

Coding Camp 4 Girls

CE Project Reflection



By: Cas Delveaux, Cristina Pacheco,
Greg Romero, Pierre Young, Virginia Lopez Nadal

Inspiration

Our project was a combination of two different project proposals by Cristina and Virginia. Cristina had originally proposed a BIPOC coding camp for girls 6-8 years old involving the use of Minecraft as a teaching tool. Virginia has proposed doing a coding camp for girls using the Girls Who Code curriculum. After they gave their proposals, they decided their ideas were close enough that they could combine them into one project. Cas, Greg, and Pierre were then added into our group. Cas also had a desire to do more STEM programming for girls through their service at Ramsey County Library, especially for BIPOC girls. Pierre had the experience of taking a Scratch coding course over ten years ago at Central High School and he wanted the opportunity to teach the skills he had learned. Greg has been putting on various coding workshops for youth and teens at his site, CLUES. Many of us already had experience and/or passion for coding. Together, we all had the passion for helping young folks—especially those underrepresented—become passionate about STEM, especially coding and games. The overall vision for the project was to inspire women/girls to explore some basic computer science aspects to bolster their curiosity into STEM.

Plan

The beginning stages of our CE project consisted of a lot of planning and decision-making. We went back and forth on what kind of timeline for the actual coding camp would be best. It was brought up that stretching the coding camp out would allow for more time for the attendees to work on their final projects, but that it would also be difficult to have the same people return each time. We really did want to build community through the coding camp, so it ultimately made more sense to have the coding camp occur in consecutive days. We chose to hold the coding camp for five back-to-back days from Monday, July 12 through Friday, July 16, 2021. It happened from 11:00 A.M. to 2:00 P.M. central time each day. As it was occurring during the lunch hour, we did have a built-in break each day where attendees could eat their lunch and also do an activity at the same time, such as explore other's coding projects or watch a video about women in STEM.

The other two big decisions to be made were what our curriculum would be and also who was the target audience. We ended up choosing Scratch as the primary coding language as it is a great introduction to coding concepts and would be the easiest for someone to grasp regardless of their coding skills. It also made the most sense as most members of the group already had experience using and/or teaching Scratch in or outside of their service sites. We chose to still expose the attendees to other more advanced coding languages so they could make the connection between what Scratch teaches and how it applies to actually writing your own code. As for our audience, we knew we wanted it to be girls, especially BIPOC, although we did not limit it to a specific group. Age was the most important factor since we didn't want the material to be too advanced or easy for our target audience. We chose girls in 8th to 12th grade.

When originally planning for this project, we had intended to make it a hybrid of both virtual and in-person. However, due to the ongoing COVID pandemic and the COVID restrictions in place at our eventual host site, we had to instead stick to making it entirely virtual. The project was hosted using the video conferencing platform Zoom.

We each took on a particular topic and day of the camp and worked on creating our curriculum individually and then would meet periodically to go over what had been done. Cristina focused on creating an introduction to Scratch. Cas created a Scratch e-card making activity. Pierre taught the attendees how to make a game using Scratch. Greg focused on exposing the girls to more advanced coding languages. Virginia led a Women in STEM day, along with little Women in STEM spotlights for the beginning of each day.


The image shows a Zoom presentation slide for Dr. Hayat Sindi. The slide has a yellow header with the text "1967-Present" and "Biotechnologist & Entrepreneur". The main content includes the name "Dr. Hayat Sindi" in large blue font, a photograph of her wearing a hijab, and two paragraphs of text. The first paragraph describes her as a leading biotechnologist and global champion of science and technology, mentioning her work on "Diagnostics For All" and her team at Harvard University. The second paragraph, attributed to National Geographic, describes a low-tech diagnostic tool that detects disease by analyzing bodily fluids. To the right of the slide is a video feed of Virginia Lopez Nadal, with a "Remove Spotlight" button above her.

Virginia leading a Women in STEM spotlight on Day 3 of the coding camp.

Accomplishments

We were able to have Ramsey County Library as our community partner for this project as it is Cas' CTEP service site. More specifically, we were able to partner with Ramsey County Library Maplewood's Teen Librarian, Erica Redden, who is Cas' supervisor. Through this partnership, we hosted our coding camp via Cas' Ramsey County Library Zoom license, allowing us to surpass the forty minute limitation that Zoom has in place for free accounts. We were also able to streamline our registration process through Ramsey County Library's website and event system.

Coding 4 Girls Camp

Monday, July 12, 2021 - Friday, July 16, 2021  Add to Calendar
11:00 AM – 2:00 PM
Online event

Description

Appropriate for ages grades 8 - 12. All individuals who identify as girls are welcome.

Are you or do you know a teen girl who has an interest or passion in STEM? Join us for a five days of coding workshops. From beginner coding with Scratch to advanced coding concepts, young girls can get into STEM and change the world! Participants who attend every day will receive a free copy of *Coding Projects in Scratch: A Step-by-Step Visual Guide to Coding Your Own Animations, Games, Simulations* by Jon Woodcock and a gift card to best buy (amount TBD).

Suitable for: Teens

Type: [Clubs & Camps](#)
[Online Program](#)
[Technology Courses](#)

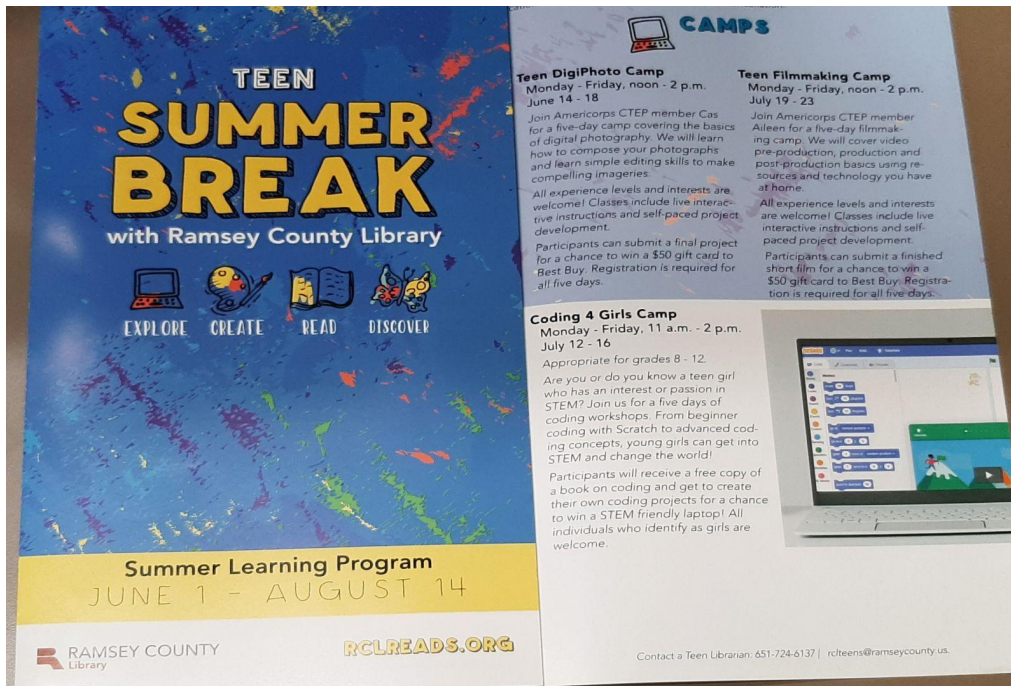
Language: English

[Share](#)

[Permalink](#)

Coding camp event posting on www.rclreads.org

There, interested teens could easily register for the full five-day coding camp by providing their first name, last name, and email address. This system allowed us to easily email them out information before the beginning of the coding camp, such as the Zoom link. It also allowed us to easily email out any learning materials from each day after the day was finished. Having the coding camp registration on the Ramsey County Library website was also a form of advertisement in itself as parents and youth may regularly check the website already to see what events are being offered. The coding camp was also advertised by Ramsey County Library in their summer break brochures displayed at the library, mentioned during teen programming, and also as a Facebook event (<https://facebook.com/events/s/coding-4-girls-camp/226242742189119/>).



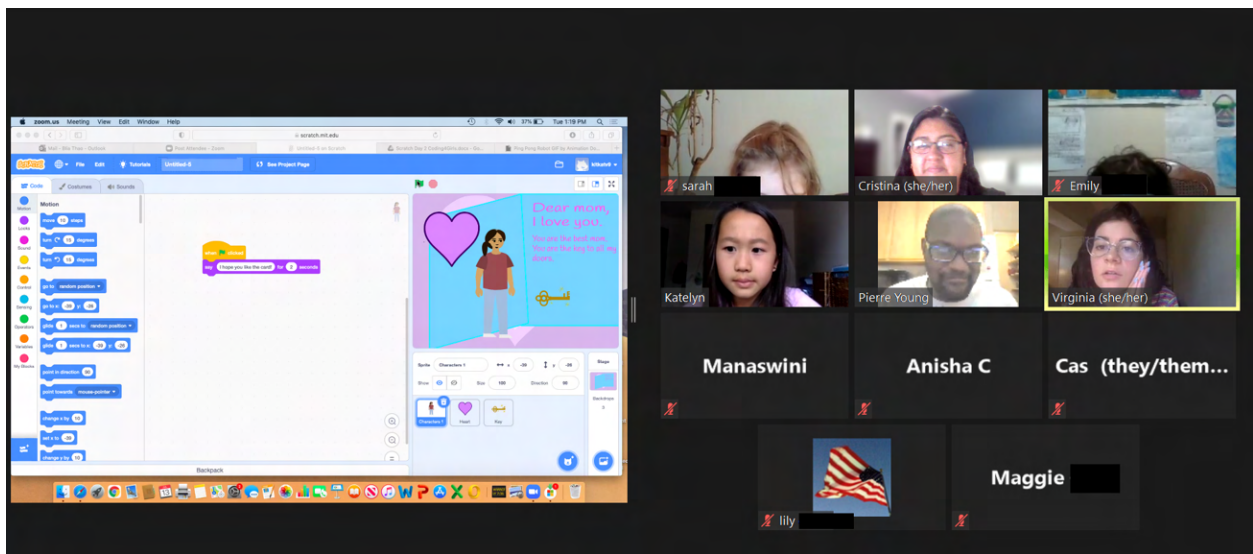
Coding camp advertisement in RCL summer break brochure

Another great benefit of our partnership with Ramsey County Library was getting funds for our coding camp without the need for additional fundraising. We were provided with a budget of \$400 that we ultimately used to buy fifteen copies of the book *Coding Projects in Scratch: A Step-by-Step Visual Guide to Coding Your Own Animations, Games, Simulations, and More!* by Jon Woodcock and then we intended to use the rest of the money to buy gift cards for the attendees. We held off on buying the gift cards so that we could evenly split the leftover money depending on how many recurring participants we had. We ended up purchasing seven \$30 Best Buy gift cards. The original plan for our CE Project was to have the participant's final projects be a part of a competition where the winner would receive a laptop. However, Virginia ended up voicing reservations about this as she wanted the coding camp to be more about exposing the teens to coding rather than them trying to prove their skills. It was also unclear as to how we would go about effectively scoring the projects in the first place. Together, as a team, we then decided to revise our plan and instead have all recurring attendees receive these two prizes—the book and gift card—upon completion of the coding camp. This did allow more room for our attendees to feel less pressure about sharing their creations throughout the coding camp, regardless if they were completed to a certain standard or not.

Our coding camp ended up having eleven total registrations with seven consistent young girls attending every day. The participants ended up being quite younger than anticipated, given our event on the Ramsey County Library website stated the coding camp was ideal for girls in 8th to 12th grade. However, we ended up having participants as young as 6 years old and as old as 13 years old. This came as a result of adults registering their children up for the coding camp without referencing this disclaimer, as

noted by some of the feedback we received post-event. The overall group was made up of girls of varying ages and racial backgrounds.

Each day of the coding camp had a different focus and leader as mentioned before. We began each day with an ice breaker question that helped to create community and make the attendees feel more comfortable with speaking and sharing. We also did a daily Women in STEM spotlight so that the girls could be inspired by what had or has been done by women in the STEM fields. As time went on, the attendees became more comfortable with either speaking or typing in the chat. They would always engage with the ice breaker question of the day that would be a glimpse at what was ahead. They also began to want to share their projects more by either pasting the link to them in the chat or sharing their screen with the group. We were able to expose the attendees to interactive media development using Scratch and introduce some basics regarding rich media development.



A student showing their created e-card during the coding camp.

Goals

Our overall goal for this project was to get girls excited about coding, which we do believe we achieved as evident by their desire to share their projects throughout the coding camp and also the positive feedback we received post-event.

"I sat near her [my daughter] for most of the camp, and I thought it was fantastic! What a team of experts. I wish more girls could have experienced it! Hopefully there will be more programs like this in the future! I think I misread aged 8-12 grade as 8-12 years - as some others obviously did too, but luckily Emily was close enough in age and had a little experience, so she kept up fine! I think younger girls are ready to get into it too!.. it was so helpful to have the summary

*emails and links so we can remember to look at them again in the near future!"
-Andrea H (mother of participant)*

"Thank you for a great week. My daughter learned a lot and enjoyed her herself creating games and coding."- Bimi (mother of participant)

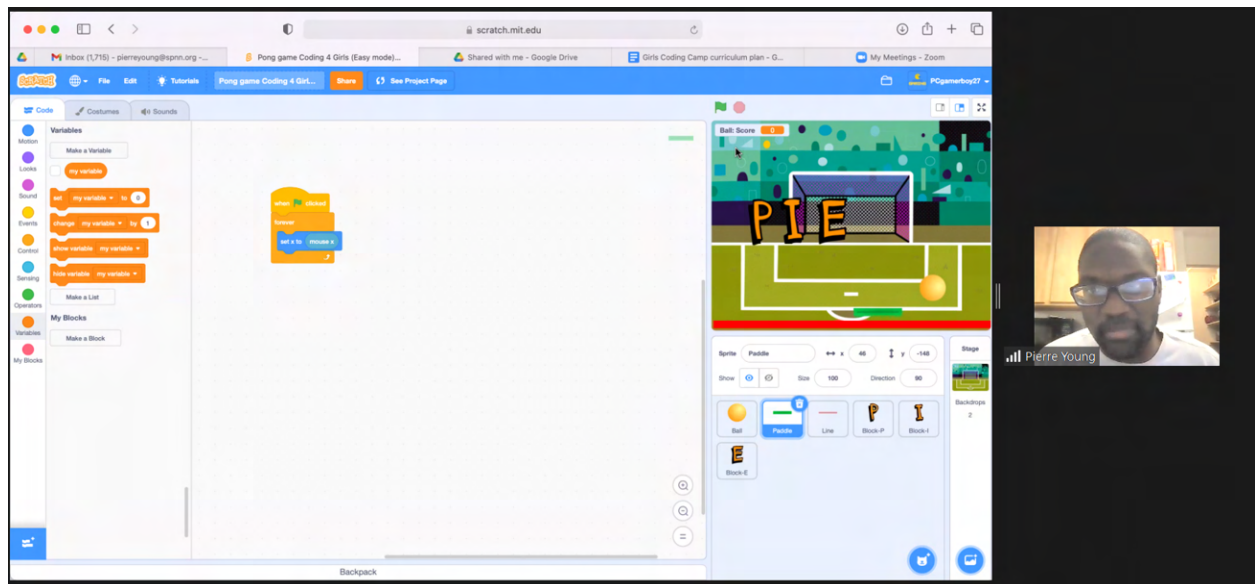
"Thank you so much the class was a lot of fun."-Sarah (participant).

We even had a participant ask during the coding camp if it would be offered again in the future.

The coding projects shared with us by participants aligned with the ones we taught, which made it clear that our instruction was thorough and clear. This, along with questions being asked during the process, provided us with evidence that participants were in fact learning something.

The actual facilitation of the coding camp was also a big goal and we did successfully hold the coding camp for five consecutive days with the same repeating attendees each day, which showed that we must be doing something right if they are choosing to come back. Given all the challenges we encountered, it is a large deal that we were able to get it done.

We did not make quantitative goals—such as how many participants we wanted to recruit—as we knew even having one attendee could make a difference for that girl. Also, during this time of the COVID pandemic there are a whole lot of factors that can contribute to quantitative goals not being met, so it seemed rather unnecessary.



Pierre showing how to make a game on Scratch during the 2nd day of the coding camp.

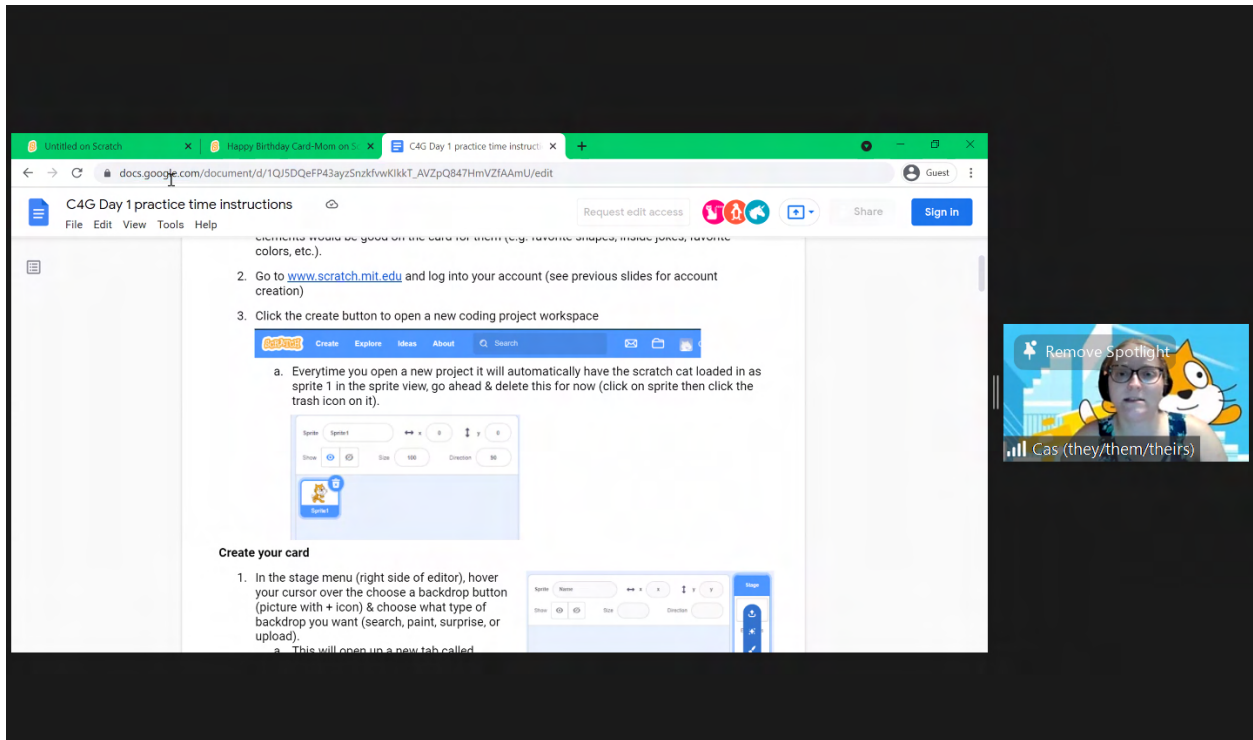
Challenges

The largest challenges we encountered throughout the creation of this project as a group of five individuals revolved around scheduling conflicts and workload. All five of us are at different service sites and thus, we all have differing schedules and workloads. It became rather difficult to find times to meet. We would fill out a When2Meet and there would rarely be a single time where we would all be available to meet virtually to work on the project. This is largely why we had to do most of the curriculum development individually and only meet together as the coding camp date was approaching.

Along with this, communication became a challenge because of our varying schedules. Our group chat would fluctuate between being abandoned and being bombarded. There was also just overall fluctuations in engagement and disengagement with the project as a whole, which is quite understandable considering we were juggling this project alongside our service and personal lives.

Another large challenge that was ultimately outside our control was the fact that the attendees were younger than we had anticipated. This made it tricky as we had already made the curriculum for the coding camp, but we assessed it might be too advanced for the audience we now had. This required some last minute tweaking of the curriculum to accommodate this change. As a result of this unforeseen challenge, there were times during our coding camp when we felt that maybe the attendees weren't as engaged or did not have interest or comprehension during our presentations.

Overall, all our challenges were able to be overcome because we all maintained the same goal and were able to remind ourselves of the kids and how the project was ultimately for them.



Cas teaching how to make a Scratch e-card during 1st day of coding camp.

Risks

We were able to foresee the risk of potentially not recruiting enough participants or not having the means to advertise the coding camp successfully. We were able to prevent this issue by partnering with Ramsey County Library and utilizing their website to make exposure and registration for the coding camp straightforward.

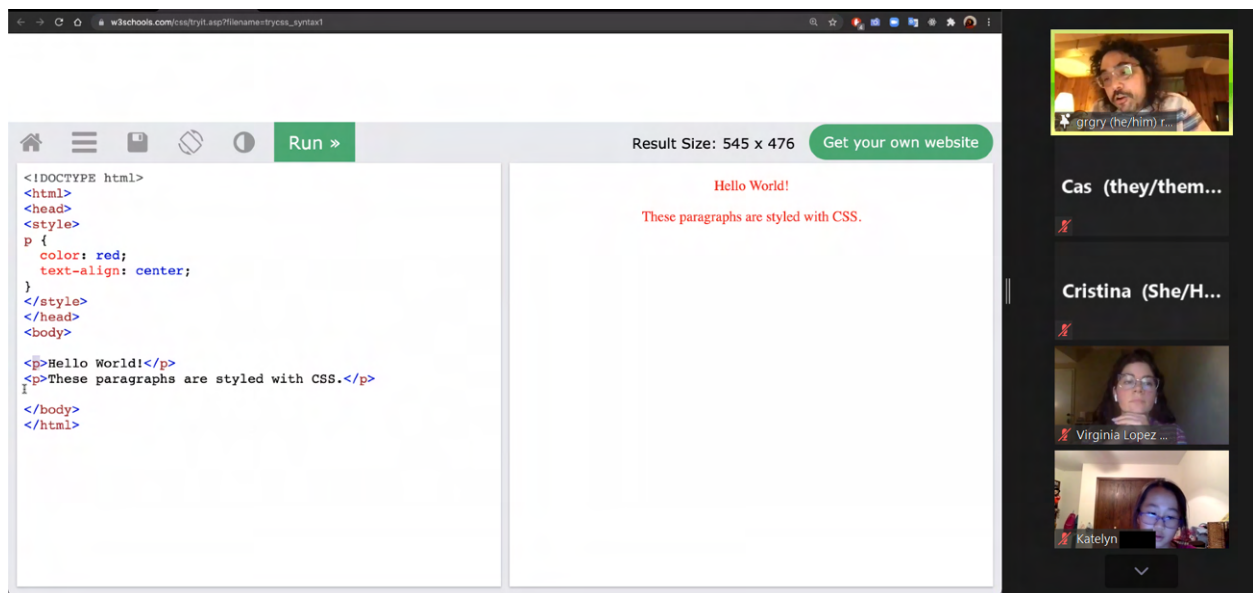
We also foresaw budget challenges, especially with our initial plan of having the coding camp also be a competition. To prevent challenges with fundraising, we were able to partner with Ramsey County Library as they already had space in their budget to provide us with the funds to purchase prizes for our attendees.

Impact

Our project largely aligns with CTEP's goal of teaching individuals digital literacy skills as all of our attendees engaged in coding activities and exposure to various coding languages. More so, it was hands-on as they created their own projects using the skills and knowledge they obtained during the coding camp. Only one of seven participants had stated they had heard of Scratch before, but hadn't used it before. Yet, all seven

participants created multiple projects throughout the five days. In a way, their projects act as a Northstar assessment, demonstrating their mastery in Scratch. Although our audience was youth and thus we could not meet the CTEP goal of participants finding employment, they were still exposed to various careers that the skills they learned could be applied to in the future. They were also referred to specific resources through which they would find employment, internships, or opportunities that they could use for future reference.

This project's impact really lies in its exposure. In order to raise the number of women in STEM, we need to expose young women to not only this knowledge, but also the representation of women who have done it before. This is especially true during a time when they believe anything is possible for them. This is in alignment with CTEP's educational focus.



Greg showing the attendees other coding languages during day 3 of the coding camp.

Future Opportunities

The content we created for this project could easily be utilized to offer a coding camp again, whether that be at Ramsey County Library or elsewhere. In saying that, there is also room for improvement in regards to the content and structure of the coding camp, especially for different age groups.

As of right now, there are no plans to offer the coding camp again, but the materials could be passed on to a different group of individuals to host it again. We could even compile the materials together and offer them on a drive to the general public as a means to encourage the continuation of this project beyond the one occurrence.

If Ramsey County Library sees interest, it is content that could even be kept with them as a regular offering put on by future CTEP members or staff.

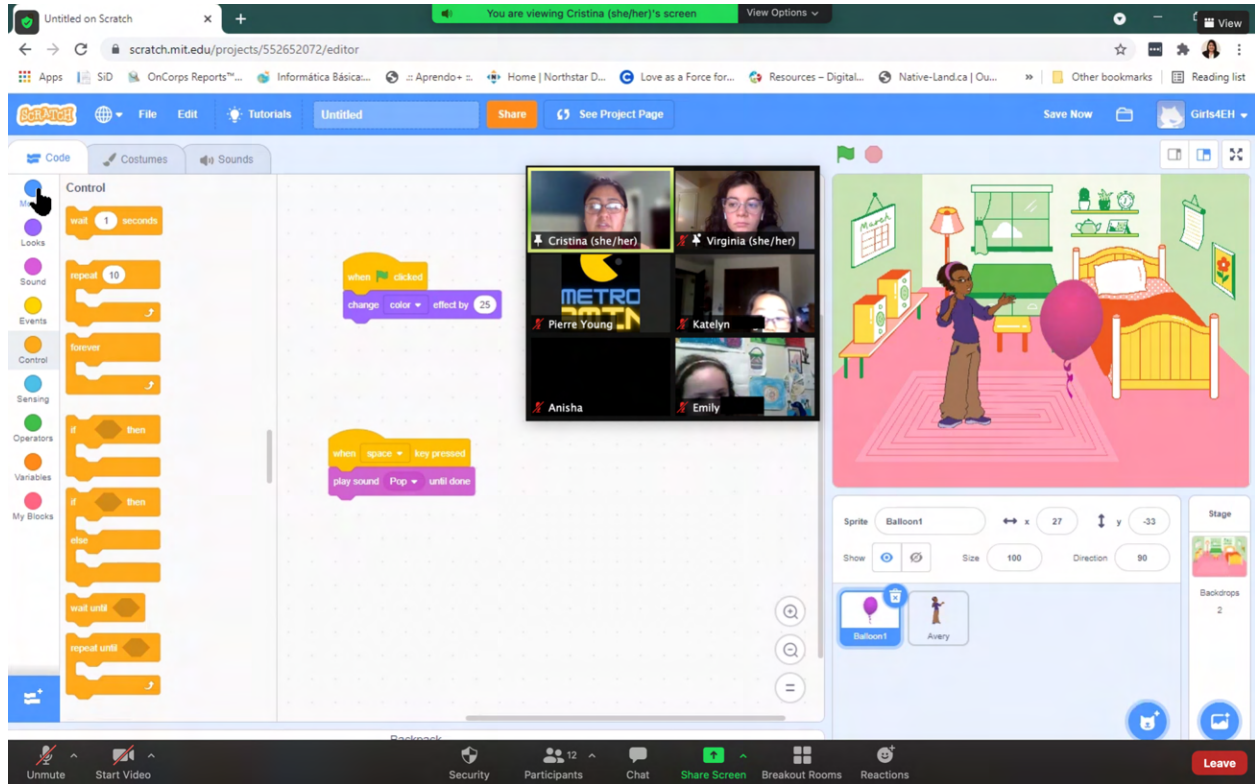
Learnings

Through this project, we all learned that civic engagement requires perseverance. We did not expect to encounter so many challenges and needs for adaptation, but we were still able to successfully achieve our desired outcome because of our shared goal and vision.

We learned that beyond simply writing, planning, and preparing for the coding camp, you need to have the right attitude and try your best regardless of circumstances. At the end of the day, we all had each other's backs and we all had someone to lean on during challenges, whether that was stepping up during the coding camp or offering someone feedback.

We learned how to still do civic engagement virtually, which is a new reality for us. It can be challenging to be engaging and ensure learning through a virtual platform, but we found ways to encourage participation and sharing.

We learned that it is the mission of your work that matters most, which is what pushed us to keep going and put on the coding camp despite challenges. It was also an enriching experience to work with such curious youth and inspire them to pursue their various interests, including coding.



Cristina explaining the Scratch coding blocks on the 1st day of the coding camp.