

**CAN YOU
BUILD A
ROBOT TO
SAVE A
LIFE?**



BREAKING NEWS

“An environmental disaster has rendered parts of the city uninhabitable and prone to tremors. We do not know how many survivors remain after the evacuation, however, authorities have tasked key groups to send in semi-autonomous robots to assess the situation.”

YOUR SCHOOL IS INVITED TO PARTICIPATE IN THE FIRST NEXGEN ROBOTICS IOT CHALLENGE.

Nexgen Codecamp, in co-operation with Microsoft Australia, would like to invite your school to participate in the “Nexgen IoT Robotics Challenge 2018”, which is a competition for Year 9-11 students to design and build a robot capable of surveying a disaster area and reporting back via a Microsoft Azure Cloud infrastructure.

The Challenge

After an environmental disaster has left parts of the city uninhabitable, you have been tasked with building a robot or vehicle to send on a recon mission into the city to assess the immediate damage to buildings and infrastructure and risk to the general population, animal and plant life. Your robot must navigate around debris (both controlled remotely and autonomously), take sensor readings in key areas and find survivors and other points of interest.

Project + Teams

Six (6) school teams from the Sydney area will be invited to design and build robots using Micro-controller (Arduino) and IoT (Internet of Things) technology. These robots will compete in an event on the 23rd & 24th October 2018 at the Microsoft office in North Ryde against other teams.

All participating teams will receive guidance from a Nexgen mentor during the process of designing, coding and building of the robots.

Each school is allowed to field one team consisting of 6 students. The team should be mixed gender (in case of co-educational schools) and made up of students from years 9 - 11.

Each team will receive training and support from Nexgen during the process of creating their robot (prior to the competition).

Benefits for your school and students:

Your students will have a chance to learn about new / emerging technologies through Nexgen technical coaching, giving them insights into best practices for designing systems with elements of code, electronics and engineering.

Schools and students will have exposure/practice with Microsoft Azure Cloud technology and help from experts within the IT industry as well as industry sponsors and the media through on/off-line publicity.

A few rules

1. Teams must build a robot or vehicle using the *IoT Robotics Challenge Kit* and chassis provided by Nexgen Codecamp and Microsoft's Azure Cloud.

The Kit contains an Arduino based microcontroller called a Seeeduino and Seeed's Grove sensors, which means little or no soldering is required.

2. You will be programming your Seeeduino in Arduino C.

3. The robot must be controlled wirelessly and autonomously equipped with pre-described functionality, e.g. being able to communicate with WiFi, to follow a track (black line), take sensor readings, (temperature, potential harmful gases and light/visibility), take photographs, measure distances and navigate themselves.

The robots will take turns at completing the challenges and accruing points.

4. Data collected from Seeed sensors will be displayed on a laptop connected to WiFi using Microsoft's Power BI.

How do I accept the challenge?

Review the rules and details of the challenge at www.nexgencodecamp.com.au/iot-robotics-challenge.html and send your expression of interest to iot@nexgencodecamp.com.au

We will confirm your registration and will send you the chassis of the robot. Your team will also be given a set of competition rules, checkpoints, and build guides in order to get them started in the competition.

For more information, contact details, complete rules list and T&Cs, please visit www.nexgencodecamp.com.au/iot-robotics-challenge.html



About Nexgen Codecamp

Nexgen Codecamp is a Sydney based business focused on educating young people in existing & emerging technology. We aim to impact the way technology is taught in Australia, whilst supporting schools and communities.

Please also enquire about our in-school "Young Technologist Program", which introduces technology education (with focus on Robotics, Coding, Animation, 3-D Printing and Internet of Things) to primary and secondary schools in an innovative, engaging and hands-on way: www.nexgencodecamp.com.au

The next step

Check out the IoT challenge documentation and timetable, which is a guide on what you will need to do and by when in the lead up to the competition weekend. If you have any questions, please call or email us on the number below.

Get in touch

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