutions inherent within it when dealing with daily challenges with regard to the economic, social, environmental and scientific aspects of life.

The Telecommunications and Digital Government Regulatory Authority (TDRA) virtually launched the fifth edition of the UAE Hackathon in 2022 with the motto, "Data for Happiness and Well-being". This Hackathon has offered the country's residents and start-ups a great opportunity to creatively compete and use the government open data which is available on Bayanat.ae to come up with innovative solutions that contribute to enhancing well-being, raising the happiness meter of individuals, and designing the future of the country in the next fifty years.

In addition to cooperation with 35 federal and local government bodies at the level of the UAE, TDRA partnered with several major universities within the country as there were 21 educational institutions and universities participated in the hackathon, as well as many top leading private sector technology companies such as Du, Google and Ericsson companies, all of which have helped achieve extraordinary success in the organization of the Hackathon in its hybrid edition in which 2162 participants partook representing 254 teams from all the UAE community segments.

TDRA provided the youth with the necessary training and mentoring in technology, innovation, and entrepreneurship; to assist them with the hackathon main tracks; the Start-ups & Entrepreneurs track, University Students track, and School Students track to produce the most creative ideas. In addition, TDRA helped youth develop websites, smart applications, and electronic services.

The hackathon achieved the following primary outcomes:

To reach and meet creators and innovators from the seven Emirates and help them develop and present their ideas.

To develop realistic solutions using open government data that is available on Bayanat.ae.

To spread digital awareness among participants, employ the latest technologies, and broaden data science knowledge.

To produce new data and statistical information for the open database.

UAE Hackathon 5.0 Tracks



The UAE Hackathon is characterized by the active participation of different social groups, namely school and university students as well as experts. The fifth edition of the UAE Hackathon introduced a «Tracks» system to help all participating groups achieve the best outcomes.



School Students Track. This track is designed for students aged 11 to 18 who are not yet enrolled at a university. At this stage, it is not necessary to have a working prototype of the idea.



University Students Track. This track is aimed at students between 18 and 25 years of age or slightly older who do not yet have long-term professional experience. The essential criterion for this track is the development of innovative technical solutions that preliminarily reflect the practical utilization of one of the recommended emerging technologies. Students were expected to design low-fidelity prototypes for their proposed solutions.



Start-ups & Entrepreneurs Track. This track is aimed at experts from various fields with technical and substantive expertise that enables them to develop high-quality and implementable solutions. The essential criterion for this track is the development of advanced solutions. Participants had to design high-fidelity prototypes of their projects.



First winner of each track:

HCMS.ai, a human capital management system project, won first place in the Startups & Entrepreneurs track as the team developed a system that runs skill analysis based on supply from universities and demand by the labor market inside the government, enterprise, and educational institutions to help empower talents with the correct skillset.

The UAEPixel, an artificial intelligence-powered system that reduces road accidents, won first place in the University Students track.

Meta Edu won first place in the School Students track, with an idea of a virtual classroom that simulates real-life schools where students enroll and abide by all the rules.

UAE Hackathon 5.0 Themes Development



TDRA deemed it essential to develop a set of new themes that correspond to the UAE Centennial 2071 Vision and the global developments, as well as the challenges that emerged from the COVID-19 pandemic. Furthermore, it introduced themes that are not only related to the UAE but also encouraged the concept of introducing themes that are of concern to the whole world. The themes were as follows:

Theme	Description
Agile & Proactive Digital Government	Aiming for the UAE to have the first digital government regionally with sustainable digital initiatives and effective policies
Better Financial Services using FinTech	Financial Technology is a key component in digital payments, mobile banking, money transfer, and cryptocurrency. Being at the forefront of FinTech in the region, the UAE is working towards better financial services
Resilience of Digital Economy & Investment	The transition to a digital economy can boost competitiveness across all sectors and lay the foundation for long-term resilience to future crises
Shaping Smart Sustainable Cities	A smart sustainable city is an innovative city that uses information and communication technologies and other means to improve the quality of life
Innovative World-Class Knowledge & Skills	The UAE Centennial 2071 plan aims to invest in future generations by preparing them with world-class skills and knowledge needed to face rapid changes
Happy & Cohesive Society	Making the UAE the best country to live in, the government aims to accelerate the digital transformation toward establishing a secure, tolerant, cohesive, and ethical society that embraces happiness, a positive lifestyle, and high quality of life
Communication in the Digital Age	With the rapid, constant changes in the digital world, the importance of communication between all segments of society is becoming more pressing

The UAE Hackathon Training Content



TDRA complemented the Hackathon with training content provided by a team of experts at regional and global levels in the fields of technology, innovation, and entrepreneurship to enable participants to benefit from their expertise in helping them to promote and develop their ideas effectively. The training program was as follows:

Training Content Components

Content in the Field of Technology	Content in the Field of Innovation
Blockchain Technology and Applications	Introduction to design thinking
Artificial intelligence	Team building skills
3D/4D printing	Defining a problem and identifying users
Introduction to the Metaverse & Technologies used in it	Developing ideas
IoT and its applications	Testing idea validation
Introduction to Big Data and its characteristics	Business models
Augmented reality	Exploiting the latest technology
Other emerging technologies	Effective presentation skills

UAE Hackathon Marketing



TDRA assigned digital introductory sessions as a marketing strategy for the Hackathon. These sessions were held for different university and school students across the UAE.

The introductory sessions demonstrated what a Hackathon is and what its goals are. It also presented the achievements of the previous four Hackathon editions to motivate the youth.

Even the official website played a role in marketing. It was also linked to a TDRA Virtual Training Academy so that participants could more easily access online courses to help them in the process of developing their ideas.

UAE Hackathon Outcomes



Despite all challenges, the Hackathon's outcomes reflect its outstanding success. Some key statistics from the event include:

190 ideas	100 Feasible ideas	30 inspiring ideas	2633 Datasets
254 Teams	2162 Participants	46 Mentors and observers	22 Trainers
23 Judges	64 Participating entities	43% Males	57% Females

Outcomes of the training and mentorship stage, from 13 to

12 days of training and mentorship	42 sessions and workshops	28 mentos and observers	22 trainers
hours of training content 61.5		759 hours of mentorship	4176 technical inquiries

Successful case study #2

Estonia's 2020 #hackthecrisis

```
function expectSync( elem, type ) {  
  return ( elem === document.activeElement ) === ( type  
}  
function on( elem, types, selector, data, fn, one ) {  
  var origFn, type;  
  
  // Types can be a map of types/handlers  
  if ( typeof types === "object" ) {  
    // ( types-Object, selector, data )  
    if ( typeof selector !== "string" ) {  
      // ( types-Object, data )  
      data = data || selector;  
      selector = undefined;  
    }  
    for ( type in types ) {  
      on( elem, type, selector, data, types[ type ], one )  
    }  
    return elem;  
  }  
  if ( data == null && fn == null ) {
```



Estonia's 2020 #hackthecrisis

Mere hours after the country declared a state of emergency and closed its borders, the Estonian government started organizing a public-private virtual hackathon to “hack the crisis” of the coronavirus pandemic. Named ‘the most advanced digital society in the world’ by Wired, Estonian experience first-hand how digital society was a true necessity to catalyze innovative solutions.

Two Estonian organizations, Accelerate Estonia (a government owned entity that works with startups) and Garage48 (a local startup specializing in hackathons), set up the online event, with over 1,100 people from more than 20 countries and 14 time zones gathering to develop solutions to help Estonia emerge from the coronavirus crisis and create competitive advantages for the post-crisis period. The prize at the end: Accelerate Estonia would provide 5 ideas with 5,000 Euros for further development over the following two months, and then an impact fund would help carry viable projects beyond those two months.

To qualify for inclusion, projects had to demonstrate their impact on the coronavirus crisis, be capable of being tested within 48 hours and they had to give Estonia a competitive advantage in a post-COVID world.

One successful hack from the event came from Sixfold, a company founded by experienced Austrian and Estonian IT entrepreneurs. They made a border crossing times live map available to anyone for free. This helped public and private entities across Europe with vexing logistics issues during the pandemic.

Another successful hack was dubbed Share Force One. Due to the intensive lockdowns last year, there were companies with human resources they could not fully use – and others who were short of work hands. Share Force One created a platform that connected B2B sides for temporary workforce exchange. The startup worked in partnership with the Estonian Unemployment Insurance Fund, and was free to use for all of Estonia's businesses.

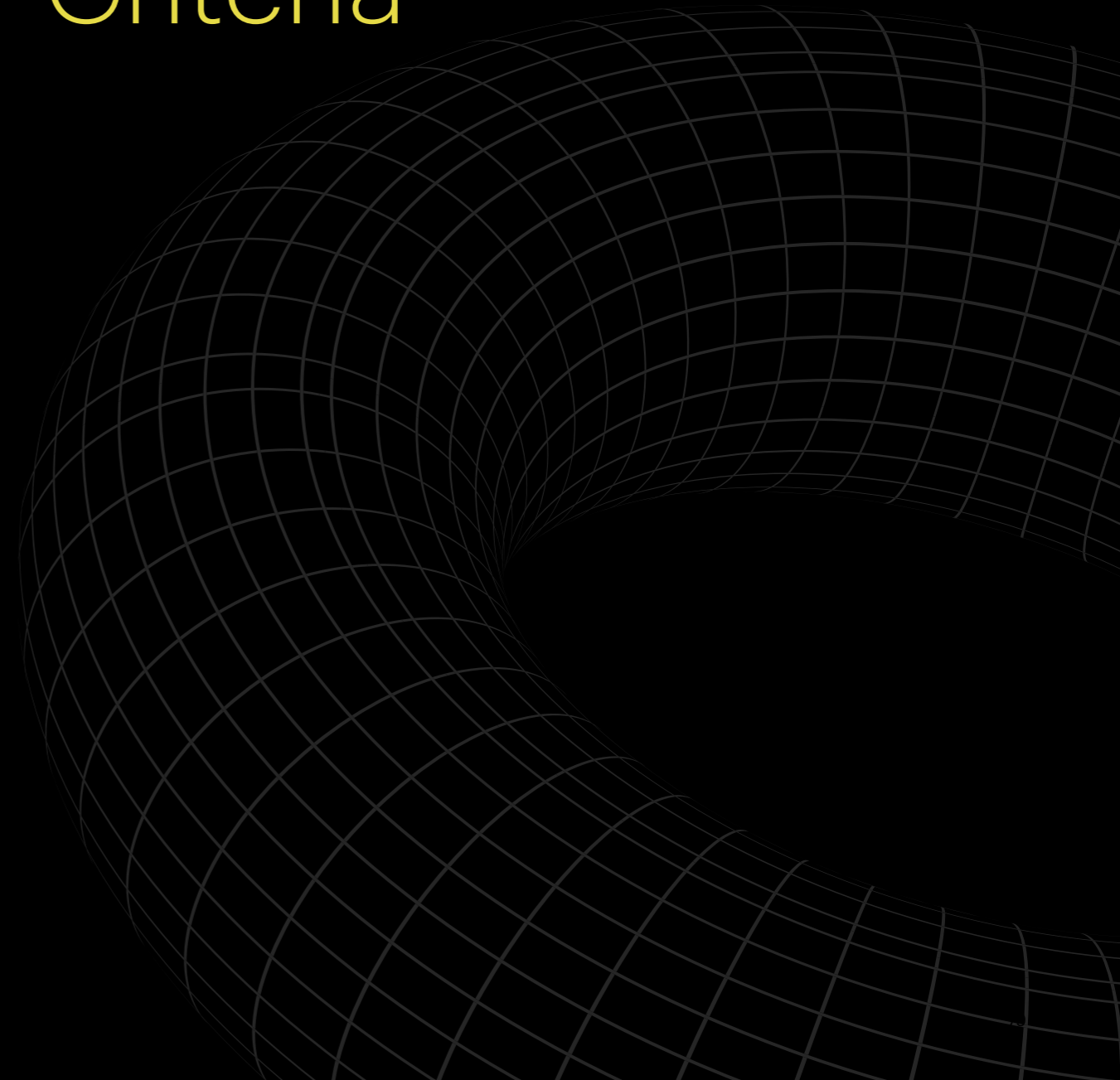
A third successful entry was a ventilator which utilized a standard hospital airbag, but automated the process of squeezing it using readily available machine parts and a hospital's existing compressed air supply. The system was designed in such a way that any engineer could take the blueprints and provide viable machines to hospitals near them, with the goal to avoid further tragic triage situations where people would die based on ventilator availability.

In the end, several of the winning entries went into production or were tools throughout the global pandemic. The event itself generated overwhelmingly positive media coverage, with observers particularly impressed with how quickly the event was pulled together, as well as the quality and quantity of submissions. The success of the virtual hackathon later spurred numerous reciprocal events in countries around the world, backed by powerful sponsors like the UN and European Commission. Furthermore, the small Baltic country's reputation as one of the most digital-first and entrepreneurial economies in the world was likewise validated, and has positioned the nation for a stronger recovery post-pandemic.





Sample Rules and Judging Criteria



Sample Hackathon Rules



These rules are subject to change. The final rules will be given out on the day of the event.

Teams must be comprised of 1- 4 people.

All design elements, code, hardware builds, etc. for your project must be created during the event. Third party tools and frameworks are allowed as well as your normal tooling (Gulp, Yeoman, Composer, NPM, Bower, etc.). While you may not begin coding in advance, you can plan and discuss with your team in advance. Written documents and design sketches are allowed. You may also incorporate pre-existing material that is freely available to the public into your project, such as public domain images, Creative Commons music, open-source libraries, existing APIs and platforms, and the like.

Only ten of the competing teams will present their projects in the final round of judging at the end of the event. The presenting teams will be determined by an initial round of judging that will take place during the final 1.5 hours of the event. Note: we recommend that, prior to the beginning of preliminary judging, teams prepare a short (~2 minute) project pitch to be given to a subset of the judges.

Teams that make it to the final round will be given up to three minutes to present their finished project to a panel of judges.

The prizes not specified otherwise will be awarded solely based on the decision of the judging panel. Some prizes (for example, the "Participant's Choice" award) may be determined by peer or other forms of review.

At least one team member must be physically present during sign-in, and one must be conscious and present to present the project to the judges during their assigned presentation time. A team of three or four may have one remote member who never works from the hackathon location. The other members must spend the majority of their design/coding time at the hackathon location.

Bring your blueprints; build at the hackathon. It's the only way we can compare hacks on a level playing field and fairly award prizes. It's also what lets you say "I built this at a hackathon.»

Have fun. Hackathons are amazing, and so are you. We're so happy you're able to hack with us and be a part of our amazing community.

Open your mind. Hacking unites people from across the world from different cultural norms, nationalities, and backgrounds. Be prepared not only to learn something new from your hack, but also from the amazing people around you.

Be mindful of the fact that certain content and actions can make the people around you uncomfortable. If your hack contains material that might cross that boundary, talk to a member of the organizing team for a second or third opinion. They'll let you know if you should consider rethinking your hack.

Be the change you want to see in your local community. Never be afraid of competing based on where you come from or have preconceptions of grandeur because you come from a great school. At any time one can achieve greatness. You simply have to see it and seize it.

Some events have a Jr Team division. Jr teams are teams made up of members who all meet the following qualifications:

Some events have a Jr Team division. Jr teams are teams made up of members who all meet the following qualifications:



Less than two years of serious coding experience (Education is excluded from this)



Have never placed top three in a hackathon before



Have not earned more than \$10,000 of income through programming

We reserve the right to determine who is and is not a Jr Programmer for the purpose of Jr Team Division contests.

Sample Code of Conduct



By participating in this hackathon event, you agree to abide by the following code of conduct.



Please treat all other hackers with the utmost respect. We ask that you act kindly, behave professionally, and do not insult or put down other attendees. Remember that harassment and racist, sexist, or exclusionary jokes are not appropriate for this event.



Please treat our sponsors, organizers, and judges with the utmost respect. Without them, nothing would be possible. Consider taking some time out of your work to go meet and speak with them. If they come over to talk to you, we ask that you give them a bit of your time. They're here for you! Show them you appreciate it.



Failure to comply with the above-stated Rules and Code of Conduct may result in the offending team's disqualification.

Sample Photo Release Waiver



By attending or participating in the hackathon event, you hereby grant [the organizers] and its affiliates permission to use your likeness in a photograph, video, or other digital media (“photo”) in any and all of its publications, including web-based and social media publications, without payment or other consideration. You understand and agree that all photos will become the property of [the organizers] or its affiliates and will not be returned.



You irrevocably authorize [the organizers] and its affiliates to edit, alter, copy, exhibit, publish, or distribute these photos for any lawful purpose. In addition, you waive any right to inspect or approve the finished product wherein my likeness appears. Additionally, you waive any right to royalties or other compensation arising or related to the use of the photo.



You hereby hold harmless, release, and forever discharge [the organizers] and its affiliates from all claims, demands, and causes of action which you, your heirs, representatives, executors, administrators, or any other persons acting on your behalf or on behalf of your estate have or may have by reason of this authorization.

Sample Judging Criteria



Teams will be judged on [a specific number of] criteria. Judges will weigh the criteria equally. During judging, participants should try to describe what they did for each criterion in their project.

Rubric #1:

1

On a scale of 1 to 5 (with 5 being the highest)

Practicality did the project address a civic need?	Original is this project original? Has it been implemented before?
Accessible how inclusive is the project? Who can help out or benefit?	Sustainable Will the project be able to reach a point of completion?

Rubric #2:

2



Technology: How technically impressive was the hack? Was the technical problem the team tackled difficult? Did it use a particularly clever technique or did it use many different components?



Design: Did the team put thought into the user experience? How well designed is the interface?



Completion: Does the hack work? Did the team achieve everything they wanted?

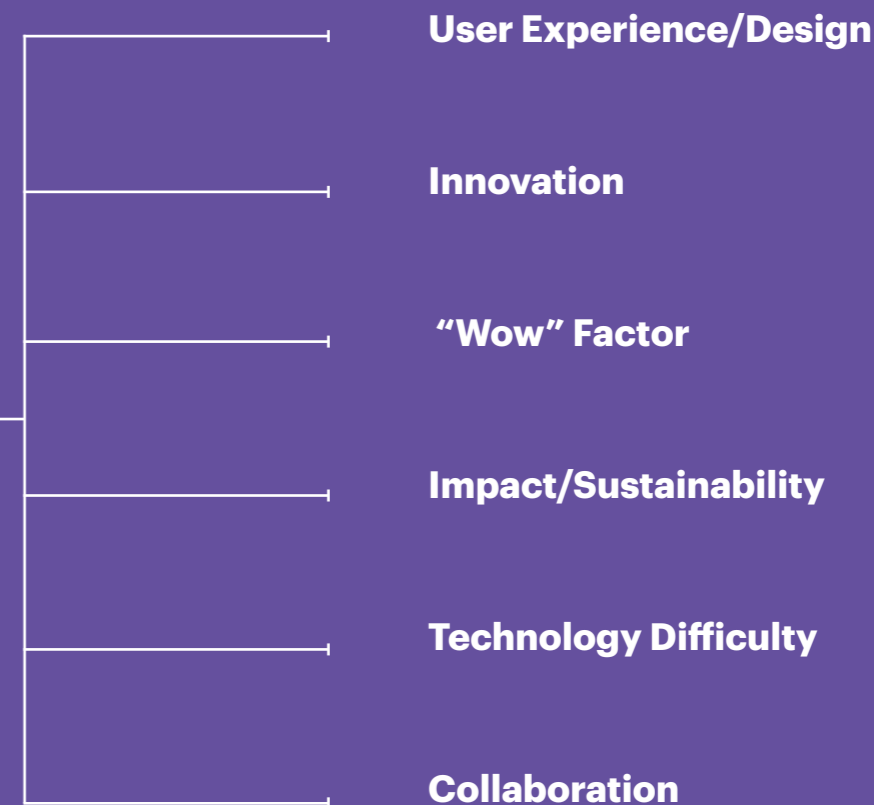


Learning: Did the team stretch themselves? Did they try to learn something new? What kind of projects have they worked on before?

These criteria will guide judges but ultimately judges are free to make decisions based on their gut feeling of which projects are the most impressive and most deserving.

Rubric #3:

3



Rubric #4:

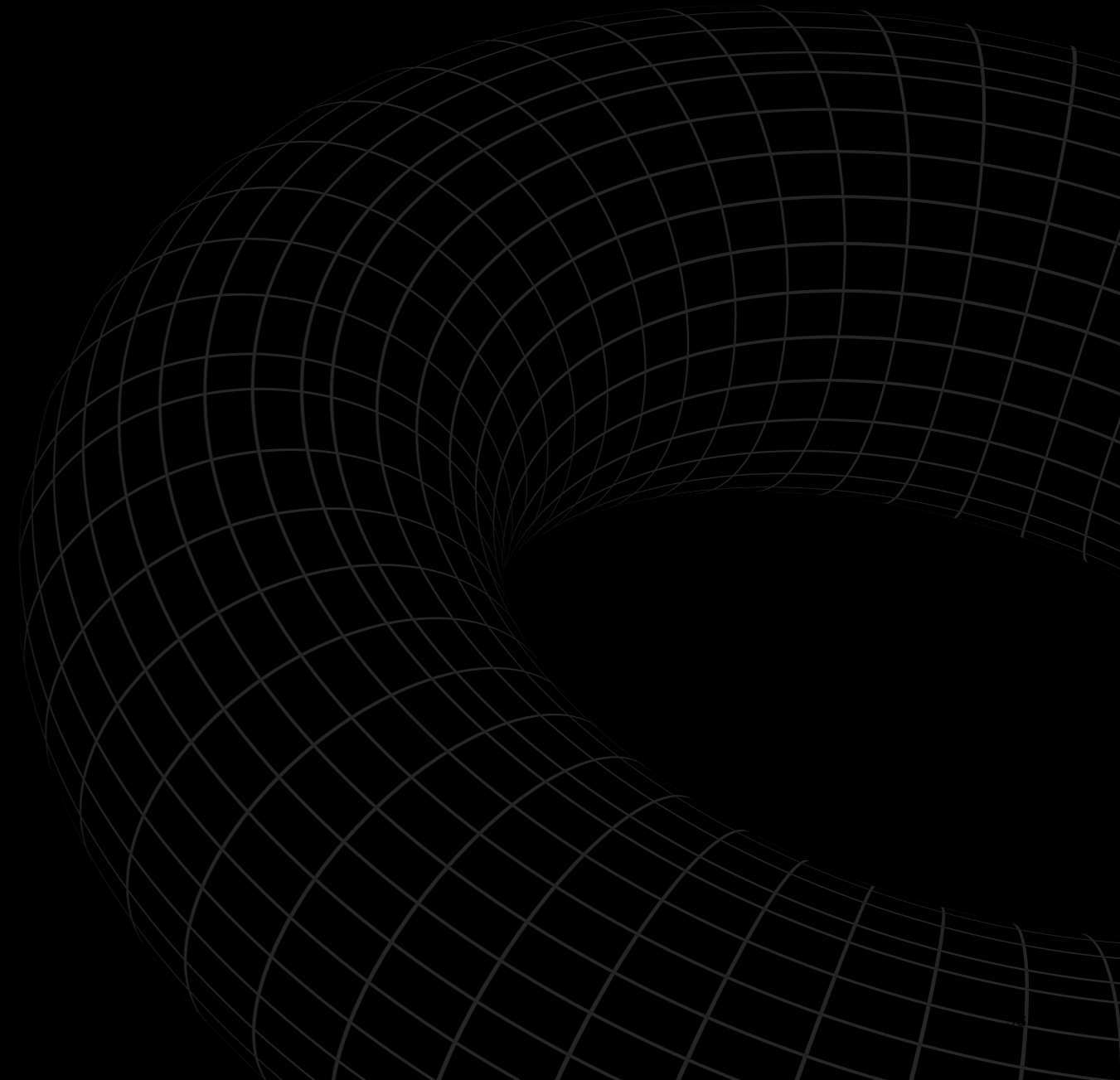
4

	Considerations	Score		
		0-10		
		0-3	4-7	8-10
Innovation	How unique or creative is the concept of the product or solution?	Concept of application is not unique.	Concept of application is unique and executed in a creative fashion	The application is a unique and creative in comparison to the other participants.
Technical Implementation	How effective is the technical approach and implementation of the product or solution on the software?	Application showed poor implementation of the desired solution and did not leverage the cloud (AWS or Azure)	Application showed average implementation of the desired solution and usage of either the AWS or Azure cloud	Application showed superior implementation of the desired solution and good use of the AWS or Azure cloud
functionality	How well does the product or solution work in terms of its claimed functionality	Application crashes on some functionality	Application works, but not fully functional	Application is fully functional
Cx Customer Experience	What is the overall customer experience using the product or solution in terms of enjoyment or ease of use?	Look and feel needs improvement. User needs help to navigate through app.	Look and feel good. Some brand guidelines were used. Main features were easy to find, some features were too buried.	Looks great. Navigation and incorporates the brand standards.

	Considerations	Score		
		0-10		
		0-3	4-7	8-10
Alignment with challenge(s)	How well does the product or solution line up with the Hackathon challenges? (Extra scenarios=+1)	Application showed poor alignment with the challenge.	Application showed average alignment with the challenge.	Application showed exceptional alignment with the challenge.
Presentation	Was the presentation organized and engaging? Did the presenters properly identify the problem they are attempting to solve and clearly articulate the way their product or solution addresses the problem? DO the presenters provide a convincing argument for their solution?	The problem is not clearly articulated, and the product or solution is confusing.	Presentation lacks style, clarity and conviction.	Presentation is dynamic, clear, concise and convincing.



Event Planning 101



Choosing the hackathon venue

Deciding where you are going to hold your hackathon needs some work.

If you are looking for a space that doesn't require you to pay, then you can look for places in a government building or a university campus. You can contact the people in charge of universities or building facilities management who can cut through any red tape.

If free venues are not available, you can approach companies that wouldn't mind freeing up space for you. You can also look for co-working spaces. Some companies host events if you agree to display their logo. If nothing works, consider going online.

You need to zero in on the right location once you know how many participants are likely to be there. You'll need enough space to seat your participants, others, and place the equipment. So, arrange for chairs, banquet-style, circular, or rectangle tables depending on what you want it for—hacking, workshop, eating, etc.



The venue must be secure for the people and the equipment; there should ideally be insurance in case of fire or theft.

Perhaps the most important of all, fast, secure, and reliable Wi-Fi for hacking and connecting all devices is the primary point on the venue checklist. Also, check for ethernet cables, ports, and servers that you need to host a successful hackathon. [Read more](#)

You will need power strips or extension cords for every table, and projector, microphone, etc. for presentations.

If your participants are under 18, you will need to satisfy any related legalities and have staff for supervision in case of overnight stay. Check if the venue places restrictions on advertising, photography, catering, and delivery.

Remember to book as early as you can and check for all kinds of fees and regulations!

Know when to approach your sponsors



Network well ahead of the event to secure funds from key players in the field. Talk to developers in your network or ask for introductions, lookout for fundraising announcements, use sites such as crunchbase.com or rapportive.com to find useful contacts.



Approach your potential sponsors keeping in mind the financial quarters when big companies are likely to have set aside a budget for similar events.



After deciding the level of sponsorships (i.e. pricing) you require, email or schedule calls with prospective companies. You should create value for tiered sponsorships to get their buy-in. Here's an example of a sponsorship package.

While you are armored with a pitch deck and confidence to sell your event, be sure all basic information has been chalked out (hackathon objectives, date, expected participation, venue, value propositions, website, etc. and the differentiating factors).

Create value for your sponsors



Be ready to offer custom packages if you can and negotiate. Sponsors can help by also giving you judges or mentors, if not money.



Make sure your sponsors are happy so that they are likely to back more events in the future. Regular professional communication is key to convincing them they got their money's worth and more.

Once the event is done, remember to thank your sponsors publicly on your website and via social media, if they allow it.

If your sponsors are popular brands, exploit the fact by displaying logos.

Hackathon promotion



Letting the world know about your event is perhaps the best way to get the right mix of attendees. You need to be very clear about what skill sets you are looking for.

Promote your event using low-cost channels—blogs, Twitter, Facebook, LinkedIn, Google Groups, Map, mailing lists, websites, and ask attendees, your employees, and community honchos to spread the word.

Use PR measures, such as a press release, to let the media know about your event, including all the relevant details (theme, vision, timeline, prizes, and sponsors).

Co-working spaces, incubators, and accelerators can help you with startups.

Contact university admins and campus ambassadors to get your foot into the academic sphere.

For internal hackathons, use emails, posters, social media, and intranet to get the employees interested; involve the management, asking them to become mentors or judges to show that everyone is working toward the same goal.

Your community managers can maximize participation using email campaigns, radio ads, and other media channels.

If you don't have enough resources to manage the promotional campaign, employ partners—advertising agencies can bring in innovative ideas, PR agencies can help with visibility, call centers can help to interact directly, and specialized networks can help with more accurate targeting and outreach. However, measuring the return on investment can be tough.

Allow for plenty of setup time and preparation



Make sure you'll have access to your venue the day or evening before the hackathon starts. You might need to set up tables and chairs, but you'll definitely need to set up signage. It should be easy for participants to find the different areas in the venue, whether it's the bathroom, the common room, or the private workspaces. The signs should also have instructions on how to access the event's wifi.



You may also want to post some signs that have the event schedule on them. The schedule should outline when meals are served, when the kickoff and prize ceremonies are, when team demos start, when the judging begins, and so forth.

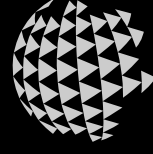


You should also prepare name tags for anyone who will be working at the event. This will make it easier for participants to know whom they can ask for assistance. For an extra dash of flair, you could even order T-shirts for the event volunteers.





مركز محمد بن راشد
للابتكار الحكومي
MOHAMMED BIN RASHID CENTRE
FOR GOVERNMENT INNOVATION



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