

A photograph of two young women standing outdoors in a grassy area. The woman on the left is smiling and looking at a smartphone held by the woman on the right. They are both wearing white t-shirts. The background features a dark green hedge and a house with a grey roof under a clear blue sky.

**Digital Schnitzeljagd** as  
a way to learn about  
**social media, AI** and  
**information overload**

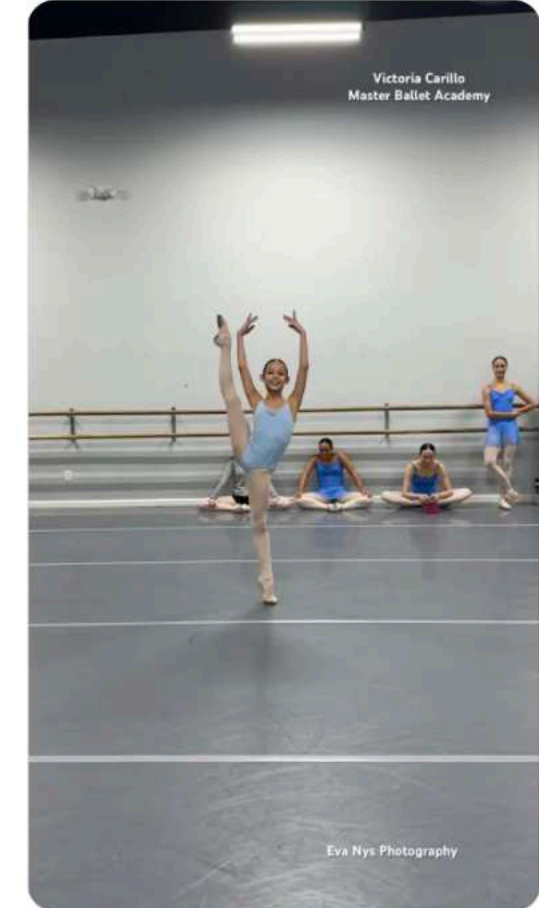
**Zuzka Masárová, Grow Trails & IST Austria**



Image generated by Dall-E

**WHAT IS LEGIT?**  
**WHAT IS TRUSTWORTHY?**

Shorts



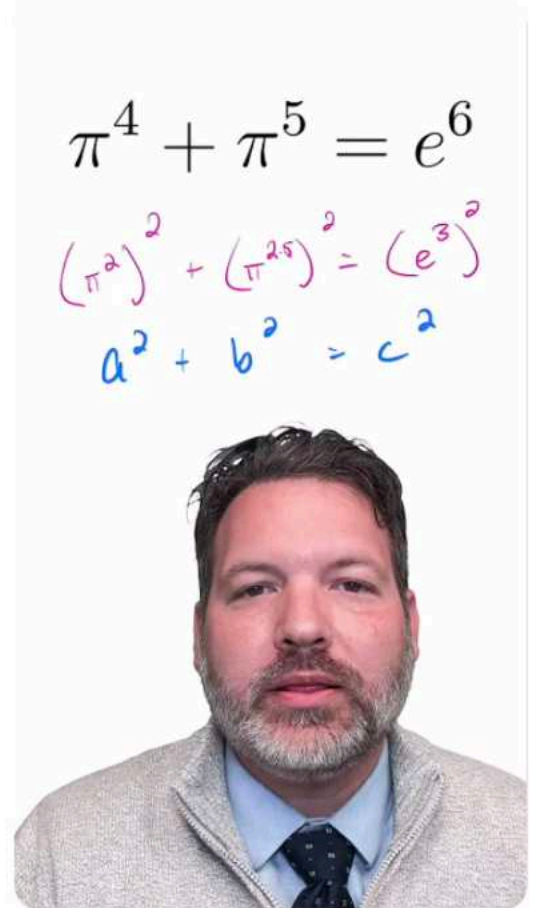
The future of ballet 🥰❤️👉  
#ballet #ballerina #dancer  
2.7M views



Shark Attacks People On The Boat  
12M views



Rasputin Shuffle Dance 🕺  
#dance #shuffledance...  
7.3M views



A Truly Crazy "Right" Triangle  
733K views

EN FR

**the Defender™**  
CHILDREN'S HEALTH DEFENSE NEWS & VIEWS

CHD COVID BIG PHARMA BIG ENERGY BIG FOOD BIG TECH BIG CHEMICAL COMMUNITY LEGAL

1 Million Copies Sold — 'The Real Anthony Fauci' — The book that launched a movement. **BUY TODAY!**



**You**  
Show me a code snippet of a website's sticky header in CSS and JavaScript.

**ChatGPT**  
Sure, here's an example of how you can create a sticky header for a website using HTML, CSS, and JavaScript:

HTML:

```
html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Sticky Header Example</title>
  <link rel="stylesheet" href="styles.css">
</head>
<body>
  <header id="header">
    <h1>Sticky Header</h1>
  </header>
  <div class="content">
    <!-- Your website content goes here -->
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Duis ac justo v
```

**Chat GPT**

04/04/22 • COVID VIEWS

**COVID Vaccines Don't Prevent Transmission, Severe Illness or Deaths, Data Show**

All we have to do is look at high-quality epidemiological data to get to the truth — COVID-19 vaccines aren't preventing COVID or its transmission, and they aren't preventing severe illness or death.

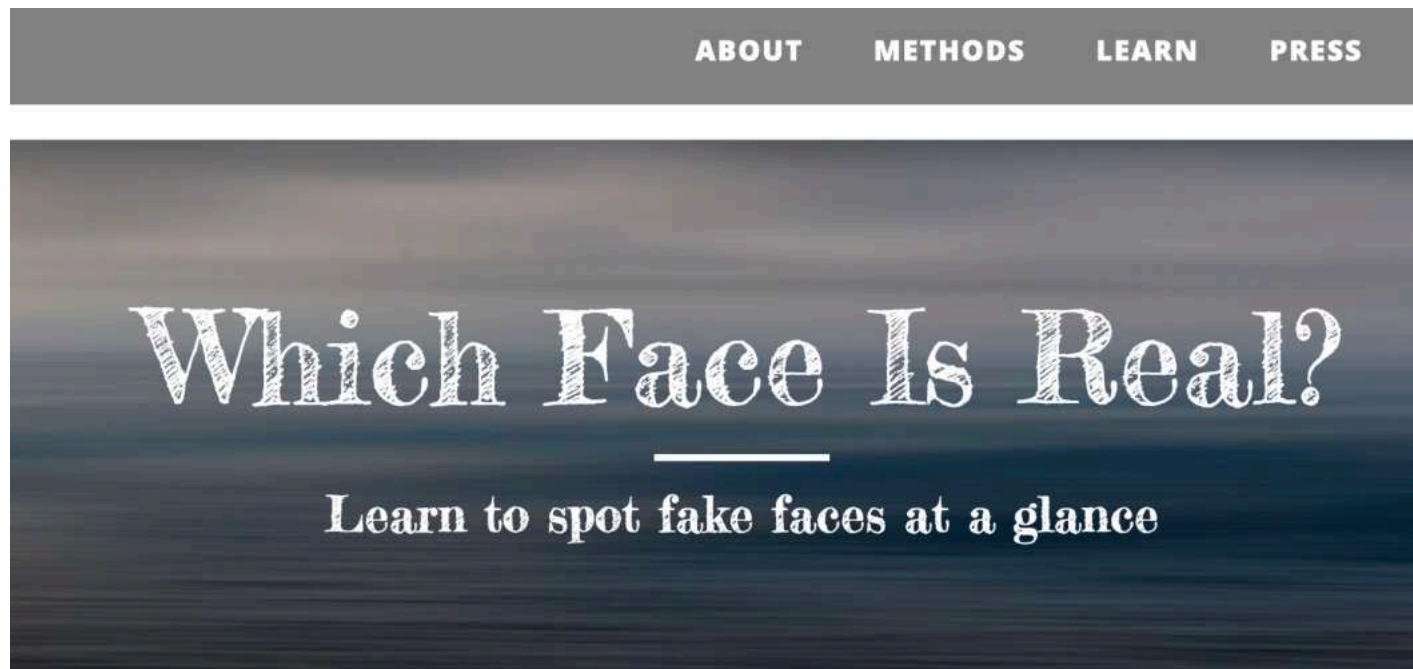
By Meryl Nass, M.D.

43



Daily Mail

# Some resources on learning about AI



As remarkable as the StyleGAN algorithm is, it leaves a number of "tells" in each image it creates. These vary from image to image – not every one has all or even many of these glitches – but with a bit of practice you can learn to spot them at a glance. We learned many of these tricks from the [excellent tutorial](#) published by Kyle McDonald in 2018.

## Water-splotches

We can't expect future algorithms to have this problem, but one of the distinguishing features of the current StyleGAN algorithm is that it commonly produces shiny blobs that look somewhat like water splotches on old photographic prints. These are a dead giveaway. Water splotches can appear



Welcome to My Ad Center

## A place for **kids and teens** to learn about ads

Google doesn't show personalized ads to anyone under 18

## What are personalized ads?

When ads are personalized, that means someone's personal info is used to make their ads more useful. But data about kids and teens are extra protected. So Google doesn't share their personal info, like birthdays or activity history, with advertisers.

**For example:** You won't see ads related to the YouTube videos you watched last month.



## HOW NORMAL AM I?

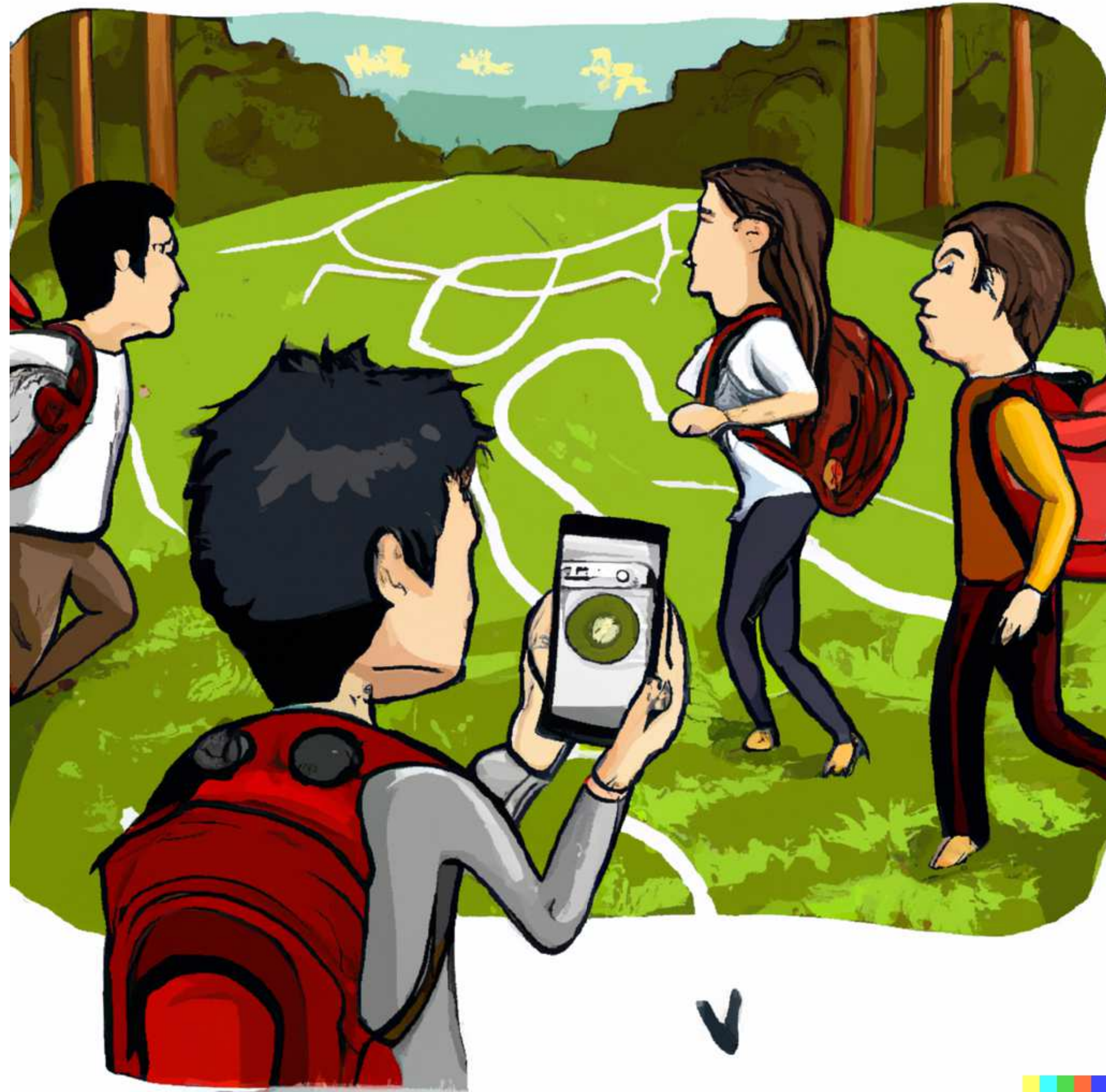
Experience how "artificial intelligence" judges your face

Access to your camera is necessary, but no personal data is collected.

Created with support from the European Union

...how to use them in an engaging way?

# Digital Schnitzeljagd



- ✓ 30-60 min **outdoor game**
- ✓ team size 2-4, ages 14+
- ✓ navigated by a **phone app**
- ✓ adventure around **social media, AI & cognitive biases**
- ✓ Follow-up workshop

Image generated by Dall-E



# Grow Trails at a glance...

[Click to see the video](#)

**550+ students**  
**school visits**  
**summer camps**

*“Great exercise for both your legs and brain.”*

*“This was serious fun.”*

*“Some fun but generally very interesting. It is important to understand what AIs and algorithms can do. This lesson was very useful.”*

*“We have never done anything like this before.”*





"I realized some things that were true about myself and my reactions to online content. I know I have to be more careful about social media etc. This game emphasized it."



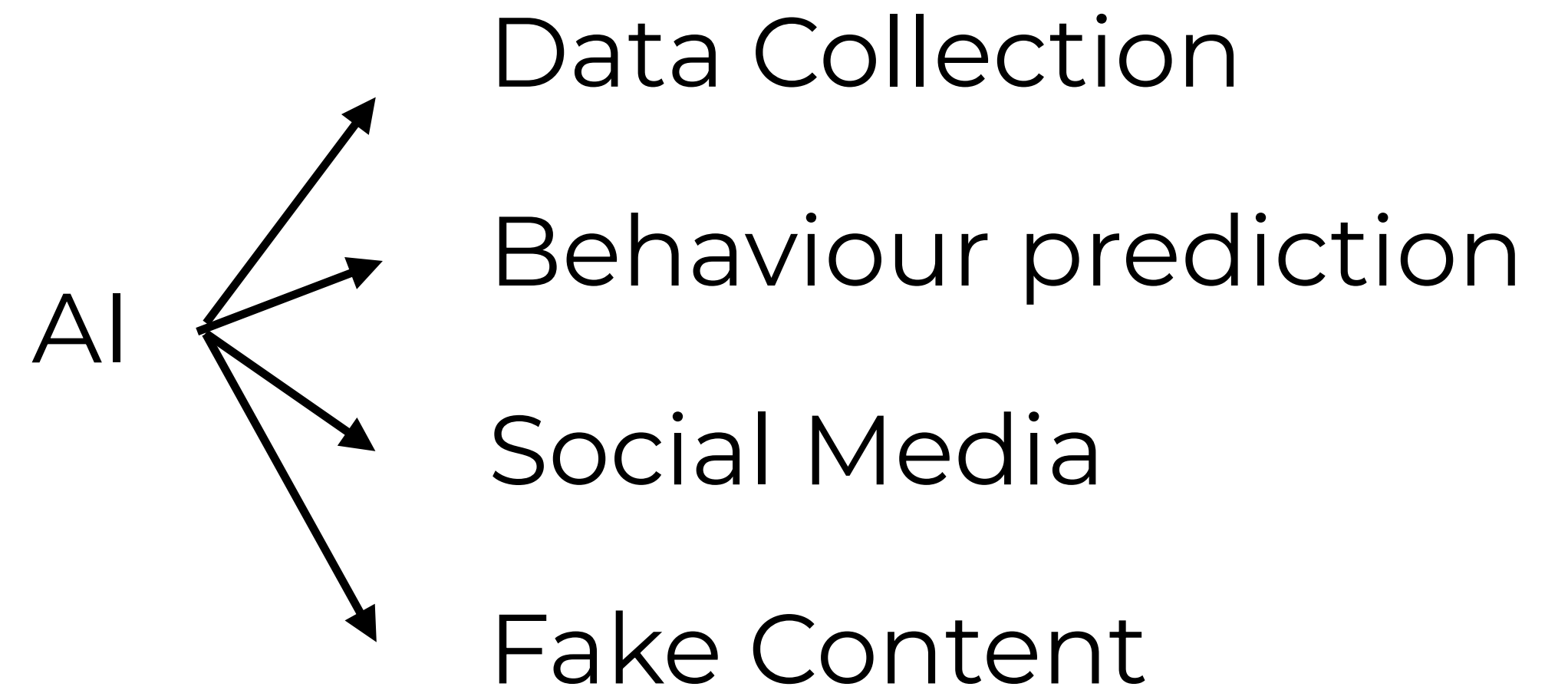
"I extremely enjoyed it. We were having fun and experiencing a new type of game. In the beginning I wasn't sure if I would play it but after starting I was fully in game. I reckon, I would play it once more if I had this opportunity."



"The game was amazing. It's theme is really close to my interests and things that I am worried about. I really liked the "sequence" task and how it explains our biases."



# Case study: The Whistleblower game

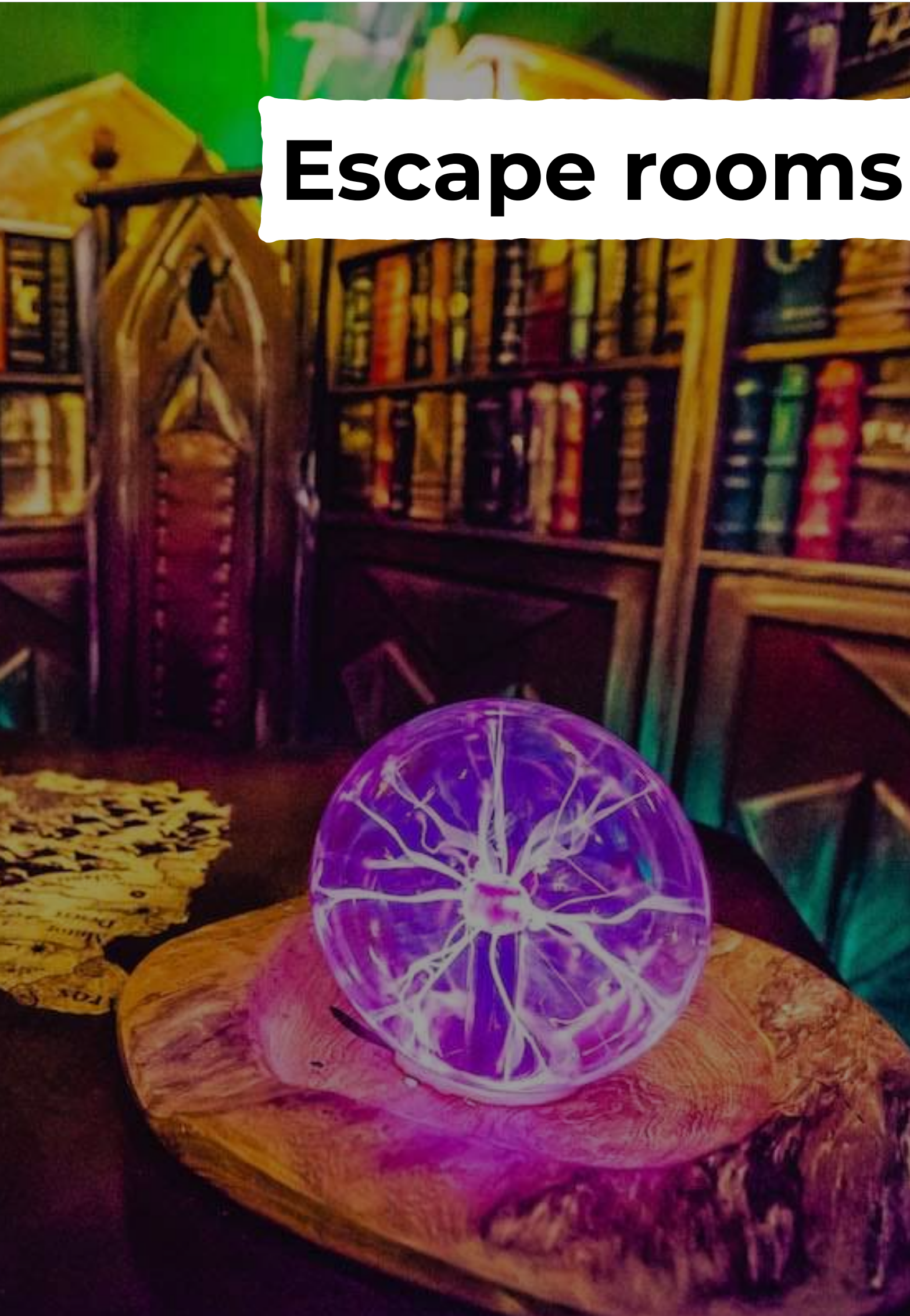


Can you solve the mysterious disappearance of an employee in a social media giant?

Solve puzzles, collect traces and explore the power of AI, social media and cognitive biases that shape our perceptions.

# Designing an educational Schnitzeljagd

**Escape rooms**





# Designing an educational Schnitzeljagd



**Escape rooms**

**Riddles  
Structure**

**Story**

# Designing an educational Schnitzeljagd



Escape rooms

Riddles  
Structure

Story

Learning  
Content

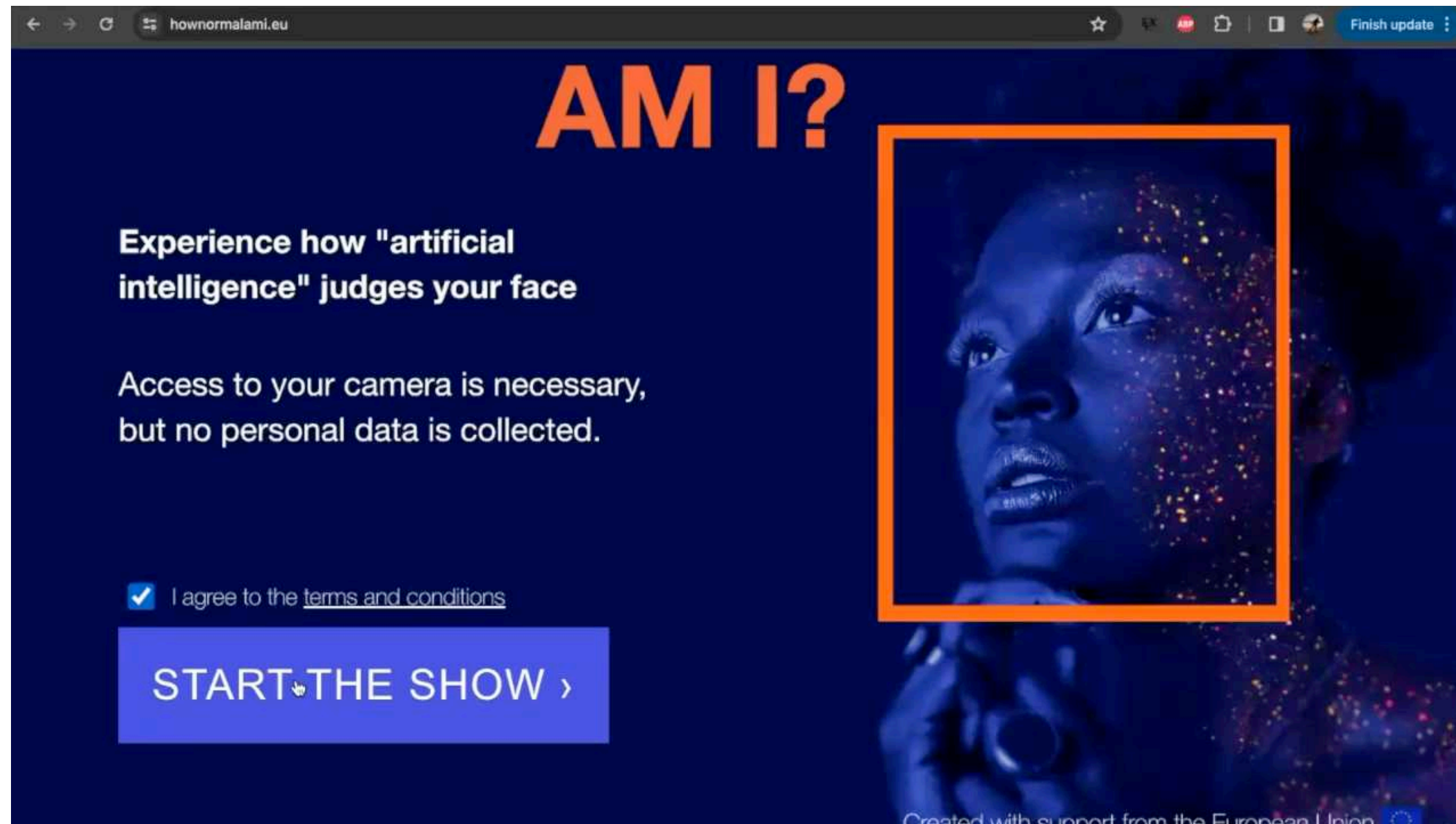
HOW NORMAL  
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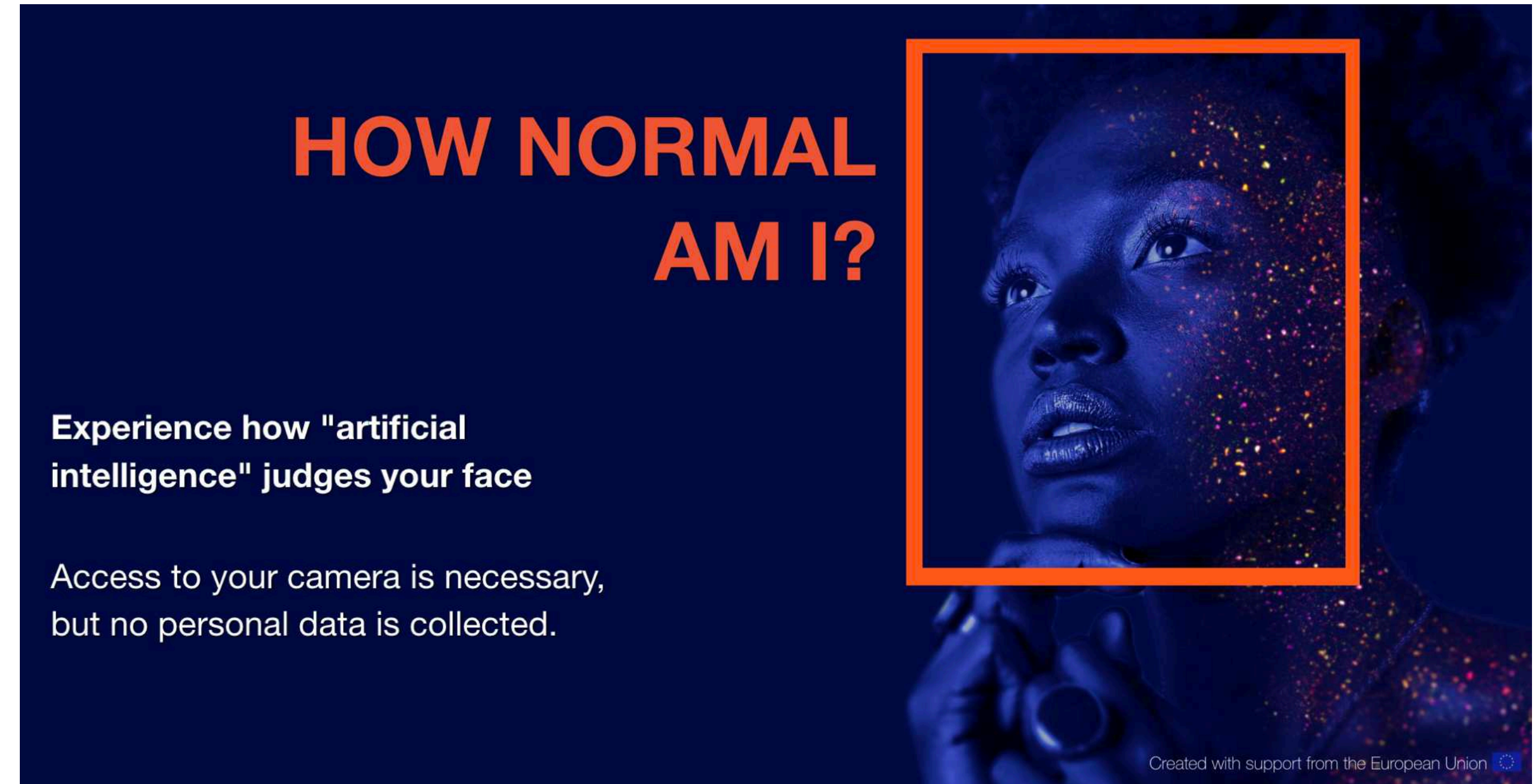
Access to your camera is necessary,  
but no personal data is collected.



# Designing an educational Schnitzeljagd



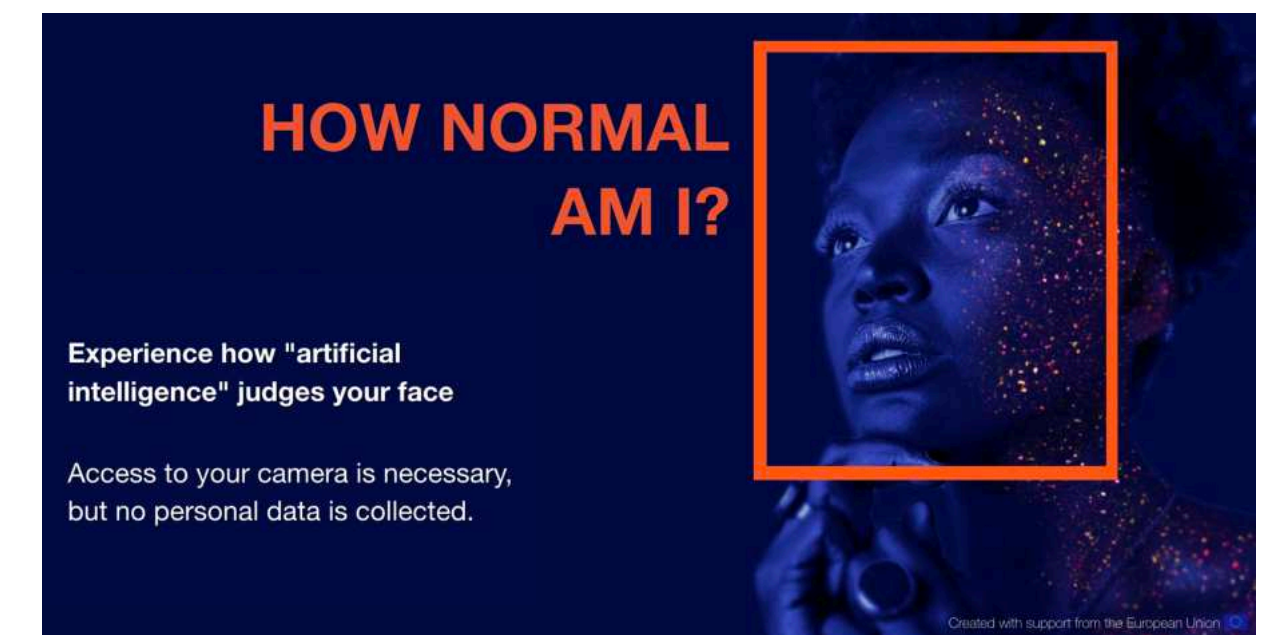
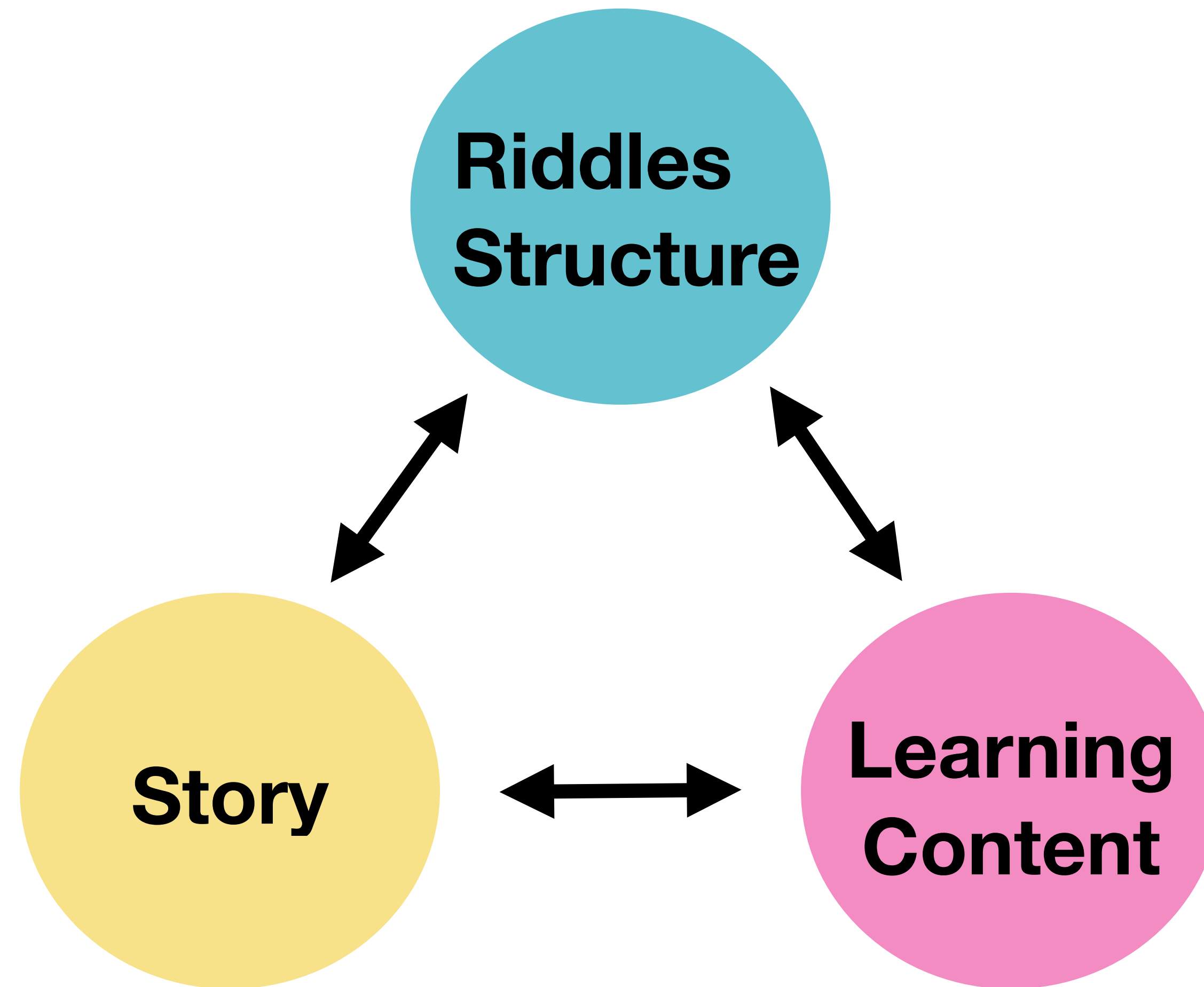
[Click to see the video](#)



**Goal:** let students try out what AI can predict about them from a simple recording of their face.

+ topics for workshop discussion

# The three ingredients: story, riddles and learning content

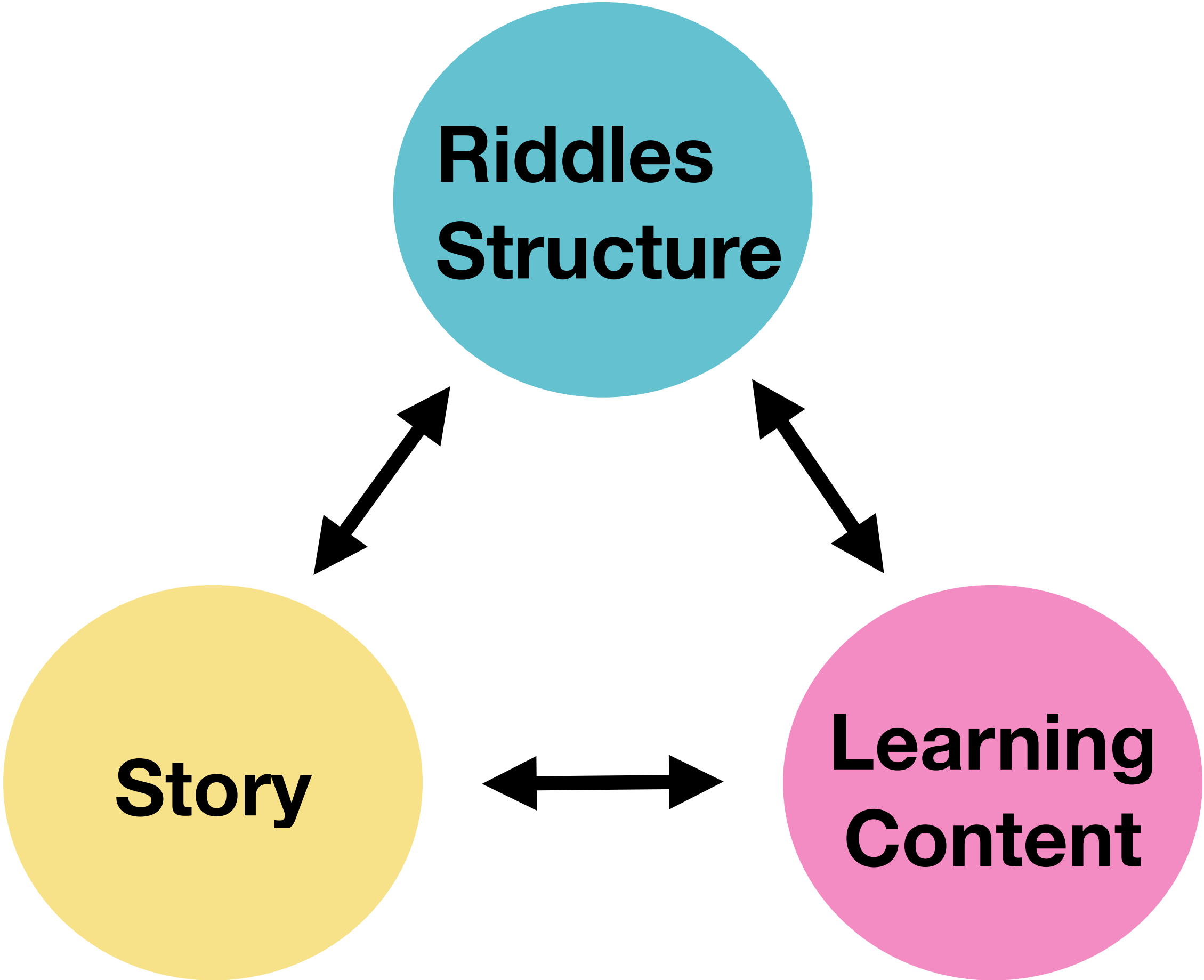


**Goal:** let students try out what AI can predict about them from a simple recording of their face

# The three ingredients: story, riddles and learning content



How can the learning task naturally fit into the unfolding story?



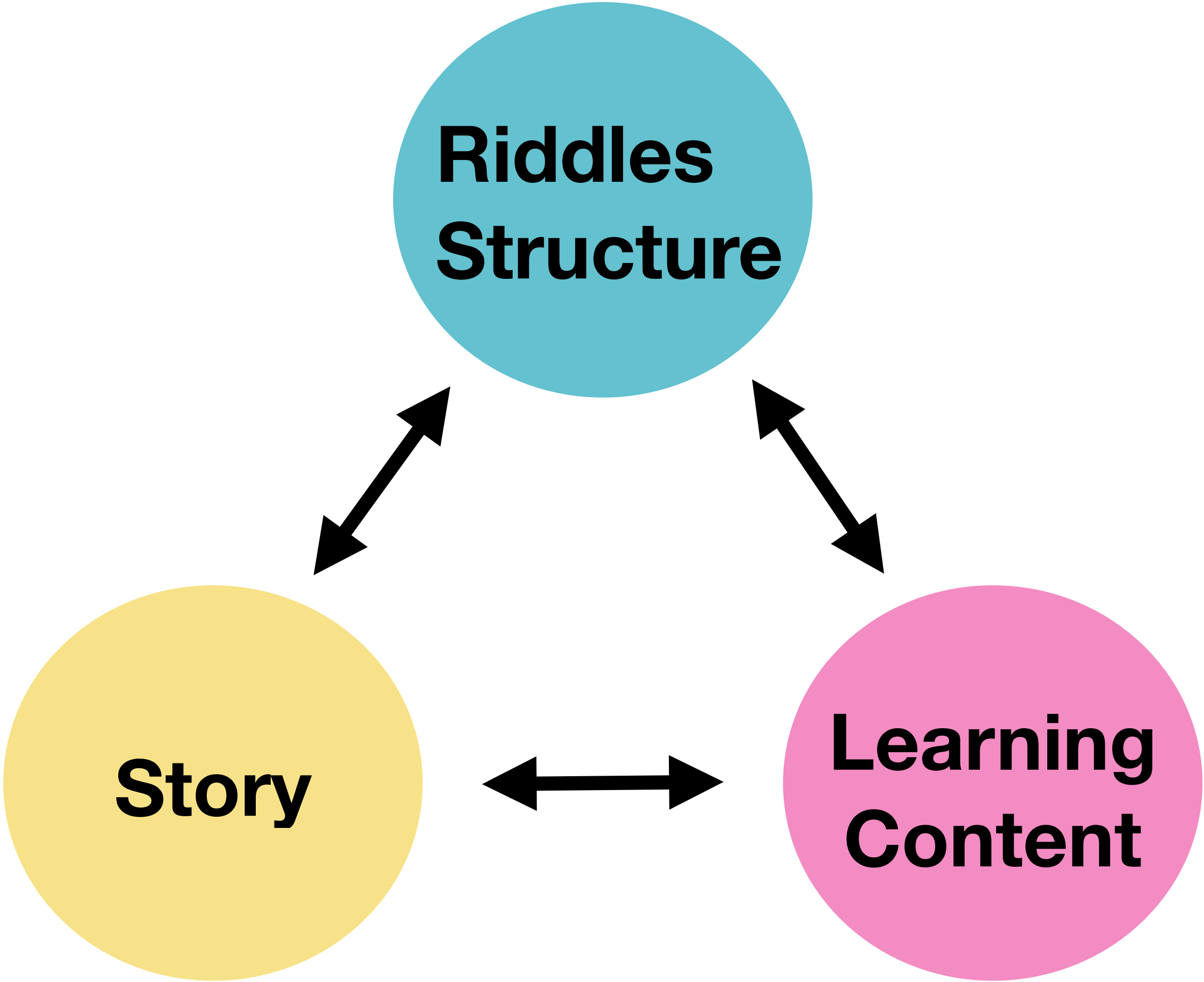
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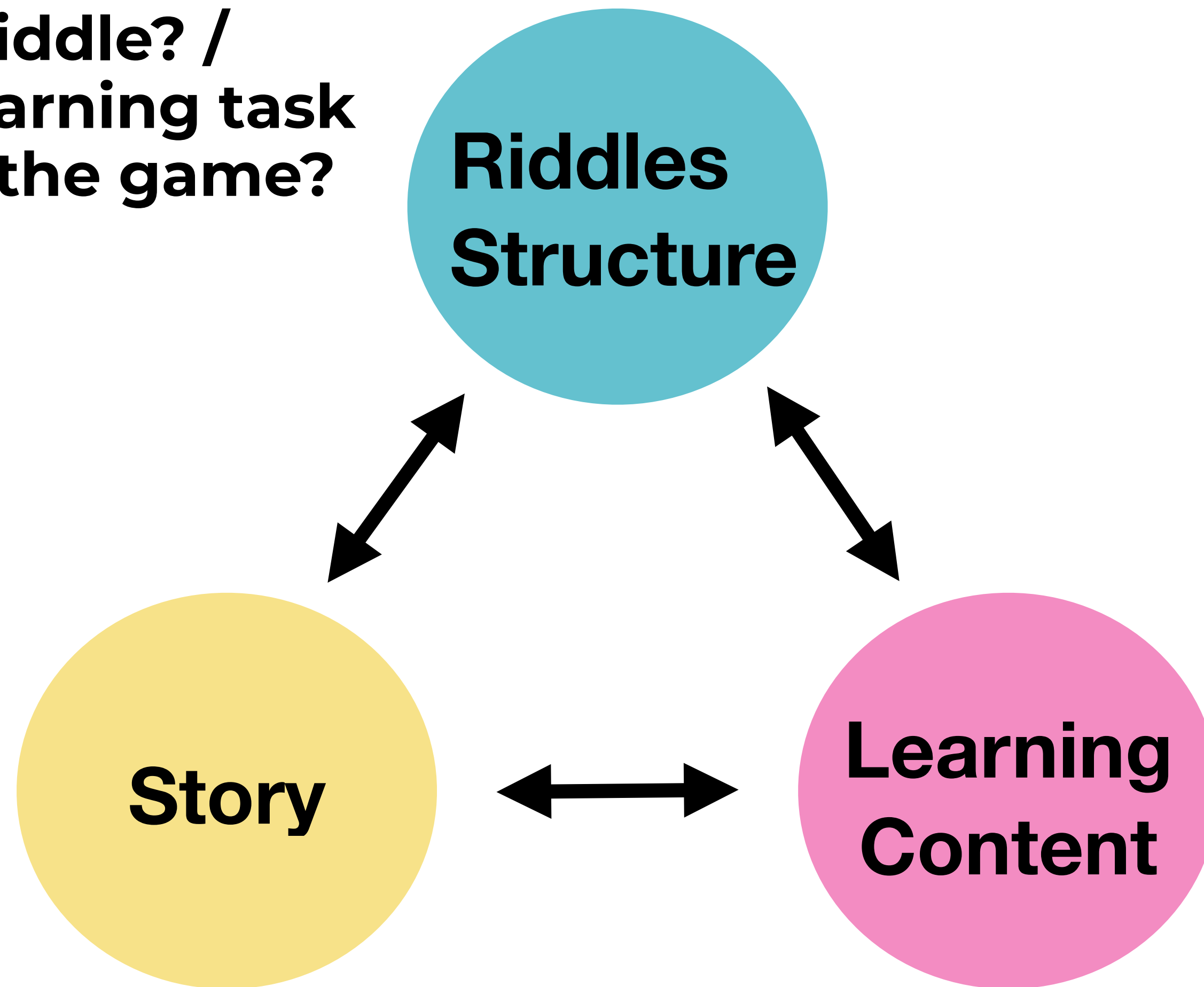
“Video demonstrates the evidence that Frances, the social media employee, gathered about the AI before she went missing...”



**Goal:** let students try out what AI can predict about them from a simple recording of their face

# The three ingredients: story, riddles and learning content

What is the riddle? /  
How is the learning task  
used later in the game?

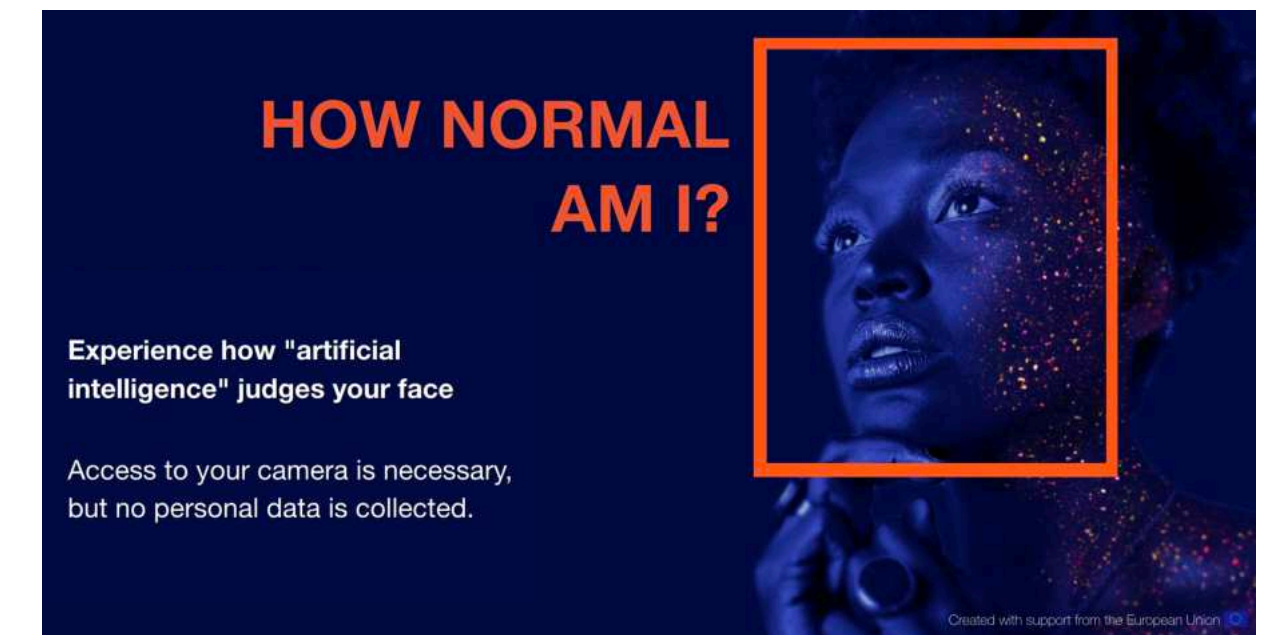
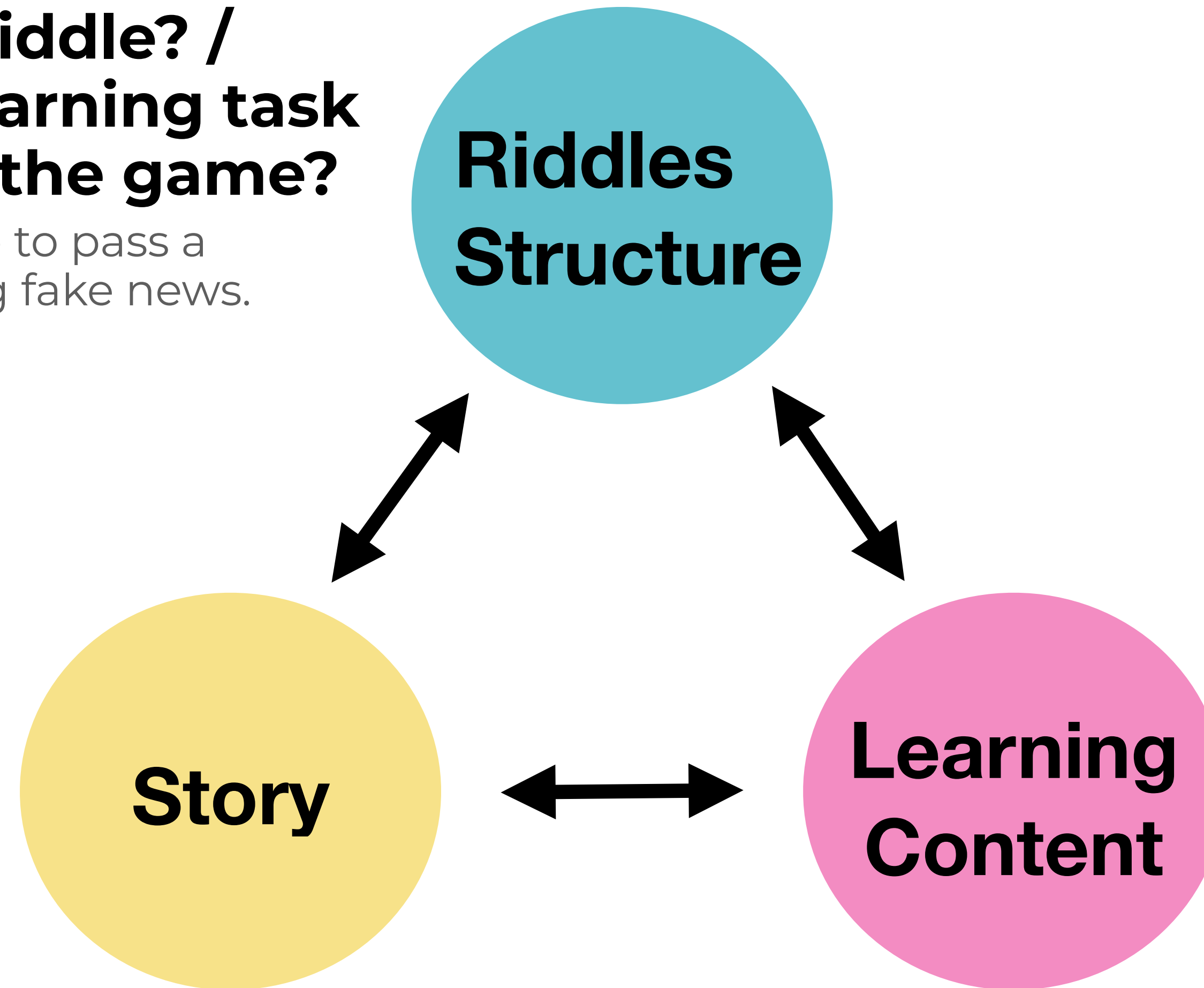


**Goal:** let students try out what AI can predict about them from a simple recording of their face

# The three ingredients: story, riddles and learning content

**What is the riddle? /  
How is the learning task  
used later in the game?**

Players will be able to pass a quiz on eradicating fake news.



**Goal:** let students try out what AI can predict about them from a simple recording of their face



# The three ingredients: story, riddles and learning content

**What is the riddle? /  
How is the learning task  
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Players will be able to pass a quiz on eradicating fake news.

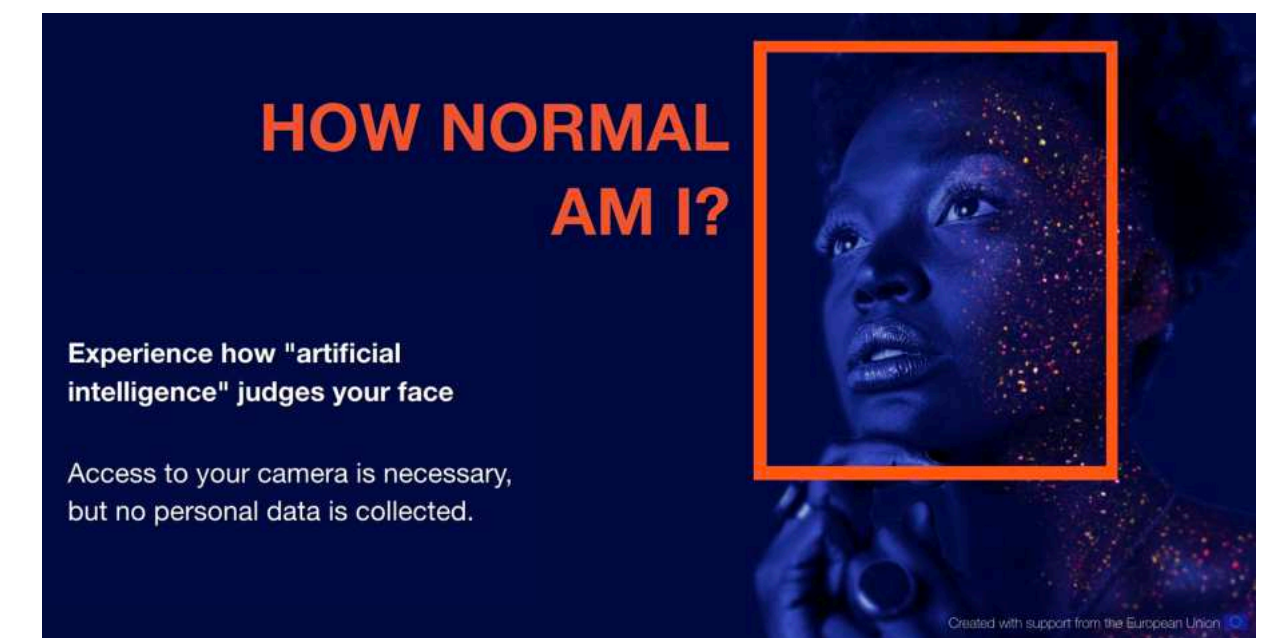
**Riddles  
Structure**

**How can the learning  
task naturally fit into  
the unfolding story?**

“Video demonstrates the evidence that Frances, the social media employee, gathered about the AI before she went missing...”

**Story**

**Learning  
Content**



**Goal:** let students try out what AI can predict about them from a simple recording of their face

Frances disappeared  
last seen at the hotel  
works at CyberSphere  
contact agrees to meet you at the bar

### CYBER SPHERE

"It was expected that you turn up here at some point. I can escort you to Frances' office and show you that it is absolutely fine in this company."  
↳ You can't really help yourself but notice that the colleague isn't exactly trying to help you!

Frances' office  
"Most employees would just use a PIN number to get into their offices, but Frances' always was always using Sharp! and so one always had to pass a quiz to get inside her office."

Fake faces recognition

"When you see, we take fake profiles and security seriously in this company. Definitely know about it now. You I don't think I have anything more to tell you!"

Face Morphing Learnings  
it's very easy to create fake content

Priming documents #1

Priming theory papers  
→ people always put info in context & look for patterns

Park exists, let's meet there.

### PARK

### HOTEL

Diary:  
"I was a fan of social media, but now I don't like that they are doing X and am collecting evidence against them."  
↳ "Always stay sharp!"

Frances' real story from FB

Station Locker's Password is in the USB soundtrack!

Eg Stage 1 question:  
which team she was in?  
Misinformation Unit

What Frances worked on:  
Identifying fake profiles online

Fake faces: theory how to recognize them

Fake faces recognition theory can also be in the bar should be made useful also for Stage 1 tracks

Face Morphing Puzzle

Station Locker Number is 42

### LOCKED DRAWER

Priming documents #2  
a.k.a. LAST document page

Priming papers  
Soundtrack can be hidden in GREEN NEEDLE or BRAINSTORM or some of these words

### BAR

Contact isn't sure if they can trust the players

2-4-6 Puzzle

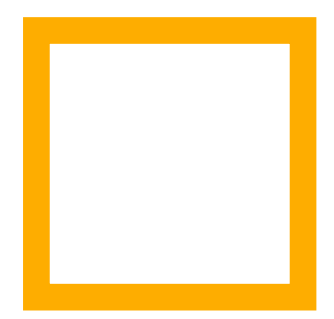
2-4-6 Puzzle learnings:  
Confirmation bias

"Here's what I think you should have."

USB soundtrack Priming Puzzle

Use knowledge bar later

← STAGE 1 Frances' list of 20



Story



Riddles / Game structure

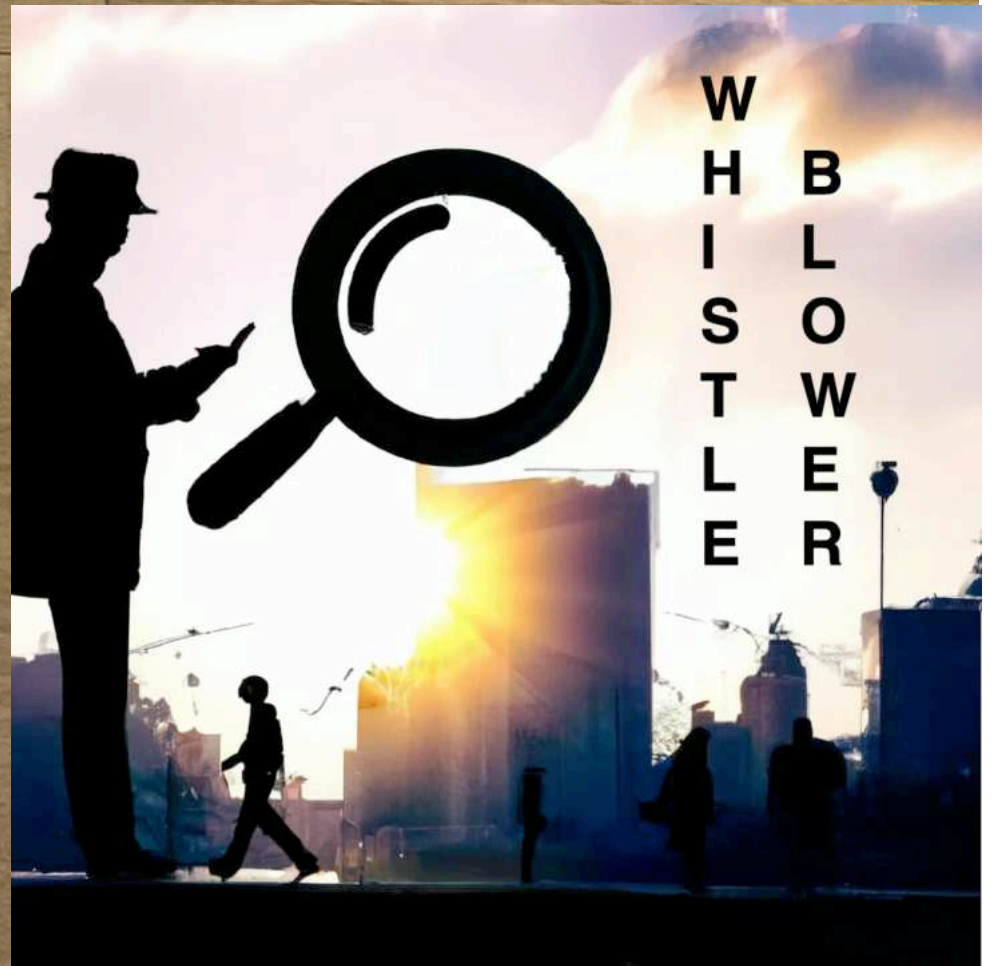


Learnings

5 learning topics



each developed into riddles & story

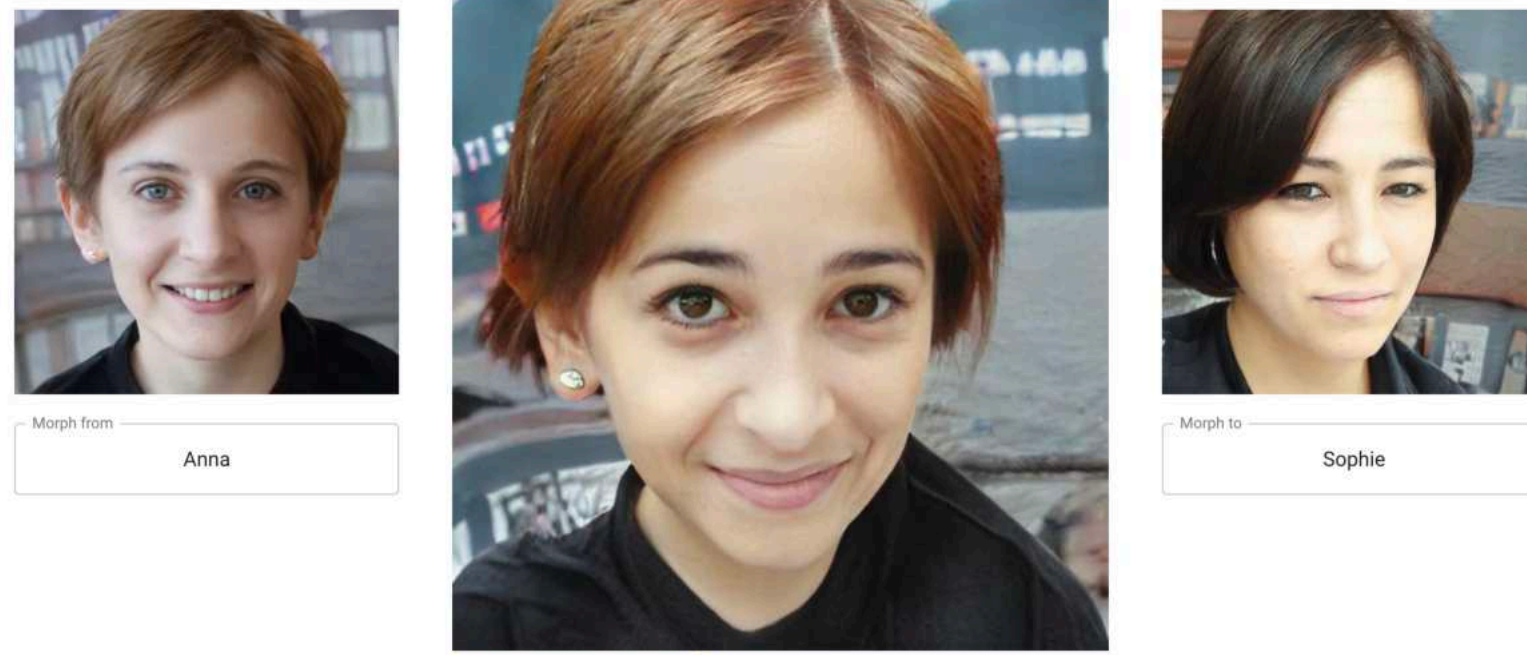


# Now your turn!

**Task:** How can you

- fit the following learning resource into a story about a social media employee and
- design riddles that will convey your learning goals?

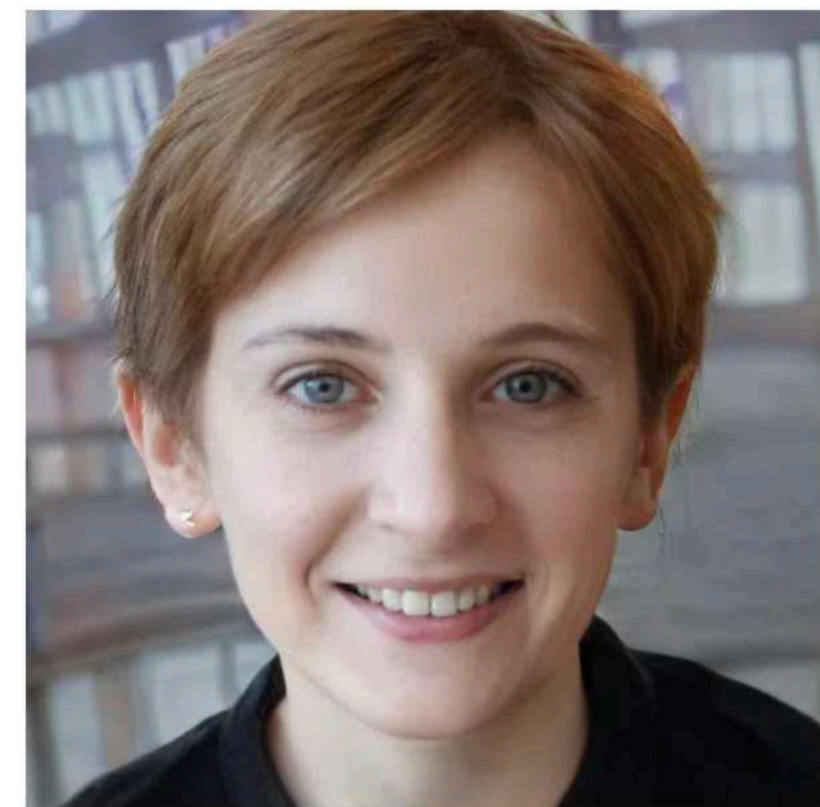
 facemorph.me



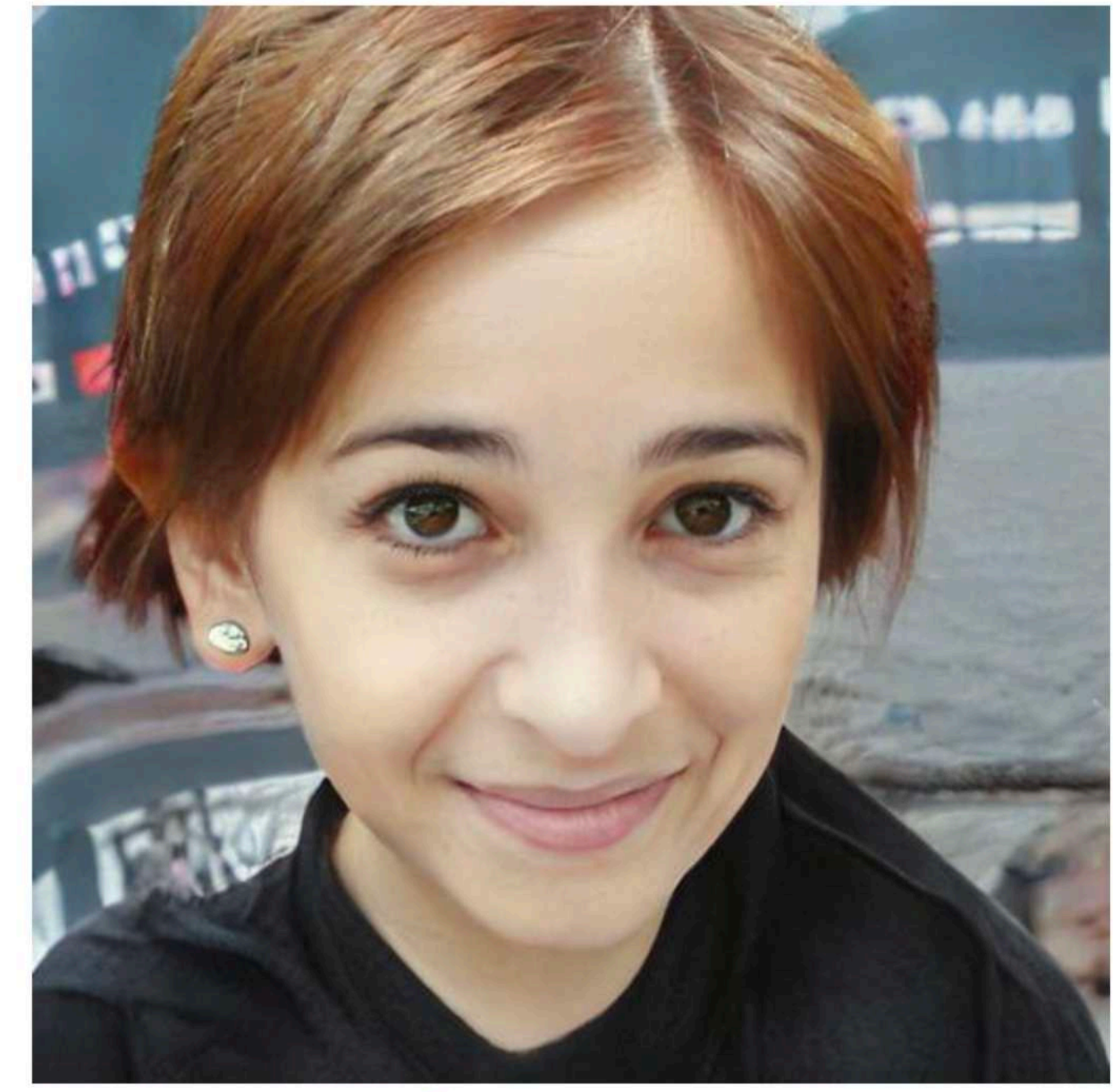
[https://facemorph.me/?from\\_value=Anna&to\\_value=Sophie](https://facemorph.me/?from_value=Anna&to_value=Sophie)

Learning  
Content

# facemorph.me



Morph from  
Anna



Morph to  
Sophie



Use Slider

Continuously transforms the left face into the right face  
=>  
Creating fake faces is very easy

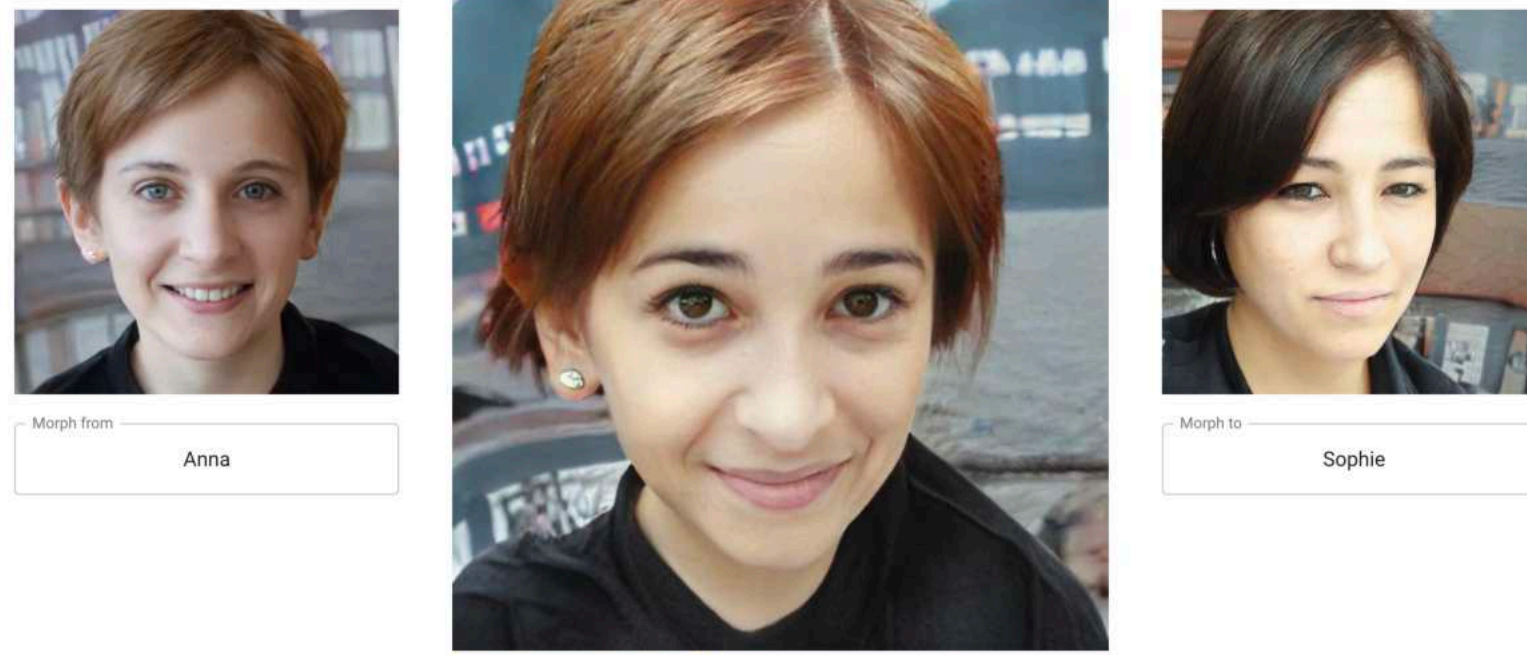
[Share this morph](#)

# Now your turn!

**Task:** How can you

- fit the following learning resource into a story about a social media employee and
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 facemorph.me



[https://facemorph.me/?from\\_value=Anna&to\\_value=Sophie](https://facemorph.me/?from_value=Anna&to_value=Sophie)

**Learning  
Content**

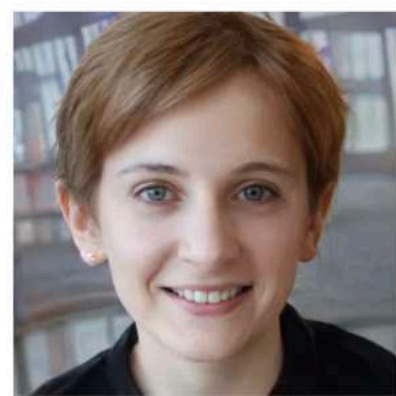
- **Can you form a specific learning goal?**
- **How do you make sure that players will not be tempted to skip your learning parts in the game?**

# Now your turn!

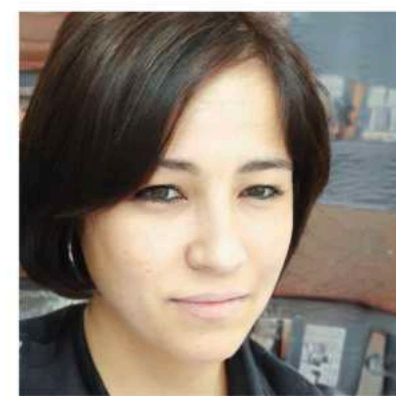
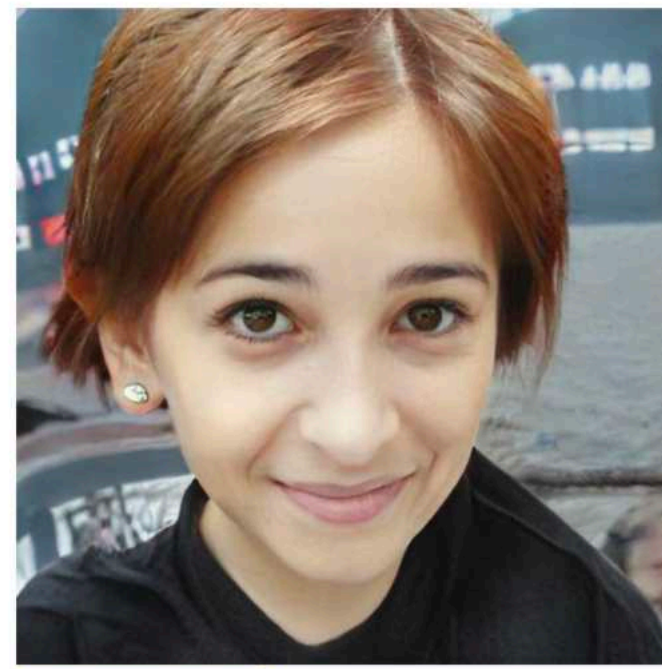
**Task:** How can you

- fit the following learning resource into a story about a social media employee and
- design riddles that will convey your learning goals?

🏠 facemorph.me



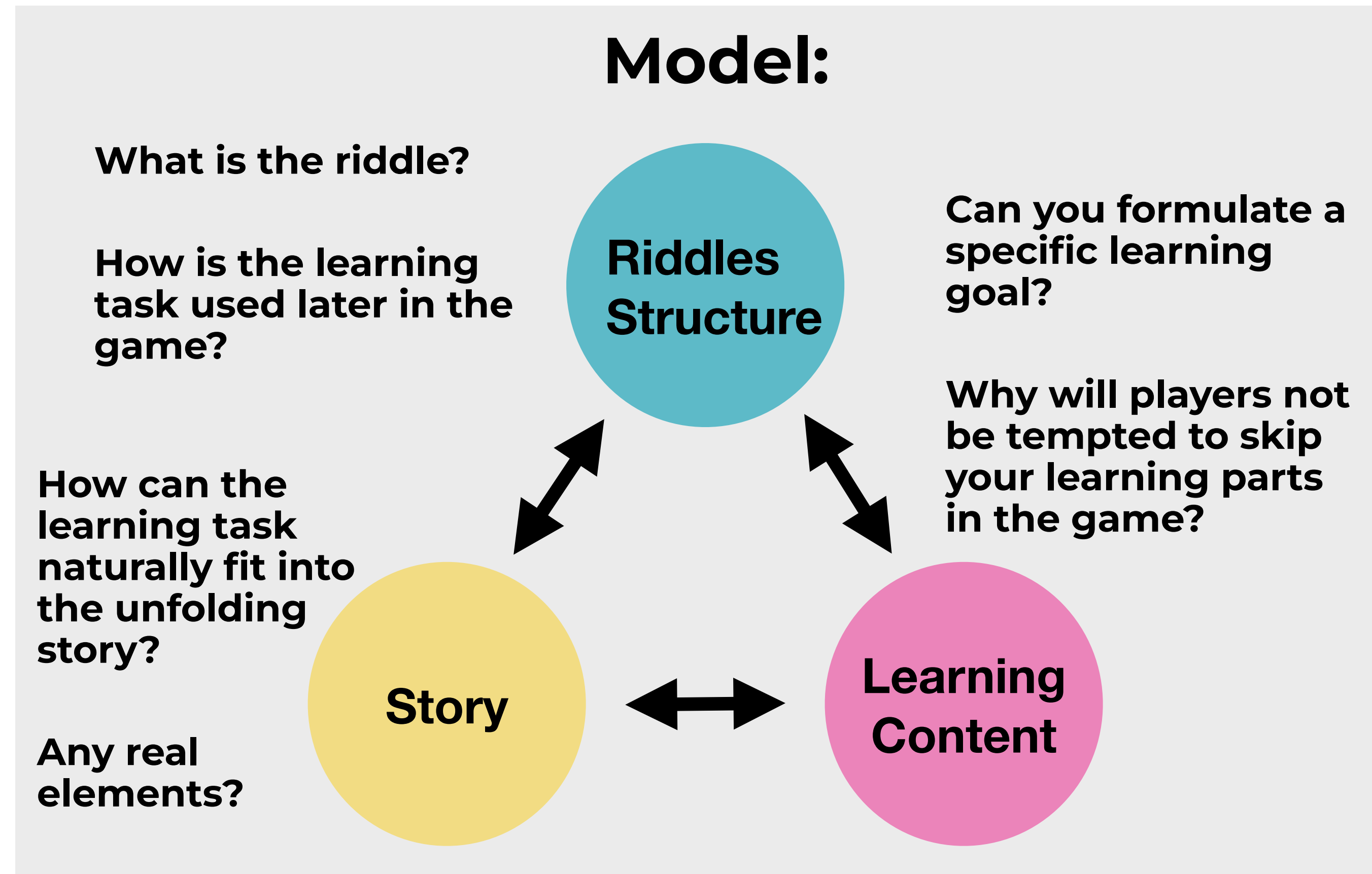
Morph from  
Anna



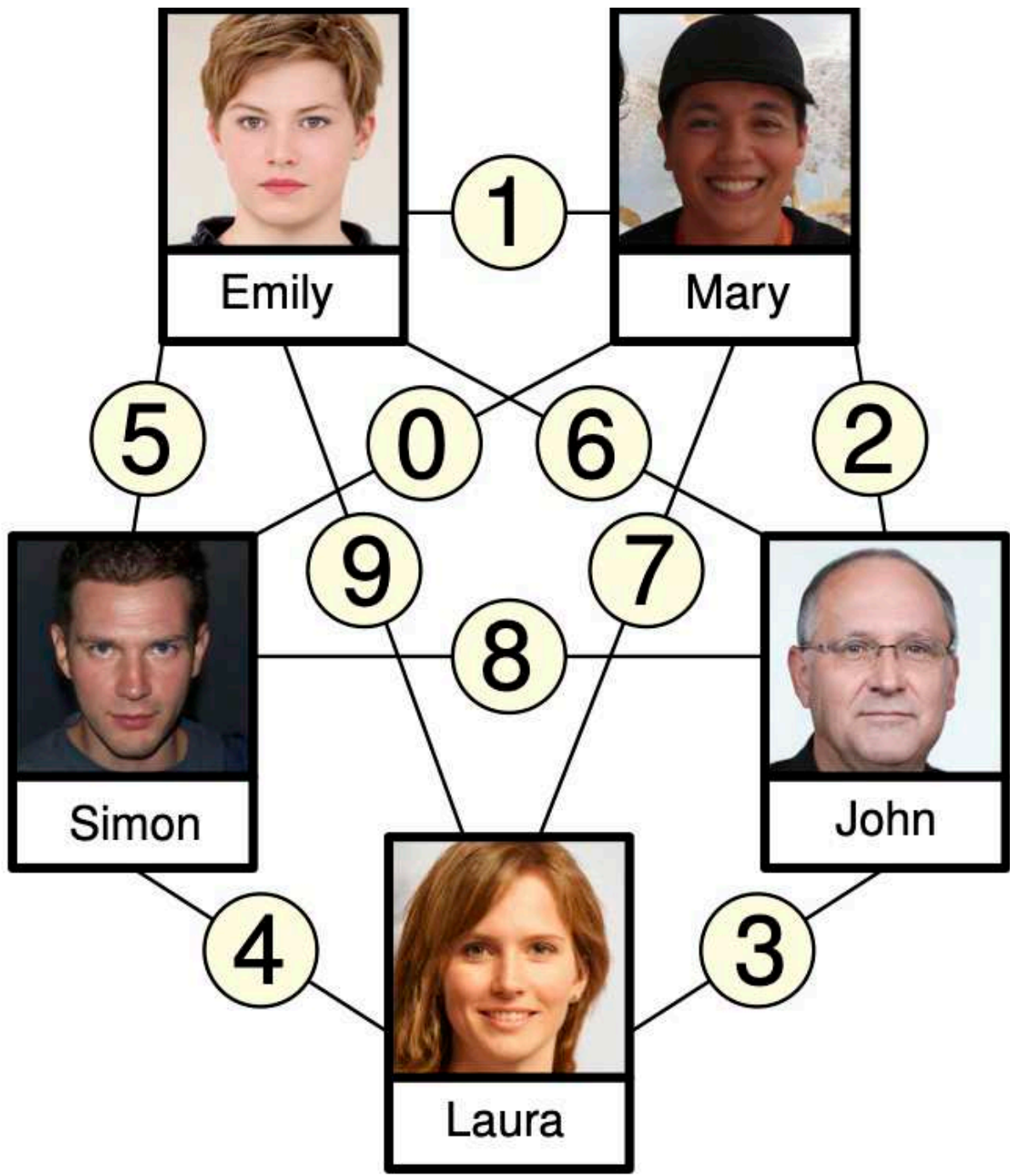
Morph to  
Sophie



[https://facemorph.me/?from\\_value=Anna&to\\_value=Sophie](https://facemorph.me/?from_value=Anna&to_value=Sophie)



# Our solution



Puzzle whose solution is a locker number

AND

Report on Face Morphing, a project that Frances worked on at the social media company



**Title: Face-Morphing Project**  
**Person in charge: Frances Haugen**

**Executive summary:**  
Nowadays it is extremely easy to create fake online content that looks pretty real.

One such tool is a website called [facemorph.me](https://facemorph.me)

There, you can generate a fake face from any name. Moreover, if you type in two names, you can continuously morph between the two faces and **generate a merged (average) face**. See Fig. 1 for a concrete example with names **Emily** and **Mary**.

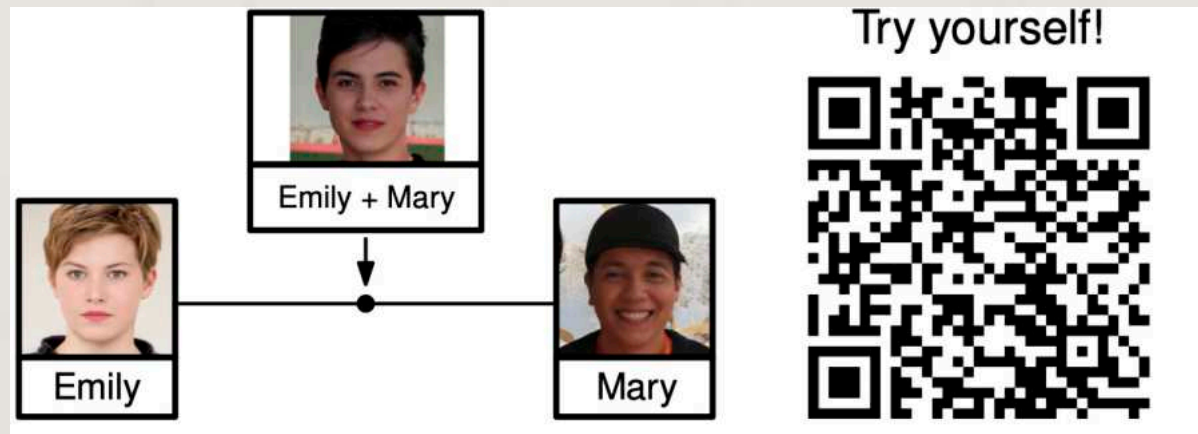
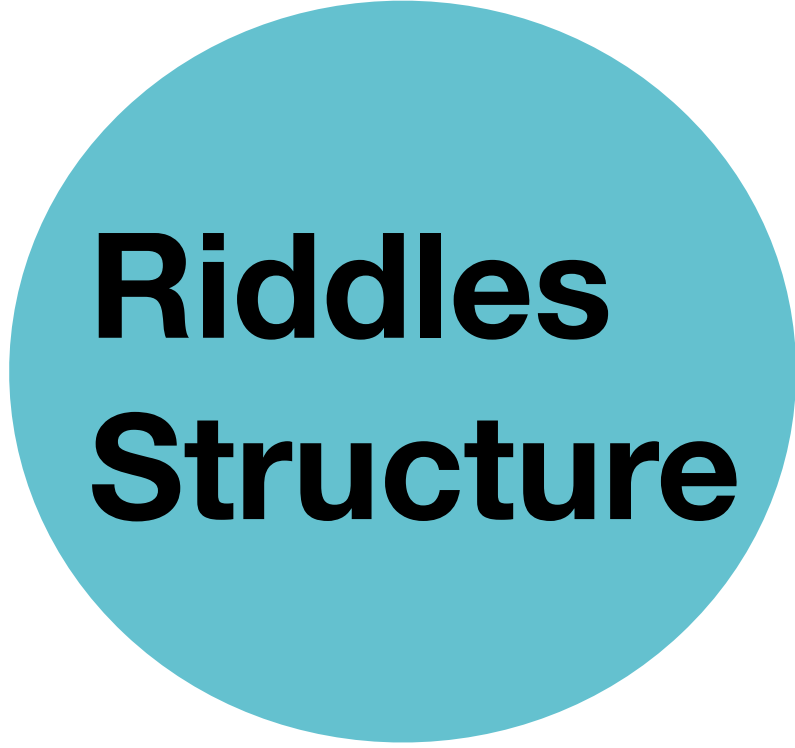


Fig. 1: Emily, Mary, and Emily + Mary.

This technology could potentially enable flooding online space with fake images and videos. Due to ethical considerations our team recommends to approach these technologies with utmost caution.



# A few tips...



## Riddles Structure

**Information that players get should be useful to progress further in the game** (e.g., no side-readings).

**Make it feel less “like school”** (e.g., formats like being quizzed on what one just learnt).

**Give players chance to fail too, and a possibility to control their choices** (e.g., not like a pre-written book that always ends up the same way, irrespective of what you do).



# A few tips...



**Story**

**How can the learning task naturally fit into the unfolding story?**

**Made-up story or can you use real elements?**

**Story gives “purpose” and serves as a glue between riddles and learnings.**

# A few tips...



Based on a real story...



Frances Haugen

Data Analyst,  
Google &  
Facebook  
employee,  
Whistleblower


**Story**

**How can the learning task naturally fit into the unfolding story?**

**Made-up story or can you use real elements?**


**Story gives “purpose” and serves as a glue between riddles and learnings.**

# Resources on AI, fakes recognition, cognitive biases...



Can You Crack the  
**2-4-6  
Code?**

Scan the QR Code to  
Test Your Puzzling Skills!

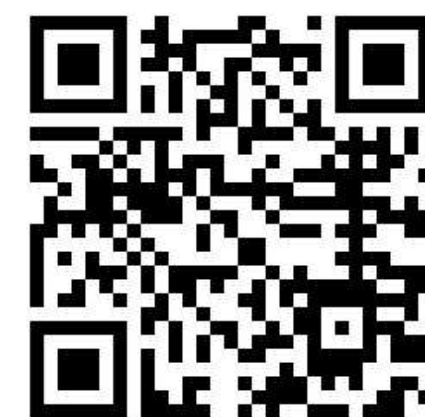


growtrails.com


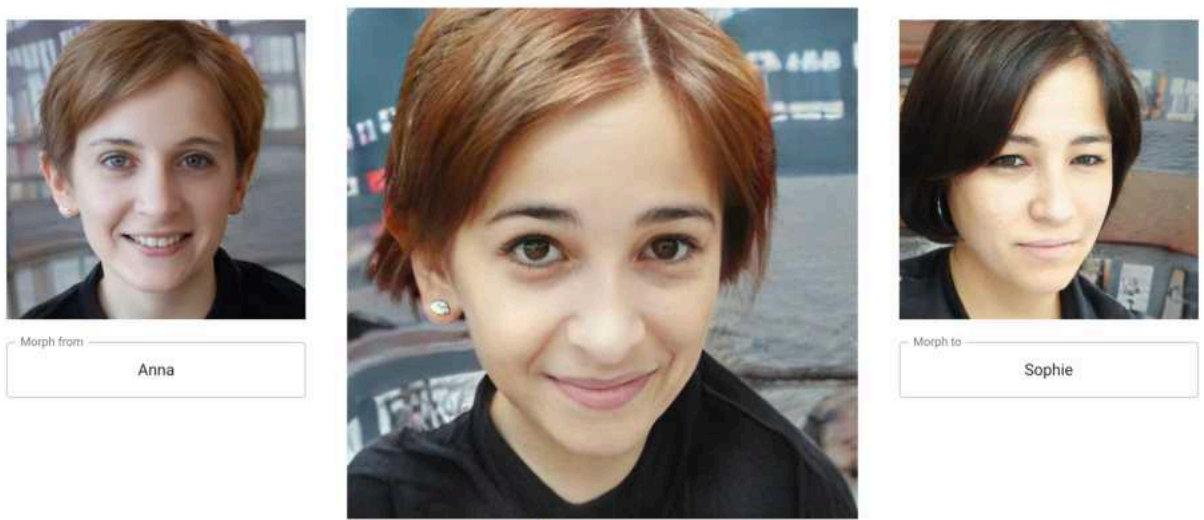
ABOUT METHODS LEARN PRESS

## Which Face Is Real?

Learn to spot fake faces at a glance




facemorph.me



Welcome to My Ad Center


### A place for **kids and teens** to learn about ads

Google doesn't show personalized ads to anyone under 18





What are personalized ads?

## HOW NORMAL AM I?

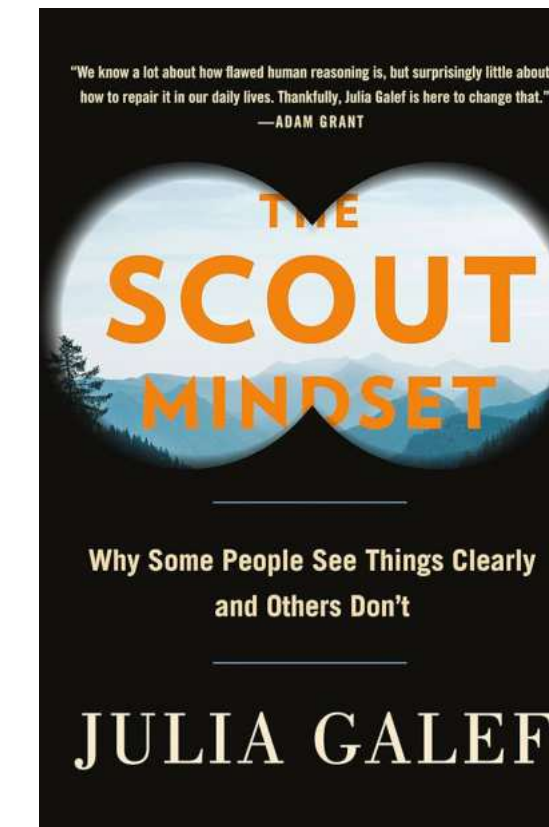
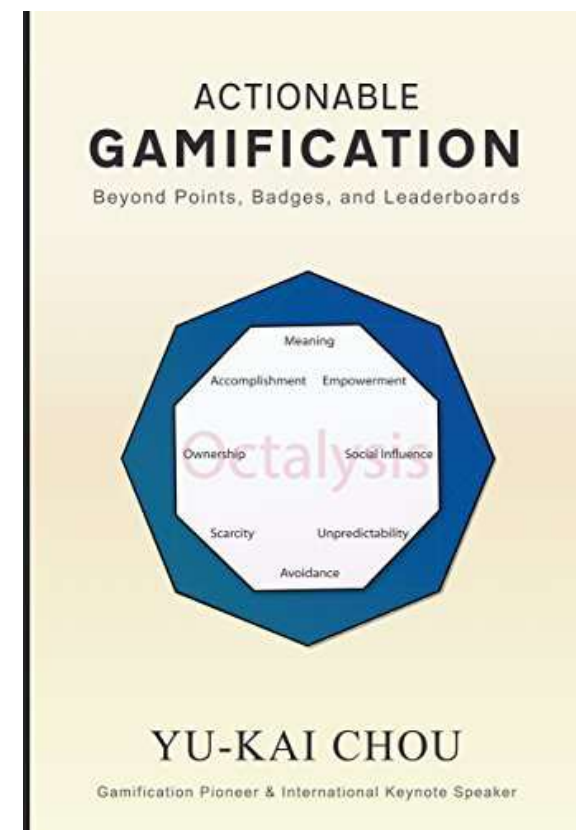


Experience how "artificial intelligence" judges your face

Access to your camera is necessary, but no personal data is collected.



# Books



**Actionable Gamification**

**Critical Thinking**

# Is creating an immersive Schnitzeljagd difficult?

...depends!



Some apps to consider

# Play The Whistleblower :-)



*Workshop*  
**Soziale Medien, KI und digitale Täuschungen – Die ultimative Schnitzeljagd**  
13-19 Jährige • Jugendliche • familienfreundlich



## Auf den Spuren von künstlicher Intelligenz

Hast du dich schon einmal gefragt, wie ‚der Algorithmus‘ beeinflusst, was du online siehst, zum Beispiel auf TikTok oder in der Google-Suche? Und wie unsere Nachrichtenfeeds polarisiert werden? Begib dich auf eine epische Schnitzeljagd auf dem ISTA Campus.

Du wirst Rätsel lösen, um Beweise zu sammeln, dich mit der Gesichtserkennungskraft von KI auseinandersetzen, Fälschungen erkennen und die Tricks erkunden, die ‚der Algorithmus‘ im menschlichen Geist spielt. Folge den Spuren, löse das Rätsel und rette die Menschheit!

Dem Abenteuer der Schnitzeljagd im Freien folgt ein Workshop zu KI und Aspekten sozialer Medien. Lass uns diesen Code knacken und uns durch den digitalen Dschungel navigieren!



### PLAY, EXPLORE AND GROW: TREASURE HUNTS FOR CURIOUS MINDS

Test your reasoning, trick your mind, experience adventure and discover more about yourself in the era of information overload.

[LEARN MORE](#)

**Hands-on**

Have a go and experiment, just like a kid, without a fear of being judged.

**Science-based**

Become the one who always pulls out fascinating mind facts and hacks.

**Social**

Spend quality time with friends or fellow students while playing a game.

Book a Schnitzeljagd workshop for your school class or family

For a game outside Vienna: [hello@growtrails.com](mailto:hello@growtrails.com)

# Thank you! :-)



**Zuzka Masárová**

Education sciences (Cambridge)  
Math & CS (UWaterloo, IST Austria)  
Organizing math camps, creating  
teaching materials: 10+ years



**Josef Tkadlec**

Math & CS (IST Austria, Harvard,  
Charles University)  
Czech Math Olympiad committee  
member  
Organizing & teaching at math camps:  
15+ years



**Yunzhe Li**

PhD student @ IST Austria  
Main story designer

# The three ingredients to create an immersive educational Schnitzeljagd: story, riddles and learning content



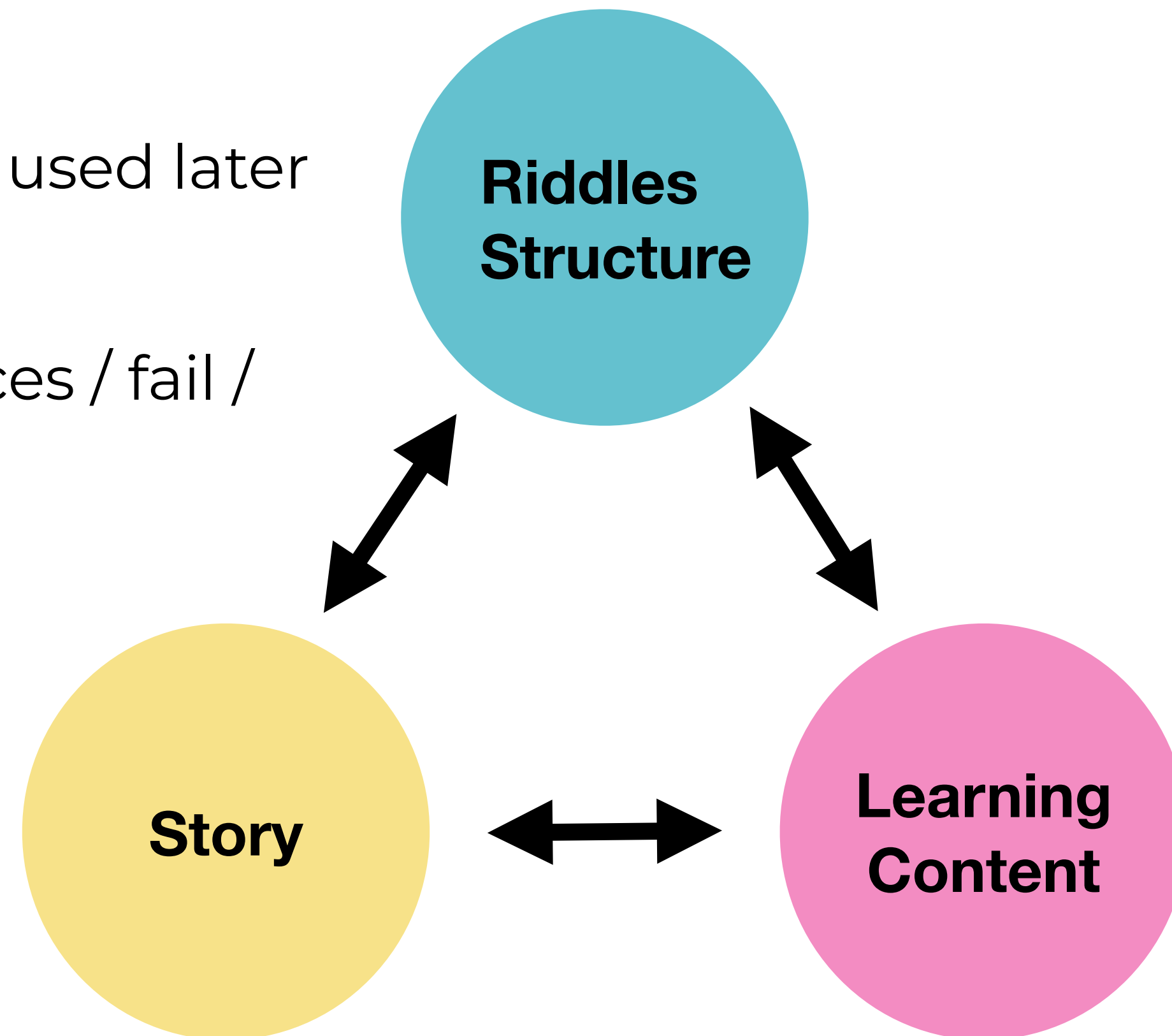
What is the riddle?

How is the learning task used later in the game?

Possibility to make choices / fail / different from “school”?

How can the learning task naturally fit into the unfolding story?

Any real elements?



Can you formulate a specific learning goal?

How do you make sure that players will not be tempted to skip your learning parts in the game?