

BBC micro:bit Learning Management Systems

AUTODESK's tinkercad.com vs Micro:bit Educational Foundation's microbit.com

The BBC micro:bit is a very user-friendly, affordable micro-controller device. It is a great way to introduce students to physical computing, and an innovative way to teach programming in general as well. It can be programmed with block-based code, Python, or JavaScript.

The micro:bit Educational Foundation (MEF) has created an excellent one-stop-shop for both hobbyists and educators with microbic.org. It contains so many resources from video and step-by-step tutorials to a fully developed classroom Learning Management System (LMS). Also included is a virtual micro:bit device to program if you lack the actual device or just for training and an online storage solution for projects.

Tinkered by AUTODESK is from the company that brought you the world's leading CAD software, AUTOCAD amongst other products. Tinkered offers most of the same features that microbic.org offers, but also includes simulators for basic electronic circuits and other microcontrollers, and SBC (single board computer) devices are also supported. Tinkercad lacks microbit.org's singular focus, so may be overwhelming to some educators who may want a more intuitive tutorial and LMS aimed exclusively at the micro:bit device. Tinkercad is really useful for teaching electronics, digital electronics, and engineering.

At first glance, you may think that because microbit.com is run by the not-for-profit Micro:bit Educational Foundation that it would be the most centered on security but that is not the case.

Tinkercad is sponsored by AUTODESK and in their privacy statement, they make it clear they want to expose young students and educators to their software products so that they use their licensed software later in their technical and academic progress.

We don't sell your data or create profiles of Tinkercad users to sell. By offering Tinkercad for free, we hope to inspire new generations to explore Autodesk's full portfolio of design software in the future, allowing them to imagine, design and make anything!

Tinkercad offers its service for free and promises no in-product advertising.

We are committed to supporting education experiences that are free from advertising.

They have tight control on all their services and make explicit claims that none of the student or teacher data will be shared.

Other users cannot view your content until you make it public. You own the content you create in Tinkercad and you have the ability to download your content or use it with a different product. You can delete your content, personal information or account at any time...

Teachers using Tinkercad Classrooms control what is shared and with whom. Unless teachers choose to share, no student work is visible outside of the Tinkercad Class, or to other students within the Class.

MEF's microbit.org, however, uses many 3rd-party software solutions.

We work with a range of partners who have their own privacy policies. Relevant policies are detailed here under Third-party websites.

Particularly, but not limited to, Microsoft's Makecode platform for their online device simulator and programming IDE.

The Micro:bit Educational Foundation completes a risk assessment before entering into arrangements with platform partners to ensure their policies are in line with our values and practices. Where these are managed by partners we have linked their privacy policies below.

They also rely extensively on Google products such as google analytics and the only way to disable this feature is to get a browser extension. So while they insist on the privacy of teachers and student's privacy being of paramount concern, they repeatedly mention in their privacy statement to refer to their 3rd-party collaborators' privacy statements. Below is a summarized list on their website about their use of Google.

On our main site (excluding third party subdomains) we support privacy in the following ways:

- *We use Google Analytics cookies on microbit.org. Google stores anonymised IP addresses on its servers in the US.*
- *Neither the Micro:bit Educational Foundation nor Google associate your IP address with any information that can identify you personally. We don't store personal information such as your name, age or email address in cookies.*

- *We do not use geo-location data from your device but, as with other websites, we may be able to determine your approximate location from your IP address. See the section below on server logs.*
- *We only share data with Google for the analytics purposes outlined in this policy.*
- *Our Google Analytics dashboard can only be accessed by people working for, or on behalf of, the Micro:bit Educational Foundation.*
- *We may use Google Analytics cookies on our own subdomains such as our Python editor `python.microbit.org`.*
- *For more information about Google Analytics cookies see Google's information about safeguarding your data.*
- *Google have developed the Google Analytics opt-out browser add-on for the Google Analytics JavaScript(`ga.js`, `analytics.js`, `dc.js`). If you want to opt out of Google Analytics, you can download and install the add-on for your web browser [here](#).*

This lack of control from Micro:bit Educational Foundation is definitely a cause for concern.

Where AUTODESK makes their commercial interests known up-front, they also explicitly define their own privacy standards and have total control over their product's use of your data.

We are transparent about our privacy practices. We strive to make our privacy policies easy to understand. If we make material changes to our Children's Privacy Statement, we will let you know.