

To Thine Own 3D Selfie Be True

Outreach for an Academic Library Makerspace with a 3D Selfie Booth

Alex Watson

ABSTRACT

To promote an academic library makerspace, the University of Mississippi Libraries hosted a “3D selfie” booth which used body scanning technology. This booth, advertised on campus and set up outside the library during the first weeks of class, was designed to attract attention and perform outreach through the use of body scans to be printed in the makerspace at a later date. Although the hoped-for printing of “selfies” did not materialize, the project resulted in data about interested patrons and ideas for similar projects going forward. This paper serves as a case study for other academic library makerspaces interested in similar outreach.

INTRODUCTION

The IDEALab, a makerspace in the J. D. Williams Library at the University of Mississippi, opened in 2017. As a part of outreach efforts designed to increase awareness of and excitement for this makerspace, library staff created and ran a pop-up “3D selfie” booth in August 2018 during the first weeks of the fall semester.

Library staff focused on advertising 3D body scanning technology and using the term “3D selfie” to generate enthusiasm for the makerspace with the hope that students might spend time at an associated booth or even visit the makerspace in person to obtain a 3D print of their selfie, with “3D selfie” being the term they were marketed under as opposed to the more accurate, but less catchy “3D image” or “3D scan.” As such, the library collected data from participants who agreed to be scanned during the four days the booth was in operation.

Ultimately, library staff sought to use this unique concept and technology to generate buzz and harvest data for future maker-specific outreach efforts in addition to the makerspace’s already extant workshops. While the hoped-for result of a large number of selfies being printed in the IDEALab was not achieved, the outcome is still interesting and offers lessons for the University of Mississippi—as well as any other academic library makerspaces interested in running “3D selfie” booths—going forward.

LITERATURE REVIEW

Makerspaces in libraries, and academic libraries in particular, have been an important and growing area of discourse. Relatively little has been written about outreach undertaken for these spaces since their inception as a trend in the early 2010s, though, and what scholarship exists tends to focus on programming and workshops rather than bespoke outreach. Wallace et al. provide a variety of approaches to programming and workshopping, for instance.¹ Similarly, the

About the Author

Alex Watson (corresponding author: apwatson@olemiss.edu) is Research & Instruction Librarian and Associate Professor, University of Mississippi © 2023.

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literature is heavily skewed toward 3D printing over 3D scanning, and many articles on scanning seem to focus on the utility of scanning and printing rare or delicate items in special collections or similar contexts. Passehl-Stoddart et al. provide an example of this form of makerspace outreach, in this case 3D printing of cultural objects from a local collection.²

One of the earlier scholarly treatments of 3D printing and scanning in an academic library was Michael Groenendyk and Riel Gallant's work at Dalhousie University in 2013, near the dawn of the current maker movement.³ Writing about the Dalhousie "hackerspace," which predated even the term "makerspace" being in wide use, Groenendyk and Gallant described the technical details of their setup for a 2013 audience before writing frankly about their outreach efforts and difficulties with 3D scanned models.⁴ Their 3D printer and 3D scanner were placed at the main desk on the library's first floor to allow staff supervision, and with a booking system in place, the high traffic and visibility of the main desk location served to promote these services at a basic level, with the library hoping to engage in more direct outreach to specific departments later on.⁵ This is similar to the University of Mississippi's first library 3D printer, which was kept behind a desk and strictly mediated.

The Dalhousie librarians cited "trying to print 3D models that were not designed with 3D printing in mind, or by users with no knowledge of how 3D printing works" as their largest challenge, resulting in many unprintable files and the need for library staff to offer guidance and other interventions to avoid wasted resources.⁶ They found that, in particular, user inexperience with the 3D scanning software coupled with the relative difficulty of making a "fully formed and realized" 3D scan led to unrealistic user expectations for the timeliness and quality of their scans.⁷ Positioning the object to be scanned, layering different scans together into a composite, and filling holes caused by missing scan data—all problems that still existed as of 2018, albeit somewhat moderated by new technology—were cited as particular difficulties with the NextEngine 3D scanner used at Dalhousie.⁸ The very first experiments in 3D scanning at the University of Mississippi, when only a Microsoft Kinect video game scanner/controller was available, faced similar problems and prevented an early rollout of 3D scanning technology.

A year later, in 2014, Jason Reuscher proposed 3D scanning as a library public service at Penn State's Schuylkill campus with the same NextEngine 3D equipment, reasoning that "academic libraries generally offer two-dimensional (2-D) or flatbed scanning to their patrons—why not 3-D scanning?"⁹ Penn State went a step further than Dalhousie in introducing mobility into the mix; their 3D scanner was able to be checked out, though initially limited to the building and requiring an attached laptop and auto-rotating platform.¹⁰ Reuscher noted in particular that the device had a strong word-of-mouth outreach component; though only a few preliminary scans and workshops had been held by 2014, news of the scanner had spread far beyond Schuylkill and sparked intense interest from other Penn State affiliated students and faculty and created difficulties for those who wished to use it from distant campuses.¹¹ Reuscher, uniquely, advocated separating 3D printing from 3D scanning in terms of infrastructure as a library public service, similar to the way the University of Mississippi sought to unencumber the scanner from the printer for outreach and promotional purposes.¹²

Beginning in 2014, and through a 2017 revision of his book, Jason Griffey was beginning to realize some of the possibilities inherent in 3D scanning in library settings, dedicating a portion of a book chapter to various devices capable of doing such.¹³ In addition to turntable-style scanners, which mirror the rotating platform used by Reuscher, Griffey also addressed wireless handheld scanners and included an image of a 3D Systems Sense scanner being used to create a bust scan of a human

model, similar to some early experiments undertaken at the University of Mississippi.¹⁴ While the issues that Griffey cites, such as difficulty scanning color-contrasting areas, were less of an issue in 2018–2019 than in 2014, and prices for the scanners themselves have plummeted, he is prescient in seeing the potential of the scanners to be used for outreach by creating “really interesting and useful things from a scanner.”¹⁵ Griffey’s enthusiasm for the idea is palpable as he goes on to say that portable scanners like the Sense are “far more interesting ... in that [they allow] you to scan absolutely arbitrary objects rather than being limited to things that will fit onto a turntable ... you can scan freestanding objects, people, parts of rooms—nearly anything.”¹⁶ In particular, Griffey was excited about the Sense scanner that worked with an Apple iPad, calling it a “an excellent and truly portable solution”—exactly what the University of Mississippi found a similar iPad-based product to be in its 3D scanning outreach efforts.¹⁷

In 2015, Ann Marie Lynn Davis sought to do an analysis of academic library makerspace technology in a particular region—New England—through a brief survey and literature review. Davis found that eight of the responding academic libraries had makerspaces, with six of them possessing some form of 3D scanner, including both handheld models and Microsoft Kinects.¹⁸ Davis mentioned one library staff member in particular who was highly invested in 3D scanning at an institution that did not have a formal makerspace but planned to establish one in the future; this person had participated in a university museum 3D Printing Day, both serving as an “expert panelist” and “giving public demonstrations on library-owned 3D printers and a scanner Kinect bar.”¹⁹ Both in using a Kinect scanner as an early-stage 3D scanner and in using 3D scanning to advertise 3D printing services, this library staffer at an unnamed institution demonstrated striking parallels to the University of Mississippi.

Also in 2015, Megan Lotts described a number of “participatory events, which essentially are pop-up making spaces,” including a 2D selfie booth at the University of Virginia, primarily as stress relief.²⁰ These pop-up makerspaces can be “easily put up, taken down, sent from one library to another, and they use little space for storing materials.”²¹ Emphasizing their outreach aspects, Lotts noted that “making events can bring positive attention to the library and invite patrons to share their skills and talents.”²²

Pushing the idea of academic library outreach with 3D scanning technology even further, Erich Purpur at the University of Nevada Reno performed an internal “pop-up maker technology outreach event” with the intent of allowing staff from a large library system to lay hands on makerspace technologies, get an introduction to 3D printing, and develop Adobe CS6 literacy.²³ With over 150 librarians and staff available to attend, Purpur attracted 40 attendees, with surveyed attendees responding favorably to the event’s effectiveness.²⁴ The UNR librarians also noted that “... faculty and staff regularly take [their] maker technology on the road engaging with both the University and greater Reno communities at a variety of events ... these outreach and engagement efforts have repeatedly proven to be successful, prompting the consideration of their possible use as part of internal professional development and outreach.”²⁵ These maker technology roadshows are similar to what the University of Mississippi attempted, especially the “internal pop-up maker outreach event,” albeit with a different user group as its focus—library staff at Reno, patrons at Mississippi.

Finally, Jennifer Grayburn and Ammon Shepherd spoke to the overriding need for outreach in academic library makerspaces in 2017. Writing for the 2nd International Symposium for Academic Makerspaces, the authors found that what they called a “build it and they will come” mentality did not always apply satisfactorily in academic settings.²⁶ “While many users are

familiar with making through their academic studies or personal interests, many faculty and students have never encountered these technologies or methods, let alone thought critically about the relevance of making for their own research,” they wrote, adding that “... this unfamiliarity and even confusion about the purpose of a makerspace and how it is used might create the sense that a makerspace is not open or relevant to everyone.”²⁷ While citing outreach efforts such as themed programs and project-based workshops as possible ways for academic libraries to attract makers, they noted that the “apparent irrelevance” of academic makerspaces was a “major barrier-to-entry for faculty and students who might otherwise benefit academically from critical making and the resources found in a makerspace.”²⁸ Continuous outreach and engagement by makerspace staff, they argued, was the only solution, taking the form of traditional outreach and other nontraditional forms of collaboration and publication such as blogging.²⁹

The picture that emerges from this timeline of scholarship is one of academic libraries with makerspaces experimenting with outreach and 3D scanning but very rarely combining the two in a pop-up event. With this in mind, a case study of using 3D scanning from an academic library makerspace for outreach purposes seems both warranted and timely.

BACKGROUND

The University of Mississippi Libraries (UML) acquired its first 3D printer in late 2016 and began assembling a makerspace in mid-2017 once sufficient space had been allocated. UML populated the makerspace area—which was dubbed the IDEALab—with a 3D printer, a 3D scanner, a large-format printer, Arduino circuit prototyping kits, soldering irons, sewing machines, Snap Circuits, Lego Mindstorms, and a variety of other tools. The available location in the library was large and versatile but did not receive a great deal of foot traffic and was missed by many patrons due to its location and some architectural quirks in the design of the older part of the main UML building. This lack of foot traffic to the IDEALab, combined with the lack of a full-time staffer to run the makerspace, led to a general lack of awareness of the space and its contents among university patrons and community stakeholders. Since the IDEALab had been conceptualized as a service the library felt would be useful and a future growth area, this represented a problem.

Once a full-time staffer was hired for the IDEALab in summer 2018, UML turned to the problem of trying to raise campus awareness of the makerspace during the first few weeks of class, when many new students would be on campus but before most major assignments and tests were scheduled. Through a series of brainstorming sessions, UML staff decided to open a tent on the Trent Lott Plaza, a major thoroughfare in the center of the University of Mississippi’s campus, around lunchtime for four days across two weeks: August 22–23 and August 27–28, 2018. A variety of other campus organizations had booths, tables, or tents in the Trent Lott Plaza, and foot traffic through the area was anticipated to be high. The setup was similar to that used by Purpur at the University of Nevada Reno in its internal staff-only pop-up, with the addition of a public demonstration concept similar to that reported by Davis in New England.³⁰

UML could have simply advertised the IDEALab at this tent, but during the brainstorming sessions, the idea emerged that perhaps the advertising should focus on a single technology to build interest. The expectation was that a sufficiently new and exciting technology would have a “halo effect” for the IDEALab as a brand: by seeing an interesting and exciting makerspace technology, students, faculty, and staff might be more apt to visit the booth or the IDEALab itself, even if they never used the technology that initially intrigued them. The idea of a halo effect, that a positive impression created by one part of a makerspace—the 3D selfies—would influence positive

opinion for the other parts—the remainder of the IDEALab and its equipment—is borrowed from psychology, where the term has been in use for nearly a century.³¹

As the oldest and most mature technology in the IDEALab, the 3D printer seemed like an ideal candidate for this halo effect—several library staff members knew how to use it and there had been a great deal of hands-on experimentation with the system since its acquisition nearly two years prior. However, participants in the brainstorming sessions also felt that a simple “3D print petting zoo” composed of preprinted objects would not be dynamic enough to attract interest. The desired effect was, instead, akin to that reported by Reuscher at Penn State’s Schuylkill campus: strong interest carried by word-of-mouth.³²

3D body scanning was the next option that the brainstorming suggested. An early form of 3D body scanning had been devised by one of the authors in late 2016, consisting of a Microsoft Kinect for Windows sensor and a freeware product called Reconstruct.Me. This 3D scanning, which could only capture the head and shoulders for the purposes of making busts, had generated considerable attention at the library’s 2016 holiday party, where a 3D selfie booth had been set up. A later demonstration to the Friends of the Library (FOL) executive board in mid-2017 had been met with a similar positive reaction. Even though the scans were limited to busts and to a single color with no surface texture mapping, the enthusiastic response among UML staff and the FOL board showed a strong impression. This response was very similar to the results reported by Davis in New England in a survey conducted in roughly the same time frame.³³ Figure 1 shows one of the early prototype busts created using this basic scanning rig.

Figure 1. An early 3D selfie bust made with Windows Kinect and Reconstruct.me.



At the same time, the IDEALab had been in the middle of a procurement process to acquire and implement an improved 3D body scanner. The prototype Kinect-based unit had been large, bulky, required an external computer and power source, and could only scan a limited part of the body. By late 2017, the library had acquired an Occipital Structure 3D scanner, which offered a superior option. The Occipital Structure clipped to an iPad, was powered by the iPad’s internal batteries, and allowed scans to be immediately emailed or uploaded to a cloud drive. The new unit also allowed for full body scans to be easily created, as well as texturing, even though the library 3D printer—a LulzBot TAZ 5—was only capable of printing in a single color.

The brainstorming group therefore decided that the IDEALab makerspace tent would be advertised as a “3D selfie” booth, allowing for a short and catchy message in advertising that showcased an exciting new technology that provoked the halo effect and lead more traffic to the IDEALab’s physical space. The group also considered that, by giving patrons something to print on the 3D printer that was unique and personalized, those patrons would be encouraged to come to the IDEALab to see their selfies printed out. By collecting some basic demographic information from the patrons at the time of the selfie scans, the UML could also see which campus group or groups were most interested in the technology, allowing further targeting and customization of the outreach message.

METHODS

In the weeks before August 22, 2018, UML employees advertised the 3D selfie booth across all available library channels. This included the library’s official social media pages, physical flyers pinned to bulletin boards, emails sent to campus listservs, and a daily reminder in University of Mississippi Today—the University of Mississippi’s daily email event calendar. An example of a 3D selfie booth release form may be seen in appendix A.

Beginning August 22, 2018, a working group of three UML employees—one faculty member and two staffers—assembled the materials for a tent to be pitched in the Trent Lott Plaza of the University of Mississippi. The UML-branded tent was already owned by the UML and was primarily used for a library presence at tailgating events before major home football games. Due to the need for consistent lighting in order to allow the Occipital Structure 3D scanner to work properly, all scanning was done beneath the tent. The tent was also situated near enough to a major university building to be able to receive a wireless signal, which was essential to the 3D scanner’s functionality. The first day—August 22, 2018—the tent was erected in the middle of the Trent Lott Plaza just outside of Weir Hall, near the geographical center of campus. Difficulties with glare, distance from power outlets, and other issues led the tent to be moved beneath a large tree at the east entrance to the plaza for the remaining three days—August 23 and August 27–28, 2018. Figure 2 shows the library tent with 3D scanning of patrons in progress.

Figure 2. The library's 3D selfie booth.



With the area under the tent dedicated to taking the 3D selfies, several tables were set up directly adjacent to it. These tables were managed by a UML staff or faculty member and contained a variety of technology from the IDEALab on display. Items included the aforementioned “petting zoo” of interesting objects created on the 3D printer during its testing and proving period—things

such as a 3D-printed printing press capable of rolling small inked images onto paper, a 3D-printed shadowbox that seemed opaque but would cast a shadow that revealed a picture, a bust from the earlier prototype 3D scanner, and several other small widgets. Other technology on display included an Arduino software prototyping kit, a Makey-Makey input device, and a large-format printer image that doubled as an advertising billboard. Library promotional materials, including handheld fans and IDEALab flyers, were made available at the tables.

In order to prevent any issues regarding usage of the 3D selfies for research, UML staff prepared a photo and video release form to collect patron consent. The back of the form served as the demographic information collection survey, asking a variety of questions useful to future UML library promotions and events. Information collected included school status (undergraduate, faculty, etc.), whether or not patrons had visited the physical IDEALab, a question about how the patrons knew about the 3D selfie booth, two questions gauging future interest in the IDEALab and UML resources, and a final question asking which—if any—social media platform(s) the patrons used to follow UML. For the purposes of this survey, an older library resource was also included: StudioONE, a one-button recording and editing studio. This was done because StudioONE fell under the jurisdiction of the IDEALab staff despite being in a separate location. A full copy of this form can be found in appendix B.

Once the 3D selfie was complete, it was shown to the patron and they were given the option of receiving a copy of the scan through email. Patrons were also told to come to the IDEALab for assistance in printing their 3D selfies, if desired. Figure 3 shows a completed 3D selfie, taken of the first patron in figure 2.

Figure 3. A 3D selfie taken at the library's booth. The student signed a release form for this purpose.



Note that there are some 3D artifacts present around the periphery where the scanner picked up miscellaneous items like the legs of the tent; these would have been removed using a 3D image editor before printing. The 3D model is also textured in full color, which works as a digital artifact but which cannot be reproduced on the library's LulzBot TAZ 5, which was limited to monochrome printing at the time.

DATA

A total of 112 patrons stopped by the library tent during the four days it was in operation. Of those 112 patrons, a total of 29 (approximately 26%) had a 3D selfie made with the library scanner. This includes several patrons who had 3D selfies taken together with friends or loved ones but excludes the test scans made by library workers on-site to test their equipment. Table 1 shows the breakdown in the number of patrons and selfies per day, as well as the conversion rate, or the percent of visitors who had 3D selfies taken.

Table 1. Patrons, 3D selfies, and conversion rate by day

Date	Visitors	Selfies	Conversion rate
8/22/2018	15	4	26.67%
8/23/2018	32	7	21.88%
8/27/2018	38	7	18.42%
8/28/2018	27	11	40.74%
Total	112	29	

The first day had by far the fewest number of visitors and selfies, while the final day had the best conversion rate, nearly double that of the next best day. Aside from the very high conversion rate on the final day, the other three days had very similar rates. The number of visitors on the final three days were also broadly similar.

Of the 112 patrons who visited the library booth for long enough to be counted, only the 29 who had 3D selfies taken completed the full demographic survey form, as had been the original plan. Tables 2–5 show highlights of this demographic data; the complete responses are available in appendix C.

Table 2. Patrons by school status

School status	Patrons	Percent
Undergraduate	20	68.97%
Graduate	6	20.69%
Faculty/staff	3	10.34%

Undergraduates were by far the largest patron group, with nearly 70% of all 3D selfies, followed by graduate students at approximately 20% and faculty/staff at 10%.

Table 3. Patron responses to library-specific questions

Question	Yes	No	Maybe
Ever visited the IdeaLab or StudioOne?	5	24	n/a
Will you use either after this event?	20	0	9
Like to know more about library resources?	24	5	n/a

A significant majority of patrons (19/24) had not visited the IDEALab, the UML makerspace, or StudioONE, the UML one-button film studio. All but nine patrons indicated an interest in using either or both after the event, and those nine patrons indicated “maybe.” No patrons claimed to be uninterested in either or both spaces.

Table 4. How patrons found out about the 3D selfie booth

Source	Number of patrons	Percent
Flyer	2	6.90%
University of Mississippi Today	7	24.14%
Website	1	3.45%
Walk-up	11	37.93%
Other	8	27.59%

The largest number of patrons (approximately 38%) simply walked by the tent or were drawn in by speaking to library staff. Many (approximately 25%) learned about the 3D selfie booth from University of Mississippi Today, the University of Mississippi’s daily email event calendar. Very few cited flyers or the UML website. Of those listing “other,” two cited friends, one cited Facebook, one cited a departmental listserv, and three others did not specify.

Table 5. Patrons following @UMLibraries on social media

Social media platform(s)	Number of patrons
Instagram	2
Facebook	4
Twitter	1
Instagram, Facebook, and Twitter	4
Instagram and Facebook	2
Instagram and Twitter	0
Facebook and Twitter	0
None of the above	13
Do not use social media	3

Of the patrons who had 3D selfies made, 13 followed UML on at least one social media platform. Thirteen others did not follow UML on any of the listed platforms, while two others were not social media users of any sort.

Finally, of the 29 patrons who had 3D selfies made, only one later stopped by the IDEALab to have it printed on the UML LulzBot TAZ 5 machine.

DISCUSSION

While a relatively large number of people visited the UML 3D selfie booth during its four days of operation, nearly three-quarters of them did not have a 3D selfie made. Based on the anecdotal experience of the library staff members running the booth, there appeared to be several reasons for this relatively low conversion rate. With only three staffers and one scanner, it could take 5–10

minutes to create a single scan, meaning that there was occasionally a line or interested patrons that declined in the interest of time. Many passersby who did not stop also cited lack of time—often needing to walk to classes across campus.

According to anecdotal observations from UML staff, several people also showed interest in the technology, stopping to chat with UML staff and look at the IDEALab equipment on display, but declined to have a 3D selfie made. A variety of factors may have been behind this, from a simple reluctance to be photographed, to genuine interest in the other technologies on display, to a desire to take a free UML-branded fan on a hot summer day.

It seems clear that some of the assumptions made by the UML brainstorming group were incorrect. Only one of the 29 patrons was interested in having a 3D print of their selfie made, for instance—this did not seem to be a strong inducement for the patrons to visit the IDEALab. As far as could be determined, this student did not follow through on their interest and print their selfie. Based on discussions the patrons had with UML staff, some patrons seemed to be more invested in their scans as digital objects rather than physical models—they wanted the scan but not necessarily the print. One patron spoke of using their scan to create user profile pictures for gaming sites, for instance, and another wanted to use the texture mapping from the scan—available as a separate file—to put their face on a video game avatar.

The location and timing of the 3D selfie booth also seems to merit further consideration. Looking at the patron data, the first day had far fewer patrons and 3D selfies while the remaining three are much more consistent. This may reflect the change in location between the first two days, from a hot and exposed location in the middle of the Trent Lott Plaza to a much more shaded area at its east end. The choice of lunchtime for the booth may also have affected the ability of passersby to stop and engage, since students, faculty, and staff may not have been able to sacrifice their lunch hour to experimenting with library technology.

Nevertheless, most patrons who stopped for any length of time seemed impressed by the 3D selfie apparatus and the petting zoo of 3D objects. As such, while the hoped-for halo effect may not have led to many patrons coming to the IDEALab to have their 3D selfies printed, it did seem to open the door for more engagement with the space.

Due to the space that the 3D selfie booth occupied, it was not surprising that nearly 70% of patrons were undergraduates—the Trent Lott Plaza is one of three primary routes from east to west on the University of Mississippi campus and lies adjacent to the Business and Accountancy schools. Choosing a similar high-traffic location would seem to be a good way to entice walk-up patrons, especially considering that almost 40% of the patrons who got 3D selfies were walk-ups. The effect of library staff verbally advertising the tent cannot be understated, as well.

Hardly any of the patrons had used the IDEALab or StudioONE before having a scan made. In the case of the IDEALab, that was unsurprising—it had only been open with a full-time staffer for a few months at that time. StudioONE had been open for much longer, several years, and had seen relatively steady use, but due to the fact that it was a separate location in the library, its inclusion on a survey otherwise focusing on the IDEALab may have confused respondents. Patrons may also have been familiar with the spaces but not their names, or had thought that they needed to use both, rather than either, to answer affirmatively. In retrospect, the inclusion of StudioONE on the survey may have been a mistake—none of its technology was represented on the table, in the petting zoo of 3D objects, or in the promotional materials.

Responses to the other survey questions were encouraging—when asked, the patrons getting 3D selfies seemed very open to the possibility of using library technology and learning about library resources based on their responses. However, this may have partly been because of a self-selecting bias; patrons who were more drawn to technology may have been more likely to take a 3D selfie and therefore answer the survey. Ideally, in the future, surveys would be provided to all participants to rule out any such inaccuracies. It is also worth noting that a fair percentage of the patrons who stopped followed UML on some variety of social media—despite very few saying that they had learned about the 3D selfie booth from social media.

This suggests that many of the patrons that responded to the selfie booth were already predisposed to engage positively with UML, even if they did not follow it closely enough to cite library social media as the primary thing bringing them to the 3D selfie booth. Library staff were also impressed with the number of patrons who cited University of Mississippi Today as the source of their information about the event—anecdotally, many in the library claim that no one reads the daily emails. Clearly, this is an assumption that the data has challenged.

Thus far, further attempts to iterate on the 3D selfie booth have failed due to circumstance. In 2019 and 2021, the lab's head left the institution, resulting in a vacancy that precluded any major new initiatives. The UML campus was closed during most of 2020 and had restrictions for part of 2021 due to the COVID-19 pandemic as well.

CONCLUSION

Ultimately, the 3D selfie booth did not work entirely as intended. Since only one patron had their selfie printed, there was no real way to track how many patrons who were intrigued by the IDEALab actually made it to the makerspace in person. The way the questionnaires were organized, the format of their questions, and the fact that they were only given to people who had scans made are all factors that make the data susceptible to self-selecting bias. The small number of patrons overall also makes it dangerous to generalize much from the data set. Ideally, any future iterations of the 3D selfie booth would have a questionnaire that is altered to reflect a smaller sample size, to be better organized, and to remove references to superfluous resources.

The 3D selfie booth did succeed in attracting a large amount of foot traffic and interest; however, 112 individuals across four days, with nearly 30 being engaged enough to go through the lengthy scanning process, compares favorably to many other library events and activities that UML has held. The hoped-for halo effect of patrons being intrigued by the 3D scanning technology did seem to be at least partially true, even if this did not translate into actual 3D prints as expected.

A Microsoft Kinect for Windows costs \$50–\$75, while an Occipital Structure sensor costs \$399 new. Given the costs of the tools involved, and the fact that a 3D printer did not seem to be integral to the process, it seems like a 3D selfie booth may be a possibility for other makerspaces looking to drum up interest. The strategy of putting it in a high-traffic area seems to be sound, especially if library staff is available to manage the booth for more than four days per semester.

The experience that UML has had with its 3D selfie booth serves as a case study to other makerspaces attempting a similar promotion, both in refining the general idea to be more effective, questioning assumptions about the process, and avoiding some of the pitfalls.

APPENDIX A: RELEASE FORM

The University of Mississippi Photo & Video Release

1. I hereby authorize the University of Mississippi and those acting pursuant to its authority (“University”) to:

(a) record my likeness and voice on video, audio, film, photograph, digital, electronic or any other medium;

(b) use my name in connection with these recordings; and,

(c) use, reproduce, exhibit or distribute, in any manner and medium, these recordings for any purpose that the University deem appropriate, including promotional, educational or advertising efforts.

2. I agree that all licenses and permissions granted in this agreement are perpetual and transferable.

3. I hereby represent that I have the full rights to enter into this agreement and I release the University from liability for any violation of any personal or proprietary right I may have in connection with such use. I understand that all such recording, in whatever medium, shall remain the property of the University. I represent and warrant that I am over 18 years of age and have authority to enter into this agreement.

Name: _____

Address: _____

Phone No.: _____

Signature: _____

Parent/Guardian Signature (if under 18):

APPENDIX B: DEMOGRAPHIC INFORMATION

1. Audience Participation Information:

Undergraduate Graduate Faculty Staff

Community Resident Other (please specify) _____

2. Have you ever visited the Idealab or StudioOne in the [LIBRARY]?

Yes No

3. How did you learn about today's event?

Newspaper Website Social Media (specify) _____

Flyer University of Mississippi Today Other (specify) _____

4. After this event, will you use or visit StudioOne or the IdeaLab in the Library?

Yes Maybe No

5. Would you like to know more about the resources the [INSTITUTION] Libraries has to offer?

Yes No

6. Do you follow the [LIBRARY handle] on any social media platforms?

Instagram Facebook Twitter

None of the above I do not use social media

APPENDIX C: FULL RESPONSES

#	Q1	Q2	Q3	Q4	Q5	Q6
1	Undergraduate	Yes	Other (Walk-up)	Yes	No	Facebook
2	Undergraduate	Yes	Other (Unspecified)	Yes	Yes	Instagram, Facebook, Twitter
3	Graduate	No	Flyer	Maybe	No	Facebook
4	Undergraduate	No	Other (English listserv)	Maybe	No	None of the above
5	Graduate	No	Other (Facebook)	Yes	No	Facebook
6	Staff	No	Other (Coworker)	Yes	Yes	Instagram, Facebook, Twitter
7	Staff	No	Other (Unspecified)	Yes	Yes	Instagram, Facebook, Twitter
8	Staff	No	University of Mississippi Today	Yes	Yes	Instagram, Twitter
9	Undergraduate	Yes	University of Mississippi Today	Yes	Yes	Instagram
10	Undergraduate	No	University of Mississippi Today	Yes	Yes	None of the above
11	Undergraduate	No	Other (Walk-up)	Yes	Yes	Do not use social media
12	Undergraduate	No	Other (Walk-up)	Maybe	No	Do not use social media
13	Undergraduate	No	University of Mississippi Today	Maybe	Yes	None of the above
14	Graduate	No	Other (Walk-up)	Yes	Yes	None of the above
15	Undergraduate	Yes	Flyer	Yes	Yes	None of the above
16	Graduate	No	University of Mississippi Today	Yes	Yes	Facebook
17	Graduate	No	Website	Yes	Yes	Instagram, Facebook
18	Undergraduate	No	Other (Walk-up)	Yes	Yes	None of the above
19	Undergraduate	No	N/A	Yes	Yes	None of the above
20	Undergraduate	No	Other (Unspecified)	Maybe	Yes	None of the above
21	Undergraduate	No	University of Mississippi Today	Yes	Yes	None of the above
22	Undergraduate	Yes	Other (Walk-up)	Yes	Yes	Instagram, Facebook
23	Undergraduate	No	Other (Walk-up)	Maybe	Yes	Twitter
24	Undergraduate	No	Other (Walk-up)	Maybe	Yes	None of the above
25	Undergraduate	No	University of Mississippi Today	Maybe	Yes	Instagram
26	Undergraduate	No	Other (Friend)	Yes	Yes	None of the above
27	Undergraduate	No	Other (Walk-up)	Maybe	Yes	Instagram, Facebook, Twitter
28	Undergraduate	No	Other (Walk-up)	Yes	Yes	None of the above
29	Graduate	No	Other (Walk-up)	Yes	Yes	None of the above

ENDNOTES

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