

**Final Report of Interdisciplinary Innovations Fund Proposal**  
**Leading the Future of the Retail Industry through**  
**Creating Digital/Virtual Student Project Showcases**  
September 3, 2013

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**What we accomplished:**

We had the following seven specific objectives to achieve the overall goal of this project—to create an innovative digital/virtual outlet to collaborate and showcase students' learning processes and outcomes. We discuss each objective with specific outcomes.

1. The digital textile prints created by Art and TAM students can be imported into 3D virtual garments – Successfully done! A TAM graduate student, Sarina Sun, took a class that Stealey teaches in the Art department. Through collaborations, Sarina's fiber arts were incorporated into 3D virtual garments.
2. The digital dress forms/fit models will be scanned from the 3D body scanner in TAM – Successfully done! A TAM graduate student, Jessica Ridgway, was able to successfully scan her own body and created a 3D avatar.
3. Digital fit models will then be used in the Optitex 3D patternmaking digital software – Successfully done! We are currently revisiting TAM apparel product development curricula to include this particular process into existing curricula. We are planning to create a new course with a tentative title of Virtual Apparel Design (a 4000/7000 level) potentially taught by Sohn in near future.
4. Virtual garments made through the Optitex will then be shown in 3D avatars – Successfully done! Patterns of garments designed in Parson's capstone class were digitized and presented in Optitex 3D simulation.
5. 3D avatars will then be presented into the 3D virtual reality environments in the created by students in Arch St – Successfully done! 3D virtual retail space has been designed and virtual garments designed by TAM students were successfully presented in this virtual retail environment.
6. Apparel marketing and merchandising students will create effective marketing and merchandising strategies for apparel products created by apparel product development students – Successfully done! Ha-Brookshire's capstone students create branding and marketing plans. These plans were successfully included to textile and apparel presentations in a virtual world.
7. The finished products, including textile designs, apparel designs, retail environments, marketing campaigns, and merchandising strategies, will be showcased in the 3D virtual reality screens in the iLab – Successfully done! We met in the iLab on May 16, 2013. We reviewed the progress and decided to have an open lab event in September 2013 to IIF and campus people to show what we have accomplished so far.

**What we need to do more:**

1. We learned that the 3D avatars created through Optitex are not readily transferrable to a 3D virtual reality environment that Arch St department has created through 3D Studio Max. Static avatars are possible but not 3D avatar animation. After discussion, we realize that the process of transferring 3D avatar animation is not pedagogically relevant for Arch, TAM, nor Art education. Thus, instead of creating one virtual reality using both technologies, we decided to keep two virtual worlds: (a) through Optitex [TAM], and (b) through 3D Studio Max [Arch St]. With this change, we identified a need of new software, Polyworks, a 3D modeling software compatible to Optitex and Body Scanner, to enhance the quality of Optitex 3D simulation. The budget has been reallocated to purchase this new software.
2. Even with digital/virtual show case, we also learned that constant comparisons between digital and manual design and product creations. One does not replace another and students learn greatly by understanding differences in product creation and design between the two worlds.
3. Because of the above points 1 and 2, we decided to have a show case in September 2013 to present both digital and real student design work. We will invite IIF committee as well as other campus administrators and faculty to share our experience in this project and students' work. This show case will include: (a) digital fashion show with avatar animation along with marketing/branding strategies; (b) digital retail environment with textile and apparel product exhibits; and (c) actual fiber and textile designs, prints, and apparel that were made to create digital exhibits or shows.

**Progress evaluations**

We had the following short-term evaluation criteria and we evaluate ourselves as follows:

- Students lean and get involved in part or all of the new technologies— Three graduate and six undergraduate students in TAM and Arch ST were deeply involved in part of the technologies mentioned in this project.
- All technologies mentioned in this proposal are linked together and different student projects can be presented through 3D virtual reality environments – We made this possible. We are now able to export digital designs and prints into the 3D retail environment that Arch ST students have designed.
- A pilot version of digital/virtual student project showcase gets implemented with up to 5 student projects – We have made this possible. We will now have a small-scale project show case in September 20, 2013, from 12-2 pm, at iLab in Stanely Hall.

**Budget:**

We were able to purchase all necessary equipment and software except Team viewer. We are in the process of acquiring Team Viewer at the moment and it will cost approximately \$3,000. In addition, we anticipate spending a few hundred dollars to get ready for the digital showcase on September 20, including poster printing, snacks and drinks, etc.

		Qty	Total
1	Apparel Technology Lab computer for scanner and 3D modeling	1	\$1,746.92
2	Optitex 3D PDS	1	\$500
3	Optitex 3D creator	6	\$6,000
4	Optitex 3D animation	2	\$490
5	Innovmetric Polyworks software	1	\$9998.80
6	<b>Team Viewer</b>		<b>\$3,000</b>
7	<b>others</b>	<b>\$42</b>	
	Total Expenses		\$21777.72
	Remaining Balance		\$722.28