



# STEM Learning for Children

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College Park Scholars – Science & Global Change Program

Computer Science

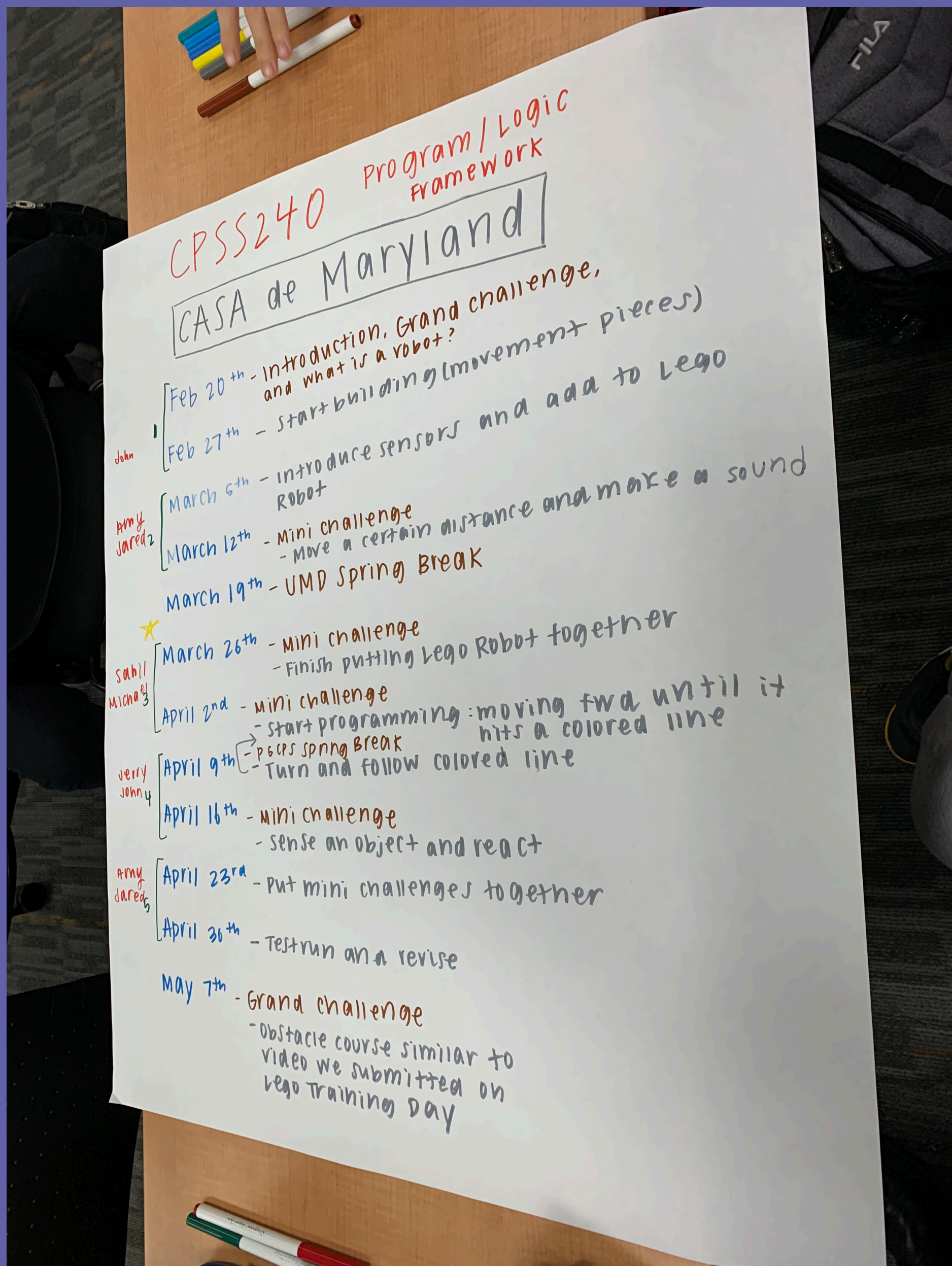
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## Introduction

Despite the field of STEM (Science, Technology, Engineering, and Mathematics) being one of the most important to the advancement of society, many students are not given the opportunity to learn about STEM early in school. With my CPSS240 classmates, I worked to give an experience in robotics to children at CASA de Maryland.



Our lessons planned out ahead of time.

## Site Information:

CASA de Maryland

734 University Blvd E, Silver Spring, MD 20903

Michael Pelekhaty supervised

The goal of CASA community, education, and legal aid to immigrants in Maryland, Pennsylvania, and Virginia.

The goal of CASA de Maryland is to provide a safe community and educational center for immigrant children in the area.

## Issues Confronting Site:

Many students do not have access to STEM education or STEM learning opportunities in ordinary school hours. Kids at CASA de Maryland are among them.

We hoped to spark an interest in STEM for these kids and provide some experience in the process.



## Activities:

First we had to familiarize ourselves with the Lego Mindstorms robotics kits. We went through lessons and tutorials for constructing and programming so that we could be sure we knew how to teach others about them. Next, we had to come up with a challenge for the students to complete by the end of their lessons. We created lesson plans to guide the process and to ensure that we were making good progress on each of our visits to CASA de Maryland. With our lessons scheduled, we were able to teach the students and help them to build and develop their robots

## Discussion:

We had a good first few weeks at CASA de Maryland. We were able to get to know the kids there a little, and introduce the project to them. We made significant progress on the construction of the robots and were approaching the point when we could begin to teach them how to program their robots. However, our time was cut short by the COVID-19 outbreak. We were unable to complete the planned lessons as a result, and couldn't move on to programming.

## Impact:

This project emphasized to me the importance of equal opportunity in education and life, and the unfortunate reality that this is not how things currently are. I was able to get a good head start on my knowledge of programming with the Computer Science courses offered by my high school, and that knowledge has greatly helped me get ahead as a Computer Science major here. By contrast, there was a lack of traditional STEM education at CASA de Maryland, which means that there is less early exposure to STEM for the students there. Early exposure to STEM can be important for sparking an interest in many students, so this project gave me a chance to see one way that can be done, even if a school provides little STEM exposure in a traditional classroom setting.

## Future Work:

In the future, I hope to be able to have more of an impact in the field of STEM. The fact that we were unable to complete our lesson plans gives us more reason to try to give students a chance to experience STEM early in life. This was a good experience for me overall, and it felt very relevant to my major, Computer Science. I may try to start my own programming projects and use knowledge exercised in this project as an aid.



Construction of the robots

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