

Chapterthon 2018

Internet of Things



The Chapterthon is an annual global Internet Society Chapters marathon, where all members can participate by developing a project to achieve a common goal for the development of the Internet. The best project receives a prize!

Supporting our Chapters for an open Internet

Chapters are central to our work, bringing together our members in local and regional groups who run programmes and activities dedicated to informing policy and educating the public about Internet-related issues.

Our Chapters provide us with unique local and regional perspectives on emerging Internet issues. There are currently **121 Chapters** and **8 SIGs** (Special Interest Groups) across six continents, all sharing a common interest in helping to achieve the Internet Society mission: **an open, globally-connected, secure, and trustworthy Internet for everyone.**

With this in mind, we created an annual competition called the **Chapterthon**, a global marathon in which all Internet Society Chapters can participate by developing projects that aim to achieve a common goal for the development of the Internet. Working together, the Chapterthon gives our members the opportunity to meaningfully contribute at the local or regional level, utilizing the power of our global community to find sustainable innovative solutions and to raise awareness of challenges that affect us all.

The project winner is then selected by the community through online voting.

Each year, the Internet Society selects a topic that addresses an important Internet-related issue and aligns with our priorities. Through the Chapterthon, we engage with our members on a grassroots level to create new opportunities for collaboration and in partnership with local organisations to empower people around the world.

In 2017, we asked our community to find solutions that help us ensure inclusive and equitable quality education and lifelong learning opportunities for all. 30 Internet Society Chapters from all the regions worked hard to extend the benefits of the Internet for education in their communities. With the help of our members, we connected schools to the Internet, taught girls how to code, trained teachers and parents, raised awareness about how to use the Internet safely, developed an online platform for a school and helped to create educational change at the local level. These are just some examples of the amazing work our Chapters have done.

In 2018, we wanted to know what our Chapters had to say about the rapidly growing **Internet of Things** (IoT), the family of new physical objects and devices that are connected to the Internet. Our 2018 Chapterthon challenge saw our community work together to make our increasingly connected world a safer place. We were amazed at the response!

43 Chapters and Special Interest Groups (SIGs) from across the globe worked alongside to bring awareness on the Internet of Things to their communities.

They ran over 200 training sessions and workshops, engaging students, entrepreneurs and local governments.

They organized national campaigns and their message was brought to the most remote places.

The Chapters also developed IoT applications that will improve people's lives in their communities.

Chapterthon 2018

Internet of Things

We are seeing explosive growth in the number of Internet of Things (IoT) devices and their use in a wide variety of new and exciting applications, and while projections for the impact of IoT on the Internet and the global economy are impressive and promise to change the way we live for the better, ensuring the security of these devices is critical.

That is why we launched Chapterthon 2018 under the theme, **Internet of Things (IoT) – The future is ours to shape**.

Open to all Internet Society Chapter members, Chapterthon 2018 kicked off on May 20, 2018. In the first phase of the initiative, members contacted the Chapter board in their region to share their ideas. Each Chapter board decided which project would represent them in the competition and submitted a project idea within the designated timeline and budget. In the second phase, Internet Society staff reviewed all project proposals to ensure they met **Beyond the Net Funding Programme eligibility criteria**.

43 projects were selected to participate in the competition. Each project addressed at least one focus area: consumer awareness and education on IoT, advocacy for policymakers, promotion of the Online Trust Alliance (OTA) IoT Trust Framework, and developing smart IoT solutions.

Projects were implemented on September 1, 2018, and culminated on October 19, 2018, at which time the Chapters created three-minute videos to highlight their projects, submitted along with their final project reports.

In 2018, our Chapters organised over 200 training sessions and workshops, engaging students, entrepreneurs, and local governments; organised national campaigns, bringing their message to the most remote places; and developed IoT applications that will improve the lives of people in their communities.



Incredible IoT

The **Afghanistan Chapter** helped students develop IoT pilot projects using Arduino kits and conducted ethical hacking to showcase the importance of IoT security. A wrap-up event was held at Kabul University.

[Watch video](#)

IoT in precision livestock

The **Argentina Chapter** developed a compact collar device prototype for breeding bulls, which connects to a receiving station and allows for remote monitoring of reproductive activity.

[Watch video](#)



IoT course on Arduino controllers

The **Armenia Chapter** organised a lab course on IoT hardware and software for blind and visually impaired people to help include them in the development of the digital economy.

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Motivating Students to Develop Real Life IoT Solutions

The **Bangladesh Dhaka Chapter** created awareness on connectivity, networking, and communication protocols to encourage students from six universities to develop IoT solutions. 500 students will attend the World Robotics Olympiad.

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CoPilotPASS

The **Barbados Chapter** addressed issues facing the implementation of GPS trackers on public service transport, such as implementation costs, data transmission, and privacy of vehicle operators.

[Watch video](#)



IoT LowHightech

The **Benin Chapter** organised an amazing workshop using recycled materials, followed by a public lecture about security challenges at the Abomey Calavi University. 150 students were introduced to IoT opportunities.

[Watch video](#)

Proposal of Good Practices for the IoT deployment

The **Bolivia Chapter** developed a guide on security and privacy best practices applicable to IoT devices and services that can be used by suppliers, manufacturers, developers, and end users, which was validated by multiple stakeholders in the community.

[Watch video](#)



InspetorNET

The **Brazil Chapter** developed a device to help small ISP and community networks deliver better service in regions lacking proper infrastructure. The device will monitor and predict potential issues due to environmental conditions.

[Watch video](#)

IoT security and privacy issues workshop for bloggers

The **Burkina Faso Chapter**, in partnership with the Bloggers Association of Burkina Faso, offered a workshop on IoT security and privacy issues, raising awareness for those using smartphones and IoT devices.

[Watch video](#)



ISCC Speaker Series - IoT Security Edition

The **Canada Chapter** aimed to engage 12 high-level representatives from government, the private sector, academia, and civil society to join the Advisory Committee to develop a strategy based on the project "Multistakeholder Process: Enhancing IoT Security".

INTERNET



Internet Sûr

The **Chad Chapter** used local radio programs to raise awareness among Chadian youth and consumers on the importance of IoT security.

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Open IoT mesh routing

The **Community Networks SIG** created, "Disaster Radio", a pilot project to enable communication in real-time disaster scenarios using solar powered, long range, and low bandwidth radios.

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IoT for secondary school students

The **Dominican Republic Chapter** gave 900 students the opportunity to attend a program of talks and workshops to learn how to use open hardware and software to develop IoT solutions.

[Watch video](#)

IoT : Concept and Challenges

The **Democratic Republic of Congo Chapter** organised a conference for 200 students, followed by a short theatrical show defining the Internet of Things and focusing on privacy issues.

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Information Network for IoT users

The **Ecuador Chapter** investigated IoT devices with the highest national demand and their potential vulnerabilities. Informative brochures indicating precautions and digital alert systems were provided.

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Inform, Occupy, and Work to sensitize and raise awareness on IoT

The **El Salvador Chapter** promoted the importance of IoT with real projects and the creation of a network where all kinds of institutions are involved, contributing to the digital literacy of those who need it most.

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Using IoT to Monitor and Improve Patient Care

The **Gambia Chapter** implemented IoT solutions to monitor and improve patient care. The solution will allow nurses and doctors to collect vital signs and transfer data to the patient record system.

[Watch video](#)



Student IoT Hackathon

The **Georgia Chapter** invited 10 student teams to participate in an IoT Hackathon to build a working prototype of IoT systems that will include a set of sensors and applications that analyse data.

[Watch video](#)



Connected objects. Myths and reality in Guinea

The **Guinea Chapter** educated consumers in collaboration with the Guinean Consumers Association, challenging stakeholders in the Guinean Information and Communication Technologies (ICT) and Internet ecosystem to apply international standards.

[Watch video](#)



Smart Class

The **Haiti Chapter** organised a 5-day intensive training course on IoT. 30 students prepared relevant videos to be published on social networks. A campaign about IoT security has been developed.

[Watch video](#)





The power of Imagination in IoT

The Honduras Chapter led an education program on basic IoT skills for emerging technologies, applying the STEAM (Science, Technology, Engineering, the Arts and Mathematics) methodology for Central District students.

[Watch video](#)

Making a Better Digital Future

The Indonesia Jakarta Chapter organised an interactive seminar with a moderator and designated speakers, involving the IT community, associations, students, and business.



IoT Security Training

The Kazakhstan Chapter organised a 20-hour training session on IoT security for 15 representatives of Kazakhstan universities and research institutions.

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Maisha Endelevu

The Kenya Chapter used IoT technologies to help farmers analyse real-time data such as weather, temperature, moisture, prices, and GPS signals, and to ensure the correct data is available to make the right decisions.

[Watch video](#)



Madio City

The Madagascar Chapter created an IoT monitoring platform to increase people's participation in garbage sorting. Citizens can post photos or videos online showing garbage disposal in the correct location to get tax reduction.

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ININE

The **Mali Chapter** developed an IoT anti-theft system and a mobile application to reduce electrical consumption expenses and optimise the security of home appliances, air conditioners, vehicles, etc.

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IoT National Outreach Program

The **Mexico Chapter** implemented a national online awareness program about IoT technologies and their impact in Mexico.

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Owamboland IoT security

The **Namibia Chapter** created a collaboration between ICT industry professionals, local schools, and the Ministry of Basic Education to introduce consumer awareness and education campaigns on IoT issues.

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Promoting Applied IOT for Smart Cities

The **Nepal Chapter** formed an alliance with policy-makers at the federal and local level encouraging them to take an active role in promoting IoT. Three advocacy camps worked to develop sustainable smart cities in Nepal.

[Watch video](#)



IoT: a Journey for a Better Education

The **Nicaragua Chapter** trained more than 50 teachers from 20 middle and high schools on IoT in collaboration with PUENTES, a non-profit organisation with a network of schools, to improve quality in education.

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IoT and Security awareness campaign

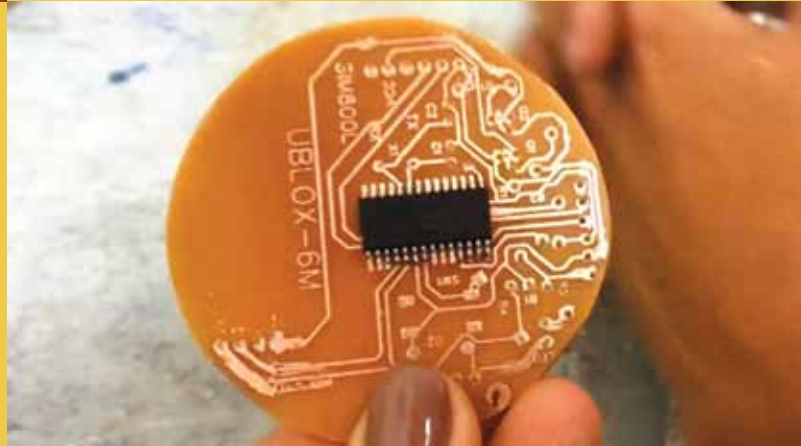
The **Nigeria Chapter** increased awareness among students on IoT issues, and the importance of security and creating strong passwords when using IoT devices.

[Watch video](#)

Mobile Panic Button with GPS

The **Paraguay Chapter** determined the feasibility of a GPS system operated by a rapid geolocation button for people in any type of emergency, to avoid material and physical damage.

[Watch video](#)



Creating a Youth Training Center for online games coding and development

The **Rwanda Chapter** trained 20 young bloggers for 10 days to enable them to start five local language blogs focusing on IoT definitions, impact, and general know-how.

Tolbi Nangadaf

The **Senegal Chapter** project allowed illiterate Senegalese farmers to monitor their fields via smartphone and receive accurate information (measured by sensors) and advice on climate emergencies.

[Watch video](#)



Secure IoT for All

The **Somalia Chapter** educated the ICT and telecommunication sector and the Somali community about the advantages and risks of IoT devices.

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IoT Fundamentals for Schools and Universities

The **South Africa Gauteng Chapter** project involved the rollout of Arduino and IoT training to eight students at the Curtis Nkondo School of Specialisation in Soweto, Emdeni extension.

[Watch video](#)

IoT Sri Lanka

The **Sri Lanka Chapter** encouraged local inventors and researchers to develop locally designed IoT solutions. Stakeholder meetings and a national campaign have been organised to introduce regulations to consumers.

[Watch video](#)



Safety of our children in this digital age

The **St.Vincent and the Grenadines Chapter** educated 50 children, ranging from ages 6-11, and 10 teachers, helping them to identify the IoT devices that are connected to the Internet.

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Consumers Awareness Week on IoT&Security

The **Tanzania Chapter** focused on the importance of consumers' privacy within the IoT ecosystem. A competition involved 30 students from 15 schools and an experts discussion of 150 people.

[Watch video](#)



ISOCUBE Democratize - Internet of Things

The **Togo Chapter ISOCUBE** is a tech hub that introduces building capacities to the community. Training sessions on the basics of IoT and coding have been organised for students and teachers.

[Watch video](#)



How to Make Trustworthy IoT

The US New York Chapter, in partnership with IoT Nation, presented, "How to Make Trustworthy IoT", an IoT privacy and security workshop with the Online Trust Alliance (OTA).

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IoT Training Workshop for Community and/or Personal Use

The Venezuela Chapter proposed an educational program involving 300 youths and students and highlighted the use of IoT as a facilitator in six different workshops.

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Blockchain Proof of Privacy for Smart Homes

The Zimbabwe Chapter developed a Hyperledger application to record data shared by cameras within a connected home using blockchain technology. Young people from the IoT Makerspace project collaborated with blockchain experts.

[Watch video](#)

Watch the Chapterton 2018 video



The project winner: IoT LowHightech



The Internet Society community members voted online and selected the best project. The projects that received the highest number of votes are:

First Place:

Benin Chapter – IoT LowHightech. A connected object creation workshop

The project is a connected object creation workshop with recycled material followed by a public lecture. An awareness campaign and training in the creation of connected objects took place during five days of activities at the University of Abomey Calavi with a free initiation of 20 people (10 women and 10 men) over a period of four days. The project reached out to approximately 150 people in relation to possibilities offered by connected objects and the challenges of security.

Second place:

Brazil Chapter – InspetorNET. A smart device to inspect small ISP infrastructure

The project developed an IoT device to help small ISP and community networks to deliver better service, particularly in regions lacking proper infrastructure. The device will help to monitor and predict potential problems in the network due to environmental conditions and electrical network problems.

Third place:

Afghanistan Chapter – Incredible IoT

The project raised awareness of IoT topics with school and university students, who learned from technologists and IoT experts through information sessions, a boot camp, and a hacking project in specific schools. Students developed IoT pilot projects using Arduino kits and conducted ethical hacking, showcasing the importance of IoT security. A wrap-up event was held at Kabul University.

Congratulations to the Benin Chapter, winner of Chapterthon 2018 and to the other two finalists!

At the Internet Society, we believe the Internet has the power to transform lives. Everyone can play a role in making this happen.

Thank you

We would like to thank all the Chapters for all the energy and efforts made to complete the projects. Congratulations to the Benin Chapter and to all the participant Chapters.

The Chapterthon, once again, was a success not only by the global level it reached, but also by showing that through commitment and hard work, we can shape the future!

Thank you Internet Society Community!

#shapetomorrow

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If you want to get involved and help shape the Future of the Internet, Join us.

Beyond the Net Funding Programme provides:

Medium and Large project funding for initiatives that harness the power of the Internet to change lives. They work in partnership with local organisations to empower people in their communities.

Small projects funding are granted to improve awareness on Internet topics of interest for the local community, and strengthen and grow Chapter membership.

Chapterthon is a marathon where all Internet Society Chapters work together within a specific timeline and budget to achieve a common goal for the development of the Internet.

www.internetsociety.org/beyondthenet



Founded by Internet pioneers, the Internet Society (ISOC) is a non-profit organization dedicated to ensuring the open development, evolution, and use of the Internet.

Working through a global community of Chapters and members, the Internet Society collaborates with a broad range of groups to promote the technologies that keep the Internet safe and secure, and advocates for policies that enable universal access.

The Internet Society is also the organizational home of the Internet Engineering Task Force (IETF).

Learn more www.internetsociety.org