

**DIPLOMA AND MICROCREDENTIAL IN COMPUTER SCIENCE SEMESTER III SESSION 2024 / 2025**

**EDUCATIONAL VISIT TO MY5G TRX MALAYSIA**

DCA 1523 - Audio and Video in Multimedia

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# **Introduction**

As Computer Science students, we had the chance to visit the My5G Portal at TRX in Kuala Lumpur. The purpose of this visit was to help us learn more about 5G technology and how it is being used in Malaysia. This visit was planned to give us real-life experience and help us understand how 5G can change the way people live and work. We also wanted to see how Malaysia is using this technology to become a more digital and connected country.

The visit had several learning objectives. First, we wanted to learn about how 5G works and what makes it different from 4G. We were also interested in how 5G can be used in different industries such as healthcare, education, transportation, and smart cities. Another goal was to understand the role of Digital Nasional Berhad (DNB), the company in charge of Malaysia’s 5G network. Most importantly, we hoped to connect what we learned in class with real examples and explore how 5G might impact our future careers in technology and IT.

My5G TRX is a 5G experience center located inside Exchange 106, one of the tallest buildings in Malaysia. It was launched by Digital Nasional Berhad (DNB), the government agency responsible for rolling out 5G across the country. The center is designed to help people understand how 5G technology works and how it can improve our daily lives. Inside the portal, there are many real-life examples and interactive displays showing how 5G can be used in areas like smart homes, traffic systems, virtual reality, factories, and even remote healthcare. It is an important place for learning, especially for students like us who want to see how technology is applied in real life.

Before we visited My5G TRX, we were all very excited. Many of us expected to see cool technology like robots, smart devices, and fast internet systems using 5G. We were curious about how fast 5G really is, and how it can be used to improve things like online gaming, video streaming, and communication. We also hoped to meet professionals who could share their knowledge and explain how 5G is being used in real projects. Most of us were looking forward to seeing how 5G will be part of our future lives, especially as we prepare to enter the job market.

A total of 29 people joined the visit, including 27 students and 2 lecturers from our faculty. The visit was well-organized and everyone was excited to take part. It was a great experience to learn outside the classroom, ask questions, and share ideas with friends and lecturers. For many of us, it was the first time visiting a high-tech center like My5G TRX, and it left a strong impression. The visit helped us understand more about the digital future of Malaysia and inspired us to learn more about how we can be part of that future through technology.

# **Visit Itinerary**

On 29/5/2025, we visited the My 5G Portal at Tun Razak Exchange (TRX) to experience firsthand how 5G technology is shaping Malaysia’s future. The visit began at 10:00 AM with an engaging introduction to the evolution of mobile networks, from 1G to 5G, explaining how each generation improved communication — from basic voice calls to ultra-fast internet and massive device connectivity that we rely on today.

Following that, from 10:30 AM to 11:00 AM, we learned about Malaysia’s collaboration with Ericsson, the official partner responsible for rolling out the national 5G infrastructure. The staff explained how 5G signal towers work and how they enable stable, high-speed, low-latency connections across wide areas. Unlike 4G towers — which typically have multiple antenna panels installed by different telcos, making them bulkier — 5G towers in Malaysia are built under a shared infrastructure model managed by Digital Nasional Berhad (DNB). These towers are more compact, usually containing a single unified unit, thanks to the use of advanced technology like Massive MIMO and shared network architecture. This design reduces tower congestion and enables more efficient deployment. During this segment, Ericsson also encouraged us to explore their online learning platform, where we can take free 5G-related courses and earn official certificates to deepen our understanding of this transformative technology.

Next, from 11:00 AM to 11:15 AM, we were introduced to one of the most captivating exhibits — a realistic hologram display. A person was projected inside a transparent glass-like box, appearing as if they were physically present. This holographic telepresence showed how 5G can power future communication and remote interaction that feels natural and immersive.

We then viewed, from 11:15 AM to 11:45 AM, a live screen display showcasing real-time data and video feeds from Putrajaya and Kuching, Sarawak, demonstrating how 5G enables constant monitoring and instant data transmission from different locations in Malaysia. It was impressive to see how traffic and environmental data could be tracked and displayed instantly from remote cities.

Following that, from 11:45 AM to 12:15 PM, we explored the Smart City section, featuring a 3D model of an urban environment with integrated surveillance, smart traffic lights, and real-time sensors. The model illustrated how 5G helps manage city infrastructure more efficiently and safely by enabling instant data processing and response.

Before entering the gaming zone, from 12:15 PM to 12:45 PM, we were guided through an AR and VR demonstration. The staff explained how these technologies benefit from 5G’s low latency and high bandwidth, allowing smooth and uninterrupted virtual experiences. Right after, we got hands-on experience in the Gaming Zone, which featured VR/AR gameplay and a driving simulator. One highlight was controlling a miniature car using a simulator setup, which gave us a feel of how 5G can be applied in interactive learning or even remote control operations.

We also visited, from 12:45 PM to 1:00 PM, the Smart Retail area, where we experienced a cashierless shopping system. By scanning a QR code to enter, users could pick up items and walk out — the system automatically detected the selected items and processed the payment without needing a cashier. This frictionless retail concept was powered by a combination of 5G, AI, and IoT.

To conclude the tour, from 1:00 PM to 1:15 PM, we witnessed a 5G-powered drone from China that could be remotely controlled over long distances. We learned about its potential applications in areas such as agriculture, security surveillance, and delivery services, all of which benefit from 5G’s rapid and stable data transfer capabilities.

In summary, the visit to My 5G Portal @ TRX was both exciting and educational. It provided deep insight into how 5G is not just about faster mobile internet but a foundation for smart cities, immersive experiences, intelligent systems, and future industries. The experience opened our eyes to the incredible potential of 5G and how it will impact the way we live, work, and connect in the near future.

# **Main Observations & Learnings**

Our visit to the My 5G Portalat Menara TRX was a great learning experience. Before the visit, I thought 5G was only about faster internet on our phones. But now, I realize it’s much more than that. 5G helps connect many devices at the same time with very little delay, which makes it possible to do things that were not possible before.

One of the most amazing things we saw was the **3D hologram.** Even though there was no real person there, the hologram looked so real that it felt like someone was talking to us. This made me understand how 5G can help create new kinds of communication, like virtual meetings or even online classes where people appear as holograms.

We also learned about **smart retail.** This means stores can use sensors and cameras to track products without needing many workers. For example, shelves can tell if something is missing or needs to be restocked. Customers can also shop and pay without standing in line at a cashier. This makes shopping faster and easier, and it’s all powered by 5G networks working behind the scenes.

Another interesting technology was the **AI-based odour detection system.** This system can “smell” and analyse Odors to find out if something is clean or spoiled. It can be very helpful in places like food factories, farms, or waste management, where keeping things safe and hygienic is very important.

The part that impressed me the most was the **connected ambulance.** This ambulance can send real-time data about a patient’s condition to doctors at the hospital while on the way there. This means doctors can prepare and provide better care as soon as the patient arrives, which could save lives. It was amazing to see how 5G can help in emergencies and healthcare.

This visit showed me that 5G is not just a faster internet connection — it is a key technology that supports many other innovations like smart cities, artificial intelligence, and the Internet of Things. It helps different devices and systems talk to each other instantly and reliably.

I feel excited about how 5G will continue to grow and change the way we live and work. From making shopping easier to improving medical services, 5G has the power to make many parts of our lives better and more connected.

# **Personal Reflection & Conclusion**

## **(Chung Shan Jie)**

During our visit to the My 5G Portal at Menara TRX, the most impressive part for me was the 3D hologram demonstration. Although there was no real person physically present, the hologram looked incredibly lifelike — almost as if someone was standing in front of us. I was amazed by the level of detail and realism it could achieve, and it made me realize just how far technology has advanced with the help of 5G.

I was also surprised to learn how 5G plays a big role in healthcare and public safety. For example, the connected ambulance demo showed how 5G allows patient data to be sent to hospitals in real time, even while the ambulance is still on the road. This helps doctors prepare before the patient arrives, which can save precious time in emergencies. It made me realize that 5G is not just about convenience but also it can help save lives and improve the quality of medical care.

For future study tours, I think it would be more fun and useful if we could join more hands-on activities. For example, we could try using hologram devices or other tools that use 5G. It would also be interesting to visit companies or tech labs to see how they use 5G in real life. This could help us get more ideas and learn in a more exciting way.

## **(Lim Yu Yin)**

The most impressive part of the visit was seeing how fast and powerful 5G technology is. I was surprised that 5G can support so many things at the same time, like smart traffic lights, robots, and remote surgeries. I didn’t know that 5G is already being used in so many real situations in Malaysia. The live demonstrations really helped me understand how this new technology works.

Before the visit, I thought 5G was just about faster internet for phones. But after the visit, I learned that 5G is much more than that. It can change how people live, work, and learn. I now understand that 5G is important for smart cities, healthcare, and business. It made me realize that digital innovation is not just for big companies—it can help everyone in daily life.

For future study tours, I think it would be good to include hands-on activities where students can try using 5G devices or build simple tech projects. It would also be helpful to visit companies that are already using 5G in their work, so we can see how it works in real jobs. I also suggest having a Q&A session with 5G engineers or IT experts, so we can ask more questions and learn from their experience.

## **(Muhammad Naqib)**

What impressed me the most is that the KLIA's big screen of advertisements has a camera/scanner for those who watched the ads. And the interesting part is that they also require information like how long we watch the ads, how many seconds, where we watched. Absolutely mind blowing. It’s incredible to think about how this technology tracks our engagement in such detail, almost like it’s learning from us in real time. This makes me wonder about the advanced algorithms and data analysis behind it, which could be a game-changer for marketing and personalized advertising. As someone studying CS, I find it fascinating how these ties into areas like computer vision and big data, and I’m eager to explore how I could use similar tech to create innovative solutions in the future.

The visit to My5G Portal literally changed my perspective on how I see the technology world, and I just realized how far technology has evolved over time. Like how 5G transmits the network using only one radio access network and can connect to many devices seamlessly, which I found absolutely fascinating. It made me think about the endless possibilities this technology opens up, such as faster data transfer, lower latency, and supporting innovations like the Internet of Things (IoT) and smart cities. As a student taking a CS course, I’m really hopeful I can be part of that change as well. I’d love to contribute by developing applications or systems that leverage 5G’s capabilities, maybe even working on projects that enhance connectivity in small towns or improve how devices communicate in real time. This experience has truly inspired me to dive deeper into networking concepts in my studies and explore how I can play a role in shaping the future of technology.

As a Computer Science student, I’d suggest organizing a study tour to a tech hub like Chicago in Malaysia or even a global tech city like Silicon Valley. We could visit companies such as Google, Microsoft, or even local startups to see how they’re working on cutting-edge technologies like AI, cloud computing, and cybersecurity. I think this would really help us understand how these technologies tie into what we’re learning in our CS courses and give us a clearer picture of innovation in action. Plus, being able to interact with professionals in these companies could give us a better idea of what skills we need to develop for our future careers, like mastering programming languages or understanding system architecture in real-world applications. I believe this kind of exposure would make a huge difference in how we approach our studies and future goals in the tech industry.

## **(Goh Yi Qi)**

What impressed me the most during the visit was the hologram display. Seeing a realistic image of a person projected inside a transparent glass box, even though no one was physically present, was truly fascinating. The hologram was so detailed and lifelike that it felt almost as if someone was standing right in front of us. This demonstration showed how advanced technology has become, especially with the support of 5G’s fast and stable connection. It made me realize how 5G can enable new ways of communication and interaction that go beyond what we usually experience on phones or computers. The potential for using holograms in meetings, education, or entertainment seems very exciting and could change the way people connect in the future.

The visit significantly changed my perspective on 5G and digital innovation. Before this, I thought 5G was simply about providing faster internet for smartphones. However, the tour helped me understand that 5G is the foundation for many smart technologies that improve different parts of our daily lives. For example, the smart city model with its real-time traffic management and sensor integration showed how 5G can help make cities safer, cleaner, and more efficient. I was also impressed by how 5G supports healthcare innovations, such as sending emergency patient data to hospitals instantly, which can save lives. This experience opened my eyes to the fact that digital innovation is not just about gadgets; it is about building smarter systems that benefit society.

For future study tours, I believe it would be beneficial to visit places where new technologies are actively developed and applied, such as technology companies, innovation centers, or research labs. Having opportunities for hands-on learning, where we could try using devices or tools powered by 5G, would make the experience more engaging and deepen our understanding. Additionally, visiting major tech hubs like Cyberjaya in Malaysia or even cities like Singapore, where companies are working on cutting-edge innovations such as artificial intelligence, cloud computing, and cybersecurity, would broaden our perspective. Meeting industry professionals and learning about their real-world projects would inspire us and help us see how the concepts we learn in school connect to actual technology development and digital transformation.

## **(Tham Jing Han)**

This visit was truly eye-opening. What impressed me the most was the smart factory demonstration, where multiple robotic arms were coordinated in real time through a 5G connection. It was the first time I witnessed how automation could work so smoothly and efficiently without any noticeable delay. Seeing this in action helped me understand the practical value of low-latency communication in industrial settings.

Before this visit, I had only a basic understanding of what 5G could do. Now, I see how it is deeply connected to innovations in transportation, healthcare, agriculture, and even entertainment. I also realized how 5G can improve safety, increase efficiency, and support a greener, more sustainable future by enabling smart energy systems and remote monitoring. It changed my perspective on the importance of digital infrastructure in national development.

For future study tours, I suggest including more hands-on workshops where students can try programming or controlling 5G-enabled devices themselves. This would make the learning experience even more interactive and memorable. I would also recommend visits to companies actively using 5G, so students can see the technology in a real-world commercial environment.

## **(Wong Wai Hung)**

What impressed me most during the study tour was the sheer scale and speed of 5G implementation, especially the way it’s being integrated with technologies like AI, IoT, and smart cities. I was particularly surprised by how 5G isn't just about faster internet on mobile phones it's a foundational layer for automation, real-time analytics, and digital transformation across industries.

Before the visit, I thought of 5G mainly as a telecom upgrade. After seeing real-world applications like autonomous vehicles, remote surgeries, smart manufacturing, and immersive VR/AR experiences I now view 5G as a key enabler of the next wave of digital innovation. The visit gave me a deeper understanding of how 5G’s low latency and massive connectivity can redefine business models and social infrastructure.

For future study tours, I suggest including more interactive sessions or hands-on demonstrations where participants can engage directly with 5G-enabled technologies. Visiting innovation labs, tech startups, or smart city pilot sites would also be beneficial. Additionally, incorporating panel discussions with industry experts or researchers could offer more depth and diverse perspectives on the future of digital innovation.

# **Appendices**

A reception desk in a building

AI-generated content may be incorrect.

A group of people posing for a photo

AI-generated content may be incorrect.

A person standing in front of several screens

AI-generated content may be incorrect. A white machine in a room

AI-generated content may be incorrect.

A person standing in front of a screen

AI-generated content may be incorrect. A person in a blue suit

AI-generated content may be incorrect.

A robot on a table

AI-generated content may be incorrect. A person standing in front of a person standing in front of a person standing in front of a person standing in front of a person standing in front of a person standing in front of a person standing

AI-generated content may be incorrect.A person standing in front of a wall with a television

AI-generated content may be incorrect. A view of a road and a city from a room

AI-generated content may be incorrect.A group of people in a room

AI-generated content may be incorrect. A person standing in front of a group of monitors

AI-generated content may be incorrect. A group of people in front of screens

AI-generated content may be incorrect. A group of buildings and buildings on display

AI-generated content may be incorrect. A room with multiple screens and a display

AI-generated content may be incorrect. A group of people standing in front of a model of a city

AI-generated content may be incorrect.A group of people standing in a room

AI-generated content may be incorrect. A group of people standing in front of a screen

AI-generated content may be incorrect. A display of different devices

AI-generated content may be incorrect. A toy car on a track

AI-generated content may be incorrect. A person standing in front of a large screen

AI-generated content may be incorrect. A group of people standing in front of a large screen

AI-generated content may be incorrect.

A person standing in front of a wall with multiple screens

AI-generated content may be incorrect.A person standing in front of a wall with several screens

AI-generated content may be incorrect.A machine on a piece of paper

AI-generated content may be incorrect.A screen with a qr code

AI-generated content may be incorrect.A screen with text on it

AI-generated content may be incorrect.A drone on a box

AI-generated content may be incorrect. People standing in a room

AI-generated content may be incorrect.A group of model buildings and buildings

AI-generated content may be incorrect.