



## Session 6 “Digital Security” (3 hours)

### PURPOSE

- Students define AI and recall some ways it is used.
- Students develop a point of view on AI.
- Students can protect their privacy and security in the digital realm.

### KEYWORDS

- Artificial Intelligence, Facial Recognition Technology, Digital Security, Privacy, Data, End-to-End Encryption, VPN

### RESOURCES

#### Digital safety and security

DW Akademie MIL Guidebook (p. 178; 230 – 231)

Digital Security – Overview by the Global Investigative Journalists Network (GIJN) (

<https://gijn.org/digital-security/> )

Security Education Companion ( <https://sec.eff.org/> )

Surveillance Self-Defence (<https://ssd.eff.org/> )

#### Facial recognition:

- What is facial recognition technology?

Video by DW



The definition of facial recognition technology starts at 2:45

A look at how China uses facial recognition technology starts at 5:45

also covers pros and cons

<https://www.youtube.com/watch?v=t5BoVwcdzP4>

- What is facial recognition technology?

Video by Thales Group, a French defense company. This video paints an overall positive view of facial recognition technology.

[https://youtu.be/YX8BzK\\_LUOE](https://youtu.be/YX8BzK_LUOE)

- How can facial recognition technology be applied?

Article by the Centre for International Governance Innovation (CIGI), a think tank on global governance

<https://www.cigionline.org/articles/how-facial-recognition-technology-permeated-everyday-life/>

Video on How China Is Using Artificial Intelligence in Classrooms | WSJ by Wall Street Journal

<https://www.youtube.com/watch?v=JMLsHI8aV0g>

- Facial recognition technology in everyday life

Video by Thales Group, a French defense company. This video paints an overall positive view of facial recognition technology.

<https://www.cigionline.org/articles/how-facial-recognition-technology-permeated-everyday-life/>



- Pros and Cons of facial recognition technology

Video by Insider Tech. This video talks about both advantages and risks of AI.

<https://www.youtube.com/watch?v=BqQT4sIOYA0>

## Artificial Intelligence

- What is AI in Khmer: [https://www.youtube.com/watch?v=rHRUQBJbc\\_w](https://www.youtube.com/watch?v=rHRUQBJbc_w)
- What is AI in English: <https://www.youtube.com/watch?v=0oRVLf16CMU>
- AI in English: <https://www.youtube.com/watch?v=ad79nYk2keg>
- Collection of recent DW articles, videos and audios on AI  
<https://p.dw.com/p/2qmqC>

## VPN

- Bypassing censorship with VPNs — is that really safe? Article and video by DW  
<https://p.dw.com/p/3qTo5>
- Business Tools Guide - Chapter 11 Site Security and Password Management  
VPN recommendations from the Global Investigative Journalists Network (GIJN)  
<https://gijn.org/biz-tools-chapter-11/>
- What is VPN? How does it work? Article by Avast Academy  
<https://www.avast.com/c-what-is-a-vpn>



## End-to-end encryption

- New guide provides assistance for newsroom data security and encryption needs – Overview by the International Journalists Network (IJNET)  
<https://ijnet.org/en/story/new-guide-provides-assistance-newsroom-data-security-and-encryption-needs>
- What is end-to-end encryption? – Overview by IBM  
<https://www.ibm.com/topics/end-to-end-encryption>
- What end-to-end encryption is, and why you need it – Overview by the internet security company Kaspersky  
<https://www.kaspersky.com/blog/what-is-end-to-end-encryption/37011/>

## TRAINING METHODS

- Topic game
- Guided discussion
- Guided input
- Debate
- Active media work (video tutorial)
- Quiz

## POSSIBLE “TRAINING OF TRAINERS” ELEMENTS:

- STUDENT CONDUCTS TOPIC GAME
- STUDENTS VISUALIZE EXERCISE RESULTS
- STUDENT MODERATES FEEDBACK ROUND FOR THE VIDEOS



## HOW TO CONNECT TO PREVIOUS MEET-UP

- After learning about digital devices and apps, students explore and familiarize themselves with artificial intelligence and recognize how much it is already a part of our lives. They learn how to better protect their privacy and data and stay secure online.

## LEARNING OUTCOMES – THE HEAD (KNOWLEDGE)

- Students define artificial Intelligence, facial recognition technology, two-factor-authentication, end-to-end encryption, and VPN.
  - Students recognize examples where AI is already part of our daily lives and where it can be used in the future.
  - Students identify arguments pro and con artificial intelligence.
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## LEARNING OUTCOMES – THE HAND (SKILLS)

- Students identify tools and tips to protect their privacy and data.
  - Students practice resetting some functions to secure their accounts and data.
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## LEARNING OUTCOMES – THE HEART (ATTITUDE)

- Students identify technological developments and adapt to them.
- Students are motivated to secure their privacy, data, and devices.



- Students reflect and justify their online behavior/engagement.
- Students reflect and develop their point of view on artificial intelligence.

## INTRODUCTION (10 MIN)

### Introduction: What do I look like? How good is your memory?

<b>Activity</b>	<ul style="list-style-type: none"> <li>• Topic Game</li> </ul>	<b>10</b> ”
<b>Objective</b>	<ul style="list-style-type: none"> <li>• Students get familiar with face-recognition and observation</li> </ul>	
<b>Steps</b>	<p><b>[face to face]</b></p> <ul style="list-style-type: none"> <li>• Ask everyone to stand in circle facing each other</li> <li>• The trainers ask the students to look at everyone in the circle for 1 minute to remember their face, clothes, or other identifiable traits</li> <li>• Then, everyone turns their back to each other. The trainers stand in the middle and randomly ask students about other classmates' appearance and individual traits (e.g., Susan: what color is Michael's T-shirt? John: Does Mary wear glasses? Bill: Does Jane wear a striped blouse? Robert: Does Thomas have short hair?)</li> </ul> <p><b>[Online]</b></p> <ul style="list-style-type: none"> <li>• All students turn on their webcams. Ask them to look closely at how everyone looks for one minute (clothes, hair, glasses etc.) and try to memorize individual traits</li> <li>• Ask everyone to turn off their webcam</li> </ul>	



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	<ul style="list-style-type: none"> <li>• Ask random students what other students look like. (e.g., Susan: what color is Michael's T-shirt? John: Does Mary wear glasses? Bill: Does Jane wear a striped blouse? Robert: Does Thomas have short hair?)</li> </ul>
<b>Material</b>	
<b>Notes / TOT - Element</b>	<ul style="list-style-type: none"> <li>• Carefully explain how to play the game to the students</li> <li>• Before starting to play, give students an opportunity to ask clarifying questions if they do not fully understand the instructions or how to play the game</li> <li>• Reflect on the game afterwards with the students and link the topic game to the following session</li> <li>• <b>Possible ToT element:</b> let a student conduct this topic game. The volunteer will need instructions how to conduct the game before the session begins. Make sure the volunteer has understood the objective of the game, how to play it and how to reflect on it and connect it to the following session. After this ToT-element, the volunteer should get feedback from the group and from the MIL Club trainers on what they did well and how they could improve as trainers</li> </ul>



## BODY PART 1 (MIXTURE OF TRAINER AND TRAINEE CENTERED) (70 MIN)

### Trainee Centered: Reflection on data traces and face recognition

<b>Activity</b>	<ul style="list-style-type: none"> <li>• Group discussion to reflect and share experiences</li> <li>• Trainers could also conduct this training segment as pair or group work by giving the students the list of questions and asking them to go through them. After ten minutes, the trainers go through the questions one by one with the students. Ask the groups to share their answers for each question: Question 1 – group 1, 2, 3...; Question 2 – group 1, 2, 3...)</li> </ul>	<b>10</b> ”
<b>Objective</b>	<ul style="list-style-type: none"> <li>• Students reflect and share how they behave on digital platforms and what data they share</li> </ul>	
<b>Steps</b>	Ask students to reflect about their social media habits and about what data they voluntarily supply to apps and social networks. Guiding questions for the discussion could be: <ul style="list-style-type: none"> <li>• name three social media accounts you have (e.g., Facebook, Instagram, YouTube...)</li> <li>• Which of these apps use face recognition technology?</li> <li>• Have you turned it on or off?</li> <li>• Can other people tag you/your face on a photo?</li> </ul>	
<b>Material</b>	<ul style="list-style-type: none"> <li>• Flipchart to visualize key points of the discussion</li> </ul>	
<b>Notes</b>	If you conduct this training segment as group work, make sure to prepare and print the list of guiding questions for the groups.	





## Trainer Centered: Explanation of Facial Recognition Technology and Artificial Intelligence (AI)

<b>Activity</b>	<ul style="list-style-type: none"> <li>• Guided input + video presentation</li> </ul>	<b>20</b> ”
<b>Objective</b>	<ul style="list-style-type: none"> <li>• Students identify where face recognition is already used</li> <li>• Students explain facial recognition technology and AI</li> <li>• Students define AI</li> </ul>	
<b>Steps</b>	<ul style="list-style-type: none"> <li>• Explain facial recognition technology using the “train-to-explain” format with a prepared flipchart and ask the students if they have any questions If you like, show this video</li> <li>• The definition is done after 2 minutes, and you can end the video there</li> <li>• If you have time, collect with the students where facial recognition technology is already used in our daily lives (e.g., to unlock a phone; to fight crime; in China to control society through CCTV + AI; to check passengers’ identity when boarding airplanes; at immigration - passports) Recommend this video to the students (e.g., on Facebook), which shows possible additional uses of facial recognition: <a href="https://www.youtube.com/watch?v=YX8BzK_LU0E">https://www.youtube.com/watch?v=YX8BzK_LU0E</a></li> <li>• Ask students how they feel about facial recognition technology: where do they see opportunities or threats?</li> <li>• In a second step, explain how facial recognition technology is an application of artificial intelligence. Use a prepared flipchart using</li> </ul>	



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	<p>the “train-to-explain” format to explore ‘artificial intelligence’ together with your students</p> <ul style="list-style-type: none"> <li>● Collect areas in our daily lives, where artificial intelligence is already used. Help your students to identify some advantages and disadvantages of AI by asking them questions, e.g. How can AI be useful in our daily life (e.g., driving a car, travel to new places, writing an essay)? How can AI reduce employment opportunities? How can AI be used in conflicts or wars?</li> <li>● Wikipedia says: “Artificial intelligence (AI) is intelligence demonstrated by machines, as opposed to the natural intelligence displayed by humans or animals. Leading AI textbooks define the field as the study of "intelligent agents": any system that perceives its environment and takes actions that maximize its chance of achieving its goals. Some popular accounts use the term "artificial intelligence" to describe machines that mimic "cognitive" functions that humans associate with the human mind, such as "learning" and "problem solving"</li> </ul>
<p><b>Material</b></p>	<ul style="list-style-type: none"> <li>● Research good Khmer definitions of facial recognition technology and AI from trustworthy sources</li> <li>● If you can find good Khmer videos explaining facial recognition and AI, play those instead of the suggested English language videos</li> <li>● 1<sup>st</sup> video: <a href="https://www.youtube.com/watch?v=YX8BzK_LU0E">https://www.youtube.com/watch?v=YX8BzK_LU0E</a></li> <li>● 2<sup>nd</sup> video if the students don't fully understand the 1<sup>st</sup> video: <a href="https://www.youtube.com/watch?v=rHRUQBJbc_w">https://www.youtube.com/watch?v=rHRUQBJbc_w</a></li> </ul>



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	<ul style="list-style-type: none"> <li>• Download videos you want to show in class prior to the session e.g. <a href="https://www.youtube.com/watch?v=W058x1_ur2Y&amp;t=168s">https://www.youtube.com/watch?v=W058x1_ur2Y&amp;t=168s</a></li> <li>• Flipchart to visualize key aspects of the brainstorming and input</li> <li>• Computer, projector, internet access</li> </ul>
<b>Notes</b>	

## Trainee Centered: The pros and cons of Artificial Intelligence

<b>Activity</b>	<ul style="list-style-type: none"> <li>• Debate</li> </ul>	<b>35</b> ”
<b>Objective</b>	<ul style="list-style-type: none"> <li>• Students research and acquaint themselves with arguments pro and con AI</li> </ul>	
<b>Steps</b>	<ul style="list-style-type: none"> <li>• Remind the students that AI is a controversial topic. There are many pro and con arguments, and everyone has to reach their own conclusion</li> <li>• Explain the format of a <b>debate</b>: A debate is a structured argument. Two sides speak alternately for and against a controversial issue. It's a role play, so students sometimes have to support opinions they do not normally have. They also have to argue as part of a team and be careful not to contradict what others on their side have said. All students should aim to understand the other person's position                     <ul style="list-style-type: none"> <li>○ Both teams should be equal size</li> </ul> </li> </ul>	



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- Both teams will get ten minutes to research arguments supporting their point of view
- Every team member will have the task to present one argument
- The debate begins with the *pro* side speaking first. They can present their first argument without interruption (max 2 minutes)
- Then one person from the *con* team offers rebuttals to the other person's argument. Arguments can be factually, morally, or logically flawed. They may be misinterpretations, or they may also be unimportant or irrelevant. After the rebuttal, the student from the *con* team introduces their counterargument
- The next student from the *pro* team offers a rebuttal and presents a new counterargument. And so on...
- When you ask the students to split up into two teams (*pro* and *con*) for the debate, many trainers deliberately put the students who feel “*pro*” into the *con* group and those who feel “*con*” into the group that has to argue *pro* AI. This forces students to put themselves into the shoes of the other side. It's a good exercise for students to reflect their own position
- Give the students questions to brainstorm the *pros* and brainstorm the *cons*. Give the teams ten minutes to research and prepare their arguments. You could also prepare bullet lists with key arguments or print articles for the groups as research material



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	<ul style="list-style-type: none"> <li>• It's a good idea to put the groups in separate rooms during the preparation so the teams can't hear what arguments the other side is preparing</li> <li>• After ten minutes, start the debate and supervise that it remains fair</li> <li>• When all students have presented their arguments, close the debate</li> <li>• Debrief the students by asking how the experience was for them: what was fun, what was challenging? Which arguments did they find most impressive / surprising?</li> </ul> <p>This debriefing is especially important if students had to support a point of view, they don't usually hold so they can get out of their assumed role</p>
<b>Material</b>	<ul style="list-style-type: none"> <li>• Flipcharts to visualize the instructions for the exercise</li> <li>• Flipcharts to visualize the key arguments of both sides</li> <li>• Smartphones / computers for online research</li> </ul>
<b>Notes / TOT - Element</b>	<ul style="list-style-type: none"> <li>• <b>Possible ToT element:</b> let two students visualize the arguments on two flipcharts (pro and con)</li> <li>• After this ToT-element, the volunteers should get feedback from the group and from the MIL Club trainers on what they did well and how they could improve their visualizations as trainers. Make sure to explain how difficult it is to create visualizations "on the fly" or to visualize ongoing discussions. Remind them how they can make visualizations clear and</li> </ul>



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appealing (use of colors, space, symbols, icons, lines, arrows, underlining etc.)

----- BREAK (15 MIN) -----

## BODY PART 2 (MIXTURE OF TRAINER AND TRAINEE CENTERED) (80 MIN)

### Trainer Centered: Guided discussion: How to protect your privacy and your data

<b>Activity</b>	<ul style="list-style-type: none"> <li>Guided Discussion</li> </ul>	<b>25'</b>
<b>Objective</b>	<ul style="list-style-type: none"> <li>Students discover how they can protect their privacy and their data in digital communication through VPN and end-to-end encryption</li> </ul>	
<b>Steps</b>	<ul style="list-style-type: none"> <li>Connect to the training segments before the break by asking the students why it is important to know how we can protect our privacy and our data</li> <li>What are the means to protect our privacy and data? Possible answers include VPN and end-to-end encryption</li> <li>Ask if anyone has heard of VPN or end-to-end encryption</li> <li>Use prepared flipcharts to explain the terms "VPN" and "end-to-end-encryption" using the "train to explain" format. Explain what VPN and end-to-end encryption are, what they are used</li> </ul>	



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for, name examples and outline how they can be used. If you like, use a resource from above to show it to your students

- Ask for open questions. If the questions get too technical, refer the students to further resources on the internet (e.g., YouTube-videos) and share them in the Facebook-group.

- **VPN:**

A virtual private network (VPN) gives you online privacy and anonymity by creating a private network from a public internet connection. VPNs mask your internet protocol (IP) address, so your online actions are virtually untraceable. VPN services establish secure and encrypted connections to provide privacy or:

A virtual private network (VPN) extends a private network across a public network and enables users to send and receive data across shared or public networks as if their computing devices were directly connected to the private network (Wikipedia)

**VPN in Cambodia:**

[https://www.top10vpn.com/top10/?v=header&bsid=c0abdse1kw092&qclid=CjwKCAjwT52mBhB5EiwA05YKo7tHEzknrNecCuMo-NKDQ7Jz2VENLEKDohlzGpT93g3YA7AEJKqziBoCpGwQAvD\\_BwE](https://www.top10vpn.com/top10/?v=header&bsid=c0abdse1kw092&qclid=CjwKCAjwT52mBhB5EiwA05YKo7tHEzknrNecCuMo-NKDQ7Jz2VENLEKDohlzGpT93g3YA7AEJKqziBoCpGwQAvD_BwE)



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	<ul style="list-style-type: none"> <li>● <b>End-to-end encryption:</b> A communication system where the only the sender (the origin end) and the recipient (the destination end) of a message, and no intermediaries, can read the subject message, which is rigorously encrypted throughout its transit from the source end to the receiver end. When end-to-end encryption is properly implemented, only the sender and the recipient of the message possess the cryptographic keys needed to decrypt the message (CyberSecurityForum) or: End-to-end encryption is the act of applying encryption to messages on one device such that only the device to which it is sent can decrypt it. The message travels all the way from the sender to the recipient in encrypted form. (Kaspersky.com)</li> </ul> <p><b>Application utilizing end-2-end encryption:</b> <a href="https://nordvpn.com/blog/most-secure-messaging-app/">https://nordvpn.com/blog/most-secure-messaging-app/</a></p>
<b>Material</b>	<ul style="list-style-type: none"> <li>● Research good Khmer definitions of VPN, end-to-end encryption from trustworthy sources (see the resources)</li> <li>● Know examples of popular VPN in Cambodia</li> <li>● If possible, prepare hand-outs for the students with key points / definitions / explanations in Khmer that you can give them at the end of this training segment (before the video production)</li> <li>● Cards of key terms</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>● Visualize the definitions on flipcharts</li> </ul>





## Active media work: Videos about VPN, end-to-end encryption, AI, facial recognition technology

<b>Activity</b>	<ul style="list-style-type: none"> <li>Group work: video production</li> </ul>	<b>60</b> ”
<b>Objective</b>	<ul style="list-style-type: none"> <li>Students produce short video tutorials on the topics covered in this session</li> <li>Students post their videos in the Club’s Facebook group and give each other constructive feedback</li> </ul>	
<b>Steps</b>	<ul style="list-style-type: none"> <li>Explain that the students will work in groups. Each group will produce a short video to explain one of these terms: VPN, end-to-end encryption, AI, and facial recognition technology</li> <li>Each group’s video will consist of four recorded statements, one from each group member. In their statements, each group member covers one aspect of their assigned term</li> <li>The videos should contain                         <ul style="list-style-type: none"> <li>a brief explanation of the term</li> <li>give an example what this technology is used for or how it can be applied</li> <li>give one pro and one con argument</li> </ul> </li> <li>The videos should be simple explainers, just four statements after another. No fancy editing, no variety of shot sizes etc.</li> <li>Duration of each video: max 2 minutes</li> <li>Target group of the videos: students / young people in Cambodia, who have no prior knowledge about these topics or don’t know much about them</li> </ul>	



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	<ul style="list-style-type: none"> <li>• The groups should upload the finished videos to the MIL Club Facebook group</li> <li>• Watch some of the finished videos together in the classroom and ask the students to give each other feedback: reflect the group's opinion or how they feel about their term / technology) what was well done? What could be improved?</li> </ul>
<b>Material</b>	<ul style="list-style-type: none"> <li>• Flipchart to visualize the exercise instructions</li> <li>• Smartphones</li> <li>• WiFi</li> <li>• Computer / projector</li> <li>• You may want to prepare handouts in Khmer for each group with some key facts about their term: VPN, end-to-end encryption, privacy protection, AI, facial recognition technology</li> </ul>
<b>Notes/ TOT -Element</b>	<ul style="list-style-type: none"> <li>• Carefully explain the exercise to the students. Visualize the instructions</li> <li>• Before dividing the groups, give students an opportunity to ask clarifying questions if they do not fully understand the instructions or what to do</li> <li>• Reflect on the exercise afterwards with the students</li> <li>• <b>Possible ToT element:</b> let a student moderate the feedback round Remind the volunteer of the feedback rules beforehand. After this ToT-element, the volunteer should get feedback from</li> </ul>



the group and from the MIL Club trainers on what they did well and how they could improve as trainers

## CONCLUSION (5")

### Conclusion: Any questions?

<b>Activity</b>	<ul style="list-style-type: none"> <li>Conclusion, question round</li> </ul>	<b>5"</b>
<b>Objective</b>	<ul style="list-style-type: none"> <li>Students clarify open questions about the session</li> </ul>	
<b>Steps</b>	<ul style="list-style-type: none"> <li>Summarize key elements of the day's session and ask for open questions</li> <li>Answer students' questions and / or refer them to additional information sources (for example the reference material mentioned on page 1 of this session plan)</li> </ul>	
<b>Material</b>	<ul style="list-style-type: none"> <li>Flipchart, markers</li> </ul>	
<b>Notes / Possible ToT element</b>	<p>Let a student moderate the conclusion.</p> <p>After this ToT-element, the volunteer should get feedback from the group and from the MIL Club trainers on what they did well and how they could improve as trainers</p>	