Information Systems Management
Course 95-822

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Final Consulting Report

Community Day School

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Community Day School

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Community Partner: David Piemme

Executive Summary

The consultant Christina Dinwoodie worked with Community Day School through the community partner (CP), David Piemme. Community Day is a K-8 private day school with a focus on Jewish studies that seeks to provide its students with a balance of Judaica studies and traditional studies to provide a strong foundation for both their spiritual and secular lives. The school currently has around 300 students, 45 teachers, and 10 administrative staff. The CP is the IT Director at the school and oversees all of the technology aspects of the school, from the purchase of new computers to classroom instruction for computing studies.

The main problem that the CP and consultant sought to attack was the issue of a splintered information system. They pursued a solution to this problem with a two-part process. The first part was to map out the current information system focusing on the data storage means and methods, including the human processes for storing and retrieving data. The second part was using the data map created in the first part to determine how things could be consolidated, and then proceeding to consolidate some of the data storage into a unified database system.

At the end of the semester, the consultant and the CP had created two main outcomes. The first was a data map. The data map is a visual representation of interactions between people and data, and the relationships between databases used for data storage. This must be kept updated as the data structure changes, but otherwise remains as a relatively static document. However, this provides benefit to the organization through allowing people a clear and coherent view of data flows in the school. While the IT Director may know who enters what data where and when, very few others have as good of an idea of this, and hence may have misguided ideas of the root of many data entry problems. This helped with the database planning and can help in the future with planning new technology acquisitions.

The other main outcome was the consolidated database. This database combines four main database systems into one consolidated relational database. This consolidated database significantly reduces the time commitment for a procedure that is already being done on a day-to-day basis. The main time reductions will be seen at the change of the school year when in prior years days were spent exporting and importing data between databases.

Two main recommendations were given to Community Day for future technology consideration. The first is the creation of a backup and recovery plan. School data is essential to any school for accountability and reporting purposes, above the needs of student education. To have confidence in the safety of school data, maintenance of backups and an explicit disaster recovery plan must be done to reduce the risk of catastrophic data loss.

The other recommendation is the development of a technology plan. Just as any organization has a strategic plan to help them decide what must be done to help them move forward and better achieve their mission, so must a technology plan exist. Technology plans act as a subset of a strategic plan, and give an organization a set of steps to take to improve their technology situation to better their ability to achieve their mission and maintain high standards. Planning is also an essential step towards acquiring funding for any project, and technology budgeting is too often done without a strong idea of the purpose of the money set aside for it.

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Christina is graduating in the spring with a masters degree in Public Policy, and hopes to go into policy analysis or consulting in the future

Context Analysis

Organization

Community Day is an independent, private, co-ed Jewish day school. It is located in Squirrel Hill, and has 45 teachers, 10 administration and staff, and 300 students in grades K-8. The mission of the organization is to educate Jewish children through an integrated curriculum of secular, Hebrew language, and Jewish studies, and to provide students with the tools to grow to their full potential as educated, committed and ethical members of society. The school was created in 1972 with only grades K-3, and added a grade yearly until they had up to 8th grade. In 1996 they moved into their current building, which used to be a Catholic school.

Although their enrollment has climbed to over 300, they are beginning to lose enrollment, and they do not have sufficient data to help them analyze why this loss is occurring.

Facilities

Community Day is located at 6424 Forward Avenue in Squirrel Hill, at the former site of St. Philomena's Catholic Church and School. Built in 1922 in the Gothic Revival style, the building has four stories and two basement levels, with two main wings. The walls are made of stone, and much of the wiring of the building has been done along the outside of the walls, although over the summer, network wiring was done through drilling holes into the walls to pass cables through.

The two main computer labs are in the library area, each having two rows of approximately ten computers. The servers are also located in a room off the library. Other computers are located in the administration areas, and all classrooms have network hook-ups, although not all classrooms have computers.

Program

The activities and programs at Community Day center around the education of children. They teach courses in the standard academic fields as well as Hebrew and Jewish studies for children age 5-14. They have field trips and provide service activities. Computers are used in web searches for class projects as well as training in computer literacy, such as typing courses.

Staff

The staff consists of 45 teachers and 10 administrative staff. All of the staff uses computers. Administrative staff uses computers for daily activities—Microsoft Word and Excel, as well as using Outlook for mail. Teachers access a report card database for grade reports, students use computers for learning. The CFO uses computers for fundraising activities using the BlackBaud Raiser's Edge system and payroll also uses

the BlackBaud financial database for management tuition fees and other expenses. IT director manages some enrollment data and also serves as general technical support.

David Piemme, the IT director, has been with the school for 7 years. He is comfortable with most aspects of his job, which include tech support, database management, and course instruction. However, he is not as familiar as he would like with some of the database software that he has, including BlackBaud and FileMaker Pro.

Technical Environment

The school uses mostly Mac computers although administration mainly uses PCs. Students use eMacs, and the servers are on G4 machines. Databases are on FileMaker and Blackbaud database systems. Student computers have typing programs and use Safari for Internet searches. There are numerous network laser printers for use in the library and administrative areas. There are about 40 Macs for student use, a computer in each classroom, 2 Mac servers, and 1 PC server. One server in the school is linked to programs outside the school and unconnected to the school.

Technology Management

The IT Director does the management of all non-electrical technology aspects, from budgeting to tech support. He solves problems with hardware and helps with software issues, as well as doing server maintenance. He creates databases and queries and reports for programs throughout the school, such as the report card system, the scheduling system, and reports for contract renewal for students. The school has data on students and fundraising activities, and has been working on managing data through computer databases since the late 90s. They went from carbon report cards to database system many years ago. However, people don't know how to do some simpler tasks on their own; those who deal most often with the databases don't know how to create queries, and take IT Director's time to create these.

Technology Planning

Technology planning is mainly the IT Director's job. He does budgeting along with the CFO. There is no set committee for technology, and they have no set written tech plan apart from an idea to keep moving forward technologically. They have a budget of around $50,000 for this year, but can't agree on what is most important to them. IT director and administration have different ideas about how to go about some processes and what programs and systems are needed. Generally the IT Director convinces the CFO of his plans, but the current issue is whether or not to replace a computer lab with PCs.

Internal and External Communication

Community Day School has Internet access, and file servers. Firewalls exist, and there is a website but it is not updated regularly. Funding information is stored in Raiser's Edge database system. Enrollment information is kept in a FileMaker database. They purchased a Blackbaud database system a number of years ago for fundraising and payroll. However, the fundraising information does not connect to Enrollment information, even though there is some overlap. Within the enrollment information, there is significant redundancy which leads to inconsistency. For example, students with siblings all have separate contact information, even though all of their contact info should be the same, and when one changes, the rest might not be changed.. Blackbaud (Raiser's Edge) system is obtuse and they don't have enough knowledge to work it well, but they are getting outside training to help them better understand the system.

Information Management

Data management about students is all in one flat file; information for fundraising is in a different database. There is redundant data within and between databases. Funding information is stored in Raiser's Edge database system. Enrollment information is kept in a FileMaker database. Payroll and Financial information is in a different Blackbaud database. The attendance and grade reports are separate. Teachers can enter data from their own computers, but do not have access to general enrollment data. The IT director manages all of the databases, but the financial and fundraising information is more heavily managed by the financial department as well. Enrollment information can be changed by the IT Director or any of the administrative staff, and report card and attendance information is input by the teachers.

Intended Activities

We undertook two major activities during the semester.

1. Create a data map which represents the data flows in the organization.
2. Consolidate non-financial information into a single relational database.

These tasks will help Community Day to better track the data that allows them to follow the progress of students and faculty, and to increase their technology capabilities by exposing the problems in their data management so that they can have a clear idea as to how to plan for the future.

Data Map

The first major activity that we accomplished was that of creating a data map. The organization did not have a clear idea of how data flows throughout the organization, so they did not understand what caused the problems that they encounter, such as data inconsistencies. By not having a clear idea of who is making use of the data, they could not maintain policies as to what data is important to the organization, as well as what needs to be secured or otherwise kept from being generally accessible.

Data is important to Community Day as it is to any other organization. As part of their information to parents of prospective students, they want to have data on where students have gone after graduating, and how well they have done compared to students at different schools. For fundraising purposes, so that they can have the money to hire good teachers and the best equipment, Community Day needs to be able to show prospective donors that the money is being used wisely and well. On an individual student basis, teachers must be able to track the progress of students so that they can provide the best continuing education on a per-student basis. A data map assists in exposing these processes, thus allowing them to discover how they can improve the methods in place, or provide new methods.

I created a data map through close consultation with the Community Partner and other staff, drew up the final map in Inspiration, a layout program available to the organization. The data map shows all data flows, within existing database systems and between systems. It shows what is being used by whom, and who is benefiting from the collection of the data.

Prior to this project, they had no data map, so the end product should be a useful diagram that is understandable; a diagram that communicated information flows. The steps involved in this activity required first having the CP gather data on the use of the database systems, and find out who uses what systems when, and what they use it for. After he gathered this data, we communicated about me the links among the databases and among the data in the systems, as well as who makes the most use of the data. We discussed the way he wishes things to be, what is working strongly, and what were their current weaknesses. Once we have put this all down on paper, visualized it using Inspiration.

This data map will help David Piemme, the IT Director, find weaknesses in the current data system. Armed with the knowledge of these weaknesses, he will be able to more easily be able to explain these weaknesses to other members of the administration, and help lead him in the right direction for searching how to solve these issues. The data map will also help them discover which things are essential to their continued success as an organization so that they know where best to invest for the future, and what is most in need of protection. We can measure these changes through the data map itself as well as the use of the data map. When people make use of the data map, we know that it is serving its purpose of providing information.

David Piemme understands the value of a data map, and was very much involved in the creation one of it. The only necessities were David Piemme's knowledge of the system and some way of documenting it. Although it is at first something that may seem straightforward and simple, in the case of a school, there is enough data being managed in a school system that we took care to be certain that we were covering as much ground as we can manage. After the consulting period is over, the data map is something that can be kept up-to-date with relative ease, as long as it is done on a regular basis. By involving the Community Partner in the creation process, he will be able to understand the steps and the procedure for keeping things current.

Database Consolidation

The second major activity that we worked to accomplish is the consolidation of the school information databases. Before this partnership started, the school data was separated into numerous different FileMaker databases; one contained attendance data, another contained grade data, and yet another contained general student data. When things need to be changed, they often need to be changed across multiple databases, and sometimes the changes did not propagate properly, and it was not until they have almost sent out a report card for a student who left the school three months prior that they discover the problem. This could potentially lead to major issues of credibility, and with data such as student emergency information, could cause them to not be able to properly care for their students in the case of an emergency.

Our kept the databases on their current platform, FileMaker, and consolidated them into one database. Along with this, we worked to put in place further security measures, as one of the issues encountered by consolidating this data is the greater risk of errors being put into the system, as well as certain people getting access to information that they should not be. One of the main intents is to increase the efficiency of the system, which can be measured currently by the number of times a person has to enter data or a data change, and the length of the procedures for accessing data and updating the databases. Using the information that the IT Director on his own setup times, as well as information he gathers from other users on their input habits and the time activities take, we can calculate how time is saved through reducing time for certain activities.

This reduces the load on administrative staff to keep data up-to-date, as well as increase security for the system overall. It should make data management more straightforward, and also make data access simpler. Instead of having grade reports in separate files by year, a teacher could track a student's progress by looking at grades over a number of years. This helps Community Day to have a better idea of how it is progressing over the years, and help them see where they need to work hardest to improve. For the IT Director, instead of having multiple systems he has to keep updated, he will only have one system, and an update in one place will update the rest of it as well. It should also make his more infrequent tasks less time consuming—tasks such as creating schedules for every student, importing students into the attendance database, and importing report card data every quarter.

With the help of the data map, this activity minimizes some of the problems of data redundancy and inconsistency. We looked over the data map created and saw what data among the FileMaker databases was redundant and can be merged. After we determined what data to merge, we created a map for the database, and planned implement it on the server, alongside the current system. We planned to import the old data, and have the users use the new system on a limited basis, and report back to us the problems and errors that they encounter, so that we could troubleshoot any errors before it is used by the entire school.

The Community Partner saw the benefit of this activity, and is excited about the things that can be accomplished if it is successful. One of the main issues that we might encounter is the need to learn more about the capabilities of FileMaker, so that we can make the best use of what it can do. Since I was careful to involve the CP at every step in the creation of the database, he should have the knowledge to maintain the database, and to fix any errors and continue to work on what we could not accomplish in the time allotted. However, there are also associated issues with consolidation, such as the previously mentioned ones of security, as well as teaching people about the new system, although our intent was to keep things as close as they are to the current state, from the user's point of view.

Outcomes and Recommendations

Creation of Data Map

In this project, the CP and I created a map of the flows of data and information among the people in the school, particularly in how they related to the multiple databases that are currently used by the school. Unlike a database E-R diagram, this data map includes the human relationships among databases and among each other, as regards to the entry and retrieval of information.

This was accomplished using the following steps:

1. Discussed with CP to find out who had access to and who used the databases of the school.
2. CP created a list of data entry and retrieval procedures and time commitments for those procedures
3. Looked at the databases to determine which had similar or identical information as data in another database.
4. Compiled this information into a set of documents showing links between people and databases, databases and other databases, and procedures and time commitments, which together lay out the data map for the organization

Outcomes

Two main documents were created as the final outcomes of the data map:

1. People-to-Database relationships (Appendix A)
   This map shows which staff have access to which databases, and also which people retrieve data from these databases. The map groups staff into types by their area and duties, which will make it easier to maintain as individual staff change.
   For example, it shows that the administrative staff is the main group of people who interact with the school information database, and that only the CFO and her assistant do any work with the financial and fundraising database. The full map is in the appendix.
2. Database-to-Database relationships and redundancies (Appendix B)
   This map shows how the databases have data that are repeated among databases. It lists the categories of shared data and the strength of the connections. For example, as there is no direct connection between the data in the student database and in the financial

database, the connection is less concrete than the connection between the student database and the report card databases, where the report card information is developed from the student database each year.

These documents made up the goal of this project, and all have been completed. Another, more nebulous outcome of this project was the collection of insights gained from the data map. One such of these insights was the method for database consolidation, which occurred in the second task, but many more thoughts were not documented or perhaps even articulated.

Impact of Outcomes on Capacity to Meet Organization's Mission

Before the creation of the data map, the IT director (CP) knew of the existence of problems in data entry procedures and problems dealing with data redundancy among the databases. However, he did not have a coherent view of the data organization, so he did not have a strong idea of where these problems were and what caused them to occur.

Now that the CP has this data map, he has what serves as a sort of road map to the data in the organization. He can see what problems to attack and the way in which the problems need to be attacked. Through solving these data problems, he will be able to better track the information about the students, which will in turn allow the organization provide a better education for the students through having a better knowledge of them.

Sustainability and Risks

The data map was created with the knowledge of the CP, so he has a strong connection to the data map itself, and a firm understanding of the underlying information. It is not a new concept as much as it is a new way of visualizing the information that he already holds in his head every day. Just as an outline created through organizing the information and plans within a person's head helps that person in the act of writing a paper, the data map will help the CP organize his knowledge into a form that other people can also read and understand. The CP had significant input in the entirety of the data map creation procedure, and knows the software used to create the data map very well, and so he will have no problems making changes to the data map.

The risk with the data map is the same risk encountered when someone writes an outline. As procedures and the structure of the databases change, the data map will have to be changed as well. Like updating anything, this can remain a short procedure if done regularly or can be put off until it becomes a daunting task. In the case of the school, changes will likely be limited to a semester or yearly basis, so updating should remain simple unless put off for years. However, the CP is capable and willing to do this regular maintenance.

Vision of Technology

While the data map does not significantly change the vision of how technology can support the mission of the organization, it does provide a means of seeing how the technology can be changed to better support the mission. In this case, through the creation of the data map, the CP realized that a significant portion of the redundant data could be merged into a relational database, and this was the main cause for the following task.

Development of Relational Database for Student Information

After the creation of the data map, the CP came to the realization that there were over 10 databases which all centered on student information. He also realized that much of the data in these databases, particularly in the student contact and scheduling database, were unused. The CP and I decided to consolidate three of the major database types: the report card database, the faculty database, and the scheduling and contact information database. We also discussed incorporating the attendance database, but the size of this database made it seem infeasible for the scope of the semester.

Outcomes

The database was created and tested but not yet implemented school-wide. The main outcomes were as follows:

1. List of essential data—from the collection of databases we wished to consolidate, we compiled a list of necessary data for the new database. The old databases often had data fields that were unused or malformed, so we created a new list of what was needed for the database.

2. Database E-R Diagram—from the prior list, we created an E-R diagram to use in the creation the database. This diagram maps out the tables in the database and the relationships between then.
3. Database in FileMaker Pro—from the E-R diagram, we created the tables in FileMaker, and created layouts for the input and retrieval of data, with the intent of keeping the end-user aspect as similar as possible to the prior databases. We used password protection and restrictions on the database to maintain security precautions.

The CP decided that the full-scale database migration and full-scale testing would be best to do at the end of the school year, so full-scale implementation has yet to be done. The CP's reaction to the database is generally good, and he intends to do imports and testing at the beginning of the summer.

Impact of Outcomes on Capacity to Meet Organization's Mission

This database has provided the CP with a better idea of how the information in his organization can fit together and how he can change his new-year procedures from repeated exports of data to preparing recommendations towards creating a technology plan and researching how he can further the use of technology at the school, for both the students and the administration. The IT Director usually spends a few days each year before the school year starts setting up this system, as well as another day setting up scheduling and report cards. This system will also allow teachers to have more control over their own information, and will give them more access to the information about their students.

Sustainability and Risks

Because the database has not yet been fully implemented, there is the risk of falling into the mentality of "What we have mostly works" and not wanting to go through the work of making the change. No big change is ever painless, and although the change should be insignificant from the point of view of most users, there will be a reasonable fixed time cost for the CP in the form of the data import.

However, from the nature of his previous databases, the CP has significant experience and practice with exporting and importing data, so with some simple guidelines, he should be able to do the import with an amount of effort and time that would be similar to what his normal yearly procedures would be. Once implemented, the database is relatively low-maintenance,

and since there are few differences for end-users, simple to teach and learn. There is no extra monetary cost, and since the CP was involved extensively in the early development, he has come to better understand the concept of a relational database and so will be capable of maintaining and changing the database in the future.

Vision of Technology

This consolidated database has opened up new ideas of how the organization can use the data it collects. The CP has repeatedly brought up ideas of how he can use the consolidated database to create new reports that can represent the school and the students. By collecting the data in one place, he can compare and consolidate the information in ways he could never do before. In one particular instance, he hope that this database will allow for better collection of admissions data, so that the organization can get a better idea of the trends of students in coming to the school, and the tendencies of students who leave before graduation.

Recommendations

Vision

Community Day needs to have a good grasp on the current state of technology in the organization and a plan for the future of technology. Every organization knows what a benefit technology can be, but many do not have a good idea of what they need for themselves. My vision for Community Day is that the people in the organization will have a strong idea of how technology supports the organization in all aspects, that the data they store is well-maintained and safely backed up, and that they know how technology changes can be made to better serve their organization. With this knowledge, they will be able to get funding for and implement these technology changes and continue to move with the rapidly changing nature of the technological environment.

Goals

I have set out two main projects for the next three years to help Community Day create a clear concept and vision of how technology serves their organization, and how it can help them, especially in the realm of admissions. These goals are as follows:

1. Create and implement a disaster recovery plan. This plan will consist of policies and practices related to on-site and off-site backups, and the procedures by which to recover from data losses, from minor human-error caused losses to catastrophic situations such as hardware failure.

2. Create a three-year technology plan to lay out the goals for technology and how it will serve the organization and implement this plan as part of the overall strategic plan of the organization.

The disaster recovery plan should be done as soon as possible, and should be able to be accomplished by the end of the summer season. The technology plan however, should take some time to create, and an even longer amount of time to implement. The creation of the plan should preferentially be done within the next year, and the implementation to be done as long as the plan requires. Because of the changing nature of technology, planning for decades into the future may be impossible, but three years is a good period of time to plan so that the organization has some exploration past just the immediate future.

Strategies

Goal 1—Create a Disaster recovery plan

A disaster recovery plan is a set of policies and procedures that lay out a plan of how to prepare for a disaster and how to recover after a disaster occurs. This plan will include on-site and off-site backup procedures and methods for recovering data after data losses, whether minor or catastrophic.

The data collected at the school is essential to its operations on a day-to-day basis. It provides for the safety of the students by providing contact information, and it allows for tracking of students that is essential for accountability in terms of attendance and class performance. Much of this data would be nearly impossible to recreate and impossible to work without. Creating a disaster recovery plan would ensure that the likelihood of a catastrophic data loss would be minimal, and that recovery would be a process that is not haphazard and panicked. A relatively simple backup-recovery plan is very inexpensive compared to the numbers of hours that would be spent by staff to try to recreate lost data if backups were not in place.

Strategies

The following are some steps to be taken to create a disaster recovery plan:

1. Determine the essential data in the organization.
2. Choose a dedicated places for backups
    a. A place for on-site backups, such as a dedicated external hard drive
    b. A place to hold off-site backups, such as CD backups stored in a different building, an external server location, or another external hard drive.
3. Create a schedule for backups—they should be frequent enough that minimal data is lost, and different types of data can have different backup schedules.
4. Create disaster recovery CDs for each computer in the system.

5. Determine alternate data collection methods in case they cannot use computers. For example, have paper forms available to write down data that needs to be entered.
6. Create recovery procedure, and test it to make sure that it will work when they finally need it.

Outcomes

The main outcomes for this plan would be that the data would have a more consistent backup procedure, and a recovery procedure that could be undertaken in an emergency that would recover the large majority of the data lost. While this would not have a significant day-to-day impact on the operations of the organization, apart from for whomever was in charge of the backups, it would have a huge impact in the case of data loss. Instead of the hours and days that may be spent trying to recreate data, the lost data could be recovered in minutes, saving much of the staff significant time costs.

Resources

The following things can be used to develop and maintain a disaster recovery plan, and the people can be used to act as references for information.

1. Internal Resources
    a. Administrative staff such as the CFO and the Head of School, to provide information on which data are the most important to the organization in terms of maintenance.
    b. Existing staff, such as the technology director, to perform the backup procedures for both on-site and off-site backups.
    c. The computer hardware that holds the data to be backed up and external storage media to perform the backups on to.
2. External resources
    a. Discuss with other schools about their data backup and recovery plans—since they have similar sizes and scopes, Community Day will likely have similar needs.
    b. Look at online resources such as techsoup.org for information on disaster recovery plans
    c. Look at commercial backup software, such as Retrospect, at http://www.emcinsignia.com/.
3. Budget considerations

The backups will require some physical media for storage. External hard drives can be purchased for under $100, and media such as CDs can be bought in spindles for about $10. There are also programs like Retrospect that can do backups automatically for an organization—a small business version costs about $1400 to do automatic backups for multiple servers and individual computers.

Goal 2—Create and implement a 3-year technology plan

A technology plan is a place where an organization can set out its desires for technology. Like a strategic plan, it lists goals and their benefits to the organization, the tasks needed to achieve those goals, and a timeline and budget to make the goals into reality.

A technology plan is essential to almost every organization, and is especially true for a non-profit organization. One of the most important capabilities that a technology plan can give an organization is the ability to assist in gaining funding for a project. Too often, non-profits ask for money for technology without a clear idea of their intents; donors are more likely to decline an organization's requests if they do not have a good idea as to where their money may be going. A technology plan will allow Community Day to present to potential donors the exact places their money will go and the benefit that the money will provide the school, in a concrete measurable manner.

Strategies

Techsoup.org lists the following steps as essential in the creation of a technology plan[1]:

1. Establish leadership and support.
2. Assess your resources.
3. Define your needs.
4. Explore solutions.
5. Write the plan.
6. Get funding.
7. Implement plan.

For Community Day, the steps might be fleshed out as follows:

1. Form a committee and establish tasks and responsibilities among the committee members. These committee members may include administrators, teachers, parents, and even students. A wide cross-section of members will help provide multiple points of view and bring new ideas to the table.

[1] http://techsoup.org/howto/articles/techplan/page2720.cfm

2. Determine what technology assets you have. Technology assets include computers, software, network hubs, wireless routers, servers, wires, and cables. Which things are the most important to the administration, students, and teachers?
3. Determine what the organization wants and needs. In what ways does your current system not meet the needs of the organization, and what are technology needs that could help better the ability of the school to meet its mission?
4. Explore how you can reach your needs and wants. In the case of giving the students Windows experience, for example, it is possible to buy a lab of Windows PCs, or to install VirtualPC and Windows on a number of Mac computers, if they have the capabilities to run the program.
5. Once you have determined what you have and what you need, write it down. There is an example of a written technology plan created by Arts/Boston at techsoup[2], and the Technology Consulting in the Community course website[3] has numerous papers of people who have worked on creating a technology plan. As part of your write-up, you need to include project plans, task assignments, provisions for progress reports.
6. A technology plan provides significant help towards getting funding for technology projects. Showing potential donors proposed solutions and plans for execution allows them to feel confident that their money will be used well.
7. Once you have the funding, the organization can execute its well-thought-out technology plan.

Outcomes

The final outcome in this case is a technology plan, and at the end of the period, improvements made to the school's technology usage. A technology plan will give the Technology Director a clear plan of action and set of tasks to accomplish to achieve the goals stated within the plan. It will also help the administration understand the technology needs of Community Day, and what tasks can be undertaken to improve the school as far as technology is concerned. It will allow them to more easily obtain funding so that, in the end, they can have a significantly improved technology atmosphere at the school.

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[2] http://www.techsoup.org/howto/yourstories/techplan/page1458.cfm

[3] http://www.andrew.cmu.edu/course/95-822/index.html

Resources

The most important resources in the creation of a technology plan are people. Community Day will need to seek information from administration, teachers, parents, and perhaps even students to help form a clear idea of what the technology needs and wants of the organization are. Creating the plan itself is a time commitment that a number of individuals will have to undertake, and the elements of the plan may require significant capital down the road.

The creation of a Gantt chart as part of your project can help the organization determine the time costs and needs for individual parts of the project. To start, www.ganttchart.com[4] provides a good amount of information to give an idea of how to create and use Gantt charts.

The Internet has a significant number of resources on how to create a technology plan for non-profit organizations. Techsoup.org has a number of articles on technology planning, as a start. An essential part of the tech plan is the creation of metrics. The organization needs some way of measuring the improvement—measuring how things have changed to show the improvement.

References

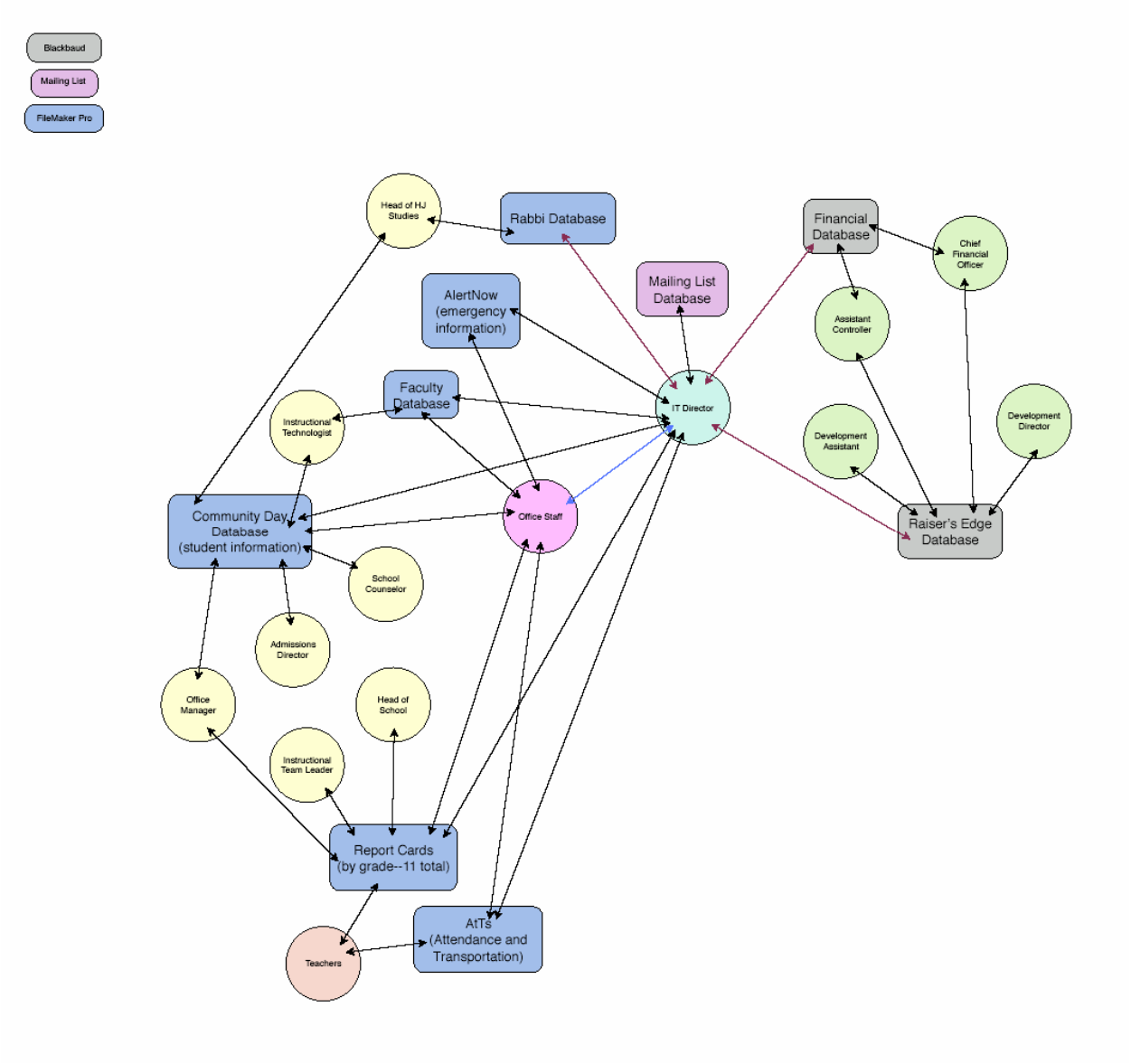
Techsoup.org is an excellent resource for non-profit information on all manner of technology issues, from planning to implementation. The Technology Consulting in the Community website also has numerous examples of past technology plans, including discussion on how the plans and processes worked or did not work.

About the Consultant

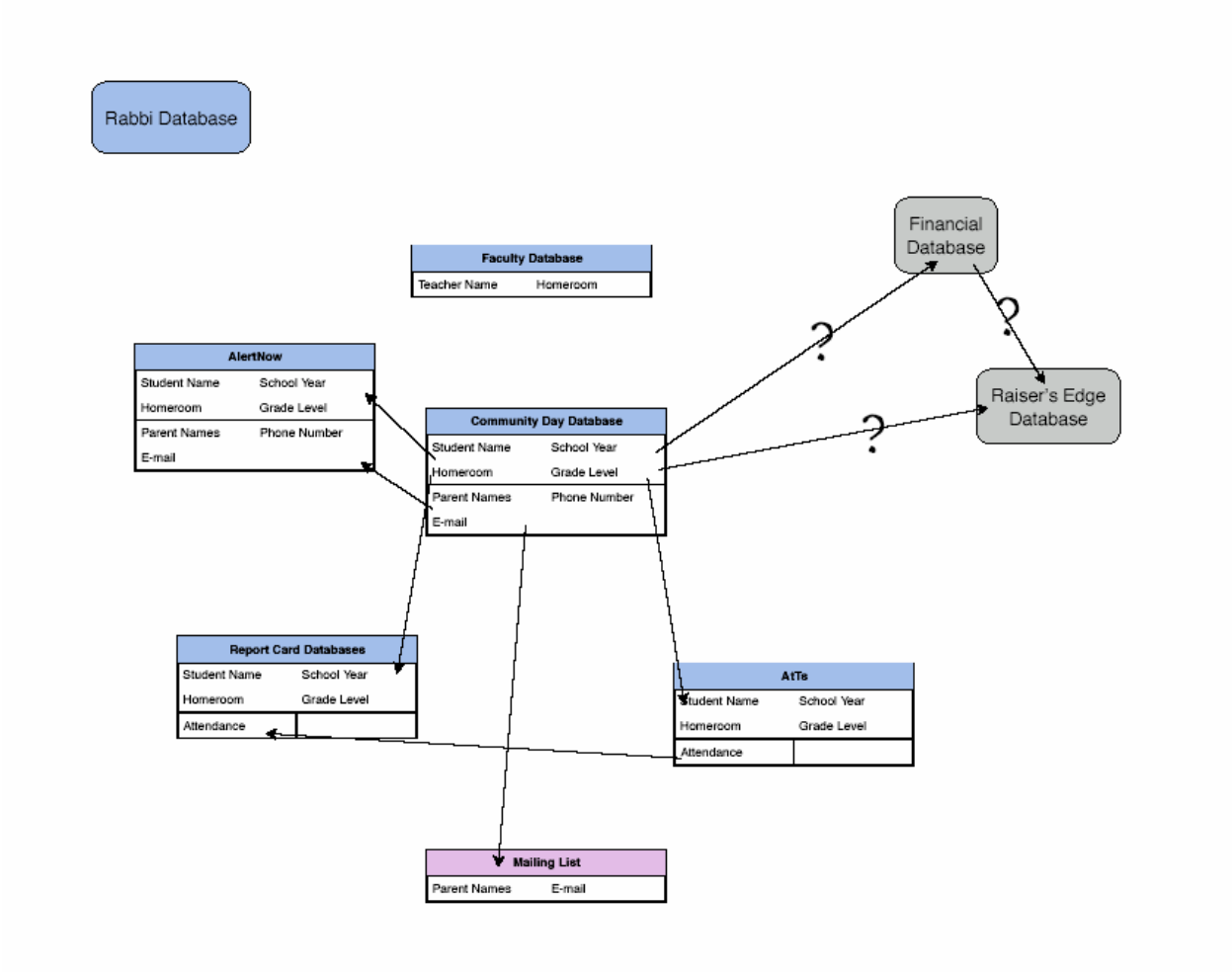
Christina Dinwoodie is a Public Policy Masters student graduating from Carnegie Mellon in the spring. She also received her undergraduate degree in computer science from the same institution. She is interested in technology policy and how technology can help the government and nonprofit organizations.

[4] http://www.ganttchart.com/

Appendix A


Blackbaud
Mailing List
FileMaker Pro
Head of HJ Studies
Rabbi Database
Financial Database
Chief Financial Officer
Mailing List Database
AlertNow (emergency information)
Assistant Controller
Faculty Database
IT Director
Instructional Technologist
Development Director
Development Assistant
Community Day Database (student information)
Office Staff
Raiser's Edge Database
School Counselor
Admissions Director
Office Manager
Head of School
Instructional Team Leader
Report Cards (by grade--11 total)
AtTs (Attendance and Transportation)
Teachers

Appendix B


Rabbi Database
Financial Database
Faculty Database
Teacher Name
Homeroom
AlertNow
Student Name
School Year
Homeroom
Grade Level
Parent Names
Phone Number
E-mail
Community Day Database
Student Name
School Year
Homeroom
Grade Level
Parent Names
Phone Number
E-mail
Raiser's Edge Database
Report Card Databases
Student Name
School Year
Homeroom
Grade Level
Attendance
AtTs
Student Name
School Year
Homeroom
Grade Level
Attendance
Mailing List
Parent Names
E-mail