Online conference: can we have a group picture?

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CERN IT Lightning Talks #20

https://indico.cern.ch/e/ITLT-20

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Out usual group photos...
What we really hope for
... but our conferences are now virtual workshops meetings training sessions summer schools
Can I have a group photo for the virtual iCSC 2020?

The 13th **Inverted CERN School of Computing** (iCSC 2020) consists of classes (lectures, exercises, demonstration and consultations) given by former CERN School of Computing students. The Inverted School provides a platform to share their knowledge by turning students into teachers. More information on the Inverted CSC events can be found at [https://csc.web.cern.ch/schools/inverted-school/](https://csc.web.cern.ch/schools/inverted-school/).

Topics covered this year include:

- Programming Paradigms and Design Patterns
- Computational Fluid Dynamics
- Reconstruction and Imaging
- Modern C++ features
- Heterogeneous Programming with OpenCL
- Big Data processing with SQL

The school took place as an **online event on September 28 to October 2, 2020**. The event was recorded, and the recordings are published, and linked from the corresponding contributions.
A recent picture?

Aspect ratio OMG!

Teleconferencing from where, exactly?
Taking screen shots from Zoom should be easy, right?
... not so straightforward: multiple screens
from PIL import Image
import glob

faces = []
for filename in sorted(glob.glob("*.png")):
screenshot = Image.open(filename)
for y in range(5):
    for x in range(5):
        faceX = cornerX + (width +margin)*x
        faceY = cornerY + (height+margin)*y

        faces.append(screenshot.crop(((faceX, faceY,
                                    faceX + width, faceY + height)))

collage = Image.new('RGB', width*columns, height*rows))
n = 0

for face in faces:
    faceX = width * (n//columns)
    faceY = height * (n %columns)

    collage.paste(face, (faceX, faceY))
n += 1

collage.save("groupphoto.jpg", "JPEG")
Static pictures or blank boxes
Morning and afternoon sessions → duplicates

Duplicates… but with a different background!
Duplicates can be useful

But how to group together images of the same person?

Let’s OCR the names to detect duplicates!
with Tesseract OCR and pytesseract

TL;DR: more work that I imagined...
face-001.png - Edoardo
face-002.png - Andreas
face-003.png - Andria-Arisal
face-004.png - Tony-Cass
face-005.png - Eric-Yen
face-006.png - ghita-rahal
face-007.png - Vincent-Brillault
face-008.png - Tina-Friedrich
face-009.png - Owen
face-010.png - Gino
face-011.png - Lukas
face-012.png - Ron
face-013.png - Olga

face-014.png - F I [P [ES;;TEY
face-015.png - Giuseppe
face-016.png - SophieFerry
face-017.png - Paul
face-018.png - Onno-Zweers
face-019.png - Laurent-Caillat-Vallet
face-020.png - Linda-Cornwall
face-021.png - vincent-ducret-CERN-
face-022.png - Mihai
face-023.png - barbet
face-024.png - fschaer
face-025.png - Tim-Wetzel
face-026.png - Pierre-Francois
How to make 🤖 work?
(with Tesseract OCR)

```
# invert the image
face = ImageOps.invert(face)

# convert to grayscale
face = face.convert("L")

# magnify x 4
face = face.resize((width*4, height*4))
```
https://gitlab.cern.ch/slopiens/zoom-group-photo

Feel free to use – and to contact me with any questions

Before anyone asks: This is not in my MERIT
Thank you for your attention