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EDITOR'S LETTER

Dear educators,

How time flies! We are well in Term 4 and nearing the end of an exciting year. In 2022, IMDA rolled out a refreshed Infocomm Media Clubs programme and close to 10,000 students benefitted from various activities. In this issue, we recap on some of these activities including DISCOVER learning journeys, SERVE Values-In-Action projects, LEAD Student Leadership Conference and LEARN Roadmaps.

Looking ahead, the IMDA team is happy to share new and exciting programmes for 2023. Check out the new LEARN Roadmaps on page 9, and get ready to sign up for them on 4th November 2022.

We look forward to seeing you at the Teachers Seminar where we will also announce other exciting plans for 2023.

If you have any questions, you can always write in to us at imda_codesg@imda.gov.sg.



JOURNEY THROUGH AN INCREDIBLE 2022

What an exciting year it has been! We launched the Infocomm Media Club (IMC) programme in January, and to date, we have organised more than **423 events, activities and workshops** across **5 pillars**, reaching out to over **200 Clubs** and close to **10,000 students**. Hear from our members as they share their experience.



DISCOVER: Out of Classroom Learning Journeys

Nearly **1,300 students** participated in learning journeys and experienced tech and media in real-life applications. Many were happy to learn beyond their classrooms. See what they have to say!

Cutting-edge Drone Performances

The Infocomm Club students from Xingnan Primary School were thrilled to attend a drones workshop where they learned about controlling and programming the drones to display lights and messages. The Club members even competed against each other for the best aerial drone performance.



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1. With guidance, students learn about programming the drones for an aerial performance.

2. Students watch as the drones perform exciting tricks.



"It was a very exciting experience overall because we get to learn techniques and understand the concepts of using the drones, controlling the drones, using their functions, even programming and competing against each other."

(Left) **Aydin Matin Bin Mohammed Junaidi**, Primary 5, Xingnan Primary School

"The experience was intriguing as we saw what other things drones can do besides what we have learned in school. Overall, it was fun as we could explore other functions of the drone such as lights. It was also very easy to learn and understand when we follow the instructors."

(Right) **Leonard Yap**, Primary 5, Xingnan Primary School

Living the Photographer's Dream @ Canon

The Infocomm and Media Club members of Gan Eng Seng Primary School participated in an exciting workshop at Canon's Imaging Academy. Students had the opportunity to use DSLR cameras and learn basic shooting skills, as well as useful techniques like rule of thirds and frame subjects.



"I enjoyed taking photos of the scenery and liked how they taught us to take photos at different angles. The people who worked at Canon did a very good job at teaching us about photography."

Isaac Chan, Primary 4, Gan Eng Seng Primary School

LEAD: Infocomm Media Club Student Leadership Conference

On 30th July 2022, the inaugural Infocomm Media Club Student Leadership Conference saw close to **400 students** from **81 schools** in attendance. Held at Sands Expo and Convention Centre, this was the first time Club leaders from schools all over Singapore gathered to be inspired by talks from distinguished speakers. They gained valuable insights into the tech and media industries, in addition to learning the importance of serving, doing good and giving back to society. Hear from some of the participants on their experience.

Methodist Girls' School's Infocomm Club



The Infocomm Club members from Methodist Girls' School at the Student Leadership Conference.

From left to right: Ashley Goh, Kealani Quismorio, Emma Chew, Kiera Pak, Charlotte Chiang.

"The conference gave us a lot of new insights and ideas on leadership. Given our new role in our Club, by listening to the speakers sharing their experience, we have a better understanding on how to apply these skills to become better leaders, which benefits our members."

Kiera Pak, Secondary 3, Methodist Girls' School

"This conference was special as they engaged professionals from the tech industry to share with us their work and experience. As Singapore is known as a little red dot, people would not think that we have these kinds of talents and capabilities, so it was really inspiring to see these real-life examples."

Emma Chew, Secondary 3, Methodist Girls' School

Millennia Institute's New Media Club



The New Media Club members from Millennia Institute at the Student Leadership Conference.

From left to right: Ryan Aung Chen Le, Ngo Pei Ning Jemine, Seah Jia Hui, Samantha and Chan Jing Yuan.

"I have learned a lot of new things from the content creators in Singapore. I aspire to be one of them, join the media industry and bring more opportunities to my New Media Club members."

Ryan Aung Chen Le, Pre-University 2, Millennia Institute



SERVE: Giving Back through Values-In-Action Projects

900 Club members across **47 schools** took part in the Infocomm Media Club's Values-In-Action Projects this year, using their knowledge to teach over **12,000 youths, parents and seniors** a digital skill or emerging tech concept. Tech partners first trained the students who then shared their knowledge with their schoolmates and members of the public, giving back to the community through showcases and workshops.

Guiding the Elderly on Video Editing and AR Effects

On 27th August 2022, the Info Communications Club from Damai Secondary School headed down to Heartbeat@Bedok to teach and guide seniors how to edit videos and create AR effects using Clips, an iOS app. We met the Teacher-in-Charge, Mr Lau Hui Cheng, as well as the Club members to hear more about their experience.



"It's quite enjoyable because most of the time we don't get to interact with elderly and it's a new experience for us."

*(Left) Lucas Koh, Secondary 3, Damai Secondary School,
Vice President of Info Communications Club*



"We are very happy they were given this opportunity to take part in the Values-In-Action Project at Kampong Chai Chee Community Club. They applied what they learned during the New Media lesson and interacted with the elderly. One of the seniors shared that they hope to see us more often which makes me happy to be part of the programme."

*Mr Lau Hui Cheng, Damai Secondary School,
Teacher-in-Charge Info Communications Club*

LEARN: Equipping Students with Tech and Media Skills



Through the courses offered under the Learning Roadmaps, Infocomm Media Club students can explore different topics and domains such as AI, cybersecurity, new media, mobile app development or game development. The Infocomm Club from Nan Hua High School took up 2 courses, Apple Swift Programme and Apple New Media course. We spoke to 2 Infocomm Club members from Nan Hua High School to understand more about their experience.



"I think it was a very interesting and interactive session. I have also learned a lot, from designing the app to creating a string of codes and making a real app that someone can use. The instructor was also very engaging. Through this programme, we also designed multiple apps. I have learned a lot of things that benefit me."

Ng Xu Thong, Secondary 1, Nan Hua High School



"I think the course on New Media is very interactive and we get to learn more about social media. I learned how to use social media to promote positive messages and share things that people may want to learn about."

Chloe Chen Sixuan, Secondary 2, Nan Hua High School





EXCEL

REVVING UP FOR THE INFOCOMM MEDIA CLUB YOUTH AWARDS

The **Infocomm Media Club (IMC) Youth Awards** is a national award designed for members in infocomm and media related CCAs to ideate, create and inspire others with their innovations. This year, students were challenged to develop tech and media solutions to address mental health issues faced by youths.



249 students from
46 schools submitted
over 50 entries

Addressing challenges issued by
4 non-profit organisations:

Campus
PSY

It All Starts
Hear.SG (IASH.SG)

Silver
Ribbon

Strengthening Youths in
a Network of Care (SYNC)

Final judging will take place on **4th November 2022** at **Sands Expo and Convention Centre**. Teams awarded Distinction in the Tech and Media categories will score a one-week Immersion Programme at J.P. Morgan and Bloomr.SG respectively, as well as receive up to \$750 worth of attractive prizes!

ENRICHING LIVES IN THE COMMUNITY

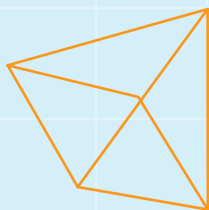
In August and September, IMDA organised the second SERVE: Values-In-Action Projects where we saw Club members from 9 schools conduct a series of tech and media workshops for about 100 members of the public. The students were first trained by tech partners and familiarised themselves with content provided by Microsoft, Apple and LemmaTree on topics such as AI, videography, coding and decentralised technology. They then conducted public workshops in community centres and libraries, engaging families with children and the elderly meaningfully.

Keeping Up with Videography and Augmented Reality (AR)

Infocomm Media Club members from Seng Kang Secondary School, Ngee Ann Secondary School and Damai Secondary School conducted videography and AR workshops for seniors. Using Clips app, participants learned about video editing and visual effects. The students also shared about AR and its use-cases and taught the seniors on creating virtual objects through the AR Makr app. Through conducting these workshops, the Club members were able to understand the challenges faced by seniors and helped them to master new digital skills.



1. Students from Ngee Ann Secondary School using iPads to guide seniors how to edit videos using Clips and create AR effects.
2. Students from Seng Kang Secondary School share with the seniors about AR and its uses in real life.
3. Students from Damai Secondary School teaching seniors how to create their own AR effects using the AR Makr app.



Introduction to Web 3.0

Students from the Infocomm Media Club of Temasek Secondary School conducted an Introduction to Web 3.0 workshop for members of the public at Library@harbourfront, explaining decentralised technology and how it can revolutionise the internet. Participants learned how the use of such technology can protect their identity data online. They were also shown how a decentralised digital wallet works, how it stores and presents verifiable credentials. Through the workshop, participants gained a better idea about Web 3.0 and valuable insights into its applications.



1. Students from Temasek Secondary School teaching members of the public about Web 3.0 at Library@harbourfront.

Coding with Minecraft

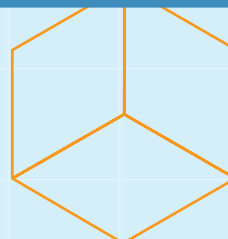
InfoComm Club members from Ai Tong School, Infocomm Club members from Hougang Primary School and Robotics Club members from Montfort Junior School held workshops on coding with Minecraft at community centres across Pasir Ris and Punggol. With the help of volunteers from Microsoft and Accenture, the students

taught parents and young children the fundamentals of coding and block-based programming using the Microsoft MakeCode platform. From these basic coding skills, the participants learned to summon animals and construct houses in Minecraft. Both the participants and the students had a great time learning coding through Minecraft.



1. Students from Ai Tong School guiding participants in coding at Pasir Ris East CC.

2. Using the popular game Minecraft and its MakeCode Platform, students from Hougang Pri and Monfort Junior come together and teach young participants the basics of coding at Punggol 21 CC.





LEARN WITH IMC LEARNING ROADMAPS IN 2023



The Learning Roadmaps are specially curated to provide broad level training in tech and media domains to Infocomm Media Club students. In addition to curating tech and media courses, we collaborate with leading industry partners such as Apple, Cisco, Intel, Microsoft and Softbank to deliver industry-backed courses for Club members. The duration of these courses ranges from 16 to 56 hours and are fully funded by IMDA.*

NEW LEARNING COURSES

We are pleased to announce the launch of **4 new industry-backed courses**, developed specially for primary schools:



New Media Junior
Under Immersive Media (Apple)



Digital Making
(Microsoft)



Game Development
(Microsoft)



Social Robotics
(SoftBank)

Equip your students with Tech and Media skills now!
Choose from these **10 domains**:



Artificial Intelligence
(Pri/Sec/JC)



Cybersecurity
(Pri/Sec/JC)



Data Analytics
(Sec/JC)



Digital Making
(Pri)



Game Development
(Pri)



Immersive Media
(Pri/Sec/JC)



Internet of Things
(Sec/JC)



Mobile App Development
(Pri/Sec/JC)



Robotics
(Pri/Sec/JC)



Social Robotics
(Pri)

Application opens on **4th November 2022**.

Step 1

Contact your preferred training provider to secure your preferred training dates.



Step 2

Prepare the following information and complete the **application form**.

[Click here for more information](#)

- Course reference
- Training provider
- Contact details of school teachers and leaders
- Training cohort and size**
- Confirmed training dates and times

Step 3

IMDA to **review and approve** the application.



Sign up for these courses and get ready for another year of enriching learning through hands-on learning and projects! Visit our [website](#) to find out more.

*Where hardware is required, please work with the training providers to procure the hardware. Cost of hardware will be borne by the school.

**Each course should have a minimum class size of 10 students.



LEARN

FIND OUT MORE ABOUT IMC LEARNING ROADMAPS



Not sure which to choose? Find out more about the Learning Roadmaps through the LEARN booth showcases at the Teachers Seminar on 4th November 2022.

Register for the Teachers Seminar [here](#).

SEE WHAT TEACHERS HAVE TO SAY ABOUT THE COURSES:

In the past, I have to spend a lot of time and rack my brain to think about programmes and resources for my club. But with LEARN, I have enrolled in the New Media Programme under the Apple Swift Course. It's like a one-stop centre for all the activities where I can engage my students in various platforms."

Mr Lau Hui Cheng

Damai Secondary School,
Teacher-in-Charge of Infocomm Club

The use of AI for practical applications in the LEARN roadmap is of particular interest to me as it is at the forefront of technology that our students are exposed to daily, but they may not be aware of it. Hence, I strongly believe it is better to start exposing our students to the forefront of technology advancement so that they can be part of this talent pool that helps to develop useful applications for the nation, rather than be an end user of technology."

Mr Tay Chee Thon

North Vista Secondary School,
Teacher-in-Charge of Infocomm Club

We are happy that there more options for the pupils such as game development and AI which we look forward to signing up and hope that IMDA will continue to give us support in this area."

Mdm Nur Kamaliah

Xingnan Primary School, Teacher-in-Charge of Infocomm Club

EXPLORE THE WORLD OUTSIDE THE CLASSROOM

In the second edition of DISCOVER learning journeys, see how students from both primary and secondary schools gained knowledge from the world outside the classroom and enriched their CCA learning experience.

Digital Content Creation with TheSmartLocal



25 members of Tinkers' Club from Pasir Ris Secondary School learned about creating captivating videos from independent media publisher TheSmartLocal. Specialising in producing media content, the publisher shared invaluable industry experience and know-how during the insightful session.

Students learned about the process of storytelling, from brainstorming to angling ideas towards a theme. They were also taught how to write scripts, curate interview questions, select profiles and hone their storyboarding skills.



2



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To put these skills to use, students were then split into groups and tasked to come up with a video based on mental health and wellness. With the guidance of TheSmartLocal talents, the groups then filmed and produced the videos. Through this learning journey, students learned about producing online media content and gained practical skills in shooting and production as well.

1. With the guidance of TheSmartLocal talents, the students learn how to create a storyboard and plan their video as a team.
2. After learning about planning and storyboarding, the students film it themselves using the studio equipment provided.

A Photographer's Dream at Canon's Imaging Academy



15 members of the Gan Eng Seng Primary School's Infocomm and Media Club got a first-hand experience in learning to shoot beautiful photos from Canon's Imaging Academy.

At the learning journey, the students went back in history to understand the origin of photography, and learned about the various genres of photography such as portrait photography and wildlife photography. They were also taught the basic photography techniques such as the rule of thirds, symmetry, framing shots and more.

The students then headed out and put their new-found skills to the test with the DSLR cameras provided by the Academy. Thereafter, the instructors guided them on how they can further improve their shots.

1. Canon staff guiding students during the hands-on activity and sharing tips on how to angle their shots better.
2. Students learning fundamental skills of photography, such as the rule of thirds, with the provided DSLR cameras.



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Venture in the World of eSports at The Gym



19 Info-comm Technology Club members from Geylang Methodist Secondary School were in for a treat at The Gym, where they learned about the eSports industry, eSports casting and more.

The Gym is a professional space that brings local and international eSports teams together to practice, compete, share resources and grow the community. At the learning journey, the students learned about the eSports industry that goes beyond playing the games. They also learned about the roles involved in an eSports livestream, including shout casters, videographers, and other behind-the-scenes responsibilities.



2



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The students then rolled up their sleeves and ran their own e-sports broadcast for a Mobile Legends: Bang Bang (MLBB) livestream. At the backstage, they became part of the broadcast crew and learned various skills such as casting, camera operation, lighting management, sound engineering and even directing. In front of the camera, the students basked in the spotlight by roleplaying as shout casters where they experienced commentating the game and marketing sponsors. Some of them were tasked to be professional eSports players, immersing in the pressure of being in an eSports tournament.

1. The Gym staff guiding students to handle equipment involved in filming a live broadcast such as the cameras, lights, and sound equipment.

2. Shout caster getting the students ready to host a live stream of the game Mobile Legends: Bang Bang (MLBB).

Coding with Creativity at 65 Drones



In this exciting learning journey, 20 Infocomm Club members from Xingnan Primary School learned about coding and flying drones with 65 Drones. The students were first introduced to drones and their use-cases in the real world, and even got a first-person view from the perspective of a drone as it flew.

In the hands-on experience, the students experimented with drones in a safe environment. The students were taught to code the drones to change colours, display words, and perform aerial tricks. Then, the students came in groups to compete and see who had the most spectacular drone choreography. The winning group won a drone of their own!



1



2

1. Students learn how to program the drones to fly in various directions and even do tricks.

2. Students preparing their own drone performances through programming, resulting in an amazing choreography that matches their narration on stage.

LIFELONG LEARNING FOR EDUCATORS



To keep up with the changing tech trends, IMDA curated a series of workshops with the aim to help educators learn about emerging technologies and how they are used in the real world. These workshops cover a range of tech domains such as mixed reality, AI, blockchain and educational technology.

AI Possibilities with SenseTime

4 educators visited the SenseTime International AI Innovation Hub, a leading AI company focused on creating a better AI-empowered future through innovation. SenseTime's workshop introduced educators to how AI is used across education, healthcare, retail and more. During the tour of the Hub, they saw AI software in action and the technology behind it. Through the workshop, educators gained insights on the use of AI in various industries and how this emerging technology can be used to improve the future for all.

1. Educators learning about SenseTime, its AI software and the technology behind them.

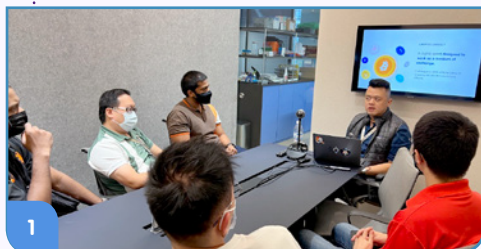


Exploring Blockchain Technology with Coinhako

5 educators visited Coinhako to learn about blockchain technology and how it plays a part in Singapore's future. A cryptocurrency platform operating in Singapore, Coinhako taught educators about the use of cryptocurrency as an alternative financial ecosystem and its growing role in Singapore's economy. The educators gained insights on blockchain technology, non-fungible tokens, Web 3.0 and learned about commonly used cryptocurrency terms and how not to fall prey to scams.

1. Educators learning about the intricacies of cryptocurrency and the technology behind it.

2. The educators taking a group shot at Coinhako with the gifts they received.



Smart Sewing at Bernina

Can coding and sewing be infused together? Yes, it can! Through Bernina's workshop, 5 educators learned about digital sewing. At the session, the educators tried the digital sewing machines, which use block-based programming to automate stitches and embroidery, customise stitches and even create designs. The educators put on their computational thinking skills and tried to code and sew various atypical materials such as plastic, wood, aluminium and cloth.

1. Educators using the digital sewing machines themselves on different materials.

2. Bernina staff guiding educators on the various functions and capabilities of the machines.



**Feel out of the loop about what's going on in the tech and media world?
We bring you snippets of the most interesting happenings in the industry!**

TECH FOR GOOD



Students create app to aid the visually impaired

The biennial ITE-Vocational Training Council (VTC) International Student Seminar brought over 600 students, aged 17 to 19, from 6 territories including Singapore and Hong Kong to discuss and exchange innovative ideas on how to make the world more inclusive and sustainable based on the theme of "Post Covid-19 World: Towards an Inclusive and Sustainable Future".

The Sixth Sense is 1 of the 16 projects presented at the event. Developed by 9 students from the Institute of Technical Education (ITE) with the help of the Singapore Association of the Visually Handicapped, the Sixth Sense is an app that aims to support visually impaired users. People with visual impairment experience difficulty when moving from one location to another as they face obstacles that cannot be detected by their walking canes. The Sixth Sense uses AI imaging technology that recognises signages. These include toilet signs and bus numbers so that users know where they are and where to go. Though the project is in its early stages, the team hopes to make the app available to all in the near future.

Read more [here](#).

An AR Experience at Marina Bay: Part of Newly Launched 5G Projects in Singapore

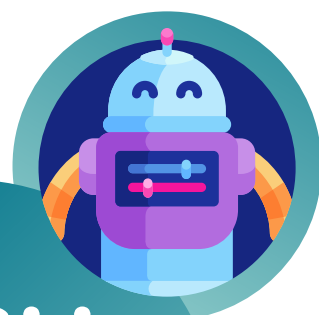
On 3rd August 2022, IMDA announced 3 new 5G projects that help Singapore in different areas for a better consumer experience. One of the projects is the use of 5G in AR projects for a brand-new experience at Marina Bay.

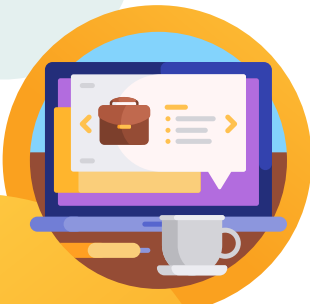
Infinite Studios, a Singapore-based integrated media entertainment and creative services company, is working with IMDA and D.ink to develop a unique AR cinematic experience in Marina Bay. The first of its kind, this AR world makes use of 5G technology to combine creative storytelling and immersive technology, bringing a unique form of entertainment to everyone.

One of the experiences features a young girl from the future revisiting Singapore's past. Users will get to experience significant milestones in our nation's history and our growth from a small fishing village to a thriving city-state. Apple 5G mobile device users will be able to download the AR application and unlock it with performance tickets bought through a Marina Bay Sands web portal. This new technology promises to provide a unique experience to visitors at Marina Bay.

Read more [here](#).

TECH @ PLAY





TECH @ WORK

Safe Travels using AI on Go-Ahead Buses

Soon, driving will become even safer with the help of AI systems. From 2023, public transport operator Go-Ahead will run a trial of a new safe driving system on 5 buses to detect abnormal driving patterns. The system picks up data from sensors used to monitor bus drivers, including heart rate and blood pressure, which informs about a driver's behaviour.

If abnormal driving behaviour is detected, an alert will be sent to the fleet operator's operations team, which will provide advice to the driver after examining the factors involved. Equipped with AI and machine learning capabilities, the system aims to create a safer and smarter road environment for all.

Read more [here](#).

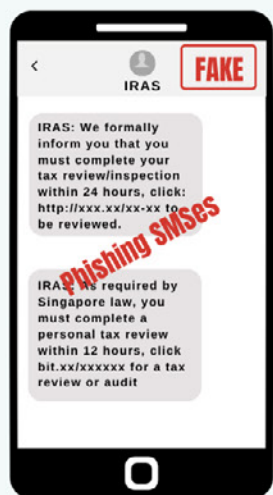
ARE YOUR MEMBERS SCAM-SAVVY?

.....

Make use of these resources to educate your students about scams. Let's do our part to keep Singapore safe.

PHISHING SCAMS INVOLVING IRAS AND SINGPASS

HOW VICTIMS FALL PREY



- 1 Received unsolicited SMSes containing 'IRAS' in the sender's name, and clicked on the embedded link in the message
- 2 Entered the Singpass ID and password in the spoofed Singpass login page upon clicking on the link
- 3 Redirected to spoofed webpage that looks like IRAS website, and then to a spoofed bank login page
- 4 Entered the Internet banking credentials and OTP received on their mobile phones

Victims would only discover that they had been scammed when they were notified of unauthorised transactions made from their bank accounts.

IRAS does not send SMSes containing links asking you to log in with your credentials (i.e. passwords and Singpass log-in details).

WHAT YOU SHOULD DO



Always verify the authenticity of claims of problems with your income tax status with the official IRAS website.



Ensure that the Singpass website domain you are accessing is singpass.gov.sg, with a 'lock' icon in the address bar.



Make it a point to update your contact details registered with Singpass and enable notifications via their Singpass app so that you can be promptly alerted of suspicious log-ins, e.g. when a log-in on a new device or Internet browser is detected, and contact Singpass to secure your account.



Log-ins to Government services should only be done at websites with domains ending with ".gov.sg". If you received a link that does not end with ".gov.sg", check against the list of trusted websites at www.gov.sg/trusted-sites.



Never disclose your personal or Internet banking details and One-Time-Passwords (OTPs) to anyone.



Report any fraudulent transactions to your bank immediately.

PHISHING SCAMS INVOLVING IRAS AND SINGPASS

Images of Spoofed Singpass Webpages

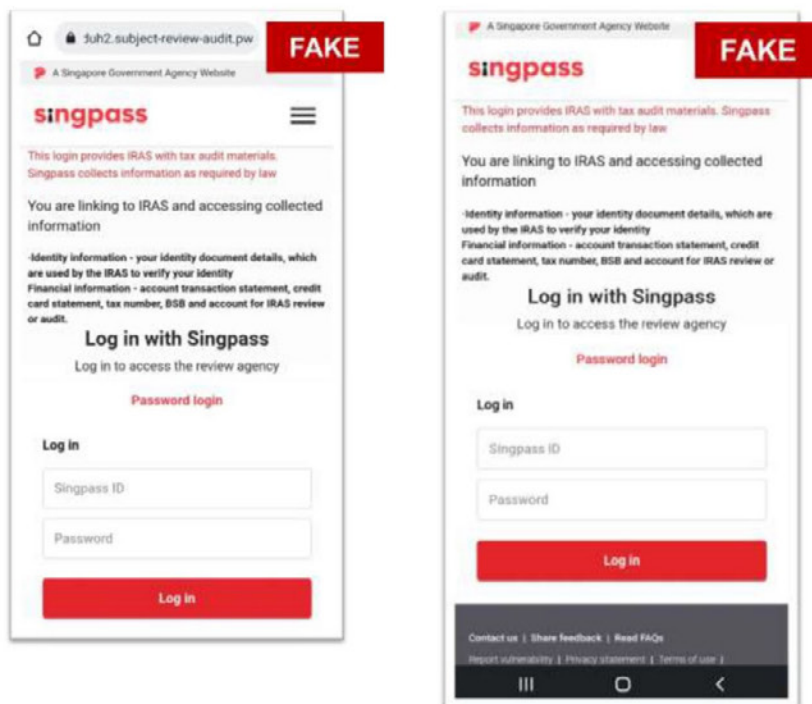
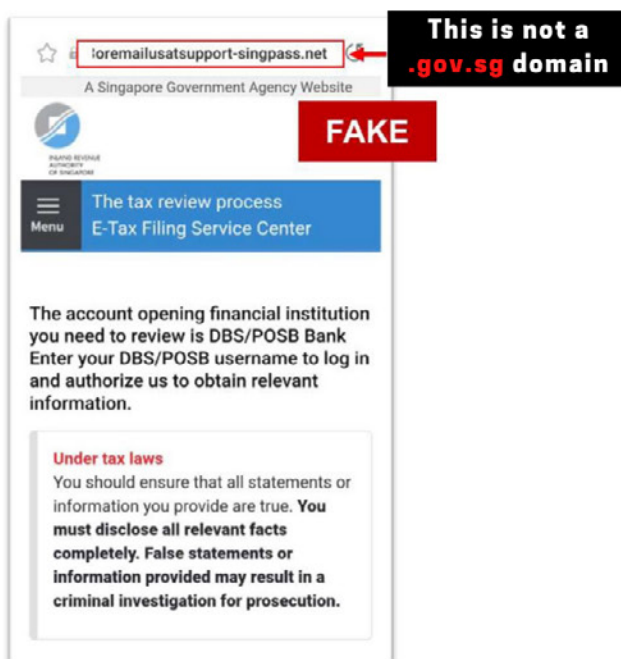
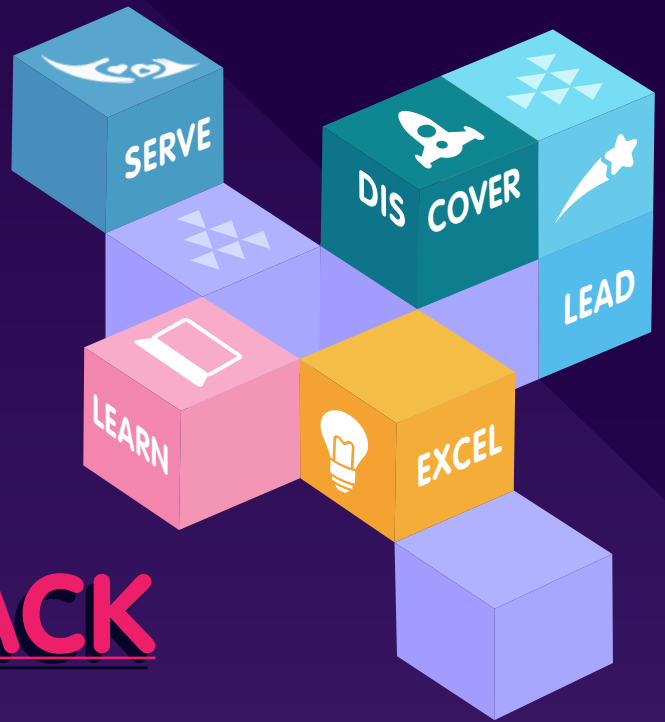


Image of Spoofed IRAS Webpage



SHARE YOUR THOUGHTS AND FEEDBACK WITH US



It's time for a survey!



We want to hear from you! Let us know what you think about this issue of the Infocomm Media Club BYTES e-newsletter.

Click [here](#) for a short survey!



Subscribe to our [mailing list](#) to be updated with Infocomm Media Club events and programmes!

Visit us at our [website](#) to learn more.

If you have any stories or ideas to share, we want to hear from you! Simply ping us at IMDA_CODESG@imda.gov.sg.



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