Tips for Workshops

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ABOUT

Pilot is a national organization driven by a belief in learning by doing. In our opinion, one of the most empowering skills a young person can possess today is the ability to bring an idea to life. To accomplish this, we're pairing students with the best technical and creative mentors in the community during local Pilot events. Students work together in teams to design, build, and pitch their own apps and websites, all in just one day.

Our goal is to inspire students to take control of their own education. We hope that the desire to learn will become a lifelong habit, preparing students for the creative and dynamic demands of a time where the impact they can make in the world increases every day.

PURPOSE

This document aims to help Pilot-event organizers and workshop-organizers put on the best possible workshops for students at Pilot events. We don't know everything, but having organized a few events, we can give some tips about the best ways to conduct workshops so that students leave feeling like they learned something and are motivated to learn even more by themselves.

WORKSHOPS

We believe that most effective way to learn something is by doing it.

At our Pilot events, we provide students the opportunity to participate in workshops where they can actively learn and improve their skills in iOS, Android, Git, Web Development and more.

We think workshops have two primary purposes:
1) To give students who do not already know how to build something the skills and direction to get started.
2) To help students who already know how to build something expand their interests or learn a new platform.

Unlike at a college hackathon, the students who attend Pilot events are all high school students. As such, most of them have not had much experience working in real-world production environments. Many students have taken a computer science course in Java, but they have no idea to even get started on a web or mobile app. This jump — from the basics taught in classes like AP Computer Science to the skills needed to start a project — can be a huge barrier that can keep students from getting off the ground. This is why we believe workshops are extremely critical: they help bridge that gap between what they know and what they want to do, and help students know where to start on their projects.

WORKSHOP TOPICS

Workshops should be narrowly focused on that one subject: oftentimes we find that if you show a student the simplest basics of how to write something — say a web server in Node — they are able to extend that basic skill, get started on their project and learn more about Node as they go along. Our job isn't to write their own app for them, but rather to remove that very first barrier to entry and show them how they can build their own. As you think about planning your workshop, try to answer the question "Where do I start building X?"

For your convenience, here are a few suggested workshop topics:

- iOS Development
- Android Development
- Using Git/Github
- Writing a web server in PHP/ Node/Rails
- Designing webpages with HTML & CSS
- Using Javascript to make webpages interactive
- Using specific APIs (e.g. Twilio, Sendgrid, etc)
- Using databases (SQL or others)

WORKSHOP CONTENT

We believe the core tenet to hosting a workshop is to allow students to learn by doing. Lectures about how to build an iOS app are boring in students' eyes, but walking them through a simple one is not only interesting, it's empowering. After getting a taste of the power of mobile app development in a workshop, students might be motivated to go back to their laptops and learn more themselves. This is why we think the most successful workshops are the ones where students are on their laptops working on a "mini-project" during the workshop. Additionally, providing students with sample code or a fully made

project is very helpful, as it allows them to go back to their own project and refer back to the sample to learn how it works.

The scope of a workshop is extremely important. One too broad like building a "simple" social network may not be feasible for an hour-long session. Rather, the most successful workshops focus on guiding participants through a specific aspect of a technology. For example, a good iPhone development workshop might focus on how to set up XCode and compile a single-frame app, while another might be to use Storyboards to design the UI. By focusing on specific aspects of iOS development, students leave feeling like they've learned something and the workshop can go smoothly. At the same time, it's important that the workshop ends with the students being able to build their app and see the fruits of their labor. This is encouraging, and ultimately motivates students to continue work and development outside of the workshop.

Potential Key Components

Joel, an Engineer at Github who hosted successfully version control workshops at PilotPhilly, used this framework in his Git workshop:

The Why?- Explaining why the subject matter is even important.
Showing- Doing some type of demonstration so the audience familiarizes themselves
Doing- Audience participates with their own computer.
Q&A- For people who feel stuck, confused, or want to know more.

ADVICE

We've collaborated and talked with Engineers who've hosted workshops at previous Pilot events, and here are some suggestions they have:

- Explain why the subject matter is important.

- For technical workshops where attendees will be writing code, make sure that there is clear communication beforehand so that development environments are set up previously. This can be a huge hassle during the workshop.

- Skill levels of audiences will be very diverse, so make sure to be ready for this.

- While the main focus of the workshop is doing, it's often helpful to begin by showing so that students can familiarize themselves with the technology be taught.

In the end, what we've laid out are just suggestions and an amalgamation of ideas and lessons we've learned through our experiences with Pilot events. We think that any workshop that focuses on learning through doing can be a very successful one.

Good Luck!