



THE SUBSTITUTES

Science & Technology

#MakeMoves

WELCOME



Ever wondered how famous football players like Jamal move so realistically in your favourite video games?

Today, we'll explore a cool technology called **motion capture**, discuss why it's important to stay active, and understand how real-life movement powers the digital world.

THE KEY STEPS TO CAPTURE

Part one

Video game creators use a special technology called **motion capture**, or **MoCap**, to make characters move just like they do in real life.

They start by filming real players with really smart cameras that have a special job to watch their elbows, knees, and other parts of the body that bend and move a lot when we play football...



EXPLORING HUMAN MOVEMENT

ORGANISATION

Stickers or tape

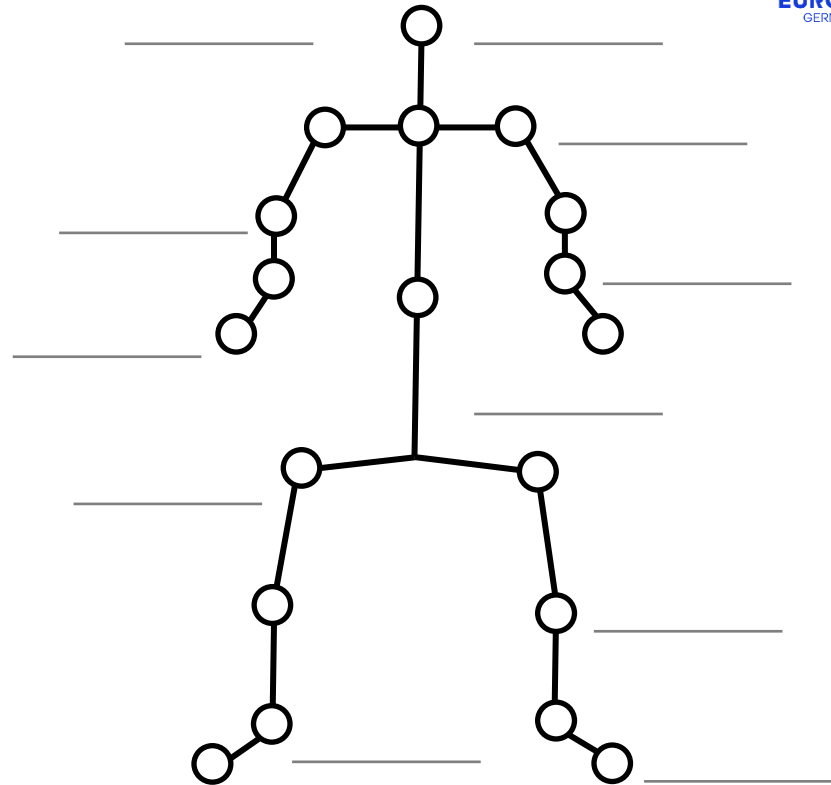
EXERCISE

Our bodies move in amazing ways, thanks to our joints. Can you identify these key joints on a skeleton?

Ankle, elbow, fingers, head, hip, knee, neck, shoulder, spine, toes, wrists

ACTIVITY

Can you work with a partner to use stickers or tape to mark these joints on yourself, mirroring the MoCap process. Can you then make football motions like passing or dribbling and identify which joints move the most?



THE KEY STEPS TO CAPTURE

Part two

**The smart cameras talk to computers
and tell them all about the player's
awesome moves.**

**The computers are great learners;
they study the movements and teach
the virtual version of your favourite
player to do the exact same moves...**



LEARNING THROUGH MIMICRY

ORGANISATION

Space for children to move
Footballs (nice to have)

ACTIVITY

Let's #MakeMoves!

Pair up and take turns making football moves. Your partner must copy your moves exactly, just like the computer does in motion capture!



THE KEY STEPS TO CAPTURE

Part three

After capturing all those cool movements, it's time to bring a video game character to life.

Elsewhere in the studio, top designers have been creating the virtual avatar of each player, designing their face, body and team kits.

The movements recorded then get mapped to the character and that's how game developers can make the characters move in the game.



SHARE YOUR CELEBRATION!

ACTIVITY

Let's #MakeMoves!

Now it's your turn to be a star of MoCap!

Create and film your own goal celebration move and share it with us. Jamal and Albärt will choose their favourites to become part of a special animation for EURO2024!

ORGANISATION

- Space for children to move
- Mobile phone to record
- Move One app* - nice to have

RECORDING - OPTION ONE



- Download the 'Move One' app* from the app store (only available on iPhone)
- Use the app to record your movement and already see your motion capture data in action!
- export your clip as an .mp4
- upload your .mp4 to the Make Moves website**

RECORDING - OPTION TWO

- Simply use your smartphone camera in portrait mode and film your celebration
- upload your video to the Make Moves website**

* Move One is an app owned and operate by Move.ai – an independent company who collaborate with the UEFA Innovation Hub

**Terms and conditions apply, see Make Moves website for more details

WELL DONE!

You've learned how motion capture turns real movements into video game magic.

Remember, staying active in real life is fun and keeps you healthy, but it could also make you a star in the digital world. Keep making moves, and who knows? You might find yourself in a video game one day!

Jamal & Albärt



HOW DID YOU DO?

**DON'T FORGET TO UPLOAD YOUR
CELEBRATIONS AND SHARE YOUR EXPERIENCE
IN THE COMMENTS.**

