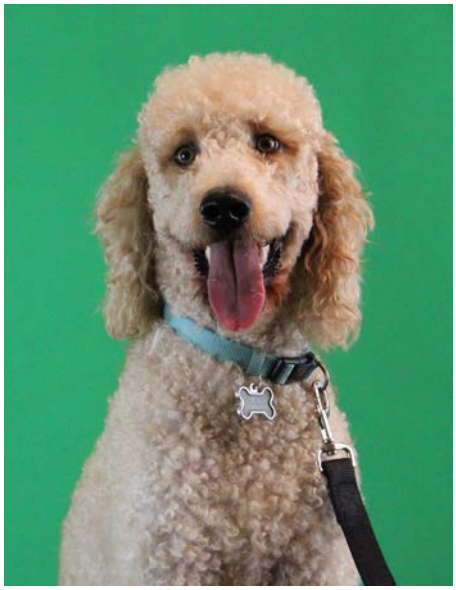
News from PVNet **Silicon Hill** Week 7, 7/25/2016

Located at the Promenade on the Peninsula

Say Bye to July and Jump into August!

There's only one month of summer remaining! These past two months have been incredibly fun and tech-packed, but buckle up your seatbelts because August is going to be the best month yet!

Announcements



Congratulations to PVNet Intern Brett Kidman for his acceptance to Dartmouth College! He will be attending the school in the fall.

Attention South Bay Homeschoolers! Come to the Town Hall meeting at PVNet on July 30th, from 4:00-5:30pm. We are preparing to offer classes for homeschoolers and want to hear your input and concerns so we can support your needs.

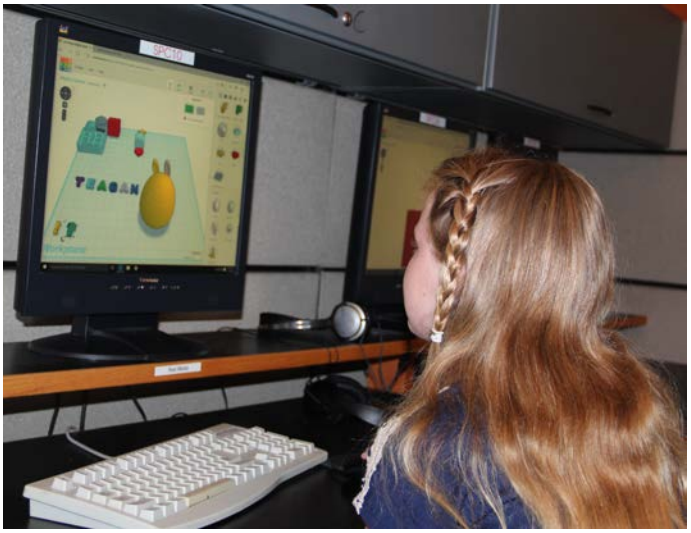
Dog Photoshoot on July 30th- Come to PVNet between 10am-12pm with your dog for a free photoshoot! We use professional equipment, and email your photos to you after the shoot. We'd love to see you and your dog there!

Classes

STEM UNIVERSITY

We saw many new faces in STEM University this week! Our students had tons of fun while making their animations in Maya, creating designs in Tinkercad, learning programming basics with Ozobots and Scratch, dove into electronics with LittleBits, and polishing their artistic abilities with our 3D printing pens. What a full and energetic week! Our students are always engaged, curious, and excited. We love seeing these young faces weekly!

One of the things that the students really enjoyed was making egg-shaped figures in Tinkercad. Always a crowd pleaser, the web-based modeling software is easy to use, and offers pre-made shapes to work with, making it perfect for beginners. Users can stretch and contort basic shapes into designs, or import a pre-made design for printing. See **Lucia** on the left and **Teagan** on the right working on their creations below.



The students also had fun working with the Ozobots. They were entranced by the way the bots followed their commands and marker-drawn paths, and also programmed the bots using Ozoblockly. Some created flashing patterns, while others designed small games.

Hear from our students! 3D pens were clearly a big favorite this week!

Renata: "I liked using the 3D pens. I made a flower and some of my friends' names."

Victor: "My favorite part was using the Ozobots because they did what I told them to."

Michael: "My favorite part was working with Maya. I made a rocket blasting off!"

Mikey: “I liked Maya. I made a rocket going to space.”

Lucia: “I liked doing the 3D pens. I made words, like my name.”

Kyle: “My favorite part of this week was using the 3D pens. I made a helicopter.”

Teagan: “My favorite thing was the 3D pens. I made a panda.”

Pius: “I liked using the 3D pens. I made a tank (pictured below).”

Brodie: “My favorite thing was the 3D pens. I made a helicopter (as seen below right).”

Harley: “I liked Maya because I made an X-bow (A bow that shoots ten arrows at once).”

Leroy: “My favorite thing this week was the 3D pens. I drew my name and my sister’s name and other people’s names. It’s fun to make stuff.”

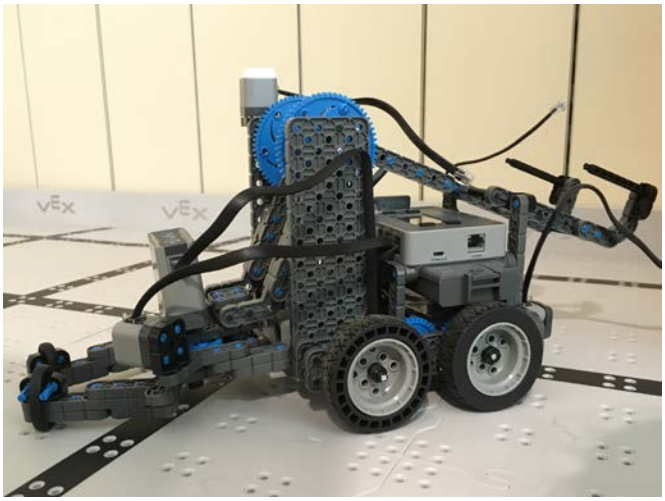
Alvin: ‘My favorite thing was Ozobots because I like robotics.”

See the cool 3D pen art that was created this week below!

VEX IQ ROBOTICS

Robotics classes began this week! We are so excited to have **Kirithika** and **Don** teaching our new class. They are using the VEX Robotics system, which is a completely tool-less snap-together robotics kit. The class meets on Monday, Wednesday, and Friday for the next three weeks. The students will build their own robot and compete to complete challenges and tasks with it. It is sure to be a fun, educational, and amazing experience!

Why Robotics?



So why is Robotics so popular, and why should you try it? Robotics encompasses every part of STEM, or Science, Technology, Engineering, and Math, and encourages teamwork, problem-solving, and leadership in a hands-on environment. In fact, building and testing a robot gives students experience in the most fundamental aspect of science: experimentation and observation. The Carnegie Mellon curriculum that PVNet uses is designed to integrate grade level mathematics, programming, and engineering activities for students. In addition, students will learn about robotics technologies and how they impact modern industries.

Robots in the Wild

From the development of micro-robots to non-invasively treat disease, to the perfecting of autonomous vehicles, to the creation of a robotic chess superstar, robots are everywhere. A couple decades ago, thousands of scientists struggled with the problem of how to get robots to map their environment and navigate through it. Now, the technology is so commonplace that even a Roomba has a camera and can build a 3D map of the world as it wanders around. There are many more breakthroughs expected in Robotics, such as neutrally controlled prosthetics and shared learning in the cloud for robots.

MATLAB

Kirithika started leading our new MATLAB classes this week, which went from 5:30-7:30 on Tuesday and Thursday. MATLAB is a high-performance language for technical computing. It is optimized for solving engineering and scientific problems. In university environments, it is the standard instructional tool for introductory and advanced courses in mathematics, engineering, and science. MATLAB features a family of application-specific solutions called toolboxes. Toolboxes, or comprehensive collections of MATLAB functions, allow the user to learn and apply specialized technology. In industry, MATLAB is the tool of choice for high-productivity research, development, and analysis. For students interested in engineering, research, and graphical output of data, this is the language to learn!

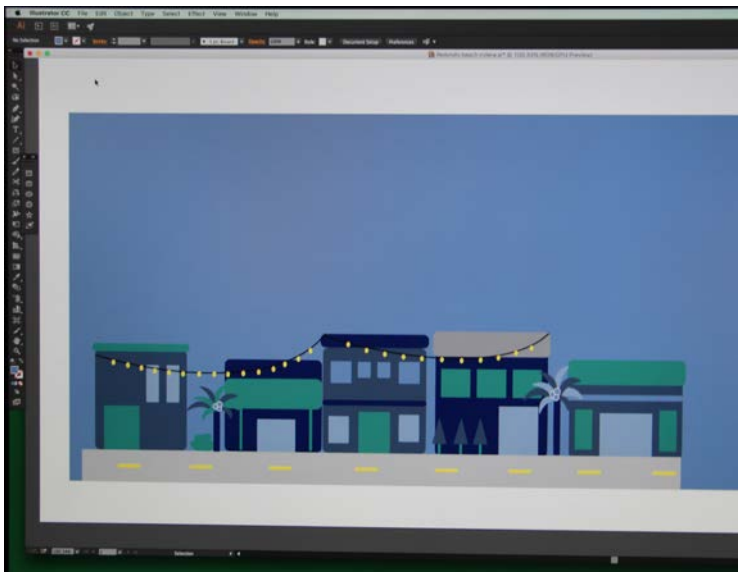
3D PEN ART

In this class, students learned how to use a 3D printing pen, and practiced drawing simple shapes and letters. They progressed to creating their own unique art, in the form of buildings, vehicles, and animals. Are you an artist looking for a new medium? Try 3D pens! They are easy to use and can create various designs and shapes quickly. There are no limits to creativity when you are holding a 3D pen!

Projects

VIDEO PRODUCTION

The team continued designing scenes and polishing the scripts this week for the PV Transit PSAs. Take a look at one of their designs, made by **Lauren**, below left. **Eunice** is pictured animating and editing on of the PSAs on below right. The team finished one of the PSAs this week. Nice work!



GAME DESIGN

The game is almost finished! The team spent the week adding finishing touches to the environment and animating the zombie models. It was also a period of testing for the game, as they optimized the zombie scripts. The game looks great so far! See a picture of it below right!

Here are some of the contributions that members made to the project so far:

Aysel: Models of zombies and grenades

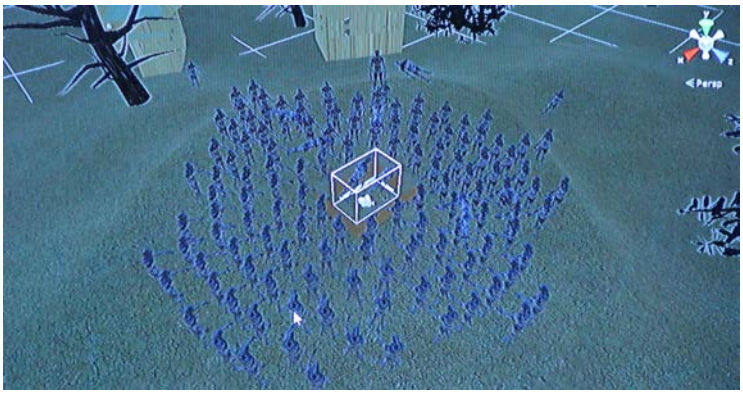
Michael S: Environment Design in Unity

Lochlan: Models of weapons

Lauren: Models of buildings and gate

Christian: Team leader/instructor and programmer

Thanks for your contributions! We can't wait to play the finished game.



Interns

Aysel, in addition to leading STEM University, experimented with creating a screw in Maya, as seen to the right. She also finished rigging her zombie model, and is going to work on animating it next week.

Lochlan modeled an axe this week using Autodesk 3ds Max, a powerful 3D design, animation, and rendering software. He continues to be the Weapons Master of our Game Design team.

Eunice finished animating one of the PV Transit PSAs this week, using After Effects. Nice work Eunice! It looks awesome.

Michael S. has been working on the environment for the Game Design team. He has been constantly using the HTC Vive to test out the game, and make adjustments.

Eric has been helping around our office, and he also helped lead our 3D pen class. He is also currently working on a project in Tinkercad.

Daniel continued learning how to use Inventor this week, and worked with the 3D printers.

Josh has been working on a gun model in Maya. His modeling skills keep getting better and better!

Lauren and **Tina** helped organize the dog photos from the last photoshoot, and learned how to use Photoshop to touch the pictures.

Thanks for Reading! See you later!

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PVNet News
Summer 2016