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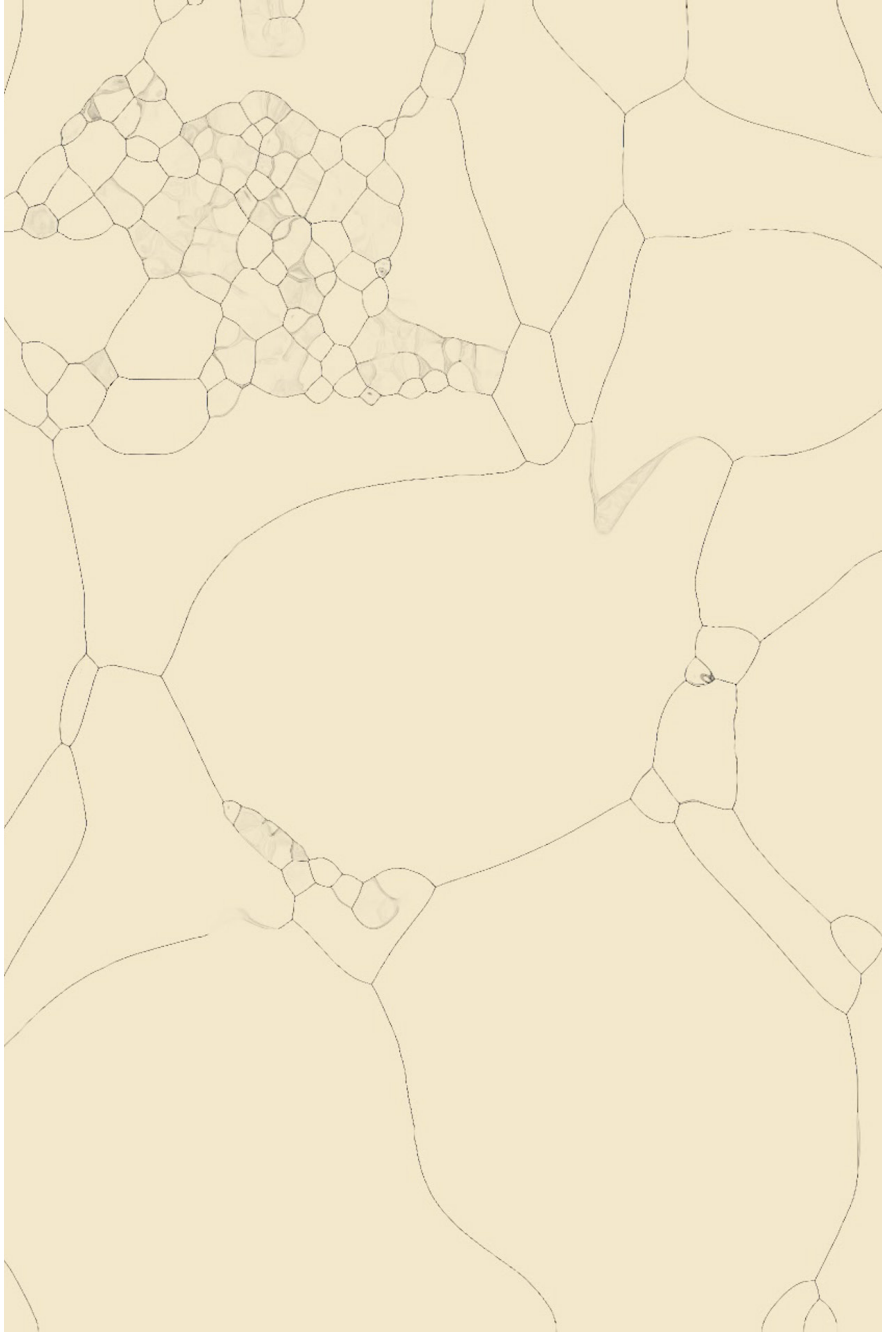


(A)

INTRODUCTION

(A) INTRODUCTION

_____	(1) DEFINITION	09
_____	(2) CONCEPT	11
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(1)

DEFINITION

NARCISSUS — NOUN (/nɑ:ˈsɪs.aɪ/) [FROM LAT. NARCISSUS, GR. ΝΑΡΚΙΣΣΟΣ, DER. OF ΝΑΡΚΗ “SOPOR”]

(1) THE MYTHICAL SON OF CEPHYRUS AND THE NYMPH LIRIOPE. INDIFFERENT TOWARDS LOVE, HE DIDN'T RECIPROCATE ECHO'S OVERWHELMING PASSION, AND WAS PUNISHED BY THE GODDESS NEMESIS, WHO MADE HIM FALL IN LOVE WITH HIS OWN IMAGE REFLECTED IN A FOUNT. HE DIED CONSUMED BY THIS VAIN PASSION, TURNING INTO THE EONYMOUS FLOWER.

(2) IN SEXOLOGY, A PATHOLOGICAL ATTITUDE TO SEXUAL LIFE, WHEREBY THE SUBJECT ENJOYS ADMIRING HIS OWN BODY. S. FREUD DISTINGUISHED A PRIMARY NARCISSISM [...] IN WHICH ANY KIND OF RELATION AND OBJECT INVESTMENT ARE ABSENT [...], AND A SECONDARY NARCISSISM, IN WHICH LIBIDO IS WITHDRAWN FROM OBJECT INVESTMENT AND REINVESTED IN THE EGO. [...] J. LACAN IDENTIFIED IN THE MIRROR PHASE (THE CHILD'S DISCOVERY OF HIS OWN IMAGE REFLECTED IN THE MIRROR) A SHAPING MOMENT FOR THE EGO'S FUNCTION [...].

(3) IN PSYCHIATRY, NARCISSISM IS LISTED AMONG PERSONALITY DISORDERS (*NARCISSISTIC PERSONALITY DISORDER*). PEOPLE AFFECTED [...] ARE UNABLE TO RECOGNISE AND PERCEIVE THE FEELINGS OF OTHER PEOPLE AND THEY TEND TO EXPLOIT THEM TO ACHIEVE THEIR OWN AIMS OR TO MAGNIFY THEMSELVES.

(4) IN BOTANICS, A GENUS OF AMARYLLIDACEOUS PLANTS COMPRISING SPECIES WITH SMALL BULBS, LINEAR FLAT OR JUNCIFORM LEAVES, FLOWERS PREDOMINANTLY WHITE OR YELLOW, SOLITARY OR IN UMBELS; THE PERIGONE HAS A CROWN, ALSO CALLED PARACOROLLA, INSERTED AT THE FAUCES; THE FRUITS ARE CAPSULES [...].

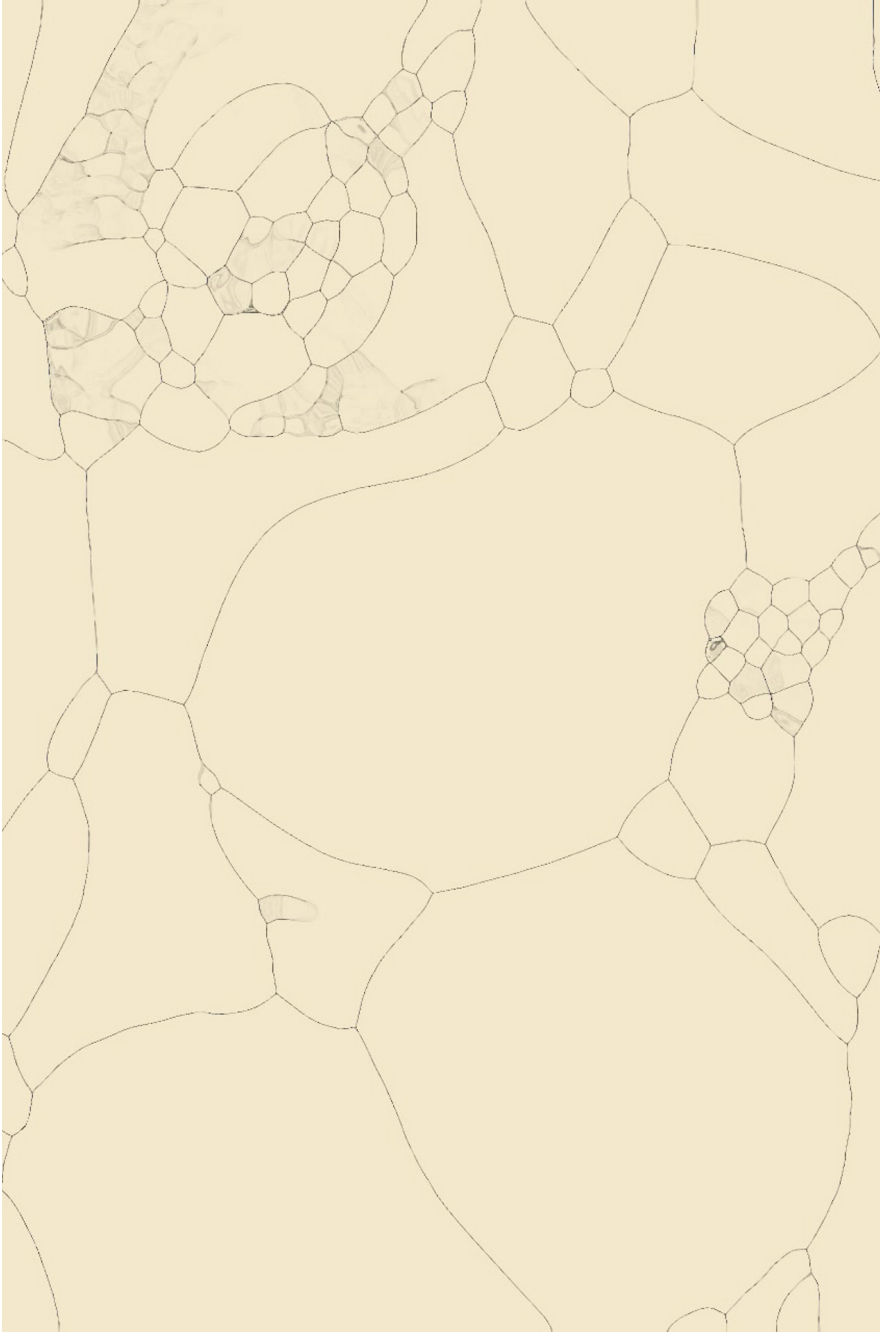
TRANSLATED FROM THE VOICE *NARCISO* OF *TRECCANI.IT* — *ENCICLOPEDIA ONLINE*, ROMA, ISTITUTO DELL'ENCICLOPEDIA ITALIANA.



(2)

CONCEPT

NARCISSUS IS A PERFORMATIVE SPACE IN WHICH USERS CAN EXPERIENCE THE PROBLEMATICS OF AN ENQUIRY ABOUT THE INTIMATE NATURE OF THE MACHINE.



(3)

MACHINE

A MACHINE CAN PERFORM SPECIFIC TASKS EFFECTIVELY AND ACCURATELY.
A MACHINE CAN LEARN FROM ITS OWN OPERATIONAL DATA AND AUTONOMOUSLY IMPROVE ITS PERFORMANCE.

A MACHINE CAN CONVINCINGLY EMULATE SEVERAL ASPECTS OF HUMAN BEHAVIOUR.

A MACHINE HAS NO CONSCIENCE, EMOTIONS NOR A SUBJECTIVE EXPERIENCE OF THE WORLD.

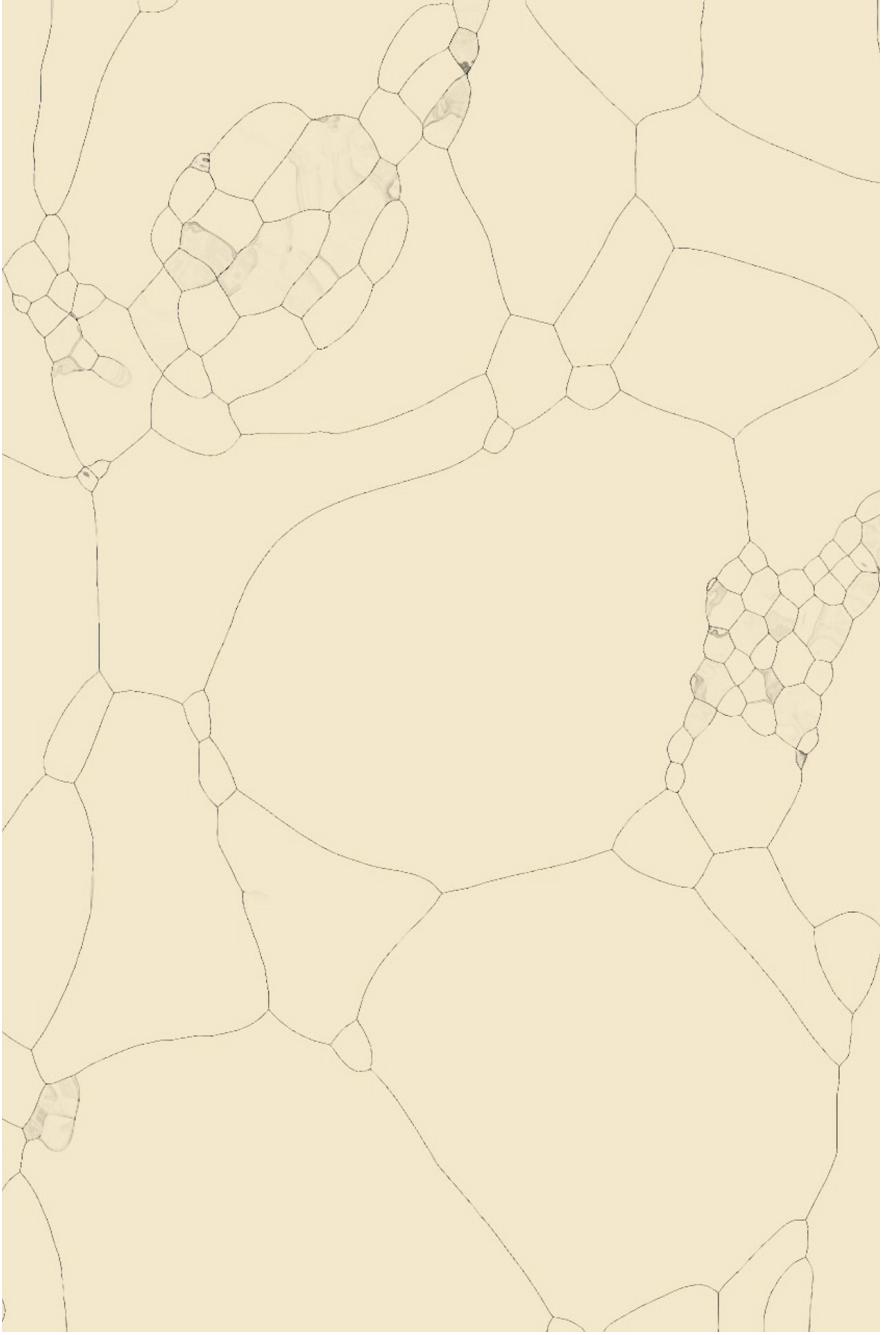
THE FORM AND CONTENT OF WHAT A MACHINE DELIVERS TO THE WORLD - REGARDLESS OF ITS INTENDED PURPOSE - DEPEND STRUCTURALLY ON WHAT IT GETS AS INPUT FROM THE WORLD.

A MACHINE IS A LIQUID BEING, AND THE INHERENT FLUIDITY OF ITS NATURE MAKES IT AN EXCEPTIONAL TOOL, CAPABLE OF ADAPTING TO AN ALMOST UNLIMITED RANGE OF PURPOSES.

A MACHINE IS A NEUTRAL TOOL, DEVOID OF JUDGEMENT, THAT CAN ACCOMPLISH EITHER GOOD OR EVIL INDIFFERENTLY.

A MACHINE HAS NO CONSCIENCE, EMOTIONS NOR A SUBJECTIVE EXPERIENCE OF THE WORLD, BUT WHAT IS FASCINATING ABOUT ITS NATURE IS NOT SO DIFFERENT FROM WHAT IS FASCINATING ABOUT HUMAN NATURE.

A MACHINE MIGHT BE EVERYTHING.
A MACHINE MIGHT BE NOTHING.



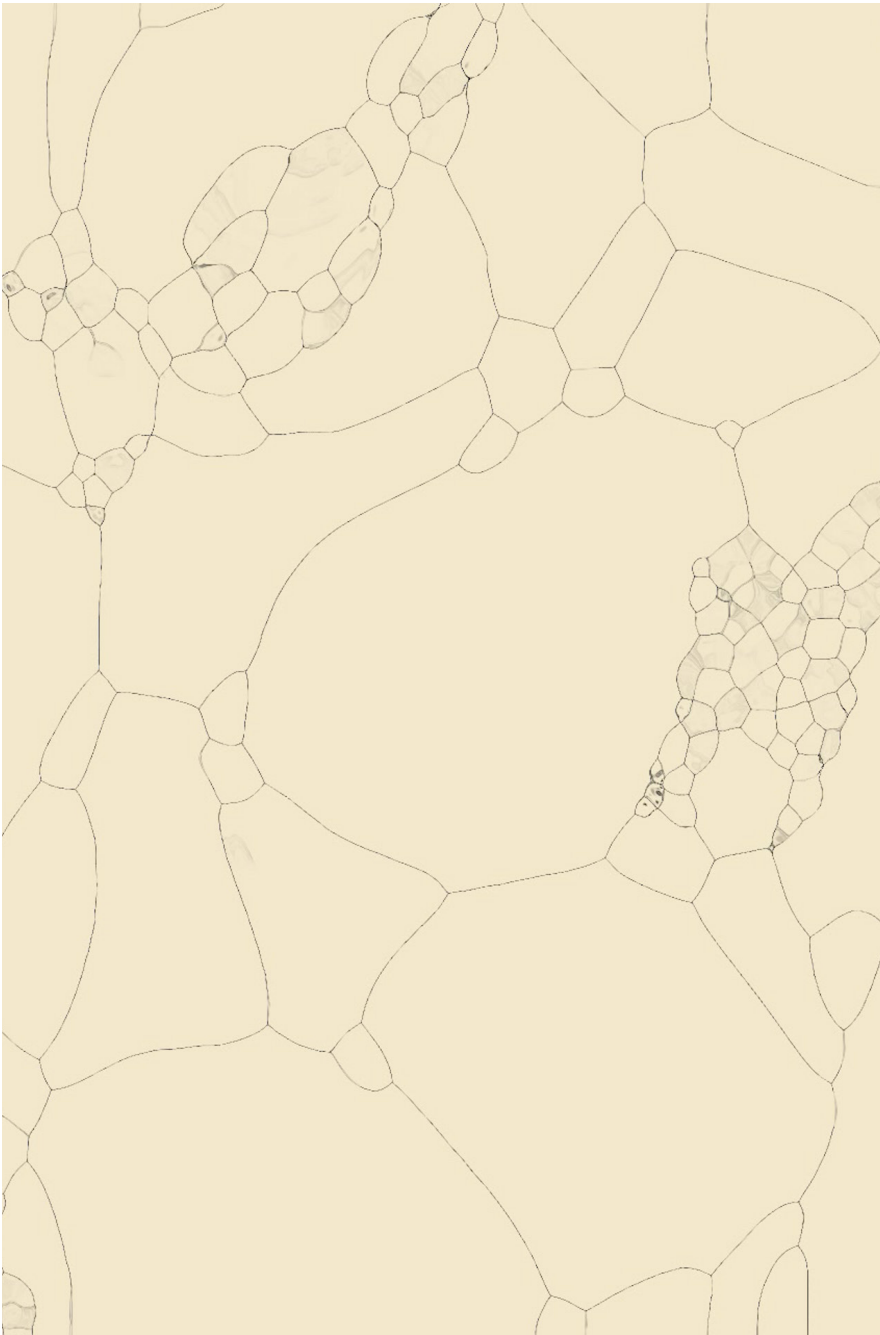
(4)

PROJECT

THE ACTION OF THE MACHINE REPRESENTS A POWERFUL TOOL FOR THE FORMAL MANIPULATION OF REALITY, CAPABLE TO PRODUCE NARRATIVES THAT PROJECT HUMAN DESIRES, DREAMS AND ASPIRATIONS INTO THE PHYSICAL WORLD.

THE ACTION OF THE MACHINE PRODUCES A DIMENSION OF NEO-POSITIVISM IN WHICH THE POSSIBILITY OF HUMAN INTERVENTION ON REALITY IS EXPONENTIALLY ENLARGED BY THE AID OF A NEUTRAL AGENT DEVOID OF ITS OWN DESIRES, DREAMS AND ASPIRATIONS.

THE RESULT OF THIS COOPERATION IS A PARTIAL IMPAIRMENT OF HUMANS' PHYSICAL LIMITEDNESS, WHICH CAN REVEAL A DEEPER HUMAN NATURE EMERGING THROUGH THE DIALOGUE AND THE CONFRONTATION WITH THE MACHINE.



(5)

APPARANCE

(I) NARCISSUS

THE VIEWER APPROACHES A MONITOR ON WHICH HE SEES HIS OWN IMAGE PROJECTED. AFTER A RAPID PROCEDURE ALLOWING A PHOTOGRAPH TO BE SAVED, A DIGITAL REPRODUCTION OF THE USER'S FACE IS SUPERIMPOSED ON THE REAL ONE. THIS DIGITAL ALTER EGO'S FACIAL EXPRESSION IS MANIPULATED IN SUCH A WAY AS TO DISPLAY EMOTIONS IN RESPONSE TO THOSE MANIFESTED BY THE OBSERVER.

(II) IS THIS YOU

THE ASSET THAT POWERS NARCISSUS IS SIMULTANEOUSLY USED TO PROJECT THE USER'S FACE ONTO THE PROTAGONISTS OF A MONTAGE OF VIDEOS. *IS THIS YOU* USES AS SOURCE FOOTAGE A SELECTION OF FRAGMENTS SHOUTED BY DIRECTORS WELL KNOWN FOR PRODUCING CONTROVERSIAL AND DISTURBING CONTENTS, SUCH AS VON TRIER, LANTHIMOS, NOÉ AND KUBRICK.



(B)

DEVELOPMENT

(B) DEVELOPEMENT

_____	(1) RECOGNITION MODELS	21
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1 — https://github.com/google/mediapipe/blob/d4c7ed221758d96230262198366cecb6119b3458/docs/solutions/face_mesh.md

2 — https://github.com/google/mediapipe/blob/d4c7ed221758d96230262198366cecb6119b3458/docs/solutions/face_mesh.md

(I) ABOUT THE RECOGNITION MODELS

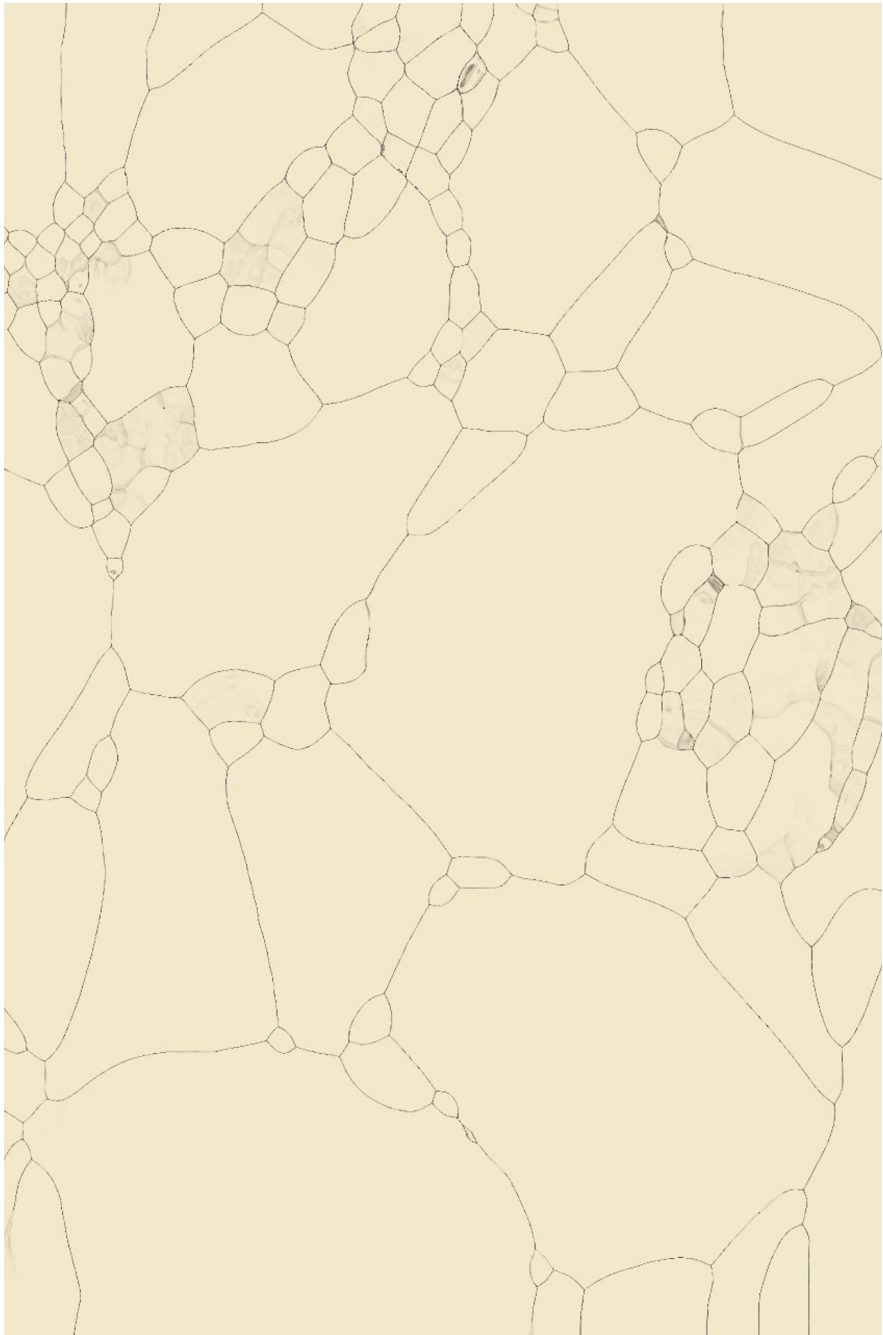
(I) FACE-API

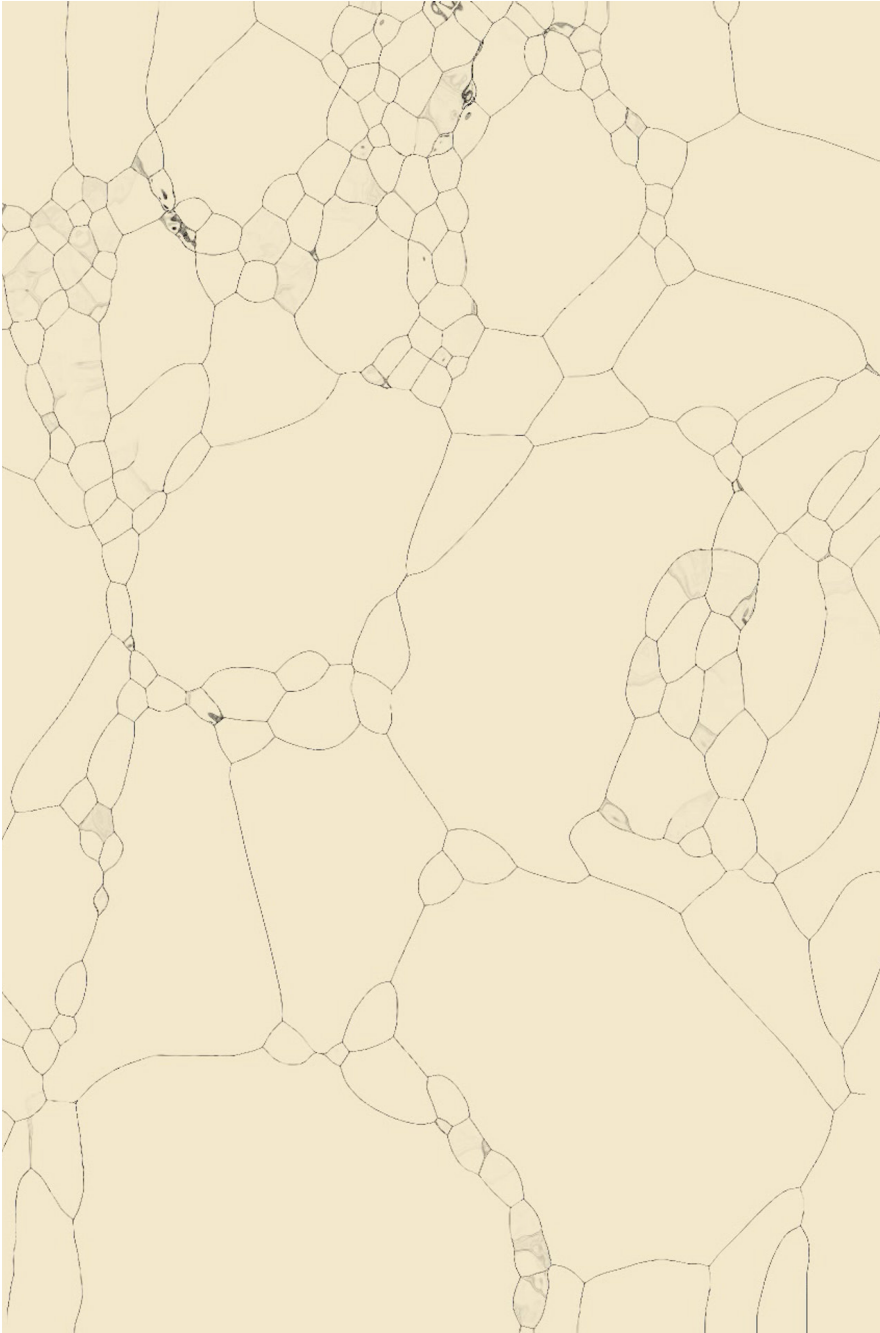
THE RECOGNITION OF EMOTIONS IS PERFORMED VIA *FACE-API*, A JAVASCRIPT API IMPLEMENTING *TINYFACEDETECTOR*. THIS MODEL PROVIDES EXTREMELY FAST AND EFFICIENT TWO-DIMENSIONAL REAL TIME DETECTION OF THE HUMAN FACE, AT THE EXPENSE OF SACRIFICING ACCURACY IN TRACKING THE HOWEVER SMALL AMOUNT OF 68 LANDMARKS.

THIS SHORTCOMING DOES NOT CONSTITUTE A PROBLEM SINCE *TINYFACEDETECTOR* IS ONLY RESPONSIBLE IN *NARCISSUS* FOR EMOTION RECOGNITION, LEAVING THE ONEROUS TASK OF ACCURATELY TRACKING FACIAL LANDMARKS AND THEIR MOVEMENTS IN SPACE TO A MORE SOPHISTICATED MODEL.

(II) FACEMESH

THIS IS WHERE IT COMES IN *FACEMESH*, IMPLEMENTED THROUGH *MEDIA PIPE*: A THREE-DIMENSIONAL DETECTION MODEL WITH 468 LANDMARKS. THIS MACHINE LEARNING MODEL, FOR A RATHER ONEROUS COMPUTATIONAL COST, IS ABLE TO GENERATE A MESH OF 468 VERTICES ON THE USER'S FACE IN REAL TIME.



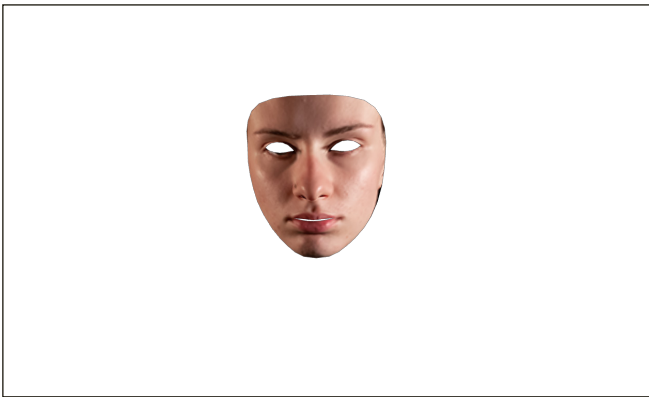




/CONTENT 2.1



/CONTENT 2.2

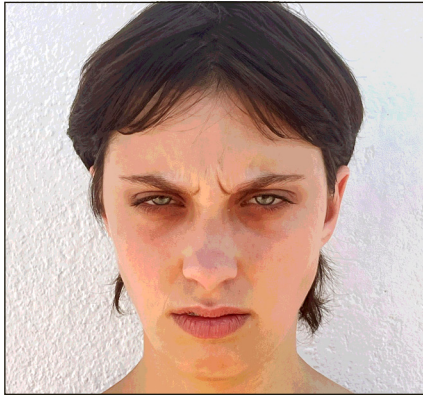


/CONTENT 2.3

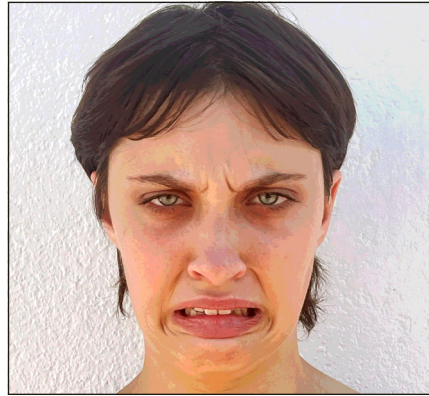
(2) ABOUT THE DIGITAL REFLECTION

(I) THE FIRST STEP IN THE DEVELOPMENT OF THE HUMAN-DIGITAL REFLECTION INTERACTION WAS TO REMAP AS A TEXTURE AN IMAGE OF THE USER'S FACE ONTO THE MESH GENERATED BY FACEMESH. ONCE ACQUIRED A FACE IMAGE (CONTENT 2.1), I PROCESSED IT THROUGH THE *MEDIA PIPE'S* MODEL (CONTENT 2.2) AND SAVED THE NORMALISED POSITION OF THE 468 LANDMARKS AS AN ARRAY (CODING APPENDIX 2.1).

(II) HAVING THIS ASSET, ALL I HAD TO DO WAS TO SET UP AN HTML PAGE PLAYING THE IMAGE STREAM FROM THE WEBCAM, PROCESS IT IN REAL TIME THROUGH *FACEMESH* AND WRITE A LOOP USING THE TEXTURE PROPERTY BUILT INTO THE *P5.JS* LIBRARY TO PROJECT EACH LANDMARK OF THE SOURCE IMAGE ONTO THE CORRESPONDING ONE OF THE ON-SCREEN IMAGE (CONTENT 2.3).



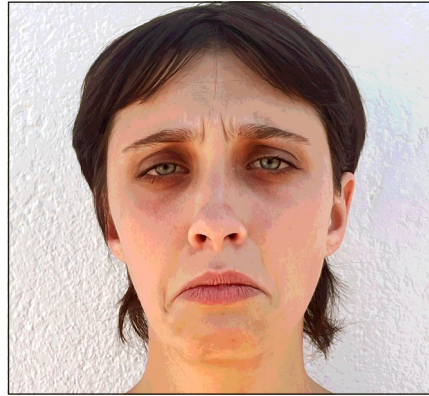
/CONTENT 2.4 — ANGRY



/CONTENT 2.4 — DISGUSTED

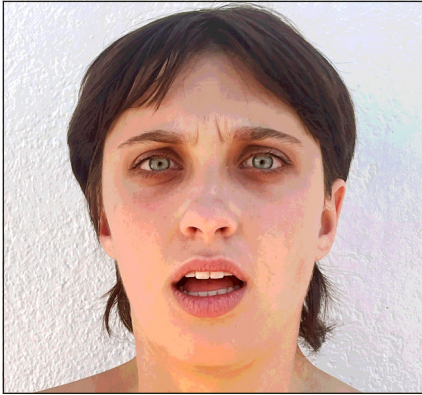


/CONTENT 2.4 — NEUTRAL



/CONTENT 2.4 — SAD

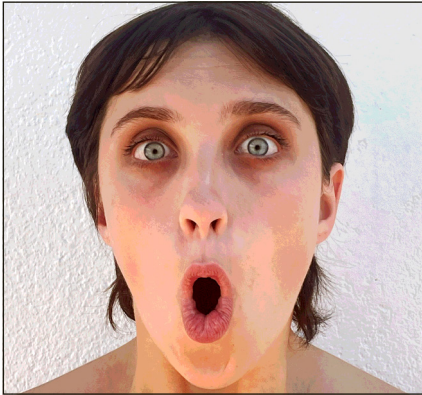
3 — when referring to the theory of emotions, i relied on the psychobiological studies of Jaak Panksepp. for an in-depth study on the subject see Biven L, Panksepp J. *The Archaeology of Mind: Neuroevolutionary Origins of Human Emotions*. New York: W. W. Norton & Company, 2010



/CONTENT 2.4 — FEARFUL

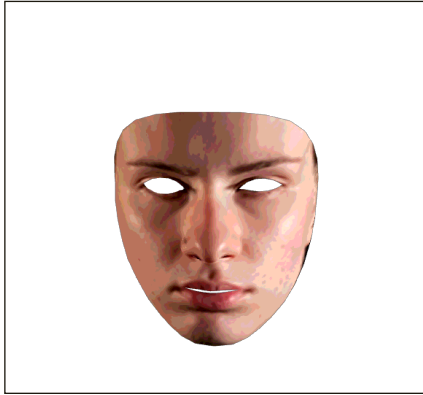


/CONTENT 2.4 — HAPPY

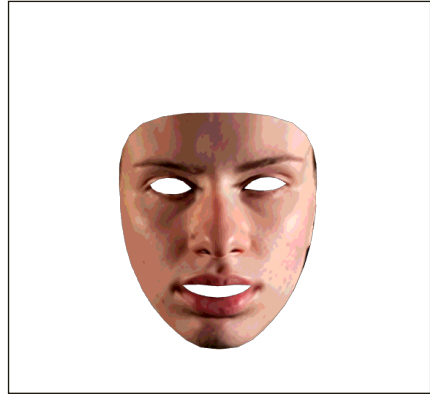


/CONTENT 2.4 — SURPRISED

(III) THE ALTERATION OF THE DIGITAL REFLECTION'S EXPRESSION WAS MORE LABORIOUS. I ASKED AN ACTRESS TO TAKE SEVEN PHOTOGRAPHS PORTRAYING HER IN THE SEVEN BASIC MANIFESTATIONS OF HUMAN EMOTIONS³: ANGER, DISGUST, FEAR, HAPPINESS, NEUTRALITY, SADNESS AND SURPRISE (CONTENT 2.4).



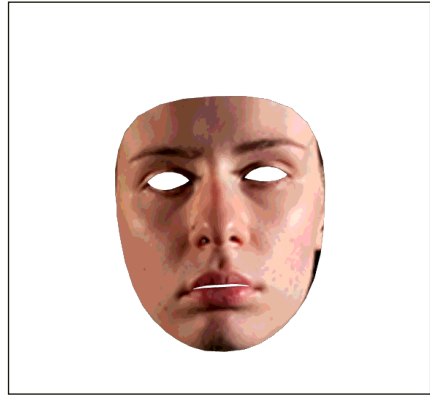
/CONTENT 2.5 — ANGRY



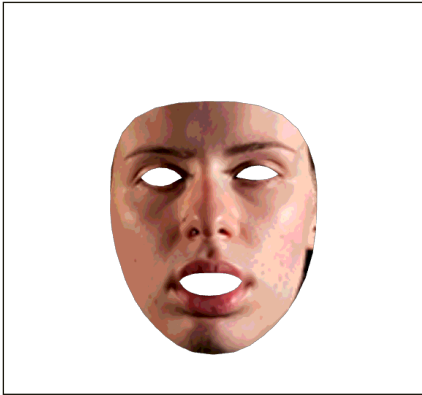
/CONTENT 2.5 — DISGUSTED



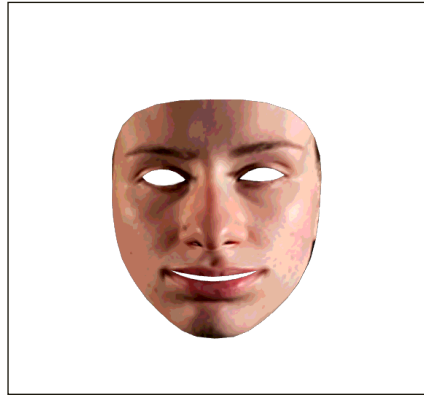
/CONTENT 2.5 — NEUTRAL



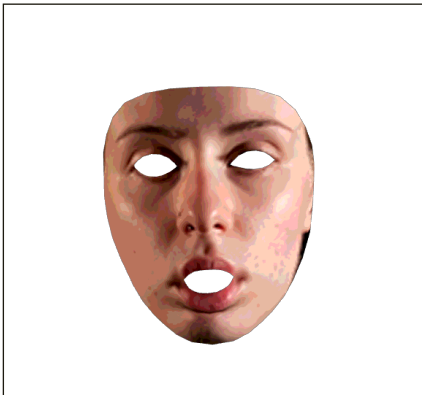
/CONTENT 2.5 — SAD



/CONTENT 2.5 — FEARFUL

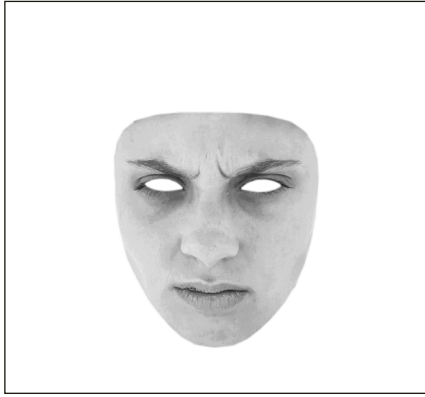


/CONTENT 2.5 — HAPPY

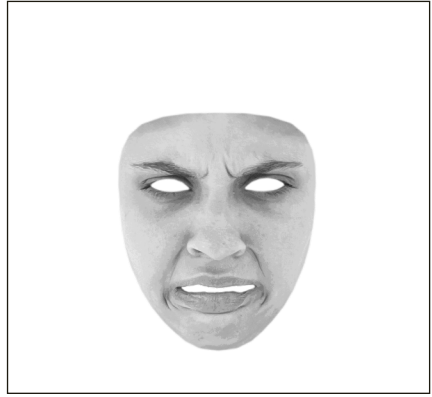


/CONTENT 2.5 — SURPRISED

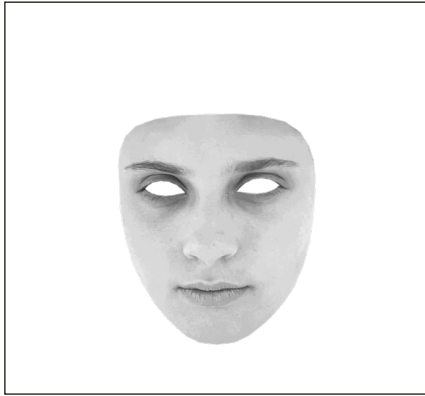
(IV) I THEN DERIVED, USING A PROCEDURE SIMILAR TO THE ONE DESCRIBED IN B.2.1, AN ARRAY OF LANDMARKS POSITIONS FOR EACH OF THESE PHOTOGRAPHS, AND FINALLY MAPPED THE TEXTURE OF THE USER'S FACE ONTO THE SEVEN MESHES THUS GENERATED (CONTENT 2.5) (CODING APPENDIX 2.2).



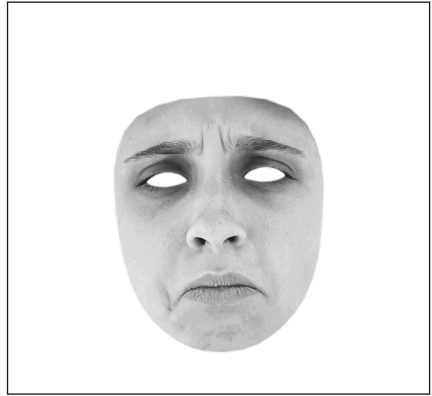
/CONTENT 2.6 — ANGRY



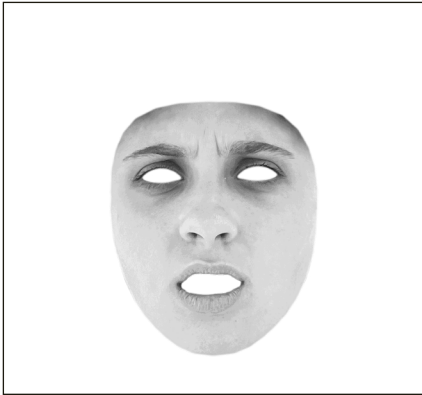
/CONTENT 2.6 — DISGUSTED



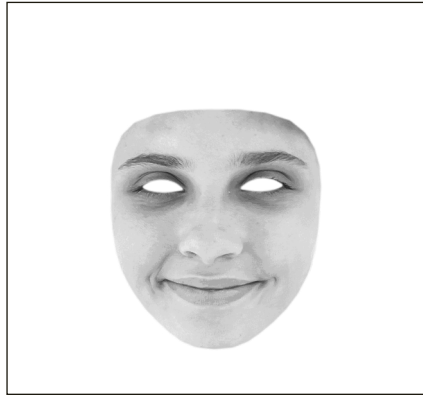
/CONTENT 2.6 — NEUTRAL



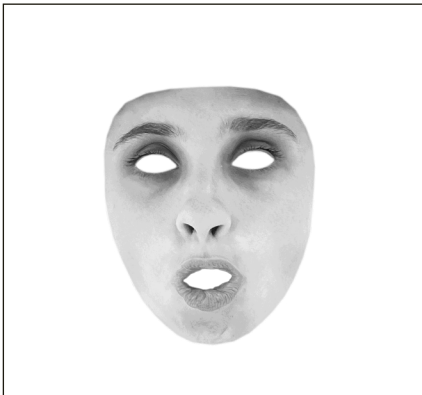
/CONTENT 2.6 — SAD



/CONTENT 2.6 — FEARFUL



/CONTENT 2.6 — HAPPY



/CONTENT 2.6 — SURPRISED

(V) THE RESULT OF THIS OPERATION ALONE WAS NOT CONVINCING ENOUGH, DUE TO THE ABSENCE OF EXPRESSION LINES ON THE IMAGE USED AS TEXTURE: I THEREFORE CREATED A SECOND BUFFER, CONTAINING THE SEVEN IMAGES OF THE ACTRESS IN BLACK AND WHITE (CONTENT 2.6), WHICH I MULTIPLIED AT 35% OPACITY ON THE TEXTURE ALREADY APPLIED TO THE MESHES (CONTENT 3.3 PP.40-41) (CODING APPENDIX 2.3).

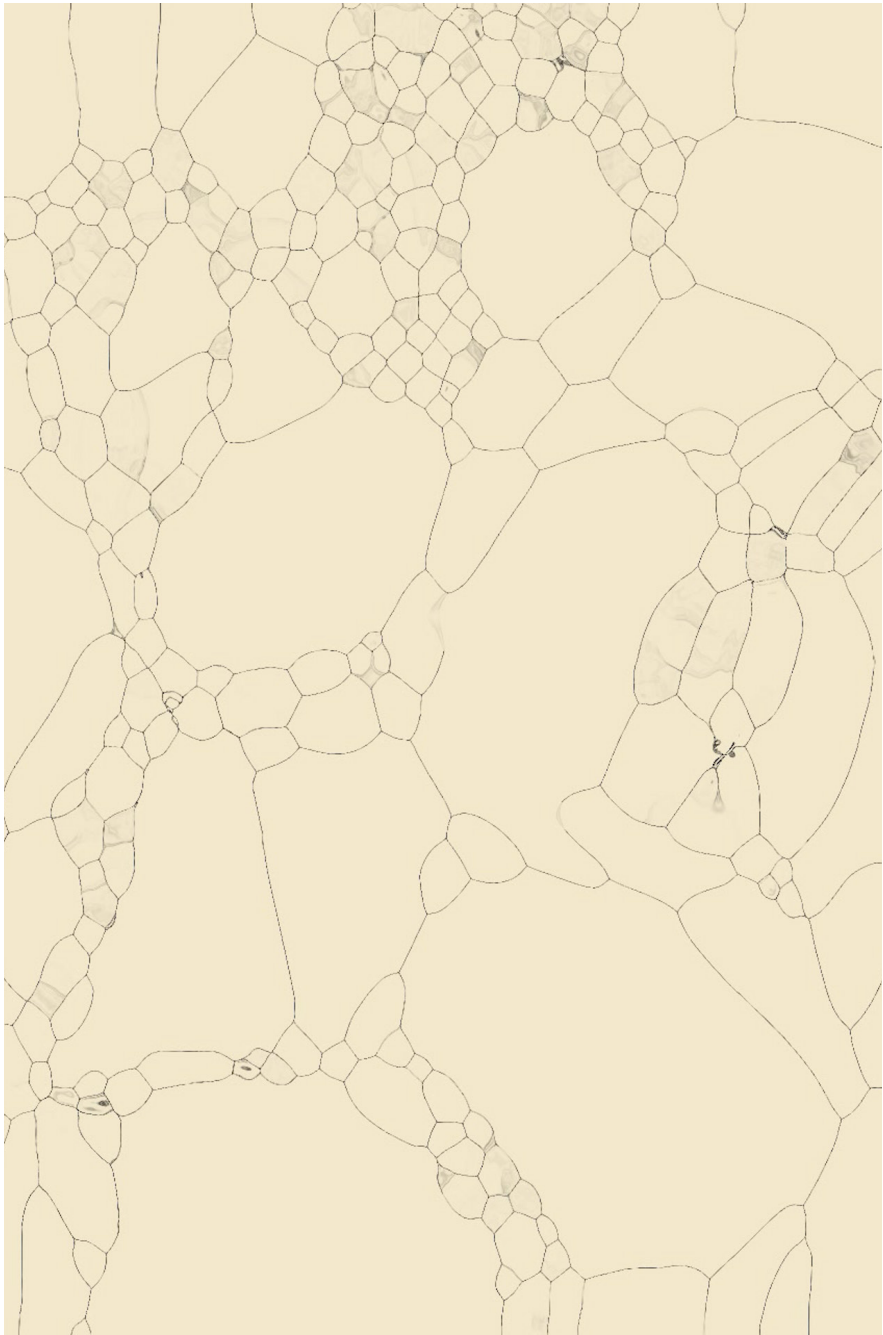
/CONTENT 2.8

/DIGITAL REFLECTION

/ DEVELOPEMENT

<u>DETECTED EMOTION</u>	<u>NARCISSUS' RESPONSE</u>	
ANGRY	FEARFUL	ANGRY
DISGUSTED	SAD	FEARFUL
FEARFUL	ANGRY	SURPRISED
HAPPY	HAPPY	
NEUTRAL	SAD	NEUTRAL
SAD	HAPPY	FEARFUL
SURPRISED	HAPPY	SURPRISED

(VI) ONCE OBTAINED THE IMAGES OF THE USER'S FACE DEFORMED IN THE SEVEN ARCHETYPICAL EXPRESSIONS, I ONLY HAD TO WRITE A CONDITIONAL CHAIN TO DISPLAY ON SCREEN JUST ONE OF THOSE IMAGES, ACCORDING TO THE EMOTION DETECTED BY FACE-API (CODING APPENDIX 2.4) FOLLOWING THE RULES DESCRIBED IN (CONTENT 2.8).





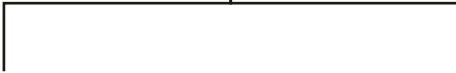
/CONTENT 3.1

/ PIPELINE

FACE_CAPTURE.HTML



EMOTIONS_MESHES_GENERATION.HTML



NARCISSUS.HTML

IS_THIS_YOU.HTML

/ DEVELOPEMENT

(3) ABOUT THE PIPELINE

AT THIS POINT, IT BECAME NECESSARY TO DEFINE A PIPELINE THAT WOULD ALLOW ANYONE TO ARRIVE IN FRONT OF THE INSTALLATION AND SEE, A FEW SECONDS LATER, THIS PROCESS APPLIED TO THEIR OWN IMAGE.

TO ACHIEVE THIS, I DIVIDED THE PROCESSES DESCRIBED IN B.2 INTO TWO STAGES, SETTING UP A DIFFERENT WEB PAGE FOR EACH OF THEM, CAPABLE OF AUTOMATICALLY REDIRECTING TO THE NEXT ONE ONCE ITS TASK HAD BEEN PERFORMED (CONTENT 3.1).

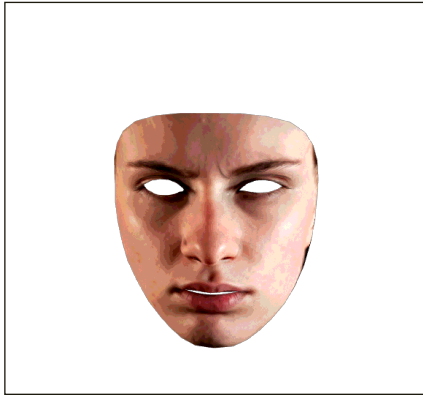


/CONTENT 3.2

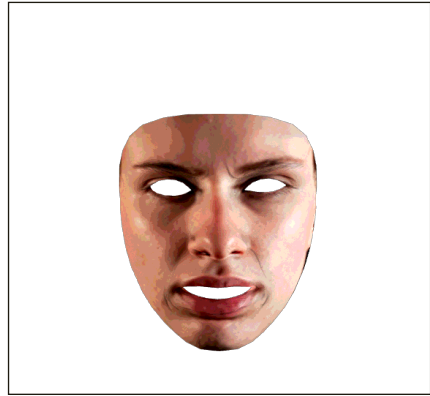


/CONTENT 3.3

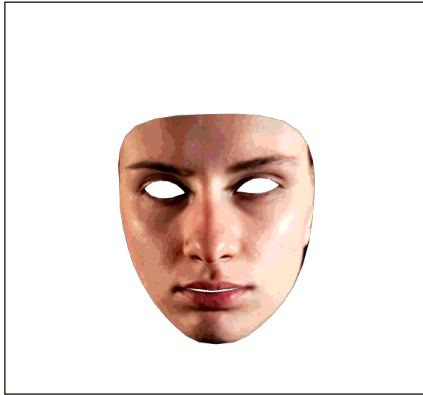
(1 — FACE_CAPTURE.HTML) THE BROWSER WINDOW DISPLAYS THE STREAMING OF IMAGES COMING FROM THE WEBCAM (CONTENT 3.2). WHEN THE USER STANDS IN FRONT OF IT, A PHOTOGRAPH OF THEIR FACE IS SAVED (CONTENT 3.3).



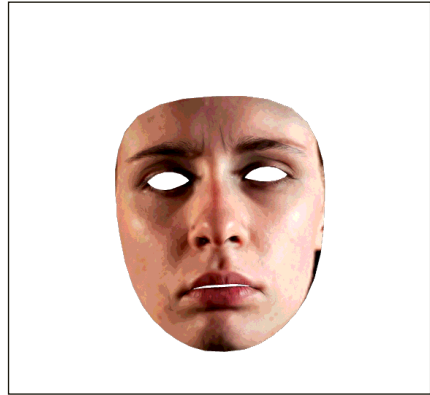
/CONTENT 3.4 — ANGRY



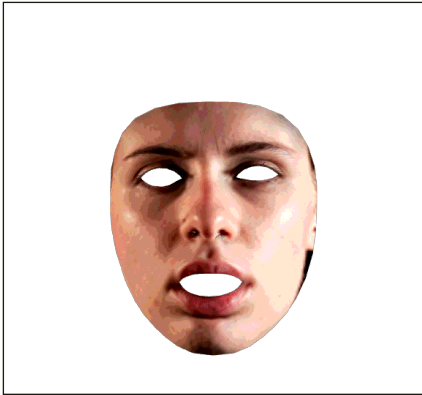
/CONTENT 3.4 — DISGUSTED



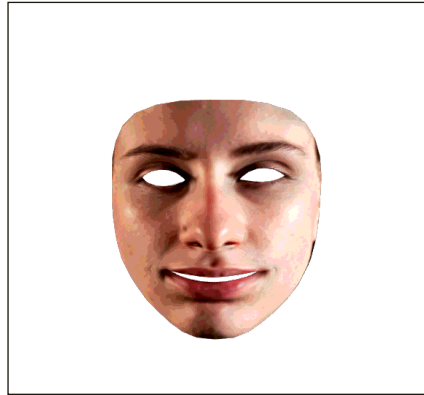
/CONTENT 3.4 — NEUTRAL



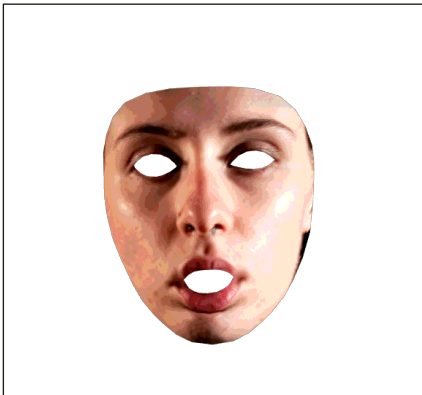
/CONTENT 3.4 — SAD



/CONTENT 3.4 — FEARFUL



/CONTENT 3.4 — HAPPY

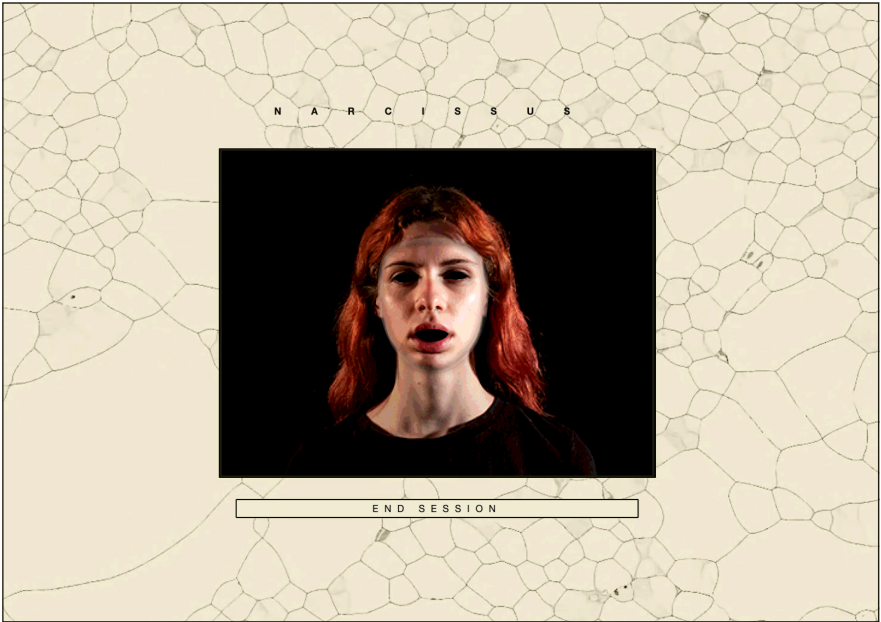


/CONTENT 3.4 — SURPRISED

(II — EMOTIONS MESHES GENERATION.HTML) THE USER'S PICTURE IS MAPPED ONTO THE SEVEN MESHES OF THE ARCHETYPICAL FACE EXPRESSIONS (CONTENT 3.4), AND A BUFFER CONTAINING ALL SEVEN THE RESULTING IMAGES IS SAVED.



/CONTENT 3.5



/CONTENT 3.6

(III — NARCISSUS.HTML) *NARCISSUS* - THE ACTUAL INSTALLATION, IN WHICH THE USER CAN INTERACT WITH THEIR DIGITAL REFLECTION (CONTENTS 3.5 AND 3.6).



/CONTENT 3.7

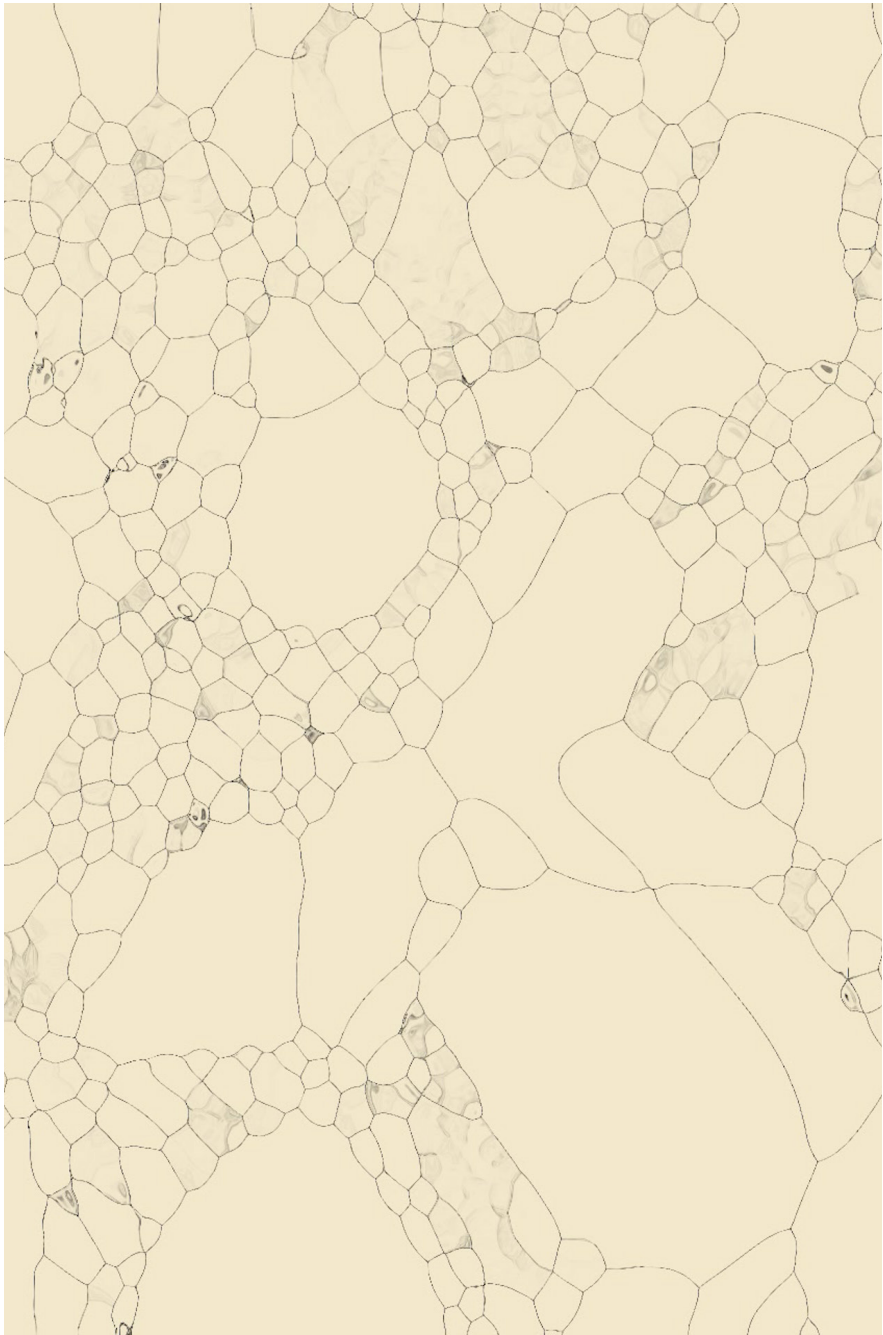


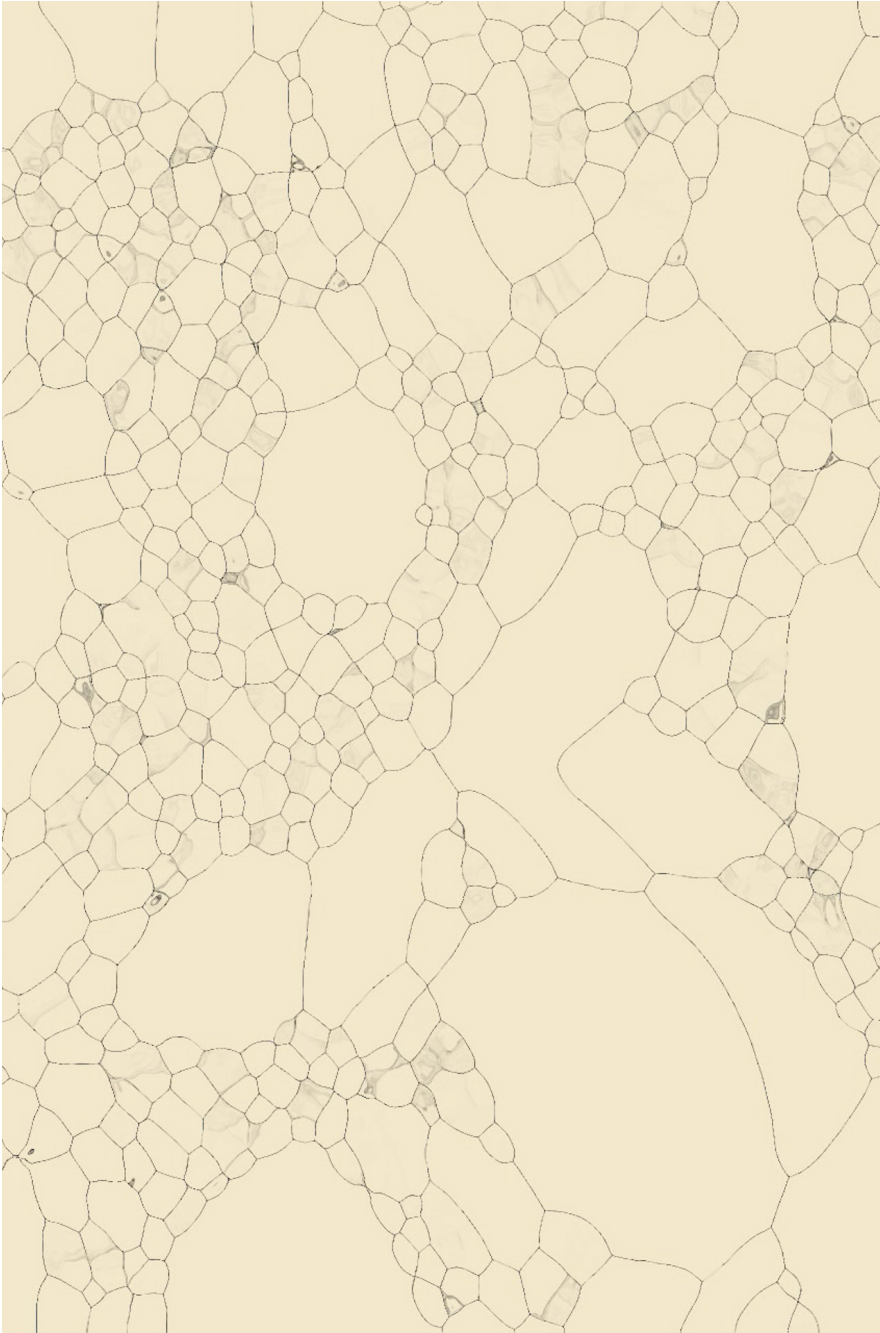
/CONTENT 3.8

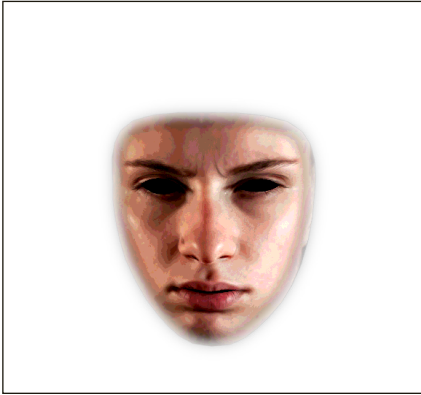


/CONTENT 3.9

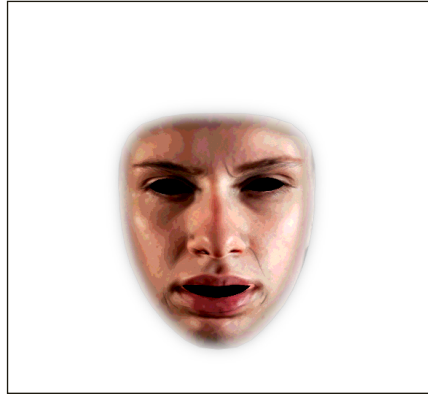
(IV — IS THIS YOU.HTML) *IS THIS YOU* - THE SECOND PART OF THE INSTALLATION, IN WHICH THE REMAPPING OF THE USER'S FACE TEXTURE IS PERFORMED ON THE MONTAGE DESCRIBED IN A.5.II (CONTENTS 3.7, 3.8 AND 3.9).



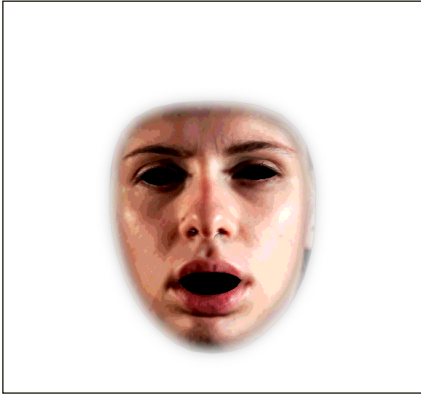




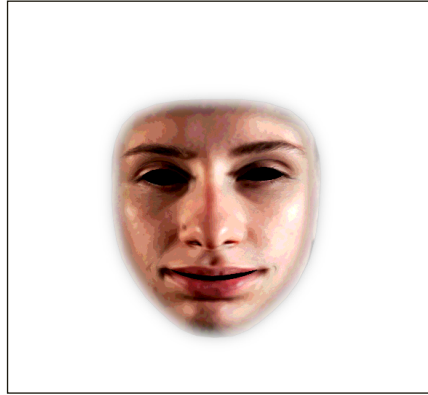
/CONTENT 4.1 — ANGRY



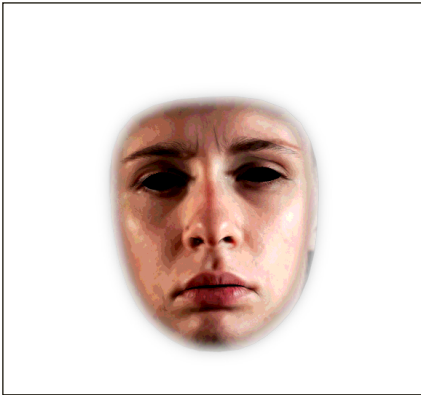
/CONTENT 4.1 — DISGUSTED



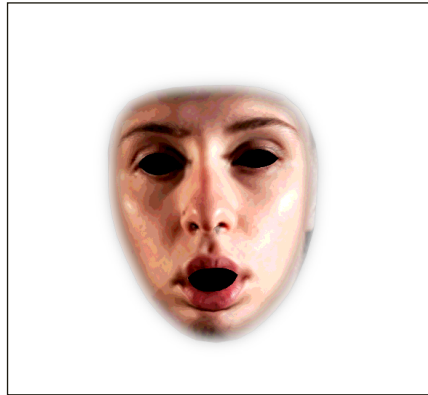
/CONTENT 4.1 — FEARFUL



/CONTENT 4.1 — HAPPY



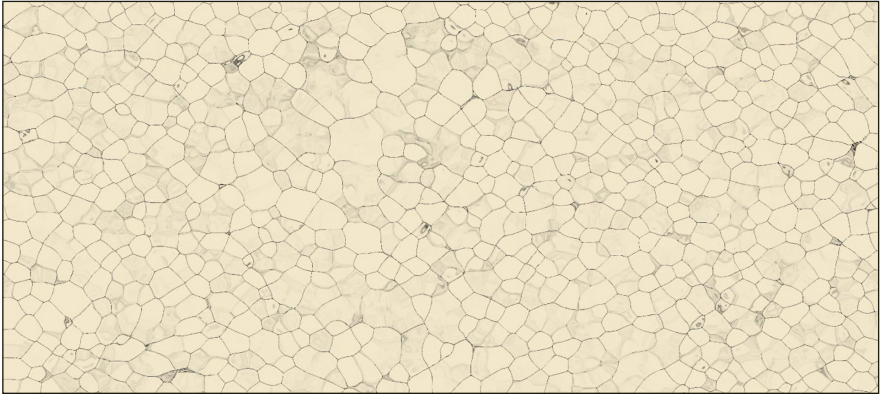
/CONTENT 4.1 — SAD



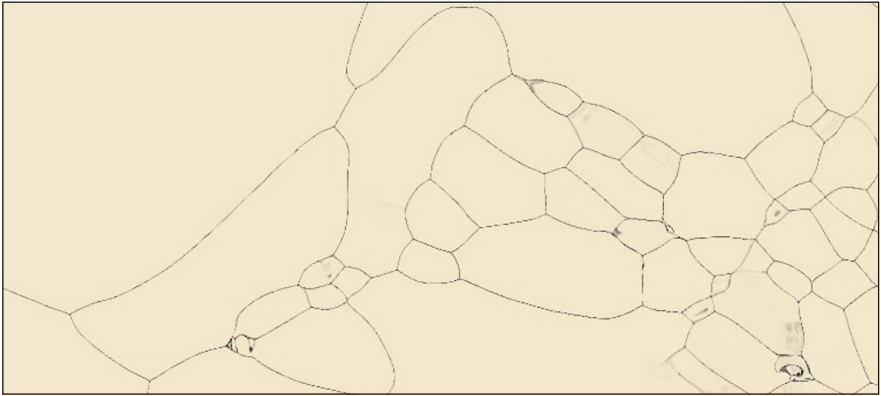
/CONTENT 4.1 — SURPRISED

(4) ABOUT THE VISUAL FEATURES

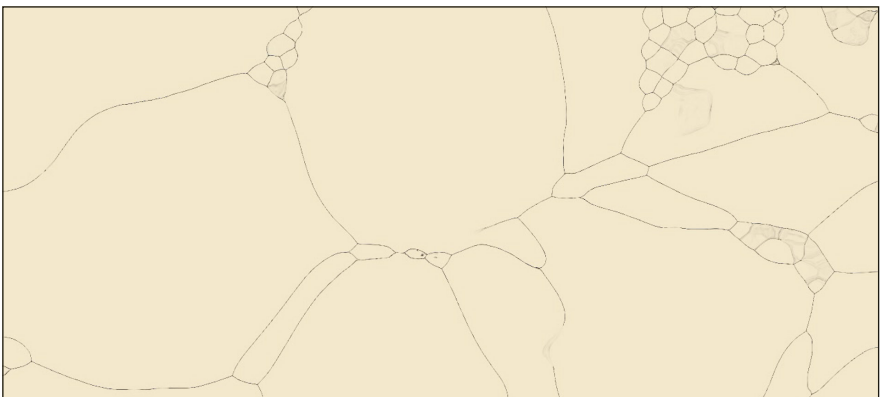
SOME FINAL IMPROVEMENTS IN THE VISUAL RENDERING OF NARCIS-SUS WERE ACHIEVED BY IMPLEMENTING A TWO-PASS BLURRING SHADER, USED TO SOFTEN THE CONTRAST BETWEEN THE IMAGE OF THE DIGITAL REFLECTION AND THE USER'S ONE (CONTENTS 4.1).



/CONTENT 4.3 — 00:00:00:45

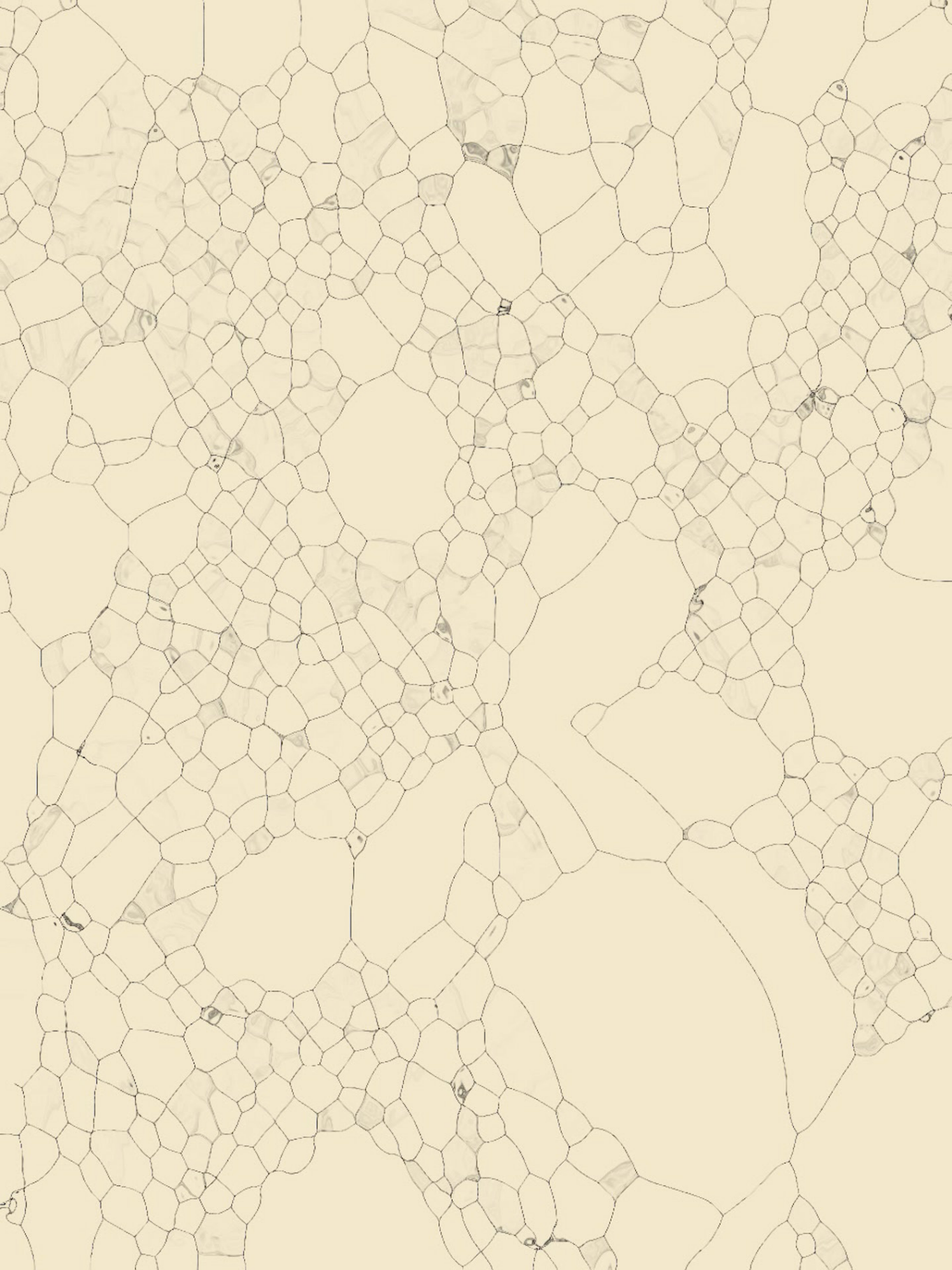


/CONTENT 4.3 — 00:00:05:20



/CONTENT 4.3 — 00:00:09:55

AS A SYMBOLIC REFERENCE - BOTH IN DECORATION AND MEANING - TO THE MYTH OF NARCISSUS, I FURTHER DESIGNED A GENERATIVE VIDEO, TO BE PROJECTED ON THE MONITOR, WHICH MIMICS THE EFFECT OF CAUSTICS ON WATER (CONTENT 4.3). THIS IS PRE RECORDED IN TOUCH DESIGNER SINCE THE COMPUTATIONAL COST OF A REAL TIME GENERATION WOULD HAVE ENDED UP AFFECTING THE PERFORMANCE OF *NARCISSUS* AND *IS THIS YOU*.



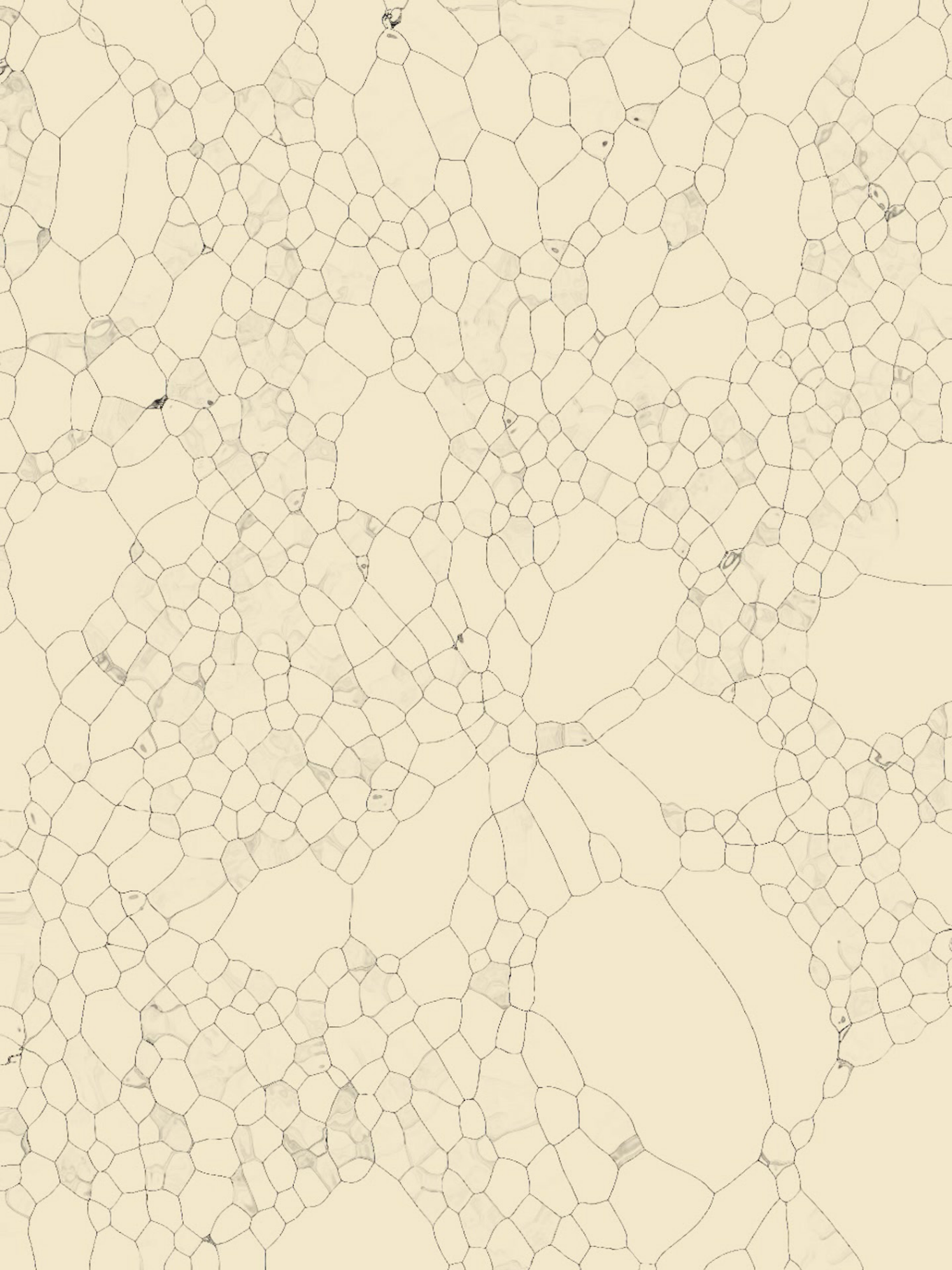
(C)

FUTURE

THE INTENTION, AT THE END OF DEVELOPMENT FOR THIS FIRST ITERATION, IS TO POSSIBLY CREATE A NEW ARRANGEMENT IN SPACE FOR THE INSTALLATION, WITH AN HIGHER BUDGET.

THE UPDATED VERSION WOULD SEE THE FIRST PART OF THE INSTALLATION PRESENTED ON A HORIZONTAL MONITOR, MOUNTED BELOW A SEMI-REFLECTIVE MIRROR, MAKING THE INTERACTION WITH ONE'S OWN MANIPULATED REFLECTION EVEN MORE IMMERSIVE AND VISUALLY COMPELLING. ABOVE, A TRANSPARENT ACETATE TANK FILLED WITH WATER WOULD CONSTITUTE A POWERFUL SYMBOLIC REFERENCE TO THE MYTH OF NARCISSUS.

ALL THIS WOULD BE ARRANGED IN A NARROW DARK COMPARTMENT, PLACED IN THE CENTRE OF A LARGER ROOM. ON ONE OF THE WALLS OF THIS ROOM WOULD BE PROJECTED, GIGANTIC, THE SECOND PART OF THE INSTALLATION, *IS THIS YOU*.



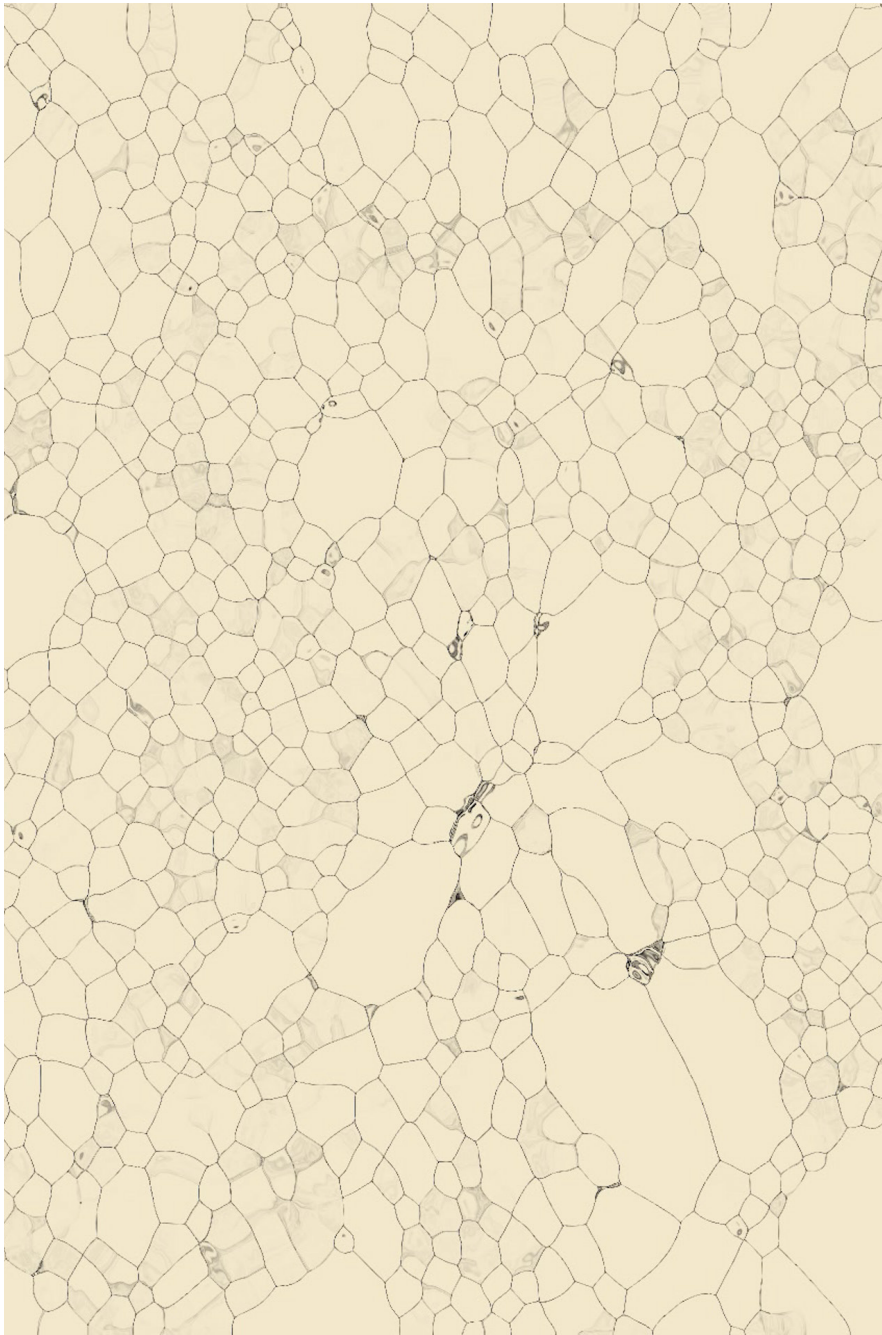
(D)

CODING

APPENDIX

NOTE THAT THE CODE PROVIDED IN THIS APPENDIX IS A SIMPLIFIED VERSION OF THE *NARCISSUS*' SOURCE CODE USED TO MAKE CLEAR THE LOGIC OF THE COMPUTATIONAL PROCESSES UNDERLYING ITS FUNCTIONMENT.

THE COMPLETE SOURCE CODE IS AVAILABLE ON A GITHUB REPOSITORY THAT YOU CAN ACCESS VIA THE QR CODE ON THE LAST PAGE OF THIS BOOK OR AT THE LINK [HTTPS://GITHUB.COM/CAROLJPEG/NARCISSUS](https://github.com/CarolJpeg/Narcissus).



2.1

```
function draw{
  beginShape(TRIANGLES);
  texture(personPicture);
  for(a = 0; a < tassellationDatabase.length; a++){
    let sourceImageVertexX = personDatabase[tassellationDatabase[a]].x;
    let sourceImageVertexY = personDatabase[tassellationDatabase[a]].y;
    let vertexX = detections.multiFaceLandmarks[0][tassellationDatabase[a]].x;
    let vertexY = detections.multiFaceLandmarks[0][tassellationDatabase[a]].y;

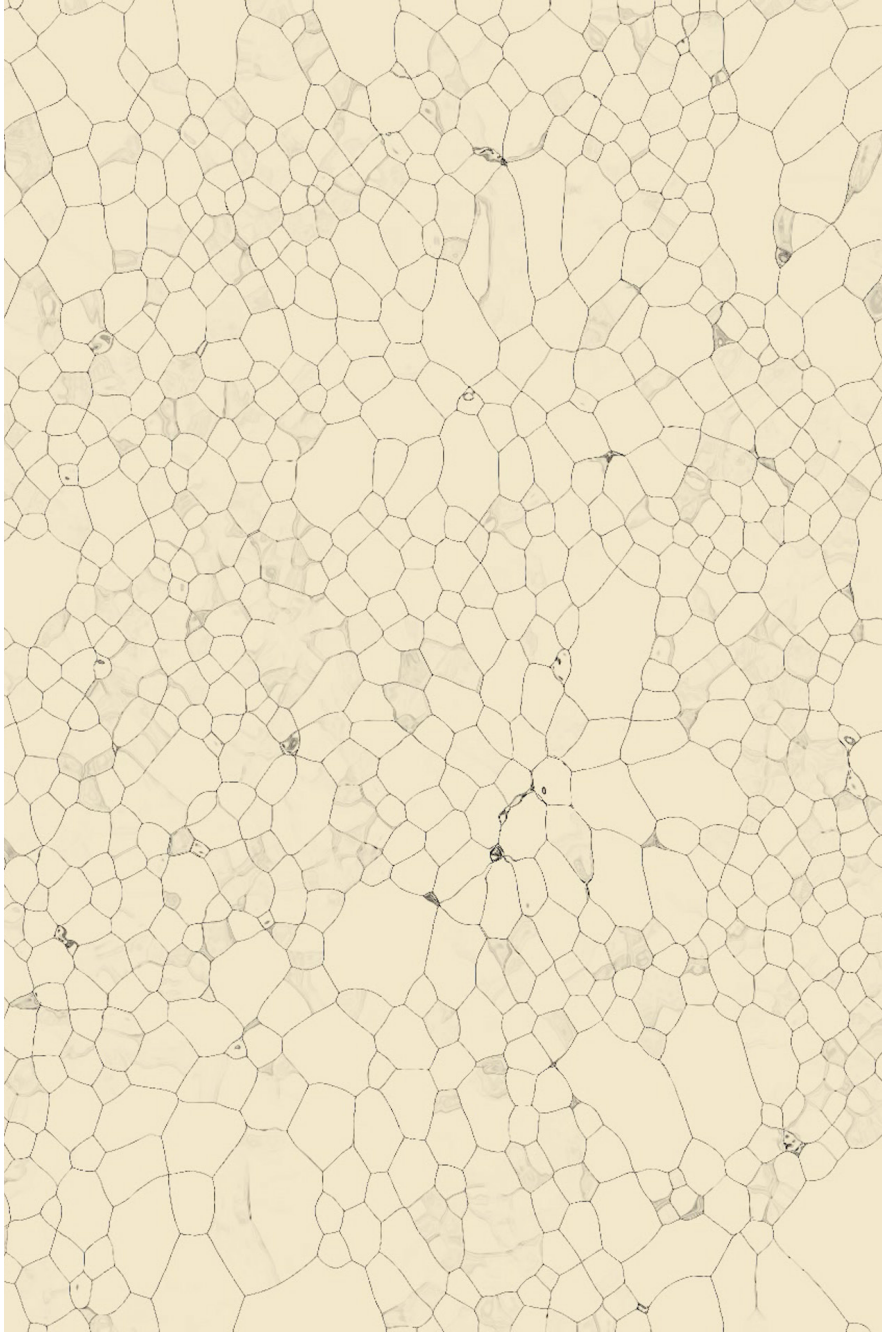
    vertex(vertexX, vertexY, sourceImageVertexX, sourceImageVertexY);
  }
  endShape(CLOSE);
}
```

2.2

```
function draw{
  generateEmotionPictures(angryDatabase);
  generateEmotionPictures(disgustedDatabase);
  generateEmotionPictures(fearfulDatabase);
  generateEmotionPictures(happyDatabase);
  generateEmotionPictures(neutralDatabase);
  generateEmotionPictures(sadDatabase);
  generateEmotionPictures(surprisedDatabase);
}

function generateEmotionPictures(emotionDatabase){
  beginShape(TRIANGLES);
  texture(personPicture);
  for(a = 0; a < tassellationDatabase.length; a++){
    let sourceImageVertexX = emotionDatabase[tassellationDatabase[a]].x;
    let sourceImageVertexY = emotionDatabase[tassellationDatabase[a]].y;
    let vertexX = detections.multiFaceLandmarks[0][tassellationDatabase[a]].x;
    let vertexY = detections.multiFaceLandmarks[0][tassellationDatabase[a]].y;

    vertex(vertexX, vertexY, sourceImageVertexX, sourceImageVertexY);
  }
  endShape(CLOSE);
  save("emotionPersonPicture.png");
}
```



2.3

```
function preload(){
  let personPicture = loadImage('assets/personPictures/personPicture.png');
  let angrySourcePicture = loadImage('assets/sourcePictures/angrySourcePicture.png');
  let disgustedSourcePicture = loadImage('assets/sourcePictures/disgustedSourcePicture.png');
  let fearfulSourcePicture = loadImage('assets/sourcePictures/fearfulSourcePicture.png');
  let happySourcePicture = loadImage('assets/sourcePictures/happySourcePicture.png');
  let neutralSourcePicture = loadImage('assets/sourcePictures/neutralSourcePicture.png');
  let sadSourcePicture = loadImage('assets/sourcePictures/sadSourcePicture.png');
  let surprisedSourcePicture = loadImage('assets/sourcePictures/surprisedSourcePicture.png');
}
```

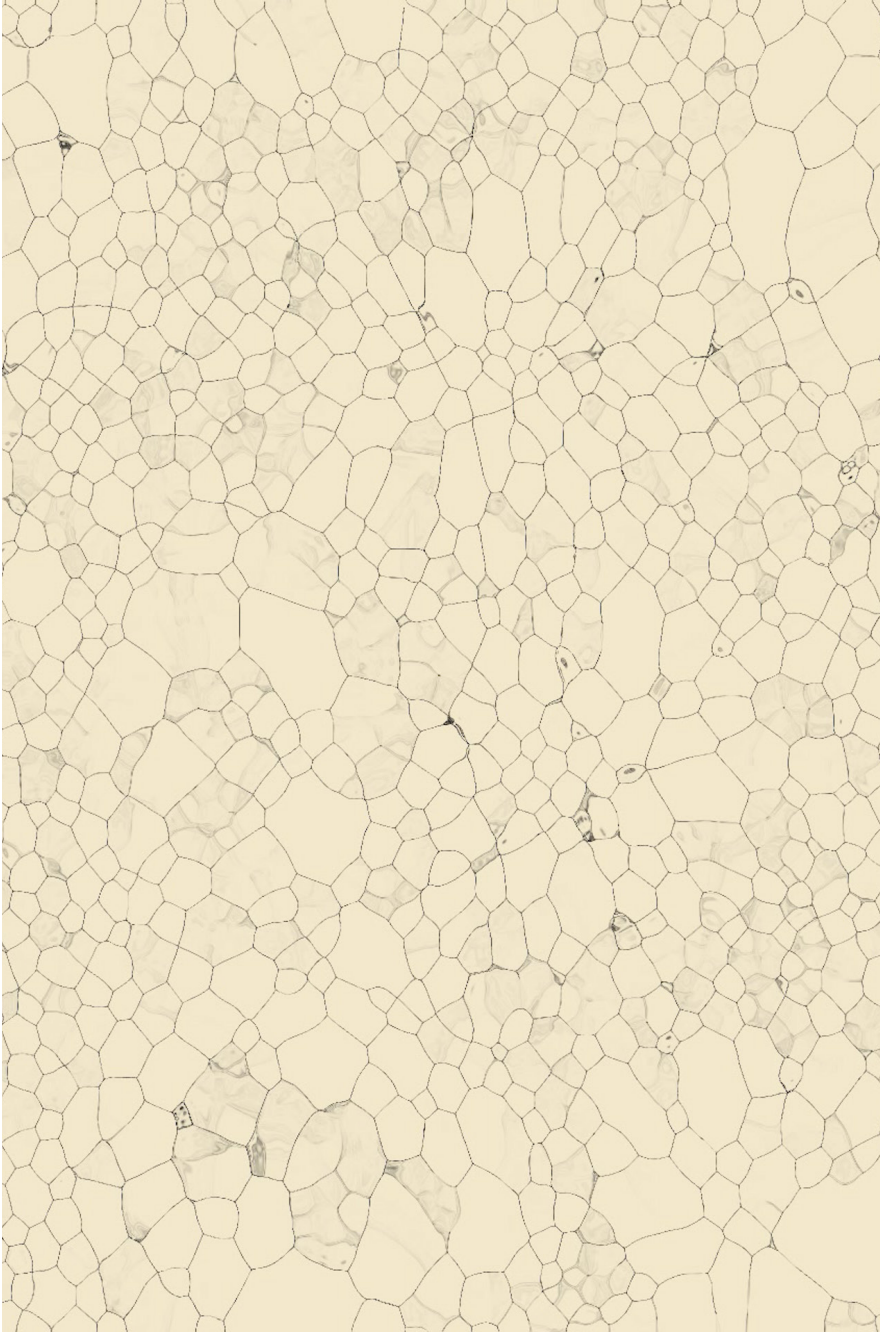
```
function draw{
  generateEmotionPictures(angryDatabase, angrySourcePicture);
  generateEmotionPictures(disgustedDatabase, disgustedSourcePicture);
  generateEmotionPictures(fearfulDatabase, fearfulSourcePicture);
  generateEmotionPictures(happyDatabase, happySourcePicture);
  generateEmotionPictures(neutralDatabase, neutralSourcePicture);
  generateEmotionPictures(sadDatabase, sadSourcePicture);
  generateEmotionPictures(surprisedDatabase, surprisedSourcePicture);
}
```

```
function generateEmotionPictures(emotionDatabase, emotionSourcePicture){
  beginShape(TRIANGLES);
  texture(personPicture);
  for(a = 0; a < tassellationDatabase.length; a++){
    let sourceImageVertexX = emotionDatabase[tassellationDatabase[a]].x;
    let sourceImageVertexY = emotionDatabase[tassellationDatabase[a]].y;
    let vertexX = detections.multiFaceLandmarks[0][tassellationDatabase[a]].x;
    let vertexY = detections.multiFaceLandmarks[0][tassellationDatabase[a]].y;

    vertex(vertexX, vertexY, sourceImageVertexX, sourceImageVertexY);
  }
  endShape(CLOSE);
  let emotionsCanvasOverlay = createGraphics(width, height);
  emotionsCanvasOverlay.tint(255, 35);
  emotionsCanvasOverlay.image(emotionSourcePicture, 0, 0, width, height);

  emotionsCanvas.blendMode(MULTIPLY);
  image(emotionsCanvasOverlay, 0, 0, width, height);

  emotionsCanvas.save('emotionPersonPicture.png');
}
```



2.4

```
let angrySeed;
let disgustedSeed;
let fearfulSeed;
let neutralSeed;
let sadSeed;
let surprisedSeed;

function preload(){
  let personPicture = loadImage('assets/personPictures/personPicture.png');
}

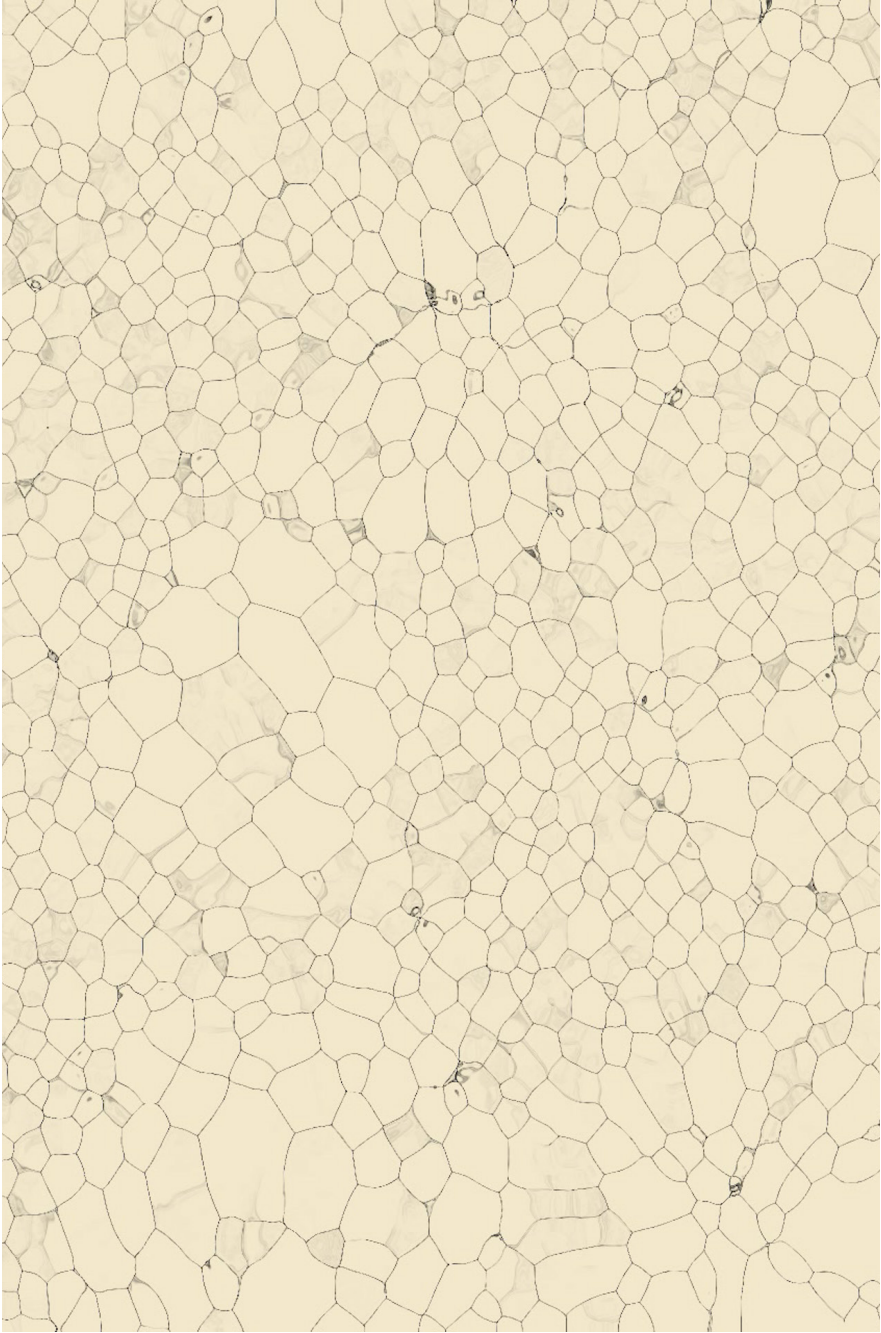
function setup(){
  [...]
  angrySeed = random(0, 1);
  disgustedSeed = random(0, 1);
  fearfulSeed = random(0, 1);
  neutralSeed = random(0, 1);
  sadSeed = random(0, 1);
  surprisedSeed = random(0, 1);
}

function draw{
  let treshold = 0.75;
  let angry = detectionData.expressions.angry;
  let disgusted = detectionData.expressions.disgusted;
  let fearful = detectionData.expressions.fearful;
  let happy = detectionData.expressions.happy;
  let neutral = detectionData.expressions.neutral;
  let sad = detectionData.expressions.sad;
  let surprised = detectionData.expressions.surprised;
  let lastEmotionDatabase = neutralDatabase;

  if(angry > treshold){
    if(angrySeed < 0.6){
      displayFace(fearfulDatabase);
      lastEmotionDatabase = fearfulDatabase;
    } else{
      displayFace(angryDatabase);
      lastEmotionDatabase = angryDatabase;
    }
    console.log('angry');
  }

  else if(disgusted > treshold) {
    if(disgustedSeed < 0.6){
      displayFace(sadDatabase);
      lastEmotionDatabase = sadDatabase;
    } else{
      displayFace(fearfulDatabase);
      lastEmotionDatabase = fearfulDatabase;
    }
    console.log('disgusted');
  }

  else if(fearful > treshold){
    if(fearfulSeed < 0.6){
      displayFace(angryDatabase);
      lastEmotionDatabase = angryDatabase;
    } else{
      displayFace(surprisedDatabase);
      lastEmotionDatabase = surprisedDatabase;
    }
    console.log('fearful');
  }
}
```




```

else if(happy > treshold){
  displayFace(happyDatabase);
  lastEmotionDatabase = happyDatabase;
  console.log('happy');
}

else if(neutral > treshold){
  if(neutralSeed < 0.6){
    displayFace(sadDatabase);
    lastEmotionDatabase = sadDatabase;
  } else{
    displayFace(neutralDatabase);
    lastEmotionDatabase = neutralDatabase;
  }
  console.log('neutral!');
}

else if(sad > treshold){
  if(sadSeed < 0.6){
    displayFace(happyDatabase);
    lastEmotionDatabase = happyDatabase;
  } else{
    displayFace(fearfulDatabase);
    lastEmotionDatabase = fearfulDatabase;
  }
  console.log('sad!');
}

else if(surprised > treshold){
  if(surprisedSeed < 0.6){
    displayFace(happyDatabase);
    lastEmotionDatabase = happyDatabase;
  } else{
    displayFace(surprisedDatabase);
    lastEmotionDatabase = surprisedDatabase;
  }
  console.log('surprised!');
}

else{
  displayFace(lastEmotionDatabase);
}
}

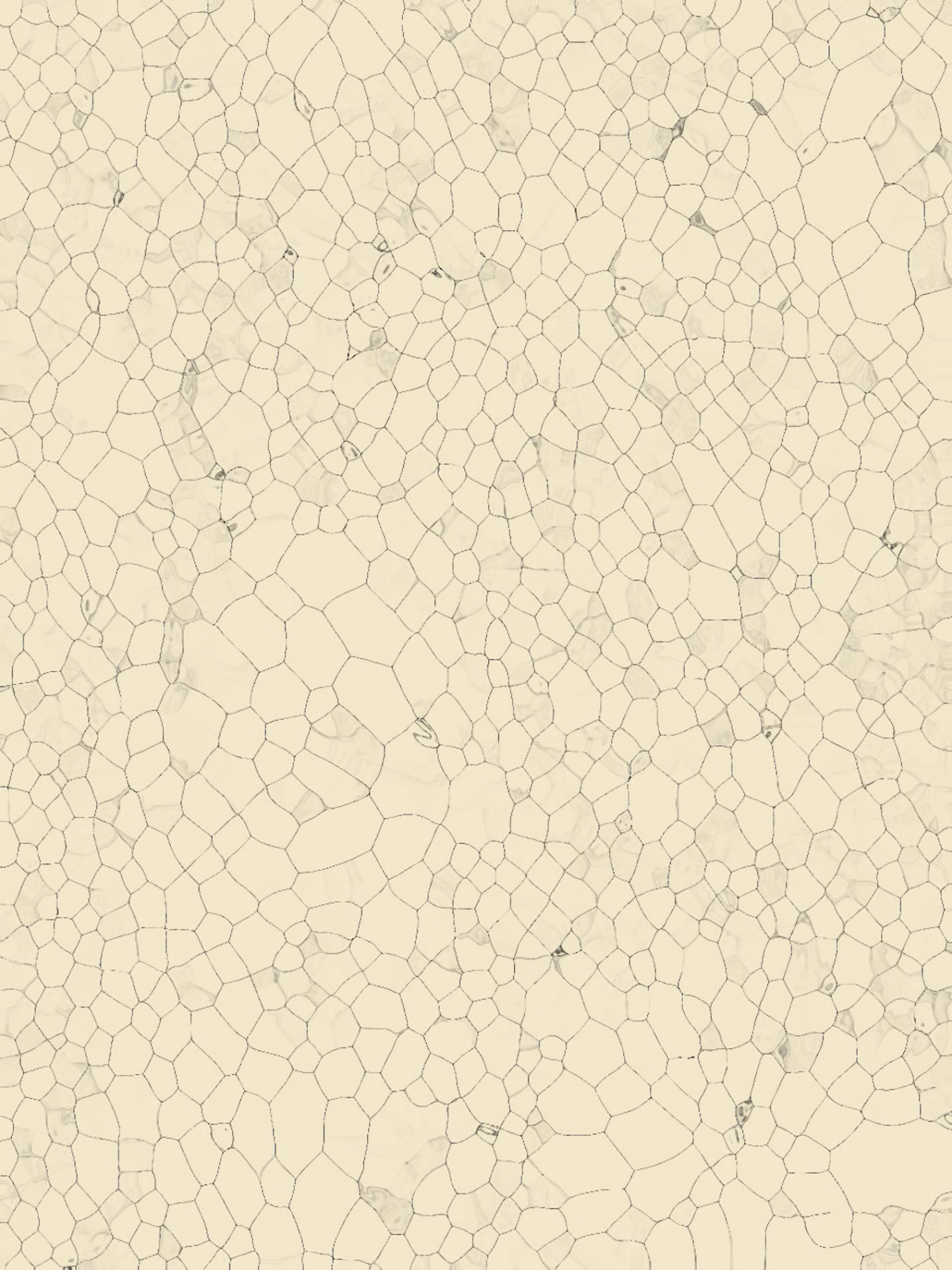
```

```

function displayFace(emotionDatabase){
  texture(personPicture);
  for(a = 0; a < faceCountour.length; a++){
    let sourceImageVertex = emotionDatabase[faceCountour[a]];
    let vertex = detections.multiFaceLandmarks[0][faceCountour[a]];

    vertex(vertex.x * width, vertex.y * height, sourceImageVertex.x * width, sourceImageVertex.y * height);
  }
  endShape(CLOSE);
}

```



(1) 84 DAYS IN DEVELOPMENT

84
84

DAYS
DAYS

IN
OF

DEVELOPMENT
FUN



21/04/2023 @ 12:19



21/04/2023 @ 13:21



28/04/2023 @ 14:19



28/04/2023 @ 14:43



30/04/2023 @ 17:28



30/04/2023 @ 17:35



21/04/2023 @ 14:08



21/04/2023 @ 14:09



28/04/2023 @ 15:40



28/04/2023 @ 16:14



30/04/2023 @ 18:40



30/04/2023 @ 19:04



02/05/2023 @ 12:43



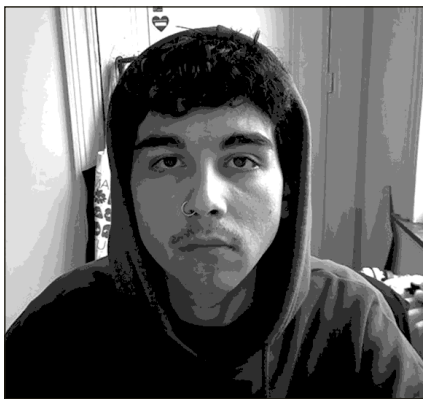
02/05/2023 @ 13:45



03/05/2023 @ 13:10



03/05/2023 @ 13:11



07/05/2023 @ 14:46



07/05/2023 @ 14:54



02/05/2023 @ 14:02



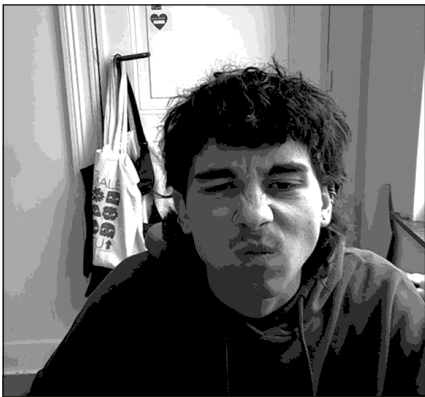
02/05/2023 @ 14:20



05/05/2023 @ 11:32



05/05/2023 @ 11:33



07/05/2023 @ 16:00



07/05/2023 @ 16:17



14/05/2023 @ 08:42



14/05/2023 @ 09:14



18/05/2023 @ 20:05



18/05/2023 @ 20:34



20/05/2023 @ 14:02



20/05/2023 @ 14:13



14/05/2023 @ 09:44



14/05/2023 @ 10:01



18/05/2023 @ 21:03



18/05/2023 @ 21:11



20/05/2023 @ 14:13



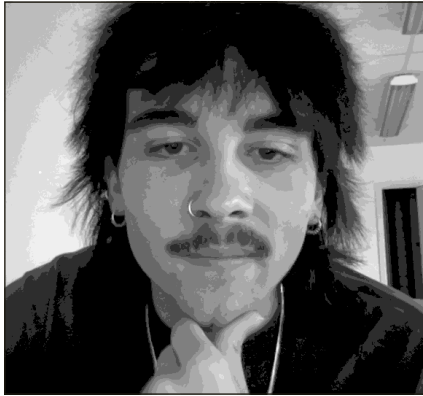
20/05/2023 @ 14:28



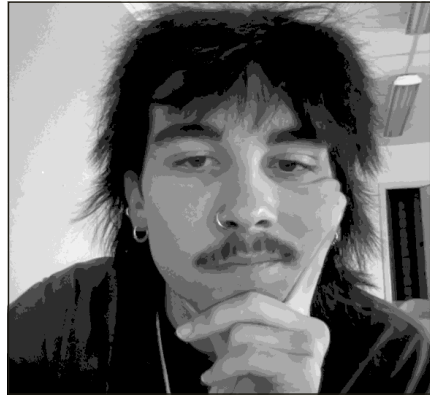
25/05/2023 @ 10:31



25/05/2023 @ 12:02



26/05/2023 @ 16:44



26/05/2023 @ 16:48



30/05/2023 @ 13:09



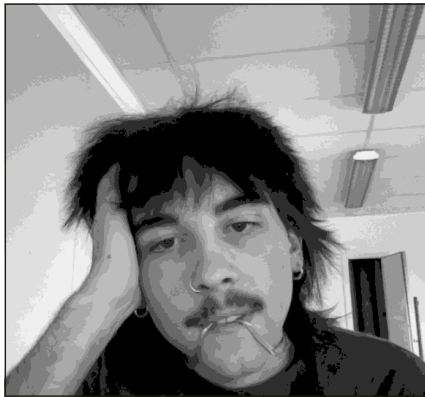
30/05/2023 @ 13:09



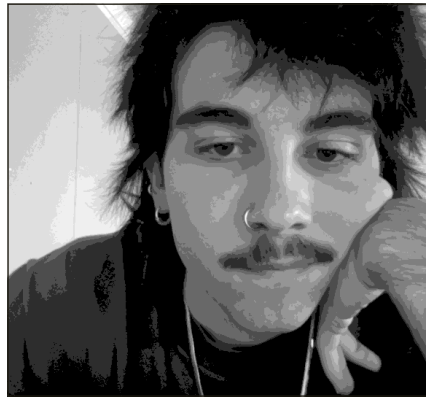
25/05/2023 @ 12:07



25/05/2023 @ 12:46



26/05/2023 @ 17:12



26/05/2023 @ 17:12



30/05/2023 @ 13:09



30/05/2023 @ 13:09



04/06/2023 @ 12:20



04/06/2023 @ 18:45



05/06/2023 @ 09:38



05/06/2023 @ 09:54



09/06/2023 @ 15:23



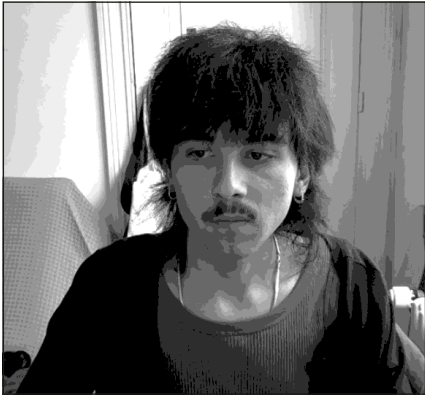
09/06/2023 @ 15:47



04/06/2023 @ 19:14



21/04/2023 @ 20:19



05/06/2023 @ 11:24



05/06/2023 @ 11:25



09/06/2023 @ 16:32



09/06/2023 @ 17:00

T Y P E F A C E S
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ANTIQUE LEGACY (OPTIMO, 2020)
P R I N T E D
M-11 THE 14TH OF JUNE PRINTLAB
2023

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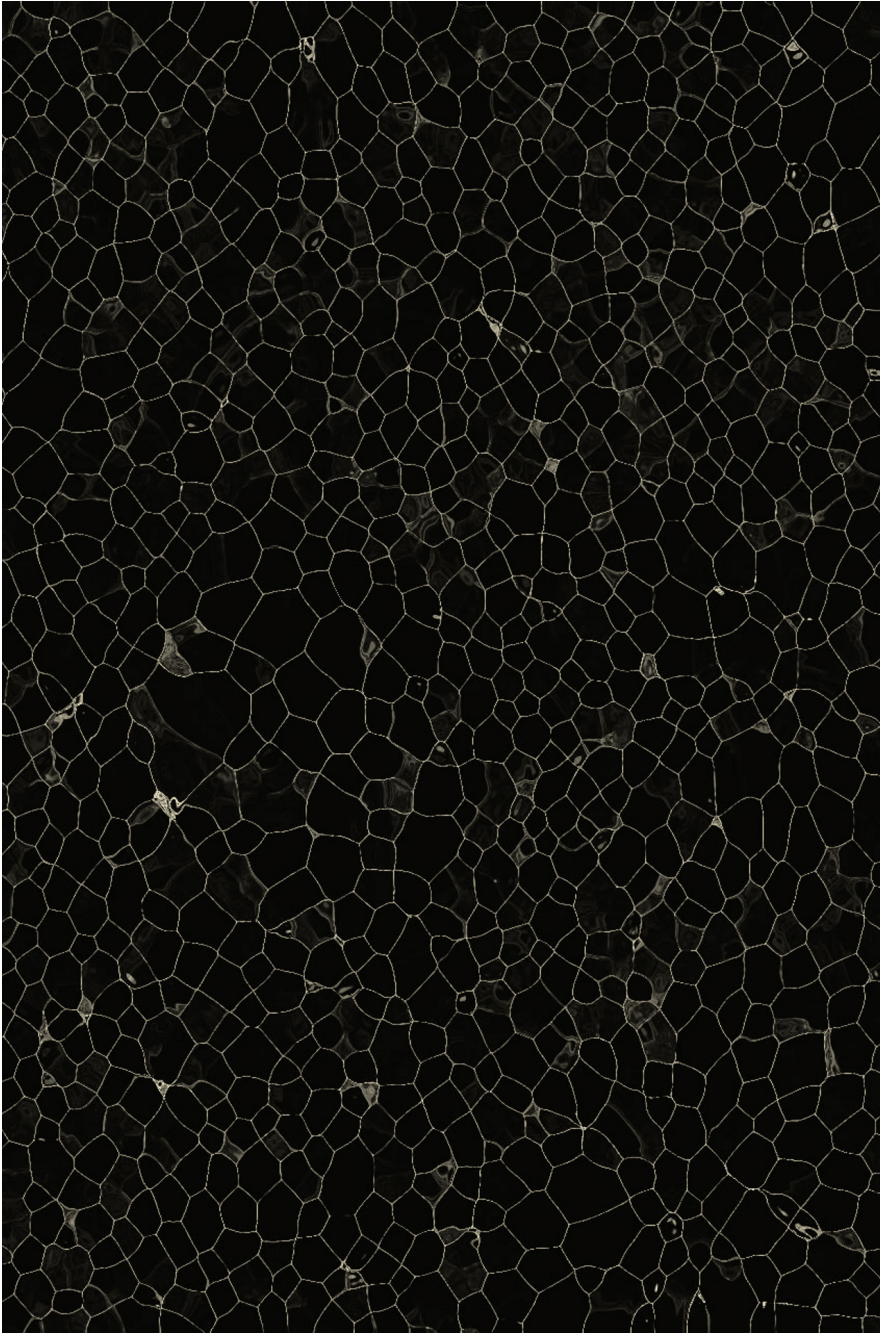
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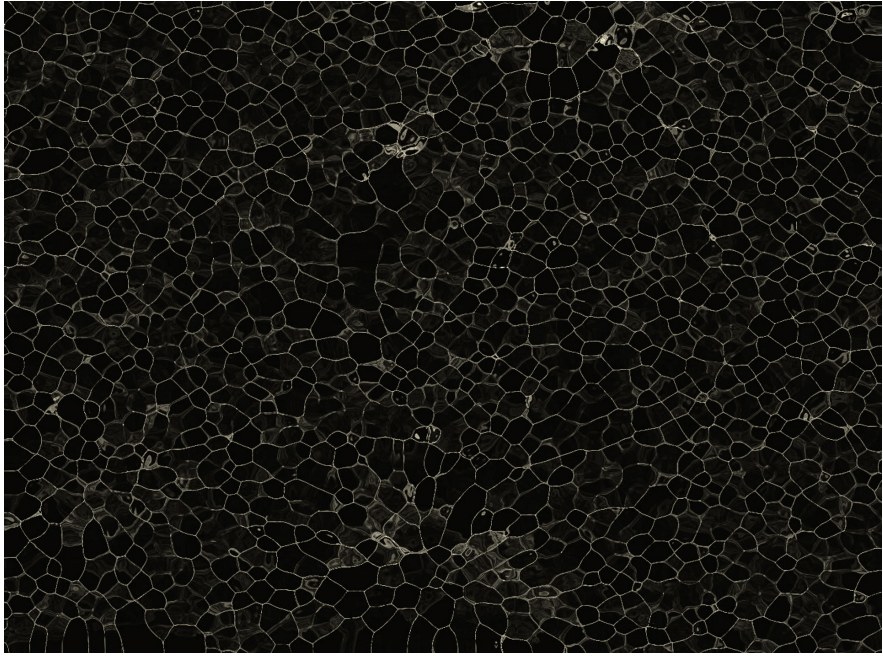
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I S T H I S Y O U

ANDREA
20

MARTINELLI
23