

3D Apparel Simulation Technology for Apparel Design and Visualization

3D APPAREL SIMULATION TECHNOLOGY?

The way to view a virtual product on a virtual body or avatar without having to have a physical sample available.

BENEFITS OF 3D APPAREL SIMULATION

<p>Design Visualization</p> <p>Prototyping</p> <ul style="list-style-type: none"> Get a visual idea of the desired product, endless possibilities at zero cost, garments can be presented in unlimited styled ways 	<p>Prototyping</p> <p>Fit perfection</p> <ul style="list-style-type: none"> Best fit in less time Making prototypes long before physical samples are available Reducing product development time by reducing the number of physical samples, manual grading and physical fit sessions 	<p>Customization</p> <p>Special fit needs</p> <ul style="list-style-type: none"> Customized products can be made for individual and for mass population by using 3D scanning technology and combining that to 3D simulation software 	<p>Collaboration</p> <p>Cross departmental approval</p> <ul style="list-style-type: none"> Allows to collaborate between designers, departments and vendors. By having virtual approval of samples, only desired perfect products goes for productions
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COMPARING SIMULATION IN DIFFERENT 3D VISUALIZATION SYSTEMS



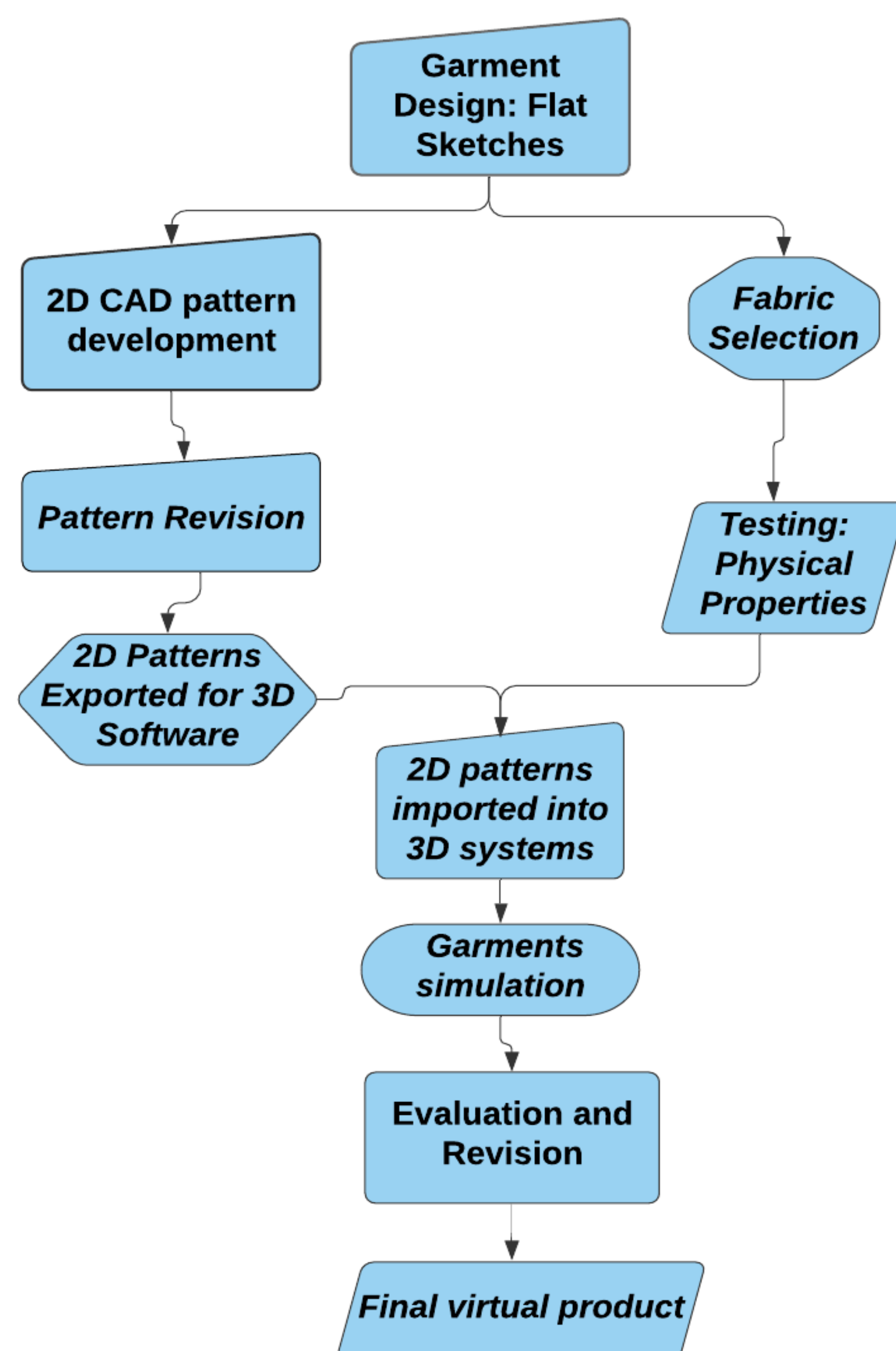
Limitations

- 3D systems are usually Complicated
- Not user-friendly in some cases
- Actual Fabric is difficult to transfer in the virtual environment
- Data doesn't necessarily transfer's well between the available 3D systems
- Each 3D visualization system gives different Visualization effects

Expectations

- Reduce product development time and cost
- Creates satisfactory and realistic products
- Drape stiffness of the virtual garment should be different incase of different fabric properties
- Best fitted garments
- Promotes sustainability

INTIGRATING 3D TO 2D SYSTEMS



RESULTS & CONCLUSION

- Participant's years of experience had impact on the evaluation
- Basic design details didn't have any impact on the physical garments drape or simulation
- The impact of the design details based on software use was significantly different
- 3D apparel CAD system enables virtual garments production without physical ones, reduces lead time.
- Saves the waste of making so many prototypes. In summary, 3D technologies can save our environment from potential damage as well.
- Also, in the present situation of COVID-19 pandemic, virtual technologies can be very effective and successful for product development and this research can be helpful.

Reference

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