

Health Hackathon Handbook

MIT Hacking Medicine

`<hackmed-info@mit.edu>`

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Planning a health hackathon can be an incredible, life-changing experience, but you need to ensure you have some key ingredients before getting started. In this document, we'll take you through the who, what, when, where, and how essentials of a health hackathon.

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1 Hackathon Basics: Theme, Date, Location

1.1 How Do I Pick a Theme/Focus?

When picking a theme for your hackathon, you should consider:

- The demographic of hackers you would like to attend
- The scope and goal of your event
- Appeal and relevance

1.1.1 Demographic of Your Event

The theme can attract or repel certain types of attendees. For example, a “Mental Health Code-athon” won’t attract many mechanical engineers, as the name emphasizes software hacks. Similarly, many participants won’t know if they’d be useful at a “Digital Imaging” hackathon if they don’t have prior experience in that field. And many valuable hackers would rule themselves out of a “Mobile Phone” hackathon if they haven’t made a mobile app. In contrast, a “Global Health” or “Pediatrics” hackathon might be more generally attractive, as the topics are broad enough to inspire diverse hacks and don’t need extensive background experience in a specific field.

1.1.2 Goal of Your Event

What would you like to get out of your hackathon? Two common but different goals are to:

- Inspire innovation and impact a certain field
- Introduce or spread the concept of healthcare hackathons and inspire future hacking. If the goal of your event is closer to #1, then your theme should be very relevant to the field you wish to impact and likely have a narrower scope — examples of such themes include “pediatrics,” “rural healthcare,” “Ebola,” “maternal health,” or “digital health.”

If the goal of your event is closer to #2, then broader themes or even not setting a theme may work for your event — examples of such hackathons include the “Undergrad hackathon” or the “MGH/MIT hackathon,” where the goal was to introduce the concept of a healthcare hackathon and inspire healthcare hacking, rather than innovate in a certain field. Constraining the theme can improve the quality of the hacks. For example, by directing their thinking towards “hacking pediatrics,” hackers might create a solution to a specific problem, like, “how non-verbal kids can signal their pain levels to clinicians.”

1.1.3 Appeal and Relevance

Is your theme relevant to current healthcare issues, and will the theme appeal to hackers? Many themes are becoming increasingly frequent as their topics become more popular in current healthcare innovation — for example, wearables and telehealth. Some topics may seem more interesting and exciting to hack than others; “hacking global health” may attract more interest than “hacking colonoscopies.”



1.2 How Do I Choose a Date?

In choosing a date, consider your target demographic for participants. Most people will not be able to take off time off from work to participate in the hackathon except in special circumstances — for example, if the hackathon is taking place at an annual conference to which hospitals specifically send clinicians. As a result, most hackathons take place over a full Saturday and partial or full Sunday, with an optional evening social or workshop event on Friday.

Choose a date far enough in advance away that you have plenty of enough time to plan the hackathon; 6+ months away is optimal, 3 months is usually minimal. Try not to overlap with major holidays or other days when participants will likely already have plans (for example, from experience: D don't plan a hackathon in Boston on the same day as the Harvard-Yale game, if you're hoping expecting to have Harvard or Yale students in attendance).

Tip: Your date will likely also be restricted by your venue — make sure your venue is available on the day of the hackathon, and reserve the space very far in advance!

1.3 Where Do I Hold a Health Hackathon?

One of the key factors to holding a successful health hackathon is reserving a space large enough to hold all of your participants. One large room is preferable to several small breakout rooms (though having both a large space AND smaller breakout rooms is ideal). Try not to pick a venue that is too big for the number of people that you will host as this dilutes the energy at the event. You will need to have everyone together for kick-off pitches and final presentations — an auditorium is good for final presentations but not for the kick-off due to the fact that kick-off involves going back and forth between free-form mingling (i.e. walking around) and listening to pitches.

Other considerations are:

- having a location that is easily accessible to participants (i.e. via public transportation or by offering access to easy parking).
- the lighting of space is well suited for projections
- acoustics of space are well suited for speaking/microphones

It's great when an A/V system (projector, screen, speakers, microphones, etc.) is built into your room, but this equipment can easily be rented separately and put up for the event. Make sure your **Logistics Lead** tests all of this out before the event; two big things that make any event a bad experience for participants are (i) not being able to hear what's being said or (ii) not being able to see what's being projected. *Tip: it is nice to have any adaptors for projection (think: Mac adaptor!) for the weekend, too.*



2 Organizing Team

2.1 Who Do I Need to Plan a Health Hackathon?

The first and most important ingredient in your health hackathon planning is your organizing team. These are the folks who will be helping bring this event from an idea to reality. A health hackathon is not a one-person job. The exact number of people needed on the organizing team depends on the organizers' levels of expertise. Generally, the more experienced a health hackathon organizer, the more they can do by themselves, and so the smaller the team needed. Teams that are organizing a health hackathon for the first time will want 5 (4-6) people on the core organizing team with several other hands on deck for the actual event itself. That being said, bigger teams are harder to keep organized and on the same page.

Here is a general rule of thumb for the size of the organizing team:

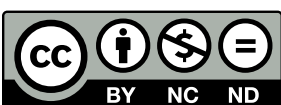
- 1-2 people are the lead organizers (i.e. responsible for oversight of everything coming together; interfacing with sponsors & obtaining funding; drafting schedules, recruiting day-of volunteers and making sure they know what to do/where to be/etc.)
- 1 person on marketing (spreading the word about the hackathon, promoting the event, reviewing applications, answering questions about the event, etc.). *The week leading up to the event this person should expect to be on email most of the time
- 1 person on logistics (reserving space, food, coffee, tables/chairs, sound equipment, A/V equipment, prototyping supplies, etc.)
- 1 person (maybe 2 people) on speakers/mentors/judges (reaching out to mentors & scheduling them to attend your event evenly spread out throughout the hacking weekend; obtaining speakers for the event if any; obtaining judges for the event; coordinating all of these people during the event & making sure all these guests feel welcome & know what to do)

2.2 Who Else Do I Need to Execute a Health Hackathon?

In addition to the core organizing team, you need:

2.2.1 Day-Of Volunteers

- Registration table (several people)
- MC (1-2 people who are present throughout the event. Must know the entire schedule very well. Ideally, they are on the main organizing team).
- 1 person: timing pitches
- 1-2 people: helping people submit their pitch on a laptop
- 1-2 people: interfacing with the food/drinks/etc. Greeting delivery people, paying, etc.



- (1 person: logistical lead for A/V, lights, etc.)
- FAQ table (1-2 people who are planted there throughout the event to answer questions and refer people to those that can help them).
- 1 person to welcome mentors. This person’s job is to know which mentors are there (i.e. their areas of expertise) and connect teams to relevant mentors.
- 1 person to time final presentations
- 1 person for judging deliberation room

2.3 The MC’s Job

The MC’s job is to be the face of the event day-of to participants; MCs deliver the opening presentation and closing ceremony of the hackathon, facilitate speakers and pitches, and make sure the hackathon is running on schedule. MCs should know the hackathon schedule very well and be very comfortable with public speaking and working with people. Choose 1-2 MCs for the event who can either speak together or switch off throughout the day; ideally, the MCs would be on the organizing team of the hackathon so that they are extremely familiar with how the hackathon will proceed. An example schedule for MCs during a hackathon is listed below:

2.3.1 Day 1

10:00 AM Gather participants into auditorium; welcome participants to event. Deliver hackathon 101 presentation.

10:15 AM Introduce speakers. Facilitate changing between speakers/putting up speaker presentations.

11:00 AM Review how to pitch instructions for participants. Facilitate hackers coming on stage, giving their pitch, clapping them off, and directing them off stage.

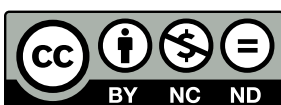
12:00 PM Facilitate second round of pitches.

1:00 PM Disperse hackers to start team formation.

1:00 PM-8:00 PM Make occasional announcements about food/resources, check-in with teams and mentors.

2.3.2 Day 2

- 10:00 AM: Welcome participants to day 2. Make announcement about final presentation submission deadline.
- 11:00 AM-1:00 PM: Setup/assign practice pitch times and facilitate practice pitching (rotate mentors who are judging practice pitches, keep track of time, lead teams in/out of the practice pitch room)



- 2:00 PM: Usher participants into final presentation room, begin final presentations. Announce which teams are up to present and which are next; change the projected presentation between teams; lead teams onto/off stage; keep time for presentations and clap off teams.
- 3:30 PM: Introduce/facilitate speaker (while judges are deliberating)
- 4:00 PM: Present closing ceremony and awards; congratulate winners and bring them onstage to take pictures. Bring the event to closure.

3 Sponsorship, Prizes, Partners

3.1 How Do I Get the Resources to Hold a Health Hackathon?

Costs for running a health hackathon vary based on number of participants and hackathon location. A health hackathon for 100 people can be run as cheaply as \$2,000-\$3,000 if you don't need to pay for space and can easily go up from there.

***Note:** You should generally budget extra money for unforeseen expenses that will undoubtedly come up.*

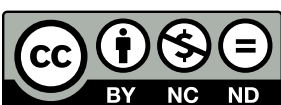
In raising money for your event, it is best to find a sponsor for your event that has vested interest. One way is to reach out to companies that have an interest in the theme of your health hackathon. Companies pay large sums of money each year for marketing and recruitment. A health hackathon is a fantastic way for them to get their name out there to people who are in their field of interest and to recruit participants. Check out the health hackathon database to see what companies have sponsored health hackathons in the past and get ideas for who to reach out to:

<http://hackingmedicine.mit.edu/health-hackathon-database/>

***Tip:** Find out how much companies pay to have a booth in the career fair at your local university. Use that number to set the sponsorship amount for your health hackathon. At a health hackathon, companies will have even more access to students than at a career fair.*

Remember, you do need some money to run your event, but you also need other things, and companies that may not want to give monetary sponsorship may be happy to provide those. For example, sometimes companies will donate space for your health hackathon. Other times companies will donate prototyping supplies, mentorship, a monetary prize, an experience/opportunity prize, food/drinks, etc. Be sure to explore these alternative types of sponsorship options with the companies you reach out to.

Another approach to finding a sponsor is to identify a hospital or healthcare institution in the area; often hospitals have space they can donate, and can also publicize the event within their network of healthcare professionals (to help increase clinician and caregiver participation). In addition, in special cases, we have been able to provide tours or a specific experience throughout certain areas in the hospital to give participants insight into the inner workings of healthcare, which many participants have never had access to before.



3.1.1 What Benefits Do Companies Get out of Sponsoring a Health Hackathon?

- Recruit talented people to their company. Hackathons are substitutes for networking events/recruitment fairs and are better in the sense that they allow companies to see what participants can actually accomplish and how they work on teams. Some hackathon applications have a place for applicants to upload their resumes which are then passed on to sponsors.
- Learn a new model by which to go about innovation. One of our sponsoring companies held their own internal hackathon one month after sponsoring ours. They said that by sponsoring a health hackathon they learned a new model by which to stimulate innovation in their own company.
- Be inspired by new ideas and fresh perspectives to bring back to their business
- A new way to do marketing and get their brand out there to innovative, tech-savvy, healthcare-minded people in their area

Note: We tend to be wary of giving sponsors time to pitch their companies at the health hackathon. This tends to turn off participants. Companies are very welcome to talk at the hackathon about problems within healthcare or paint a picture of the technology landscape within their sector.

3.2 What Prizes Should Be Given out at the Hackathon?

The quantity and type of prizes you choose to award to participants are important to nail down at least 2 weeks before the hackathon. Typically, we at least have a 3rd, 2nd, and 1st place winner, and each are awarded monetary prizes in successively higher amounts. The exact amount of the prize is entirely dependent on your budget and how much you are able to fundraise. The pot for first place has varied anywhere from \$200 – \$2000 at our hackathons.

While the delivery of monetary prizes are a great way to end the hackathon and an added incentive to participate, we try not to keep the focus on the monetary incentives but rather the potential these teams have for succeeding even past the hackathon. Thus, we also try to scope out prizes that allow teams to take their project a step further: mentorship with key experts post-hackathon; the opportunity to apply or gain entrance into an accelerator; the opportunity to be highlighted at an upcoming entrepreneurship fair or conference.

We also have begun a prize at MIT HackMed that is awarded one month past the hackathon: all teams are invited to apply 2-3 weeks after the hackathon and the team that's had the most promising progress is awarded cash or other prizes. Before deciding to offer this type of prize, recognize that it requires more work post-hack—it won't be over yet! If you do decide to offer this opportunity, make sure to announce it during the prize presentations.



4 Speakers, Mentors, Judges

4.1 How to Select and Approach Speakers?

Speakers set the tone for the entire event which follows. The speakers you bring in to your event could come from a diverse variety of backgrounds, but in general, you'll want the people you choose to be familiar with some aspect of the health tech industry and optimistic about the role that health hackathons play in shaping it.

Speakers who have previously attended health hackathons tend to give talks which are more directly relevant to the experience that your participants will have during the event, but other speakers can provide bigger-picture insight about the future of healthcare; either can be appropriate for your event. Some ideas for choosing speakers include:

- Previous hackathon winners
- Previous hackathon participants who continued their projects after the events
- Physicians who have worked to grow ideas that have come out of health hackathons
- Founders or influential employees at health tech startups and larger companies

Once you've narrowed down a list of potential speakers, you'll need to be strategic in how you contact them. Particularly for big-name speakers, reach out to your network and ask to be introduced to the person in question. Be sure to explain what a health hackathon is if the potential speaker is not familiar with one. Once someone has agreed to be a speaker, feel free to follow up with them prior to the event to make sure that any slides or notes they have prepared are in line with your vision for the event.

4.2 How to Find Mentors?

Mentors are a critical resource for the success of a hackathon, and it is the job of the facilitators to make sure they are selected and deployed in the most optimal way. Mentors are experts that can:

- Help a team gain more insight on the problem or solution they are hacking.
- Provide a skillset the team does not have, such as coding.
- Shed light on aspects of the project the team may not have thought of.
- Help them pivot.
- Help them think through their hacking process.

A good mentor is engaging and helpful, avoids tearing down teams ideas in a destructive way, and instead directs conversations in a constructive way, building upon what has already been done by the group.

You'll need to look in many places to find different types of mentors — and you'll probably be looking for a healthy mix of engineers, healthcare professionals, and business experts, among others.



4.2.1 Engineering Mentors

- Engineering companies sponsoring your event can send technical mentors to the event — this is a benefit that can be included in sponsorship packages for the event.
- Participants in similar events often have expertise which makes them useful as mentors; for example, participants from software hackathons can be useful engineering mentors for healthcare hackathons.

4.2.2 Healthcare Professionals

- Healthcare professionals provide much-needed clinical expertise to teams. This allows teams to verify that they are on the right track with their innovation: does it actually solve a clinical need, does it fit into a typical physician workflow, would it actually improve processes or quality of care? The right clinician mentor has depth of clinical experience in their field. Many hospitals have communities of physicians interested in medical technology innovations that you could contact to find mentors.
- Some medical technology start-ups employ a CMO, or Chief Medical Officer. CMOs are typically clinicians who have practiced medicine in the past. If any local start-ups or companies have similar positions, reach out to the CMOs and invite them to be mentors at your hackathon.

4.2.3 Business Experts

- If you are affiliated with, or are located nearby a university, look into whether they have accelerator/incubator programs for start-ups. Alumni from these programs typically have exactly the right type of business insight needed for the early-stage teams found at hackathons.
- Source experts from entrepreneurship-focused meetups (for example, meetup.com)
- If you have any connections at a local business school, try to find folks in the community that have a lot of entrepreneurship/new venture experience in the field that is the focus of your hackathon.

You can also open up a general application or call for mentors to your network, but you'll likely need to screen those who apply to make sure that the mentors at your event are effective in helping participants.

4.3 How to Select and Approach Judges?

Typically, we have 3-5 judges for the final presentations. It is essential that they have diverse backgrounds, so that together they can assess and comment on all aspects of the hacks that are presented. As with mentors, we generally like to get:

- A healthcare worker.
- An engineer, programmer, and/or scientist.
- Someone with entrepreneurial experience in the healthcare space.



Focus on finding people who will be able to give specific and useful feedback, not just identify winners. This is a chance for teams to get valuable insights if they want to continue to work on their ideas after the hackathon.

In order to approach judges, you can do one of two things: start with a wishlist and try to find people using your network; or start from your network and see which influential people you can get connected with through it.

For the first method, you can draw from a similar list that you would make for your dream speakers, as well. In order to get in touch with them, try to find a common contact. Rack your brain for people you know that may even peripherally be able to get you in touch with these people. Don't hesitate to send emails to many possible leads to get to that person. Even if your dream candidate may not be free, sending all these emails may get you in contact with an alternatively impressive speaker or judge.

5 Marketing

5.1 What Type of Participants Do I Need at My Event?

Hackers are the core of the event and make hackathons successful. It is absolutely critical that you recruit hackers with diverse skill sets and experiences at your hackathon, both from the healthcare community and outside it. We usually recommend roughly 25% medical professionals, 25% engineers, 25% designers, 25% business people and entrepreneurs, with a healthy dose of others – scientists, patients, hobbyists, policy makers, caretakers, athletes, students. The great thing about healthcare is that everyone has experienced it, and everyone has a perspective to share.

If you're organizing a themed hackathon, then you want to think about having some of your hackers (30-50%) come in with relevant experiences. For example, if you want to hack the breastpump, then reach out to moms. Or, if you want to hack wearables, then reach out to engineers with the relevant programming experience.

5.2 When Do I Start Publicizing My Event?

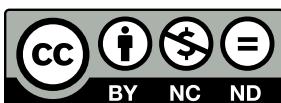
Ideally, you should begin publicizing your event 6-8 weeks prior to the event. This gives participants ample time to plan, but is not so far in advance that they forget about the event or wait to sign up. It is advised to include an application form within your marketing efforts, and accept participants on a rolling basis.

You may choose to send a save the date email a few months before the event or give people a link to sign up so that they'll get an email when the application goes live.

If you're hoping to get participants traveling from different cities to your event, it may make sense to start accepting applications earlier than 8 weeks before the event so that they can make travel plans.

5.3 How Do I Attract People to My Hackathon?

Invite them to come! Engage the community through emails, posters, social media, and just plain old telling people about your vision for hacking healthcare. You might want to consider reaching out to hospitals, schools, businesses, meetup groups, start-up incubation spaces, or even networking events. In



addition, if you are a student, think about engaging and reaching out to all of the student group/club listservs that your institution has. It is especially useful to use sub-group listserv for speciality skills, i.e. if you plan a health IT themed hackathon, you may want to target a programming group of students, or a computer club. In addition, if your institution has an entrepreneurship center/group on campus, seek their assistance in reaching out to students and alumni that have entrepreneurial interests already.

5.3.1 Common Points to Emphasize to Participants When Marketing Your Health Hackathon

- They don't need technical knowledge to participate
- They don't need to have ideas coming in
- They should bring their enthusiasm and energy!

The following subsections give you some pointers on how to target the main groups of hackers: medical professionals, engineers, designers, and business people and entrepreneurs.

5.3.2 Reaching Out to Medical Professionals

Attracting medical professionals takes a few months of groundwork before the event. There are two general avenues: hospitals and medical schools.

Hospitals: Start engaging doctors and nurses at hospitals at least 2 months before an event. To connect with a hospital, find a point of contact at the hospital who is excited about the hackathon. If the hospital has an innovation department, then start there. Even if they don't, if you know at least one doctor at the hospital, he/she can connect you with more senior staff who can send emails out to publicize the event.

Medical Schools: Students might more readily relate to a hackathon. Medical students are well connected, and they can put you in touch with doctors or senior faculty through their institution.

You will know when you succeed doctors and medical professionals will begin emailing you questions or submitting their application to participate in the hackathon.

Developing relationships with hospitals and medical schools will also give you a great pool of mentors whom you could handpick to help with your event.

5.3.3 Reaching Out to Designers

Designers, especially those with expertise in user-centered design, give teams a huge advantage at hackathons. It's critical that the audience and judges quickly grasp the power of the idea. Designers excel at creating products and services that are easy to understand and use. They also know how to test product ideas without fully building them, which enables teams to rapidly iterate.

Some designers can make beautiful wireframes, and they will boost any team's chance of winning. However, the real power of a user-centered designer is in answering these critical questions:



- How does the end user see, experience, and respond to the problem?
 - Many teams build something that nobody uses, because they framed the problem in a business or technical way that doesn't match the user's perspective.
- How can users intuitively understand why the product matters?
 - Even products with useful features won't be used if the interaction is confusing or unappealing.
- How can I quickly test ideas before engineering anything?
 - By creating mockups, paper prototypes, foam representations, lightweight services, or a host of other tools, designers can help teams quickly test ideas before heavy duty engineering is required.
 - PillPack, a company with roots at an MIT Hacking Medicine hackathon, often cites how design thinking and low-tech prototyping let them quickly advance their ideas before they invested time and money in engineering.

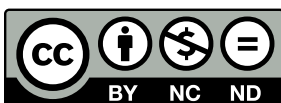
To attract designers, emphasize the following

- Many of healthcare's problems are caused by no one taking a human-centered design perspective. There's so much opportunity for impact by any designer with training in user-research and human-centered design.
- Most things in healthcare are ugly, so solutions with careful design consideration will stand out no matter what problem you choose.
- The doctors and healthcare professionals participating often offer designers easy access to their end-users.
- Healthcare is complicated, and the end-user is rarely the buyer (the one who makes the decision to pay for the product or service). But that's why you're bringing business experts in healthcare, so designers can identify relevant stakeholders faster.
- There will be engineers who can bring your designs to life.
- There will be business experts who can help create a business around the designs.
- Teams who have beautiful wireframes that engineers endorse tend to win.

5.3.4 Reaching Out to Engineers

Engineers want to use their technical skills to have a real impact. To attract this group, emphasize that a healthcare hackathon is a rare opportunity for them to:

- Solve important problems. Unlike most other pizza-fueled hackathons which often result in entertaining but not impactful toys, this time their hacks can address real pain points in healthcare.



- Implement creative technical solutions. Engineers don't need to come in with hack ideas – that's why there are medical professionals who can pitch about hackable healthcare problems. It is the combination of skills at healthcare hackathons that will stretch engineers to apply their technical skills in innovative ways.
- Be a team player no matter their skill level. Even if someone is a beginner coder or engineer, having even a small amount of technical insight will be a huge boost to any team.

The theme can attract or repel certain types of hackers. For example, a “Mental Health” Code-athon won't attract mechanical engineers, as the name emphasizes software hacks. Similarly, many engineers won't know if they'd be useful at a “Digital Imaging” hackathon if they don't have prior experience in that field. And many valuable engineers would rule themselves out of a “Mobile Phone” hackathon if they haven't made a mobile app. In contrast, a “Global Health” or “Pediatrics” hackathon might be more generally attractive, as the topics are broad enough to inspire both hardware and software hacks and don't need extensive background experience in a specific field.

One challenge for engineers at hackathons may be that they do not see the need for non-technical teammates during the hackathon. **It helps to have examples of projects that came out of other hackathons. Here are some projects that came out of “Hacking Pediatrics” in October 2013:**

RightByte mobile and Web platform enabling parents to find recipes for kids with food allergies

The Comfy Ball a smart squeeze ball for a child to easily signal, assess pain to clinicians

PediArt interactive art exhibits for pediatric patients

Seizure Avengers sensor data to manage seizures in kids

Close The Loop a mobile platform empowering patients and families to coordinate their care

CueME connect and inform concerned family members about patient's care

Team NORA networked operational research assistant for clinical trial adherence

Kidnect engage chronically ill kids in classes

eNgage using robot to engage kids in treatment adherence

The Tinkerbelle Project helping families transition to psych unit at BCH

Greenlight crowdsourcing innovative ideas in healthcare

Emo Band helping parents gain insights into their kids emotions

Kids in Motion/Vamonos! getting kids active with gaming

VPShunt hardware solution for hydrocephalus

PAIN Away a mobile solution to help clinicians and families with patient pain management



Happier Meal mobile solution to incentivize kids to eat better

As you can see, there was a diversity of software and hardware hacks. *Rightbyte* was a web platform (for parents to find recipes for kids with allergies), while *Comfy Ball* was a tangible squeeze ball (for children to signal their pain level to clinicians).

5.3.5 Reaching Out to Business People and Entrepreneurs

Business experts are critical in healthcare hackathons. Healthcare solutions are especially difficult to implement and scale because the business side is hard. Hackers with business and entrepreneurship experience will help ensure that the solutions created are economically feasible.

Entrepreneurs (or entrepreneurial aspirants) with healthcare interests will be self-motivated to attend a healthcare hackathon. It might help to highlight that the event is an opportunity to meet with potential team mates to work on business ideas. Another tact would be to showcase impactful hacks that have become successful ventures. Some examples from our hackathons include PillPack, SmartScheduling, AIR (Augmented Infant Resuscitator).

5.4 How to Create an Application

Creating an application for your event is beneficial for several reasons. Having all participants fill out an application is an organized way to obtain important background and contact information. The background information can be used to screen applicants in order to select those who are a good fit for the event. Fit is discussed in more detail in the following section. The contact information enables event organizers to reach out to those interested as the date of the event approaches.

In terms of background information to collect on the application, we require all applications to include a section which allows the participants to self-categorize themselves as (not limited to just these categories, example only):

- Entrepreneur/Business
- Scientist/Researcher
- Clinician
- Engineer
- Developer

This categories are important to screening for an equal allocation of participants with assorted backgrounds, and each applicant can span more than one category!

Additionally, we encourage the inclusion of an application prompt requesting applicants to briefly summarize their personal background – including a further explanation of why they are interested in participating.

We also **require** applications to include a quick criteria on time commitment for the event – example: If accepted, how much time can you commit to the event – both days? One day?



In addition, we encourage an application section which prompts potential participants to describe any needs, pain-points, or ideas that they want to pursue and pitch the day of the event. This provides event organizers with a pool of problem statements and individuals capable of pitching their ideas during the {insert link to problem pitching session}. From an event planning standpoint, asking this information in the application may lead to the discovery of common pain-point themes. Having this knowledge of likely problem pitches early in event organization process allows organizers to plan for and pursue the types of mentors that are likely to better fit the requirements of the participants.

Overall, the application needs to be **concise but allow for gathering the critical information listed above, and we recommend testing to ensure it does not require more than 5 minutes for applicants to complete** – this will help maximize potential engagement.

5.5 How to Review/Select Applicants?

Screening applicants should be performed on a rolling basis. This also depends greatly how much time exists between the day the application goes live and the day of the event. In our experience, this time has ranged from many weeks to a few days.

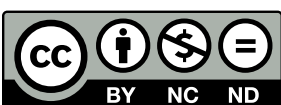
Being mindful of how much time is available, the organizers can use the answers obtained from the application, namely their personal summary and potential ideas they want to present at the event along with attaining a relatively equal breakdown of participant across all the categories to select applicants. Preference is also given to applicants that have committed to the entire duration of the event. This latter criteria is a means to prevent applicants that just want to show up and poach ideas. We want to foster a safe, inspired, and energized environment – and individuals that are looking for a quick-idea can sour the atmosphere.

Ultimately – if you’re in the positive situation of having too many applicants for your event, use your best judgement to narrow down your selections! **Our best advice is to screen for commitment, skill diversity, and genuine interest.** And even a best effort may result in a few applicants that may have overstated their applications.

When applicants are selected, notify them of their acceptance, re-state the logistical details (start time date, event location etc..) and gently remind them to once again begin brainstorming and writing down their potential needs, pain-points, and ideas for the event.

Be sure to check with any of your event sponsors for participant restrictions. There may be certain legal restrictions that could limit the type of participants that may attend. A noteworthy scenario to be aware of is that sometimes, for intellectual property reasons, participants may be required to have a student affiliation. It behooves the organizers to find these type of restrictions early-on, as this will appropriately guide marketing channels to better cater to applicants that fit the desired profile.

Finally, as with any event, attrition from participants (family, work, travel, and last minute emergencies) is an issue the organizers should plan for ahead of time. An attrition rate of 25% is a common amount to budget. Additional attrition rates can also be expected based on local events and holidays. An extreme example would be that a hackathon hosted on Super Bowl weekend would likely have significant attrition. More realistic scenarios to account for include other healthcare conference, long weekends, or popular local events. Plan around these events to the best of your ability ahead of time.



6 Logistics

Logistical planning remains one of the most critical components to creating a successful hackathon, but its importance is often overlooked. Planners feel that they can wing it, and logistics get shelved. Broadly speaking, an event had good logistics if things went smoothly. If things went poorly, you probably had bad logistics.

So how do you make sure your event is one of the bright, shining beacons of good logistics? Well, let's first understand why bad things happen during hackathons.

Here are some cases where events had mediocre logistics leads. Once, the logistics lead didn't consider that some people are vegetarians, and failed to order vegetarian options. Hungry hackers are unhappy hackers. At another event, hackers struggled to continue after only a few hours due to missing power strips at each table and bad WIFI. Noticing a theme? Poor logistical planning stems from an inability to proactively accommodate reasonable scenarios and requests that may come up during the hackathon.

So pick someone who is capable of being detail oriented, open minded, and adaptable. Still struggling on whom to choose? Imagine that you had to throw a casual dinner party. Who would ensure that it went smoothly? Who would pick the right music and make sure everyone had a place to put their coats? That's who you want in charge of logistics.

Planning ahead is critical, but be prepared to adapt on the fly. Or as we like to say, build the plane while you fly it. Planning is of critical importance, but there is no amount of planning that can prepare the event organizers for every possible scenario. So take a deep breath, smile, and be prepared to roll with the punches.

When it comes to day of logistics and general flow of the hackathon, there is no substitute for ample on-demand support. A point person (or two) is critical to make key decisions, but it takes a great team to throw an exceptional hackathon.

We've compiled a list of useful resources to guide you through the logistics of a hackathon.

6.1 Bare Bones Logistical Concerns by type

6.1.1 Venue

- Food (*Remember to consider dietary restrictions!*)
- Drinks (*Coffee is very important for Hackers*)

6.1.2 Equipment, Supplies, and Set-Up

- AV needs (video, photography, microphones, speakers, projectors, display adapters, power strips for each table)
- Stage Rental (if needed)
- Lighting (blinds)
- Equipment Rentals



- Custodial Services
- WIFI

6.1.3 Room Setup/Reset

- Registration area/workflow
- team seating (reception style)
- stage/presentation area
- pitch practice area
- restrooms & water fountains
- handicap accessibility

6.1.4 Prototyping equipment

- Ideation tools (sticky notes, posters, markers, sharpies, etc)

6.2 Venue

You have (hopefully) already given some thought to the location of your event using the tips in the Hackathon Basics section. As you delve into logistics, you should start considering the hour-to-hour flow of your event and how you can optimize everyone’s experience without making life too hard for those involved in planning and executing your awesome hackathon. What we mean is: how can people access whatever they need think information desk, coffee, snacks, restrooms, a more quiet spot to take a phone call without disrupting the work of all the teams hacking away?

It’s not too hard to make this go smoothly. You just have to take a moment and think about the space(s) you have available for your event, to strategically place specific stations (info, food/drink), tables and other furniture that teams will congregate around. The goal is that people can pop in and out discreetly whenever necessary and that, when time comes for meals, you don’t have to do crowd control of a starving army that’s taking over the main room trust us, it can happen!

We usually do this by setting up a few large tables right where participants come in to create a reception desk, and some more tables with water, coffee, and snacks right outside the main hacking room to create food stations. We use the reception desk as an information booth throughout the event, and the food stations as serving spots for main meals.

The reception desk should be manned heavily during registration on the first day and at the beginning of every day thereon, while it’s good to keep at least one member of staff there at all times to provide information and answer participants questions. This makes things a lot easier than having participants roam around the main room looking for one of the main organizers to ask things like where’s the restroom? or when is lunch arriving? or we’re out of stickies where can I find more? The organizing team will have



tons of last-minute, unexpected issues to troubleshoot day-of, so you really don't want to have to deal with fending such requests in addition.

People often end up lingering around food stations and chatting, so it's an added bonus (but not a requirement) to have some lounge-like space adjacent to the food tables where they can take their conversation.

6.3 Food and Drinks

If you're running a two-day, weekend hackathon, you probably are going to be responsible for providing breakfast and lunch to 50+ people. At our hackathons, we budget to provide certain meals for participants: typically breakfast, lunch, and dinner on Day 1; and breakfast and lunch on Day 2. Providing the meals for participants allows them to keep focus on their projects without worrying when and where they will get food, and helps keep spirits high. What you buy can vary depending on your budget, but we recommend going as simple as possible. For breakfast, have muffins, bagels, cream cheese, and possibly fruit for food. Have coffee, water, and juice. For lunch, do something simple like pizza or sandwiches, bags of chips, and cookies for food. Water and soda for drinks. Want snacks throughout the day? Cookies, fruit, and chips suffice.

If you're on a tight budget, pizza can suffice for dinner. We typically go with Thai or Indian delivery.

Coffee is an extremely important hackathon fuel and energy-booster as hackers work late into the night. Depending on your budget, try to at least make it available at the start of each day. If you can, planning on more coffee delivery later in the afternoon of Day 1 can be helpful for teams as well.

6.4 Equipment, Supplies, and Set-Up

See Set-Up section under Day 1.

6.4.1 Photography / Videography

Photography and Videography is good for PR and documentation. Ideally, one should enlist friends to do this, otherwise a professional will be really expensive. However, prices do depend on area and so there is no harm in calling around to get quotes if you might have the budget for it

6.5 Prototyping Equipment

Prototyping enables teams to progress on their ideas much faster. Here are some good tools for the following categories.

Design thinking and ideation: Sticky notes, poster/white butcher paper, and sharpies.

Mock-ups for software screens: Blank paper, rulers, sharpies.

Hardware: You could buy sensors and microcontrollers, but most people don't know what to do with them, and they're pricey. Give teams a \$50 budget and tell them to buy what they need from a store



like Microcenter or Radioshack. We found this to be highly effective, as teams with engineers knew what they needed.

Prototyping physical products: You can buy foam and cardboard, but like with hardware, it's easier to give people a budget and let them buy what they need.

Manufacturing: If you're especially targeting mechanical engineers, consider getting access to machine shops or 3D printers. If not, then don't worry about it. Most people who aren't already good at CAD won't finish making something in 2 days.

Coders: Make sure your wifi is super strong everywhere, there isn't a limit to the number of IP's that can connect to the network, and that you have plenty of power strips and extension cords. Other than that, can you send this link out to people at the hackathon:

<http://www.mashery.com/blog/how-rock-your-first-hackathon-tools-and-resources>

6.5.1 Making the Event Family Friendly

- xbox / kinect
- legos

7 Day One

7.1 Timeline Overview

- Early morning setup
- Registration
- Welcoming participants
- Keynote speeches
- Hack 101 presentation
- Problem Pitching
- Mingling
- Solution Pitching
- Final Team Formation
- Team Registration
- Hacking



- Eating/Coffee
- Mentorship
- Wrapping up Day 1

7.2 Set-Up

7.2.1 Stuff you need

Tables & chairs for participants to hack at (preferably lots of separated tables so that each team of 4-7 people can claim one). Note: It is likely that participants will move them around once they self-select into teams and make their own organic space.

Projector & screen in a place that's easily visible by everyone.

Extension cords, power strips, duct tape Bring duct tape/gaffers tape to secure the long wires down to the ground so that people don't trip.

Speakers & microphones Make sure that these are working. You should have at least 2 working microphones to facilitate the pitching session.

Food/coffee tables Put these somewhere close to the entrance for ease of delivery throughout the day (and minimally disturbing the hackathon when delivery does happen). *Don't forget to ensure that you have plates, cutlery, and cups – some catering packages come with them, and others don't.*

Registration table Ensure it's close to the entrance where people come in .

Prototyping/materials table Lay out all the materials/resources you'll be providing.

7.2.2 People you need

- The logistics lead needs to be present & direct people on what they should be doing.
- Depending on the size of the hackathon, get as many people as needed to setup the above.

7.3 Registration

At the registration area, participants will:

- Get their name tag.
- Be greeted by friendly faces of hackathon organizers.
- Get settled into the space, mingle with new people, get breakfast/coffee.

For organizers, the goal of registration is to:



- Figure out who from your applicant list actually showed up
- Welcome mentors and clinicians
- Get people excited for the event

7.3.1 Name Tags

Have name tags for all of the participants. Our favorites are the blank, sticker ones, so that people can easily write their names and area of expertise. It'll also save you time as the organizer.

One way MIT Hacking Medicine makes it easy to identify expertise is to buy small colored stickers like those shown in Figure 1.

We then have a sign on the registration table that maps color to expertise (ex. red = clinician, green = designer, blue = engineer, yellow = business), and then people can just stick the sticker on their name tag. This makes it easy to find teammates later on.



Figure 1. Registration Stickers

7.3.2 What to do at the registration table

- Have at least 2 people
- Each person should have the list of participants either on a computer (which is easier) or on a printed sheet
- Mark off people when they come in
- Add new people to the bottom of the list

7.4 Welcome!

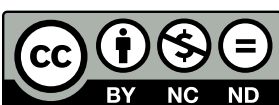
Once a critical mass of participants have arrived (hopefully very close to the starting time you announced), it's time to kick-off the event! Remember, first impressions are important so set the energy level where you want it to be (i.e. extremely high!)

If you have any speakers this morning, they should speak here. Thanking sponsors generally happens here as well.

Tip: It is helpful to get any speakers' powerpoint slides they intend on using in advance of this morning, so that you can load them on the laptop being used for presenting and ensure that they work without any problems.

7.4.1 List of Organizers you need

- The MC or MCs to give the welcome
- Speaker or speakers speak



7.5 Keynote Speeches

After the welcome and before you get into the nitty gritty details of what participants can expect from the weekend, you may choose to have 1-2 keynote speakers kick off the morning of Day 1 with high-energy, condensed (no longer than 5 min) and meaningful talks. Keynote speeches can be a great way to introduce major themes in the healthcare industry that require innovation; to bring credibility to the hackathon (if the speakers are well-known enough); and to spark ideas and energy in the participants.

If you already had a pre-hack event (we sometimes host these the night before the hackathon to promote mingling and build energy for the two days ahead), it may be repetitive and cause a loss in momentum to have keynote speeches again on Saturday.

One major pitfall is inviting speakers who speak too long or are boring. It is extremely important to avoid this. This is a high-energy point in the hackathon, so recruit engaging speakers who can connect with your audience and stay within the time limit!

7.6 Hack 101

The Hack 101 presentation will give participants an overview of what to expect. This is your chance to lay down ground rules. Check out the video below and our slides to see how we like to do it.

7.6.1 List of Organizers you need

- Just the MC(s) to give the Hack 101 presentation

7.7 Problem Pitching

Now participants get the chance to get their hands dirty!

This is an opportunity for someone excited about a healthcare idea to come up to the front of the room and have the microphone for 60 seconds. Here's what we tell participants:

When it's your turn to pitch, say your name, your number, a sentence about yourself, and then explain the problem you want to tackle in healthcare. Tell a story about it. What is the problem? Who is suffering because of it? Why is it important? Don't tell us about the solution yet. Just focus on painting a picture of the problem.

7.7.1 List of Organizers you need

- Timer: sits near the front of the room and starts clapping exactly 60 seconds into each person's pitch
- 1 person handling the microphone: passing it between participants
- 1-2 people handling the computers where participants enter in their pitches
- 1 person giving out pitch numbers to the participants waiting in line
- Optional: 1 person (could be the microphone person or computer person or someone else) does a practice pitch



7.7.2 Organizing the Pitching

As soon as you've given your spiel to explain pitching, here's what you do

- Have participants line up on one side of the room leading up to the stage.
- Give everyone in line a sticky note with a number.
- Participants will pitch using the microphone at the center of the stage. Tell them to hold up their pitch number and say it out loud.
- When 60 seconds are up, the participant will walk off on the opposite side of the stage from where they entered.
- Once off stage, have the participant fill out the pitch registration form (a Google Doc/Spreadsheet, for example) so that you have records of the ideas that were pitched.
- After all the pitching is over, have the pitchers stand by their number so they're easy to find.

7.7.3 The Pitch Registration Form

The pitch registration form makes it easy for you to help participants locate one of the pitchers can check the form for the person's name and pitch number. Typically, we will publish the results of this form onto the hackathon's homepage, or send it to all participants via email after it is completed, so that participants can reference it later. In general, the form is simple and asks for succinct answers to the following: name, background, contact info (email/phone), and problem they pitched.

7.7.4 Clapping off to keep time

Clapping off is a nice way to cut people off for time. Warn people that when they have reached their 60-second time limit, they will be clapped off, i.e. people will start clapping over them talking until they stop. The MC can take the initiative by cheerfully and loudly clapping when their time is up. Everyone else will join.

7.7.5 Example Pitch

It's often helpful to do an example pitch if there are a lot of new people in the room. Have one of your organizers give a problem pitch that is longer than 60-seconds and practice clapping them off.

7.7.6 Pitch Numbers

The pitch number makes it easy to find people you want to talk to during the mingling session. Give each person doing a pitch an oversized sticky note with a number on it right before they go up to give their pitch. You can just stick their number on them, because often people leave the piece of paper on a table and forget to carry it.



There are two options for how participants can find people whose pitch they liked. One option is to put numbers along the walls or on the tables and have people who gave pitches stand by their corresponding number. Their location is then fixed, and participants find them. This will make it easier to find people who gave specific pitches, but then those people are fixed to their location and can't walk around.

The other option is to have the pitchers hold up their numbers, or just stick it on them, which makes it easy for them to walk around and mingle too. Of course it'll require participants to do more searching for the person who gave a pitch they liked.

Note: If a participant gives more than 1 pitch, just have them keep their same number.

7.7.7 How to Remember who Pitched what?

- Tell participants to record the pitch # and a brief description for each pitch. That way, during the mingling session, they can more easily find the people with pitches they found interesting.
- Suggest that participants take a quick picture of the person while s/he is pitching, so that you remember their face. The organizers should also help participants find each other.

7.7.8 Role of the MC During Problem Pitching

Encourage and congratulate people on a great pitch intermittently throughout the pitching session. When someone pitches a solution instead of a problem, remind all participants that they should only be talking about the problem they want to solve at this point, NOT the solution or ideas they have for the solution at all.

7.7.9 Alternative set-up if your Participants don't have much Exposure to the Healthcare System

When MIT Hacking Medicine runs our undergraduate-only health hackathon, we know that undergrads don't have much experience or exposure to the medical system, and they have difficulty identifying good problems to pitch during problem pitching. If you feel that your participants fall into a similar category, we suggest having clinicians (doctors, nurses, patients, insurance providers, caregivers, EMTs, etc.) pitch the problems. The video from problem pitching at MIT Hacking Medicine H³ 2014 is one example of clinicians pitching problems. Mingling involves both clinicians and the hackathon participants. Solution pitching is only done by the hackathon participants.

7.7.10 How to end a Pitching Session

After you've gone through your allocated time for problem pitching, you can use the following announcement to segway into the next event: Mingling.

That was amazing! Such great ideas were pitched. After I'm finished talking, our mingling session will start. All of you will stand up and start finding the people whose pitches you liked. This is your opportunity to brainstorm with each other about potential hack ideas, find people



with similar interests, start forming your team with diverse skillsets. If you forgot to take notes on a particular pitch, we have the pitch registration form here, so feel free to come up to us to browse the spreadsheet or look it up yourself at this URL. Alright, you have 30 minutes to meet people and start forming your team. Let's get started!

7.8 Mingling

After the problem pitching session, it's time for all participants to mingle with each other and start forming teams.

7.8.1 How long is the Mingling Session?

The amount of time you should allot to the mingling session depends on the number of participants you have. 30 minutes is the minimum. 45 minutes starts feeling long.

7.8.2 What you can do as a Facilitator?

Go around during the mingling session and observe how people are interacting and brainstorming. If a group of people are clustered together but not really talking about challenges in healthcare, facilitate a discussion. Ask each of them What areas are you interested in in healthcare? If there are commonalities between two or more participants, say That's interesting! Why don't you all chat about your ideas on this subject over here. For other participants say, I heard someone over there with a similar interest. Why don't we go chat with them?

If you notice people on the sidelines not really interacting with anyone, go up to them and ask what they are interested in working on. If you've met someone else with a similar interest, introduce them to each other. If not, just introduce them into a discussion circle that is happening. A critical role of the hackathon organizers is to help facilitate team formation through this process.

7.8.3 List of Organizers you need

- 1 MC to give people instructions & then bring people back together
- 1 person at the computer with the problem pitch database
- Several people interacting in the mingling session (1 per 20 participants. More if it's a really shy crowd).

7.9 Solution Pitching Session

After the mingling session, the organizer MC will instruct everyone to return from mingling and get ready to do solution-based pitches. The process works the same as problem pitching, but this time, the focus is on presenting an idea about how one might approach a problem in healthcare.

This solution ideas are ideally results of the mingling session, where people were discussing ideas and quickly brainstorming. Sometimes, people who present problems have pre-meditated solutions, though we



discourage people coming into the event with a full fledged idea on their own already, as it takes away from the collaborative ideation that takes place at the hackathon.

Usually, there is some attrition to the number of pitchers from problems to solutions, as people self-assimilate around similar problems and ideas. It is important to note a few things:

If someone doesn't have a solution idea, but still wants to pursue a problem, they can still pitch and should not feel discouraged

The solution does not have to be full-fledged, validated idea, but just something to start with

It is not required that the same person pitch the problem and the solution if, for instance, they have formed a sub-group based on an idea already, or someone who heard of a problem formulated an idea to solve it and wants to find teammates.

7.10 Final team Formation

After the solution pitching session, the MC should give a high-energy invitation to form teams and begin hacking. Before letting everyone go, remind them of key upcoming schedule requirements like deadline to submit team registration and practice pitching the next day; how they can access resources like mentors and prototyping materials; and housekeeping things like when food will be served, where bathrooms are, and where they can take their group to hack (i.e. if your location has breakout rooms, etc.)

Everyone will disperse for a final mingling session before finding a corner and beginning hacking. Here, again, facilitators are key. If individuals look like they are struggling to find a team, engage them, find out what their skillset is, and try to connect them to teams that may be complementary.

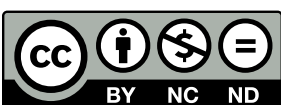
7.11 Team Registration

Sometime in the afternoon, a form should become available online for teams to register who is on their team, the problem they are tackling, and the solution they have chosen to approach. This may evolve over the weekend as teams pivot, but it is critical for hackathon organizers to set a deadline for all teams to complete it by sometime in the afternoon. This aids in:

- Knowing how to allot practice pitching sessions for Sunday
- Gaining an understanding of what people are hacking, and what kind of resources they will need in the upcoming weekend
- Better headcounts for food orders

7.12 Hack!

While teams are hacking, the most important functions for organizers/facilitators are to make sure teams have all the resources they need to be successful.



Many hackathons we've organized have had prototyping materials for teams to check out and use for their projects. Depending on the hackathon theme and budget available, this list can vary, but generally we like to provide a gamut of electronic and mechanical rapid prototyping materials.

Keep tabs on where teams are and what they are doing, but be careful not to over-hover or take away too much of the teams time from hacking. The bulk of the hackathon, during which teams are hacking, is relatively hands-off.

7.13 Food & Coffee

Coffee is an extremely important hackathon fuel and energy-booster as hackers work late into the night. Depending on your budget, try to at least make it available at the start of each day. If you can, planning on more coffee delivery later in the afternoon of Day 1 can be helpful for teams as well.

At our hackathons, we budget to provide certain meals for participants: typically, breakfast, lunch, and dinner on Day 1; and breakfast and lunch on Day 2. Providing the meals for participants allows them to keep focus on their projects without worrying when and where they will get food; and helps keep spirits high. What you buy can vary depending on your budget, but we typically do Dunkin Donuts (with possibly assorted fruit) for breakfast, pizza for lunch, and something like Thai or Indian for dinner. If you're tight on budget, you could choose something cheaper for dinner as well.

7.14 Mentorship

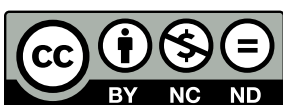
Mentors are an extremely critical resource, and it is the job of the facilitators to make sure they are optimized. Mentors are experts in multiple fields that can help a team gain more insight on the problem or solution they are hacking; provide a skillset the team does not have, such as coding; shed light on aspects of the project the team may not have thought of; help them pivot; and help them think through their hacking process. A good mentor is engaging, helpful, and does not tear down teams ideas in a destructive way but rather directs conversations in a constructive way, building upon what has already been done.

Coordination is involved in a few stages: greeting mentors, making sure they know what's going on, connecting them to teams, following up to check on how good the mentor + team fit is, and adjusting if necessary.

To greet mentors, there should be someone at the registration table registering which mentors arrive. This allows facilitators to keep track of who is in the room. They should also greet them, give them a quick summary of what's going on, and invite them to either chat with other mentors in a pre-designated mentor area, grab some coffee or food, or jump right in to helping teams.

If facilitators are familiar with the mentor and their skillset; and have a pretty good idea of which teams are doing what, they can directly matchmake mentors to teams. If not, you can invite the mentors to float and chat with teams as they overhear something that sparks their interest. This, however, can lead to over-mentoring: many mentors interrupting teams to ask what they're up to, and then leaving. If team registration has already happened, it's helpful to provide mentors with the results so they can scope out teams that may be a good fit and then ask you where those teams are.

If a mentor isn't directly helping a team, it's helpful to have them seated at a pre-designated mentoring area with other mentors in case a team has a question; the teams will know where to go to have it answered.



How many mentors should you look for? Typically, mentors come and go in blocks of time that they have previously indicated to you. In general, it's a good idea to schedule enough mentors so that there is a 1 mentor : 8 projected participants ratio. It's also important to try to schedule mentors blocks such that a diversity of expertise is available at any one time. Some mentors may only be available for 3 hours of time, but may offer to become available via phone for the rest of the weekend. This is a good resource list to keep track of as well, in case that mentor has a specific expertise that would be helpful to a team later on.

7.15 End Of Day One

Congratulations! By this point, the hackathon is on its way and teams have already begun to create kickass projects that have the potential to revolutionize healthcare. It's important that by the end of day 1 (preferably by early evening), every team has *begun building* and is not still just talking. Encourage teams that are still trying to decide on details to choose something and run with it, then pivot if needed.

It is also important to emphasize to teams to think out of the box for developing an MVP (Minimum Viable Product). **The MVP prototype does not need to be made with the fanciest high tech prototyping materials**, but it's more important to just get things done. – Don't use CAD when you can just sketch.

For example, one of the most successful MIT Hacking Medicine hackathon alum teams, Pillpack, had a paper prototype at the end of the hack they participated in as their MVP. They have raised over \$12 million and are shipping to customers in over 40 US states.

Keep hackers in your venue for as late as you can, but many of our hackathon venues have been limited to only being able to host until 8 or 9 pm. We encourage teams to continue hacking in other places (classrooms, dorms, apartments, etc) throughout the night. It would be beneficial if you can book such a smaller location for participants to transition to at the end of the evening.

8 Day Two

8.1 What's Different About Day Two?

On Day 2, all teams have (hopefully) zeroed in on exactly what problem and solution they are hacking. Many have been sleep-deprived working throughout the night.

For the **first half** of Day 2, facilitators have two roles:

- Keeping teams on track to finishing their projects, lifting energy however you can, and coordinating pitch practice sessions.
- Preparing for the second half of day 2 and the final wrap-up of the hackathon: final presentations, judging, and awards!



8.2 Food & Coffee

Same as Day 1, it's important to keep the hackers energized with breakfast and coffee available at the beginning of Day 2! On Day 2 everyone is especially tired, so try to keep the coffee flowing if you have the budget.

8.3 Mentorship

In contrast to Day 1, it's not as helpful to provide teams with mentors that can help them pivot; it's helpful to provide mentorship that can aid in refining what they already have as it comes down to the wire. Some teams may not want to be bothered at all as they focus on finishing their project. Because MIT Hacking Medicine emphasizes not only a great, new technology, but also stresses teams to think about who will pay/ what their business model will be, we try to focus most of our business-expert mentors to be at the hackathon on Sunday morning to help ensure teams think this part through before judging.

8.4 Pitch Practice Sessions

Using the team registration form that was required for submission by all teams on Day 1, hackathon organizers should create a schedule/order for teams to participate in practice pitching. Once this is made, organizers need to let teams know the schedule: one can publish it on the hackathon webpage, email it out, or make a hard copy located in a central location of the hackathon space, for team reference.

Throughout the morning of Day 2, mentors in a separate room evaluate all teams during pitch practice sessions. All teams are assigned a slot and it is a mandatory requirement, as we've found that teams who do practice their pitch have monumentally better performances during final presentations. Reference the practice pitching schedule that organizers have made for this session.

Typically we invite mentors that have been to many hackathons before to be in the pitch practice room, as their feedback is more nuanced and they know what to look for. You can also have a system where you rotate out mentors to be in the pitch practice room, as it can be a 2-3 hour long process depending on how big the hackathon is. In contrast to final presentations, which are capped at 5 minutes (3 min pitch, 2 min Q&A), pitch practice sessions are allotted more time: 7 minutes for each slot. Do not cut teams off from their presentation at exactly 3 minutes, but at the end, a timekeeper should let each team know how much time their presentation took so they know if they need to adjust. The rest of the time is allotted for mentors to provide feedback. It's important that mentors focus their feedback on the quality of the presentation during this stage. A great new idea is nothing if it can't be communicated properly to the audience!

Typically, at least 2 facilitators are required throughout the duration of the pitch practice sessions to help it run smoothly: 1 inside the pitch practice room as a timekeeper, and 1 outside keeping upcoming teams on deck to practice their presentations.

8.5 “How To Judge” Session

Ask your selected judges to arrive at least half an hour before final presentations begin, so you can have a meeting with all of them. This gives them an opportunity to meet some of the organizer/facilitator team



and each other if they haven't already. Although it doesn't need to be a long meeting, it's necessary to go over the judging rubric and process so that everyone is on the same page.

Give the judges an overview of what has happened that weekend (in case they are unfamiliar with medtech hackathons) and what the structure of final presentations will be. Then go over each judging criteria and ask for questions. Finally, go over the purpose of the 2-minute Q&A: if you feel there are still blanks in the scorecard that you need more information to evaluate for because the teams did not hit on all the criteria, this is your chance to ask it.

Go over the prizes available to teams, and let the judges know that after the final presentations they will be guided to a separate room to make decisions on who won.

8.6 Final Presentation

The final presentations are an exciting time—the culmination of an amazing weekend's worth of work from the participants, and months worth of work from the facilitators!

Final presentations are typically 3 minutes with 2 minutes Q&A per team (5 min total).

Depending on the number of teams, you can alter this to be a bit longer if you wish. In general, we encourage teams to hit on three main aspects in their presentation:

- the problem they are addressing/why its important
- the new solution/technology
- the business model that accompanies it.

It is crucial for teams to acknowledge what they accomplished over the weekend of the hackathon. *In some instances, teams come in with pre-existing projects, and so its most fair for the judges to know from where they started.*

In addition, teams can certainly create powerpoint presentations, but it is not required. Teams can get creative with how to present their hack!

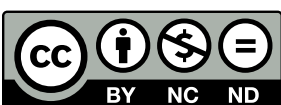
Set a deadline for twenty minutes before final presentations begin for all teams to have submitted their team names again and presentations online (if applicable). One facilitator should go up to all the teams and check in person that they have done this before herding all teams into the final presentation room! Using these submissions, create a schedule for order of team presentations.

In general, MIT Hacking Medicine has found that it is easiest to have each team bring up their own laptop and connect it to the A/V system/projector for their presentation, rather than opening all sent presentation files on an organizer laptop. This ensures that any code, video, animation, or software controlling microprocessors/microcontrollers, etc. (you name it!) that teams have prepared will still function during the presentation.

Tip: Make sure that you have a Mac dongle for the weekend so people with Macs can connect!

When one team shifts to the Q&A part of their presentation, the on-deck team should shift to set up the A/V for their presentation.

Key points for the final presentation:



- After everyone is collected, MC hypes up energy by summing up the great weekend
- Facilitators required: 1 timekeeper, 1-2 MC(s)
- Clapping off still occurs for teams that go over allotted time – to ensure that everything stays on schedule!
- Make sure to have a schedule with the order of team presentations made prior to Judging Session (can be done in early afternoon).

8.7 Judging Room

1-2 facilitators/organizers should join the judges in the judging room to help direct discussion. One facilitator/organizer will be assigned to make an Excel sheet summing everyone’s points. If you can during the final presentations, have a facilitator collect judging sheets as the final presentations progress and sum the points so that most feedback will be ready to present by the time the judges sit down to discuss.

We haven’t yet perfected a strategy to run the judging room, but we ve done it in a few ways. Choose whatever method you think is best, but make sure it is clear to the judges what the process will be before you begin.

If there are <10 teams at a hackathon, you can list all 10 teams on the board, then ask each judge to go through their scoresheets and announce which 3 teams they gave the highest scores to; and which 3 teams they gave the lowest score to. Tally these numbers so it is a visual scale. Invite them to begin discussion.

In cases where there there are >10 teams, we list the 3-7 teams (depending on how big the hackathon and how many prizes there are) on the board that had the highest total summed points, and then invite the judges to discuss these teams and choose amongst them.

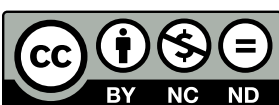
Judging can be a fairly organic process (everyone agrees immediately) or it can be more difficult; in those cases the facilitator/organizer can help lead conversation by getting a feel of the room and saying things like, Nobody has mentioned selecting this team for one of the prizes. Is everyone ok if we rule this particular team out entirely? thus narrowing the options to choose from. Or, It sounds like everyone prefers this team over this one. Is that correct? It’s important to use strategies to help keep them on track in decision-making, but also to leave the decision ultimately to them.

8.8 What To Do While Judges Are Deliberating

While everyone is awaiting the results of the judges deliberation, this is a great time to bring participants together for other productive purposes.

If you ve planned for dinner, you can serve it during this time. In the past, we have had MCs go around to collect feedback from participants on how they think the hackathon went and ways it could be improved in the future. We will also typically make available a link for everyone to fill out an Immediate Post-Hackathon FollowUp Survey to collect more rigorous data on participants perceptions of the event.

This is also a great time for MCs to emphasize to teams to turn to their fellow team members and set a time to meet to follow-up on their project, right then. If teams wait to schedule a time, we ve found many times the meeting doesn’t always happen. Emphasize to the teams that if they think their project may have promise, it’s critical to keep momentum and meet again soon!



8.9 Prize Presentations

Once the judges return with their decisions, settle everyone down. Beforehand, designate the following roles: photographer, MC, winners announcer (if it differs from the MC).

The MC takes the stage to sum up what an incredible weekend it has been. As each winner is declared, having a trophy/huge check/some other memento to give them as a celebratory gesture is always nice. You can choose to have the judges sitting at the front to shake winners hands as they come up, or just have winners come to collect the prize. Each team poses for a photo, and after all prizes have been given out, the MC should take the podium to thank everyone, remind teams of follow-up steps (set a time to meet with their teams, direct winners to meet a point person to collect contact information for delivery of prize money later, etc), and finally to end the energy-packed weekend.

Sometimes, we'll organize a reception afterward for participants to mingle and enjoy light refreshments, but not always (especially if dinner was provided on that day).

8.10 The End! You Made It!

Congratulations!! Get some much-needed shut-eye to celebrate the culmination of an incredibly successful weekend.

