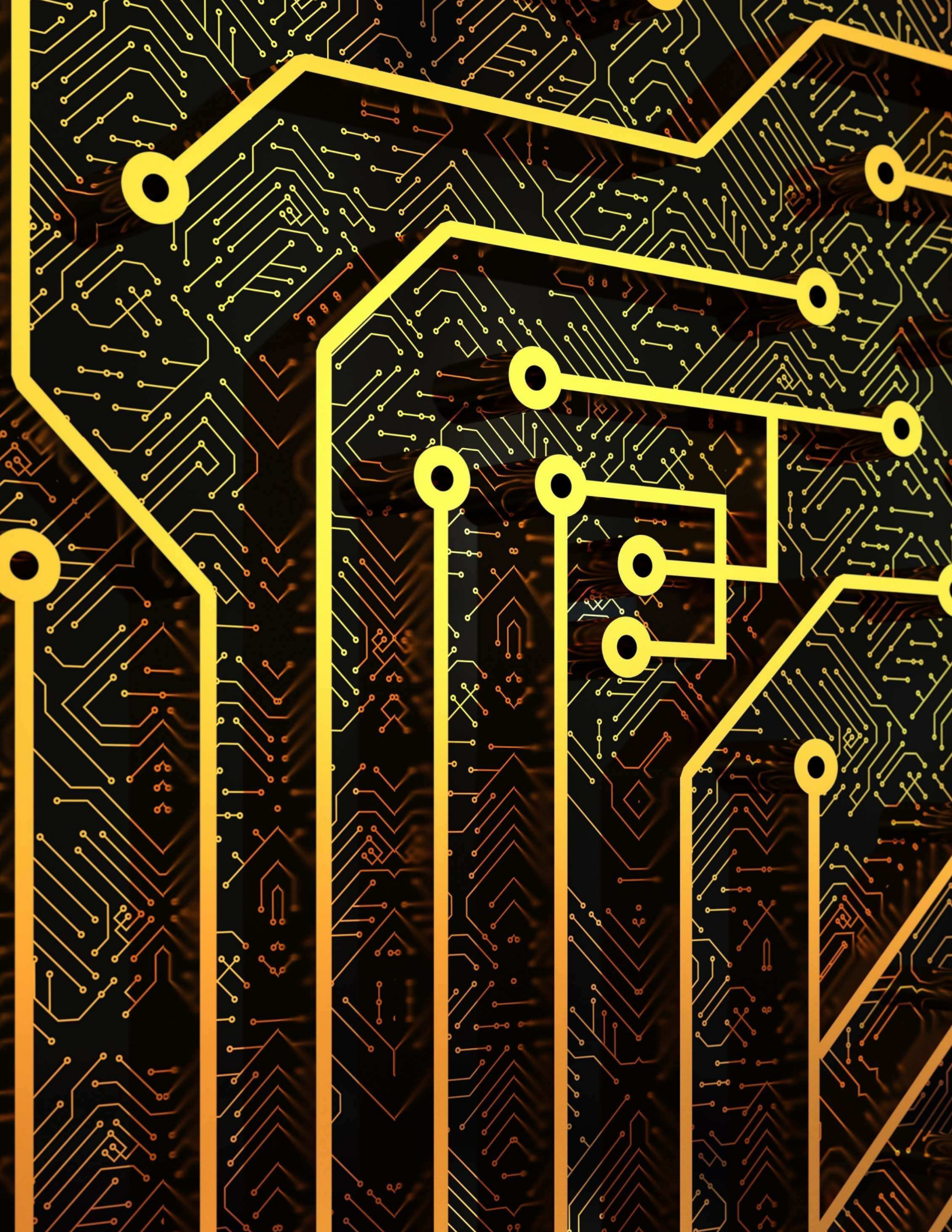

#EE4
SEPTEMBER 2021
IN THIS ISSUE
JASON WARD
Managing Director
Dell Technologies in Ireland
Creating the Digital Classroom for a Data-Driven Era
EXPLORING EDTECH
IRELAND



Editor: Tim Lavery

Publisher: World Explorers Bureau

Website: www.exploringedtech.ie

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Email: edtech@worldexplorersbureau.com

Exploring EdTech Ireland magazine is grateful to all our writers and photographers for permission to publish their work.

Exploring EdTech Ireland has been typeset in 16 point Neuton and uses OED English spelling. Design and Layout in Canva and Adobe InDesign.

For further information contact the publisher: edtech@worldexplorersbureau.com


www.exploringedtech.ie

Editorial

Welcome to Issue #4 of Exploring EdTech Ireland!

Our feature article this issue, by Gavin Ward, the Managing Director and VP of Dell Technologies in Ireland, considers the lessons learned over the past 18 months in the implementation of education technology policy in Ireland and looks to the future of the digital classroom.

Jennifer McGarry follows her last article on the Makey Makey circuit board with an in-depth interview with its co-inventor, the remarkable Jay Silver. The Ireland's Future is MINE programme sees Microsoft and RTEjr team up to launch a new national digital skills competition for Primary Schools using Minecraft Education Edition.

Bandon Grammar's Trevor Collins introduces us to school activity planning using Google Calendar. Maeve Power from digital safety experts, Zeeko, briefs us on the results of their Digital Trends Report which includes insights into students' screen time over the past year.

Holly Murray discusses how Microsoft and Google TEL tools can help enhance learning for students with dyslexia and those with EAL. EU Code Week from the 9th-24th October, is a grassroots initiative which celebrates coding and digital literacy with a host of fun and engaging activities for schools.

To complete this issue, in our regular Makerspace section, Chris Reina creates a simple arcade game using Microsoft Makecode.

I hope Exploring EdTech will continue to help and inspire teachers, leaders, and management of our schools to make the best use of education technology to enhance and develop the whole school community. My sincerest thanks go to our writers who, under constant pressure of the "*day job*", manage to find time to write for this magazine, and without whose support there would not be anything to publish!

Please feel free to contact me with any ideas and suggestions.

Tim Lavery FRCGS FLS, Editor, *September 30th, 2021*

CREATING THE DIGITAL CLASSROOM FOR A DATA-DRIVEN ERA

JASON WARD

Managing Director, DELL Technologies in Ireland

Creating the Digital Classroom for a Data-Driven Era

Jason Ward, Vice President and Managing Director of Dell Technologies in Ireland

Over the last 18 months, teachers and students across the country have embraced technology at unprecedented speed. Despite some initial challenges, this experience has given us a glimpse into the potential of the 'digital classroom' and how technology can enhance teaching and learning for years to come.

Prior to the pandemic, the importance of ICT in education had been growing on the radar of Government and industry with the last Digital Strategy for Schools a step in the right direction for driving technology use in the classroom.

However, the events of the last 18 months have accelerated the transformation of the sector beyond expectations. Approximately, 1.1m students across primary, secondary and third level moved to remote learning practically overnight, bringing unforeseen challenges such as adequate access to digital devices for students at home.

Over the course of just eight weeks, Dell Technologies partnered with Ireland's national education and research network, HEAnet, to provide 16,700 devices which enabled thousands of students at second and third level to study remotely.

Despite the steep learning curve, teachers and students have embraced the benefits of technology. A recent ESRI report on second level found that many teachers have "a newfound appreciation for the potential of ICT in the classroom".

Transformation turning point

As students begin to return to schools and colleges around the country, many are wondering whether the recent adoption of technology inside and outside the classroom result in the transformation of Ireland's education system to meet the future challenges it faces?

I firmly believe we have a unique opportunity to use our collective experience as a catalyst for long-term transformation. To move away from viewing technology as only a crisis management tool to a means by which we can reshape our education system for the needs of a data-driven economy and society.

The Programme for Government aligns with that vision with firm commitments to developing and embedding a Digital Education Strategy where technology empowers our educators and improves education outcomes for all. From primary to third-level education, technology has shown us all how the digital classroom can enhance the resilience of the system at large while also providing new tools

to roll out innovative approaches to learning.

The shift to the Cloud in the past year has proved effective in giving students easy access to resources and teachers to provide real-time feedback, so why stop now? Adopting the Cloud would allow for the roll-out of a more flexible and convenient learning experience, with students able to watch back lessons and learn on the go.

It's now clear that digital transformation is no longer a nice to have, it is critical to meeting the evolving challenges facing students, parents, teachers, lecturers and policymakers within the education system.

Addressing the challenges of today

With yearly enrolment at third-level set to increase from 50,000 to at least 65,000 by the end of this decade alone, Ireland will face the challenge of rapidly adding additional capacity. Making

blended learning a permanent feature of many courses would provide universities with a flexible way to scale up to meet the needs of an ever-larger student base.

There is also a growing need to accommodate the increasingly varied needs of students at all levels of Ireland's education system. Learning is very much an individual journey. Artificial Intelligence (AI) can facilitate the development of individual learning plans allowing teachers to track the progress of each and every student so they can reach their full potential.

Shifting to the development of a digital classroom can also bring complex educational topics to life. At Dell Technologies, we've seen how integrated Virtual Reality (VR) has enabled third-level students to be more creative, therapeutic activity–based video games to assist patients with Parkinson's disease.

The economy and society we left behind in 2020 is not the one which will power up an inclusive and sustainable recovery. Our data-driven future will be driven by innovative talent that have the digital skills needed to understand and develop AI, Edge Computing, and the Cloud. That's why we need to look at how we can modernise the curriculum, so today's students have the skills for tomorrow's economy.

Our education and research sector will be the engine of Ireland's economic recovery, fostering the creative thinking to succeed. Ireland's Applied AI Centre, CeADAR, has been at the forefront of efforts to use cutting-edge advancements in Big Data and AI to help Irish start-ups and scale-up to grow. By helping to put in place a new supercomputer named Leon, Dell Technologies is helping CeADAR to foster an innovation-led recovery.

This, in turn, will support Ireland's future objectives, as set out in the National Recovery and Resilience Plan, to be world leaders in the appropriate application of frontier digital technologies.

Creating the foundations for tomorrow

Of course, in order for digital transformation to happen successfully, the right foundations have to be in place. From broadband connectivity to access to digital devices and training,

Government and industry must ensure that no one is left behind.

This need will only become more pronounced over the coming months as primary, second and third level institutions continue to rely on technology to navigate the changes in public health restrictions that we are now seeing.

Government initiatives, such as the Next Steps for Teaching and Learning project and the Digital Strategy for Schools which is in development will take lessons from the last few months of remote learning into account. This will provide an important roadmap on to how to build on the gains of the past year and address any inequalities or barriers to digital transformation that arise.

The education sector in Ireland has never been better poised to take advantage of the benefits of digital transformation. Working together to harness future possibilities will help to create a more resilient, inclusive, and creative education landscape that empowers educators and prepares students for the 'digital first' world of today and tomorrow.

AN INTERVIEW WITH EDUCATOR AND INVENTOR

Jay Silver

Makey Makey™

Jennifer McGarry

An Interview with Educator and Inventor, Jay Silver

Jennifer McGarry

Following on from my last article looking at getting started with Makerspaces and, in particular, looking at the capabilities of the circuit board the "Makey Makey", I was lucky enough to have the opportunity to chat with one of the inventors of the "Makey Makey", Jay Silver. Jay kindly took some time out of his day to chat about what inspired his creation of the Makey Makey, how he views the world as a construction kit, the importance of an awareness of nature in his work and some tips for getting started with a Makerspace! We began with a discussion of what doing a Masters (MA) of Philosophy in Internet Technology meant to Jay.

Jennifer: **So what inspired you to go from electrical engineering to doing a MA of Philosophy in Internet Technology!?**

Jay: Weird, right? Well, I think I was really trying to do psychology as I think that education as a field really doesn't exist without psychology as a field, so I think education is really a question of "how do humans work?" And I don't think people approach it [education] as "how do humans work?"

We kind of approach it from the point of view that there's information that has to be learned so what's the best delivery mechanism? And that's the right question: "what's the best delivery mechanism?"

But the question ends up being like, "well, we already know the delivery mechanism, so how should we structure the information?" And I feel like education is stuck in some local maximum and so perhaps we need to return to human developmental theory, perhaps under the umbrella of education.

I feel like psychologists study this very closely and I think that the best educators put on a psychological hat all the time. I really was fascinated with how humans work and I actually did a minor in psychology while I was doing electrical engineering - but that rarely comes up!!

Jennifer: No, I didn't know that you had done a minor in psychology!

Jay: Yeah, I applied for a Masters in Psychology but that didn't get funding, so doing something that wasn't funded wasn't an option! A lot of my future career trajectory might seem like a weird direction if you assume I was trying to go forward with engineering. But once you understand that I really was fascinated with how humans work, it all slots into place.

Understanding internet technology, for me, was about understanding the future of media because internet technology, I mean, we can all see it now, but it was just maybe not as obvious in 2003; I felt like, and I still feel this, that its [internet technology] similar to video and theatre, in the sense that discussion and human communication is just going to be subsumed under it to some degree.

There's two sides to this of course - well look, for example; we're talking from Ireland to Cocoa Beach in Florida at no cost, so that's great!

To me, technology was like studying the future of art, the future of human interaction and the future of human mindsets. If you consider how we form mindsets, well the media plays a huge role in that.

So how we intermediate that and how we broadcast that through 'broadcasting robots', which you might call videos normally! Those are really just like these human robots that are telling you, telling everybody, things, millions of times over, at almost no cost. I was like, I need to study how humans work, and I need to study how information is disseminated and mindsets are formed.

And so that's the internet and psychology together - I didn't get psychology funded, so I studied the internet because Bill Gates, the Bill & Melinda Gates Foundation, literally funded it!!

Jennifer: That idea of information dissemination; how information is shared; who shares it; who decides what gets shared and so on is a really important one to consider. So the mix of studying philosophy and the

internet, thinking about how you think is really important. Getting students to think about how they think too, which I think the Makey Makey does really well, is also super important.

Jay: I think thinking about how we think is like the next evolution in cognition as a human. Our next operating system as such!! You've got this machine whirring around and you know, it's a biological machine - it's not quite a machine, but you pop out of that and look at the machine from within the machine. It bears huge, huge advantages in terms of empathy, in terms of self understanding, in terms of self betterment. And I mean, if everyone does self betterment then society is so much better off as a whole!

Jennifer: Yes, I agree that it's important to be able to reflect on yourself and what's going on around you. In your work, you also speak about being motivated by awareness of nature around you. I think people, and I know I'm generalising here, can get so stuck in their day to day way of being and maybe don't really have that chance to step out of themselves. And nature can perhaps help with that.

The idea of actually recognizing and treating everyday objects as Nature so that we can approach it with all of our instinctual ways of learning, is really interesting. Could you maybe explain a bit more about that please and maybe what it means?

Jay: Yeah, I'm obsessed with this idea of being immersed in nature! And when you said that being in nature lets you pop out of yourself - or whatever it was you said! - I actually don't think that being *in* nature is a special state, I think

that *not* being in nature is a special state. And I think that you don't really have to look very far into our evolution to prove that true.

So I would like to recast modern nature, that which is the human made world conceived of as if it were nature, so that we feel that we're immersed in nature whilst in our human made environment. Because whether we want to be or not - I mean, I can't see where you are at the moment, but there's nothing moving in the background and there's no wind jostling any leaves and I'm surrounded here by - what am I surrounded by!? [Jay points to the ceiling] You have some kind of Styrofoam material up here, then there's lights made by Philips Hue over there and the walls are plasterboard and behind the walls, well there's a whole system of electricity, water insulation also... bugs - nature has made its way into the walls! I'm surrounded by synthesizers with knobs on the. And this is actually [holds up an instructional card for coding], you know, almost made from paper, although there's a plastic coating on it. And this paper card is about code and it is an example of the instructions for machines and I'm surrounded by machines! There's electronics - I'm not looking at you as such, I'm looking at pixels.

So whether we want to be or not; we're surrounded by all this stuff, completely immersed in it most of the time. If we're lucky, we go outside a lot but probably people should just always be outside! So given our circumstances and given that we can't change everything at once - I think that if we can see the world we live in as all made from nature. Literally everything that I just pointed to was dug up out of the Earth or cut from the Earth. We made it all from nature.

If we see ourselves as in nature, we can designate the meaning of the things we make. Like for example, it's not commonplace to think, “Oh, what's inside of these AirPods? How are they charging and who decided to make them this way? Is the way that this was made, good for me as they're designed? The meaning is designated.

Humans in nature always reform their surroundings - and I mean all humans, not only ‘genius’ humans! All humans reform their surroundings. And so we can instantiate this mindstate if we get deep enough into the idea that modern nature is a recasting of a house as a system of created parts by somebody. Not just a house that's there.

It's like the conscious instantiation of the truth - which is that underneath the

road are plumbing pipes that somebody drew a diagram for and then mined materials for and then built. And that feeds water into my house. And that water comes from (depending on where you live) most likely a reservoir, which comes from a system of evaporation and rain and drainage. It's about conscientising that process, not that you want to think about every detail of that all the time, but it's having this ability to see it, what you might think of like x-ray vision or something!

I have a whole theory to describe it, but maybe we'll come to that later. But being able to move into that mindset - which is the world as a construction kit or modern nature: viewing myself as a human that lives in nature *still* today. Was that answer too long for you!!!?

Jennifer: **No! That was a super answer, you gave me a lot to think about there. I think you really hit the nail on the head because I do think that there's a lot of dissociation from what things are made of. I think it goes back to what we touched on earlier and how information is structured and delivered in an educational sense.**

What is the best way of delivering that information to support students to see that extra layer and getting them to see the different layers to realise that it's not just, "Oh, we live in this house", end of. But to acknowledge somebody had to go through the whole process of making it, the bricks had to be made, extracted from somewhere. I think that mindset helps educators to open a space to move from an extractive approach to STEM to a more regenerative approach perhaps.

It reminds me of the TED1 talk you gave about the bag woven from palm fronds and the way the woman was making the threads to make up that bag. When I saw that I just thought, wow that is so amazing... [*voice trails off as Jay bounces off, out of the screen*]... oh, it's there.!!

Jay: The real one! So I watched her make it. It reminded me of when my Mom used to weave baskets when I was little, and she would gather the vines from the forest.

Jennifer: I just love that idea: you're being respectful of the world and you're making something from it that isn't harmful, that there's also a part of yourself in it too so you're more invested in it!

Jay: I think that most people don't know that you could grab a tree and then something happens. Let's ignore *what exactly* happens for a moment! And then when you're done, you've got this [holds up the woven bag].

I don't know what people's conception is of *how* the human made world around us works. But even if you consider a tote bag that you take to the grocery store that's made of cloth. That is literally like plant fibers woven together. Unless it's plastic of course, they're literally woven; the strands are put over and under each other. What this woman was doing with her hands!

Jennifer: Yeah, that's so cool, that idea of re-seeing things. Once you start seeing things like that, you can't stop, you can't unsee it.

Jay: Yeah and even if you look at these fans here, I'll put them on, these fans are driven by electricity but by a motor connected to a belt, that's connected to another belt so the fans aren't independent. But instead, each fan is driven by a belt that hooks to the next

one.

But it's like you said, once you see it, you can't unsee it. You don't always have to see things that way. You also can go into your default mode. Sometimes you're just riding your bike to get somewhere, sometimes you're just accomplishing a task. But being able to switch mindsets and look at things from multiple directions gives you a more 3D view of reality.

Jennifer: **It really does. I love that idea about the world being a construction kit. The fact that it is printed on the box too, is a bit of a conversation starter when you're in the class with your pupils!**

Jay: Absolutely it is. Yeah... [*Jay walks off to get a picture from the wall*]

Jennifer: **Oh, that picture is on your PhD cover... Is it a visualisation of your idea of the world as a construction kit?**

Jay: Yeah, this is the original one. Sophie, a 19 year old at the time who lived in my dorm, painted a bunch of

murals on the wall. I said, "Do you want to do some art research? And so I talked to her about my thesis for like six hours, and then she spent a long time putting that into a visualization.

Yeah, so that re-seeing is a powerful concept and, you know, people talk about re-seeing generally, but I like to delve into it from a making, learning and mindset formation phenomeno-logical perspective.

Jennifer: **So what do you think works best when you're introducing this concept of re-seeing the world as a construction kit into the classroom? Say, for example, you're going to work with a group of teachers that might have an interest in it but they haven't really delved into the world of making. Are there any sort of examples you might give to them to support this idea? If that makes sense?**

Jay: Totally. I don't think you can just take somebody out of the mindset, right, but I think that it's something more like a birthing process. If you consider how does a plant bloom? Well, you can get the bud of a flower and you can use your fingers and pry it open. I've done it before. Yeah, it's not exactly a blooming. The flower may not live.

I know we're saying that as a joke, but it's not a bad metaphor for students trying to see the world, but it's also not a bad metaphor for how do we take teachers into a place where they can see it, and I guess the answer is like this; well my first answer is how we don't do it, which is not directly! Humans have a default way of seeing the world and people are very rightly averse to having the way they see the world changed. They should be averse to that because if just anyone could change the way they see the world, then anyone could take them over or have them be convinced of something.

I mean, salesmen are very good at this, you know!!? And so I would say we can put out an invitation. And those invitations are usually indirect because of the way humans work, the way the ego works, the way self-preservation

works. It's not that it has no purpose, but it also can get in the way at the same time. So the way that humans work is that we can, if we want it to be an authentic transformation, give teachers an invitation and those invitations can look like a number of things.

The first characteristic that an invitation like that has is that it's authentic. And so for it to really be authentic, I - assuming I'm the one facilitating it - I have to really be feeling it. Whoever is conducting the workshop has to really be feeling it.

For me, the only reason that I'm exhibiting this kind of deep, authentic connection to the material that I'm talking to the teachers about, is that I'm really connecting with it and that that material is really lifting me up and helping me. And so when I give out an invitation to someone to join me in something that's truly lifting me up, then that speaks to people. Then they say, "Whoa, look, that guy's lifted up by this. Let me listen for a minute!"

Jennifer: **Yeah, I could see that in your TED talk and people respond really well to you and your ideas. You got that feeling that the audience was totally on board with what you were talking about. So how do you create your inventions to help people come on board?**

Jay: The way that I teach is that I design generative platforms or what most people these days would just call 'creative kits'. But I guess I think of them as a type of platform, which is something that you can build on top of. That's why it's called a platform. It is generative, meaning that people can use it to combine it in ways that generate all kinds of outcomes. And I like to design platforms that have infinitely many outcomes.

So what does infinite mean? Well uncountable! So many that I can't even put a cap on it. And that it's a diverse set of outcomes that are also unpredictable by the person who created the platform, or really by

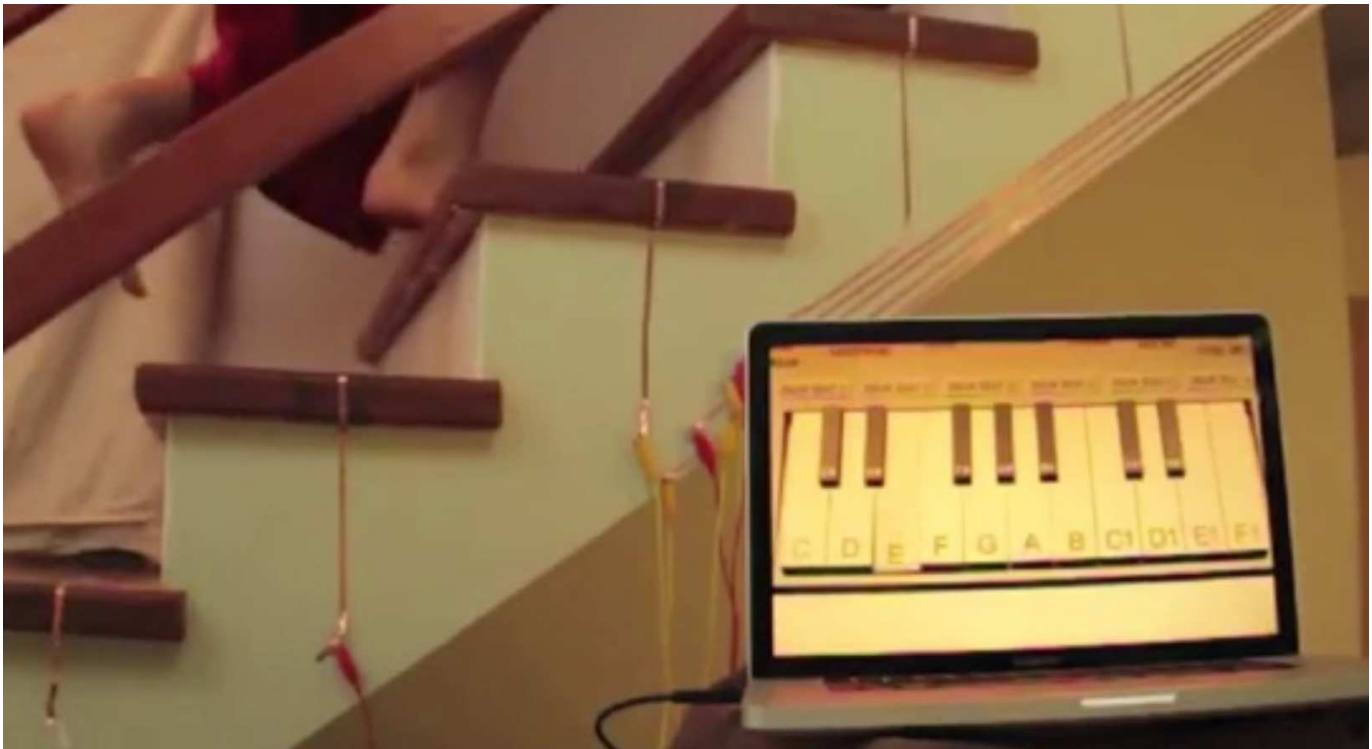
anyone. And so if you take the Makey Makey as an example, the things people have made with it are unpredictable. And I don't know how many things there are that have been made by the Makey Makey but there's quite, *quite*, a lot!

Even if you had 10 or 20 people, you can count how many things 10 or 20 people will make with it. But I can't tell you, “Oh, they're going to make 30 things”, you know, they could potentially make 700 things! It just depends on how much time they have. But this is a form of collaboration, of creating generative platforms that fit into a larger bubble of teaching. Or perhaps you might call it facilitating, instead of calling it teaching.

And so you've also got this type of apprenticeship model: you can have several people working in an artist studio and you've got one artist that they're all apprenticing and the artist is just doing their work and the people learning are doing their work. And of course, hopefully the main artist is an inspiration.

Are they teaching knowledge and skills? Sure they are, that's really important. But it's kind of secondary to the work as a whole. And so I feel like my way of collaborating, most commonly, is this way of creating these platforms and sending out these messages.

So to get back to the question you asked right before that [on mindsets], one thing I do when I want people to switch mindsets is I show them a baby or a toddler, and I ask, “What is a beginner's mind? Let's look at a beginner's mind”. I don't have that many videos of toddlers,



so I usually show videos of my kids. And we watch them interacting with the world.

Sometimes I take something interesting like, and you'll see this in some of my talks, like snow or pollen. And it's not just snow or pollen. They'd do it with a wire. They do it with dirt. They do it with everything. They don't know what it is and they don't have a preconceived notion. They don't have a notion!! They're ready and they're in a playful state and they're open, highly open, to find out what things do. They test if sand is for eating! Every kid tries it - because they don't know what things are for.

And so that's a great place to start but there's also like a hundred other techniques. But they're all sideways, right? Because you're showing someone a toddler, it's not the same thing as telling somebody, "OK, now think about the world differently." It's a glimpse into the experience of what is going on in this toddler's mind right now.

Jennifer: **Yeah, that's a great approach - giving an example of toddlers and focusing on how they are the constructors of what they are discovering. Giving the time and space for discoveries to be made is so important. However, one of the things I find challenging is fitting it all in! The Irish primary curriculum is quite dense, the education system itself is quite complex; I'm not sure what it's like in Florida, so getting the balance right can be a bit challenging...**

Jay: Well, teachers are all trying their hardest and most of the kids are doing their best given the circumstances. So how can we work within this system that we have and someday hopefully supersede the way things work now or else reform it enough, so that it's modified but that the good stuff stays?

Well things are changing all the time. I mean, I no longer have to tell a teacher, "Oh hey, you really should do project based learning. Look how great it is." Teachers are like, "Project based learning is great, I want to do it. I just need the time and the resources. Can you help me to get it going?"

To improve our systems, I think we need to use some human wisdom and recognise that what we have is half good and half needs improvement. And the more we can slide in things that work with the existing system but slowly make them obsolete, parts of it obsolete, so that we get a more of a balance.

And I say as a provocation, what if we measured students not based on correct answers on tests? What if we just put out some paper and measured how many questions do people have? And I mean, it's a joke and it's not a joke. It's for one thing, very serious because right away, the teaching style would change. I think teachers would be a lot more freed up to teach the way they want, if that were the case. Now, if the test, if there is still a high stakes test that only had questions on it, I mean only had blank spaces to write questions on it. That probably wouldn't end up in a perfect scenario, so I'm not serious that that's all we need. But I am serious that we might want to look at how many questions the students are asking.

Jennifer: **And to ask questions students have to think for themselves then. So it comes back again to that idea, what do we want students doing? What is the best approach to getting students to think about how they think?**

Jay: If you could freeze time and open up a student's mind and look at it, what state would you want it in? And I mean, the answer is probably a diversity of states at different times, not just one state.

But the state of posing a question and the things that come before; the invisible steps that come before posing

the question; the wonderment, the analysis, and then what happens right after a question is posed. Is that it? Are they done!? No, there's a whole epilogue to that question.

And so that series of events is exactly the kind of thing (not the only thing), but it's exactly the kind of thing that you wish a student would be going through.

Jennifer: Yeah. And then it kind of leads to those serendipitous discoveries, which can be really cool...

Jay: Yes, very cool...and when someone takes in information in a heightened state of awareness, like in a serendipitous discovery, like you just said... there's lots of heightened states of awareness, but let's just take serendipitous discovery. Someone takes in information that way: not only are they unlikely to forget it, it's not just about remembering and forgetting, it's more likely that they'll meld it into their knowledge tree and into all kinds of places and start using it.

Jennifer: And would you have any suggestions that would help people to set up a place for such discoveries to be made, such as a makerspace area for example?

Jay: Well one tip is, it doesn't have to be separate from your normal space. You might use stations if you want some separation. And I think stations, whether it's separate or not, is maybe the best tip I have.

A station is a physical space where there are certain tools and materials set up together, and sometimes you don't have enough space to have them already set up. You might have a peg board, or you might have a bunch of project boxes with a set of tools in them that all relate to a certain activity inside of them.

Tool sets or material sets that can be taken out and put away allow you to have multi-use stations. So a station is a central place where people who are interested can come there and they can participate in the activities. And if there's more than one person there at the same time, then they can communicate about that activity. They can see what each other is doing.

The whole idea of stations is very much common sense. It's not really a huge insight; if you only had stations, tool combinations, material combinations; well then you have a maker space! There is no maker space too small. The corner of your classroom is good enough. So at first I would say; don't be intimidated. The stuff you like to make is a great

place to start.

People think 3D printers are what makerspaces are about, or robots or drones. And I mean, drones are super cool. I have a drone and I like drone videography. But making is not about drones. It's not about robots or 3D printers. It's not even about coding. I love coding. I think coding is a really cool part of making, but you don't need to do any of those things.

Your makerspace can be what you're interested in making. You can literally start in the next hour because you can get together one box of materials that you think are interesting and, you probably already have a table and, then you build up from there.

Jennifer: And then you spread out from that! I think getting started and making that first leap is probably the hardest bit! Before we finish up, do you have anything on your radar as your next design project?

Jay: So I'm about to put out a project called "Game Bender." A couple of years ago we publicised "Game Bender" as a video game console meant to be like an Xbox or Nintendo, but for building and learning and creating, a total repurposing of that concept. But we didn't end up putting that out and now we're redoing it as web software.

This will be designed for Chromebooks, really any laptop or device, although the first rollout won't be optimized for devices.

Jennifer: So the first iteration of it - intended for it to be a physical device, an actual console?

Jay: Yeah, we wanted it to be, and we put up a Kickstarter - which still stands because Kickstarters never go down! - we cancelled it halfway through because a lot of things weren't working out.

We wanted it to be a physical device because I really love physical devices that are beautiful, that do exactly what you design them to do. But we're redesigning it as software now and we will soft launch it this year.

In "Game Bender," there's little bits of code that you move around from place to place that designate behaviour and the bits of code look like a sticker and only underneath the sticker are the details of the code. And then you can move these stickers around and you can tweak the variables with a slider and then you can dive in and of course, rearrange the blocks.

You start by just exposing students to the concept of code. And so they just touch things that are developmentally appropriate for them. They move things around, gain a confidence, gain a fluency and so it leads to what I call coding intuition or just basic, basic knowledge.

So what we're trying to teach with "Game Bender" isn't how to code, but rather a coding intuition which we need if we are to have coding literacy. So "Game Bender" is really meant to have people reach their hand into a game and mess with it, just like you would put your hand into a box of marbles and mess with them.

You'll have access to "Game Bender" this year for sure, because we already have dates and things are already working, so that's great! So that summarises my next project!

Jennifer: **Sounds amazing! Best of luck with it, I look forward to testing it when it releases! Thanks so much for all that, it was great to chat with you!!**

Interesting articles by Jay:

https://medium.com/@wakeupsilver/the-maker-movement-is-about-freedom-25ef8a323022#.yakwnvjpx

https://www.linkedin.com/pulse/maker-movement-3d-printers-jay-silver

https://www.edutopia.org/blog/trees-of-knowledge-jay-silver

https://www.edsurge.com/news/2015-09-13-the-future-of-education-demands-more-questions-not-answers

MICROSOFT AND RTEJR

Ireland's Future is MINE

'Ireland's Future is MINE': Microsoft & RTÉjr launch exciting new digital skills competition for primary schools

Microsoft Ireland and RTÉjr today announced they are joining forces to launch an exciting new national digital skills competition which will challenge primary school students across the island of Ireland to use Minecraft: Education Edition to help shape Ireland's sustainable future.

Schools to go head-to-head in nationwide competition with Grand Finale to take place in April 2022

This week, every primary school in the Republic of Ireland will receive a unique code in the post so they can register for a Minecraft: Education Edition account to take part in this exciting initiative. Primary Schools in Northern Ireland will also be invited to participate and will be able to use their existing Minecraft: Education Edition accounts to compete in this first-of-its-kind competition.

Primary Schools are invited to tune into rte.ie/learn from 30th September where they will be able to watch Dream Space TV which features amazing Minecraft: Education Edition Lessons that will run for six weeks. Delivered by the teachers of Microsoft's Dream Space, the lessons are designed to support teachers to deliver digital learning experiences in the classroom.

Throughout the six weekly online episodes, students will be learning how to use Minecraft: Education Edition through the medium of fun challenges! These challenges will be aligned to both the Republic and Northern Irish curriculums covering subjects from English, Maths, Science, Geography, SPHE and more. Microsoft's Dream Space team will also provide each school with comprehensive teaching guides to ensure that participating schools are supported throughout the episodes and for their competition submission.

With the necessary skills to participate in the competition developed during the first five episodes in the sixth and final episode details of the nationwide competition will be revealed. It is

during this episode on November 11th that full details of the competition will be revealed, and students will be challenged to shape Ireland's sustainable future through the medium of Minecraft. Schools will go head-to-head with the finals expected to take place in April 2022.

Primary School Students Challenged to shape Ireland's Sustainable Future

Speaking about the launch of the competition, **James O'Connor, Vice President of Microsoft International Operations, said**: *"At Microsoft, we believe in the power of technology to inspire young people, ignite their imaginations and help them to see the world in a variety of new ways. Our Dream Space experience is one of the ways in which we make this possible. We've been delighted to work with the team at RTÉ to make Dream Space available to more students over the past year as the country navigated different stages of the Covid-19 emergency from home schooling and hybrid learning models. We've since reached over 40,000 students via our virtual offerings and at Microsoft we've been excited to see the impact that the experience has had on students and teachers right across the country.*

"We're now growing this collaboration with RTÉjr through the launch of this nationwide competition for primary schools today. This inclusive competition will help ensure that young people across the country can experience how technology can shape their world and how the skills they develop can reshape Ireland's future. I know the Dream Space team have an exciting series coming up which will introduce students to the amazing world of Minecraft: Education Edition and guide teachers on how to introduce this educational tool into the classroom. We hope all primary schools will avail of this opportunity and we look forward to supporting you all on this learning journey over the coming months."

Suzanne Kelly, Group Head of Children's and Young Peoples' Content said: *"Today's kids are Digital natives and its vital that their experience of the global online community is a positive one. When the opportunity arose for RTÉ to connect with every kid in Ireland and show them how to code through gaming, we jumped on it. Everyone in the school yard knows what Minecraft is and now thanks to Dream Space TV & Minecraft: Education Edition, we're bringing it directly to every school in Ireland. It's coding, innovation, creativity, and teamwork, all wrapped up in one incredibly exciting experience. There's something for everyone here.*

"This competition will really challenge our

school kids and give them a platform to amaze us. It's very exciting and it's never been done before here in Ireland. We're very proud to be able to play an equal part in this with our colleagues in Microsoft Dream Space."

To participate in the competition schools will need a Minecraft: Education Edition account. Primary schools in Northern Ireland already have access to a Minecraft: Education Edition account but Microsoft will be making accounts freely available to participating primary schools in the Republic of Ireland for a nine-month period to allow pupils to take part.

Minecraft: Education Edition is a game-based learning platform that allows teachers to deliver a variety of curriculum lessons to promote creativity, collaboration, and problem-solving. The learning platform offers teachers an alternative teaching and learning tool to engage pupils and ignite their passion for learning.

Using the code provided in the post, primary schools in the Republic of Ireland can register for their Minecraft: Education Edition accounts at: www.irelandsfutureismine.com

The Microsoft Dream Space TV episodes and a full range of accompanying teacher guides containing direct links to specific curriculum areas, worksheets and extension tasks will be available at www.rte.ie/learn.

GOOGLE CALENDAR

MAKING TIME

WORK FOR YOU

Trevor
Collins

Making Time Work for You - Google Calendar

Trevor Collins

Schools are busy places and managing time is a key requirement for all school managements. What if there was a way to plan all school activities remotely, communicate these details to staff, enable pupil lists on all notifications and allow staff to view school activities from any smart device?

What if such a system could be managed by a staff member with an average level of ICT skills?

Such a system exists, and the system is available to all schools, while this might sound too good to be true and an advert for Google, but the point of this article is not about promoting one company over another, it is about sharing best practice. After all, if we can do it, then so can you! Let us share a bit of practice that works.

Background

Ours is a mixed secondary school of over 700 pupils. We have both boarders and day pupils. We have invested in ICT infrastructure and have an active ICT department who examine new technology to help with teaching and learning. We operate a 'from the bottom up' system where we recommend systems that work at classroom level to all staff.

Our infrastructure is based on a bespoke, Virtual desktop Infrastructure system which enables central managing, storing, securing, and updating of all user accounts.

The process we are discussing in this article is independent of any ICT system. We use the GSuite / Google Workspace for Education. Every student and teacher have a school email account. Our internal email coordinator has groups set up based on various criteria. (Student groups / teaching staff / all staff)

Day-to-day activities

Like so many schools, ours active from

the early hours of the morning to late into the evening. We may have students attending the gym at 7am, heading away on field trips at 9.30am, heading to matches at 11am, have a guest speaker coming in at 12.30pm and a whole-year group quiz at 2pm. No two days are the same and the school is an active, dynamic, ever-changing metropolis of people. Imagine trying to keep a track of the who, what, why, when, where, and how many on a daily basis?

As an ICT department, we thought long and hard about how best to help manage the activities that take place. Does the teacher need to book a specific room? How many people can attend? What time does the event start? Does the event clash with something else? Will students be available? Will a bus need to be booked? Who is going? What time do they leave and when will they return?

Google calendar was our answer.

Learning from the past

When we began the January 2021 lockdown, we were faced with planning and informing students of our online Zoom classes. Ours is a Google Classroom school and students were getting emails of notifications posted online. Teachers were also able to send groups emails relating to their subjects. It quickly dawned on us that the students were becoming overwhelmed with emails. So much so that students gave up on reviewing emails sent.

How could we notify them of details of Zoom classes in a less intrusive manner? We used the classroom calendars to plan online meetings using the Zoom scheduler app and the Zoom meeting option on Google calendar.

As with every change in education, it took a little time for teachers to get used to it, for teachers to up-skill, but once they did, it gathered pace quickly. Our staff shared best practice and helped each other to get up and running. We also have an internal staff-only website and out ICT department

posted staff-made presentations and used screencastify to show staff how to organise and plan online meetings.

Google calendar became an integral part of the school process.

What the calendar does

The class calendars became a repository of information. If students wished to find out details of their classes, they simply went to the calendar. It became a one-stop shop for all info. The students were no longer inundated with too many emails. The system became simpler.

Post-lockdown, our staff still noticed busy inboxes with many emails that did not really relate to them. We needed to do something to cut down on the number of emails.

The thought process of those who steer policy felt that any email from management should be read, staff should direct queries to the relevant, specific staff so that we could make better use of teachers' time.

We decided to promote the use of a School Timetable and Activity calendar to highlight non-classroom activities that are part of school life.

Using the school timetable & activities calendar

This calendar is now shared with all teaching, admin, catering, and sport staff. Every staff member can post up details of an activity that they are undertaking. Staff can use their smartphone, tablet, laptop, or PC to view the calendar through the calendar on their school Gmail account. Many teachers have the calendar synced to their smartphone calendar.

What can they see:

Start time
Finishing time
Details of the activity (Descriptor) Match / Field trip etc.
The teacher bringing the students
Location / Room number
The staff can upload a group of the students on this activity. (Important for attendance purposes)

Where it is important

Day-to-day: Admin staff / school secretaries can see when teams are training in the afternoon and who is taking them. (Very useful when a parent rings in to pass a message that they may be late to collect their son or daughter when they cannot contact them by

phone directly)

Roll purposes. Students on school-based activities can be checked against the daily attendance list for those marked absent.

Planning: Since the information is now available in a visual way, clashes, overlaps and possible conflicts can now be seen well in advance thus giving staff the opportunity to change activities to minimise disruption. Buses bookings can be double-checked to avoid possible mistakes

Disruptions: Teachers can see when students may leave class for activities.

Accountability: The calendar is a record of what has happened. There is also a list of the students away on activities, so that all students are accounted for.

Making it happen

The starting point to make this system work begins with proactive staff willing to make positive changes in school procedures and a management who trust their decisions. A proven track record of making things more productive for teachers also helps.

Having specific school-based email accounts will help. The lead person implementing the calendar will need to share the calendar with the relevant staff. This can be done by sharing with an email address or by providing a link. You want to make sure that only the relevant people can access the calendar. For GDPR purposes, it is easier if the admin person in the school could create a staff group of emails and only share the calendar (with editing rights) to this group.

CPD for staff is key and the allocation of time during Croke Park meetings will help any school who are considering adopting a system such as this. For staff who are unfamiliar with Google calendar, it will take a bit of time. Once you can upload an event, link it to a calendar, insert a start and finishing time and add a colour to help emphasise the activity, you're sorted!

Phase two of using the calendar includes making repeating events, adding text, adding attachments of team lists etc., and very importantly, enabling a shared document so that all staff can view the attachment.

Phase three: Make sure that the calendar is easy to see. It is worthwhile to place a monitor on a wall in the

staffroom synced to the calendar.

Phase 2 of development of our school using the system

Some schools may already have shared calendars with parents. We have something a little similar but nothing at the moment at the same level that we have for internal communication with staff. One goal is to create a similar activity-based calendar for students and parents. We anticipate that there would be a huge overlap of information but due to GDPR we would not be sharing for example team lists, in a public forum.

Lessons learned

If we can do it, then so can you!

Ours is a busy school, we need accurate information available, and it must be easily accessible. Thank you, Google, for making this happen.

Wishlist

From an admin point of view, may I describe it in the following way:

Dear Google,

I'm an admirer of what you provide in education for our students, teachers and management. May I ask you to consider the following to help make a great system better:

Provide more options of colours for events

Allow users to pre-set some of the default duration setting s for events

Could you make it easier to turn on/off notification alerts (similar to the alarms on a mobile phone)

Enable a system where you can have a View #1 and a View #2 option of viewing the same calendar where View #1 is the master calendar, but you can stop the View #2 cannot see every activity / detail. (I know you can copy calendars but this suggestion is more about ease of use!) For us in education, this would mean I could share the one calendar will the full school community but something like a bus list can only be viewed internally.

Thanking you in advance,

Trevor Collins is the Assistant Principal at Bandon Grammar School, Cork.

EXCESSIVE SCREEN TIME DECREASES IN 2020

MAEVE POWER
ZEEKO

Excessive Screen Time Decreases in 2020

Maeve Power, Zeeko

The last two years have certainly seen some changes when it comes to our attitude and reliance on technology. For many of us, both adults and children, it has been our lifeline for work, school, social interactions and more.

At Zeeko, we were curious what effect this might be having on young people. Are young people spending more time online or less? Is the additional reliance on technology affecting their relationship with the internet? In particular, we wanted to focus in on screen time to get a better sense of how much the pandemic has impacted young people's relationships with screens.

In 2019 Zeeko compiled a document highlighting the results of our country wide Digital Trend Report. The insights gained from the questions relating to screen time were as follows:

> The majority of children in primary schools reported spending between 1 and 2 hours per day online during weekdays.
>
> There was a progressive increase in the amount of time spent online throughout primary school years.
>
> 23% of children attending 6th class reported spending more than 5 hours online on a weekend day.

The statistics from the 2019 report give a good insight into the behaviours of young people around technology, but we were curious as to how much has the pandemic affected those figures. How much time are young people (from 1st to 6th class) spending in front of a screen as a result of Covid-19?

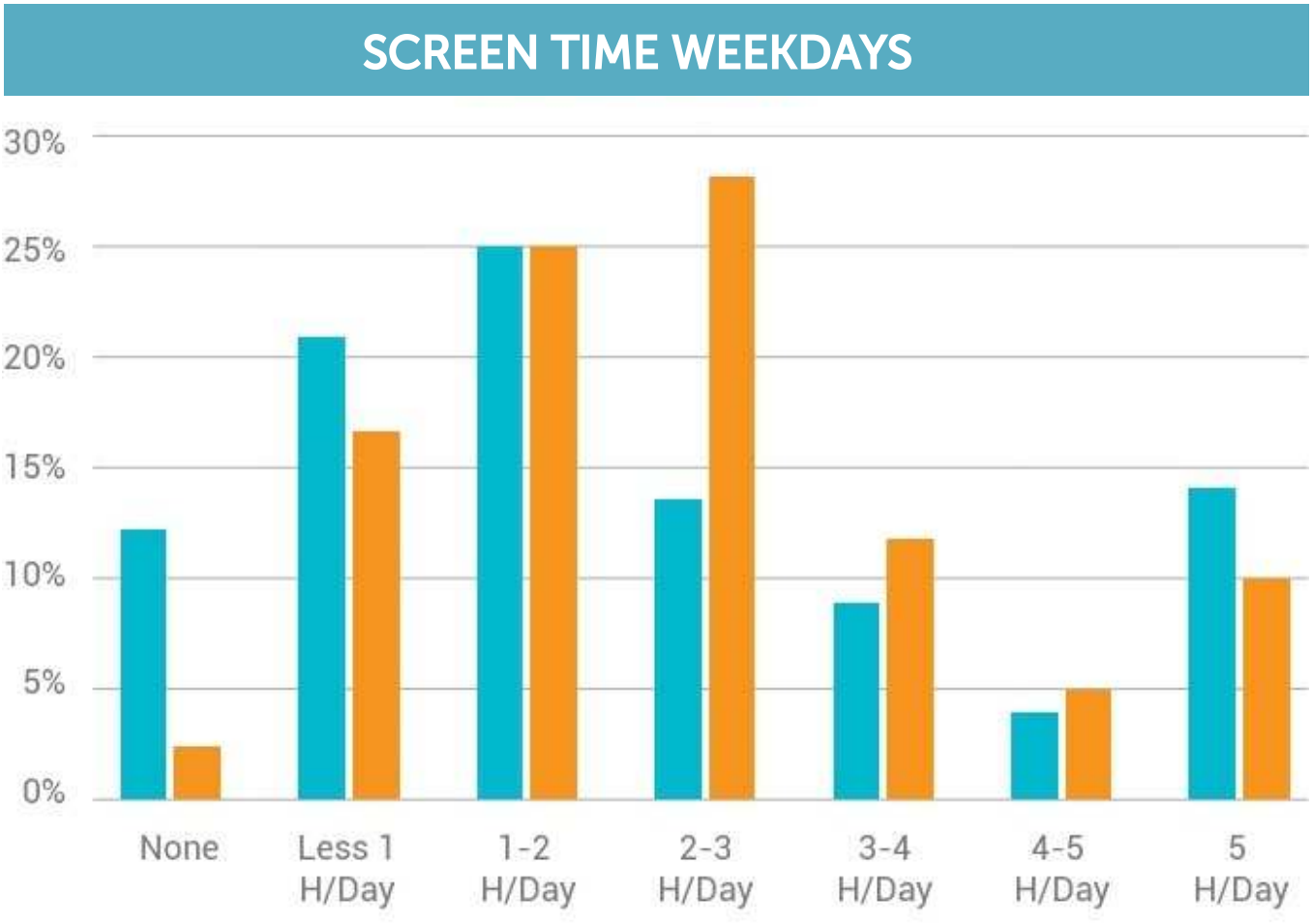
To find out more on this topic we pulled 500 responses from our 2019 Digital Trend Report and 500 from our 2020 Digital Trend Report (post March 2020). On the next page we present the results of our analysis.

The Results

The pandemic has forced many of us to embrace technology is new areas of our lives. Whether that is chatting with and hanging out with friends, communicating, and collaborating with work colleagues or getting our education, screens are now more prevalent in our lives than ever.

Unsurprisingly the overall amount of time young people have been spending using screens has increased during the pandemic. Between school; chatting with friends and family, and; entertainment while being stuck at home, we have all seen an increase in our screen time over the last year and a half. But, interestingly, the amount of young people that said they spend 5+ hours a day on screens has decreased both during the week and on weekends.

According to the report the percentage of children that spend 5 hours or more a day using a screen during the week has decreased from **14% Pre Pandemic to 10% Post March 2020**. And the number of children that spent 5 or



How many hours do you spend online during the week?

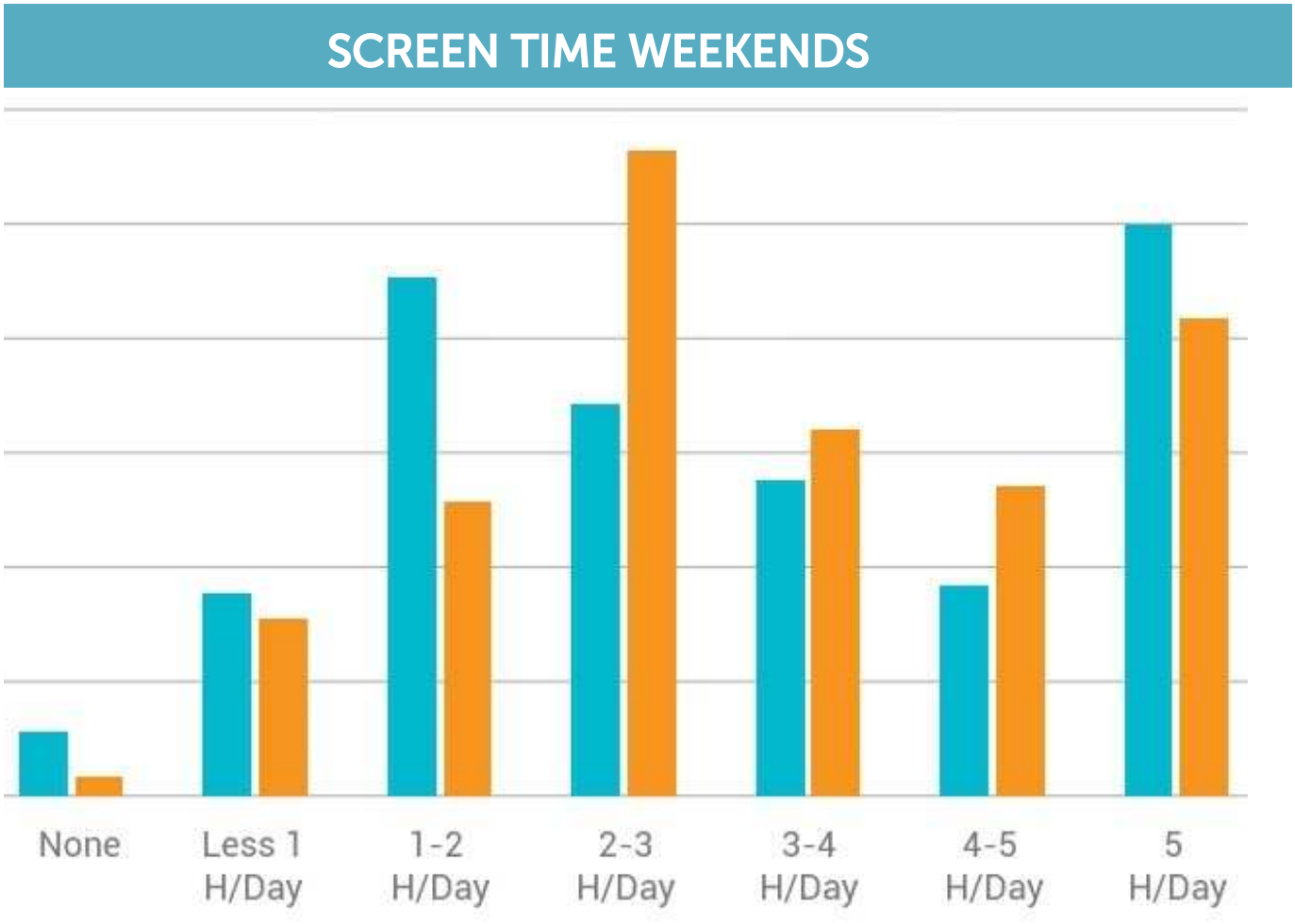
more hours a day using a screen during the weekend has **decreased from 25% to 21%**.

There are countless articles that have been published in the last 18 months about how Covid has impacted children's screen time. While we did find through our research, as many others did, that overall screen time has increased, we wanted to share a more balanced view of the data. Overall, between pre and post Covid, excessive screen use (5+ hours a day) has decreased for 1st- 6th class students.

Creating Balance Around Screen Time

The negative impacts of too much screen time have been well researched. It can cause disruptions to sleep, impact on mood and cause eye strain. However, as more and more of society relies so heavily on the internet, use of screens is becoming more and more prevalent. And let's not forget about all the amazing benefits that come with screens.

We have unlimited and easy access to



How many hours do you spend online during the weekend?

information, learning and entertainment. We can learn a new skill on a whim and find answers to questions that we may never have even considered before. Screens, and the technology they allow us to access, has expanded and enriched our lives and this should not be under estimated. **The key message we need to instil in young people is balance** when it comes to screen time.

How to manage screen time is an important topic that should be addressed in classrooms throughout primary and secondary school. However, we acknowledge that it can be a difficult subject to address because screens as so ingrained into our daily lives. And they are becoming more and more important in an educational context. It can come across as a bit contradictory if we are telling students to reduce their screen time at home while we continue to use screens in the classroom.

Instead of focusing on the negative impacts of screen time, let's focus on teaching young people how to manage their relationships with screens and teach them mindful use of devices so they can succeed in our technology focused world. The internet and screens are amazing tools but as with everything, an excess can lead to problems. Managing screen time is so important if we want to help young people build healthy relationships with screens. It's about balance and understanding the pressures and expectations of our modern society.

It is unlikely that any of us could go a day without looking at a screen. So, let's make sure we are realistic in our views on screen time and approach managing screen time in a mindful and balanced way. And hopefully we can see the trend of informed and balanced use of screens, continue.

Three Practical Tips for Encouraging Less Screen Time with Your Students

1. Assign some homework that requires no screens.

a. This can be an easy way to encourage your students to spend part of their evening away from screens. Even better if you can encourage your students to go outside and be creative while they do it!

Here are some ideas:

i. Read a book and present it to the class

ii. Create some art

iii. Go outside and write a story about something that you see

iv. Draw a map of your local area and present it to the class

2. Create a family screen time contract.

a. When it comes to managing screen time it is important that the whole family is involved. Young people will naturally emulate the older people in their lives. If parents or older siblings are constantly looking at screens, this will become normalised in the house and the younger people will copy it.

Discuss with your class the idea of creating a screen time contract that everybody at home has to sign and stick to. This can be an interesting exercise as your students will need to consider the needs of their family members when it comes to using screens. Here are some helpful tips you can give your students as they create their digital contract:

i. Remember, everyone's contract will be different as everyone has a different situation outside of school. Encourage your students to think about what would be good for their family and empower them to make decisions.

ii. Start with something small and manageable - Create small wins and help to build habits by encouraging your students to make small changes at home. Instead of saying 'no screens at all in the evening', create a tech free zone in the house. For example, the dining room table. No one is allowed to use a screen when sitting at the table.

iii. Remember, not everything will go according to plan all the time - as with everything, life might get in the way of the digital contract. For example, a family member might be ill and therefore mum needs to have her phone on her all the time or an older sibling might have an important school project due and needs to use the computer for a bit longer in the evening.

Recognizing that things may not always go to plan and the ability to be flexible and adapt are vital skills that your students will need to succeed in the future. This is a great opportunity to teach them.

3. Talk to your students about what they are consuming when using screens.

a. When it comes to screen time it is important to consider the differences between quality and quantity

consumption. A lot of articles on the subject of screen time focus solely on the *time* spent in front of screens with little consideration for what is actually on the screens.

The research shows that overall, we should be working towards reducing screen time for young people (and for adults too!) but, as mentioned above, screens are not going away. So let's start having a conversation about WHAT content we are consuming rather than HOW we are consuming it and teach our young people how to value and make the most out of the time they do spend on screens.

About Zeeko

Zeeko is an education technology company based in Dublin, Ireland. The company's mission is to empower young people through education and 21st century skills. Over the past 5 years Zeeko has conducted seminars and run programmes in over 375 schools across the country and engages with approx. 55,000 students each year. In addition to the delivering of programmes, Zeeko is also passionate about conducting research in the education/technology space.

Every year Zeeko conducts a Digital Trend Report with schools all over the country. The report focusses on understanding the impact of technology on young people's lives and also their attitude towards the internet and technology. If you are interested in getting a free Digital Trend Report for your school visit the Zeeko website.

A version of this article originally featured on the Zeeko Blog

EXPLORINGEDTECH QUICK-TIP

EDGE COLLECTIONS

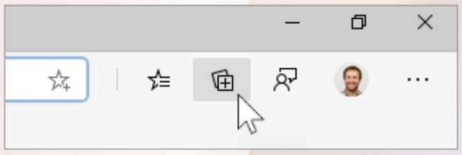
Collections in Microsoft Edge help you keep track of your ideas on the web, whether you are planning a virtual class trip, collecting notes for lesson plans, or just want to pick up where you left off the last time you were browsing the internet. Whatever you're doing on the web, Collections can help.

Collections syncs across your signed-in devices, so if you use Microsoft Edge on multiple devices, your collections will always be up to date on all of them.

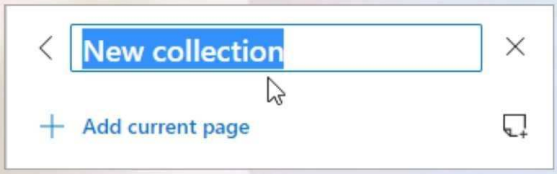
How to Start a Collection on a Windows computer

Select **Collections** at the upper-right corner of Microsoft Edge

Click **Start new collection**.



To change the title of the collection, select it at the top of the Collections pane.



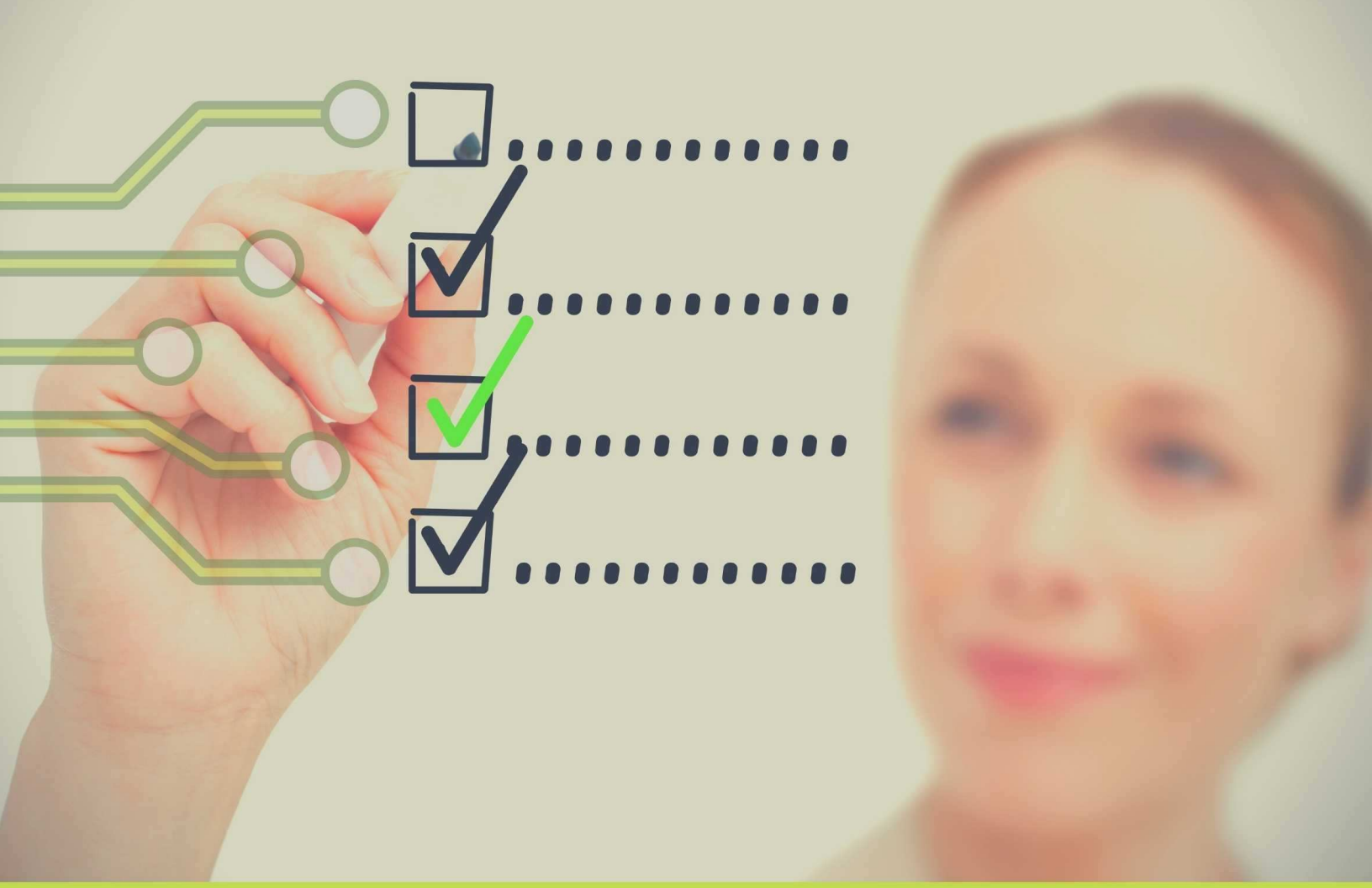
When you're ready to start adding content to your collection, you can do this in several ways:

Select **Add current page** to save an entire webpage to the collection.

Select and drag an image into the collection.

Select and drag a link or highlighted text into the collection.

When you add content to your collection, a card will appear. This card shows useful info at a glance and contains a link to the item you saved, so you can always get back to what you were working on.



How Technology can help tick the box of accessibility and inclusion in your classroom

HOLLY MURRAY

How Technology can help tick the box of accessibility and inclusion in your classroom

Holly Murray

Post Primary History & Geography Teacher, Finn Valley College, Co. Donegal

As a young newly qualified teacher I remember the fear of not knowing what to do in a class with students with all different abilities. I felt like my PME did not prepare me for this and this is where is my passion for technology really began.

I wanted to help my students who needed me the most. Students with dyslexia and EAL students which are students that do not speak English as a first language is where I set my focus. Initially I had no idea how to help a student who spoke a different language however after a visit to Microsoft in Dublin in 2019 all that changed.

The COVID-19 pandemic also gave me the time to complete a few courses to help my students and fellow teachers in the years to come, including becoming an MIEE a Microsoft Innovator Educator Expert and completing my Google educator level one and two exams.

I also completed my UDL badge which for transformational for my own teaching career. In this article I will discuss how Microsoft and Google TEL tools can help to enhance the learning experience of students with dyslexia and EAL students in your classroom.

I have experience with using both Microsoft and Google tools in my classroom. My passion for technology enhanced learning really began when I visited Microsoft in Dublin in 2019. On that day I witnessed the amazing TEL tools that Microsoft have to offer. On returning home from that fantastic CPD event I then began using Microsoft

Educator Centre to educate myself on all the features that Microsoft tools have to offer for teachers. Microsoft Educator Centre courses are all free and you also obtain a badge on completion.

So how can Microsoft and Google tools help you to tick that box of accessibility and inclusion?

Immersive Reader is my number one tool from Microsoft. It is fantastic. The Immersive reader is found in a few Microsoft applications including Word, PowerPoint, OneNote, Teams, Outlook, and the Edge browser. The Immersive reader will help reduce the stress and anxiety of reading copious quantities of text for students with dyslexia as this will read the document aloud for the user.

The background colour can be changed again to help students with dyslexia, and it allows you to translate the document for you EAL students. The text size can be increased for users with a visual impairment and there are a number of options for literacy supports within the application also. This is a free tool and really ticks the box of accessibility and inclusion for your students. The Immersive reader can be found under the view tab in Microsoft word.

The Immersive reader is now available in several applications that you may be already using in your classroom.

Unfortunately, as of yet Google does not have the immersive reader, but they do have a number of chrome extensions to help you. **Helperbird** is a Chrome extension that includes text to speech, OCR, dyslexia support, dictation,

immersive reader, overlays, annotations, picture dictionary, speech to text, Reader mode, and more. However, the free version has a limited number of features, for the more advanced features you will need to pay for it. Another Chrome extension is **Read Aloud** which is a text to speech voice reader which can help students with dyslexia.

As I write this article, I am using a feature in Microsoft called dictate. This piece of technology allows me to talk to the screen and it will type exactly what I am saying. This feature is also available in a Google doc and it is called voice typing. This type of assistive technology really helps students to reduce the amount of time writing or typing and this will help students with dysgraphia and dyslexia or even just help you as the teacher when writing out long sample answers for your students as a time-saving tool.

Dictate can be found under the home tab in a Microsoft word document and under the tools tab in a Google Document. You simply click on the microphone and you will instantly see what you have said being typed on the screen in front of you. Dictation in Microsoft has been updated this summer and you now can select a chosen language, click auto punctuation, and additionally, select a profanity filter.

The translate options in Word and in Google Docs can really transform a lesson for your EAL students and make your content accessible to all. You can highlight the text you want to translate and both Microsoft and Google have an extensive list of languages that you can

choose from. So, when I am uploading work on Google Classroom or on Teams, I will upload an English and a translated version for the student. It is important to also show your students how they can use these tools also when completing homework etc.

If you are just starting out on your digital journey, I would advise you to learn one or two tools that could be of benefit to your students. Do not try and learn about every single tool that you hear about because sometimes not every tool can be of benefit to your student and if you take on too many new tools it can be quite overwhelming.
There is no one size fits all when it comes to using technology in your classroom.

The Education Centres throughout Ireland run webinars during the academic year which are an excellent source of free CPD for teachers. The Microsoft Educator Centre also offers excellent free CPD courses for educators. Wriggle Connect is also a new CPD platform in Ireland that have short bite size videos on how to use various TEL tools. Check out https://www.wriggle.ie/wriggle_connect for more information.

The following infographic (adapted courtesy of Mike Tholfsen, Microsoft) would be an excellent resource for your digital drive in your school.

Supports for students with inclusive personalized non-stigmatizing tools starting in the primary grades through graduation.

Preparing all students to be independent with workforce ready skills for higher education and as they begin careers.

Knowledge to advocate for the technology and tools needed to be successful and independent in the workplace and life.

Reading, writing, math

- Immersive Reader
- Independently digitize materials with Office Lens
- Dictate content across Office 365
- Word prediction to assist with writing
- Breaking content in smaller parts with Headings in Word
- Built in math tools in OneNote

Speech, language, communication

- Practice speaking with PowerPoint Presentation Coach
- Practice conversational learning with Flipgrid
- Reading and listening to text with Immersive Reader
- Process auditory language with live captions
- Respond to prompts using the Chat feature in Teams

Neurodiversity

- Minimize distractions with Immersive Reader, Focus Assist, Focus Mode, and Reading view
- Writing assistance with Learning Tools, Word Prediction, and Dictation
- Stay organized using To Do on any device
- Complete work alternatively using Flipgrid, Digital Inking, Sway, PowerPoint Screen Recorder, Whiteboard

Hearing

- Personalize the computer with the Ease of Access Center
- Use subtitles in Teams, Translator, PowerPoint Presentation Translator
- Add captions to videos in PowerPoint, Sway and Stream
- Turn on video during a Teams meetings for live interpretation

Mental health

- Opportunities to connect with students and families with video chat feature in Teams
- SEL through lessons in Minecraft
- Alternative content creation with Flipgrid, digital inking, PowerPoint recording, Sways, Whiteboard
- Data collection (such as ABC data) through Forms

Mobility

- Personalize the computer with the Ease of Access Center
- Dictate presentations and documents
- Use computer with Keyboard only and on-screen keyboard
- Sticky keys and filter keys for one handed access
- Speech recognition to control the computer
- Engage computer using eye control and 3rd party tracking devices
- Play with others using the Xbox adaptive controller

Vision

- Personalize the computer with the Ease of Access Center
- Accessibility checker to ensure all content is accessible
- Built in screen reader with Narrator in Windows 10
- Independently digitize materials with Office Lens
- AI translates the visual world into an audible experience
- Basic coding for younger students with Code Jumper

Executive Function

- Planning with To Do
- Scheduling in Planner and Outlook
- Breaking down tasks in OneNote and Navigation in Word
- Organization in Outlook, OneNote, and Teams

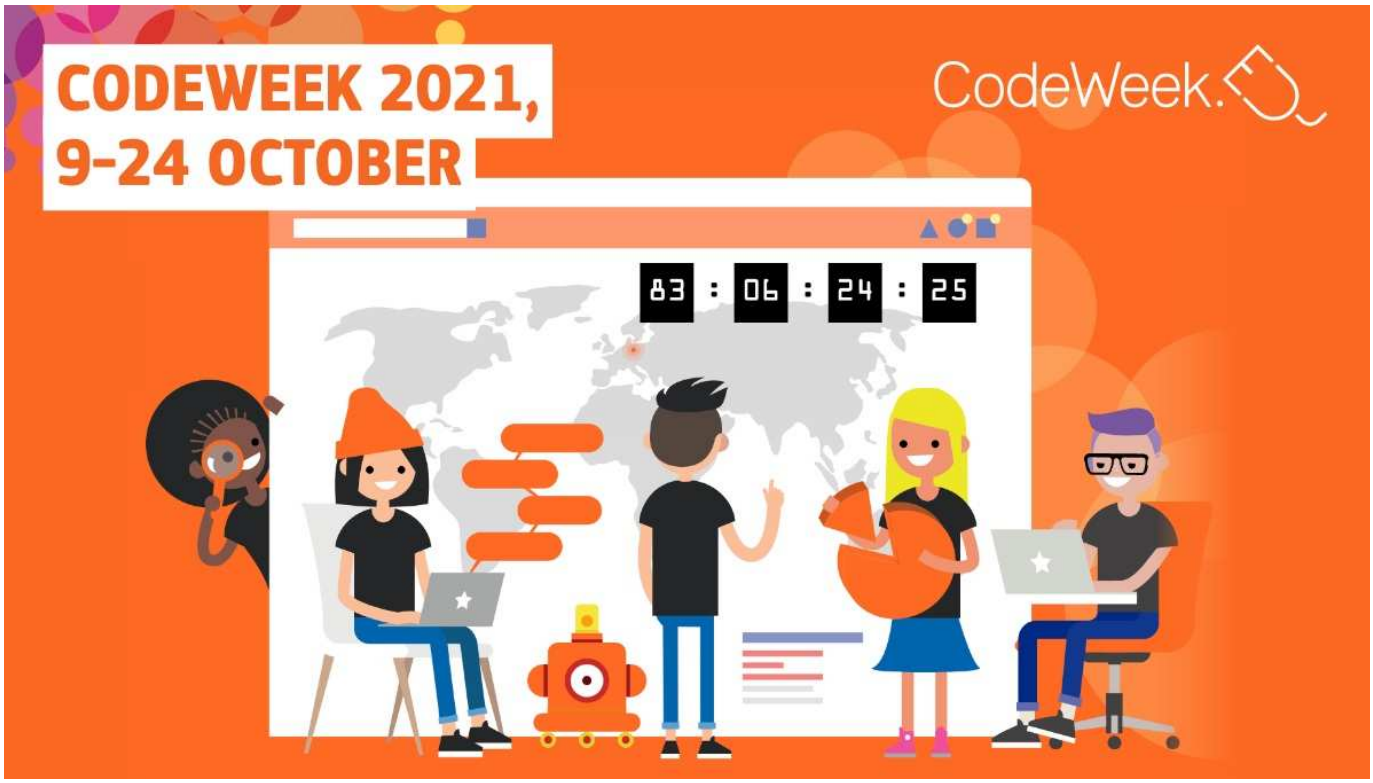
Infographic adapted from M. Tholfsen, Microsoft

EU CODE WEEK

pam.o.brien
julie.power

9-24 OCTOBER

GET INVOLVED:
https://codeweek.eu/events



EU Code Week 2021

Pam O' Brien & Julie Power

EU Code Week is a grass-roots movement that celebrates coding and digital literacy. The aim is to make programming more visible for all, by participating in fun and engaging activities. Creativity, problem solving, and collaboration are at the heart of these activities. In 2020, despite the pandemic, more than 73,000 activities were organised across the EU during Code Week. Poland topped the scoreboard with more than 20,000 activities and Ireland came in 27th place with 123 activities.

The CodeWeek community is a vibrant one consisting of Ambassadors, Education Ministry Co-Ordinators and Leading Teachers supported by a team based in the European Commission. In Ireland, Julie Power and Pam O'Brien are the ambassadors who work with Anthony Kilcoyne from the Professional Development Service for Teachers (PDST) and a group of leading teachers to disseminate information about EU Code Week and to encourage others to get involved by planning and organising their own activities.

EU Code Week is for everyone not just those who are already involved in coding. Teachers of any subject and their students, parents, grandparents, librarians, makers and companies can all organise and participate in activities for Code Week. These activities can be plugged (using technology) or unplugged (without the need for technology) and can cover a vast range of activity types including, but not limited to, problem solving exercises, programming activities and maker and project-based events.

EU Code Week 2021 takes place between 9th and 24th October. So far this year, there are more than 10,000 activities planned with Austria on top of the scoreboard at the moment. Ireland is in 26th place but we would love to see an improvement in that placing. Coding classes already happening in the classroom are perfect examples of activities that can be added to the activity map at https://codeweek.eu/events.

If you don't have any activities planned, you could check out 'Learning Bits' under the 'Schools' section of the EU Code Week website. These comprise of short videos outlining computer science concepts with more detailed lesson plans covering different age groups and activities.

In addition, there are a series of challenges specially created this year for you to undertake on your own or with your friends or colleagues. You will find all 18 EU Code Week Challenges, designed by the EU Code Week team, ambassadors, and industry partners, at https://codeweek.eu/2021/challenges.

These challenges can be taken as is or they can be tailored to suit your own context. Participants are encouraged to take on as many challenges as possible during Code Week to fill their 'bingo cards'!

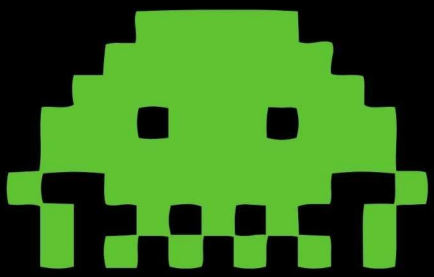
This year in the run up to Code Week, a series of online hackathons were introduced in 6 European countries including Ireland. The first round took place in each country during Spring 2021.

The five successful Irish teams continued to work on their solutions over the summer and competed in the national finals in September, where Mount Saint Michael Secondary School in Claremorris took first place. The winning team from each country will then progress to the European final which will be held during CodeWeek. You can find more information on the hackathons at https://codeweek.eu/hackathons.

Further information on Code Week Ireland news will be shared on the event twitter account @CodeWeekIRL

As you can see there are lots of ways to get involved in Code Week so if you are organising an event please be sure to pin it to the Code Week map https://codeweek.eu/events and let's get Ireland moving on up that scoreboard!

Makecode Arcade TUTORIAL



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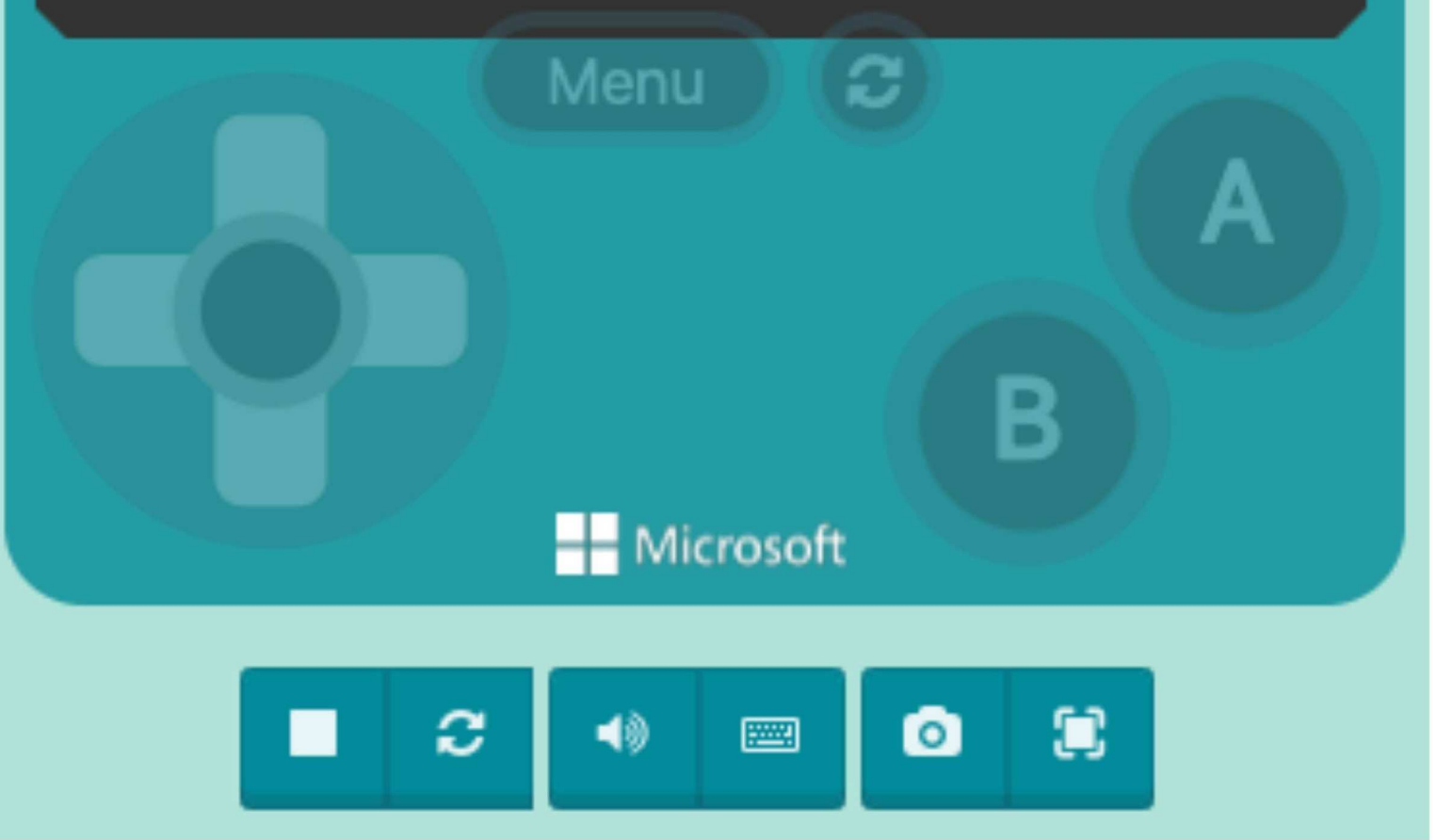
CHRIS REINA



Makecode Arcade - Alien v Duck

Chris Reina

MakerMeet develop and deliver a diverse selection of Maker-led, project-based, S.T.E.A.M. workshops for students and teachers in the education, enterprise and private sectors. Each issue we will bring you a new Maker project to do at home or in school - some will be very simple while others may require specific materials. See www.makermeet.ie for more information.

Our second Maker project will be a slightly more complicated game. This is suitable for ages 10+ and will require some previous coding experience. (Block-based software like Scratch is a great place to start).

Notes:

If you have used Micro:bits with Microsoft's Makecode and are ready to move on - this is the next logical step as it is a good progression to the next level of more complicated game creation.

The URL to access this is: https://arcade.makecode.com.

You do not need an account or hardware for this project - there is a built in simulator online which works perfectly.

If you would like to purchase hardware, we have found the Brainpad Arcade to be an excellent choice. (https://www.brainpad.com/brainpad-family/arcade/)

Makecode Arcade - Alien v Duck
Chris Reina
Exploring EdTech Ireland #4 2021

STEPS:

Follow the instructions and the step by step screenshots in the following pages to build the game in Makecode:

1) Go to: https://arcade.makecode.com >

Choose “New Project” and give it a name.

2) The simulator will be on the left, but you can hide it if you want for the moment.

3) You will use the blocks under each of the categories in the middle column. (Sprites, Controller, Game, etc.)

4) Choose “Scene” and “set background color to” > Choose your background colour.

5) When dragging blocks out, they will “snap” into place.

6) Choose “Sprites” and “set mySprite to sprite ▦ of kind Player”.

7) Click on grey box after “sprite” and draw your own Alien!

8) Choose “Controller” > “move mySprite with buttons”

9) Once again, Choose “Sprites” and “set mySprite to sprite ▦ of kind Player”.

10) Click on grey box after “sprite” and now at the top, choose “Gallery” > Choose a Duck!

11) Make “set mySprite to sprite ▦ of kind Player” > Change “Player” to “Food”

12) Choose “Sprites” again > Choose “on sprite of kind Player

overlaps otherSprite of kind Player”

13) Change 2nd “Player” to “Food”

14) Choose “Info” > “change score by 1”

15) Choose “Sprites” again. > Choose “set mySprite position to x0 y0”. (Make sure “mySprite**2**” is selected. - same as the Duck)

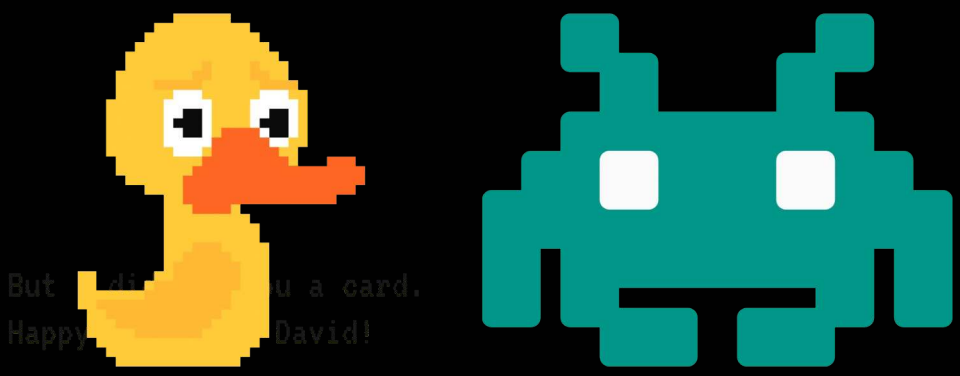
16) Choose “Math” > “pick random0 to 10” > right-click and Duplicate. > place in both x and y positions.

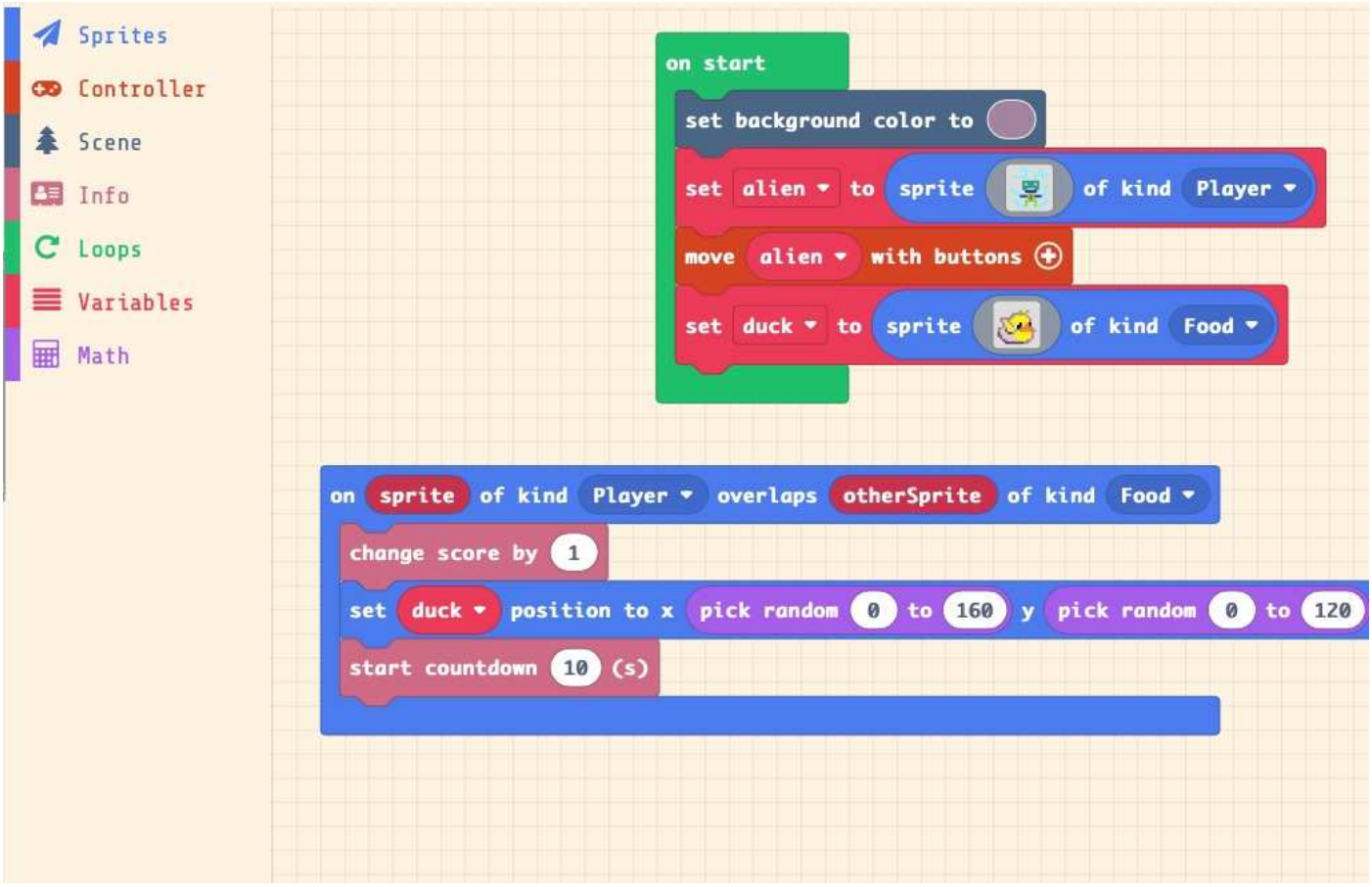
17) Change x to “0 to 160” and y to “0 to 120”.

18) Choose “Info” again > start countdown 10(s)

19) Play your game! Note that countdown resets every time the Alien gets the Duck. What’s your High Score?

Enjoy making the GAME!

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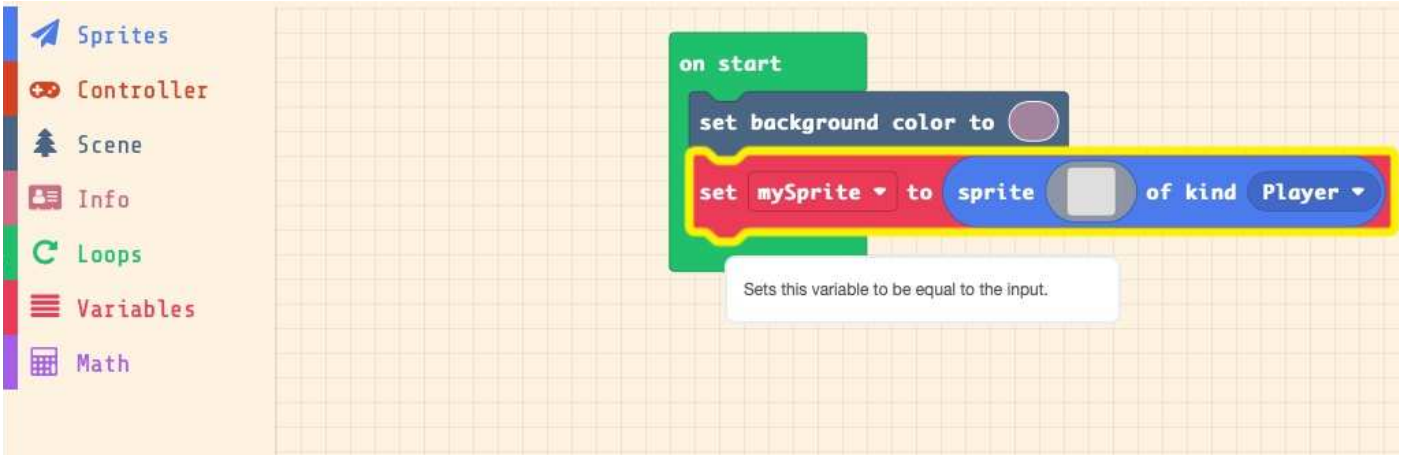
set alien to sprite of kind Player
move alien with buttons
set duck to sprite of kind Food
on sprite of kind Player overlaps otherSprite of kind Food
change score by 1
set duck position to x pick random 0 to 160 y pick random 0 to 120
start countdown 10 (s)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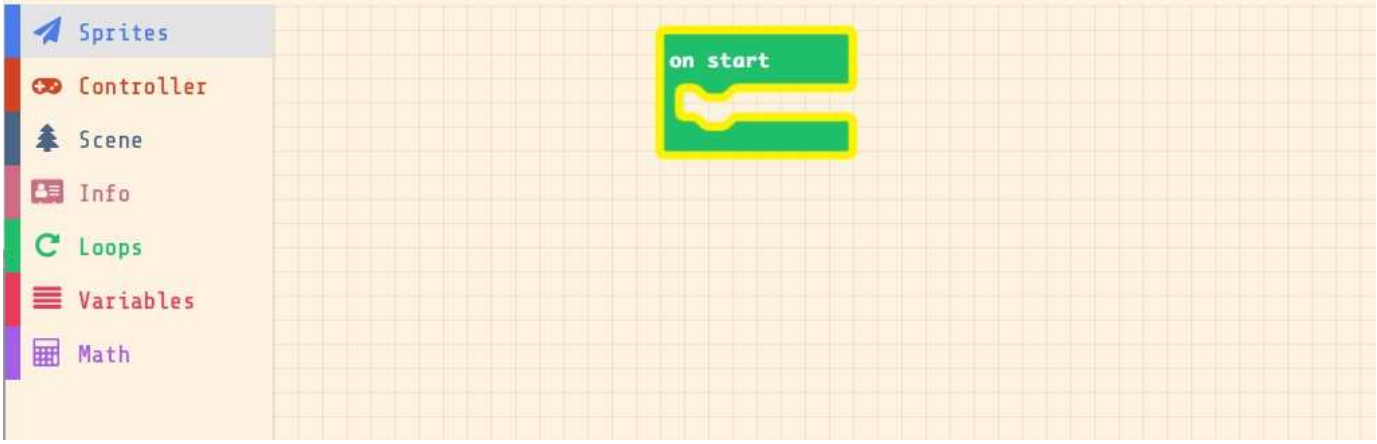
Sets this variable to be equal to the input.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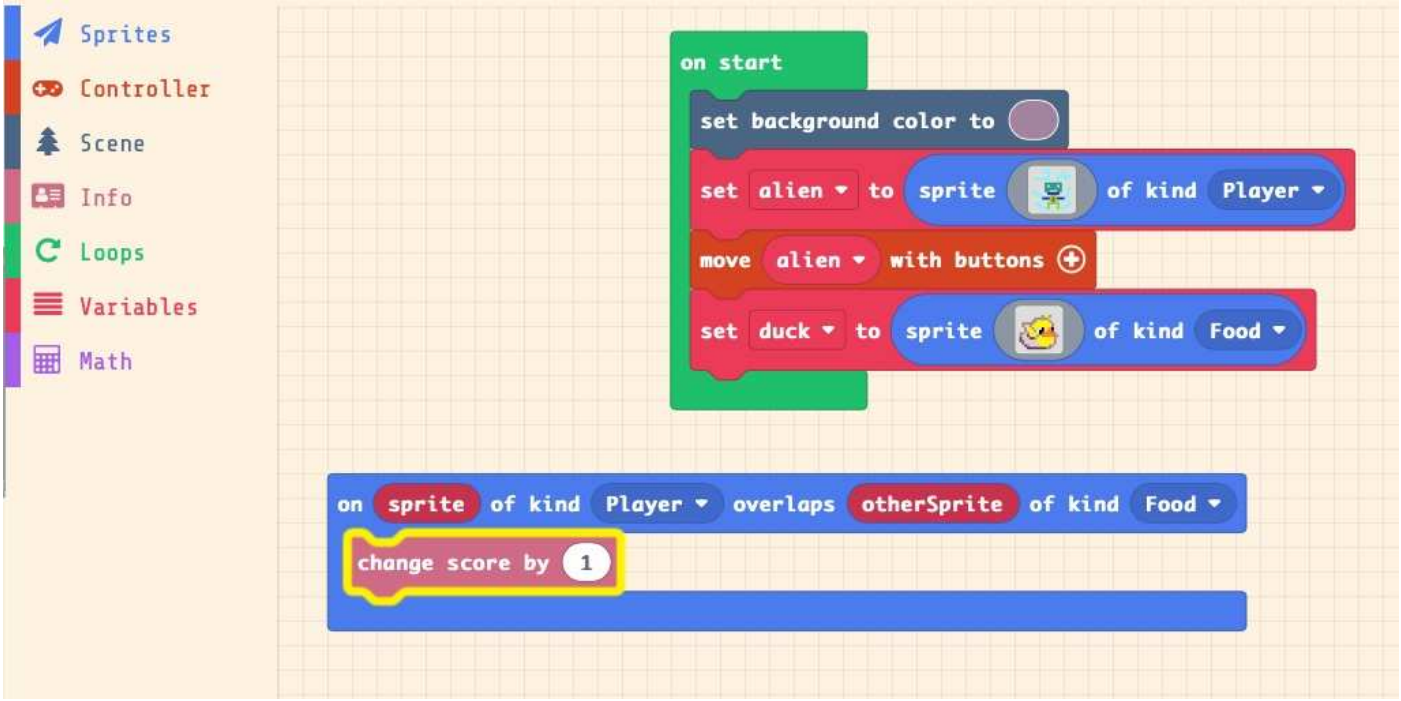
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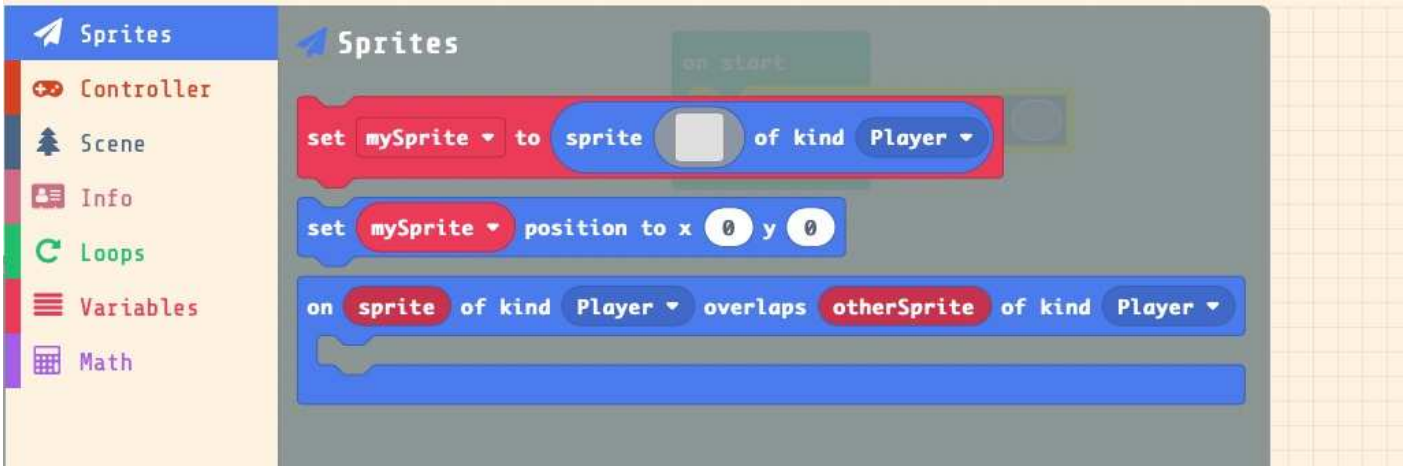
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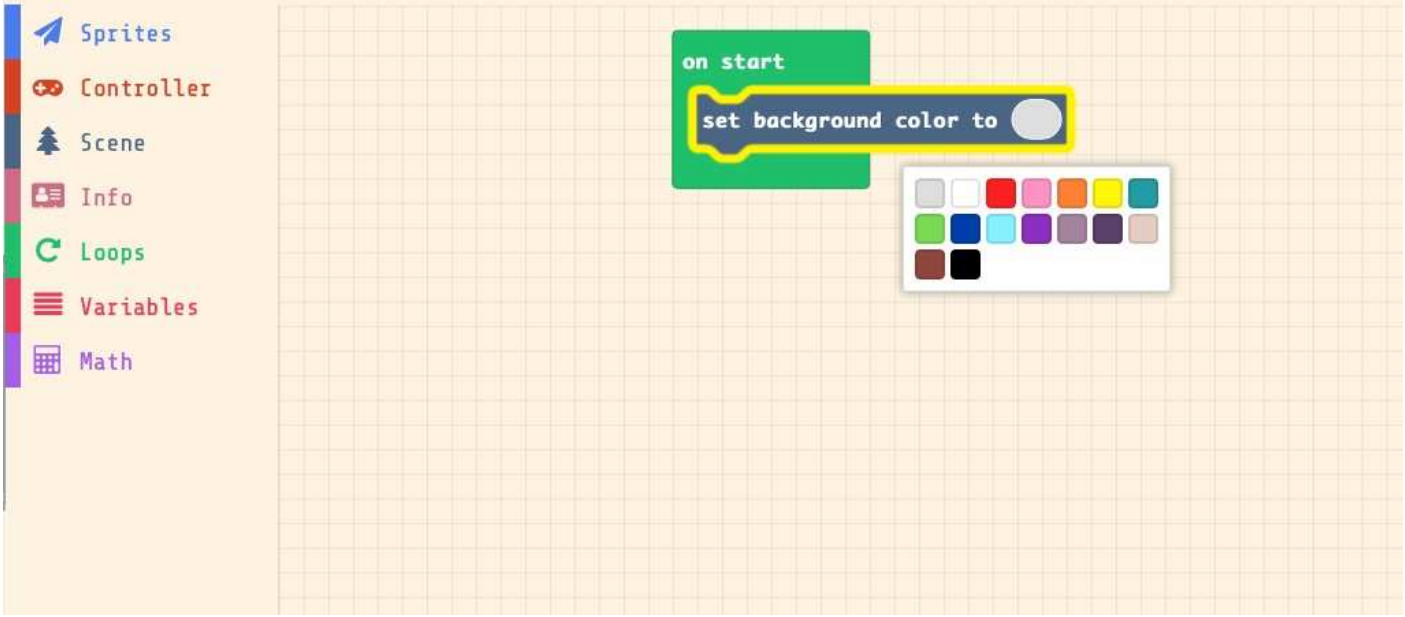
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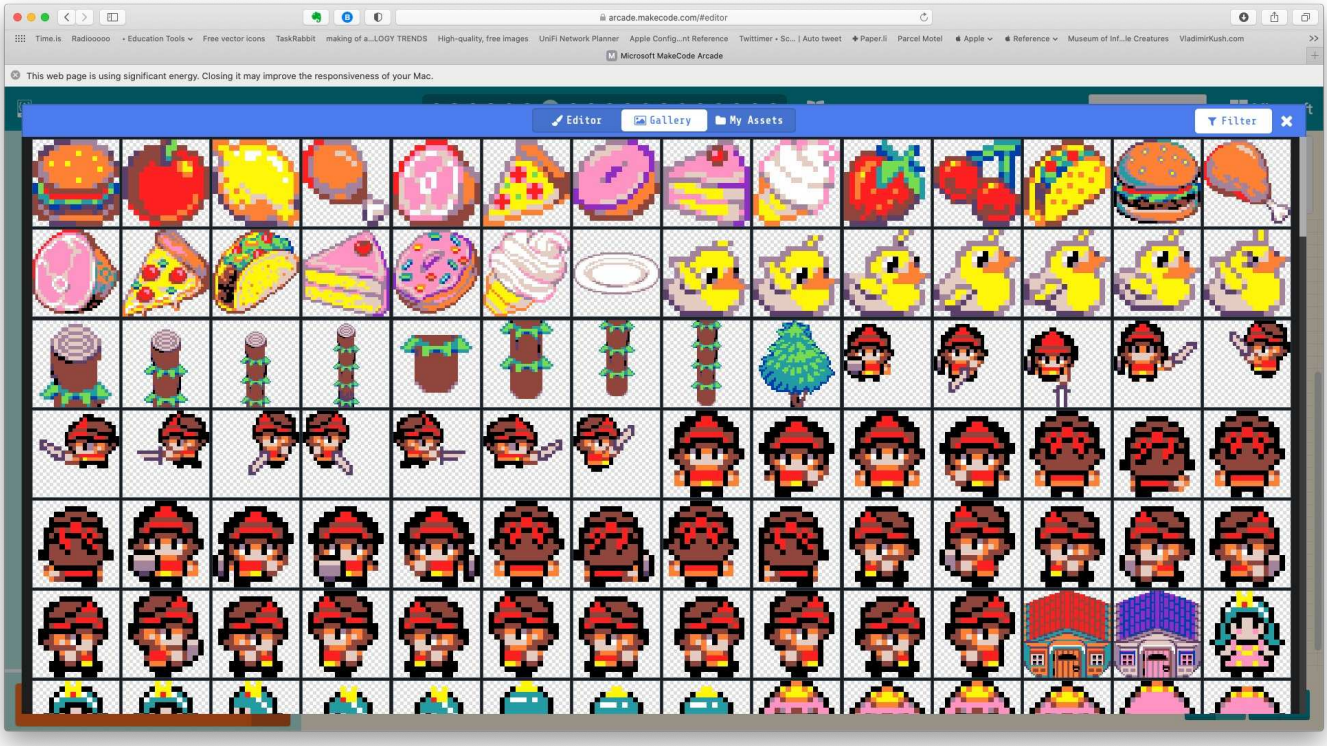
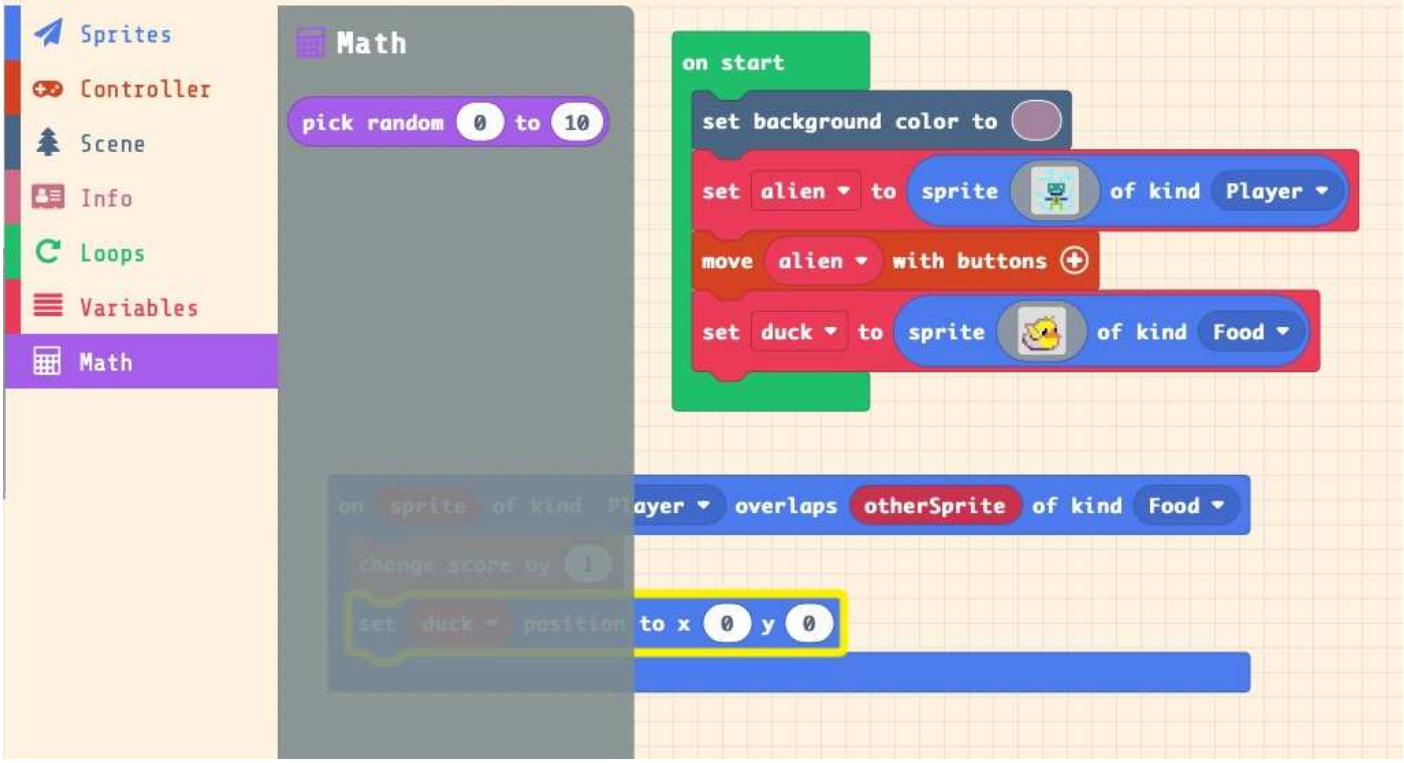
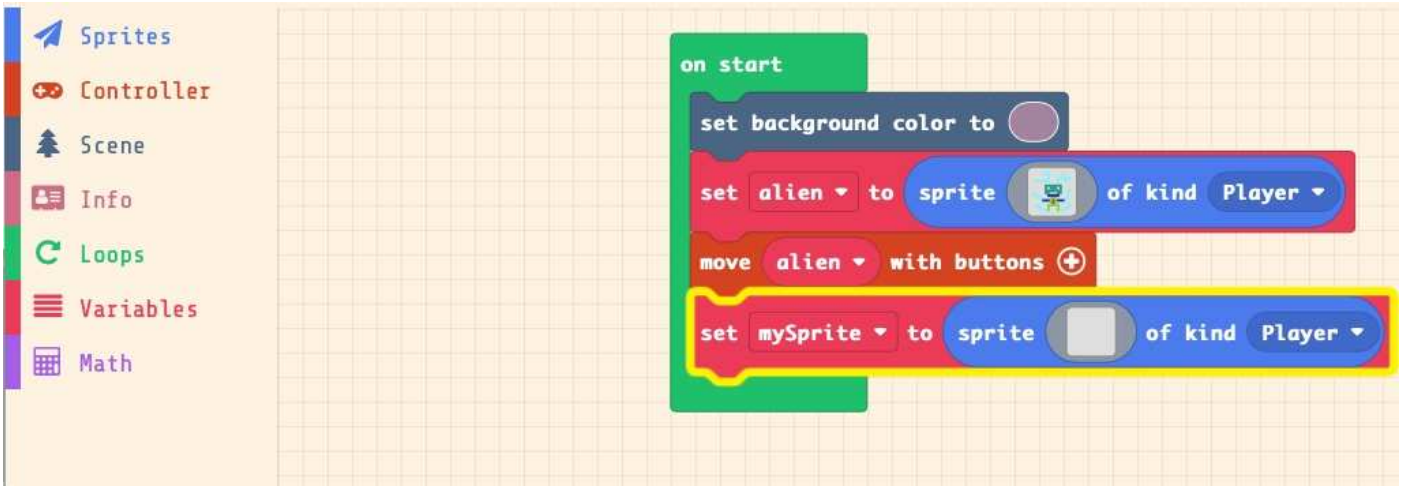
Chris Reina
Exploring EdTech Ireland #4 2021



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move alien with buttons
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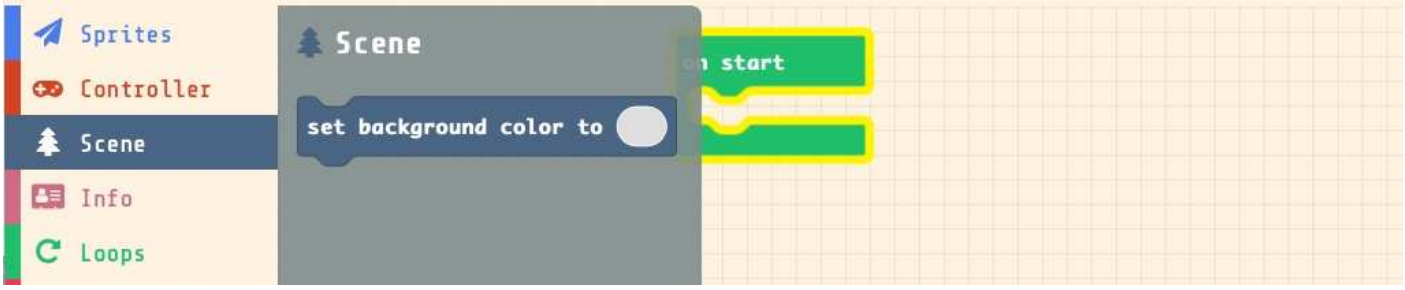
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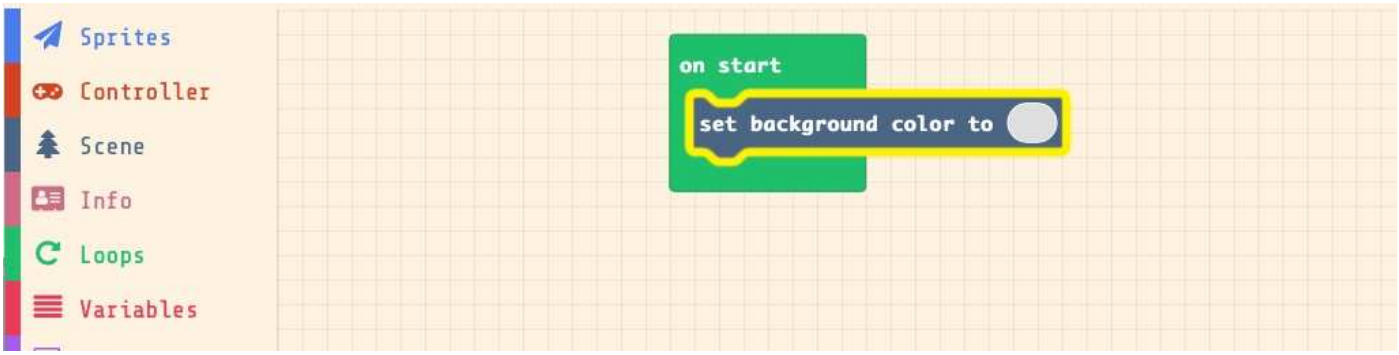
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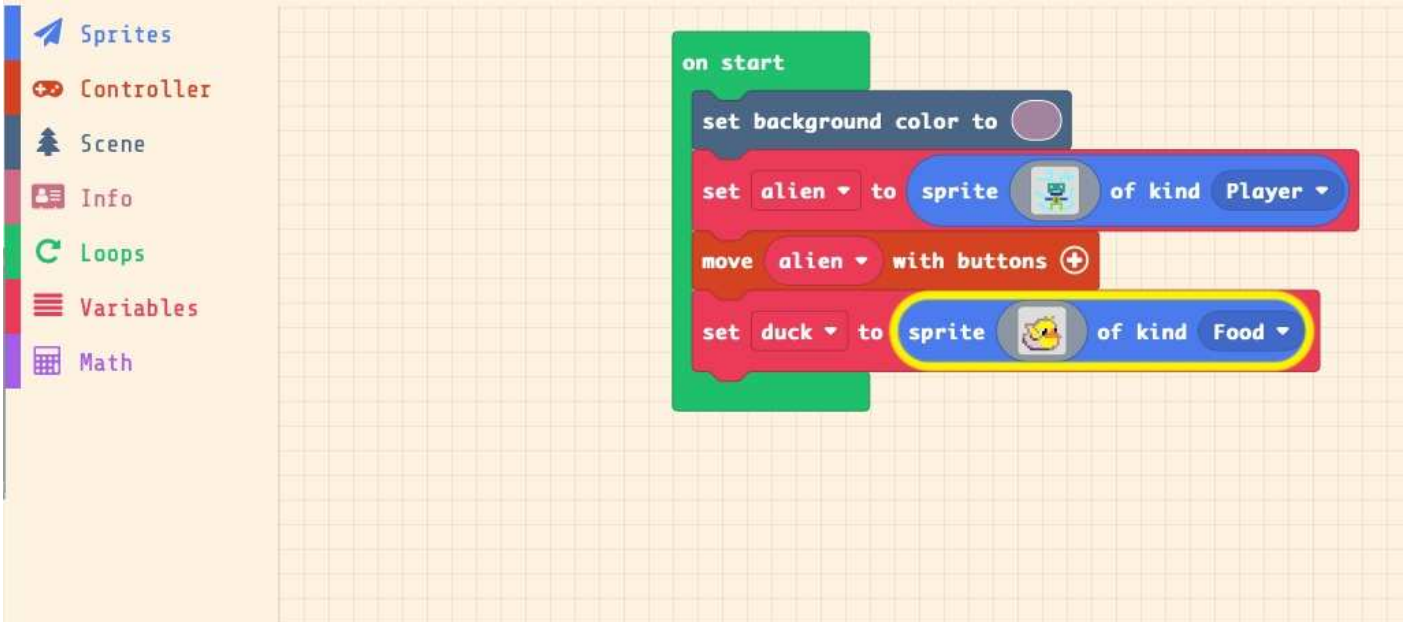
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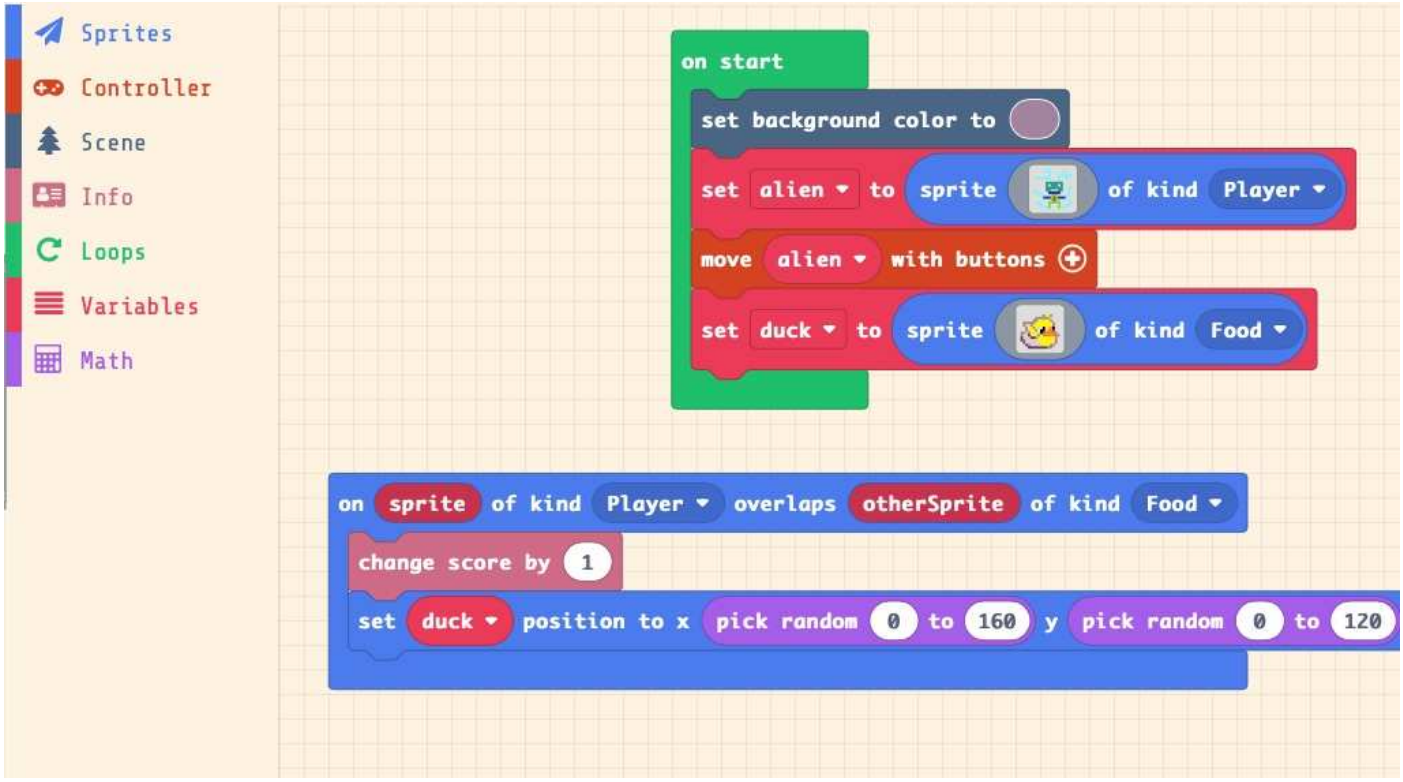
set duck to sprite of kind Food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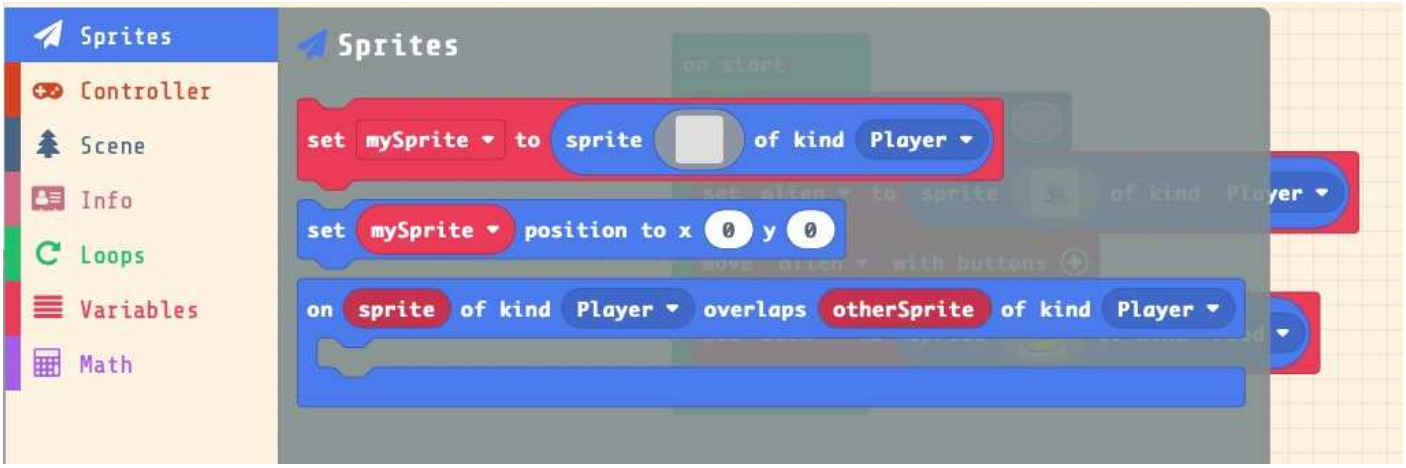
on sprite of kind Player overlaps otherSprite of kind Food
change score by 1
set duck position to x pick random 0 to 160 y pick random 0 to 120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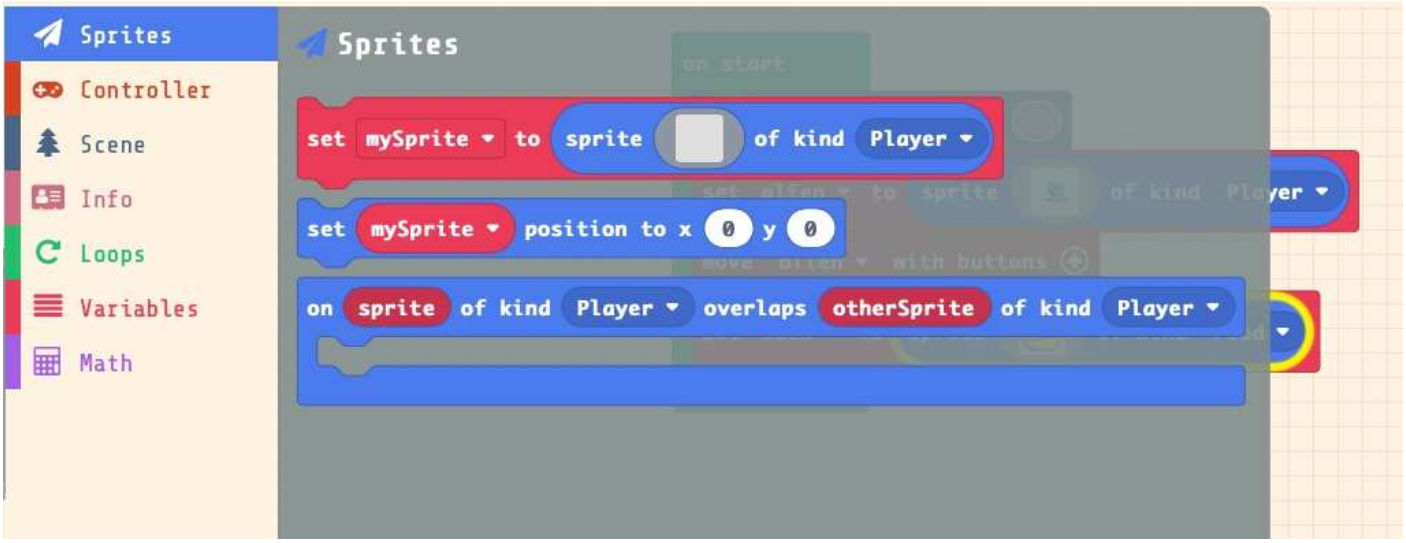
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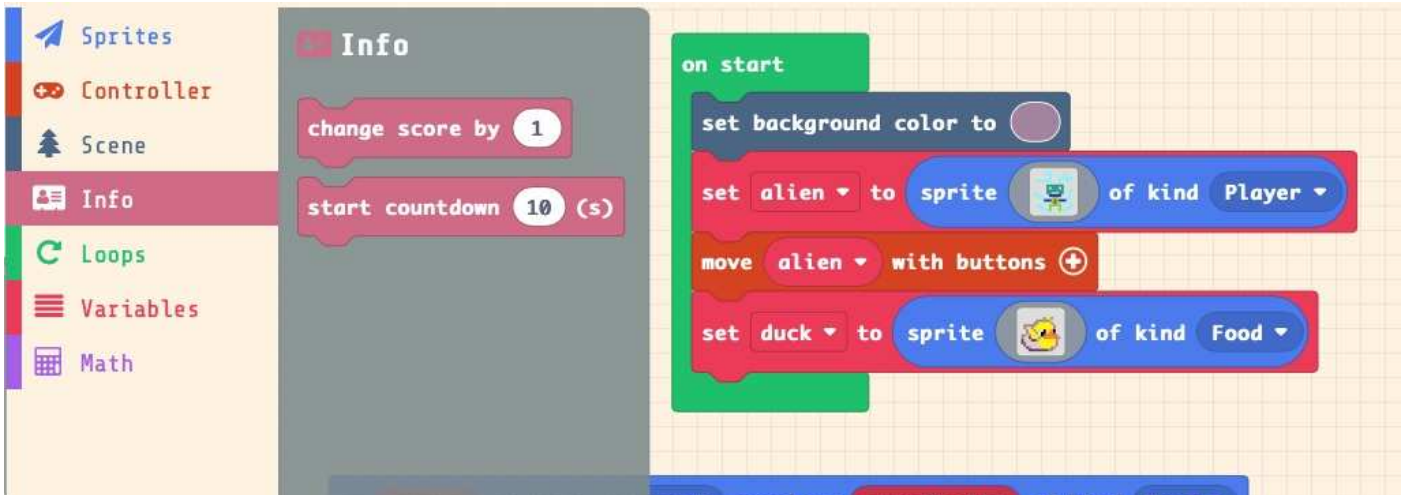
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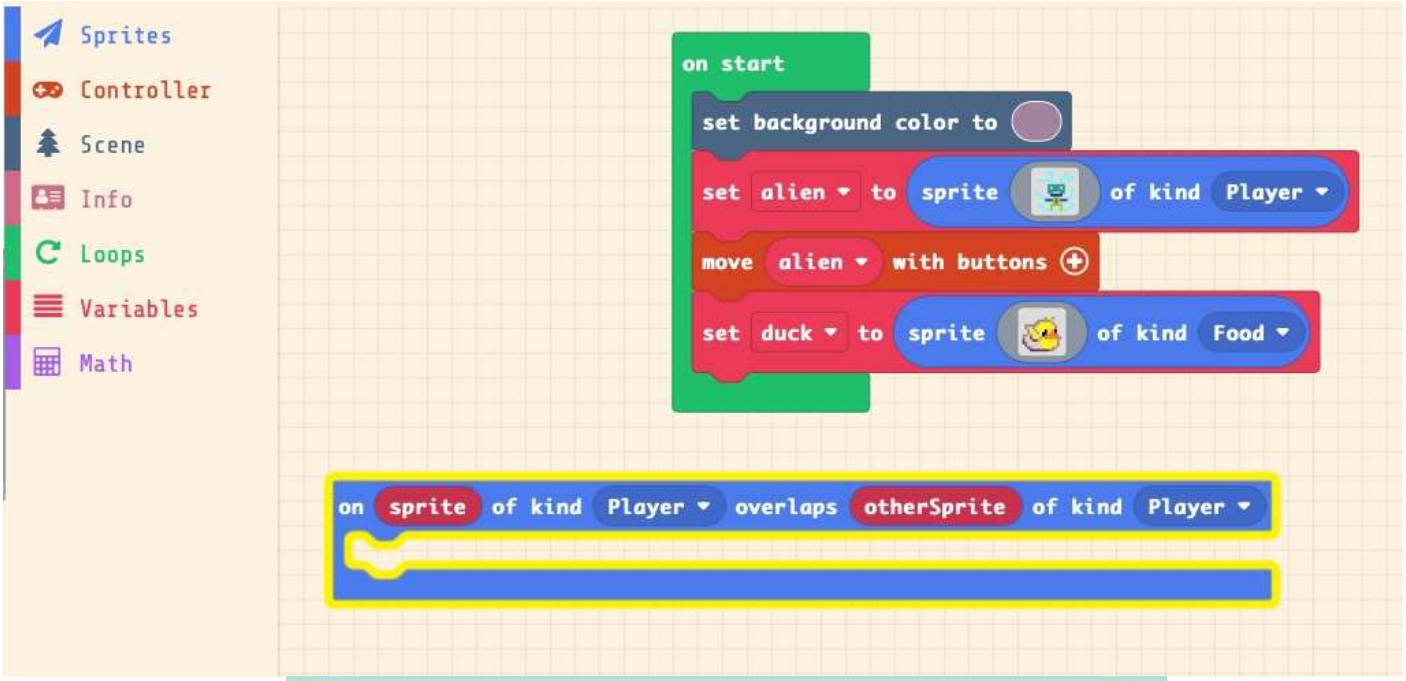
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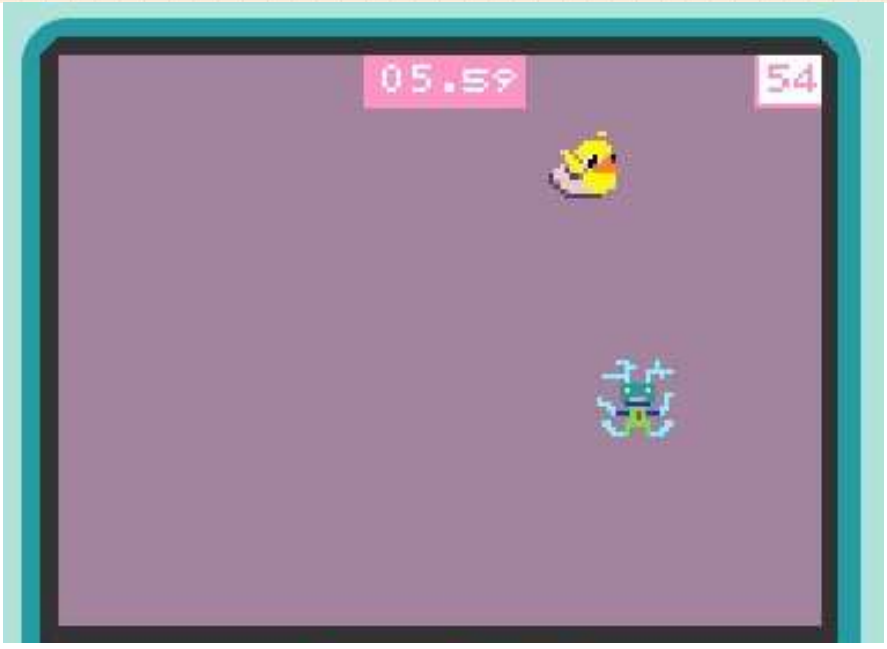
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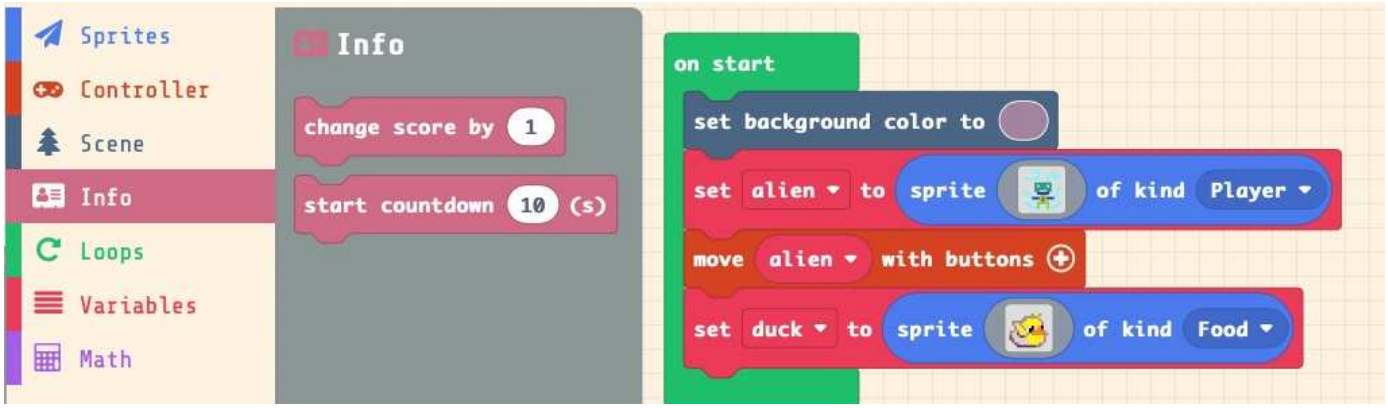
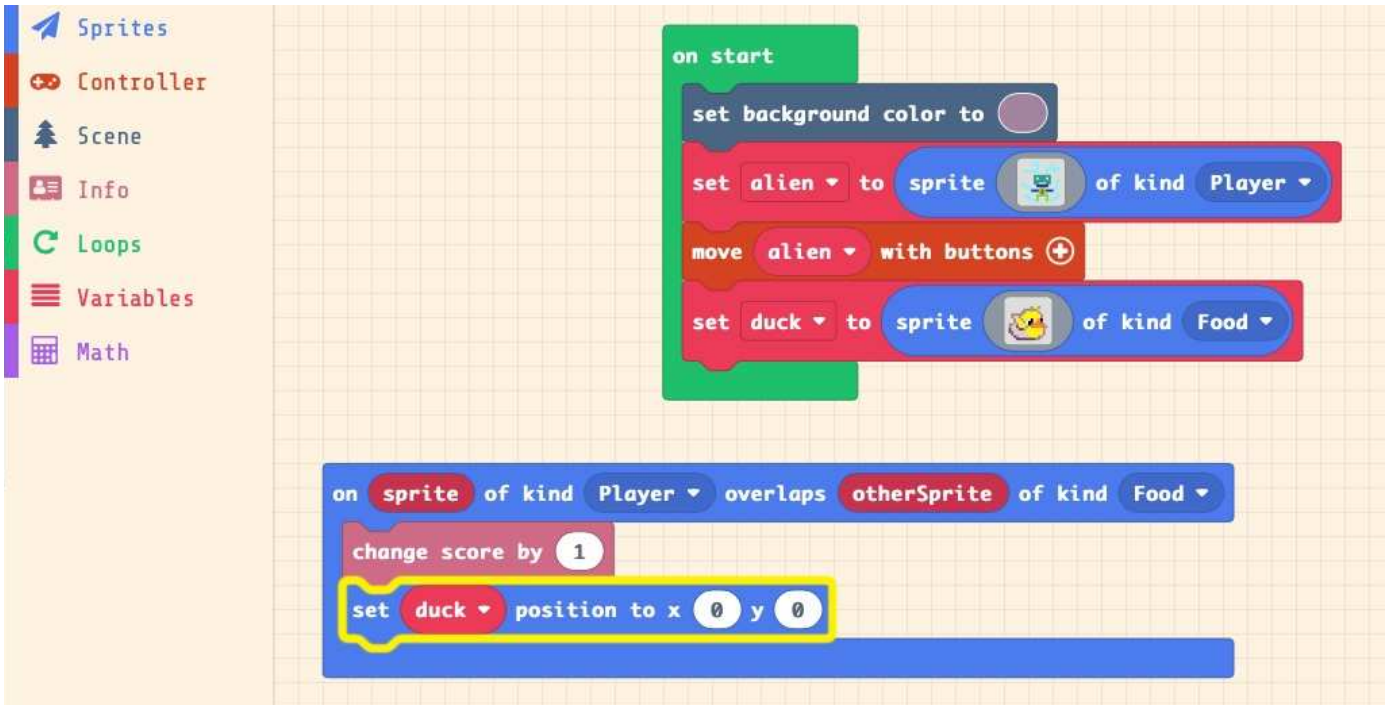
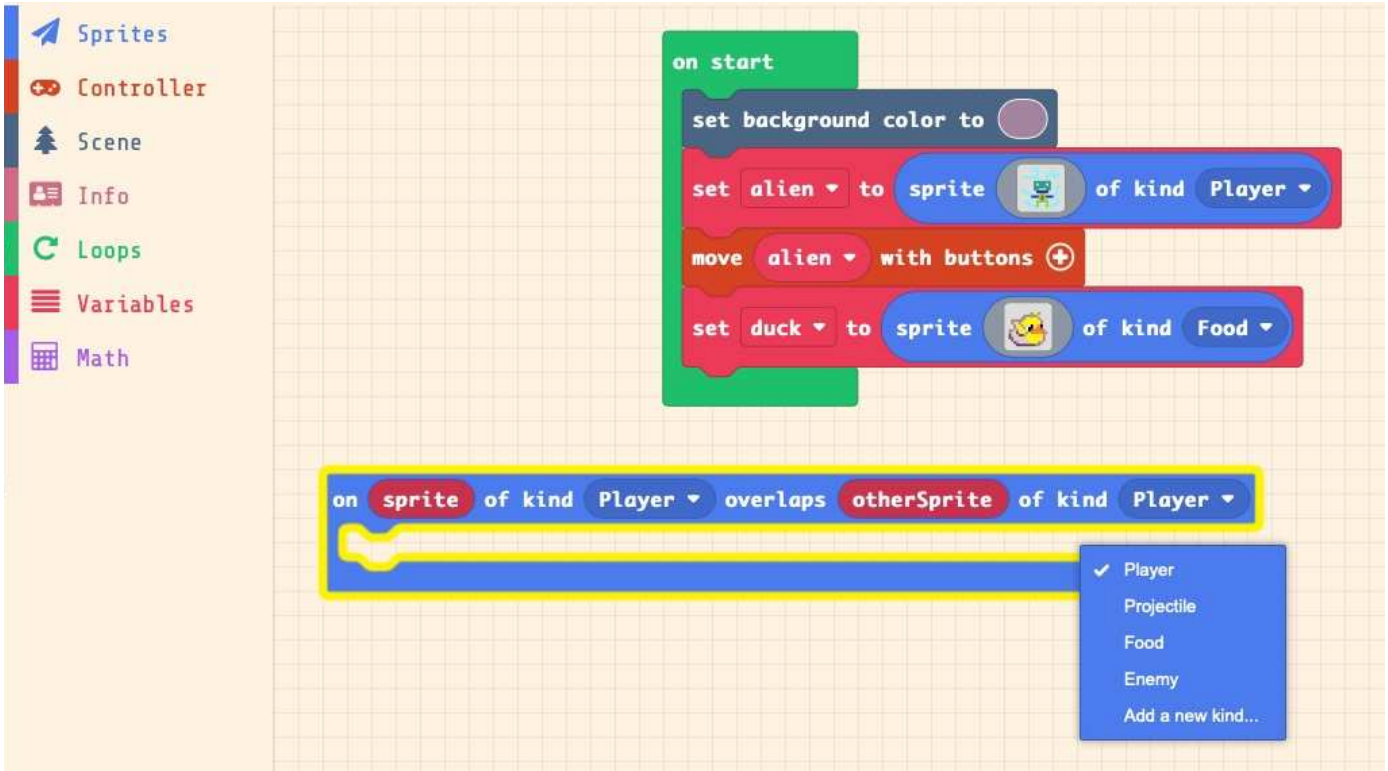
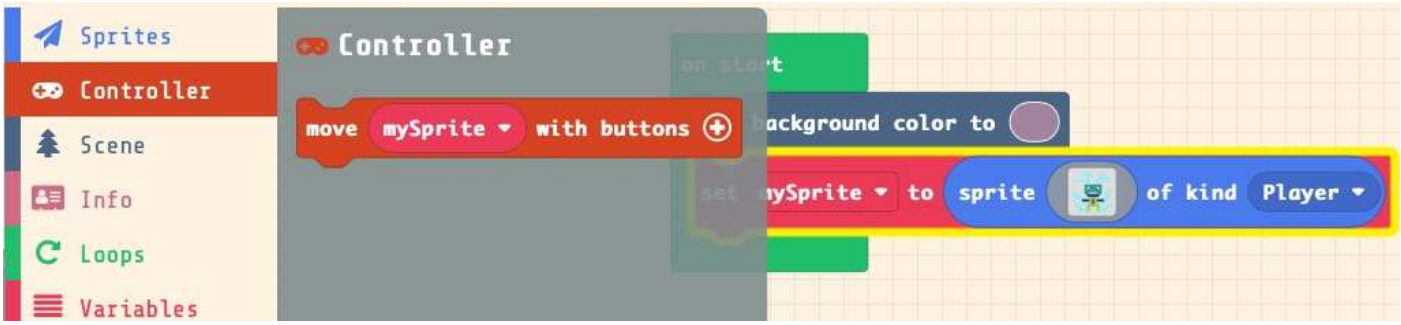
Chris Reina
Exploring EdTech Ireland #4 2021





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background color to
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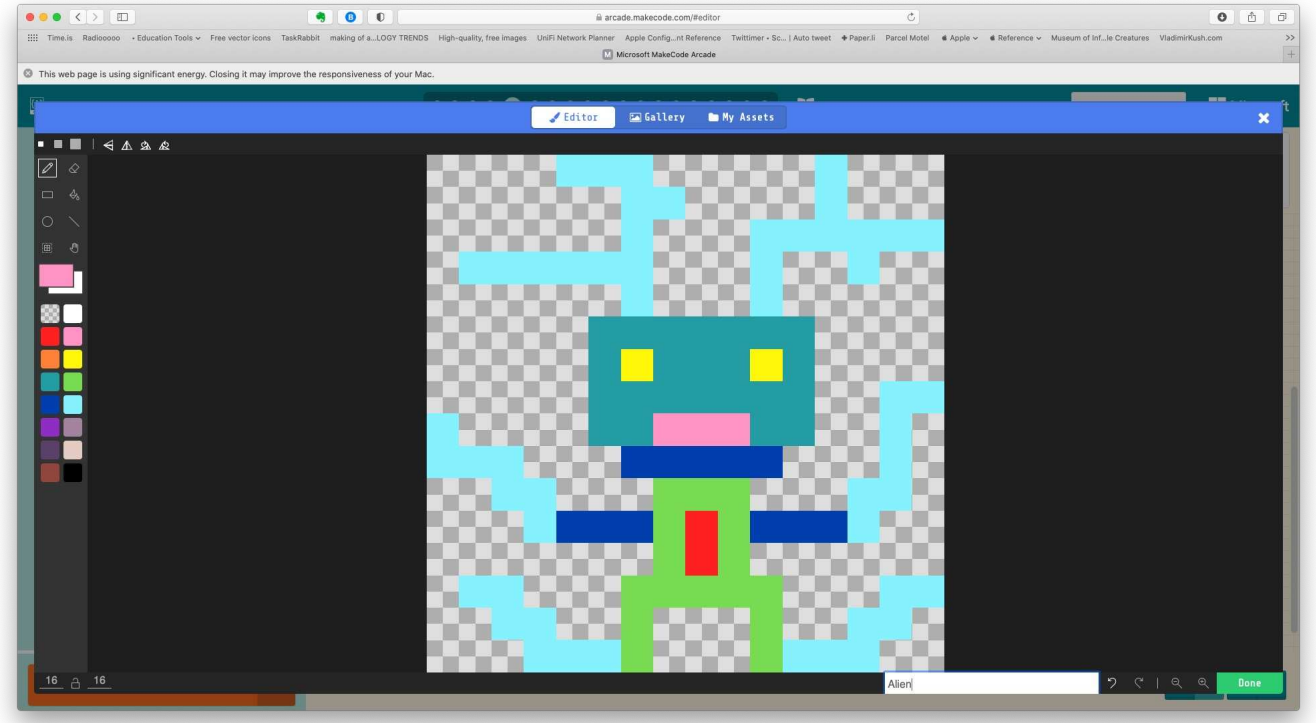
arcade.makecode.com/#editor
Microsoft MakeCode Arcade
This web page is using significant energy. Closing it may improve the responsiveness of your Mac.
Editor
Gallery
My Assets
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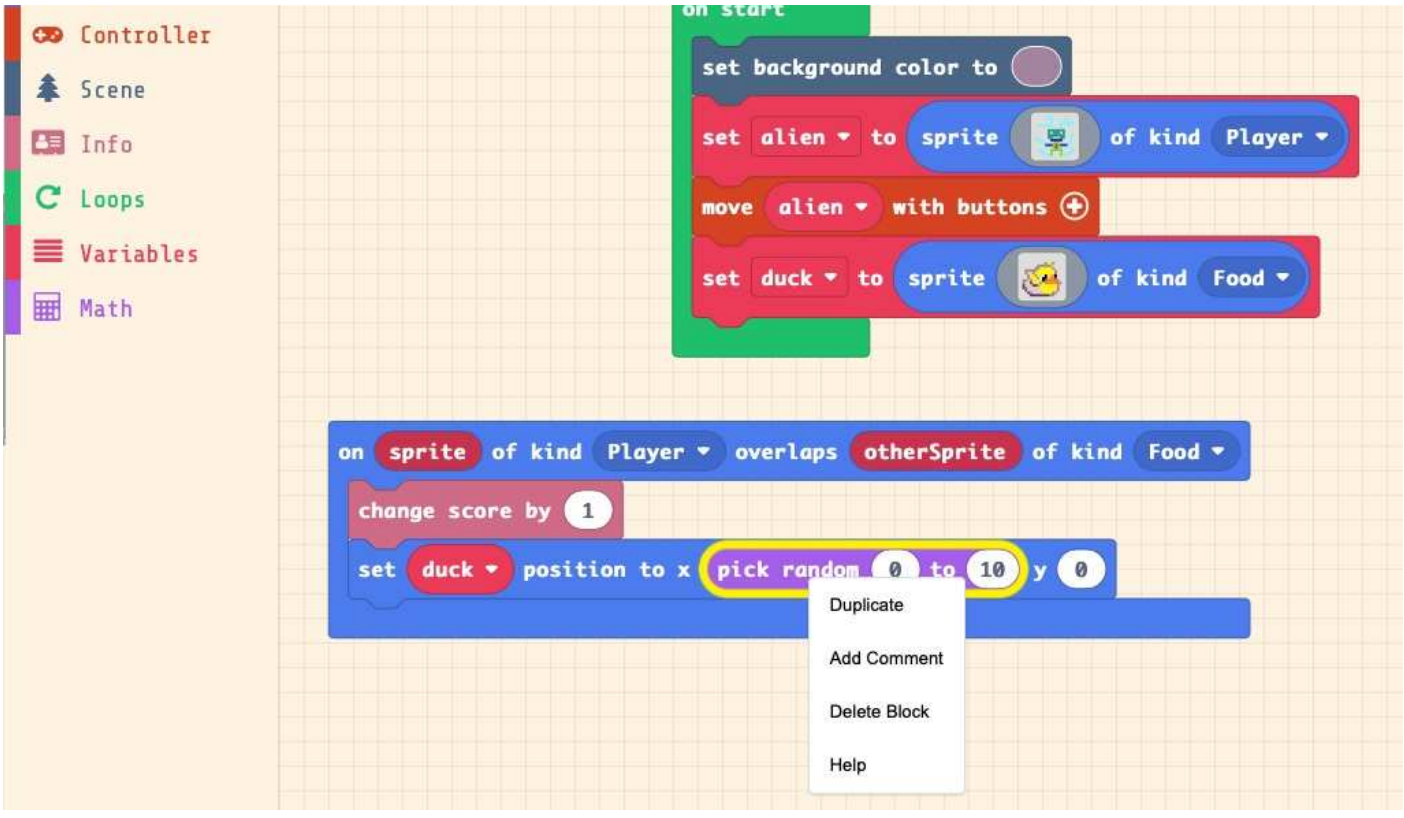
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change score by 1
set duck position to x pick random 0 to 10 y 0
Duplicate
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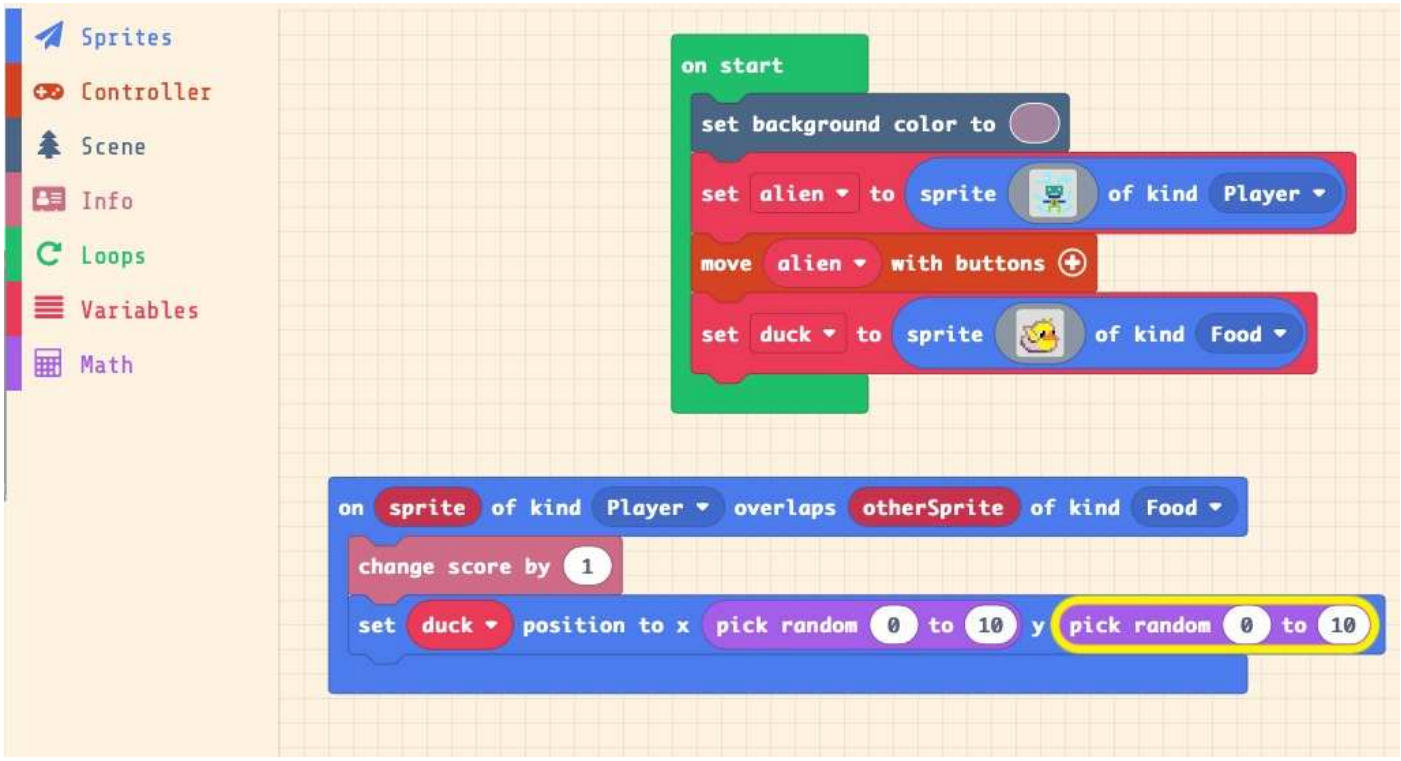
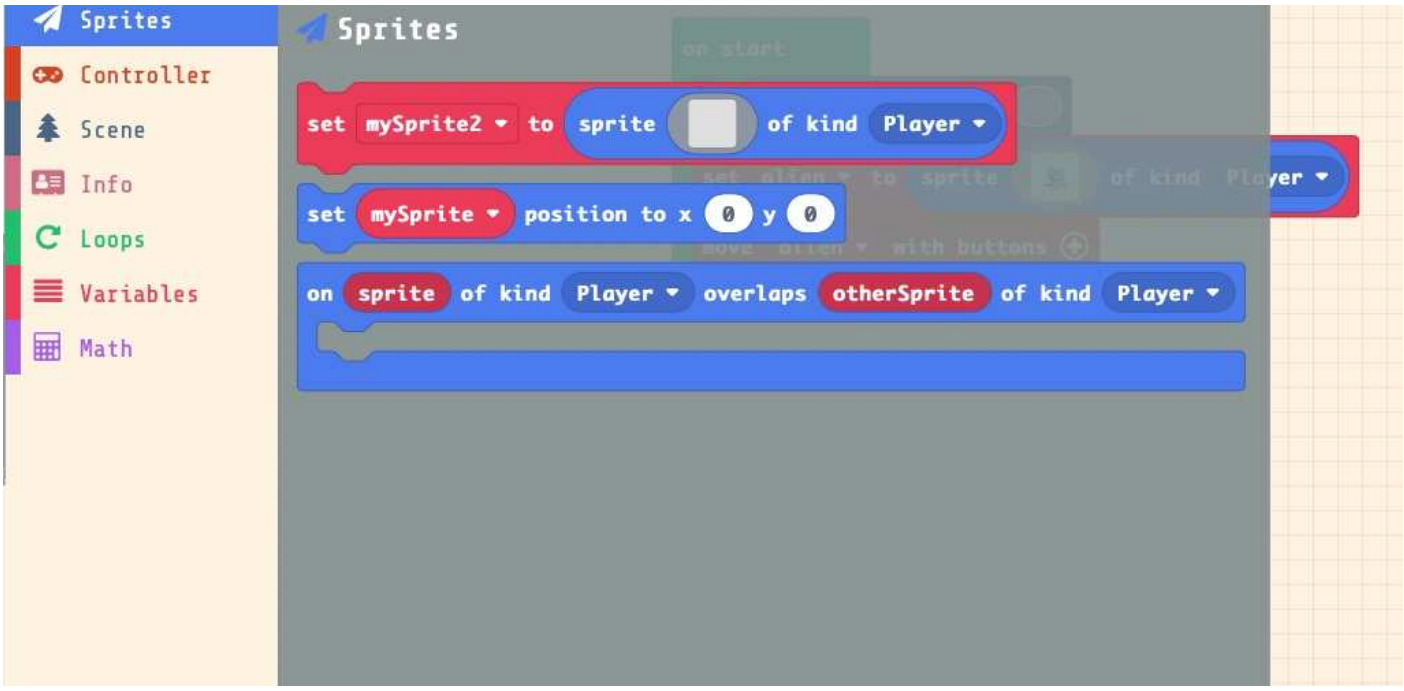




Next issue we'll leave the gaming world and give you a hands on Maker Project that can be done in the classroom and at home with basic materials.

contributors and credits

Exploring EdTech Ireland is grateful to all our writers for permission to publish their work in the magazine and on the hub.

WWW.EXPLORINGEDTECH.IE

TIM LAVERY FRCGS FLS

Founder of World Explorers Bureau, an Irish-based agency representing world-class explorers, educators and field scientists. Experienced Consultant, Award-winning Program Manager, EdTech Specialist, Entomologist and Publisher.

Elected to four learned societies including a Collegiate Fellow of the Royal Canadian Geographical Society and the Linnean Society.

Intel Master Tutor, Microsoft Innovative Educator and Editor of Exploring EdTech Magazine.

Twitter @timalavery
https://www.worldexplorersbureau.com/timlavery

JENNIFER MCGARRY

Jennifer is a 5th class primary school teacher and eLearning Coordinator in Alexandra College Junior School in Milltown, Co. Dublin and has an interest in all things tech, art, science and wildlife related. As well as teaching her mainstream 5th class, Jennifer runs the Junior School's Makerspace and Code Clubs as part of the after-school programme.

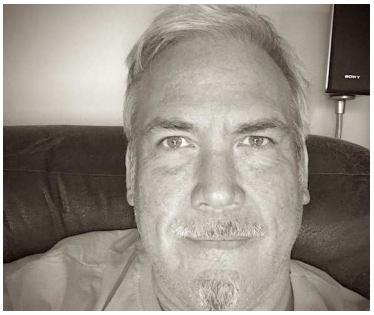
Furthermore, Jennifer is the Primary School Specialist with Irish company Make Create Innovate and collaborates with them to create educational resources linking computational thinking and technology to the primary school curriculum from 3rd to 6th class.

Jennifer is also one of two lead coordinators with European Schoolnet on the ARETE Pilot 1 project, working with 20 teachers across several European countries to investigate the effects of augmented reality (AR) on English language attainment through the WordsWorthLearning interactive mobile AR application.

Jennifer recently completed her Higher Diploma in Science in Computing with TUD Tallaght and is looking forward to undertaking new challenges and collaborations in the future.

Make Create Innovate: https://www.makecreateinnovate.ie/about-us

CHRIS REINA



Chris Reina has been involved in education since 2002, technology since 1981 and Making since 1971. (You do the maths). He currently runs TeachTech Support which provides technical training, consultancy and support to educational institutions nationwide.

He is also 1/3 of MakerMeet IE - who deliver Maker-led, project-based S.T.E.A.M. workshops nationwide to primary, secondary, third-level and other institutions.

As Ireland's only Apple Certified T3 Trainer - he has given workshops to students and teachers on a wide variety of subjects. As well as training to the Education, SME, B2B and Corporate sectors.

As a Maker - for the last 4 years Chris has been combined his tech and Maker skills to devise and deliver workshops to educational organisations in a wide variety of areas.

Chris can be reached at: **087-2685020** or at:
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Email: chris@makermeet.ie and
chris@teachtech.support
Twitter: @chrisreina • @MakerMeetIE

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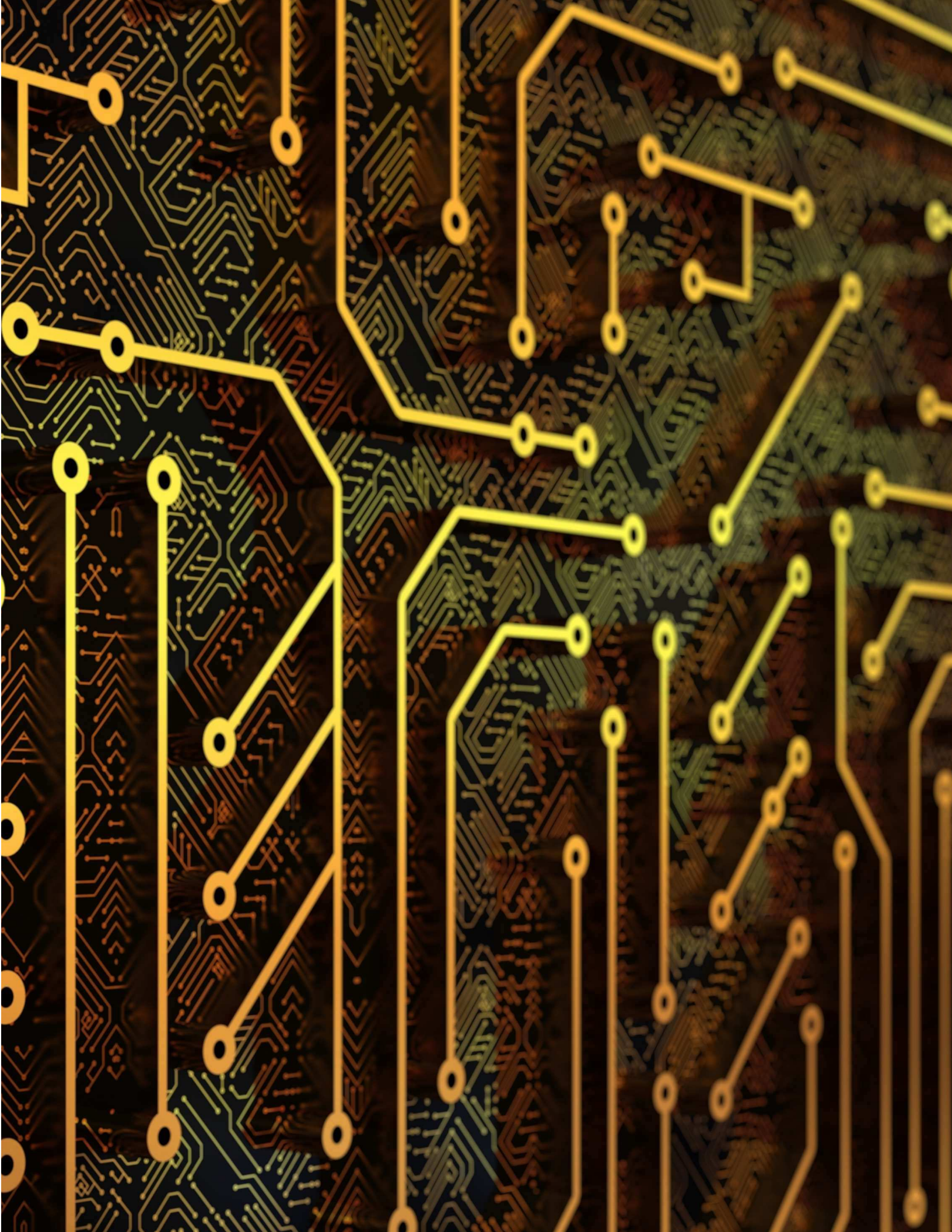

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