Build, Program, Learn & Play with

THE VIRTUAL ROBOTICS TOOLKIT

COGMATION ROBOTICS
Why teach STEM through Robotics?

- Everybody uses software, but nobody knows how to create software. It’s like living in a world where people can read, but they can’t write. The solution to this problem is teaching engineering and coding through robots.
• Learning with robotics gives students an opportunity to engage with real life problems that require STEM knowledge.
• Robots are a proven fun way of getting kids of all ages and experience involved and excited about learning.
• Emphasises hands on project based learning by doing and experiencing
• Teaches Design Engineering Process.

1. Ask
   • What are the problems
   • What are the constraints

2. Imagine
   • Brainstorm Ideas
   • Choose the best one

3. Plan
   • Draw a diagram
   • Gather needed material

4. Create
   • Follow the plan

5. Simulate
   • Test it out!

6. Improve
   • Discuss what can work better
   • Repeat steps 1-5, make changes

The Engineering Design Process
Virtual Robotics Toolkit: Robotics Simulator
Why use Virtual Robotics Toolkit?

• Simulation is a capacity enabler
• Simulation is an effective means for understanding how physical concepts like force and motion come to play in real life.
• Virtual Robotics can provide a much greater variety of challenges and environments
• Build your Virtual Robot once, and keep it with you forever
• Makes it much easier to compete and share your robot with others around the world
Now, partnered with Microsoft, we are bringing educational robotics into the digital world. Virtual Robotics Toolkit is now available at Microsoft’s Windows 10 Store for Purchase which brings value to the teachers and students in the following way:

- **Trust** – Confidence that the app they are using meets Microsoft’s standards for privacy and security.

- **App freshness** – Latest, most up to date version of the application will be provided, without worrying or managing the upgrade/install process themselves.

- **Target distribution** – With the Windows 10 Store and Microsoft Education System including Microsoft Intune for Education, school officials (IT admins, teachers and staff) can target, manage and deploy the application to the proper students and classrooms with confidence.
In addition to the Windows 10 store it is available for easy install today through the Education Collection in the new MS Intune for EDU.
LEGO® MINDSTORMS® Robots

LEGO Education Centres are spread all across the world
Why LEGO® Robots?

- LEGO® Mindstorms EV3 is the dominant platform.
- An estimated $1 billion USD worth of hardware has been sold.
Major Robot Tournaments

World Robot Olympiad (WRO)
- 24,000 teams worldwide
- Bigger in Europe / Asia

FIRST LEGO League (FLL)
- 25,000 teams worldwide
- Cost to register a team is $2,500 annually
- Students program a robot to solve a social theme.
- Host city: $28 million economic impact.
WRO India 2016

26 - 27 November 2016
India Expo Mart
Greater Noida, Uttar Pradesh

Jointly Organised by:
National Council of Science Museums
Ministry of Culture, Govt. of India
India STEM Foundation
 Supported by:
Department of Science & Technology
Testimonials

Amanda Dice, Teacher, Connections Education

I teach students in an online extracurricular STEM program at Connection Academy supported schools. I have had the pleasure of working with Priyanka Tuteja and other members of the Cogmation Virtual Robotics Toolkit team since last summer. We came to them as a new customer with lots of questions. They always took the time to provide thoughtful answers and to thoroughly explain the details of their excellent product. They were willing to learn about how we deliver instruction to our students in order to better understand what our needs are. Our students, who range in experience from novices to skilled programmers, have all been enjoying exploring the engaging challenges and programming opportunities available to them through the Virtual Robotics Toolkit. It has been a big success! This is due to Cogmation’s dedication to delivering a superior product and their willingness to collaborate with educators in determining the best way to introduce it to students.

ThunderBots, FLL Team from Sacramento

As coach and mentor of a First LEGO League robotics team from Sacramento, Thunderbots, I do a great deal of presentations and demonstrations involving different types of EV3 robots. I have been using FLL challenge mats for over 3 years and as FLL has added more and more complex missions, the time to allow kids to spend time on their own to program the robot have become difficult. I was looking for a way to make their learning smoother, faster and independent. I found Virtual Robotics Toolkit was extremely impressed with the product. It was so easy to use, and required no computer aided design knowledge. After an intensive analysis of all the tools for simulating an NXT/EV3 robot that currently exists in the market, I have chosen to incorporate Cogmation’s Virtual Robotics Toolkit into our learning due to one main reason: the enormous flexibility offered both to the coach/teacher and the students to test their programming on a virtual playing field. While importing a virtual robot for the first time, I got stuck, I just sent an email and in less than 2 hours, I had a detailed response from the technical support team providing me with information on how to fix it and provided additional tips too. I was most impressed! A company that believes in customer service!!! Thank you Cogmation team for a terrific product.

Regards,
Sudheer
VRT Demonstration
If this is of interest, please visit us at pod#SV16a in the STEAM Village for a Hands-On Demo of our software.
Thank You!