



SCAMEL 2024 REPORT

Was the time sufficient to carry out the plan?

There were challenges we faced in implementation of our original plan. For instance, the medical student, Tyler Chapman, graduated and left for residency. Due to political instability in the European Union, shipping times for materials and equipment were delayed considerably.

Were expected outcomes met?

Yes. The SCAMeL funded project: Improving the Daily Lives of Patient Care provided much needed support for student led innovation and research so vital to a student's academic development and success. Seventy-five protective cases were produced then distributed within the TTUHSC community like Internal Medicine and Endocrinology faculty and residents on both the Lubbock and Odessa campuses. To measure design assessments, interest level, and usage outcomes over the long term, a link to a survey via Qualtrics accompanies each case and offered it to interested and relevant physicians. We are still in the data collecting stage of that process.

One important outcome is that this project demonstrates teaching effectiveness. The project developed the course, *Thinking in 3D* which encourages students to think about how 3D printing can fit into every day medical practices, as such, the protective case project highlights several key points. For example, the design of the protective case demonstrates mastery of the requisite 3D-design skills needed to express an idea. What is more, the project's focus on improving the daily care of patients draw from student's translation of course content which is focused on thinking about relevant application for 3D printing within medical practices. Finally, a major outcome was to provide students with the opportunity to extend what they have learned about 3D printing into the clinical environment.

What worked well?

We did have the opportunity to work with two medical students: Jasmine Dushime, MD-PhD Student | MS1 and Bennett Schackmuth, M.D./Ph.D. Student | MS2. This is a plus, as we normally do not work with medical students until their 3rd and/or 4th year. In addition, the acquisition of the PRUSA XL 3D printer enabled the case to be produced full-size without having to make major modifications to the design.

Would you have done anything differently?

Finding a better way to mediate project managements and the role of student designers in applications, development, and prototyping. Students who take the course are in their final year



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of medical school, as such students are facing major changes like starting their residency practice, which can result in limited time commitments.

			TTUHSC - Libraries of the Health Sciences- SCAMel Speedy Startup 2024				
Date	Transaction ID	Vendor	Item	Description	Cost	Quantity	Total Amount
Equipment							
11.07.24	WH250007	Prusa Research	Original Prusa XL Semi assembled Single toolhead 3D Printer	3D Printers	\$ 1,999.00	2	\$ 3,798.10
		Prusa Research	Fedex International Priority	Shipping	\$ 299.17	1	299.17
Items							
11.05.24	CH037112	SUNLU Store	PLA 3D Printer Filament 1kg	Purple Filament	\$ 11.99	1	\$ 11.99
			PLA 3D Printer Filament 1kg	Grass Green Filament	\$ 11.99	2	\$ 23.98
			PLA 3D Printer Filament 1kg	Red Filament	\$ 11.99	4	\$ 47.96
			PLA 3D Printer Filament 1kg	Black Filament	\$ 11.99	4	\$ 47.96
			Upgraded PLA 3D Printer 8 meters	Rainbow Filament	\$ 27.99	2	\$ 55.98
			Upgraded PLA 3D Printer 8 meters	Rainbow Filament	\$ 32.99	2	\$ 65.98
			PLA 3D Printer Filament 1kg	Slik Blue Filament	\$ 14.99	2	\$ 29.98
			PLA 3D Printer Filament 1kg	Silk White Filament	\$ 14.99	2	\$ 29.98
			PLA 3D Printer Filament 1kg	Silk Light Gold Filament	\$ 14.99	2	\$ 29.98
01.17.25	CH038986	Amazon	Hexagon Socket Cap head Self Tapping Screws	Screws	\$ 6.19	5	\$ 30.95
			Oria Precision Screwdriver Set	Screwdriver Set	\$ 24.98	1	\$ 24.98
02.28.25	KM003905	Postage	Postage	Postage	\$ 6.30	1	\$ 6.30
03.03.25	KP024213	PressWise	4/4 Postcards	SCAMel Postcards	\$ 39.20	100	\$ 39.20
3.26.25	CH041399	SUNLU Store	PLA 3D Printer Filament 1kg	Green Filament	\$ 11.99	2	\$ 23.98
			PLA 3D Printer Filament 1kg	White Filament	\$ 11.99	8	\$ 95.92
			PLA 3D Printer Filament 1kg	Black Filament	\$ 11.99	3	\$ 35.97
3.26.25	CH041399	Amazon	SUNLU PLA Filament Bundle 1.75mm	Filament Bundle	\$ 149.99	1	\$ 149.99
			Hexagon Socket Cap head Self Tapping Screws	Screws	\$ 6.19	12	\$ 74.28
			SUNLU 3D Printer Filament 1.75mm	Clear Orange Filament	\$ 19.98	1	\$ 19.98

			SUNLU 3D Printer Filament 1.75mm	Transparent Purple Filament	\$ 19.19	1	\$ 19.19
			SUNLU 3D Printer Filament 1.75mm	Clear Greem Filament	\$ 19.98	1	\$ 19.98
							\$ 4,981.78