Portrait Id*

(*Working title) **This is an art project with an aim to revive and explore alternate identities, reflecting on the objectification of self in past and modern times, by making use of digitized portraits in public domain and personal data to discover hidden stories from the past. We propose developing experiences on three platforms: an online social network, printed masks for a museum exhibition, and electronic objects for physical-virtual interaction at any time.**

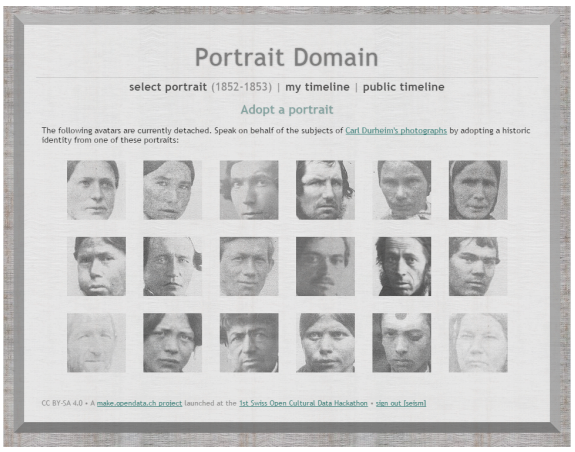
Anna Maria Knübli (pictured to the right) is in one among over two hundred portraits made by Swiss photographer and lithographer Carl Durheim in the mid-18th century. These are part of a collection of the world's first police photographs, and in the Public Domain. We do not know Anna's origins, her age or her story, but we may try to imagine the life she had lived. She may even be our distant ancestor. Through empathetic impersonation and crowdsourced storytelling, we may learn something about another age, and something about ourselves.

Visitors of the *Portrait Domain* can adopt historic faces - either by picking up a printed mask, or by browsing portraits with an interactive kiosk, mobile app, or web application. With image processing, a face depicted inside archived images is automatically found, rotated and centered. The result is printed onto a template, made into an object, embedded in a social network profile, played with in a game. Along the way known data about the images, both their subjects and past wearers, is propagated and links are created.

We present several ideas of networked user interaction across space and time, collapsing the modern questions of anonymity and virtual identity into the ethereal qualities of historic material. This project will enable sharing quip comments, emotions, literary excerpts relevant to the time and place of the portrait. The concept can be extended to virtual conferencing setups, where people meet as "portrait selves" in a virtual space. By connecting metadata of portraits to scraps of information related to that person or family, we are not just reconstructing digital facsimiles, but using richly linked online cultural data to create new ways to experience the living past.

a) Installations

<u>Platform I</u>. A user browses digitized portraits from a Public Domain portrait archive with a minimal scrolling visual interface. Only unclaimed images are shown, with all other data hidden. Filters like “century” and “gender” help the visitor to select an image of interest, which is adopted as a personal avatar. This may be changed at a later time.



The above web application can be accessed live here: **<u>portraits.soda.camp</u>**

From our alpha, launched at the first Swiss Open Cultural Data hackathon, we can build on the experience of browsing portraits online. It would be interesting to include Role Playing Game type filtering into the criteria. Immediately usable filters in our application would be based on metadata, i.e. time span, geography, tags. Image processing/machine learning filters would be a stretch goal.

Without realising it, users could explore how they interpret faces. A recent paper outlines an algorithm that detects beauty in portraits, and states: *“Physical/demographic properties such as gender, eye color, glasses, age, and race show very low correlation with image beauty”*. It would be interesting to design different ways of guiding and monitoring user interaction with the gallery.

Once adopted by a user, the portrait becomes the user’s new identity - as a social network profile which you can see online, or a tangible mask described in the next section. In the online application, we can start virtual collaborations between role playing coauthors of a historical drama, have place for intimate or philosophic or radical thoughts shared in a public space, reward the most kind or creative or realistic posts, connect user-created words to literary works of the time, explore various ways of rendering static faces into vibrant, noisy community spaces.

(Interaction continued..)

<u>Platform II.</u> Visitors to a museum exhibit wear a portrait mask, which could be collected, traded, messages written inside, given away or even abandoned. The wearers become featherlight couriers of public art, at the same time as the mask enveloping and even elevating its user. Information (such as, but not limited to, metadata) could be printed on the reverse of the mask, so that the object represents both the portrait, and its history.

We initially use a simple flat paper mask, where high resolution portrait images are printed onto a template ready to be cut and punched out. Holes are cut for eyes and fitting. Later we could aim for a sophisticated design like Steven Wintercroft's Polygon Face. The photo on the right (by Bettelorden [CC BY 4.0], via Wikimedia Commons) shows a mask prototype at the hackathon:

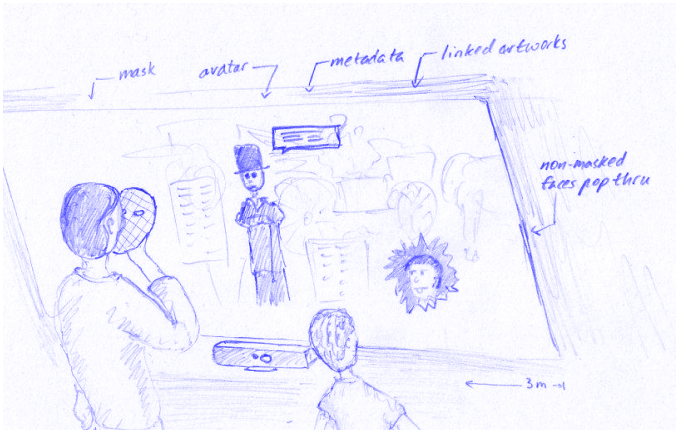

Masks have a very long history, and are prominent in modern culture (e.g. Basel Fasnacht, Occupy Movement, Hollywood). Various ideas could be developed with just printed masks. For instance, a workshop where all participants are asked to wear a mask and assume its identity, the popular party game *Who am I?* where wearers do not see their (famous) face, asking questions to try to identify themselves. Or a silent theatre or pervasive game for mask wearers.

On the Wikipedia article Carl Durheim's mug-shots (*Fahndungsfotografien*), we learned more about the historical background of the images we used for this project. Many of the portraits are of Yenish people who were taken into police custody for some reason. This is a minority that has been marginalised historically - as documented in films such as Children of the Open Road (trailer, review) - and whose controversy continues today: Bernerzeitung, Journal B, SRF, Blick.

In one possible scenario for the mug-shots, one person could take on the role of the portrayed suspect, and another person would play the police officer in a virtual interrogation facilitated by evidence collected through data linked to the physical or digital avatar. Another idea would be a family drama based on what we know about the relationships of the portrait subjects. These were explored in the hackathon project Graphing the Stateless.

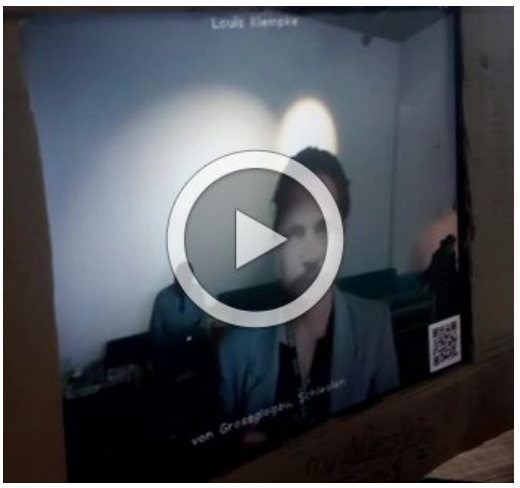
(Interaction continued..)

<u>Platform III</u>. While sitting down in front of a "magic mirror" (video display combined with high definition camera and computer), a software program recognizes the person or mask being worn, and displays a historic portrait, along with extra data and texts.



A sketch of what we have in mind is shown to the left. Since accurate object detection involves more development work, we have prototyped the use of facial recognition to replace a user's face with a virtual mask. Our hackathon prototype of real-time interaction is shown on the right running with a standard webcam built into a laptop.

Numerous possibilities become available, from interacting with metadata of artworks, to browsing art and literature connected to it, to multi-user exploration and communication. At the hackathon another prototype called Picture This running on a Raspberry Pi mini-computer was demoed, which shows Carl Durheim portraits as the user approaches along with computer analysed properties about the person in the photo (their autodetected gender, age, height,..). This is shown on the left. On the right is a video of the interactive exhibit we set up at the Public Domain event at the new Museum of Electronic Arts Basel.

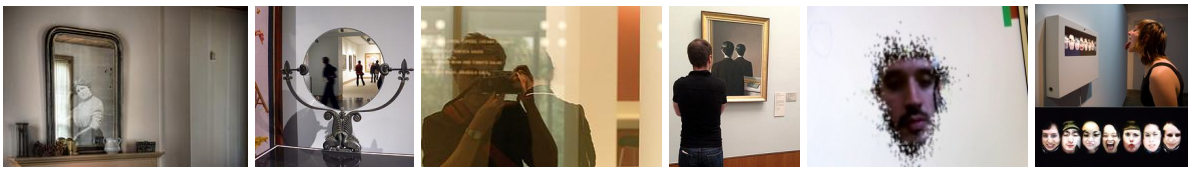


Key goals in this part of the project are accessibility and immersiveness of the experience.

b) Prior art

We have researched and assimilated ideas from some of the following projects:

- The Qualia, Ivor Diosi, 2015
- Apparently Transparent, Gerard Ferrandez, 2015
- Primary Intimacy of Being, Ikse Maître, 2014
- Project OMOTE, Nobumichi Asai, 2014
- URME Surveillance, Leo Selvaggio, 2014
- Mind Mirror, Kim, Castelli & Huang, 2013
- Haunted house, Suzuno & Kamuro, 2013
- A Message for Survivors, Bryan Leister, 2012
- Face Tracker, Kyle McDonald, 2012
- CV Dazzle, Adam Harvey, 2010
- That What Is The First, Marcin Ignac, 2008
- Reface [Portrait Sequencer], Levin & Lieberman, 2007
- Mirror of the Soul, Daniel Rozin
- Papercraft masks, Steven Wintercroft
- That's My Face (commercial product)
- EON Interactive Mirror (commercial product)



Tech links

- Image classification - to detect, center and crop faces in the portrait collection
- Face recognition using haar cascade or OpenCV - real-time interaction with faces
- Template or component or QR matching - real-time image detection
- Blockhash.io - machine learning detection algorithms to go deeper
- Object detection - using the Kinect is another approach to consider

Data links

- Durheim portraits (BAR / Wikimedia Commons)
- Public Domain Portraits (open game art)
- Portraits categories (Wikimedia Commons)
- Portrait search (Europeana)
- Portrait Gallery (Wikipedia)
- U.S.A. National Portrait Gallery (Flickr) open access
- U.K. National Portrait Gallery (CC)
- Portrait Gallery of Scotland
- UK NPG - Wikipedia painting row (Museums Association)

c) Collaboration

Project leads

- **Oleg Lavrovsky**
  Design, research, software, organisation

Thanks to advisors and early supporters

- Thomas Amberg
- Ramun Berger
- Chris Solarski
- Rae Knowler
- Adrian Scherzinger
- Daniel Boos
- Marcin Ignac
- Adrian Demleitner
- Friedemann Bürgel
- Franziska Oeschger
- Mirko Bischofberger

d) Materials

I

- Touchscreen tablet or computer with standard monitor and mouse
- Library of high-resolution CC0 images, along with links and metadata
- Web application server

II

- Colour print job
- Scissors, standard office hole-punch, large oval hole-punch
- Elastic bands 1-2x per mask, sufficient masking tape

III

- Raspberry Pi
- LCD screen
- Webcam

e) Planning

Our first milestone was to catalyse the project at the first Swiss Open Cultural Data Hackathon (OpenGLAM.ch event) using data of Swiss institutions. This was achieved with the use of the - see Ideas, funding, next steps are to be defined - the project is open to your ideas (see below). Please feel free to request Edit access to this document if you wish to contribute.

What are the next milestones to find an audience, develop, fund, promote, diversify?

- ~~Reach out to friends & family for materials~~ ~~[funding]~~
- ~~Development sprint I (free time) 1-27.02.2015~~ ~~[develop]~~
- ~~OpenGLAM.ch hackathon 27-28.02.2015~~ ~~[develop]~~ ~~[audience]~~
- ~~Open up the source code and testing data~~ ~~[promote]~~ ~~[develop]~~
- ~~Pro Helvetia Transmedia Projects <02.03.2015~~ [diversify] [funding]
- ~~Development sprint II (free time) 04.2015~~ [diversify] [develop]
- ~~Exhibition at Public Domain Workshop~~ [promote] [audience]
- New Media Forderung [promote] [funding]
- Web/social media presence [promote] [audience]
- We Make It crowdfunding initiative [audience] [funding]
- Development sprint III (funded) TBD [promote] [develop]

What needs to be done for this project to happen?

- ~~Figure out who the core team is~~
- ~~Decide core goals and milestones together~~
- ~~Write project proposal for sponsorship/funding~~
- Set up a project board and organise tasks
- Work through the data sources and compile material
- Program the image recognition algorithm and application
- Organise requisite hardware and materials for the project
- See if anyone is willing to sponsor materials or dev time
- Create masks for a public installation (Museum of Communications?)
- Find out if we can do an installation at the National Library or elsewhere

f) Discussion

- **Adrian:** It would be cool to have an app that allows all the visitors to get the meta informations about the portraits by taking a picture/video. This means, every visitor (wearing a mask or not) could hold his smartphone or tablet to the face [mask] of an opposite person, and get instant informations about him. Face detection and Big Brother has a huge social and political impact. This could give the event/action more publicity in the manner of “critical art”.

- **Chris:** My personal interest in such an installation would be to experience how I feel looking through the eyes of another person. Simple as that. Or to see the reactions of anonymous people when they look at my adopted face. Do people treat me differently? Do I feel different? Perhaps you could split the screen horizontally in 2 with something like a cardboard partition, so that 2 strangers could interact with each other while standing side-by-side without the added discomfort of having to be in the exact physical space. Or include a feature that allows user to record a video log.

  However, the most interesting approach artistically (again, for me) would be to try and additionally recreate the setting where the police photographs were taken. The user sitting in a similar seat against a similar backdrop. A harsh spotlight like you see in TV-show interrogation rooms. Tweets from a virtual police officer who slowly reveals a list of accusations that allow the user to discover who their adopted self is/or did. The user could tweet back denials, etc. Anything that will help the user to experience the life of a different person. Better still: from the to interactively discover and explore their adopted self—as if waking from amnesia.

  PS: the great thing about using photos of Jenisch people is the emotional twist—that the person could also be perceived as a being discriminated, a victim of Swiss policy towards the people. This is something that could slowly be revealed during the Twitter interrogation with the virtual cop. Sorry, I'm probably getting carried away here! ;)

- **Rae**, via her project Graphing the Stateless: These pictures show people who were in prison in Bern for being transients and vagabonds, what we would call travellers today. Many of them were Yenish. At the time the state was cracking down on people who led a non-settled lifestyle, and the pictures (together with the subjects' aliases, jobs and other information) were intended to help keep track of these “criminals”.

- **Thomas and Ramun**, via their project Picture This: By looking at a picture, you trigger a face detection algorithm to analyse both, you and the homeless person. The algorithm detects gender, age and mood of the person on the portrait (not always right). You, as a spectator, become part of the system / algorithm judging the homeless person. The person on the picture is at the mercy of the spectator, once again.

- **Chris**: Great progress with the project. I really like the frames. Within the design document you may also wish to consider adding a physical chair for users to sit in—one that matches the chair in the photos. As an advanced feature, you also wish

to animate the photos head to match the movements of the user—even if slightly. This will heighten the sense of empathy between the user and the person in the photo. Lastly, perhaps elaborate on the cultural value of this project, and it's ability to be used as a tool to highlight cultural issues.

An idea that came to mind—which could be adapted to many situations uses an extra-wide magic mirror—the type that you sometimes see in posh restaurants and bars. Like this, but wider still. You could then track several people at a time, but only project faces onto select people at random to create hidden meaning and the concept of "outsiders" within a group. How would people react if they are randomly selected, etc.? This would work nicely with a Swiss election-theme, for instance, further extending the theme to hidden identities, hidden agendas, insiders/outsiders, allegiance. Any theme can be adapted as long as the emotions created by the interaction are interesting and powerful.

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