



Mattress Factory

Executive Summary

Student Consultant, Sateja Parulekar
Community Partner, Susan Sparks

I. Background Information

The Mattress Factory is a museum of contemporary art, which exhibits room-size installations created on-site. This organization has supported just over 300 artists since 1977 through its world-renowned residency program.

The Mattress Factory's mission is to serve as a research and development facility for artists from around the world.

Each piece spans the entire room space and each room is located in one of the two buildings, which make up the Mattress Factory property in the North Side of Pittsburgh, PA. There are 16 permanent displays and a number of temporary exhibitions shown throughout the year. During each cycle of exhibitions, there is various programming for which is relevant to the subject matter of featured pieces including educational programs for students and workshops for the public. Artists are encouraged to explore different ways to use the space through various art mediums and push their creativity. With such a wide demographic, the Mattress Factory is an international facility for art to be explored.

II. Consulting Tasks

- **Database Upgrade:** The purpose of this task was to somehow improve the filtering and searching capability of the Mattress Factory's database, which contains contact information for their members, visitors, and donors. It is difficult to pull up the right type of entries and mail out information. For example if an email needs to be sent to high school students about an upcoming ArtLab event, it is difficult to filter through entries and grab all the email addresses for the pertinent member type. There is no way to mark a member as "inactive" to indicate that this person wants to stop receiving paper mail or email. To prevent sending mail, the record must first be deleted. To expand the functionality of the current system in order to target the appropriate people for specific events, the best option was a full upgrade to Filemaker Pro 9 including the purchase of software for the database and the server plus maintenance and support for future upgrades.
- **Quickbooks and Filemaker Integration:** The argument for this task of connecting the two information systems was the expressed interest in creating some easy way to move data from the Quickbooks point of sale and accounting system to the Filemaker database. There is a lack of information flow between these two data points so to input information about point-of-sale-specific activity, someone from accounting must manually enter information

into Filemaker. To make the process of target-marketing easier, a direct link from Quickbooks to Filemaker would be ideal. The solution to this problem was FM Books Connector, a Quickbooks plug-in that provides an interface to transfer specific data to a Filemaker database.

III. Outcomes Analysis and Recommendations

- Database Upgrade: A primary outcome of this task to provide a solution that will provide a cleaner and more streamline database with an easier process of filtering and accessing information such as obtaining the email addresses of only high school students to send out pertinent information about an upcoming event. The evidence of change will be seen through the elimination of double-work and re-entering existing information into the database once the software is installed. An existing outcome is the new plan and resources the Mattress Factory has to obtain the new software to improve the way the database is handled. The only real way to gauge further improvement after the software is installed is by staff members experiencing easier and more productive functionalities while dealing with the database.
- Quickbooks and Filemaker Integration: The outcome of this task is to find a software plugin or program to facilitate easier access and entry from Quickbooks to Filemaker. The original scope of work changed to embody this task where a plugin was found to serve as a bridge between the two programs. This plugin is called FM Books Connector created by Productive Computing, Inc. This type of access usually involves the user having thorough knowledge of XML but the Mattress Factory needed a simpler way to connect the programs. FM Books Connector only requires the user to have knowledge of how to use Quickbooks and Filemaker Pro. The codes to perform actions are simple and easy to learn. The main problem was that without manually re-entering information into Filemaker, a data dump was complicated and incompatible especially when the information traveled from a Windows platform to the Mac OS. The evidence of the outcome lies in the plan drawn up to purchase and install the software.

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About the Consultant

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Sateja is a senior decision science major and computer science minor
She will begin working as a sales engineer for salesforce.com after graduation.



Mattress Factory

Final Consulting Report

Student Consultant, Sateja Parulekar
Community Partner, Susan Sparks

I. About the Organization

Organization

The Mattress Factory is a museum of contemporary art, which exhibits room-size installations created on-site. This organization has supported just over 300 artists since 1977 through its world-renowned residency program.

The Mattress Factory's mission is to serve as a research and development facility for artists from around the world.

Each piece spans the entire room space and each room is located in one of the two buildings, which make up the Mattress Factory property in the North Side of Pittsburgh, PA. There are 16 permanent displays and a number of temporary exhibitions shown throughout the year. During each cycle of exhibitions, there is various programming for which is relevant to the subject matter of featured pieces including educational programs for students and workshops for the public. Artists are encouraged to explore different ways to use the space through various art mediums and push their creativity. Out of the 300 artists who have created art at the Mattress Factory, 72% are from the United States, 11% are from Europe, 9% are from Asia and the remaining 8% are from the rest of the Americas. Over 38,000 people visit the gallery annually, out of which 61% are from the Pittsburgh area, 34% from all over the United States, and 5% internationally. ¹With such a wide demographic, the Mattress Factory is an international facility for art to be explored.

Facilities

The Mattress Factory has two buildings, which span from Jacksonia Street to Sampsonia Way. The offices for staff are upstairs in the main building across three floors providing ample room for planning and administrative storage. The rest of the main building space contains the Gift Shop, Café, and a few seasonal exhibitions. The second building contains a few permanent installations and more of the featured exhibitions. The museum is open 10 to 5pm from Tuesday through Saturday and 1 to 5pm on Sundays. There is a gift shop that stays open during museum hours, which sells catalogues from exhibition and books on art for children and adults. There is also a café selling lunch foods and has an outdoor dining patio and free wireless internet access. The café's hours are 11 to 3pm on Thursdays and Fridays and 11 to 4pm on Saturdays.

¹ <http://www.mattress.org/index.cfm?event=Facts>

Programs

Other than the standard gallery viewings available to the public, the Mattress Factory has a wide variety of group, youth, and adult programs to educate and expose art through the community. A few of these programs include:

- ArtLab is a program that holds workshops on the first and third Saturdays of each month when visitors get to participate in art-making activities that pertain to the current exhibits of the artists in-residence. The workshop is free with admission to the museum.
- Community ArtLab takes place each summer and features artists and faculty from various fine art disciplines, who lead hands-on art workshops for local youth.
- Factory 14s is a class offered for Pittsburgh youth, ages 14-18 in which professional artists instruct students in art making and creating their own installations. There are also various scholarships available for students who qualify.
- The YouthWorks program is aimed towards low-income and at-risk youth 14-25 years old. Participants get the chance to work part-time at the Mattress factory in the education department teaching workshops or helping organize the youth programs.

Every time a new visiting artist unveils his/her new exhibition, pertinent workshops and lectures are offered to complement the artwork. The Mattress Factory also works with local schools to offer guided tours and programs that work into students' curriculums. Many of the youth programs offered are divided between age groups and encourage the students to create their own art. Currently the Education Department caters to over 16,000 people every year.

Staff

There are currently 12 permanent staff members at the Mattress Factory and a few part-time employees, including those who work at the café and gift shop.

- Susan is the Director of External Affairs and has come up with the technology plan to bring the Mattress Factory up to date. She handles budget-related issues and will be overseeing the entire project.
- Slim is the technology specialist who currently works part-time to help maintain the computer and network systems.
- Lindsay and Jeff handle the content of the database and the donation information.
- Katharine works at the front desk and enters in the paper-based information into the database at the end of the week.

Technical Environment

The Mattress Factory owns about 17 computers throughout the facility including one PC, 4 new iMac desktops, 8 eMac machines, 1 G5 Mac, and a few Mac laptops. Each member of the staff has one computer (mostly Macs).

There is an old blue iMac devoted to storing the software for the database. The main database stores all donor, member, mailing list, and visitor information. Additional smaller databases store exhibit archives and information regarding outside contracting services used to help with installations (i.e. information for an electrician to help with light installations).

There are also some audio and visual electronics for the artists to use for their exhibitions as well as a new G5 Mac machine with video and image editing software.

All machines have the standard Microsoft Office suite and use mainly Safari or Firefox as web browsers. An estimated six machines have the Adobe Creative Suite (including InDesign, Illustrator, Dreamweaver, Photoshop, etc).

The Mattress Factory has its own website at <http://www.mattress.org>. The site was designed by an external agency called Lava New Media and was made in Cold Fusion. It is setup so that the staff can enter in new pages and update information easily without dealing with the website's code. The website contains information about current exhibitions and programs as well as archives and records of old exhibitions. The web host which facilitates the website is Crystaltech (which also provides the Mattress Factory's email hosting as well).

The Internet has wireless and wired capabilities. The wired service is provided by Nautacom (sister company of Pentecom, the phone company used by the Mattress Factory for phone service). The wired network connects the printers and computers. The wireless service is provided by a local company called Telerama and goes through the DSL line but does not connect to the network.

Technical Management

At the moment, the technical environment is maintained by Slim who handles any computer-related problems. It is estimated that half the staff is well-versed in technology and the other half is not. Those that are well versed are knowledgeable in using all software available on the computers as well as basic database knowledge and ability to update the website when necessary for their group's updates.

Technology Planning

There is currently a movement headed up by Susan Sparks to revamp the technical environment at the Mattress Factory. She has designed an overall technology plan to achieve this but the details are not set. Parts of the plan include updating the database, restructuring how visitors enter information, and adding equipment to the digital arts media studio. When new equipment is to be purchased the details are run by Slim to ensure proper installation of the products.

Internal and External Communication

All internal communication is done through email and phone. The Mattress Factory has its own domain name for email; all staff members use Mac mail to send and receive messages. Because the staff offices are so spread out on three floors, phone is typically used for immediate communication and email is more common for longer messages and sending content. File-sharing is commonly stored on the central server but also can be casually attached through email.

External communication to members and donors is achieved through email and regular mail. For more informal messages, such as announcements and information geared towards youth, email is used and for donors and older guests, regular mail is used. The addresses are all stored in different formats in the database. The entries in the database do not necessarily specify what type of member each person is though.

Through the website, interested parties can sign up for the mailing list through which they would receive periodic updates about announcements and events through email and possibly regular mail (if you submit mailing address information).

Information Management

The Mattress Factory has a few databases. The marketing department and curators have their own databases for storing archival data. One is full of all mailing list information of members and donors. When a new member/visitor visits the gallery he/she fills out a page of contact information; at the end of the week, the compiled stack of visitor information is entered into the database by hand into the database of over 40,000 entries. Depending on what kind of visitor information it is, each entry has a code attached to it. For example if the visitor is a high school student coming in on an art lab assignment, he might be coded as "hsstudent" or something to that extent. These codes change over time and are therefore inconsistent. 120 of the 300 artists have entries in the database as well as individual donor and foundation information. The details of grants and donations are stored in an Excel spreadsheet, which is stored on an individual machine.

Other than the main database, the curator, Owen, keeps his own databases with information about artists, exhibitions, and other relevant people from exhibitions. The databases are in Filemaker Pro 6.0 v4 with a 6-user bundle. The facility owns a terabyte server, which is speculated to be at 50% capacity and contains all the contact information as well as video and image archives of all past exhibitions.

Business Systems

Accounting is done through a small group of the staff and all records are stored in Quickbooks. Quickbooks has the capability to be integrated into the database but that connection has not been set up yet. Therefore the accounting records are not linked to the database.

II. Scope of Work

Task 1. Database Upgrade

The purpose of this task was to somehow improve the filtering and searching capability of the database. It is difficult to pull up the right type of entries and mail out information. For example if an email needs to be sent to high school students about an upcoming ArtLab event, it is difficult to filter through entries and grab all the email addresses for the pertinent member type. There is no way to mark a member as “inactive” to indicate that this person wants to stop receiving paper mail or email. To prevent sending mail, the record must first be deleted. To expand the functionality of the current system in order to target the appropriate people for specific events, the best option was a full upgrade to Filemaker Pro 9 including the purchase of software for the database and the server plus maintenance and support for future upgrades

Task 2. Quickbooks and Filemaker Integration

The argument for this task was the expressed interest in creating some easy way to move data from the Quickbooks point of sale and accounting system to the Filemaker database. There is a lack of information flow between these two data points so to input information about point-of-sale-specific activity, someone from accounting must manually enter information into Filemaker. To make the process of target-marketing easier, a direct link from Quickbooks to Filemaker would be ideal. The solution to this problem was FM Books Connector, a Quickbooks plug-in that provides an interface to transfer specific data to a Filemaker database.

III. Outcomes and Recommendations

Task 1. Database Upgrade

Plan the upgrade of the database software from Filemaker Pro 6 to Filemaker Pro 9 for improved database management

- A primary outcome of this task to provide a solution that will provide a cleaner and more streamline database with an easier process of filtering and accessing information such as obtaining the email addresses of only high school students to send out pertinent information about an upcoming event. The evidence of change can be seen through the elimination of double-work and re-entering existing information into the database. The only real way to gauge this improvement is by staff members experiencing easier and more productive functionalities while dealing with the database.
- The old version is extremely outdated and is very inconvenient for dealing with newer information and sorting. The new version eliminates the major issues regarding retrieving and storing data. By upgrading, there will be a set protocol of how to code entries as visitors, members, donors, etc. The codes used to retrieve data will be properly documented and distributed for all staff members to use as reference.
- This outcome, once the software is installed, can most definitely be sustained especially since the purchase of the upgrade includes technical support and as long as the museum is diligent about installing future upgrades, they won't have to pay the full price for future versions. Because the upgrades are included in the software package, electronic reminders to upgrade are standard and will aid in prompting the staff to install the upgrade.
- By creating this initiative to upgrade software and tackle IT problems more aggressively, there is a new motivation and energy to do more integration of technology to aid in the mission.

Task 2. Quickbooks and Filemaker Integration

Plan to connect the point of sale system, Quickbooks, and the database, Filemaker Pro so that a data dump can be made to integrate information.

- The outcome of this task is to find a software plugin or program to facilitate easier access and entry from Quickbooks to Filemaker. The original scope of work changed to embody this task where a plugin was found to serve as a bridge between the two programs. This plugin is called FM Books Connector created by Productive Computing, Inc. This type of access usually involves the user having thorough knowledge of XML, but the Mattress Factory needed a simpler way to connect the programs. FM Books Connector only requires the user to have knowledge of how to use Quickbooks and Filemaker Pro. The codes to perform actions are simple and easy to learn.
- At the moment the way to enter information is redundant and there is no interaction between the point of sale system and the database. Because of this, it is harder for marketing to get statistics on what is being purchased, how often things are getting purchased, etc.
- By bridging the point of sale and database systems, the staff can gather better statistics on where to focus marketing resources more. Through this effort the Mattress Factory can be better equipped to cater events to the public, and to fulfill their mission of showcasing their

innovative art. Productivity will also be improved, due to the time saved by moving information electronically as opposed to transferring information into a document, which is later transferred into the database manually.

- An important aspect of FM Books Connector is that it only runs on a Windows platform and therefore cannot be run on a Mac OS. Susan, and the IT specialist, Slim expressed that they would prefer for a few people to have the ability to do the data dump since it contains very sensitive information. Quickbooks is already being run on the Windows platform and as long as FM Books Connector is installed on that platform it can interact with the same database the other Macs at the museum are accessing. Once installed, only those with the access to Quickbooks will have access to the FM Books Connector link and can transfer new point-of-sale information to the database.

Recommendation 1. Purchase and install Filemaker Pro 9

The main recommendation to expand capacity and outcomes stated above would be the successful purchase and installation of the Filemaker Pro 9 software package.

- By installing the Filemaker Pro 9 software and implementing the new entry system, it would create less confusion and extra work when searching through contacts manually. This would also ensure that the correct information for each visitor is saved. There would be a negative impact of time needed for training but this would only apply to the few staff members that use the software and since they are familiar with the current software, learning the details of the new version should not be too difficult especially since there are staff members who are knowledgeable about database systems already.
- The cost of the whole software package, including the actual software upgrade, maintenance and support, and server software, through volume licensing for 12 users with the non-profit discount is approximately \$3,249.00. Additionally, there will be some time cost in the purchasing, installing, and training the staff to use the new features of the software.
- By updating the software there would also be an easier way to bring up contacts for mailing. For example if the Mattress Factory was having an event for high school students, they could easily pull up the contacts with the proper tag rather than emailing tons of members/visitors in the database that would not fall in the high school student category.
- The feasibility of this upgrade completely depends mostly on the budget. The software update will take some effort in terms of installation and calibration. There will also have to be a quick run through with the staff on the new functionality and capabilities of the system as well as proper protocols on how to use the features properly. As the consultant I also had to learn more intimate details about how to work with the database and train staff in this field after learning it myself. Proper protocol reports will also have to be written up to ensure sustainability and troubleshooting. Currently, the Filemaker Pro at the Mattress Factory is three versions behind. There should be no problems installing the upgrade. When the upgrade is made, the staff plans to standardize the way information is entered so future entries will be cleaner.

Recommendation 2. Purchase and Install FM Books Connector

After the installation of Filemaker Pro 9, the second recommendation would be to purchase and install FM Books Connector to provide a simple, streamline data dump capability into the database.

- The FM Books Connector plug-in comes free for a 12-day trial and is then around \$170 (which includes the non-profit discount) to sustain use. This is a one-time purchase cost and includes support for the software. Since this is only being installed on the computer running Quickbooks, it is a cheaper solution than trying to buy another expensive software to bridge the two systems. Sustainability is important here because upgrades will probably occur and as long as the staff is vigilant in upgrading the system as a whole should be sustainable.
- Sustainability is solely an issue of the upgrades between the two programs. At the moment, FM Books connector is compatible with both the Filemaker Pro 9 and the current Quickbooks version present at the Mattress Factory. As the FM Books Connector upgrades progress, the Quickbooks and Filemaker upgrades can occur one after the other to protect the compatibility. There may be some financial costs but they should remain minimal seeing as how the upgrade costs are significantly lower than full software costs. Training to support the upgrades should not be too extensive. All programs involved have extensive documentation and troubleshooting available. The recommendation given to the Mattress Factory will be complete with documents explaining how to find the documentation online and who to contact for customer support and upgrades.

Additional Recommendations

- The original scope of work included a task to track member/visitor activity (including purchases, events attended, etc) through some sort of identification card/number for marketing purposes. An idea that was brought up was a membership card that members can swipe when they enter the museum and swipe when they make purchases at the gift shop, etc to gather statistics about what the members are buying and visiting. A hardware/software system to support this functionality is something that is not feasible at the present moment but could be in the near future with appropriate funding (which would ideally come through a technology grant or donation). This project would allow the marketing department to cater more events and services to the right members and give insight into how popular/successful events and exhibits are as well as provide marketing information for the gift shop.
- At the moment there are limited resources when it comes to audio/visual technology for artists to have access to. Purchasing new technologies and storing/presenting them efficiently in a lab room if possible would fulfill the needs of the project. Video cameras, audio speakers, more computer hardware and software, etc would need to be purchased and will cost quite a bit of money therefore a big budget is necessary. Other than facilitating for more innovative installations, the availability of the digital media equipment may attract more cutting edge artists and create an even more diverse pool of exhibitions. The hope is that this collection of equipment is expanded into a fully functional digital media lab for the artists at their disposal. This project's solution simply involves finding the right electronics and software to fit the artists' needs. Because equipment is so expensive and funding is limited, this project can occur just as they need. The electronic equipments can be purchased

in stages. This is also another long-term goal in the works to expand the technology available at the Mattress Factory.

About the Consultant

Sateja Parulekar is a senior in Decision Science with a minor in Computer Science at Carnegie Mellon University. She will be working with Pratham, a non-profit organization working to raise money to promote education in India over the summer and then begin working at salesforce.com as a sales support engineer in San Francisco, CA.