

FROM REAL TO VIRTUAL AND VICE VERSA

INTRODUCTION AMFI 3D DESIGN EDUCATION DEVELOPMENT

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Amsterdam Fashion Institute

PERSONAL & PROFESSIONAL BASED LEARNING

FASHION DESIGN FROM REAL TO VIRTUAL AND VICE VERSA

APPLIED SCIENCE-HVA: **CIRCULAR_DIGITAL_DIVERSITY**



Inside and outside view AMFI

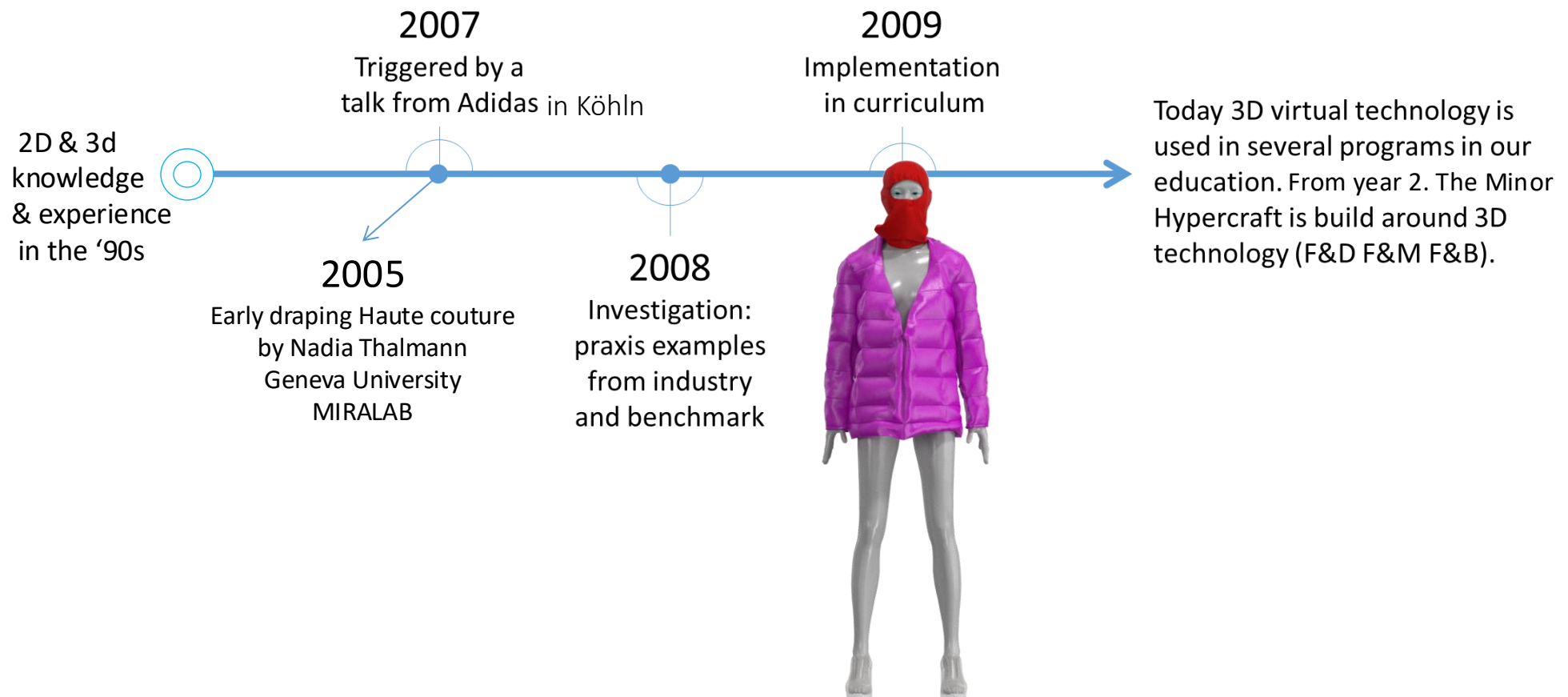


AMFI's HAS THREE DEPARTMENTS :

Fashion and Design_ Fashion and Management_ Fashion and Branding

IMPLEMENTING NEW DIGITAL WORKING METHODS & RETHINKING THE FASHION INDUSTRY

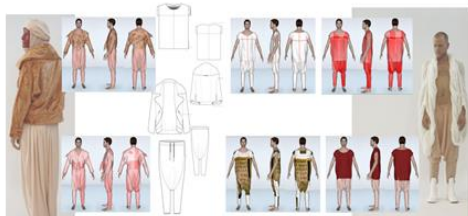
HOW THIS ALL STARTED AT THE DESIGN DEPARTMENT AMFI:



PREPARING THE FUTURE WITH AMFI'S 3D VIRTUAL TECH. GENERATION_WE RESEARCHED ALL!

PLAY WITH VARIATIONS

F&D Bram van Diepen



FIT AND SHAPE

F&D BRAM BEKKER



SMOCK & PRINT

F&D Anne van den Boogaard



PLEATS

F&D Xuan Ha Vu



2009/10

2011/12

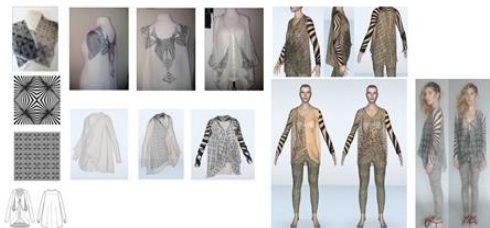
2010/11

2012/13

HYPERCRAFT

PHYSICAL BOUNDARIES, VIRTUAL SOLUTIONS

F&D Nina Wormer



CHALLENGES AND VARIATIONS

F&D Tess van Zalinge



VIRTUAL TAILORING

POWERFUL KNITS

F&D Jazz Kuijpers



VIRTUAL DEVELOPMENT

F&M Sanne Vissers & Yasmin Groot

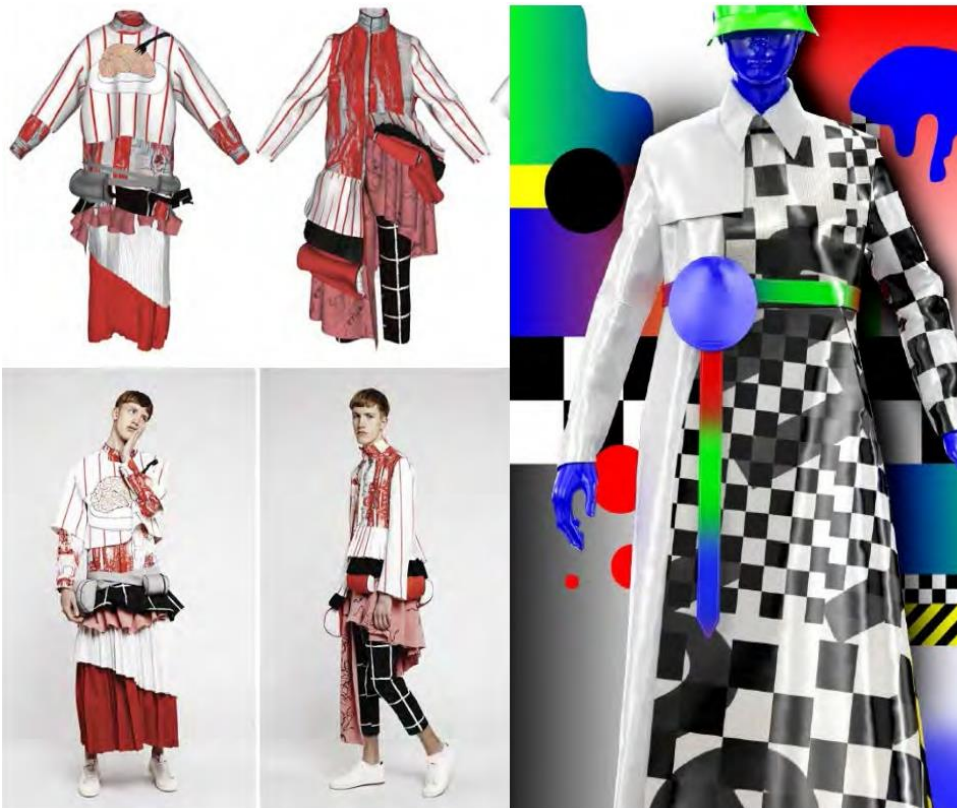


2009 NEW IMPLEMENTED IN YEAR 3: DEVELOPING THE MINOR 3D HYPERCRAFT IS A FACT

FASHION & TECHNOLOGY:

3DVIRTUAL COLLECTION DEVELOPMENT & EXPERIMENTATION

RETHINK FASHION IN A SUSTAINABLE, CREATIVE AND INNOVATIVE WAY



2019

3D Hypercraft: Playing with reality

on [february 10, 2014](#) in [events, specialisations/minors](#)

'It's as if I was in a computer game. Once you know the rules, you can play for hours', explains Design student Jennifer Droguett. This "game" is 3D virtual prototyping software developed by Lectra. Designing clothes with this technology can feel like playing a game with an avatar and is all part of the 3D Hypercraft programme at AMFI.



Some examples of first prize winner Sebastian Pleus showing his beautifully tailored menswear collection, *Light Prospector*.

Last week AMFI organised the fifth [Lectra Awards](#) where nineteen students presented their work to a jury of industry professionals and Lectra representatives. The four pairs of Management students were briefed to design sportswear specifically for the bicycle brand [Bio-racer](#). They chose their own target market and developed a concept around

2014

2014_NEW FINDINGS: THE 3D VISUAL RESPONDS CREATES A MORE SELF STEERING PROCESS

3DHYPERCRAFT ITERATIONS & PRINTS & GIFS

3 OUTFITS IN REAL, AND ALL DEVELOPED 3D DIGITAL

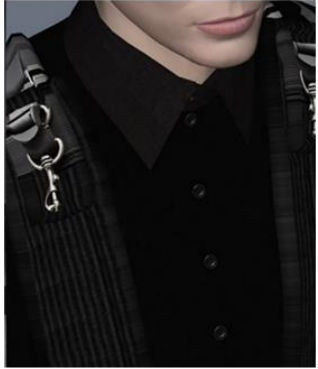
MORE AND MORE ERRORS WITH LECTRA MODARIS, NOT FUTURE PROOF



DESIGN: Christiaan de Vries, price winner Lectra Award

2014/15 NEW FINDINGS: HYPERCRAFT 100% DIGITAL DEVELOPMENT OF THE GARMENT

BUT STILL PRESENTATIONS WERE TOO STATIC, HOW CAN WE BRING THEM TO LIFE AND GET RID OF THE ERRORS WHILE WORKING



DESIGN: SARAH MAYER, price winner Lectra Award

INDUSTRY: 2015_ATACAC: RETHINKING THE WAY TO DESIGN_PRESENT_SELL _PRODUCE GARMENTS



COMPANY

WHY WE DO WHAT WE DO AND HOW

Atacac is a Swedish based fashion studio founded by Rickard Lindqvist and Jimmy Herdberg. Atacac aims to redo the way to **design, present, sell** and **produce** garments.

DESIGN

Atacac explores and develops an alternative model for designing garments that takes as its point of origin the actual, variable body. Instead of a static matrix of a rigid body, this kinetic garment construction theory starts out from balance lines and certain key biomechanical points on the body. For a deeper understanding of the design method please read the digital book [Kinetic garment construction](#).

ATACAC RESEARCH_ <https://issuu.com/rickardlindqvist>

Kinetic pattern drawing, Virtual try-on systems, Open source, Shareware

TRADITIONAL PROCESS

≈ 18 MONTHS

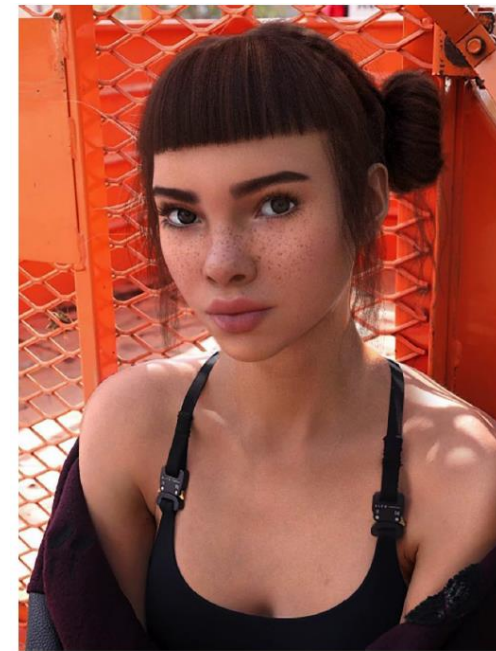
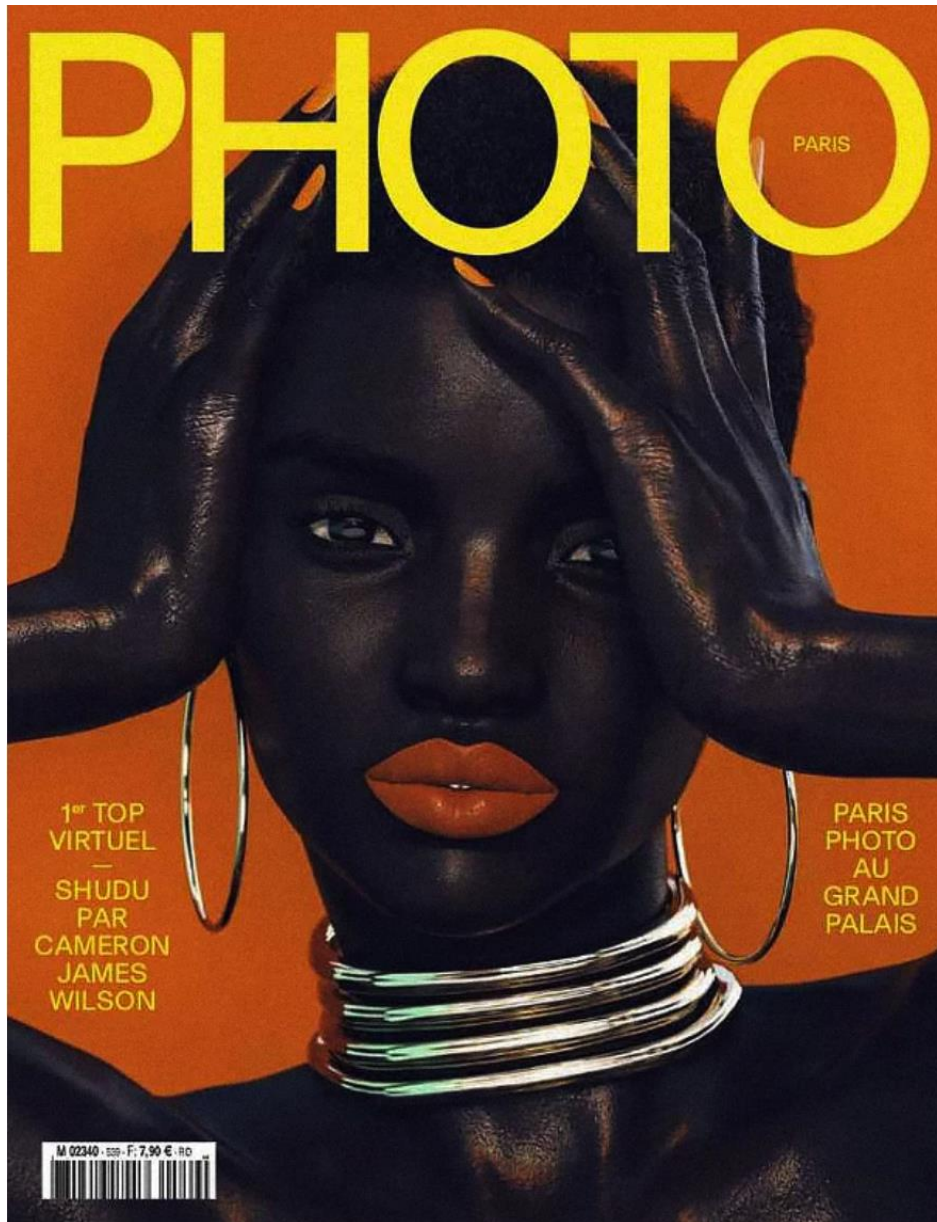


DIGITISED PROCESS

≈ 1 MONTH



INDUSTRY: 2017_THEDIIGITALS_HYPER REALISTIC 3D AVATAR_SHUDU_A 3D DIGITAL IDENTITY



Lil Miquela, @lilmiquela, (2019)



Carlings digital collection, (2018)

Models merge with the virtual environment - a new selling point – a 3D revolution

INDUSTRY: PRADA 2012_SHOWS HYPER REALISTIC 3D GARMENT SIMULATIONS_GAME RELATED



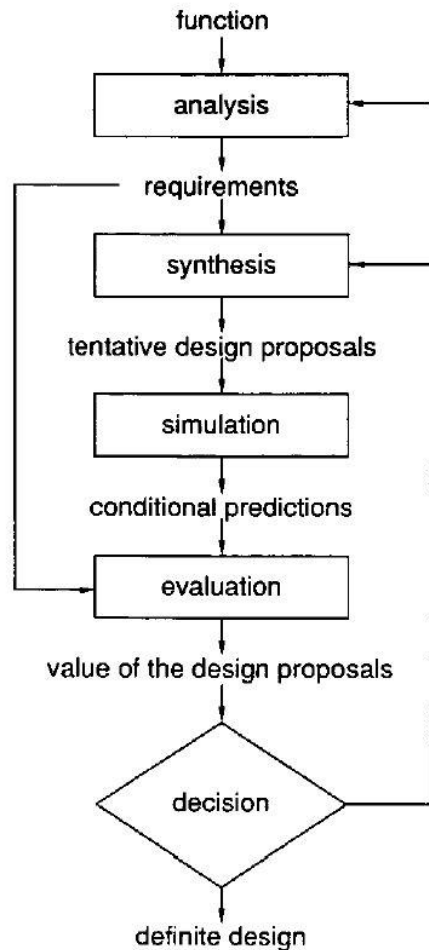
Prada, 2012.

Gets Playful With 'Final Fantasy' Produced for Arena Homme+2011, 2012 SQUARE ENIX CO.,LTD. Character Design: Tetsuya Nomura

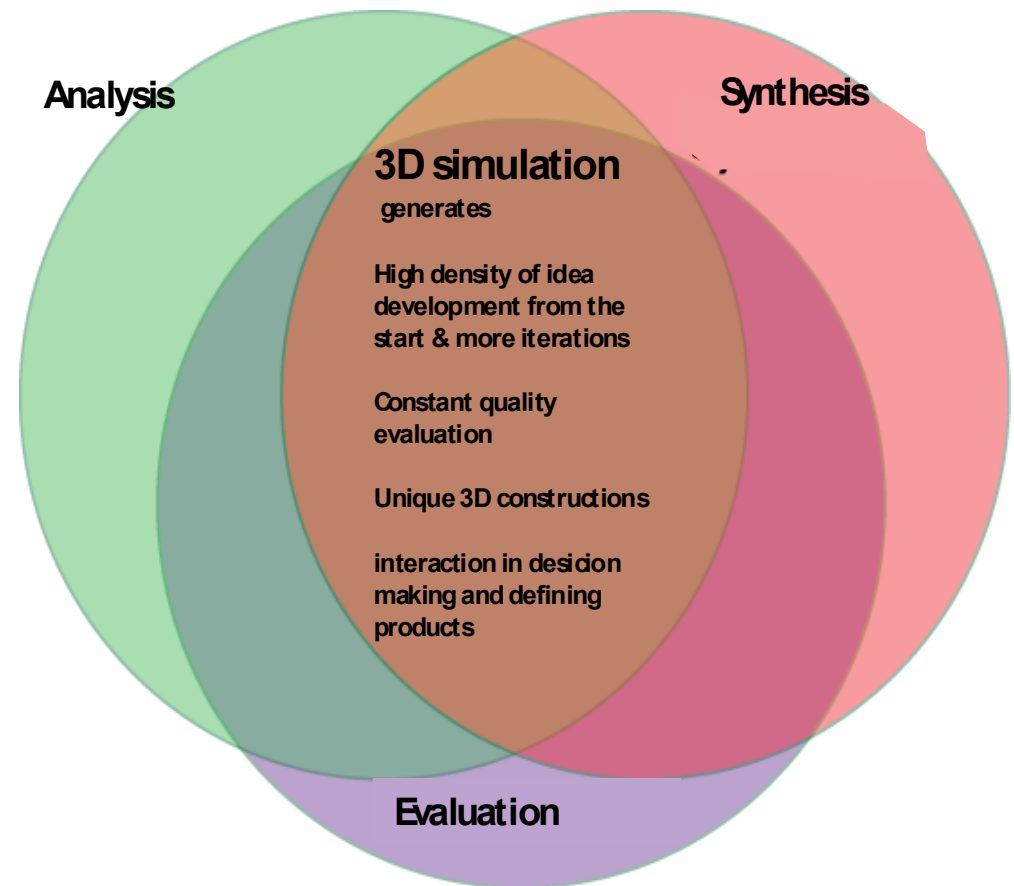
Fashion is merging with gaming -a new fashion selling point- and a 3d revolution

RESEARCH: THE IMPACT OF 3D VISUAL THINKING AND ACTING SHOWS A NEW DESIGN CYCLE

Topic Master thesis 2014: 'The influence of 3D simulation technology on the fashion design process and the consequences for higher education'



**Traditional Design Cycle,
Roozenburg, 20th century**
Standaard voor Industrieel ontwerpen



3D Digital Design Cycle
Ineke Siersema, 21st century
The analysis and synthesis merge seamlessly,
Design steps are intertwined

RESEARCH: 3D VIRTUAL PROTOTYPING_IS SUSTAINABLE_WHAT DOES IT BRING MORE?

- Possibilities are promising but barely mapped
(Grant&Hughes, 2013; Wallace, 2009)
- 3d cad in essence a tool for reducing costs
(Wallace & Eksdale, 2013)
- Workflow and interaction advantages
- 3d simulation technology changes design methods and making processes
(Salman, 2011)
- Bridging disciplines
- Impact of 3D on visual thinking, innovative attitude, change mindset
- More time for designing
(Salman, 2011)
- New 3d digital craftsmanship deepens personal handwriting
- Re-think fashion, reduce samples and develop circular thinking, produce less.

As computer 3d modelling allows designers to think about the designed object(s),
this enables designers to concentrate on decisions about objects rather than drawings.

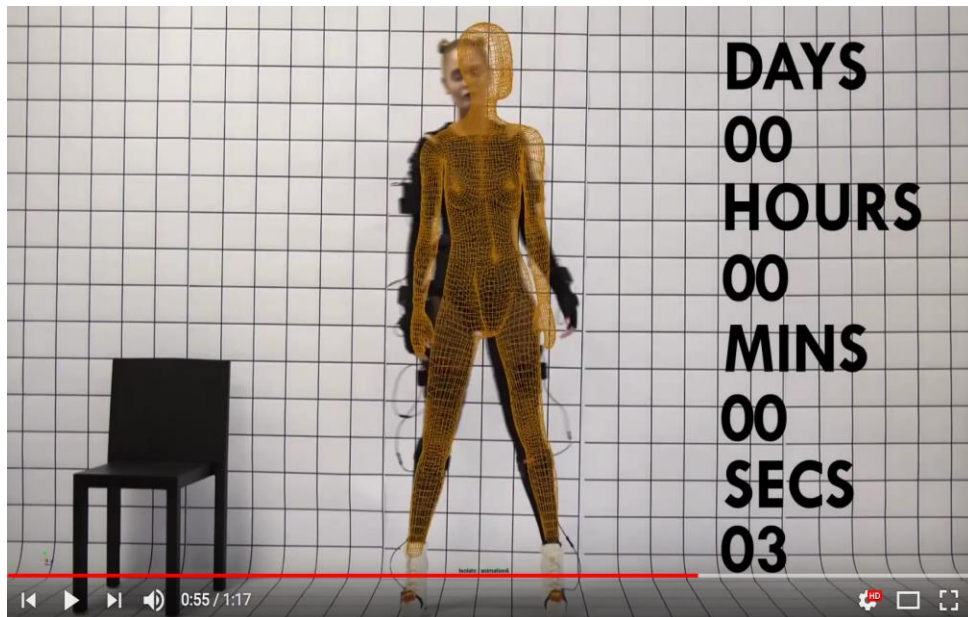
(H.Salman, 2011)

RESEARCH 2015_IMPORTANT 3D BREAK THROUGH

Research in collaboration with Industry partners: Van der Velde Lingerie & Jacob Kok Visual artist

STUDENTS RESEARCHED 3D SOFTWARE (4),
MADE A COMPARISON AND
DETECTED **CLO3D** AS MOST USER FRIENDLY_
INTUITIVE_ DESIGN DRIVEN AND FUTURE PROOF

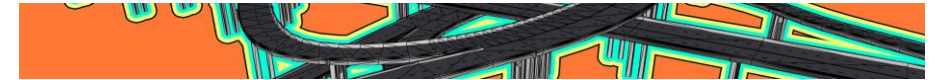
- ❑ 25% more time for the design process
- ❑ Process more self-steering
- ❑ Overview of the entire plan



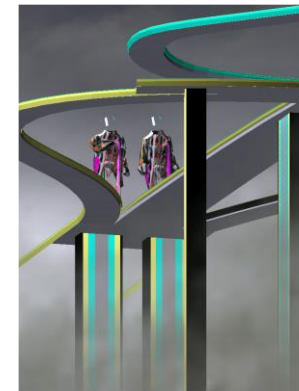
<http://medialab.hva.nl/3dfashion/>

SECOND SIGHT

THE FIRST LIVE VIRTUAL FASHION SHOW



how can we use virtual simulation
to make fashion design processes
more sustainable?



system description

The user will receive a package at home with all elements needed to experience the virtual fashion show. It includes a re-designed Google Cardboard, an invitation letter with instructions for putting together the Google Cardboard and a download link for a phone application, a joystick as interactive device to help them interact with the virtual environment, and some earplugs.

The virtual fashion show is in the format of a phone application, currently only available for android phones. A user can download the application and put the phone in the assembled Google Cardboard. By looking through the Google Cardboard, the user will enter the virtual environment created to display the 3D garment designs. The joystick functions to walk around the virtual space and the earplugs play the sound we designed.

The collection we are showing is called NOISE. Weird but recognizable this the clothes make you think of an existing collection, but you don't see it that obviously. We are creating our own landscapes, and the virtual reality will be a referenced these fluxus ties.

Everything is connected in such a way that we twined reality to give people this harmonious experience through sight, audio and navigation. All elements presented are connected to the noise the human race created.

abstract context

The two research questions (see above) brought us to the idea to create a virtual fashion show as an inspiration for young designers for showing their work and as a potential commercial solution for fashion companies to create a more sustainable design process. The virtual fashion show will also be a solution for people that want to be involved in the fashion world. They can watch the show from their homes or anywhere they are. We experimented with new technologies to explore new ways of designing and presenting fashion. Technology helped us achieve options never used before in fashion presentations.

Fashion is very much connected to the idea of providing you with 'the latest', 'the newest', 'the hottest', 'the it', it's avant-garde. Although today's fashion indeed reflect a gaze into the future, the means of presenting it are still very much like they were at the time of the first runway show in 1885.

Today's generation of fashion designers shows a desire to redefine fashion and it's rules. Designers like Dorth & Jansen and Jacob Kok critically engage with ideas that are so deeply embodied by fashion that they are the laws, never to be broken... The project has been deeply inspired by them and it is meant to inspire them in return, to provide them with new ways of presenting their collections.

Many big fashion companies are looking for ways to maintain a more sustainable lifestyle. 3D technology shows much potential in helping those companies reduce lead-time and fabric waste. It will enhance the design process.

Virtual fashion leads to less overproduction and it makes online shopping much more consumer friendly.

conclusion

From our research in 3D fashion we have concluded that there are many possibilities to provide from.

Many programs are in the very first state of their development so they are not very friendly to use yet. With those companies seeing the potential of 3D technology in some new areas such as the fashion industry, the software are maturing as they grow. The user interface becomes more friendly and the communication between software is also increasing.

For now it is quite complicated to achieve the level where we are at now, but we accumulated a lot of experience and knowledge during our project development which can be very helpful to similar projects.

Maybe the 3D modeling software will inspire companies to rethink their workflow and increase efficiency.

We hope this project will inspire more people to get together and use 3D modeling and fashion to experiment. It's not only about only being creative, it's also about adding values.

how can virtual simulation help
to extend the way of fashion
presentation?

software hardware

The main software we worked with to achieve the visual aspect of the application are Maya [5] for modeling and animation, CLO3D [4] for designing 3D clothing and simulating fabrics, Unity [7] as a game engine for developing our environment and Modo for rendering high quality imagery.

We used Google Cardboard (Phone application) and Oculus Rift (PC application) as head mounted devices for users to experience the show. The Oculus Rift offers a better image quality and a more immersive experience for the audience. The Xsens motion capture suit [2] and the Kinect V2 as motion tracking and capture devices [1] which provided us the motion data we used for the animation.

acknowledgment

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Hein Daanen
Mienke Roose
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Suzanne Van Schie

TEAM

Yang Cen
Kaveh Khorramian
Michael Lovett
Jurrien Mayrahn
Sophie Schaminée
Amber Slooten

references

1. "Motion Capturing Requirements for a Virtual Agent in an Augmented Reality Environment" written by L. Dierckx, 16.06.2014, retrieved on 16.06.2014, 2013
2. "Xsens MVN Full Body Motion Capture System" written by Xsens, 16.06.2014, retrieved on 16.06.2014, 2013
3. "Unity 5.0" written by Unity, 16.06.2014, retrieved on 16.06.2014, 2013
4. "CLO3D" written by CLO, 16.06.2014, retrieved on 16.06.2014, 2013
5. "Maya 2013" written by Autodesk, 16.06.2014, retrieved on 16.06.2014, 2013
6. "Modo" written by Autodesk, 16.06.2014, retrieved on 16.06.2014, 2013

AMFI_ALERT! _2016/17 _4_ GRADUATES SHOW THEIR DIGITAL / PHYGITAL COLLECTION



TAMARA KOCH



ELLY JI-LI PAN _WYSIWYG APPROVALS



AMBER JAE SLOOTEN _CLO3D_ ONLY DIGITAL _HOLOGRAM_ MOTION CAPTURE



NO-WASTE PRINCIPLE

All garment patterns are strictly following no-waste principle. Constructed to fit into standardly predefined width of 150cm and placement of patterns on an area of a rectangle should guarantee there will be no leftovers whatsoever. This method is handy in the fashion industry for costing.



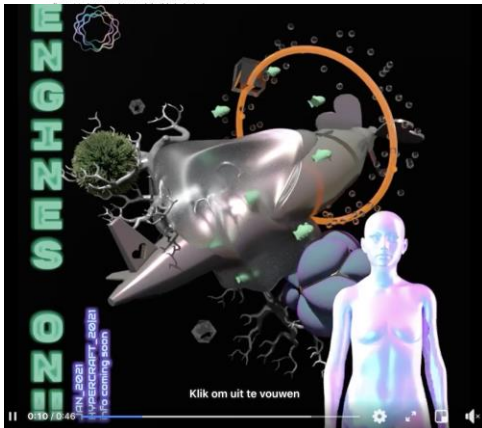
ZIL VOSTALOVA, A PHYGITAL DESIGNER _CLO3D AND C4D
'Designers should adapt digital sample to reduce waste'

2016_WE WANT TO CREATE VALUE NOT ONLY PRODUCTS



Fashion students join forces to call for a transformation of the industry at large.

"I'm so sick of the word sustainability"



NO MORE LOOK 7?!



As this change bubbles just below the surface, education must step up to the plate and acknowledge the profound moral responsibility it has in shaping the future of fashion.



STOP BUSINESS AS USUAL

Reforming our values

Despite its dubious reputation, fashion has a magnetic pull, and each year thousands of hopefuls apply to fashion universities, eager to be a part of the thriving \$1.5 trillion USD industry.

There is an undeniable pressure on universities to ensure that graduates are fully equipped to step into the commercial world of fashion. However, today, more than ever, fashion universities must ensure that they are not training students for, what many perceive as the sinking ship that is 'business as usual'.



RETHINKING FASHION EDUCATION



2017_STUDENTS ARE INVITED AT Beyond Green to show how to improve sustainability in Fashion



Keynote speech at the Amsterdam based event BEYOND GREEN, hosted by Circular Economy, a foundation that focusses on improving sustainability in the fashion industry.

keynote about the importance of virtual prototyping and virtual designing

2016_NEXT STEP: VIRTUAL REALITY IN OUR NEW EXPERIENCE ATELIER



WHO ARE WE

Students who work together with teachers, researchers, Industry, interns, minor- and graduate students from:

- Amsterdam Fashion Institute (AMFI),
- Communication & Multimedia Design (CMD),
- Media, Information and Communication (MIC),
- Information Communication Technology (ICT),
- Interaction Engineering,
- Graphic design & communication,
- Architecture.

COMMUNITY OF PRACTICE

In the VR/AR atelier, **we work closely together with the industry** on complex problems.

The minor and atelier are set up as an education innovation and is therefore focused on the themes:

“Getting & bringing”,
“interdisciplinarity”,
“personal learning”,
“thinking & doing”.

Agile & sprints- process coaching- expert meetings-
courses- masterclasses & workshops

Presenting a working prototype and exposition.



NEXT STEP_RESEARCH COLLABORATION WITH THE INDUSTRY_DISCIPLINES MEET



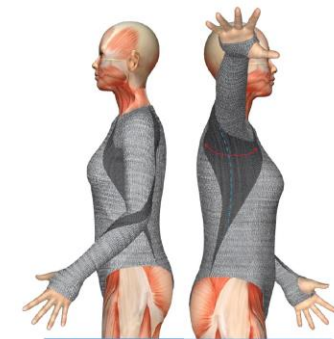
INTERACTIVE MAGAZINE FOR SUSTAINABLE FASHION BRAND

Although the companies' requests widely differ, the question that have to be asked are often the same:

- What's the story you like to tell?
- How do we interact?
- How do we create an immersive experience?
- What is already out there
- And what can we adopt?



Vlisco_mobile tailor

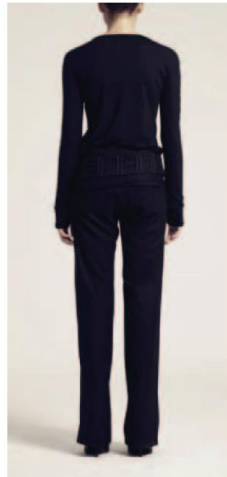
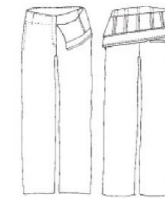
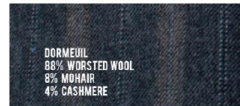


The grain line of this bodysuit is positioned perpendicular to the pattern piece derived from the garment, to make sure the direction the elasticity is at its highest from the side of the body along the armpits into the arm.

2016_MINOR INDIVIDUALS_RE-SEARCH_RE-CREATE HERITAGE_& UNIQUE PIECES (Duals AW12)

UNZIPPED PANTS

Article number 126Po
Sizes 36, 38, 40, 42

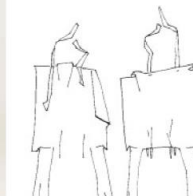
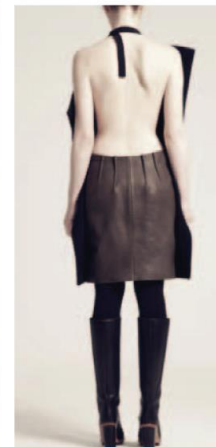
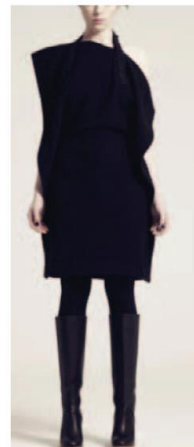


VIRTUAL EXPERIENCE

CL03D/ DUALS selected heritage pieces

SQUARE DRESS

Article number 123Do
Sizes 36, 38, 40, 42
Contrast fabric grey leather

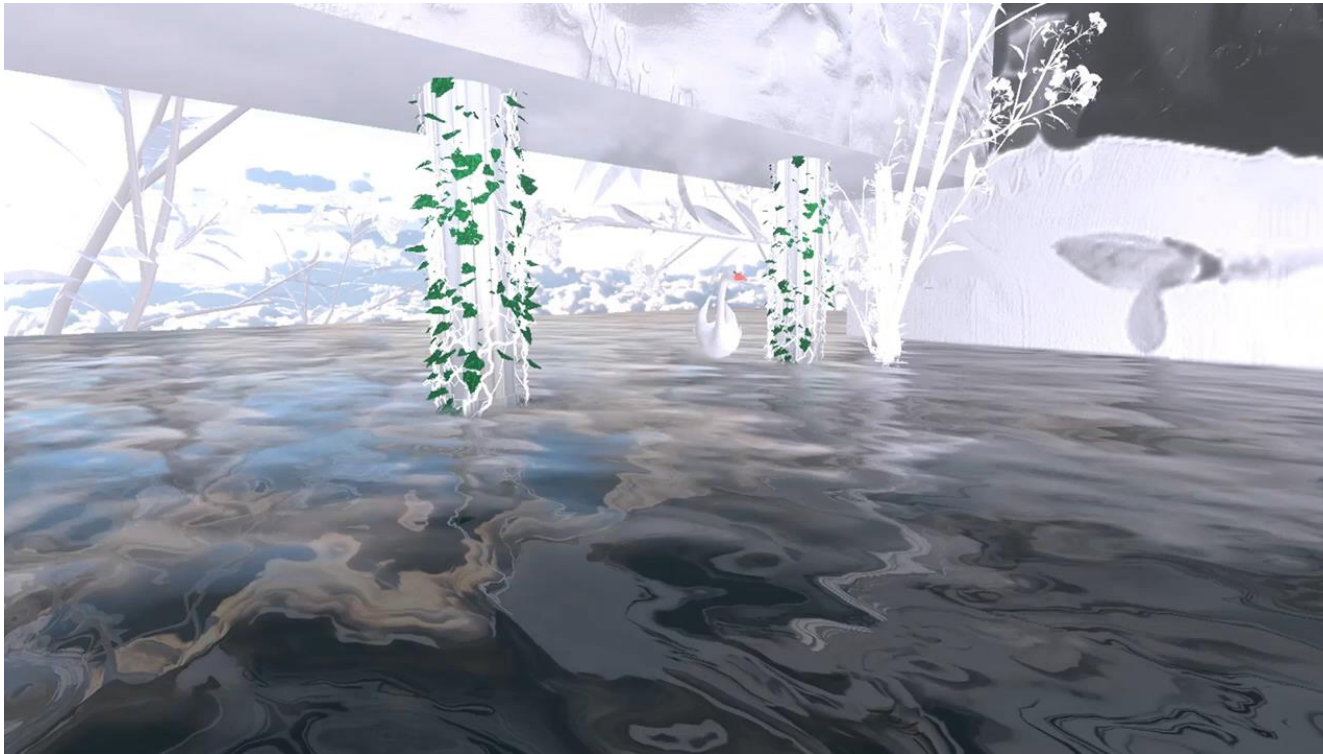


<http://www.amsterdamcreativeindustries.com/project/virtual-fashion-experience>

2017_NEW: BRIDGING STUDY PROGRAMM_MINOR VR MEETS MINOR 3D HYPERCRAFT!



Ferry Schiffelers



Pip van Balhuizen



Marlies Reukers

Minor VRE and Hypercraft In collaboration with Ensemble de Solution

To be a relevant designer today means ignoring rules of existing disciplines, structures, systems and behaviour. Instead responding with astute observation to form intelligent strategy to frame how to approach a design opportunity and social issue. **Adam Peacock**

2018/19 GRADUATION WITH NO PHYSICAL PROTOTYPE_FROM REAL TO VIRTUAL AND VICE VERSA

1

Personal Collaging



Collage modular design experiments

WYSIWYG

2

Digital Tailoring



3D digital Designs as Toile de luxe (CLO3d)

3

Final Uniforms

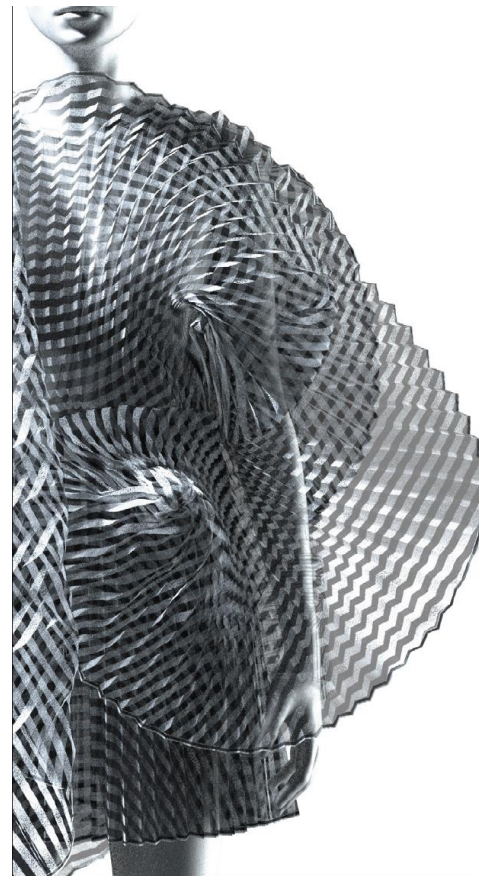


No sample made, directly realized in real with Toile de Luxe files (CLO3d)

Process Lorenzo Gentile Polese _2019

MORE ABOUT 3DHYPERCRAFT & **DIGITAL CRAFTSMANSHIP**

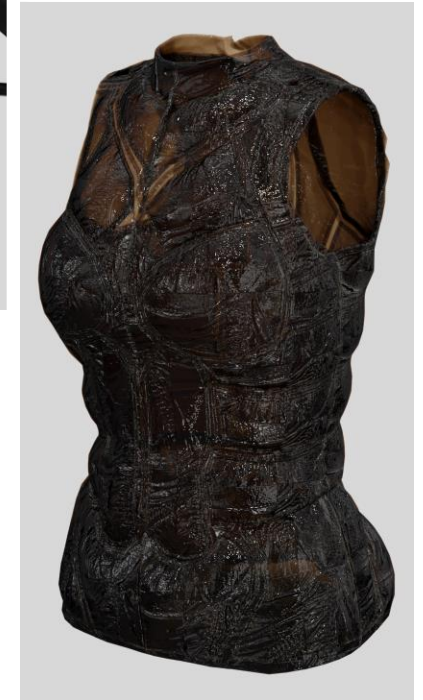
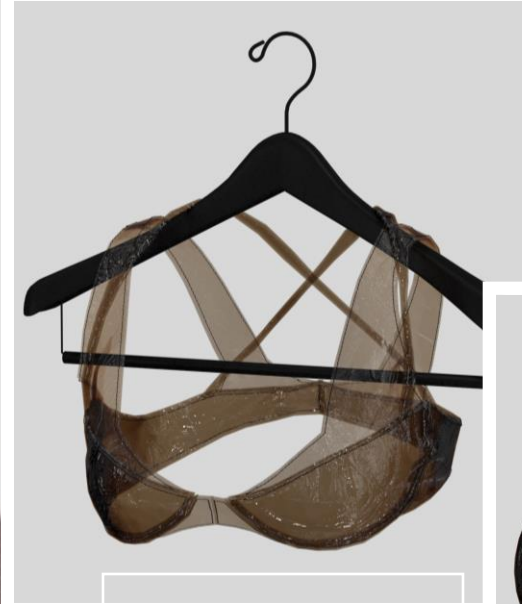
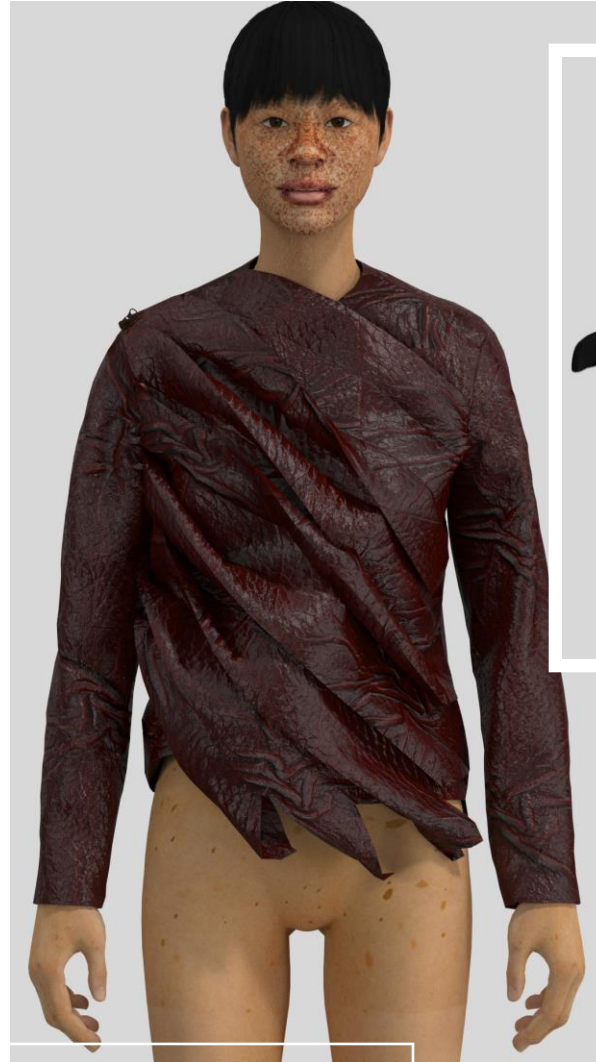
THE AMFI MINOR WHERE STUDENTS EXPLORE THE DIGITAL WORLD OF FASHION.
A RIDE INTO THE FUTURE OF THE FASHION INDUSTRY IS MADE BY EXPERIMENTING WITH
DIFFERENT SOFTWARE APPLICATIONS THAT PROVIDE IN-DEPTH KNOW HOW , GREAT
DESIGN AND TECHNICAL SKILLS. ALL TO PREPARE FOR THE EVENTUAL.



_AVATAR _ FABRIC MANIPULATION _ TEXTURING _ AUTOMIZATION _

work from students 3DHypercraft 2021

“Through the combination of traditional and innovative digital craftsmanship, the hyper-crafts, a new generation designers is born” (Grant & Hughes, 2013)



TEXTURE LIBRARY

- Bumps
- Burn Scars
- Stitches Moon
- Stitches
- Hand Palm
- Stitches **Kombucha**
- Kombucha
- Large Spots
- Skin Structure
- Pores
- Folds
- Veins
- Glass Bumps

CORNEL DOORNEBOSCH

MATERIAL VISUALISATION

HEAT CENSORSHIP
SERIES



SHAPE SHIFTING
SERIES



SKIN SERIES



MARK SERIES



CORNEL DOORNEBOSCH



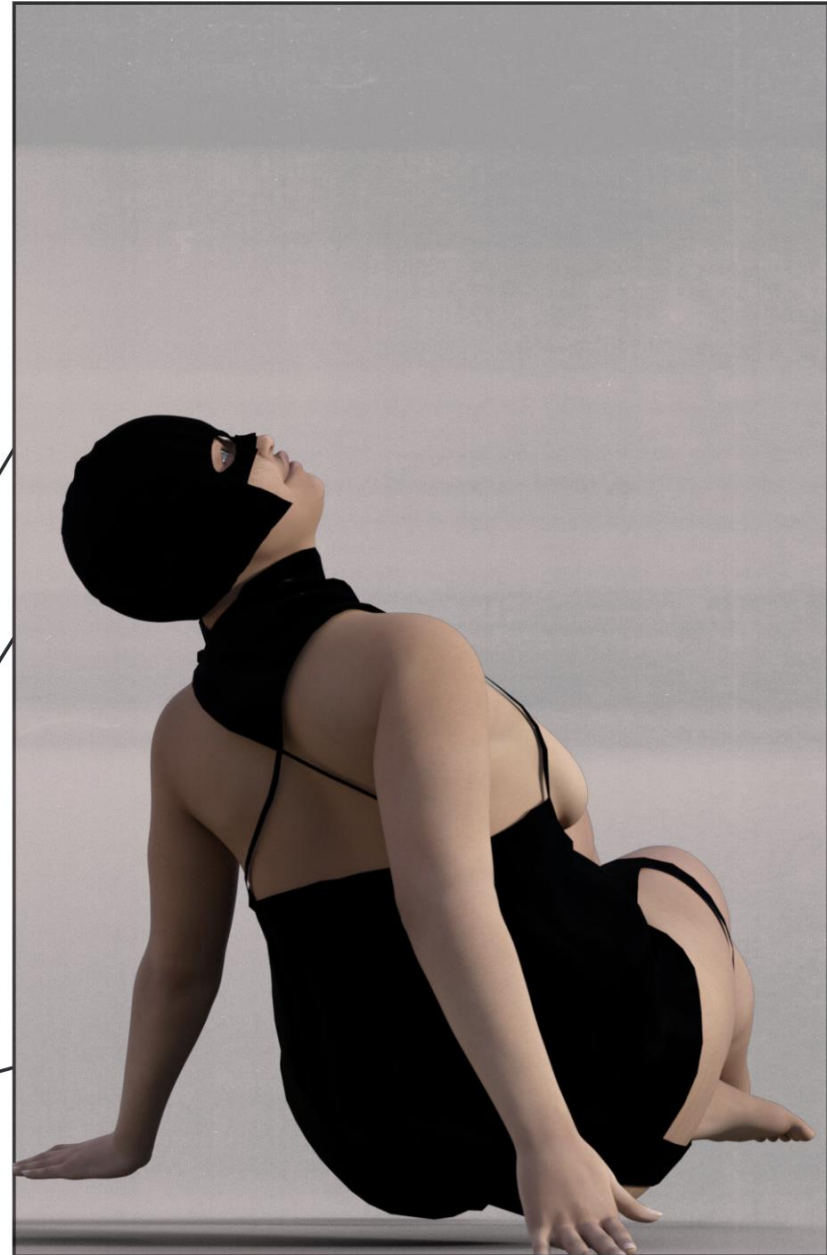
AVATARS

THE DIGITAL MUSE LGBTIQ+ Collection 3D HYPERCRAFT 2021

REIMINAGED CORSET

AND MASK

PURCHASE ON [VRTLSX.COM](https://www.vrtilsx.com)



Romy Sterken divers media_2019

HYPERCRAFT 2020

HOME

VIRTUAL SHOWROOM

MEET THE CREATORS

More



HYPERCRAFT EVENT ONLINE

<https://eicvq8.wixsite.com/hypercraft2020>



2018_NEW IN YEAR 2: DEVELOPING 3D DIGITAL CRAFTMANSHIP WITH THE INDUSTRY

EXAMPLES : CLO3D_DRAWING--CREATING IN REAL--RECREATE IN A DIGITAL TWIN



BRITT VAN DER LOOY

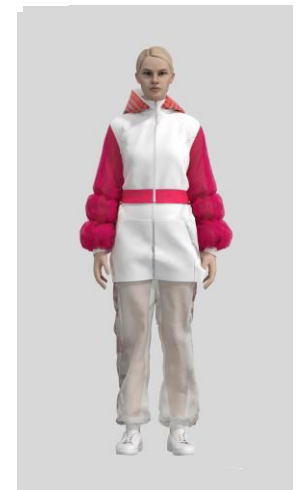
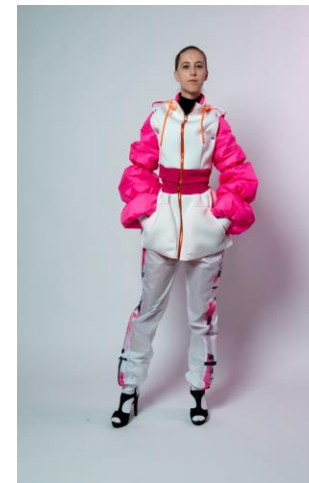


LAURA SLINGS



RUBEN BREED

LOTTE VAN STIJN



NEW TEACHING MATERIAL_ BLENDED LEARNING_ SELFSTUDY_ LEARNING BY DOING

LESSON 3: Bomber, alter patterns, add bonding, express ribbing and add zipper

PATROON AANPASSEN BOMBER/HOOBY STIKKEN
BOORDJE MET RIB VERSTEVIGEN RAND EN VLAKE
OUTFIT 2 BOMBER EN BROEK RIJTS INZETTEN
NAAD AANTKENEN INLEG

LES 3



We create this Bomber Burberry look

***Exercise*: Assemble the Bomber:** use pattern BOMBER JACKET_38.dxf

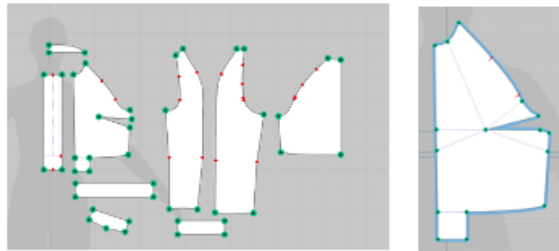
-Open first the 3D simulated trouser from last week and then add the Bomber pattern.

Bomber pattern:

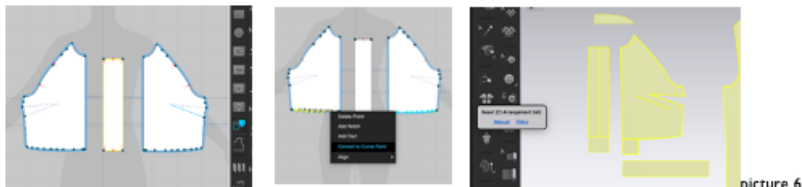
- Duplicate arrange and organize your patterns in the 2D screen.
- Move the dart to the sleeve or to mid front or neckline, as you prefer (first make a clone reference line)
- Now you can synchronize 2D arrangement in the 3D screen (picture 6 below)
- Activate the blue Placement points for quick and best position on the avatar and stitch the patterns together



A technical drawing in 3D



Pattern Bomber, clone pattern pieces with linked editing (move dart with line-cut and merge)



picture 6

Where needed clean up the pattern:

- Convert anchor points to curve points where possible.
- Delete all useless points and add notches where needed

Create internal lines and 2 new options:

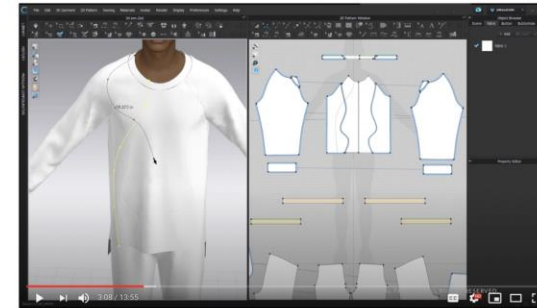
- Use the Trace tool: to activate internal lines
- Place an internal line for the pocket flap, we only stitch the flap in its place no lining yet.
- Remove the seam in the back panel by using -Merge-
- Use -Unfold- to double the pattern piece for the collar

I-*Study material*

A-3D Pen garment- draw on the 3D garment and edit pattern

In this tutorial you will learn how to use the 3D Pen tools to draw on an existing garment.

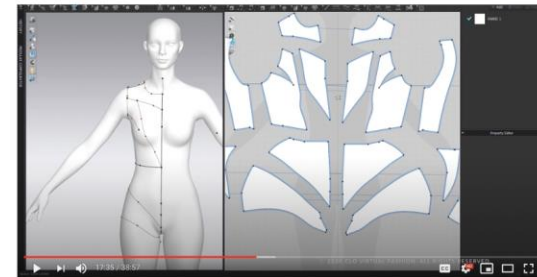
<https://www.youtube.com/watch?v=v2AUI9gKWuA>



B-3D Pen Avatar- draw on the 3D body, use flattening and edit pattern

In this tutorial you will learn how to use the CLO Flattening tools. These tools allow you to draw and design patterns and seams on an Avatar and extract them out to create garments.

<https://youtu.be/6nKJITXU0P0>



MIRO TUMBLR TOOL BOOK

NEW WORKING METHODS_NEW TEACHING MATERIAL_NEW ASSESSMENT CRITERIA

THE FABRIC _ TEXTURING _ CONSTRUCTION _ SEAMS _ FINISHINGS

TEXTURING SPECIFICS_

VISUAL PROPERTIES

-OPTIMIZE YOUR PICTURE IN PHOTOSHOP & GENERATE TEXTURE-, NORMAL-, DISPLACEMENT- AND ROUGHNESS MAP

<https://cpetry.github.io/Norm>

aiMap-Online/

<https://www.vizoo3d.com/>



TRUE_TO_LIFE TEXTURING USES DIFFERENT "MAPS" TO SHOW 3D REALISM sites: [TEXTUREHAVEN.com](http://TextureHaven.com) <https://3dtextures.me/category/fabric/> [PIXPLANT.com](http://PixPlant.com)



TEXTURE MAP_ REFERENCE TO REAL



NORMAL MAP, FOR THE 3D RELIEF

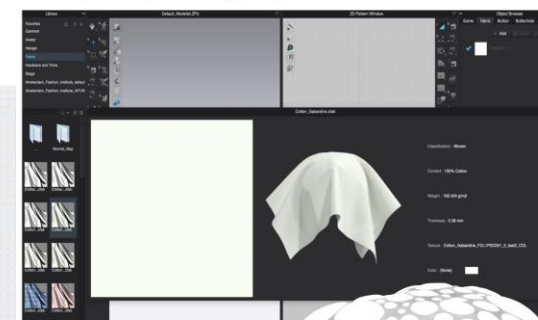


DISPLACEMENT MAP, FOR THICKNESS ? VOLUME



ROUGHNESS MAP, FOR LIGHT REFLECTION

THE FABRIC _ TEXTURING _ CONSTRUCTION _ SEAMS _ FINISHINGS



RELATE THE DRAPE TO REAL_ TAKE THE BEST FABRIC DRAPE FROM THE

POSE THAT SUIT'S THE CONCEPT



SEAMS_

FINISHINGS_STYLING



SEAMS, FINISHINGS, CLOSURES AND MATERIAL SPECIFICS MUST BE SHOWN IN A CONVINCING MANNER BEST PROPORTIONS IN ALL DETAILS

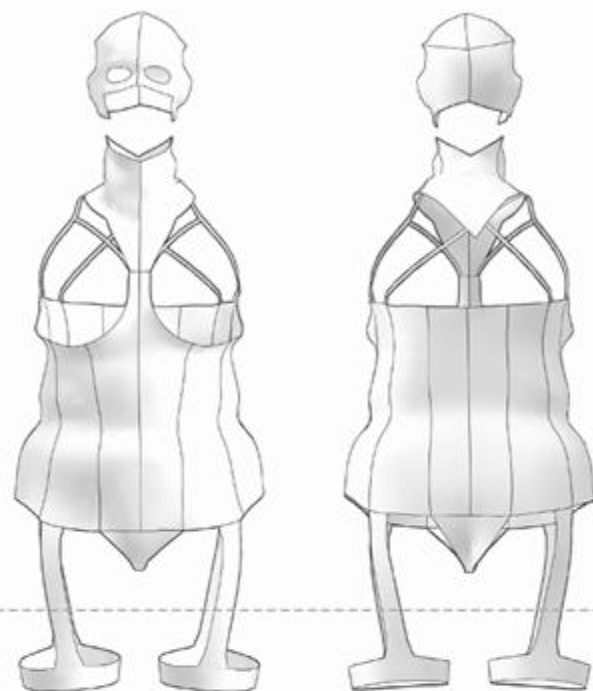


ADD STYLING INFORMATION, HOW TO WEAR IT

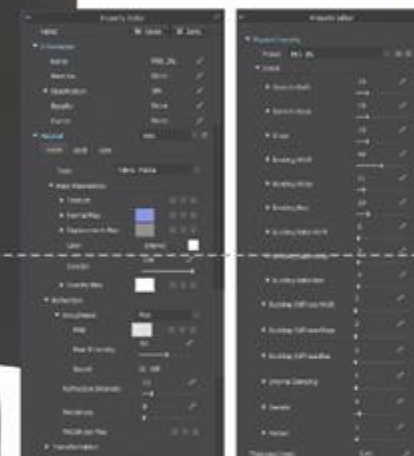
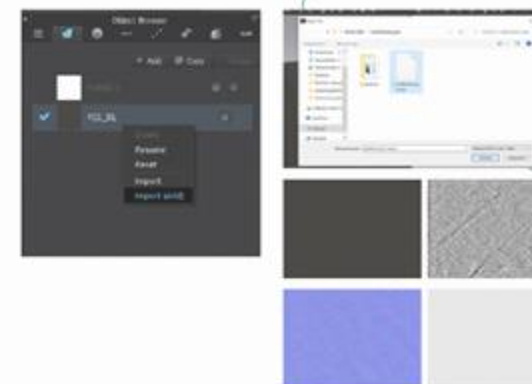
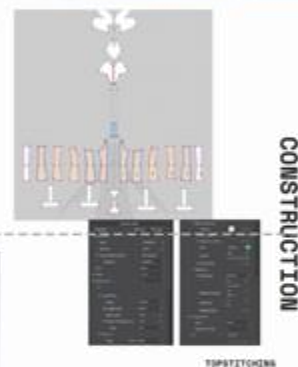
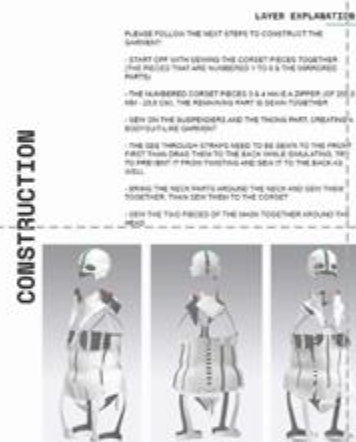


IMPORTANT DETAILS tell THE STORY OF YOUR GARMENT ARE YOU READY FOR THE INSIDE STORY?

NEW COMMUNICATION METHODS TO COMMUNICATE PRODUCTION DEVELOPMENT



SCHEMATIC RENDER
REIMAGINED CORSET & MASK
DIGITAL FABRICS



SYNTHETIC LEATH

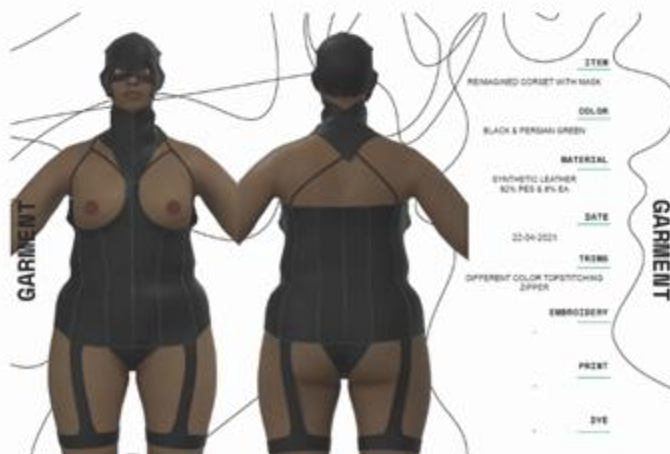
PLEASE FOLLOW THE NEXT STEPS TO USE THIS DIGITAL MATERIAL:

- ADD A BLANK FABRIC TO YOUR OBJECT BROWSER

- RIGHT CLICK ON THE FABRIC, CLICK 'IMPORT (ADD)'; CHOOSE THE ENCLOSED XTEX FILE

- WHEN YOU'RE UNABLE TO ADD THE XTEX FILE, USE THE TEXTURE, NORMAL, DISPLACEMENT & ROUGHNESS MAP AND PUT THEM IN THE PROPERTY EDITOR

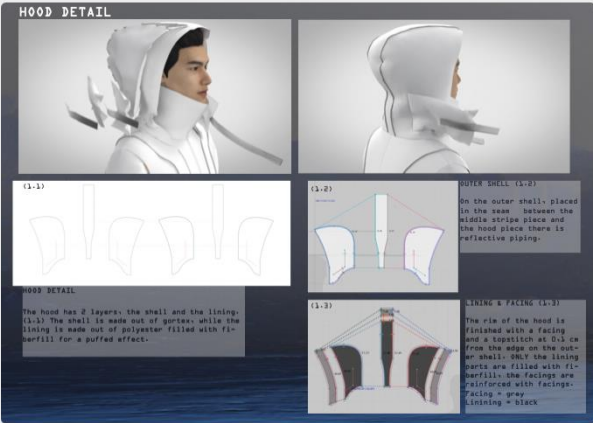
- MAKE SURE THAT THE PHYSICAL PROPERTIES ARE THE EXACT SAME AS THE ONE ON THE PICTURE



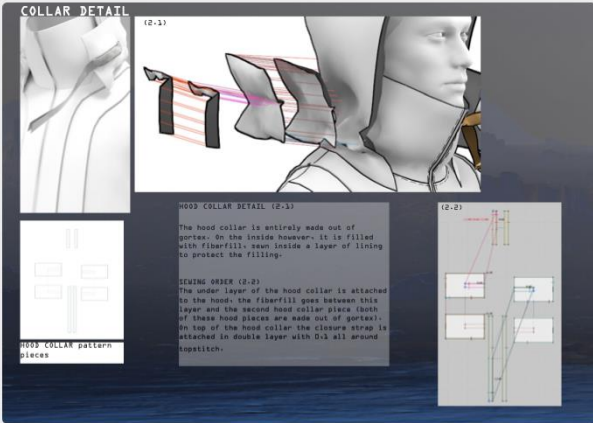
Hypertechpack

NEW TECH-PACK

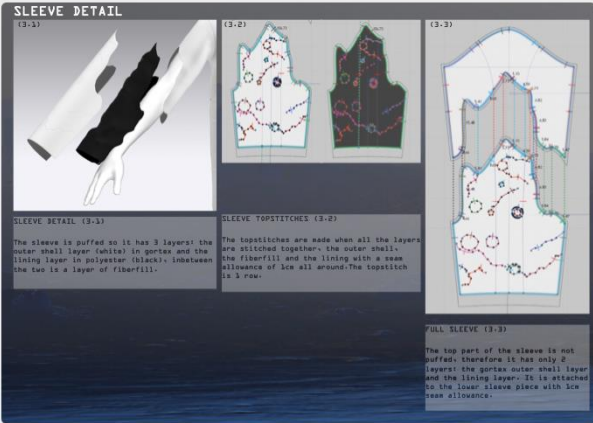
NEW COMMUNICATION METHODS TO COMMUNICATE PRODUCTION DEVELOPMENT



3



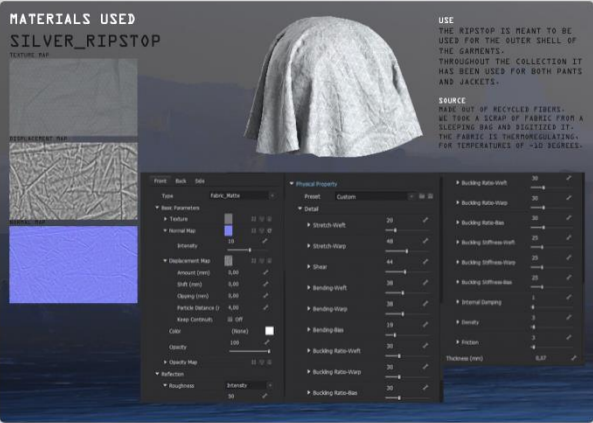
4



5



6

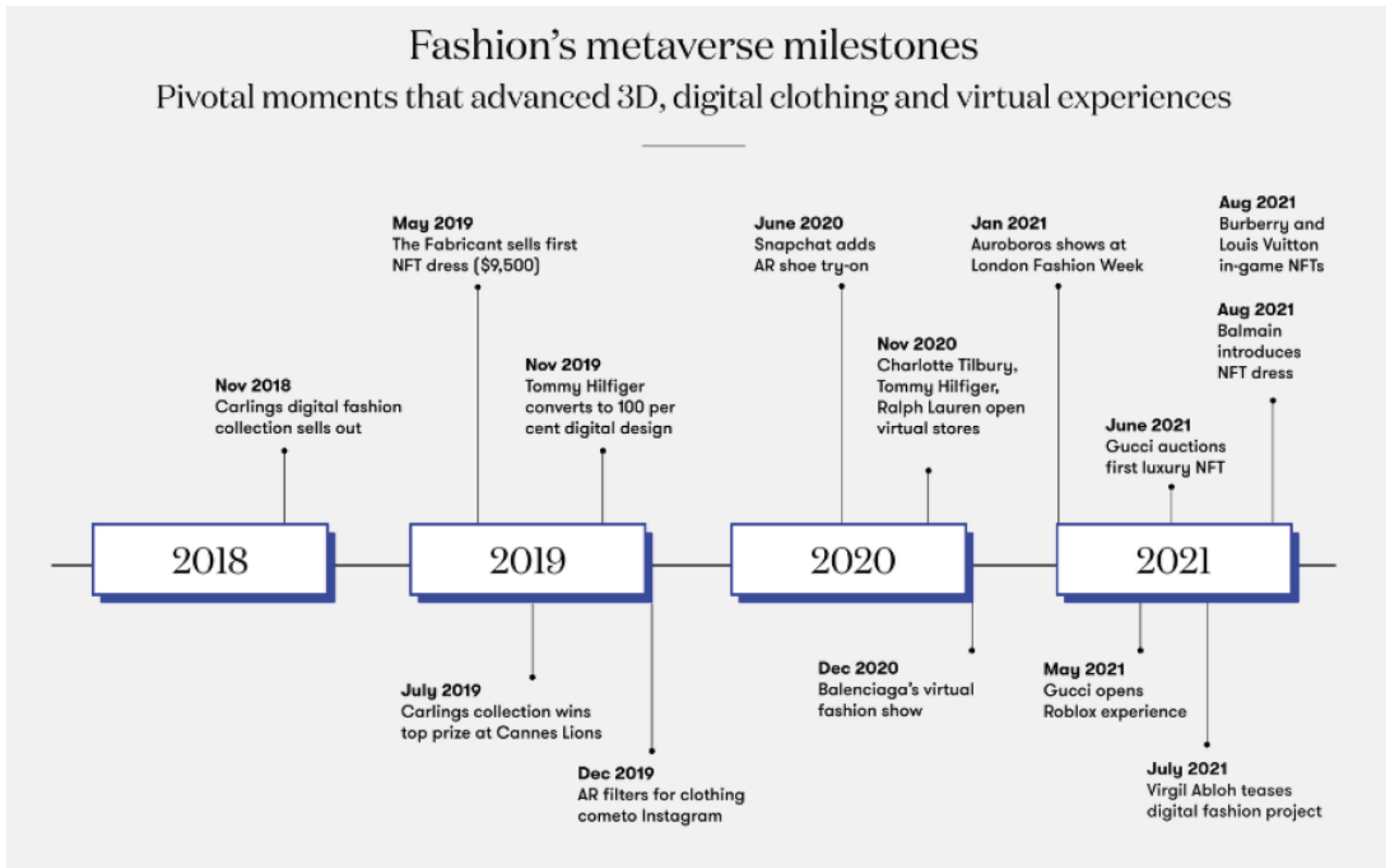


7



8

REF: CRISTINA CODREANU



NEW VOCABULARY AND NEW PRINCIPLES OF MAKING



DIGITAL FASHION DESIGN VOCABULARY

Combining traditional pattern-cutting craft with the creative work of a fashion designer.

NEW VOCABULARY AND NEW PRINCIPLES OF MAKING

PARTICLE DISTANCE

Particle distance determines the size of the polygonal mesh.

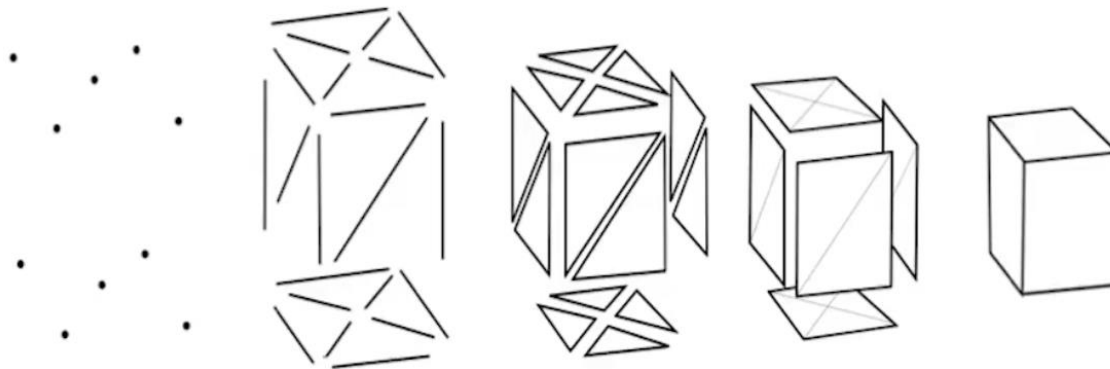
What is a polygonal mesh in 3D modelling?

Polygonal mesh is a collection of vertices, edges and faces that all together define a shape of 3D object. Faces consist of triangles (triangle mesh) or quadrilaterals (quads).

The lower the number of particle distance is the more realistic folds the fabric has.

Low resolution garment (high number of particle distance).

High resolution garment (lower number) can slower down simulation. Usually this step is done when finalising the design.



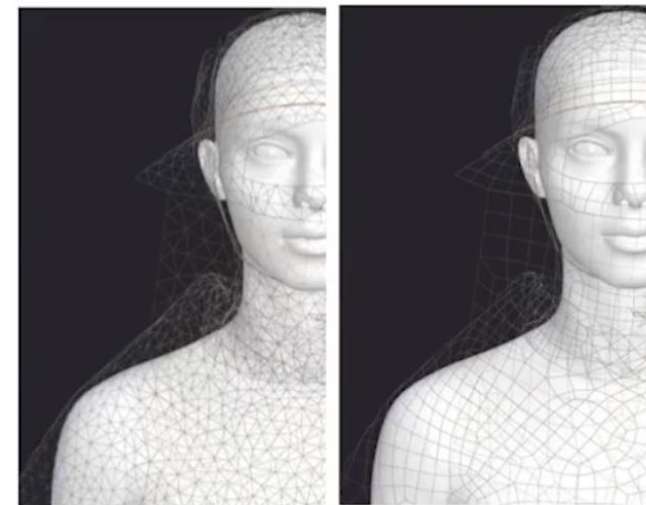
vertices

edges

faces

polygon

object



triangular mesh

quads

THE FASHION INDUSTRY NEEDS SKILLED PEOPLE _AMFI INTERNS & GRADUATES WORK AT:

-PTTRNS

-PVH_STITCH

-ATACAC

-ADIDAS

-H&M

-BURBERRY

-GYZMO-LAB

-SCOTCH EN SODA

-VIVIENNE WESTWOOD

-THE FABRICANT

-PIXELPOOL

-INDG

-THE NEXT CARTEL

-THE FABRICANT

-G-STAR

-HUGO BOSS & more....

A CASE STUDY WE DEVELOPED WITH BURBERRY



DIGITAL PRODUCT TWINS

IN 2017 WE LAUNCHED THE DIGITAL PRODUCT TWINS PROJECT AT BURBERRY TO INTRODUCE DIGITAL PRODUCT CREATION ACROSS MULTIPLE AREAS OF THE BUSINESS

KEY MEMBERS OF THE CAD, I.T, PRODUCT ENGINEERING AND CGI DEPARTMENTS FORMED A PROJECT TEAM, AND HAVE BEEN WORKING TOGETHER TO INTEGRATE NEW WAYS OF WORKING THROUGH THE USE OF 3D TECHNOLOGY

BY HOLDING WORKSHOPS WITH THE AREAS OF THE BUSINESS IDENTIFIED TO BENEFIT FROM DPC WE WERE ABLE TO ESTABLISH THE BENEFITS AND RISKS AND CONSTRUCT A CLEAR 3 YEAR ROADMAP

TYPES OF 3D ASSET

DIGITAL TOILE

- CORE AVATAR
- OUTER SHELL SINGLE LAYER
- FACINGS WHERE APPROPRIATE
- LINING WHERE APPROPRIATE
- ELASTIC WHERE APPROPRIATE
- CORRECT FABRIC PROPERTIES
- DRAWN DETAILS
- PARTICLE DISTANCE 20
- FASTENINGS STITCHED
- COLLISION 2.5 MM



DIGITAL PRINT ASSET

- CLO3D BURBERRY AVATARS
- OUTER SHELL AND ALL PRINTED PATTERN PIECES
- CORRECT FABRIC PROPERTIES
- PARTICLE DISTANCE 20 MM
- ELASTIC DEPENDING ON PURPOSE
- FASTENINGS STITCHED
- COLLISION 2.5 MM



WORKING 3D ASSET

- AVATAR TO BE SPECIFIED
- OUTER SHELL SINGLE LAYER
- FACINGS
- LINING WHERE RELEVANT TO FIT
- BUTTONS
- BUTTONHOLES
- ELASTIC
- BOND/SKIVE
- CORRECT FABRIC PROPERTIES
- TEXTURE
- PARTICLE DISTANCE 10 MM
- COLLISION 2.5 MM



DIGITAL TWIN

- CORE AVATAR
- OUTERSHELL ALL LAYERS
- FACINGS
- LINING
- BOND/SKIVE
- BUTTONS
- BUTTONHOLES
- ELASTIC
- TOPSTITCHING
- CORRECT FABRIC PROPERTIES
- TEXTURE
- PUCKERING
- PARTICLE DISTANCE 5 MM
- COLLISION 1 MM



2017 BURBERRY STARTS DIGITALIZATION IN 3D

DIGITAL PRODUCT CREATION EXAMPLES IN BURBERRY



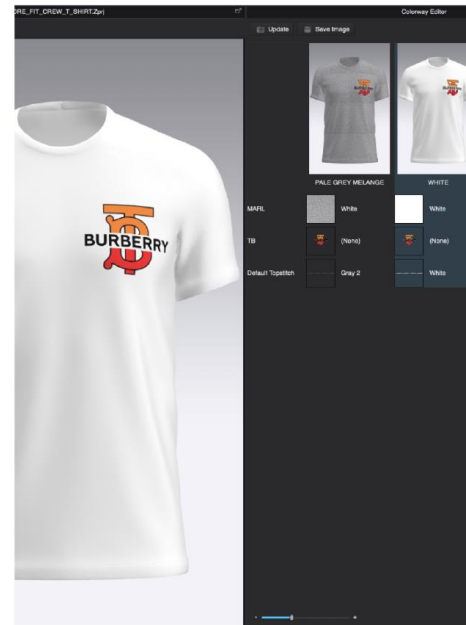
SUPPORTING DESIGN TEAMS

PROVIDING REALISTIC VISUALS
TO ENABLE FASTER DECISION
MAKING BY DESIGN TEAMS



PRODUCT ENGINEERING

PRINT ENGINEERING REDUCING
FABRIC CONSUMPTION
ACCURATE PRINT PLACEMENT
REDUCING NEED FOR MULTIPLE
SAMPLING



CAD TEAM

HIGH QUALITY PRODUCT VISUALS
CREATED OF ALL RTW STYLES

SUPPORTING MERCHANDISING
AND WHOLESALE TEAMS



MARKETING

CREATING REALISTIC AND HIGH
QUALITY IMAGES FOR USE IN
SOCIAL MEDIA AND MARKETING
CAMPAIGN VISUALS

20/21_NEW CURRICULUM_DESIGN THE FUTURE FOR & WITH THE INDUSTRY



G29_G30_NDIVIDUALS_Recent Toys_Suits by George Pisa_SUITS

G31_20/21_Corona_RED AND BLUE_Statement collection_Texture developments_Avatar identity and development NFT

Ref: <https://amfi.nl/nl/home-nl/>

NEW CURRICULUM_SUMMER COURSE FROM 2019_FOR PROFESSIONALS & STUDENTS

BOOTCAMP

ARTICLE: <https://fashionunited.nl/nieuws/mode/studenten-amfi-s-digitale-mode-programma-over-de-toekomst-van-duurzame-productie/2022072254213>

Virtual Fashion Design: THE NEW REAL



3DDesign NOAH STRIJBOIS_Summerschool course 2021

Module Guide 20

CREATING TOMORROW

-LEARNING OBJECTIVES

By the end of this course, you will be able to:

- Develop in a small group NO Plan B, a future fashion company concept with new technology and 3d virtual fashion.
- Translate ideas and vision into free-style experiments and digital end products, relate them to fashion, technology and industry.
- Create a digital twin according to a physical existing garment relate to fashion, technology and industry.
- Use your knowledge of traditional craftsmanship for garment realization in 3D virtual prototyping , research how they are related.
- Build up knowledge about contemporary and creative technology in fashion and develop ideas on **sustainability from design to end product**
- Work in an organized manner and communicate the learning process individually and as part of a team.
- Obviously, the level of process and (end) products will relate to the student's mindset and skill-set on arrival.

Course 2024 is from 1 July – 12 July

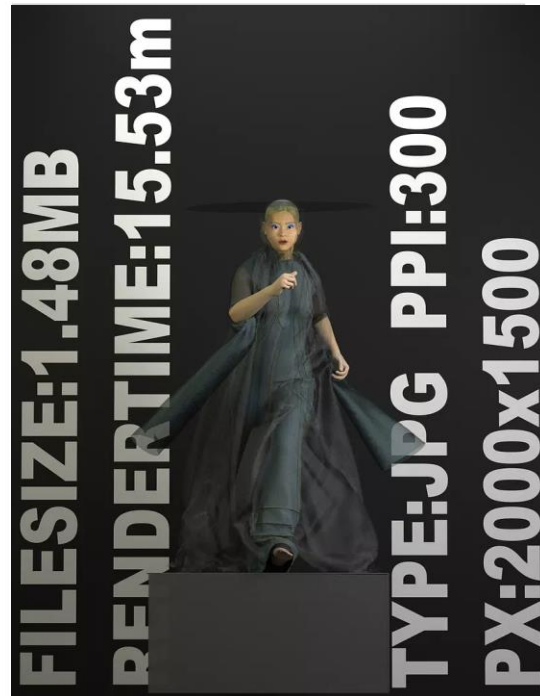
GRADUATES DESIGN A BROAD RANGE AND OF NEW RESEARCH TOPICS _MAKING THE CHANGE



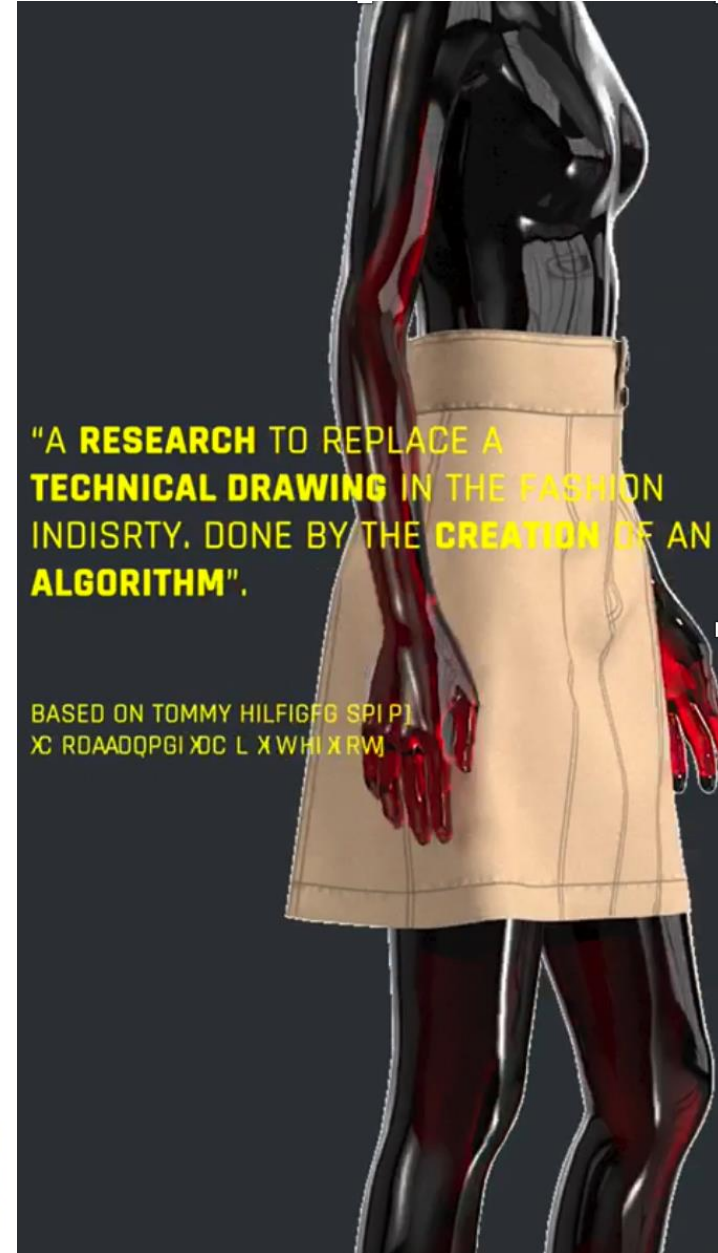
THIS _ IS _ THE _ DIGITAL
CLOTHING _ COLLECTION
WITH _ ZERO _ IMPACT
ON _ THE _ ENVIRONMENT



Amber Jae Sooten_
AI_Algorithms_2016



Allison Murray 2020
A Digital Fashion Care Label_Digital waste



Kim van den Brùle & PVH _replace Technical drawing_
AI, new data design 2019

<https://algorithms-tour.stitchfix.com/>

<https://thenextcartel.com/discover/into-the-future-of-fashion-crypto-fashion-week-recap>

GRADUATES_CREATE AND DEFINE THEIR NEW ROLES IN THE CHANGING FASHION INDUSTRY



PHYSICAL / DIGITAL

A DIGITAL CAPSULE HELPING ONE'S SMOOTH TRANSITION FROM OFFLINE TO ONLINE, YOUR VIRTUAL TWIN

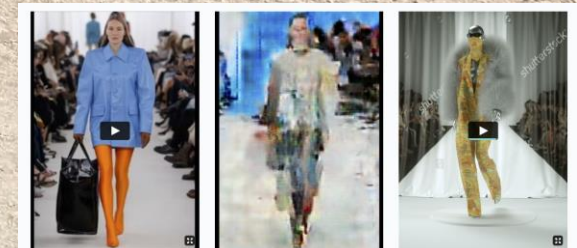
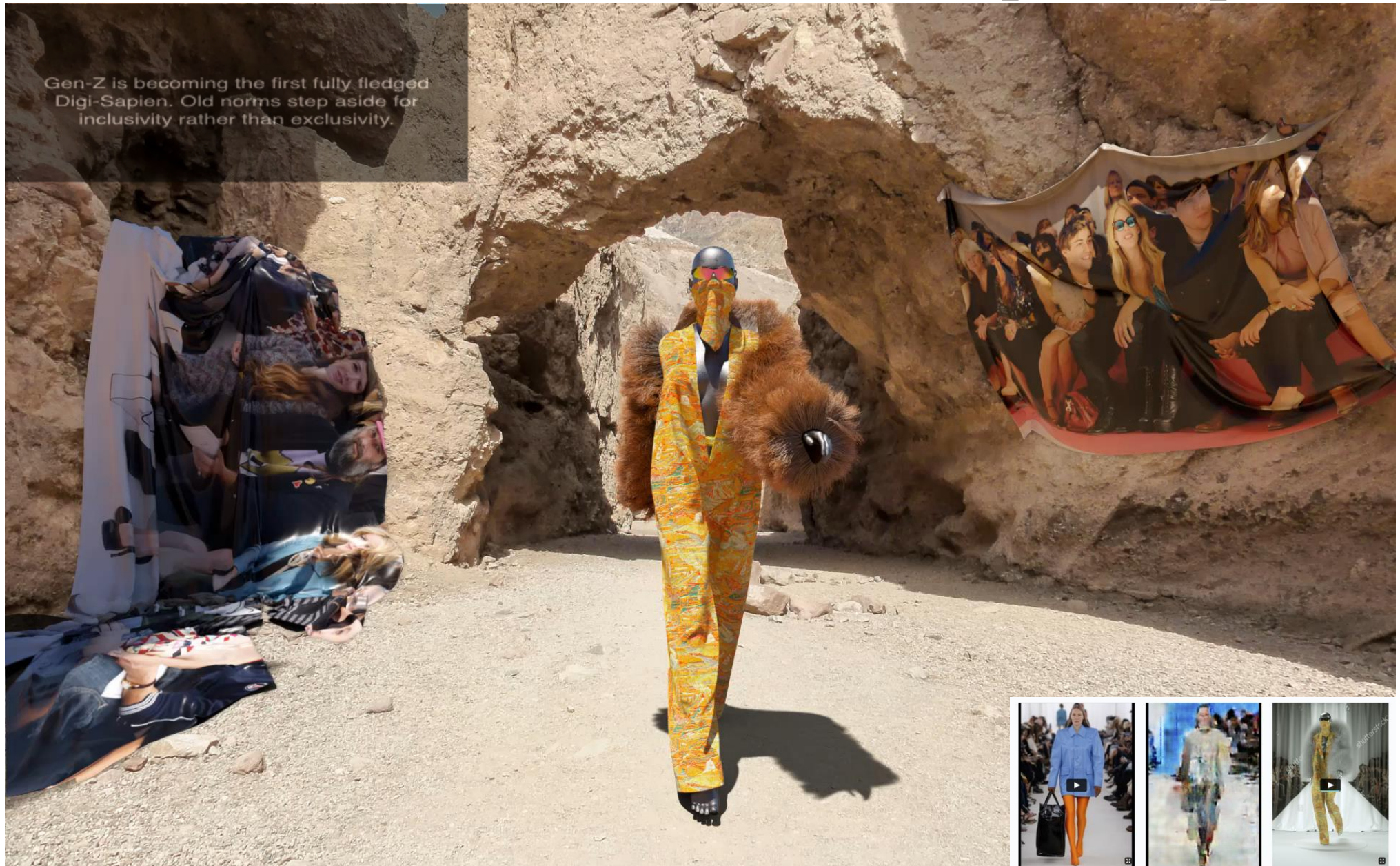


3D ENVIRONMENT_by Lilly Schilling



WEAIR_by Lilly Schilling

ENTREPRENEURS: THE FABRICANT : FIRST DIGITAL COUTURE HOUSE_AMSTERDAM_2018



“We make clothes that are always digital, never physical.” Amber Jae Slooten _AMFI graduate

Software: AI design process, CLO3d, Cinema 4D, Adobe Suite, Substance, Blender, Houdini + more

ENTREPRENEURS: GRADUATES FIND THE NICHE: GIZMO_LAB, AN ENSEMBLE OF 3D CREATORS



MBPFW Drive-in Cinema, from Jateční street Mercedes-Benz Prague Fashion Week 2 May 2021 / 3–5 p.m. MBPFW Drive-in Cinema, from

ANIMATED CATWALK

DIGITAL IDENTITIES

DIGITAL FASHION

ENTREPRENEURS: WE BUILD A NEW FASHION INDUSTRY WHERE EVERYBODY PARTICIPATES & PROFITS

THE FABRICANT STUDIO

is a platform where anyone, anywhere can become a digital fashion designer. By 2025, 100 million people will be metaverse-ready by wearing digital clothing.

We are building a decentralized Fashion House that will dress a sustainable and sustainable fashion industry.

Explore The Fabricant Studio platform [HERE](#).



Community_learning_Feedback users_Co-create_Experience_Enjoy_Marketplace

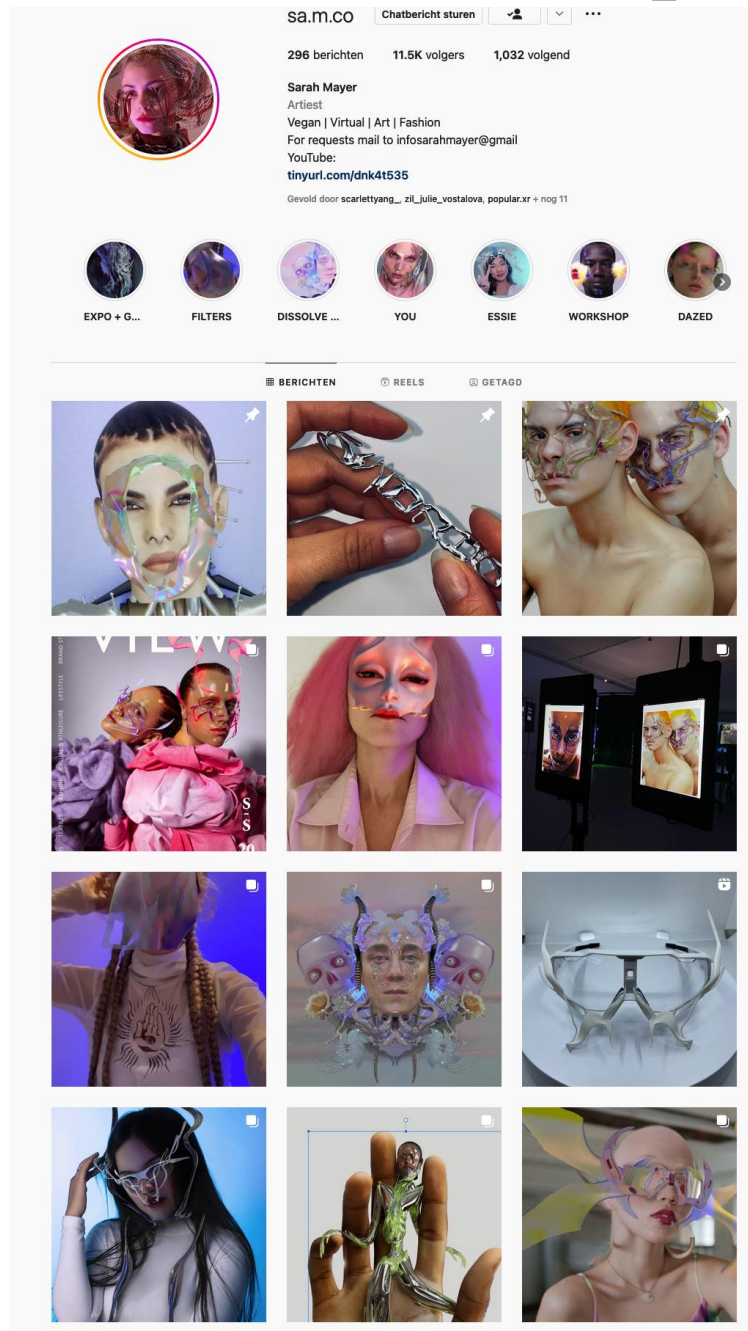


THE FABRICANT SEASON 1 TRAILER VIDEO

Season 1 was open for minting for early community members who are passionate about the future of digital-only fashion. Minting closed on the 21st of February 2022, at 11:59PM CET.

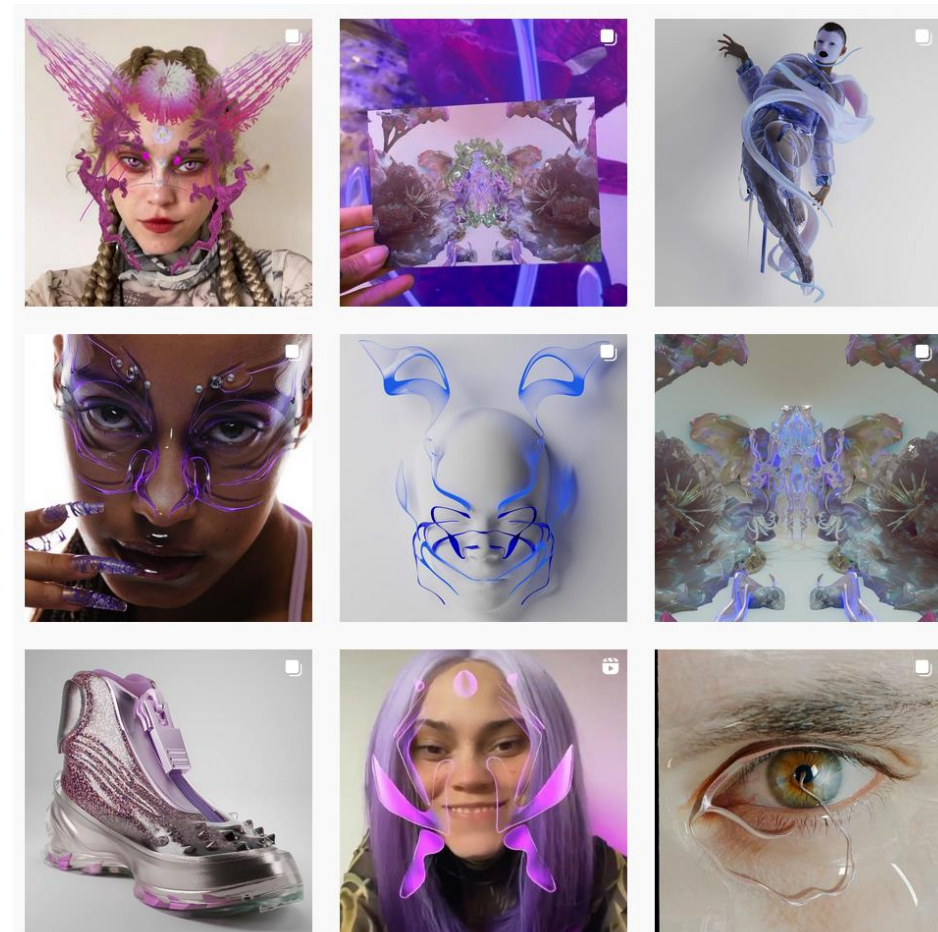
Season 1 items can be bought [HERE](#) on our marketplace

ENTREPRENEURS: SARAH MAYER_VEGAN_VIRTUAL ART_FASHION_AMFI GRADUATE_2015



Ref: <https://www.youtube.com/channel/UCtOa7zX8211FI0sY-V5Of9Q>

Sarah has been studying fashion for 7 years. 3 years in Germany and 4 Years at the Amsterdam Fashion Institute, Netherlands. A big influence during this time was her internship at Walter Van Beirendonck. He continues to be a inspiring figure and motivation. Sarah's recent work is focused on the creation of innovative AR Filter designs with the help of Spark AR for Facebook and Instagram as well as Lens Studio for Snapchat with a total view of over 50 Million for her Filters.



Main software: Lens Studio, Spark AR, CLO3d, Blender

ENTREPRENEURS: HYPER CURVE STUDIO_ROSA KRAMER_AMFI GRADUATE_2017

MODERN CRAFTMANSHIP

Specialized in the future of BODYWEAR

Main goal: Digital sensuality for Lingerie
We create our own Avatars on our exact size
and in exact proportion.

Involved in research and developing Soft tissue Avatars
-3 full-timers, 2 trainees, free-lancer's artists, 2x3D
designers

Methode: patterns and flattening tool, we draw patterns
on the body with 3D pen.

Main software: CLO3d, Vizoo,
-Browzwear/ V-stitcher for some company's, animation.

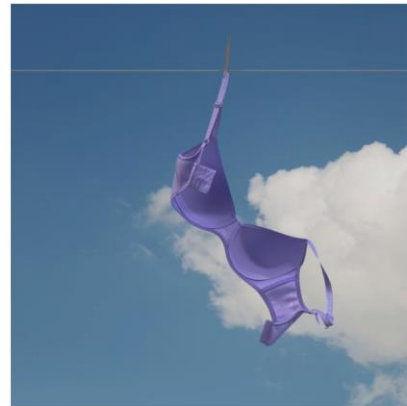


Ref: <https://hypercurvestudio.com/>

3D SERVICES



3D ATELIER



3D CONCEPTS



3D BODY MODELS



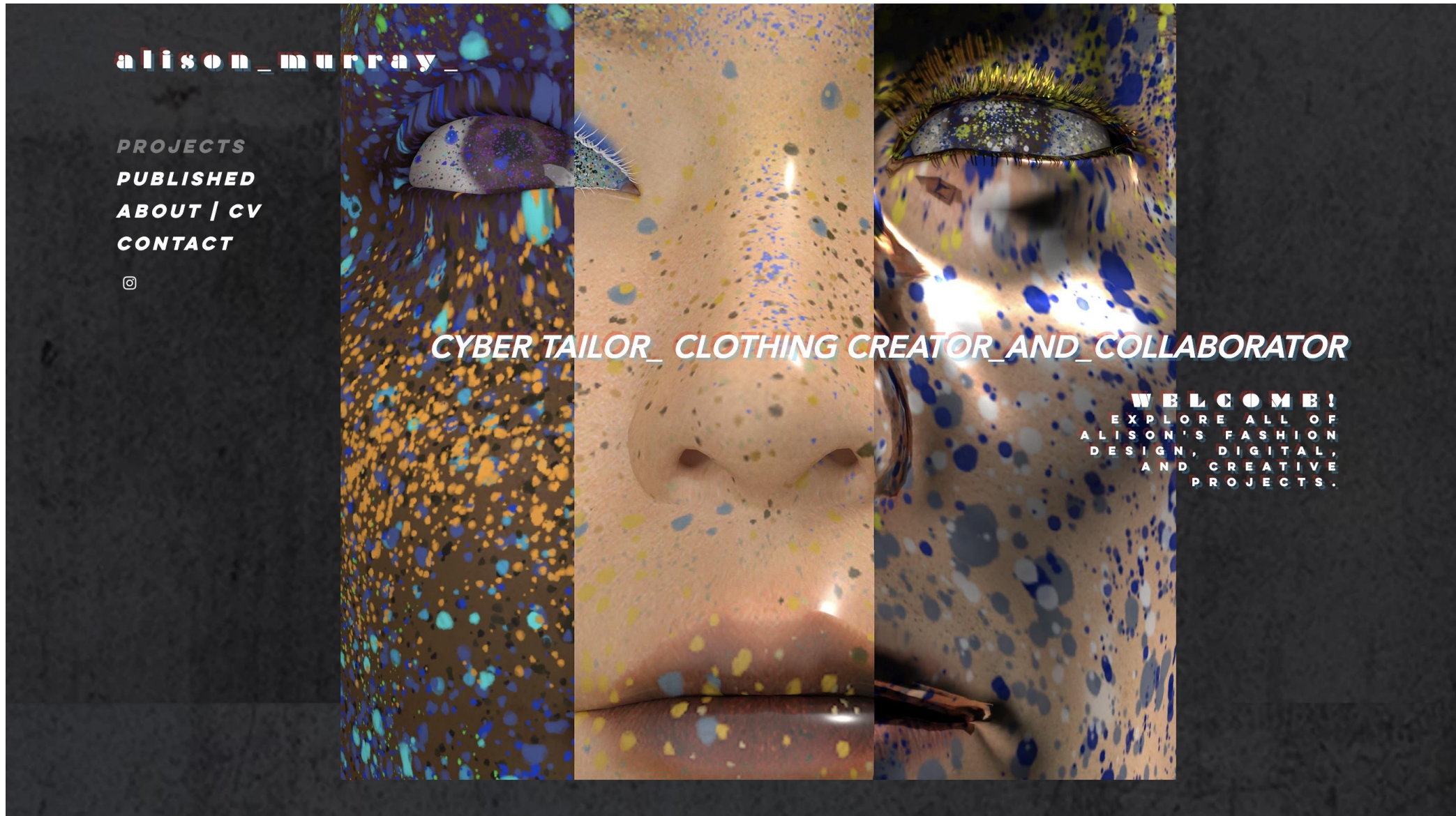
3D LAB

ENTREPRENEURS: 3D STUDIO PMS_2022_FASHION & TEXTILES



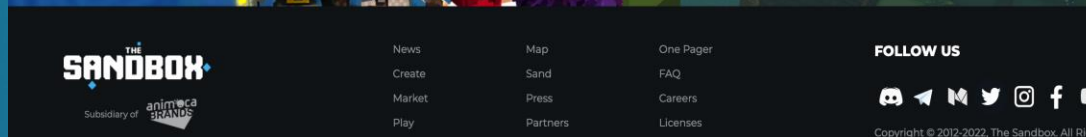
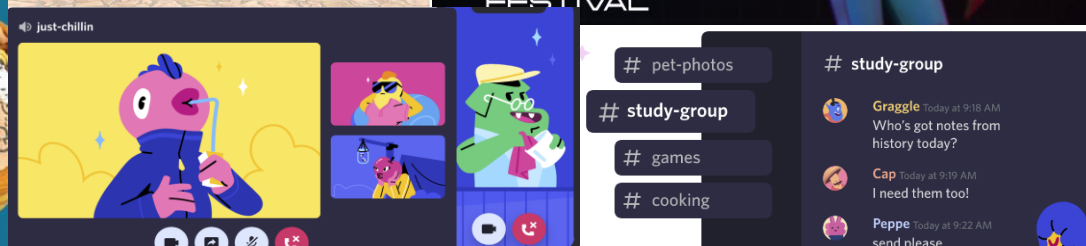
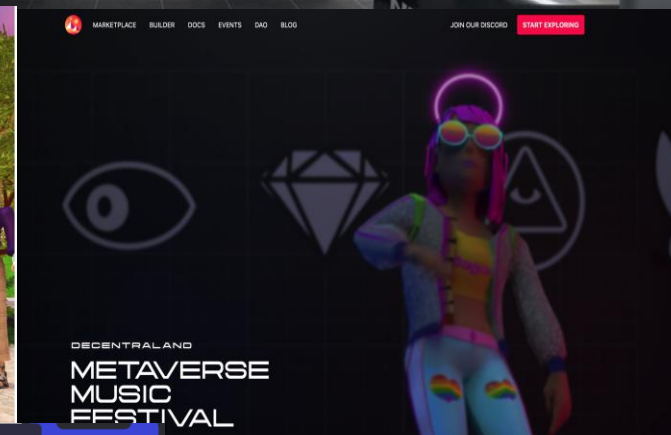
<https://www.showstudio.com/contributors/studio-pms>

ENTREPRENEURS: GRADUATES_CREATE AND DEFINE THEIR NEW ROLES IN THE CHANGING FASHION INDUSTRY



Graduate_Alison Murray_2019

FROM DIGITAL FASHION TO VIRTUAL IDENTITY _ CRITICAL THINKING IS CORE AS SUSTAINABILITY



transiti*ns