MICRO:BIT SRI LANKA USER GROUP

MICRO:BIT SLUG consists of young volunteers who are from professional organizations and universities. Our mission is to increase computer programming capabilities and empower every child in Sri Lanka. With the help of MICRO:BIT, we can lay the foundation of programming to enrich their lives.

www.microbitslug.org

A program by

STEM UP Educational Foundation
What is micro:bit?

Learning things at a very young age can lead a person to become a pro when they reach maturity or to dig deep into the subject. Keeping that in mind, Micro:bit was first introduced by the BBC learning in 2012 when it was developed together with the BBC R&D department. Micro:bit is an ARM based embedded system designed for the purpose of using it for the betterment of the computer education in the UK. In other words one can also call it’s a little hand held programmable computer where a person can learn and have an awesome time with technology.

If you are wondering if this is similar to the BBC’s Micro computer that dates back to the early 2000s, you’re right and wrong at the same time. Note that the micro bit computer is 17 times smaller than the BBC Micro and its 617 times light! But here is the best part; it’s 18 times faster than the BBC Micro. The micro bit can be used for various applications from making simple musical instruments to robots. The possibilities are endless.

How to use it? First and foremost the micro:bit can be connected to your computer via a micro USB cable. The Advantage of the device is that no additional software is required to use it. The micro:bit JavaScript Block editor that is already available can be used to write the code. The BBC Micro Bit website on Microsoft Azure cloud services allows anyone to access information and a web based programming environment.

Here is where this is especially awesome for children. Even though a code has to be written you don’t have to write it from scratch. The user can drag and drop some blocks and try the program on a stimulator. Then all you need to do is to download and send your program to the micro:bit as a hex file which is readable to it. Once it’s done your code will run as if by magic! The process is simple as that but you can do wonders with it. All you need to have is a good imagination and enthusiasm to build new innovations.
What is micro:bit?

If you are not up-to working with JavaScript Blocks you can also use Python and text-based JavaScript to program your micro:bit. Check out all the awesome ideas, the text editors via the microbit.org page. There are also more than 200 different activities and resources to try from and as for those who like to challenge their coding skills there are creative coding challenges available in the page.

Now that you know what it does, let’s get to know its features! It has 25 red LEDs to light up, flash messages, create games and invent digital stories. These LEDs can be individually programmed. Apart from the LEDs there are 2 programmable buttons. They can be used to trigger code on the device. The on-board motion detector or an “accelerometer” helps to detect the movement and tell other devices you’re on the go. A built-in compass called a magnetometer, can also be found in the device which has the functionality of detecting motions and identifying certain types of metal. It also supports wireless communication via radio and Bluetooth. Last but not the least it has five input and output rings.

The scale of this device has gained much recognition over the years as it was embraced by more than 29 international organizations, pioneering startups and transformative education organizations. Micro:bit has already reached schools all around the world. In 2016, it was given free to every child who is 7 years or more that resides in the UK. BBC is the resource provider and the project lead for the product. They provide resources that support the curriculum including live sessions, getting started videos, projects and tutorials. BBC and the above stated partners are working closely with the teachers, educators and schools to ensure that the resources provided by the BBC are available for everyone. Micro:bit is the BBC’s most ambitious education initiative that is functioning for 30 years with the aim of inspiring digital creativity and develop a new generation of tech pioneers.
**Why micro:bit?**

The BBC micro:bit was launched in 2016 as part of the BBC’s make it digital initiative. BBC micro:bit has changed the attitudes amongst UK students and teachers towards coding and ICT education.

<table>
<thead>
<tr>
<th>Students in UK</th>
<th>Teachers in UK</th>
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<tr>
<td>90% Coding enthusiasts introduced</td>
<td>75% are to use</td>
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<tr>
<td>88% Agrees coding made easy</td>
<td>85% Claims it being enjoyable</td>
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<tr>
<td>45% Students to follow ICT/Computer Science</td>
<td>80% agree it helped students code</td>
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<td>A mix of girls and boys to pursue coding</td>
<td>Build coding confidence amongst many</td>
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**Impact**
micro:bit in Sri Lanka

Micro:bit Sri Lanka User Group (A project by STEMUp Educational Foundation) from its initiation has strived to empower the community. The mother organization, “Micro:bit Education Foundation” which promotes coding among the younger generation is based on UK and they were mainly focused on expanding its reach across Europe. There was no initiative to educate the Sri Lankan student community about micro:bit based coding. Therefore, by reaching the Micro:bit Education Foundation and presenting our plans we established the Micro:bit Sri Lanka as the local community organization.

When Sri Lanka became a part of the micro:bit community we received devices and learning materials with the mission of helping future innovators to increase computer programming capabilities and empower every child in Sri Lanka. Micro:bit Sri Lanka User Group conducted its first awareness session in the rural village of Udubaddawa, Kuliapitiya through an hour of code for school children rather than kickstarting with an introductory session in Colombo. From the day onwards, we have conducted awareness sessions, distribution of free micro:bit devices, conducted ideation competitions and provided support for micro:bit user groups abroad. The organization consists of young 400+ volunteers from professional organisations and universities to lay the foundation of coding among youngsters in Sri Lanka. The target student audience is from 11-13 years, 14-18 years and university students. Thereby it has been proved that Micro:bit Sri Lanka User Group was established, carried out and will be striving in the path to empower the community.

Micro:bit Sri Lanka User Group was presented with a special award by mother foundation, The Micro:bit Education Foundation as the first official Micro:bit Community Organization in the world due to its initiatives to introduce children to programming.
Our Mission

“Helping Future Innovators to increase computer programming capabilities and empower every child in Sri Lanka”

With the help of micro:bit, we can lay the foundation of programming to enrich their lives
Our Ecosystem
Momentum

- 400+ Registered Volunteers
- 300+ micro:bit Devices Freely Distributed
- 200+ Awareness Sessions
- 4K+ Children Empowered
- 10K+ Children Reach by 2018
Benefits for Volunteers

- Volunteers
  - Know How
  - Recognition
  - Networking
  - Swags

- Volunteers Ambassadors
  - Know How
  - Recognition
  - Networking
  - Swags
  - Free micro:bit devices
  - Microbitslug.org Email Alias

- Ambassador Teachers
  - International Trainings
  - Recognition
  - Networking
  - Swags
  - Free micro:bit devices
  - Microbitslug.org Email Alias
Benefits for volunteers

Micro:bit SLUG consists of young 400+ registered volunteers from professional organizations and universities to lay the foundation of coding among youngsters in Sri Lanka. The target student audience is from 11- 13 years, 14- 18 years and university students. Thereby it has been proved that Micro:bit Sri Lanka User Group was established, carried out and will be striving in the path to empower the community.

Volunteers are the most important entity of our organization. So that we always make sure to keep them motivated through various ways. Such as selecting the best volunteer of the month, holding monthly volunteer meetups etc.
How we reach

**Awareness Sessions**
- Individual/Group (New Project/Concept)
- Select the best one
- Implementation
- Local and Global Competitions
- Recognition/Certificates
- Onboarding best individuals as Volunteers

**Target Audience**
- School Students: CAT 1 - 11 to 13 Years
  - CAT 2 - 14 to 18 Years
- University Students
How we work
Micro:bit Discovery Day and micro:Hack
Awareness Sessions & mini Hackathons

Once we receive a training request through the web portal, the awareness session manager redirect them to the relevant district volunteer ambassador. Then the district ambassador finds the closest available volunteer and forward the request. Then that volunteer conducts the session and submits the event report to awareness session manager.

Apart from that general awareness sessions, we conduct an another series of sessions. Actually they are more than just 1:M sessions. We are organizing a discovery day & micro:Hack per district in a year. A resource person is inviting us. Then if that particular resource person can fulfill basic infrastructure for the event, our core team is going there and conduct it. That resource person has to invite 7 school teams from the relevant district. 5 members and a teacher per team.

First half of the day we are conducting discovery sessions. Apart from all technical sessions, a special session on soft skills being conducted to make sure all kids are capable of delivering a presentation. After that micro:Hack begins. We are not expecting them to implement the real product. But we want them to find out solutions for one of their real world challenges. May be a solution for an issue, their parents are facing. Required micro:bit devices, card boards, color pens are provided for their prototype building.
Teacher Trainings
Localization
Trilingual Support Desk

(Sinhala, Tamil, English)

- Technical Support
- Non-Technical Support
- 12Hrs Response Team for Support Tickets

microbitslug.org/support

support@microbitslug.org
Localization & Trilingual Support Desk

Micro:bit is an ideal tool to bridge STEM skills gap. So we wanted to make it more accessible to students. Thanks to our volunteer team, as of today micro:bit global web site and it content, Microsoft Make Code platform can use in both Sinhala and Tamil Languages. When students see those platforms in their mother tongue, they feel better and embrace it.

Our volunteer team is running a trilingual support desk which is publicly accessible. Anyone can ask their question in Sinhala, Tamil and English languages. Answers will be given within a day.
Micro:bit in Libraries

What's Inside?
- 1 x micro:bit
- 1 x Micro USB Cable
- 1 x Battery Cover
- 2 x AAA Batteries
- 1 x User Guide
Micro:bit in Libraries

Micro:bit is the best device which can lay the foundation of IoT. As an organization which is always focusing on majority of students in the country, we have realized that still majority of students do not have access to it due to micro:bit device price tag. We believe that “Micro:bit in Libraries” project will be helpful to bridge that gap. Registered members of a particular library will be able to borrow a micro:bit, explore it and use it and return after a certain number of days. We have volunteers from all over the country. They will maintain a good relationship with those libraries to make sure the program is running smoothly.

In parallel to our 1st year anniversary celebration, we launch “Micro:bit in Libraries” as a pilot project at Public Library, Colombo 07. Now all library members can borrow micro:bit library pack which consists of a Micro:bit starter kit and a quick start guide booklet. This booklet has many out of the box activities. The library staff have trained, and a separate log book is being maintained by the staff. And we are continuing this project island wide.
Publications
Publications

To raise the awareness and the knowledge we published two start guide books in Sinhala and English. We freely distributed 100 booklets among ICT teachers in Sri Lanka. Introduction to the device and activities are included in the booklet. An introductory video tutorial series on applications of micro:bit has been released and available on YouTube. YouTube Channel: https://www.youtube.com/channel/UC-1uJQIIQgu8WH0Il6TmTw
Island-wide Hackathon
Island-wide Hackathon


The Hackathon kick started with the opening of idea submissions on January 2018. Ideation was called from both university as well as school categories. Around 80 submissions were received at the time submissions closed in the month of April. The ideas were then presented to a panel of judges consisting of 3 international and 3 local judges. The top 25 ideas were selected to the final round of the competition based on the judges’ marks.

Then it was time for the final round of the hackathon to be held. Micro:bit SLUG partnered up with Sarvodaya Fusion and Microsoft to put forward the final round creating a sturdy platform for the students to perform well and bring their ideation into reality. The finals were held at Trace Expert City Auditorium as a 24hr Hackathon starting on Friday 6th of July 4.00 p.m. till Saturday 7th of July 4.00 p.m. The university category had to compete for 24hrs whereas the schoolers had to compete subjected to a time limit of 8hrs.

A total of 14 school teams competed head to head at the finals. The teams include Ananda College Colombo (1 team), Gateway College Colombo (1 team), Bandaranayake College, Gampaha (1 team), St. Anthony’s College Kandy (1 team), St. Sebastian’s College Moratuwa (1 team), Embilipitiya President’s College (2 teams) and from Nanasala Centers (7 teams). The universities who battled at the finals under the university category were University of Rajarata (2 teams), University of Moratuwa (3 teams), University of Colombo School of Computing (UCSC) (2 teams), Horizon Campus Malabe (1 team), Shilpa Sayura Digital Academy (1 team) and Kotelawala Defense University (1 team).
Island-wide Hackathon

The finalists under each category were given the aforesaid time durations to implement their ideas by using Micro:bits which were provided to each team. After an intense 24hrs of hacking the final products were evaluated by a panel of tech giants in the industry to select the winning idea. The two categories were evaluated separately by the aforesaid panel of judges and the final results were announced at the awards ceremony of the Hackathon.

The winners of the school category were as follows:
- **Winner:** Team Antonian Computer Fraternity- St. Anthony's College Kandy
- **1st Runner Up:** Team Dynamic Dudes- St. Anthony's College Kandy
- **2nd Runner Up:** Team Royal Hackers- Nenasala Center, Udubaddawa

The winners of the university category were as follows:
- **Winner:** Team Undefined- University of Moratuwa
- **1st Runner Up:** Team Imperium- University of Moratuwa
- **2nd Runner Up:** Team SkyNet- Kotelawala Defense University

Winners and runners-up of the school category were awarded gifts worth LKR 50,000, LKR 35,000 and LKR 20,000 where the winners and runners-up of the university category were awarded cash prizes worth LKR 100,000, LKR 75,000 and LKR 50,000.

After Movie: https://youtu.be/okJU1i4VyYo
Full Photo Album: https://www.facebook.com/pg/DreamAngleProductions/photos/?tab=album&album_id=1668593756571552
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<td>What is Microbit Explained in Sinhala</td>
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