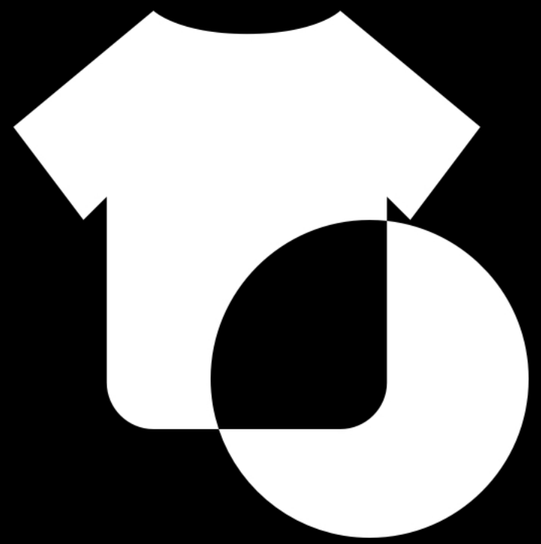


Air Ink

Intro

3D modeling is hard

3D modeling is hard

- **Work with flat monitors and mice on flat tables**
  - None of them supports 3D inputs (obviously)
- **Many operators / windows / buttons to choose at once**
  - Steep learning cruve (especially for amateurs like me)
- **Difficulties in Collaboration / Coaching**
  - Typically a standalone workflow (not fun!)
- **It is not as intuitive as sculpting out of a stone**

Digital clothing design is hard, too

Issue

Inkathon

- [Theme] What can Digital Ink bring to the EdTech industry?
- [Idea] Deploying Digital Ink into fashion design EdTech.
- [Evaluation] Currently available clothing design softwares.
  - How to use the software?
  - How well does it perform in the educational process?
  - How can we improve the experience?

Clothing design softwares

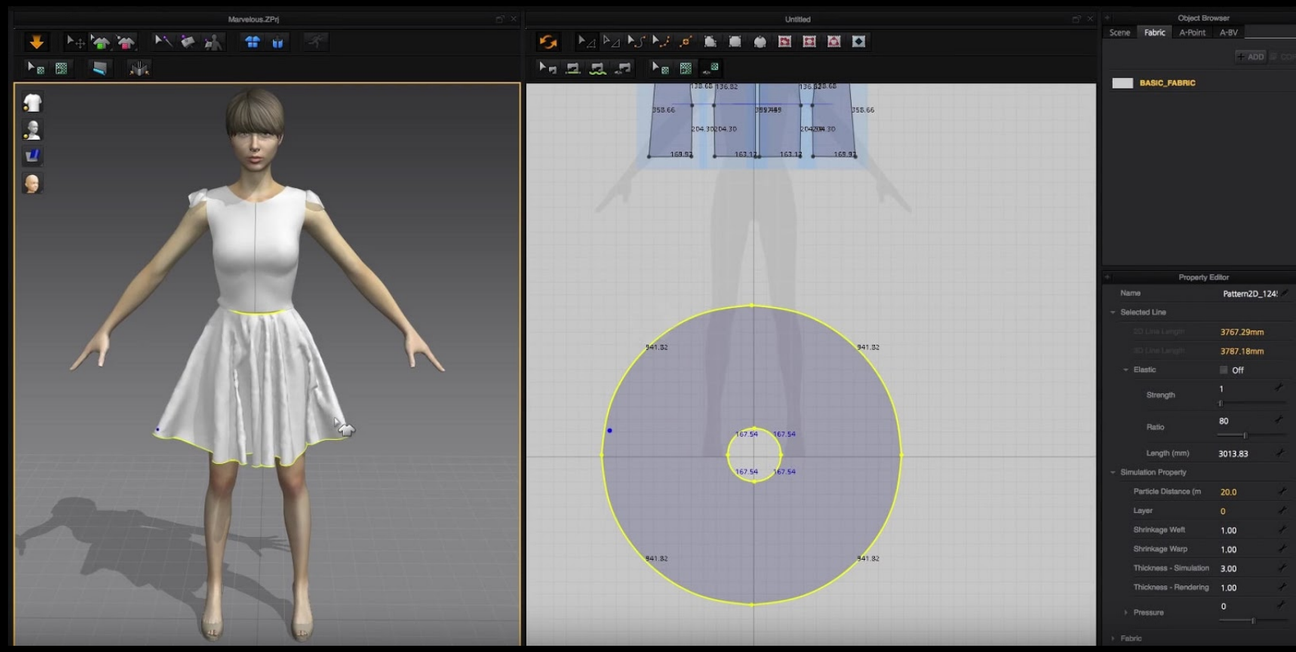
*The development of cloth simulation software such as **Marvelous Designer**, **CLO3D** and **Optitex**, has enabled artists and fashion designers to model dynamic 3D clothing on the computer.*
– Wikipedia

How to use such softwares?

- Draw on 2D Projection View
- Link (Sew) Boundaries of Clothes
- Preview on Virtual Avatar

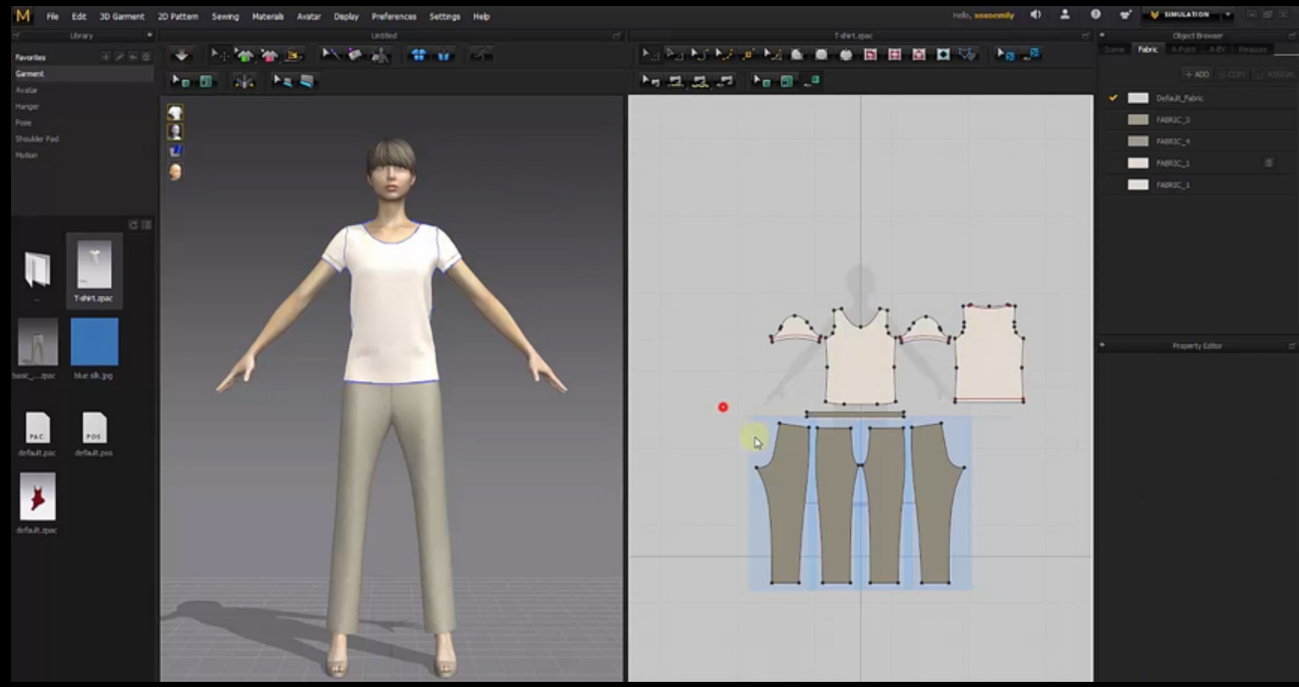
How well does it perform in educational process?

- **It is a 3D modeling software**
  - All learning difficulties mentions previously on 3D modeling can be applied here



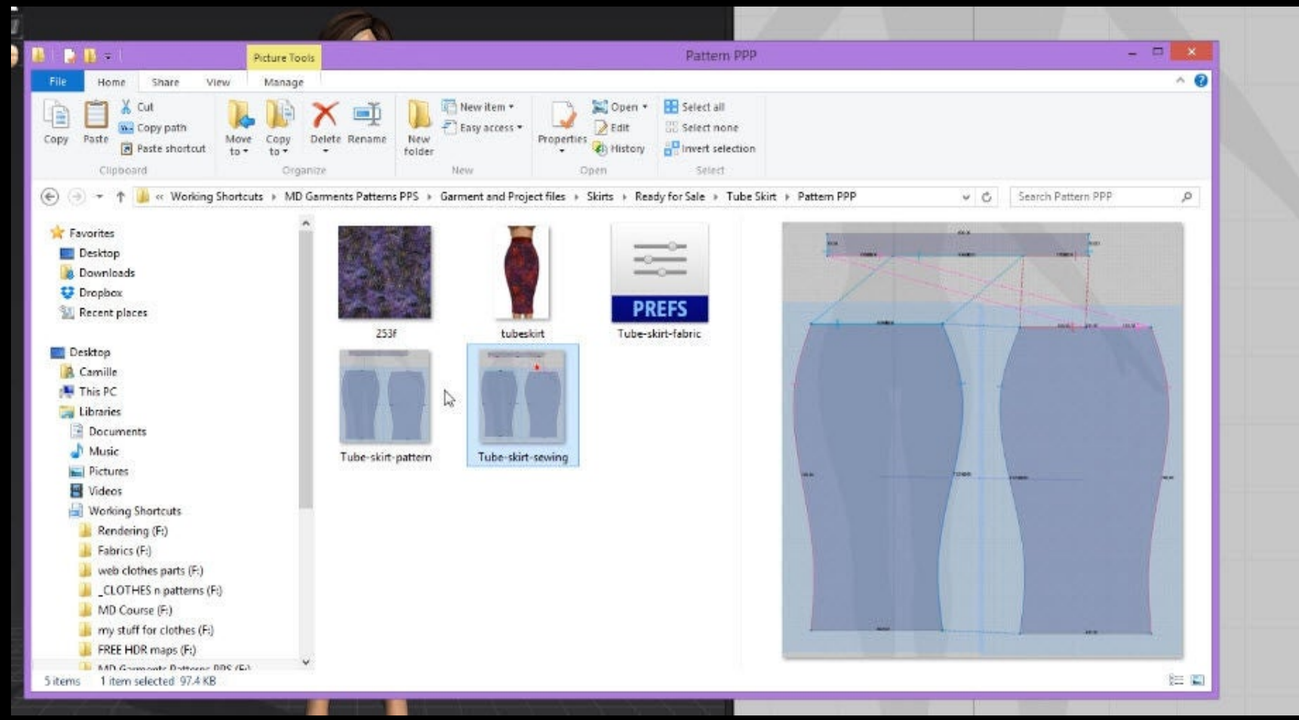
How well does it perform in educational process?

- **Extra issues**
  - Visualize only on virtual avatars (Lack real-world feedback, rigid pose)
  - Additional cost if small-scale productions involved



How well does it perform in educational process?

- **Extra issues**
  - What if teachers want to view the work when it is still WIP? (Use screen share?)
  - What if they were only in experiment / concept stages? (Use non-digitalized sketchbook?)



Digital clothing design is hard, too

- Not only it is not as intuitive as sculpting out of a stone
- It is also not as natural as painting on a sketchbook

Digital clothing design is hard, too

- Not only it is not as intuitive as sculpting out of a stone
- It is also not as natural as painting on a sketchbook
- **But what if we can leverage real-world context to achieve both 3D modeling and clothing design, in a natural way?**

Empowering the advancement of ***EdTech*** *in* ***Clothing-Design*** *with* ***3D & Wacom SDK*** *by using* ***styluses*** *to model & texture clothes wearable in* ***AR***.

– Air Ink Initiative

Demo

Solution

Wacom Ink 3.0 SDK + ARKit + Unity3D

- **Easy to Learn** (Pen + Tablet + Environment)
- **Simple Workflow** (Design / Preview)
- **Intuitive Presentation** (Handheld Sensor / Pose / Simulation)
- **Realtime Collaboration** (Shared / Multipeer / Whole Class)

Tech Inside

Wacom SDK + ARKit + Unity

- Pressure Sensitive 3D Line Drawing
- Curve Serialization (Networking)
- Sketch Based Modeling (Still WIP)

Tech Inside

Wacom SDK + **ARKit** + Unity

- Motion Tracking
- CoreML Depth Estimation
- Environment Probe

Tech Inside

Wacom SDK + ARKit + **Unity**

- Runtime SkinnedMesh
- UV-Free Shader

Team

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  Indie Developer / Apple WWDC 18 Scholar / Apps on Google Play Rank Top 10 / Hackathon Enthusiast
- **QIN YIRAN** http://emmayr.com
  Art & Design Student / Concept Art / Sticker Pack

Thank you