MAJOR LEAGUE HACKING

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A Parent's Guide to Hackathons

Hackathons have grown to become a global student movement. Attracting all students, from absolute beginners to experienced developers, hackathons fast-track the development process and provide students with valuable technical and career skills. Hackathons are a fun way to teach students how to turn their ideas into real applications. In addition, sponsors regularly send professional mentors and recruiters to each hackathon. Students who attend hackathons get to forge friendships, interact with mentors and recruiters, learn to code, and prototype a new idea.

What is a "hackathon"?

A hackathon is an invention marathon. Programmers, designers, builders and more come together to learn, build, and share their creations over the course of a few days. Hackathons are not limited to computer science majors — anyone who has an interest in technology and is eager to learn can participate in a hackathon.

Not to be confused with illegal and unauthorized programming, "hacking" in this context means quickly and intelligently creating a real application that others can use. Although the term "hacking" has previously been associated with gaining access to a computer system with a malicious intent, "hacking" has started to transition into a positive term describing the actions of innovators who are creating prototypes of their ideas. Programmers have rallied around the term "hacking", as a term to describe their love of learning and their efforts to build the future.

Teams of two to six students work together over a weekend to develop a product, learning about new technologies and making friends along the way. Hundreds, sometimes thousands of students gather on the weekend to learn new technical skills and soft skills. At hackathons, students can augment skills learned in the classroom by teaching themselves how to independently research new technologies and fix problems they encounter. Hackathons allow students' intrinsic interests to drive their education. Every time a student encounters a new challenge at a hackathon, they must learn how to fix the problem through independent study. By giving students an opportunity to individually build a project from start to finish, students develop increased critical thinking skills and have a chance to become better prepared to enter the workforce.

Students enter a hackathon with a blank slate — they cannot bring in a school project. Once a student has found a team to spend the weekend with, they enter the brainstorming phase. After collectively deciding on an idea to work on, students on the team spend a majority of the event transforming this idea from concept into reality. Whether the idea is a hoverboard or an app to teach you to drive, hackathon teams bring a project from epiphany to completion all within a single weekend. Expert mentors from professional development backgrounds work through the night to help students with their projects. Many mentors wish they had this level of support in their youth and strive to help the future generation of programmers.

> I wish I could have attended hackathons as a student. As a mentor, I'm glad I can help the next generation of programmers discover their passions, learn new skills, try out concepts they have learned in class, and build real applications that real people can interact with.
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> — John Britton (GitHub Education Lead)

The overnight aspect of a hackathon is integral to allow students the time they need to complete their projects. Most hackathons conclude with a science-fair-style exposition of projects that includes celebrity judges directly conversing with students about their projects. Winners are chosen, prizes are dealt, and the top teams give a live demo of their project on stage.

Who can attend hackathons?

Major League Hacking (MLH) Hackathons are open to all students, from experienced students who have been programming for years to students who have never written a line of code in their life. Students of all disciplines are welcome to attend. All MLH Hackathons encourage a wide variety of students to attend: including but not limited to art majors, history majors, and computer science majors. Even though a hackathon awards prizes at the conclusion, there are often prizes specifically for beginners. The environment at hackathons is collaborative, rather than competitive, and students spend the event helping each other and sharing their knowledge.

Many hackathons are open to both college students as well as high school students. Although MLH Hackathons are primarily for college students, many high school students frequently attend and win prizes at these events.

Because of the project-based structure that hackathons employ, students from all backgrounds can be accommodated. Experienced developers have a chance to spend the hackathon working on a cutting-edge application, while students who are new to programming can work with other beginners. Alternatively, beginners can join teams of experienced students who will be able to teach beginners and provide them with small

conquerable tasks. There are also professional developers on site at MLH Hackathons, who are willing to mentor students and answer any questions they might have. In addition, there are always workshops and technology talks throughout the event for students who prefer to learn through lecture-based education.

Why are hackathons important?

Students

Hackathons are extremely beneficial for both hackathon organizers and attendees. Organizers learn how to manage a team, fundraise, and plan a complex and large-scale event that empowers their fellow students. These passionate students establish industry connections which not only create employment opportunities for the students, but it also puts a school on the radar of important donors and corporate partners. More importantly, countless students get to spend a weekend having fun, meeting new people, and preparing themselves for technical careers. Hackathons provide a real-world experience for students, as they compete in teams to create a product. Similar to the product cycles of a startup company, hackathon teams quickly transition from the idea stage to the final product. Students have a chance to gain time management skills, along with technical expertise and new connections. In addition, students get to spend one-on-one time with expert mentors who spend the hackathon teaching students new technical skills and helping students with their projects.

Students have worked on truly innovative and cutting-edge projects. Some of these projects have even gone on to turn into real companies:

- Workflow went from an app built at the University of Michigan's hackathon to one of the top apps in the iOS app store. It has been covered by the Wall Street Journal and The Verge and won Apple's Design Award in 2015. Two team members were later awarded the Thiel Fellowship to further develop Workflow.
- Cosmos Browser, an app allowing individuals in third-world countries to connect to the internet through text messages, was also built in 36 hours at the University of Michigan's hackathon and funded not long after. Cosmos has been extensively covered by news sites like FastCompany, Engadget, and The Smithsonian Magazine, and it is part of the 2015 batch in Techstars Startup Accelerator.
- GroupMe, a group messaging app, was created at a hackathon and purchased a year later by Microsoft for $85 million.

What happens after the hackathon is just as important as the event itself. A hackathon leaves a student body invigorated and eager to spend their free time working together on projects. Not only do students attend more hackathons and win more prizes at them, students are more motivated to sacrifice their free time to learn more about computer science and working on projects with their peers.

> In Nottingham, supporting hackathons was originally about supporting the enthusiasm and potential of our students — they were making, building, and innovating in their own time, and so we simply facilitated this student culture with budget and space. Since then, we've moved towards officially recognising independent work that demonstrates strong computer science skills, by producing a module to give credits for strong portfolios. Together, these have energised our student culture, encouraged independent study, taken our students around the world, and led them into great job opportunities. But first, all we did was say "Yes — let's do this."
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> — Dr. Max L. Wilson (University of Nottingham)

Hackathons help students build up their resumes and learn the latest and most popular programming technologies. In a weekend, these students get to network with popular technology companies ranging from industry leaders like Dell to up-and-coming startups like Twilio and gain new connections to help them find internships and jobs in the future. They also have a brand-new project to bolster their resume and new technical knowledge to improve their skill set and broaden their horizons. In addition, many hackathon sponsors attend and send recruiters to hackathons with the sole intent of finding and mentoring new talent. According to our Winter 2015 Hacker Survey, 63% of attendees have included projects made at hackathons on their resume. In addition, 56% over attendees believe that their projects improved their position with their employer. Hackathon attendees not only learn new skills and meet friends, they also improve their future career options.

Hackathons change students' lives. Hackathons inspire students to learn more about computer science and work to turn their ideas into reality.

Industry

Not only are hackathons beneficial to students and schools, they greatly aid the computer science industry and prepare the next generation for jobs in this field. There are not nearly enough trained computer scientists to fulfill the need for programmers. According to Code.org, there will be 1,000,000 more computing jobs than computer science students by 2020. This high paying field is struggling to find trained students right out of college. Computer science can be intimidating, and hackathons have done a great job of encouraging people to learn to code and enter the field. In addition, many hackathons work hard to encourage students of all demographics to attend. Without regard to a student's race or gender, hackathons are inclusive and remain open for any student to attend.

How popular are hackathons?

From the very first student-run hackathon in 2009, the number of student-run hackathons has exploded to over 150 throughout the world in 2015. Ranging from 50-person gatherings to 1,500-person, 36-hour coding marathons, these events come in all different shapes and sizes. Large hackathons like those run by the University of Pennsylvania, the University of Michigan, or Stanford University fly in students from around the world for a weekend of fun competition. Many other colleges such as Rutgers University, Princeton University, or the University of Illinois keep a local and close-knit atmosphere by limiting the size and encouraging beginners to attend. A few of the top high schools have started to host their own hackathons. Bergen County Academies, Thomas Jefferson, and Downingtown STEM Academy hold some of the largest and well-known high school hackathons. Major League Hacking also organizes Local Hack Day hackathons, or local "mini-hackathons." They are great for students wanting a taste of the hackathon experience, and they have grown to become a worldwide event.

The hackathon movement has been growing exponentially, with more schools around the world joining the mix every season.

What is Major League Hacking?

Major League Hacking (MLH) is the official student hackathon league. Each semester, more than 50,000 developers, designers, and makers compete for their school's glory at the 150+ official MLH hackathons in the United States, Canada, Mexico and Europe.

Major League Hacking works with student hackathon organizers from day one to help them put on the best possible hackathons. Students trust MLH to provide the mentorship, connections, and expertise they need to take their hackathon from idea to reality. MLH representatives attend all sanctioned hackathons to ensure the event runs without any problems. Throughout the organizing stages, MLH helps students, with tasks ranging from fundraising to advertisement, to ensure that all MLH sanctioned hackathons meet the high quality and safety standard that is set out for them. Run almost completely by individuals with prior experience organizing hackathons and attending hackathons as developer evangelists for sponsoring companies, MLH ensures that student organizers are given expert help in order to guarantee the success of their event. By facilitating a link between the technology industry and education, MLH is able to help students reach companies and individuals that would not normally be corporate partners of on-campus events.

Find out more at https://mlh.io/about.

How safe are hackathons for students?

Major League Hacking (MLH) takes safety at hackathons extremely seriously, and all MLH representatives at a hackathon are specially trained to deal with any problem that may arise. These representatives work with and aid student organizers and volunteers throughout the hackathon. In addition, many professional developers, who specialize in mentoring at hackathons, are present. While intricacies of the registration process vary per hackathon, all hackathons bar unregistered individuals from entering the venue. Hackathons also log when students enter the event and verify that students are who they claim to be by checking their identification.

To ensure that a safe, comfortable, and inclusive environment is promoted, Major League Hacking requires all sanctioned events to have students to agree to the Code of Conduct. This document illustrates the process for reporting violations and unsafe, harmful, or inappropriate behavior and fixing these problems as they arise. MLH has a no-tolerance policy for harassment and abuse, and representatives work around the clock to ensure the environment at each and every hackathon is safe.

Why do we love hackathons?

Hackathons have changed the lives of every employee at Major League Hacking. Thousands of students have left hackathons with a new motivation to learn and create. Our very own Jon Gottfried wrote an article on his first hackathon and his experience there.

Many students spend their high school and college careers searching for their passion. Hackathons are incredible ways for students to “try-out” being a developer for one weekend. Students get to experience the feeling and pressure of being on a team of other developers working together to solve a problem. In addition, students have a chance to learn to program and take their first step towards a career in computer science.

Attendees leave hackathons with a newfound excitement to work on projects and turn their ideas into reality. By placing so many like-minded and motivated students into one room, hackathons foster friendships and encourage a collaborative atmosphere where students help each other learn.

At hackathons, students are given a chance to develop their passions, form strong friendships, apply to top internships, and learn from expert mentors.