I. Executive Summary

YBS’s primary business objective is to enhance the academic performance of African American high school students through workshops and programs, which will increase their competitiveness in meeting the admission requirements of the University of California. We have identified three business processes that assist YBS in achieving this goal, the Registration Process, the Event Process, and the Scholarship Process.

There are business problems associated with each of these processes that limit YBS’s ability to meet their objective. There were numerous problems with each of these processes, but they had several problems in common that revolved around the limitations of the Filemaker Pro database that they were using. These problems included time consuming manual data searches, redundancies associated with inputting the same data into multiple databases, and inaccurate and incomplete information in their database.

The business objectives of this project are to design an information system that will assist Young Black Scholars’ business processes to achieve the following:

1. Increase efficiencies of their business processes by reducing manual processes through automation.
2. Increase data integrity.
3. Decrease the percentage of incomplete data in the student records.
4. Increase the percentage of students that meet the entrance requirements of the University of California.

The new system met the first two project objectives. YBS will not know if the second two objectives were met until the end of the 2001/2002 school year.

The MS Access database was the technical solution selected because it is user friendly and some of YBS’s employees are familiar with Access. This will reduce the resistance to change from Filemaker Pro to Access. We utilized the iterative methodology to develop and implement this information system.

Automation will save a tremendous amount of time by eliminating numerous manual processes, and it will provide several value added services. We recommend that YBS’s employees utilize the additional time automation will provide by identifying more scholarships for their students, developing more workshops, finding additional volunteers, and increasing the marketing of YBS’s services by emphasizing the accomplishments of YBS and their students.

We believe this new system will allow YBS’s employees to spend more time focusing on their primary business objective of assisting students to meet the UC entrance requirements and less time on manual, labor intensive business processes.
II. Business Case

1. Current Business Problem

YBS’s primary business objective is to enhance the academic performance of African American high school students through workshops and programs, which will increase their competitiveness in meeting the admission requirements of the University of California. We have identified three business processes that assist YBS in achieving this goal. However, there are business problems with each of these processes that restrict YBS’s ability to meet their objective.

A. Registration Process

The registration process at YBS is the collection of applications, transcripts, and assessment fees from high school students who want to enroll in the program. Applications are accepted on Registration Day, which are held at one of the sponsoring college campuses, or by mail.

We decided to model the registration process because it is the foundation upon which the other business processes revolve. It is imperative that it is done accurately and efficiently. The purpose of the registration process is not only a mechanism to enroll students into YBS, but to obtain and maintain pertinent information about students and their educational and career interests.

This information will be utilized by YBS to assist the students in meeting their educational and career goals. Ideally, the process should enable YBS to monitor the academic performance, activities, and career interests of the students to ensure they will meet the University of California’s entrance requirements.

This process begins when YBS receives applications from students. Qiana inputs the data into YBS’s current Filemaker Pro database.

Several problems may arise as Qiana types this information into her database. The application may be incomplete, information may be misspelled during the inputting process, and information may have multiple spellings (ie. Long Beach Poly vs. Long Beach Polytechnic High School).

We discovered that if an application is incomplete, Qiana inputs the data into the database anyway. She may follow up with a phone call and a letter to the student’s parent/guardian requesting the additional information. If Qiana does not receive a response to her initial phone
call and letter, then she usually will not follow up to obtain the additional data because it is too time consuming to manually monitor applications with missing data. In fact, sometimes Qiana is too busy to even search for incomplete applications, so she never even attempts to obtain the missing pertinent information.

Incomplete data is a major problem. YBS is not able to accurately monitor all of their students’ educational achievements if the data is not accurate. Students may be bypassed for certain scholarship or educational opportunities if the data is not in the database, or if the data can’t be located.

For example, a student with a career interest in medicine may get overlooked when a pre-med scholarship becomes available because the application was incomplete.

The problem with information being misspelled or spelled differently is similar to the problem of not having the information at all. If a query is run to identify students with a career interest in psychology, and psychology is misspelled, then that student will not be identified. If a query is run for all Long Beach Poly High School students and the data was input as Long Beach Polytechnic High, then all of the students attending Long Beach Poly will not be identified.

These problems obviously do not help YBS meet their primary business objective of helping prepare students for admission to the University of California.

Another problem in this process is that applications may not be accompanied with the $100 membership fee. The current database does not calculate the outstanding balances and does not keep track of the student’s payment history.

Qiana manually tracks student account balances. The problem is this is a time consuming process and the balance information and payment history is not always accurate.

B. Event Process

A major part of this process is tracking volunteer information and keeping it updated. Some of the information YBS tracks include the volunteers’ interests, the events they work, and the hours they work at an event.

Several employees are involved in this process. The problem is each employee has their own database and the databases are not
transparent. If one employee updates their database, it does not necessarily mean the other employees will receive that information to update their database. Even if the other employees receive the information, it is obviously inefficient to have the same data input into each database.

The current database is limited in the type of queries that can be run. For example, YBS has to manually search through their files to identify volunteers who would be interested in participating in a certain type of event or workshop.

Another problem is that volunteer hours are tracked manually on paper. YBS writes down how many hours each volunteer works at a particular event. The hours are not input into a database. If a volunteer’s paper is lost or misplaced, then that volunteer will not receive credit for all of the hours he/she has worked. This is very important since volunteer hours plays a major role in determining which volunteer wins the trip to Atlanta for being the volunteer of the year.

The inefficiencies associated in manually searching for data and having multiple databases that are not transparent do not help YBS meet their primary business objective. They may overlook volunteers who are interested in participating in a certain workshop, or their volunteer hours may not be accurate, which could discourage a volunteer from participating next year. Either way, the only losers are the students, who may miss out on the valuable knowledge and experience the volunteers have that could assist students prepare for college.

C. Scholarship Process

The scholarship process involves identifying scholarships that are available for the students at YBS. Steven is the primary YBS employee involved in this process. Steven attempts to identify students from YBS who may qualify for the scholarships available so they can apply for the scholarship.

He has designed his own Access database to assist him. Currently, he uses the database to store students’ SAT scores, GPA, major, and top 3 university preferences.

Steven does not store scholarship information in his database. He keeps paper files of all of the scholarships that are available along with their requirements. He also maintains paper files of scholarships that
previous YBS students have received. If the paper file is lost or misplaced, then the data is lost.

He is not able to run queries to match students’ interests and qualifications with the information he has regarding requirements of each scholarship. Steven conducts manual searches to identify students that meet certain scholarship requirements. This is a very time consuming endeavor.

It is possible to overlook some students who may qualify for a certain scholarships. This does not help YBS meet their objective because without that scholarship, a student may not have the finances available to attend the University of California even if they meet the entrance requirements.

2. What Metrics Indicated There Were Problems at YBS

The primary metric that indicated there were problems with YBS’s business processes and their Filemaker Pro database was time. There was a tremendous amount of time wasted doing manual tasks that could be automated (ie. Qiana manually searching for incomplete applications). Automation would also eliminate the time wasted because of employees doing duplicate tasks (ie. Each employee had their own database, so each person had to update their individual database if a volunteer changed his/her phone number).

Another metric was the inaccuracy of YBS’s reports. YBS knew the accuracy of their reports was questionable for several reasons:

- Incomplete data
- Inaccurate data, not updated
- Data integrity issues

YBS knew the reports they generated were inaccurate because of the problems with their data. For example, Qiana might run a report requesting a list of students interested in attending UC Santa Barbara. All of the students interested in attending UC Santa Barbara may not be identified for several reasons:

- **Incomplete information:** Some students may not have included what universities they wanted to attend when they completed their application.
- **Inaccurate Data:** Some students may have told Steven they wanted to attend UC Santa Barbara, so he updates his database, but fails to advise Qiana to update her database with this information.
• Data Integrity Issues: Qiana may spell UC Santa Barbara differently when she input the data in her database. Sometimes she may spell it UC Santa Barbara, UCSB, or University of California, Santa Barbara.

3. Proposed Technical/Business Solutions Considered

The only solution we considered was designing a new information system for YBS utilizing Microsoft Access. Access would allow YBS to enter, store, and process data more efficiently and timely. This would allow YBS to spend more time assisting students and planning events and less time processing data. We believed Access was the perfect software for YBS for several reasons:

• YBS already had Access, so they would not incur any additional expense associated with purchasing new software.
• Some of their employees are familiar with Access, so training on how to use the system will be minimal.
• There will be minimal resistance to the new system because there are employees who are familiar with Access and prefer working with Access compared to the Filemaker Pro database.
• There would be a tremendous amount of efficiencies gained with the Access information system:
  o Redundancies associated with entering duplicate data would be eliminated because the new information system would be totally transparent.
  o Automation will save a tremendous amount of time. Several manual processes will be eliminated, including manual searches for incomplete applications, manual searches for volunteers interested in working certain events, and manual searches to identify students that meet certain scholarship requirements.

The new information system will be transparent and will increase efficiencies throughout the 3 processes we have identified. Here are some examples of how each process will be improved through the use of the new system:
• **Registration Process**
  o If the application is incomplete, a print will be generated advising Qiana what information is missing from the application.
  o Qiana can run queries to identify which applications need additional information.
  o The database will calculate account balances of the students and monitor if payments are being made on time.
  o Qiana will be able to run queries to identify students who are behind in their payments.
  o Drop down menus will be used wherever possible to minimize spelling errors and improve data integrity.

• **Event Process**
  o Inefficiencies associated with multiple volunteer databases will be eliminated.
  o Queries can be run to identify volunteers interested in participating in certain events.
  o Queries can be run to identify volunteers who worked previous events.
  o Queries can be run to identify volunteers’ occupations and educational background. Hours that volunteers work can be stored and calculated in the database.

• **Scholarship Process**
  o Scholarship requirements and contact information will be stored on the information system.
  o The entire YBS information system will be transparent. Queries can be run to identify students that qualify for certain scholarships.
  o Students who received scholarships can be stored in the system. This way, YBS can try to other students to receive that same scholarship next year.

The Access information system would also offer several value-added features that YBS does not have with their current database. Some of the value-added features include the following:

• Calculate volunteer hours worked so YBS can select the volunteer of the year. The volunteer of the year wins a free trip to Atlanta.

• Calculate GPA accurately. The current system does not calculate GPA. Qiana manually inputs the grades as A, B, C, D, F and manually computes the GPA at the end of the school year. Pluses and minuses are not taken into
consideration and adjustments are not made when a student takes an honors class.

The new system will calculate GPAs automatically. The system will consider pluses, minuses, and honors classes. Qiana will input the grades at the end of each semester instead of the end of the year because she will not have to manually compute the GPA. This is a definite plus for YBS. It will assist YBS in monitoring their students’ progress towards meeting the entrance requirements for the University of California because they will have current, accurate GPA information.

This feature will be especially useful to monitor students who are on probation when they join YBS because they did not meet the minimum GPA requirements.

YBS could also use this information to identify students whose GPA qualifies them for certain scholarships.

• Ability to conduct searches that are not grade specific. Currently, Qiana may conduct a name search to obtain information on a certain student. If she does not know what grade the student is in, she must search each grade (9-12) until she finds the name.

The new information system would be transparent, not grade specific. Qiana would only need to do one name search and the system will search all of the grade levels until it locates the student’s name.

• Ability to track scholarships that were awarded to YBS students. Paper records are maintained which involve scholarships that were awarded to YBS students. These records include scholarship requirements, amount of the scholarship, contacts/liaisons, and student information. The problem is these records get lost or misplaced and valuable information is lost.

The new information system would store all of this information. YBS would have easy access to the information, and they will not have to worry about losing it. If requirements or contact information changes, it can easily be updated.
YBS could use this information to maintain contact with the recipients of the scholarships, which would enable them to monitor their success after leaving YBS. The ability to monitor the success YBS students achieve once they leave YBS and enter college could be a tremendous marketing tool to attract new YBS members.

- Faculty Liaison Roster can be updated in a timely fashion. Currently, Virginia updates the Faculty Liaison Roster approximately every 2 months. Virginia does not have the time to update the roster as she obtains new information. This is an obvious problem.

The new database will be transparent. Any YBS employee will be able to update the Faculty Liaison Roster when new information is received. The information will be entered in a more timely fashion because it won’t have to sit and wait for Virginia to find the time to update the roster.

- The entire Scholarship Process. Initially, YBS was not concerned with this process. We advised Pat that there was a tremendous amount of time being wasted conducting this process manually. It usually takes 1 to 2 days to identify students that meet certain scholarship requirements.

We believe automation will reduce the time to identify students who meet scholarship requirements from 1 to 2 days into seconds. Reports can be generated to identify students that meet scholarship requirements, so YBS will be able to use the additional time locating additional scholarships for YBS students to compete for. This should lead to an increase in YBS students obtaining scholarships. This increase could be a tremendous marketing tool to increase membership.

4. Metrics Selected to Determine Success of the Solution

There are 4 metrics that we will use to measure the success of this project. The first metric will be delivering a functional Microsoft Access information system to YBS on time (achieved).

The second metric has been achieved. The information will calculate all GPAs accurately. The GPAs will take into account pluses, minuses, and if the grade was from a regular course or an honors course.
The third metric will take some time to measure. The new information system will identify each application that is missing pertinent information. The time Qiana saves by not having to manually search for applications missing pertinent information can be spent following up with students and parents to obtain the missing information. This should increase the amount of information by more than 50%.

The accuracy and integrity of information YBS has for their students and volunteers should increase by 80%. This will lead to 100% increase in the accuracy of their reports. Drop down lists will be used whenever possible to insure data integrity. Once information is updated in the system, everyone will have access to the most up-to-date information on each student and volunteer.

The information system will also save YBS employees a significant amount of time to conclude their current job responsibilities. This extra time should be used to market the program to universities, high schools, attract additional students, additional scholarship opportunities, attract additional volunteers, more events, and an increase in donations, community involvement, sponsors, and professional organizations.

An increase in all of these areas should help YBS achieve their primary business objective of preparing students to meet the University of California’s admission standards.

This ties directly into our fourth metric. YBS should see at least a 20% increase in students that are competitive and meet the admission standards for the University of California because less time is spent completing tasks manually, and more time can be spent designing workshops, attracting volunteers, and monitoring students’ academic progress.

5. Project Objectives

- Increase efficiencies by reducing manual processes through automation.
- Increase data integrity.
- Reduce incomplete data in the student record.
- Increase in students meeting the entrance requirements for the University of California because of improvements in YBS’s business processes that resulted from the new information system.

6. Context Diagram of the System
A context diagram is not required for this project because this information system will be totally transparent and will not be linked to any other databases or information systems.

7. Actual Return on Investment

A projection of the costs associated with this project is as follows:

• I.S. team will cost $21,600, assuming $100 per hour per student, and 12 weeks of work at 6 hours per week.
• YBS should experience minimal financial costs as a result of the project. They already have Microsoft Access. There will be some opportunity costs associated with the time it will take for them to learn to use the new system and redesigning their current workflow to take advantage of the new system.

• These costs will be made up quickly because of the efficiencies and value-added qualities the new information system will provide. Inefficiencies will be eliminated.

YBS will use the extra time to develop new workshops, identify additional volunteers to assist with the workshops and activities, and monitor students’ academic progress. This will assist YBS in achieving their primary business objective of preparing students to meet the University of California’s entrance requirements.

• As we have previously indicated, more students should meet the entrance requirements for the University of California because more time will be spent developing students and less time will be spent completing manual processes.

YBS will be able to market the increased success of their program. We anticipate the additional marketing will lead to YBS experiencing an increase in membership as a result of the new system.

• Since YBS is a non-profit organization, they are not concerned with making a profit, but they do want to recoup their investment in this system. We anticipate YBS will experience a 10% increase in membership after the first year of this new system.

YBS currently has a little over 4000 active members. A 10% increase will result in an additional 400 members. Memberships
cost $100 per student, which means a $40,000 increase in income. YBS will not only recoup their investment after 1 year, the will collect 1.8 times the amount of their investment. This is a very impressive number considering YBS will only need to experience a 5.5% increase in membership to cover the cost of the investment.

III. Project Plan Used

1. General WBS

<table>
<thead>
<tr>
<th>Task</th>
<th>Name</th>
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<tbody>
<tr>
<td>As-Is process model.</td>
<td>Ann</td>
</tr>
<tr>
<td>Deliverable 1.</td>
<td>Joe Lita</td>
</tr>
<tr>
<td>Business Case.</td>
<td>Joe Lita</td>
</tr>
<tr>
<td>Use Case Profiles.</td>
<td>Ann</td>
</tr>
<tr>
<td>To-Be process model.</td>
<td>Ann</td>
</tr>
<tr>
<td>JAD Session.</td>
<td>Joe Lita Ann</td>
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<tr>
<td>Deliverable 2.</td>
<td>Joe Lita Ann</td>
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<td>Deliverable 3.</td>
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</tr>
<tr>
<td>Alpha Testing for Iteration 1.</td>
<td>Ann</td>
</tr>
<tr>
<td>Prototyping for Iteration 2.</td>
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</tr>
<tr>
<td>Deliverable 6.</td>
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<td>Deliverable 7.</td>
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<td>Deliverable 8.</td>
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<tr>
<td>Final report.</td>
<td>Joe Lita Ann</td>
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## 2. GANNT CHART

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<tr>
<th>Task</th>
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<th>Completion Date</th>
<th>Date with Client</th>
<th>Topics Discussed</th>
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<td>Ann</td>
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### 3. Present Responsibility Chart

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<td>As-Is process model.</td>
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<td>Taynay-input, Qiana-input</td>
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<td>Lita-Lead</td>
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<td>Business Case.</td>
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<td>Lita-Lead</td>
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</tr>
<tr>
<td>Use Case Profiles.</td>
<td>Ann-Lead</td>
<td>Taynay-input, Qiana-input, Virginia-input, Steven-input, Latrice-input</td>
</tr>
<tr>
<td>To-Be process model.</td>
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<td>Taynay-input, Qiana-input</td>
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<td>Taynay-input, Qiana-input, Pat-input</td>
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<td>Ann-Lead</td>
<td></td>
</tr>
<tr>
<td>Deliverable 3.</td>
<td>Joe-Lead</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lita-Lead</td>
<td></td>
</tr>
<tr>
<td>Prototyping for Iteration 1.</td>
<td>Ann-Lead</td>
<td>Taynay-input</td>
</tr>
<tr>
<td>Deliverable 4.</td>
<td>Joe-Lead</td>
<td></td>
</tr>
<tr>
<td>Data Modeling.</td>
<td>Lita-Lead</td>
<td></td>
</tr>
<tr>
<td>Iteration 1.</td>
<td>Ann-Lead</td>
<td>Taynay-input, Qiana-input</td>
</tr>
<tr>
<td>Deliverable 5.</td>
<td>Joe-Lead</td>
<td></td>
</tr>
<tr>
<td>Alpha Testing for Iteration 1.</td>
<td>Ann-Lead</td>
<td></td>
</tr>
<tr>
<td>Prototyping for Iteration 2.</td>
<td>Lita-Lead</td>
<td>Taynay-input</td>
</tr>
<tr>
<td>Deliverable 6.</td>
<td>Joe-Lead</td>
<td>Taynay-input, Qiana-input</td>
</tr>
<tr>
<td>Deliverable 7.</td>
<td>Joe-Lead</td>
<td></td>
</tr>
<tr>
<td>Iteration 2.</td>
<td>Lita-Lead</td>
<td>Taynay-input, Qiana-input</td>
</tr>
<tr>
<td>Deliverable 8.</td>
<td>Ann-Lead</td>
<td></td>
</tr>
<tr>
<td>Alpha Testing for Iteration 2.</td>
<td>Lita-Lead</td>
<td></td>
</tr>
<tr>
<td>Deliverable 9.</td>
<td>Joe-Lead</td>
<td>Taynay-input</td>
</tr>
<tr>
<td>Transition.</td>
<td>Joe-Lead</td>
<td>Taynay-input, Qiana-input</td>
</tr>
<tr>
<td></td>
<td>Ann-Lead</td>
<td></td>
</tr>
<tr>
<td>Beta Testing.</td>
<td>Lita-Lead</td>
<td>Taynay-input, Qiana-input</td>
</tr>
<tr>
<td></td>
<td>Ann-Lead</td>
<td></td>
</tr>
<tr>
<td>Final report.</td>
<td>Joe-Lead</td>
<td>Taynay-input, Qiana-input</td>
</tr>
<tr>
<td></td>
<td>Lita-input</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ann-input</td>
<td></td>
</tr>
</tbody>
</table>
## 4. Risk Management Plan

<table>
<thead>
<tr>
<th>Description of Risk</th>
<th>Likelihood of Risk Materializing</th>
<th>Effect on project if risk isn’t reduced</th>
<th>Priority (B X C)</th>
<th>Risk Mitigation Activities (who did what)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1.1 System cannot calculate GPA with honors or AP adjustments.</td>
<td>Low</td>
<td>Search results involving GPA criteria may be inaccurate.</td>
<td>Low</td>
<td>Ann prototyped with transcripts provided by clients. Used multiple queries to calculate the cumulative GPA.</td>
</tr>
<tr>
<td>R2.1 Family fee discounts and payment for multiple scholars cannot be linked.</td>
<td>Low</td>
<td>Cannot identify balance due for scholars belonging to same family.</td>
<td>Low</td>
<td>Ann prototyped with dummy data. Set fee amount that can be overwritten for multiple scholars.</td>
</tr>
<tr>
<td>R3.1 Incomplete information from old system records will show errors on new system records.</td>
<td>High</td>
<td>Invalid searches on existing student records and transcripts. UC eligibility function will not work unless transcript entered.</td>
<td>Medium for Team High for Client</td>
<td>Ann prototyped with old records on the new system. Client will re-enter transcript information this summer since this information is missing in the old records.</td>
</tr>
<tr>
<td>R4.1 Student event record and number of events attended does not calculate and update simultaneously.</td>
<td>Low</td>
<td>Cannot keep track of student event attendance accurately.</td>
<td>Low</td>
<td>Lita prototyped with dummy student event attendance records. Used queries to count the number of events attended.</td>
</tr>
<tr>
<td>R5.1 System does not list students who will not meet minimum event attendance requirements.</td>
<td>Low</td>
<td>Cannot identify students who do not meet minimum event attendance requirements.</td>
<td>Low</td>
<td>Lita prototyped with dummy student event attendance records. Used queries to identify students who does not meet requirement.</td>
</tr>
<tr>
<td>R6.1 System does not list available volunteers by preference.</td>
<td>Low</td>
<td>Cannot identify suitable volunteers for events.</td>
<td>Low</td>
<td>Lita prototyped with volunteer records provided by the client. Used queries to search for volunteers with specific preferences.</td>
</tr>
<tr>
<td>R7.1 System does not track and calculate hours and events worked by volunteers.</td>
<td>Low</td>
<td>Cannot keep track of volunteer hours accurately for the Volunteer of the Year Award.</td>
<td>Low</td>
<td>Lita prototyped with dummy volunteer records. Manual input of the number of hours required.</td>
</tr>
<tr>
<td>Description of Risk</td>
<td>Likelihood of Risk Materializing</td>
<td>Effect on project if risk isn't reduced</td>
<td>Priority (B X C)</td>
<td>Risk Mitigation Activities (who did what)</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------</td>
<td>----------------------------------------</td>
<td>-----------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td><strong>Development Team Process Risks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R8.1 Members not Access 2000 savvy.</td>
<td>Medium</td>
<td>Cannot deliver system iterations on time due to learning curve.</td>
<td>High</td>
<td>Team consulted Rupal and other Access savvy friends and classmates for problems. Extensively used the Access Bible and Microsoft Support website.</td>
</tr>
<tr>
<td>R9.1 Members become specialized in only one part of this project and don’t benefit other experiences.</td>
<td>Medium</td>
<td>If a specialized team member is unavailable, the project is on hold.</td>
<td>Medium</td>
<td>Team switched tasks throughout the project. All team members worked on some deliverables and part of the information system or transition.</td>
</tr>
<tr>
<td><strong>Client Relationship Risks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R10.1 Client may not understand that the system will not deliver its full potential unless all information is input in the system.</td>
<td>Medium</td>
<td>Client ends up with a database no better than existing database.</td>
<td>High</td>
<td>Team stressed the importance of inputting all the information in the system during meetings. The new system should be able to decrease the time involved in inputting all the data.</td>
</tr>
<tr>
<td><strong>Transition Risks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R11.1 Unable to convert all databases into one within 1 to 3 days.</td>
<td>High</td>
<td>Client gets behind on data entry and is dissatisfied.</td>
<td>High</td>
<td>Ann and Joe converted client’s old data to the new system at the client’s office during the weekend so that work processes will not be disrupted.</td>
</tr>
<tr>
<td>R12.1 Unsure how to convert existing field data to match the drop-down list data.</td>
<td>High</td>
<td>Unable to search student records.</td>
<td>Medium</td>
<td>Ann and Lita converted or re-typed the information provided by the client into the drop-down lists.</td>
</tr>
<tr>
<td>Description of Risk</td>
<td>Likelihood of Risk Materializing</td>
<td>Effect on project if risk isn't reduced</td>
<td>Priority (B X C)</td>
<td>Risk Mitigation Activities (who did what)</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------</td>
<td>----------------------------------------</td>
<td>-----------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>R13.1 Compiling all user database information from other Access databases in addition to the Filemaker Pro conversion will be time consuming.</td>
<td>High</td>
<td>Incomplete database.</td>
<td>High</td>
<td>Ann converted all information for registration process during Iteration 1. Lita converted all information for event process during Iteration 2. Ann and Joe converted all Filemaker Pro records to the new system during the scheduled data conversion day.</td>
</tr>
</tbody>
</table>

IV. Analysis of As-Is Process

A. Registration Process

We have identified several manual processes in this As-Is process that are inefficient. These inefficiencies would be improved and value added services would be provided with automation. These areas include:

- Manually tracking payment balances
  - Currently, Qiana is monitoring payment balances manually. Qiana indicated there are delays in following up on students who are behind in their payments because this is currently a manual process.
  - Our information system will be designed to track each student’s payment status. Qiana will be able to pull reports to identify each student that has not paid their membership fees in full. She will be able to determine if the students are adhering to the payment plan, or if they are behind in their payments. Qiana will be able to follow up on members who are behind in their payments in a timely fashion.

- Follow up with students to identify scholastic awards and hobbies
  - Currently, YBS follows up with students manually to identify their scholastic achievements and hobbies. The
current application only identifies clubs and organizations that students plan on participating in during the current school year.

- We recommend modifying the application to include an area requesting scholastic achievements, hobbies, previous involvement in scholastic clubs and organizations, and community involvement. This information will be entered into the information system along with the other information on the application. YBS will be able to run queries to identify students based on their achievements, hobbies, community service, and previous involvement in scholastic clubs and organizations.

- Manually tracking incomplete applications

  - Qiana identifies incomplete applications and follows up with parents on the phone and in writing for the additional information. Qiana manually monitors the incomplete applications to determine when to follow up. This is a very time consuming process. Qiana indicated there are times she does not follow up at all for the additional information because it takes too long to identify the applications missing pertinent information.

  - The information system we are designing will enable Qiana to input the incomplete application into the system. Qiana could run weekly reports to identify which applications have been incomplete for 1 week, 30 days etc. This will enable her to identify which applications need the most attention and will eliminate delays in following up for the additional information.

- Calculate students’ GPA

  - Currently, Qiana inputs students’ grades and manually calculates their GPAs at the end of the school year. She does not make adjustments for honors classes or if a student receives pluses or minuses, so the calculations are just approximations of a student’s actual GPA. An example of how she inputs the grades as follows:

<table>
<thead>
<tr>
<th>Regular Class</th>
<th>Honors Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: 4.0</td>
<td>A: 4.0</td>
</tr>
<tr>
<td>B: 3.0</td>
<td>B: 3.0</td>
</tr>
<tr>
<td>C: 2.0</td>
<td>C: 2.0</td>
</tr>
</tbody>
</table>
The new system will calculate the GPA of each student. This will save a tremendous amount of time for Qiana because she will not have to manually calculate GPAs.

The quality of the information will increase 100% because the GPAs will be accurate. Adjustments will be made for honors classes and pluses and minuses. Qiana will now input the grades at the end of each semester instead of at the end of the year because GPAs will be calculated automatically instead of manually, which will save. An example of the grades and the amounts that will be calculated are as follows:

<table>
<thead>
<tr>
<th>Regular Class</th>
<th>Honors Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>A : 4.0</td>
<td>A : 5.0</td>
</tr>
<tr>
<td>A- : 3.7</td>
<td>A- : 4.7</td>
</tr>
<tr>
<td>B+ : 3.3</td>
<td>B+: 4.3</td>
</tr>
<tr>
<td>B : 3.0</td>
<td>B : 4.0</td>
</tr>
</tbody>
</table>

This is a great feature because the more accurate and timely data is, the more valuable it is. It will be easier for YBS to monitor their students’ academic progress. They can identify students who need to increase their GPA to meet UC entrance earlier in the school year. If a student’s GPA is too low, they still have time to work with the student to increase his/her grades. Calculating the GPA at the end of the year is too late to help students.

Also, students with high GPA’s can be identified earlier in the school year to determine if they meet minimum GPA requirements for scholarships. This way, more scholarships will be available to students because many scholarships have been awarded by the time the end of the school year arrives.

We have confirmed all of these features work. We will not be able to measure how effective the system is when comparing the results to all of the metrics selected (ie. time saved should result in a 20% increase in YBS students who qualify for the University of California, and YBS will obtain 50% more information as a result of the new system because the results can’t be measured until the end of the 2001/2002 school year.
B. Event Process

We have identified the following manual processes in this As-Is Model that we believe automation will improve and provide value added services. These processes include:

- Multiple volunteer databases
  - Several YBS employees have designed their own volunteer databases to meet their needs. Each database may or may not have the same volunteers. The databases are not transparent. If an employee updates a volunteer’s information in their database, it is not updated in the other databases unless the information is shared with the other employees. If the information is shared, then it is updated multiple times into each database.
  - The new database will be transparent. Everyone will have access to all of the volunteers. If one person updates a volunteer’s information, it is updated once, and everyone will have access to it.
  - This updated information can be used to run a report to identify volunteers based on their occupations, educational background, interest in working certain events and have previously worked certain events. Currently, YBS employees identify volunteers based on this information by reviewing information in their individual databases and their paper volunteer applications.

- Volunteer hours are tracked manually
  - Volunteer hours are currently tracked manually. Taynay records how many hours a volunteer works at an event. If the sheet is lost or misplaced, then the volunteer will not receive credit for working an event. This is important because volunteer hours play a major role in determining the “Volunteer of the Year”.

Our information system will enable YBS to track how many hours a volunteer works at each event. The system will calculate how many total hours a volunteer worked in a year. The volunteer who works the most hours will win the “Volunteer of the Year” award and receive a free trip to Atlanta.
C. Scholarship Process

We have identified the following manual processes in this As-Is Model that we believe automation will improve and provide value added services. These processes include:

- Identify students that meet scholarship requirements
  
  - Currently, Steven uses Access to store students’ SAT scores, their GPA, their major, and their top 3 university preferences.

  When he receives information that a scholarship is available for YBS students to apply for, Steven will use his Access system to obtain their GPA, major, SAT scores and their university preferences. Then he has to manually search Qiana’s Filemaker Pro database to obtain additional information (i.e. classes taken, career interests) to identify students who meet the minimum qualifications of the scholarship.

  This process takes Steven 1 to 2 days per scholarship.

  - The new information system will be transparent, so Steven will have access to all of this information. A report will be generated that will identify all students that meet the scholarship requirements.

V. Presentation of To-Be Process

Use Cases

1. Qiana
   
   a. Qiana will use her data entry skills to input new student applications, payment and transcript information into the system, and update student records on a daily basis (Realized).

      Currently, Qiana does the same thing now with their current database.

   b. Qiana will input data faster and in a more accurate manner with drop-down lists. The drop-down lists will also increase data integrity. The system’s ability to identify students with problems with the data in their applications will allow Qiana to spend more time following up with students and their parents and less time trying to identify incomplete applications (Realized).
Currently, Qiana types in all of the data. This is time consuming and leads to data integrity issues. For example, Qiana may input one student has a career interest in medicine, and input another student has a career interest in being a doctor. If a query is run to identify all of the students interested in medicine, the student interested in being a doctor will not be included. The query would also fail to identify a student who is interested in medicine if Qiana accidentally misspelled the word medicine.

c. Qiana will enter the application information and activities attendance information into the new information system. The system will identify and report students with missing information. This will initiate the follow-up process. The system will automatically determine if students have met the minimum GPA or activities requirement, and flag the records of those who didn’t meet the requirement. Qiana will send letters to these students regarding their probation status because of these deficiencies. The system will also identify students who are behind on their payment schedules, and Qiana can contact the parents accordingly (Realized).

Currently, Qiana has to manually review applications that are missing information. She has to manually search the database to identify students whose GPA does not meet YBS’s minimum 3.0 requirement and to identify students whose attendance of activities is not on track to meet YBS’s minimum annual requirement of 8 activities per school year.

2. Steven
a. Steven will search for scholarships that may be available to YBS students and will enter the information into the system. Steven will input scholarship information with the help of drop-down lists (Realized).

Currently, he searches for the scholarship information and stores the information in paper files.

b. He will be able to generate reports to identify students who meet the criteria for each scholarship because the scholarship information will be linked to the Student Record table (Not Realized).

Currently, Steven manually pulls the paper files with the scholarship information. Then he manually searches the Student Record in
Filemaker Pro to find students who meet the scholarship requirements.

3. Virginia
   a. Virginia will use the information system to generate reports to identify potential volunteers for events based on their preferences. This will save a tremendous amount of time (Not Realized).

      Currently, Virginia manually reviews her database and manually reviews volunteers’ paper applications to identify possible volunteers.

   b. She will update contact information for the faculty liaisons for high schools as she receives the information (Realized).

      Currently, Virginia updates the faculty liaison information approximately once every 2 months. She does not have the time to update the information because she spends so much time manually searching for potential volunteers.

   c. Virginia will use the new system to generate reports to identify potential speakers for events, so she can contact them to determine their availability (Not Realized).

      Currently, Virginia would manually review her personal database to identify potential speakers. The database was not able to search for potential speakers based on certain criteria like the new information system will be able to do.

4. Taynay
   a. Taynay maintains the contact information of the volunteers. The transparency of the new system will eliminate the redundancies associated with entering duplicate data into her database, and the accuracy of her data will increase (Realized).

      The previous database was not transparent, so Taynay relied on other YBS employees to provide her with updated information on the volunteers when they received it so she could input the data into her system. If the employee forgot to give the updated information to Taynay, then she would not have the volunteer’s most current contact information.

      Taynay assists Virginia contacting potential volunteers before each event. Taynay may not be able to contact potential volunteers if she does not have the most up-to-date information.
b. The system will generate reports to identify the suitable volunteers for each event. Taynay will save time identifying these individuals using the new information system (Not Realized).

Currently, she assists Virginia by manually searching through her database and manually reviewing paper volunteer applications for identify potential volunteers for an event.

c. Taynay will input attendance information for volunteers and speakers after each event. The information system will automatically calculate each volunteer’s total hours volunteered for the entire school year (Realized).

Currently, Taynay manually records this information on a piece of paper with the volunteer’s name on it. She will gather all of the papers and manually calculate how many hours the volunteer worked for the entire year. This is obviously time consuming, and Taynay said there are times when the papers get lost and people don’t get credit for some of the hours they work.

5. Latrice

a. The information system will identify the students who are suitable to attend certain events based on the students’ status, grade, interests, etc. For example, students interested in studying law in college may want to attend an event regarding law. Since all student information will be integrated into one information system, Latrice can identify students faster and easier (Not Realized).

Currently, Latrice has to manually search the Student Record in Filemaker Pro to identify students who are suitable to attend certain events.

b. Latrice monitors YBS student alumni’s progress in college. Alumni information will be included in the system to help track their progress in college and after college (Realized). Previously, YBS would lose contact with their alumni once they graduated from high school.

They believe maintaining contact with their alumni will help YBS grow and prosper in the future. They want to be able to contact their alumni to volunteer for events, and market the success of their alumni to help boost membership.

Currently, Latrice is spending time tracking down YBS alumni to obtain their current information and store it in Filemaker Pro. She
does manually searches on the limited data they have to contact alumni for certain events.

c. Latrice will assist Qiana by running reports to identify current students who have not paid or have not attended the minimum amount of activities (Realized).

Currently, Latrice manually reviews the Filemaker Pro database to obtain this information.

d. Latrice will generate reports on students using different criteria (Not Realized) (e.g. those who have not paid, or those with a GPA of 3.0 or higher).

Currently, she manually paper files and manually reviews the Filemaker Pro database to gather the information she needs to write the reports.

We have written some queries to generate reports needed for YBS. Each of the use cases that are labeled (Not Realized) involve reports that need to be designed. We have not designed many reports at the request of YBS, but we recommended certain processes that may need a report and what data would be included in those reports. Taynay attempted to find out what reports the YBS’s employees wanted several times throughout the term of the project, but she was constantly told they didn’t want us to design any reports.

YBS’s employees indicated they wanted certain reports designed once the Access information System was delivered. Taynay knows how to design reports in Access and she will sit with each employee and design the reports individually to meet their needs.

We requested to meet with all of YBS’s employees to discuss these types of issues during our JAD session, but we were only allowed to speak to Qiana, Taynay, and Pat.

VI. Specifications

1. FURPS

A. Functionalities

• Registration Process
i. The system shall provide a report after entering information into the student record that lists missing pertinent information, such as address, phone number, or Social Security number (To-Be process step “Determines If Application Is Complete”). The report will assist the user when contacting the student to request the information. Resolved in Iteration 1. Priority level 2. The following query is used in the report: SELECT Student.FirstName, Student.LastName, Student.IDNumber, Student.Class, Student.Phone, Student.StreetAddress, Student.SSN FROM Student WHERE (((Student.FirstName) Is Null) AND ((Student.LastName) Is Null)) OR (((Student.Phone) Is Null)) OR (((Student.StreetAddress) Is Null)) OR (((Student.SSN) Is Null));

ii. Queries shall be run to identify specific pieces of missing data in the student record for a specific student, a group of students, or all students (i.e. identify students who failed to include their GPA on their application) (To-Be process step “Determines If Application Is Complete”). Resolved in Iteration 1. Priority level 3. The following query is used:
SELECT Transcript.[CumGPAw/oHonors], Transcript.CumGPAwithHonors, Transcript.IDNumber, Transcript.Class FROM Transcript WHERE (((Transcript.[CumGPAw/oHonors]) Is Null) AND ((Transcript.CumGPAwithHonors) Is Null));

iii. The system shall accurately calculate student GPA from the transcript record (To-Be process step “Verifies GPA”). The calculation will include (+) and (-) grades (i.e. B+, B-). Resolved in Iteration 2. Priority level 7. The following query is used to calculate the GPA: SELECT semGPA.IDNumber, semGPA.Class, Sum([semGPA][GPAw/Honors])/Count([semGPA][Semester]) AS CumGPA FROM semGPA GROUP BY semGPA.IDNumber, semGPA.Class;

iv. The system shall flag student files that do not meet the minimum GPA requirement. The system shall track student UC eligibility progress by comparing the number of student transcript courses per subject against UC eligibility standards. (Additional To-Be process step not included in As-Is model). Resolved in Iteration 1. Priority level 8. The following query is used to identify students who do not meet the minimum GPA requirement: SELECT CumGPA.IDNumber, CumGPA.Class, CumGPA.CumGPA FROM CumGPA WHERE ((CumGPA.CumGPA)<3); The following query is used to identify the number of courses the students still need to take to satisfy UC eligibility requirements: SELECT Student.IDNumber, Student.Class, HistoryNeed.HistoryNeed,
v. The system shall provide a query to list students with missing transcripts after each semester so that the user can contact those students for their transcripts. Resolved in Iteration 1. Priority level 6. The following query is used to identify students with missing transcripts:

```
SELECT SemesterTranscript.IDNumber, SemesterTranscript.Class, SemesterTranscript.Semester FROM SemesterTranscript WHERE ((SemesterTranscript.Semester) Is Null);
```

vi. The system shall provide a report identifying students with any outstanding balances so that the user can follow up and collect the outstanding fees (To-Be process step “Determines If Application Is Complete”). Resolved in Iteration 1. Priority level 12. The following query is used for the report:

```
SELECT Fee.IDNumber, Fee.Class, Fee.PmtAmt, 100-|PmtAmt| AS Balance FROM Fee WHERE (((Fee.PmtAmt) Is Null Or (Fee.PmtAmt)<100));
```

vii. Queries shall be run to identify students who are behind in their payments (i.e. 1 week, 2 weeks late, etc). Not resolved as we do not have information on the payment due dates. Priority level 15.

viii. Drop down lists shall be used wherever possible to ensure data integrity (i.e. high schools, career interests) (To-Be process step “Enters Application, Payment, and Transcript Information”). Resolved in Iteration 1. Priority level 9.

ix. The database shall be transparent, which will allow all YBS’s employees can have access and update information into the system. Resolved in Iteration 1. Priority level 1.

- Event Process
x. The system shall provide a report detailing the event schedule for the year. The report shall include the name of each event, date, and sponsor so that the user can send flyers to the students. (To-Be process step “Sends Flyers to Students”). Resolved in Iteration 2. Priority level 14.

xi. The system shall provide a student roster of students who RSVP’d for the each event to be used at the event to track attendance. The report will include the student’s name, id number, and the name and date of the event. (To-Be process step “Prints Roster”). Resolved in Iteration 2. Priority level 13. The following query is used:

```
SELECT Student_Event_Table.Year, Student_Event_Table.Student_ID, Student_Event_Table.Event_ID, Student.FirstName, Student.LastName, Event.[Event Title], Event.[Event Date]
FROM Event INNER JOIN (Student_Event_Table INNER JOIN Student ON (Student_Event_Table.Year = Student.Class) AND (Student_Event_Table.Student_ID = Student.IDNumber)) ON Event.[Event ID] = Student_Event_Table.Event_ID WHERE ((Student_Event_Table.Year) Is Null));
```

xii. The system shall provide an attendance input screen for each event that simultaneously updates the student event record and number of attended events count. (To-Be process step “Records Attendance of Each Student”). Resolved in Iteration 2. Priority level 5.

xiii. YBS requires their students to attend a minimum of 8 events each year. The system shall provide a query to list students who will not meet the minimum requirements for event attendance given the number of events left at the time of the query. The report will include the students name, id number, and the amount of events they have attended. (To-Be event “Attendance Info Used to Determine if Students Met Minimum Requirements”). Resolved in Iteration 2. Priority level 11. The following query is used in the report:

```
SELECT Student_Event_Table.Year, Student_Event_Table.Student_ID, Count(Student_Event_Table.Event_ID) AS CountOfEvent_ID
FROM Student_Event_Table GROUP BY Student_Event_Table.Year, Student_Event_Table.Student_ID;
```

xiv. The system shall provide a list of available volunteers to contact to staff each event by matching volunteer preferences with the time and duties of each event. The list will include the volunteer’s name, address, phone number, and a list of their preferences. (To-Be process step “Contacts Volunteers”). Not resolved in Iteration 2. Priority level 4. We have written the query, but YBS will design the actual report. The following query is an example of volunteers available for chaperone, queries for other events are the same except the name of the
event is different in the query:  

```
SELECT [100 New Stars].[Volunteer Number], [100 New Stars].[First Name], [100 New Stars].[Last Name], [100 New Stars].Address, [100 New Stars].City, [100 New Stars].State, [100 New Stars].Zip, [100 New Stars].[Hm Phone], [100 New Stars].[Work Phone], [100 New Stars].[E-mail], [100 New Stars].[Date Available to Start], [100 New Stars].Morning, [100 New Stars].Afternoon, [100 New Stars].Evening, [100 New Stars].Monday, [100 New Stars].[Mon Hours Available],[100 New Stars].Tuesday, [100 New Stars].[Tues Hours Available], [100 New Stars].Wednesday, [100 New Stars].[Wed Hours Available], [100 New Stars].Thursday, [100 New Stars].[Thurs Hours Available], [100 New Stars].Friday, [100 New Stars].[Fri Hours Available], [100 New Stars].Saturday, [100 New Stars].[Sat Hours Available], [100 New Stars].Registration, [100 New Stars].Phones, [100 New Stars].Chaperone, [100 New Stars].Publishing, [100 New Stars].[Video taping], [100 New Stars].Literacy, [100 New Stars].Mentor, [100 New Stars].Tutorial, [100 New Stars].[Direct Mailing], [100 New Stars].[Special Events], [100 New Stars].Fundraising, [100 New Stars].Other, [100 New Stars].[Agree to mandatory check], [100 New Stars].[Place of Employment], [100 New Stars].[Emergency Contact], [100 New Stars].[Emergency Phone], [100 New Stars].[Social Security Number], [100 New Stars].[Date of Birth], [100 New Stars].[Special Skills], [100 New Stars].[Referred By?], [100 New Stars].[Jr High], [100 New Stars].[High School], [100 New Stars].[College Degree], [100 New Stars].[Course of Study], [100 New Stars].[Advanced Degrees], [100 New Stars].[Volunteer Experience], [100 New Stars].Reference1, [100 New Stars].Address2, [100 New Stars].Phone2, [100 New Stars].Reference2, [100 New Stars].Address3, [100 New Stars].Phone3, [100 New Stars].Reference3, [100 New Stars].Address4, [100 New Stars].Phone4, [100 New Stars].[Date of Application], [100 New Stars].Title FROM [100 New Stars] WHERE ((([100 New Stars].Chaperone)=Yes));
```

xv. The system shall provide a roster of confirmed volunteers and their preferences for each event. The roster will include the volunteer’s name and the event they have volunteered for. (To-Be process step “Prints Lists of Volunteer Duties”). Resolved in Iteration 2. Priority level 10. The following query is used for the report:  

```
SELECT [Volunteer Event Activity].[Volunteer Number], [Volunteer Event Activity].[Volunteer Event Activity].[Event ID], [Volunteer Event Activity].[Event Hours], [100 New Stars].[First Name], [100 New Stars].[Last Name], Event.[Event Title] FROM Event INNER JOIN ([100 New Stars] INNER JOIN [Volunteer Event Activity] ON ([100 New Stars].[Volunteer Number] = [Volunteer Event Activity].[Volunteer Number]) INNER JOIN [Volunteer Event Activity] ON ([100 New Stars].[Volunteer Number] = [Volunteer Event Activity].[Volunteer Number]) WHERE ((([100 New Stars].Chaperone)=Yes));
```
Activity].[Volunteer Number]) AND ([100 New Stars].[Volunteer Number] = [Volunteer Event Activity].[Volunteer Number])) ON Event.[Event ID] = [Volunteer Event Activity].[Event ID] WHERE ((([Volunteer Event Activity].[Volunteer Number]) Is Null));

xvi. The system shall provide a section on the volunteer record to track and count events and hours of the volunteer. (To-Be process step “Records Volunteer Hours”). Resolved in Iteration 2.

• Scholarship Process

xvii. The system shall provide a report that lists students who meet the minimum requirements for a given scholarship. Not resolved in Iteration 2. YBS will design the actual queries and reports as we do not have information on the minimum requirements for the scholarships.

B. Usability Requirements

1. YBS’s employees are already familiar with Microsoft Access. The database will emphasize the use of drop down lists, which will help make it easy to learn how to use the new system.

2. This system will require minimal training for YBS’s employees. We believe each employee will require no more than 1 to 2 hours of training.

3. We have demonstrated the functions of the new system to Taynay and Qiana. Taynay is very familiar with Access, so she will train the rest of YBS’s employees. We have designed a “cheat sheet” to assist her with the training.

4. Ryan Whetstone is YBS’s independent consultant, who also happens to be an Access expert. Mr. Whetstone will require minimal training in regards to the functionalities of the new information system.

C. Reliability Requirements

1. Reliability is always a concern when discussing information systems. We will preserve all of the data in YBS’s current Filemaker Pro and Access databases. YBS’s employees will have access to all of the data stored on their current
databases. They will be able to utilize this data in case the new system does not work.

2. YBS will have to deal with the possibility of the new database crashing once they start using it. We recommend that YBS continue using their current program when their database crashes. YBS should utilize their independent consultant, Ryan Whetstone, to assist them if and when the new system crashes. Mr. Whetstone is an Access expert and should be able to make whatever repairs are necessary if the system crashes.

D. Performance Requirements

1. We have made numerous requests to Taynay to provide us with performance information including the speed, response time, and memory capabilities of their current system and what they would like for the new system to be capable of. Taynay indicated that she didn’t know any of this information, but Mr. Whetstone probably had this information. Mr. Whetstone never provided this information to Taynay.

2. We are curious if Mr. Whetstone may have been concerned with providing information for this project because the better the information system, the less his services may be needed.

3. The new information system will respond to YBS’s queries almost instantaneously. This will be a significant improvement to YBS’s current system, which is not able to run sophisticated queries. Most of YBS’s searches are conducted manually.

4. The information system will be transparent, meaning everyone will have access to the database. This will improve the integrity of the data, increase efficiency, and eliminate the need for everyone to maintain their own separate database.

5. YBS will maintain their current disk and memory resource requirements that they have been utilizing.

E. Supportability Requirements
This is the only section of the FURPS where we changed the Specs of the information system. These are the original supportability requirements for the new information system:

- Organizational changes should be minimal. Job responsibilities should not change.

1. Automation will eliminate processing delays by streamlining the registration process. Employees will actually be able to do their jobs, which are designed to assist YBS in meeting their primary business objective, instead of wasting valuable time conducting manual data searches.

   For example, instead of conducting time consuming manual data searches, they will be able to follow up on missing data in the student record, follow up on delinquent account balances, and update the database in a timely manner.

2. The business world is dynamic. The economy is constantly changing. Business goals are modified as the economy and the needs of the customers change. Business can only survive if they are flexible. Even though YBS is a non-profit organization, they must also change when necessary to survive.

3. We will design this system to be easy to maintain. As we mentioned previously in Section IV, Ryan Whetstone is an Access expert, so YBS should continue to utilize his services whenever the database needs to be serviced. This not only includes repairing the system if it crashes, but also writing additional queries, and updating and modifying the database as their business needs change.

- Modified Supportability Requirements

After further review of the new information system, we have identified several organizational changes that will need to be addressed by YBS, along with the original Supportability Requirements that we developed. We have not made any formal recommendations to YBS as to how they should restructure their employees’ job responsibilities. We have discussed some of these possibilities with them.
Process Steps and Job Responsibilities:

1. Qiana will no longer have to manually calculate GPAs, identify missing information on applications, monitor and calculate outstanding student account balances. Qiana will be able to spend the additional time following up with students and their parents to obtain missing pertinent data, pursue deficient account balances, and marketing their events to increase attendance. Increased attendance will help reduce the amount of students who are not meeting their minimum activity attendance requirements. Increased attendance will also help students academically, so YBS should experience an increase in students meeting UC entrance requirements.

2. Steven will save a tremendous amount of time because he will no longer need to conduct manual searches to identify students who meet scholarship requirements of the scholarships that are available to YBS’s students. He will be able to spend the additional time finding additional scholarships for YBS students. Steven can also spend time marketing YBS to increase membership by discussing how many scholarships he helped YBS’s students receive.

3. Virginia will save a tremendous amount of time because she will no longer have to conduct manual searches to identify potential volunteers and speakers for their events. Virginia could spend her additional time designing/developing new workshops and events for students to attend. She could also spend the time finding new co-sponsors in the community. These types of activities will help YBS achieve their goal of preparing their students to meet the entrance requirements of the University of California.

4. Taynay assists Virginia with a lot of the event planning tasks, including the searches for potential volunteers. She will no longer need to do this because Virginia will have access to the information by simply generating a report. Taynay also is actually involved in every process at YBS. She provides guidance and assistance to all of the
employees who need help. They will need less assistance once they get familiar with the new information system, so she will definitely have a lot of time on her hands. She does attend most of the workshops that YBS is involved in, so she will be busy as YBS has more events. Tayany can spend the additional time helping Virginia design and plan new workshops. Taynay can also spend the additional time marketing the entire program to increase student enrollment, co-sponsorship, and scholarships.

5. Latrice spends the majority of her time assisting Qiana conducting manual searches to identify students to attend certain events, and obtain information for reports. Qiana will no longer need her assistance because the information can be obtained instantly by generating a report. Latrice can now focus on locating and maintaining information on the YBS alumni. She can contact the local universities and the clubs/organizations at the universities to locate YBS alumni. We believe it would be a tremendous marketing tool for YBS to be able to discuss the successes of their alumni. Their alumni could also be a tremendous resource to use for volunteers for future events and donations for scholarships for future YBS students.

3. Finalized CRUD

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Assign volunteers to events R
Record volunteer hours R
Record student attendance R C,R
Record student transcript info
Search for students qualified for scholarships
Post scholarship awarded
Contact Faculty Liaisons R
Update Faculty Liaison info C,R,U,D

4. Finalized User Interface Screens

Spec. # i. Affects To-Be process step “Determines If Application Is Complete”.

![Missing Information](image-url)
Spec. # iii. Affects To-Be process step “Verifies GPA”.

Spec. # iv. Additional To-Be process step not included in As-Is model.
Spec. # vi. Affects To-Be process step “Determines If Application Is Complete”.

Spec. # viii. Affects To-Be process step “Enters Application, Payment and Transcript Information”.
Spec. # xi. Affects To-Be process step “Prints Roster”.

Spec. # xii. Affects To-Be process step “Records Attendance of Each Student”.
Spec. # xiii. Affects To-Be event “Attendance Info Used to Determine if Students Met Minimum Requirements”.

Spec. # xiv. Affects To-Be process step “Contacts Volunteers”.
Spec. # xv. Affects To-Be process step “Prints Lists of Volunteer Duties”.

Spec. # xvi. Affects To-Be process step “Records Volunteer Hours”.
Spec. # 1  Modified Supportability

Spec. # 3  Modified Supportability
VII. Transition Plan

1. Beta-testing Plan and Results

The original plan was to deliver the prototype for Iteration 2 to YBS on April 18, 2001. The prototype was not ready, so we delivered it on April 23, 2001. We installed the prototype on Qiana Addison’s computer so she could begin beta-testing the prototype. We decided to install the prototype on Qiana’s computer for two reasons. The first reason is because Qiana, along with Taynay, will be one of the primary users of the new database. The second reason is that Qiana’s computer currently has sufficient memory to handle the new system.

Qiana was originally going to conduct the beta-testing using sample data to verify Iteration 2 meets YBS’s needs and the goals. Qiana started the beta-testing, but Tayany actually ended up doing the testing because she was more familiar with Access and had the time to completely test the system. The functionalities of Iteration 2 that will be tested are as follows:

• Registration Process

  1. Information system will calculate GPA for regular classes and for honors/AP classes. (The system passed the tests).
  2. Database will calculate the number of classes taken that meet the UC entrance requirements. (This function did not pass the test). Rupel was not able to help us fix this portion of the system. We will continue to attempt to fix this portion of the system. If we can’t fix it, YBS will have Mr. Whetstone fix this function.

• Event Process

  1. Provide a detailed report describing all of the events scheduled for the year. (The system passed the tests).
  2. Provide a roster identifying all students who RSVP’d for each event. (The system passed the tests).
  3. Attendance input screen for each event that simultaneously updates the student event record and the number of events attended by the student. (The system passed the tests).
4. Provide a list of students who will not meet minimum requirements for events attended. (The system passed the tests).

5. Provide a list of potential event volunteers by matching their preferences with the time and duties of each event. (The system partially passed this test. We are able to identify preferred times, but not duties).

6. Provide a roster identifying confirmed volunteers for a specific event. (The system passed the tests).

7. System will count events and hours worked by volunteers. (The system passed the tests).

- **Scholarship Process**

  1. Provide a report that identifies students who meet the minimum requirements of a specific scholarship.

     We asked Taynay and Qiana to advise the consulting team of any problems that they experience, and to provide any recommendations they had throughout the course of the beta-testing. We also asked them to complete a beta-testing questionnaire to assist us in identifying problems with the information system.

     They did not complete the questionnaire, but they made phone calls, sent e-mails, and have advised us of any problems they have had with the system at our meetings.

- **Rollout Plan and Rollout Actually Accomplished**

  We originally planned on installing the new database on April 21, 2001 at YBS. The system was actually installed on April 28, 2001. This process was delayed because we were not able to convert the data from Filemaker Pro until April 28, 2001.

  We originally planned on Ann Chu beginning the process by converting the data from YBS’s existing database into a format that can be imported into the new MS Access database. Ann performed this task several times, so we did not anticipate any problems converting the data. The conversion process took longer than we anticipated, so Joe Pecot assisted Ann with the conversion.
Once the data in Filemaker Pro was converted, we will installed the new information system and import the information into the Access database. Originally, Taynay Cameron from YBS was going to be the only YBS employee present during the conversion and installation process. However, Taynay and Qiana Addison were present to assist us as needed.

The Access information system was installed on a network as we planned, so it would be transparent to all YBS employees. We planned on testing the information system and attempt to resolve any possible problems with the network. We were not able to do this because Qiana and Taynay left before we finished converting all of the data and installing the system, therefore we didn't have access to the other computers.

We advised YBS to contact their Access expert, Ryan Whetstone for assistance if there were any problems with the network resulting from the installation of the Access system that the consulting team could not resolve. YBS has not experienced any problems with their network since Access was installed.

We recommended that YBS use the “Parallel” option after we installed the new system at YBS. We advised YBS to input new data in both the Filemaker Pro database and the Access system for the first week. This will insure YBS will not lose any new, updated data if the Access system malfunctions. If there are no major problems with the Access database after the first week, YBS will no longer need to use their original Filemaker Pro database.

3. Data Conversion Plan and What Was Accomplished

As we mentioned earlier, we originally planned on having Ann Chu convert YBS’s existing data from their Filemaker Pro database into a format that can be imported into the new Access database on April 21, 2001. We selected this date because it is a Saturday, so we will not interrupt their normal business routine. The YBS office is usually open for business Monday through Friday.

The data was actually converted on April 28, 2001 by Ann Chu. Joe Pecot provided some assistance since the conversion was more time consuming than we originally anticipated.

Ann had already converted portions of the Filemaker Pro database for Iteration 1, so we did not anticipate any problems during the conversion. The data conversion and installation of the new information system was originally scheduled to be completed April 21, 2001. We actually completed the data conversion and installed the system on April 28th.
As we mentioned in the roll-out section, if there were no problems with the Access system, the Filemaker Pro database would be shut down after the first week of installing the Access system. We are not sure if YBS has actually shut down Filemaker Pro yet. There are some minor things that YBS has requested since we installed the system. We are scheduled to meet with YBS on May 8, 2001, to take care of YBS’s requests.

YBS will continue to utilize the same emergency contingency plans that they are using with Filemaker Pro. They will back-up their data monthly on CD’s. They will continue to utilize their Access expert, Mr. Whetstone, to resolve any future problems the network or the database may experience.

4. Organizational Change Plan and What Was Accomplished

• Training

Training needs will be minimal. YBS already has Access installed and some of their employees have developed their own personal Access databases.

We originally planned on having Joe Pecot and Lita Acosta demonstrate the different functions of the information system to Qiana and Tayna on April 18, 2001. We planned on reviewing the functions with Taynay again when we installed the system on the 21st.

Lita Acosta and Ann Chu actually demonstrated the functions of the system to Taynay and Qiana on May 1st. They will meet again with Taynay and Qiana on May 8th to answer any questions they may have and make some minor revisions to the system.

• Hardware/Software

YBS will not need any major hardware or software purchases. YBS already has MS Access 2000.

• Organizational Changes

We originally anticipated that there would be minimal organizational changes necessary. Basically, we believed YBS’s employees would be able to spend more time pursuing their organizational goals due to the efficiencies of the new information system instead of wasting time conducting manual
searches for data. YBS employees would have additional time to plan events and workshops, and prepare students for the University of California.

We reviewed YBS’s operation again we still believe YBS’s employees should spend more time pursuing their organizational goals, but we identified some processes and job responsibilities that will need to be changed (see Modified Supportability Requirements in Section VI).

YBS has not informed us how this new information system will change their employees’ job responsibilities. Obviously, automation will eliminate many of the manual processes as we have previously mentioned.

We do know Qiana will spend her additional time following up with students and parents for missing information and trying to collect money for outstanding student account balances.

We have written queries that will allow YBS to obtain the reports they need to assist them in attaining their primary business objective, which is preparing students to meet entrance requirements of the University of California system.

We have designed forms that will assist YBS when they need to enter data into their information system. The forms were designed to improve the integrity of their data. This will improve the efficiency of the system and the accuracy of reports generated by the information system.

5. Plan for Tracking Project Objectives and Results Obtained

We knew that we would immediately be able to determine if two of the project objectives were met, so we really didn’t need a plan to track two of the objectives.

Successfully installing the drop-down lists, would mean we achieved the data integrity objective. The drop-down lists were successfully installed and the data integrity objective was met.

We also knew if we were able to successfully implement the information system, automation would increase the efficiencies of YBS’s business processes. We achieved this objective because the system was successfully implemented and automation is replacing many of YBS’s manual processes.
A tracking plan regarding the two remaining project objectives, a decrease in incomplete data and an increase in YBS students who met UC entrance requirements, is necessary. YBS will have to wait until the end of the 2001/2002 school year to determine if these objectives were met. They will have to compare the percentage of incomplete student records from the 2000/2001 school year with the percentage of incomplete records from the 2001/2002 school year. If the percentage of incomplete student records is lower for the 2001/2002 school year, when compared to the 2000/2001 school year, then the objective was met.

YBS will also need to compare the percentage of students from the class of 2001 who met the UC entrance requirements to the percentage of students from the class of 2002 who met the UC entrance requirements. If the percentage of the class of 2002 who met the UC entrance requirements is higher, than the class of 2001, then the objective was met.

6. Evolution Plans

The flexibility of the new Access database will allow YBS to expand and modify the database as YBS’s goals, business needs, and business processes change. A staff person, or their Access expert, Ryan Whetstone, may want to consider the following possibilities for future uses of the database:

- Additional queries could be written to generate additional reports. Some examples are: which grades 9th, 10th, etc have the lowest participation rate, or which grades have the highest no show rate after they RSVP for an event. This information could be valuable because students could be polled to determine why they are not participating. Adjustments can be made in the workshops to increase participation. This ideally should lead to an increase in academic performance, which should lead to an increase in students meeting the UC entrance requirements.
- Additional forms could be designed to input new types of data required by YBS. For example, additional entrance requirements may be developed by the University of California making the current forms obsolete. YBS may need to track additional data for their students.
- Link portions of the database to their website. Here are some examples:
  - Students/Volunteers could input/update their information online instead of submitting paper applications and forms.
  - Students could RSVP for events online.
Students could track their community service hours and what events they participated in online.

Volunteers could track how many volunteer hours they have worked online.

Volunteers could RSVP to work certain events online.

VIII. Publicly Available Reference From Client

We have made several verbal and written requests for this information, but we have not had a response from Taynay. Hopefully Taynay or Pat responded to your final check point e-mail. If that document was completed, it should provide you with YBS’s testimonial in regards to what we accomplished as a consulting team and if YBS will allow the information system and the report to be posted on the web.
IX. Appendices:

A. As-Is Business Process: The Steps That Need To Be Changed

- Manual searches to identify incomplete applications
- Manual searches to monitor and calculate account balances
- Manually calculating GPAs and inputting them at the end of the school year. Also, the GPAs are not accurate, they are only approximations because the calculations do not consider pluses, minuses, and honors classes
- Eliminate redundancies and inefficiencies associated with using a database that is not transparent
- Eliminate inaccurate and incomplete reports that result from data integrity problems
- Eliminate manual process of monitoring and calculating volunteer hours.
- Eliminate manual searches for potential volunteers and speakers for events and workshops
- Eliminate manual searches to identify students who meet scholarship requirements

B. To-Be Business Process Indicating Person, Data Elements, And The Steps In The Process That Differ From The As-Is

- Qiana: She will no longer need to conduct manual searches to identify missing pertinent information on applications. The system will automatically identify students whose applications are incomplete. She will no longer manually calculate GPAs because the system will automatically calculate GPAs. The GPAs will be accurate because adjustments will be made for pluses, minuses, and honors classes. She will no longer need to conduct manual searches to determine who has outstanding account balances. Data integrity issues will be eliminated because Qiana will utilize drop-down lists when inputting information into the system.

- Steven: He will no longer conduct manual searches to identify students who meet minimum requirements. The system will do this automatically.

- Taynay and Virginia: They will not spend time conducting manual searches to identify potential volunteers for events and workshops. The information system will be able to identify potential volunteers automatically.
- Taynay: She will no longer manually monitor and calculate volunteer hours. The system will calculate these hours once Taynay inputs the hours each volunteer works after an event.

C. To-Be Data Model

See attached

D. MS Access Database on Disc

We have already provided you with a copy of the disk.

E. Class Presentation Briefing Charts

See attached
Lessons Learned – Lita

Project Planning
I learned that project planning needs to be very detailed, and each task should be assigned to someone on the team for accountability. We did a very general project plan, so we missed some details upfront. We were forced at the last minute to ask each other to cover various parts of the deliverables that were not identified in our project plan. Thus, we turned in some pieces of the deliverables that were not as thorough as they should have been. Further, we did not have a good tool to track our progress other than just by deliverables. So, we were not able to provide the client with a visual of our project status. I will apply this learning in my future projects by using a project-planning tool, such as MS Project, that will be updated prior to every project meeting. All the project steps will be identified and assigned.

First Client Meeting
Prior to closing the meeting with the client, it is important to summarize what was discussed, decisions made, action items, and address any concerns. During this time, any misunderstandings and apprehensions will be identified. The consulting team can clarify the issues and provide more information or acknowledgement of issues most important to the client. Our client was most concerned about the ability to convert the data from Filemakerpro to Access. We explained that we were not sure, although we were mostly sure it was possible via Excel, but we would check and let them know as soon as possible. We went on with the meeting. We did not ask at the close for any concerns, so Pat sent her concerns to the professor and cancelled the project. Had we found out at the meeting, we might have tested the conversion right there or promised proof of the conversion by the next day. I have learned to listen to the client and identify those concerns. I want to leave a meeting with everyone on the same page and feeling understood.

Business Case Development
I learned that we need to understand the purpose and goals of the organization as the client understands them. We thought one of the main objectives of YBS was to get scholarships for their students. We were abruptly corrected by Pat as soon as we mentioned this objective that scholarships were a part of their business objectives – to get their students prepared to meet the UC eligibility requirements was their business objective. Fortunately, we were able to sell her our value-added scholarship piece of the information system once the clarification about business objectives was recognized. I will definitely make sure to get clients to tell me their business objectives rather than deduce them from operation observations.
Understanding technical and business opportunities and solutions
I learned that understanding business and technical opportunities involves an understanding of the business objectives that are not being met by the existing system. We found that the volunteer and event processes were handled manually by various people, so we identified how the information system could make those processes more efficient. I will be sure to look for valued added opportunities when discussing a client’s business objectives and the existing system’s shortcomings.

As-is process modeling
I learned that it is important to interview all persons involved in the operations of the office in order to understand the process as it truly stands and ask follow up questions to the direct person involved with a process in question. We met with most of the staff, but we did not ask enough questions during the scheduled interviews. We filled in the missing information by asking our key contact. We should have requested another meeting with the direct person responsible for the area in question because some of the information we were told was not correct. For example, there was no real scholarship database that we were told Steven had been using. We thought we could incorporate his database into our information system. It turns out we had to automate that portion too. I will apply this knowledge by spending more time observing the business so that I can ask the appropriate questions at the time of the interviews. I will probably schedule follow-up interviews to review the as-is with each person involved.

Running JAD sessions
Agendas are a necessity for important meetings, such as the JAD session. The JAD session was the only time we set an agenda, and I learned that the agenda was very helpful to keep the meeting ordered and productive. We sent the agenda in advance with an explanation of what the meeting was about. The client was able to prepare for the meeting and gather the appropriate people. I will continue to set agendas and send them in advance for most meetings, if not all meetings. It will give me the opportunity to organize the meeting in terms of what needs to be discussed, and it will allow the client to better understand the purpose of the meeting and be better prepared.

Writing FURPS specifications
It is imperative to set a meeting with the client’s IT person(s). We need to understand the infrastructure of client’s business, so that the new system is operable in its environment. Our system was going to be placed on the server and networked to various users. Thus, our system should be configured to handle multiple users. Fortunately, we
have some technical expertise on our team so we configured the
system appropriately upon implementation. The future learning is that
the technical piece is as important as the business piece of the
information system, and I will be sure to address both as completely
as possible.

Risk reduction planning / risk-based prototyping
One risk we forgot to identify was what if one of our valuable team
members was ill on the day of conversion. Ann knew how to convert
from Filemakerpro to Access, and Joe and I took it for granted that she
would be there to step us through the conversion. Well, Ann was sick
the morning of the conversion. So, we had to cancel the conversion
that morning. I will apply this lesson to future projects and always
have the risk that someone may not be available. It would be best if
the whole team practiced the conversion so that any one of the team
members could run the show during that small time frame in which
conversions are generally scheduled.

Data modeling
I learned that it is best to have more test data than less test data. Our
client could not truly test the system when there were only a couple of
current students and a lot of alumni students. All the transactions on
the system pertain to current students. Thus, I will be sure that all
future projects have relevant test data large enough for multiple test
combinations.

Alpha Testing
It is important to have multiple team members test the system,
including ones that were not involved in the design. Thus, we can test
the user-friendly aspect of the information system. We might have
noticed that navigation buttons would be nice to add to the system. I
will encourage my future team members to test the systems for a
more realistic and valuable feedback.

Beta testing
Have the client document the beta tests that were done. I believe our
client just trusted us that the system worked, so they were not as
thorough with their testing. Although there was very little time
between delivery and acceptance, the client really did not test the
system beyond looking at the screens. I will collect documentation
from future clients (or at least a check off list) to be sure the tests are
done.

Transition planning
Again, as with risk reduction, it is important to have a back up plan in
case someone is not available. In our case, Joe and I would both
know how to do the conversion without Ann’s help. Transition
planning is critical, so I will be sure all risks are identified and resolved in advance.

**Construction phase**
I learned that a new system application, such as Access, takes time to understand. We definitely needed some help on some complicated requirements, but we also spent a lot of time just figuring out the basics. It takes time to learn, and that needs to be accounted for in the project plan. I will be sure to have done some training in advance rather than using the client’s project to learn.

**Client relationship**
I learned that maintaining a client relationship involves frequent and regular communication. We set up regular meetings every Wednesday at 6pm, so we had a strong relationship by the end of the semester. I will definitely make communication a priority so that the client always feels involved and important.
Lessons Learned – Ann

I. Project Planning – We should focus on the main business processes and problems and plan around them to prevent scope creep. We brainstormed on their business processes and came up with a scholarship process that is not even their main business focus. Therefore, we focused on the registration and events process, and minimized our efforts on the scholarship process. In the future, I will keep in mind that “start focused, and stay focused” is very important.

II. First Client Meeting – We should clarify any concerns that our clients have. In our first client meeting, we failed to clarify our client’s concerns about data conversion and we almost lost our clients. In the future, I will make sure that the client’s concerns are addressed, or it will hurt our relationship with the client.

III. Business Case development – We should meet with all the main users if possible. We met with all the users at least once to make sure we understand their job functions and their needs for the information system. Although Taynay has already given us a lot of information about the business processes and everybody’s job functions, she may not know all the details about the users’ work processes and their needs and concerns about the information system. In larger organizations, it may be difficult to meet with all the users, but we shall at least meet with the main users once to make sure that their needs are addressed.

IV. Understanding technical and business opportunities and solutions – We should have a clear sense of how the new information system can solve the client’s business problems. We identified our client’s main business problems, which mainly have to deal with the manual processes that take up too much time. We then identified value-added features that can solve their problems and streamline their business processes. In the future, I will spend more time on brainstorming on value-added features that can benefit the clients.

V. As-is process modeling – We should be very clear about the client’s main business processes in order to model the processes accurately. After the client presented their business processes to us, we confirmed our understanding of their business processes with our clients to make sure we understood them correctly. In the future, I will remember to confirm my understanding of the business processes with my clients to make sure that I can have an accurate as-is model.

VI. Running JAD sessions – We need to identify the users’ needs and incorporate them into the design of the new information system. It would be helpful if all the key stakeholders were involved in the JAD session. When
we had our JAD session, Virginia was not involved in the session. Since Virginia will be using the new system to identify potential volunteers, it would be helpful if she attended the JAD session so that we can tailor this functionality more according to her needs. In the future, I will try to get as many main users involved in the JAD session as possible.

VII. Writing FURPS specifications – We should be very specific about the specifications, and make sure that we are able to gather the appropriate information from our client. When we first wrote our specifications, we were not specific enough, thus we do not know what specific information we should get from our client. In the future, I will write more specific specifications to make sure that all the information required are obtained from the client.

VIII. Risk reduction planning/risk-based prototyping – We should start our risk-based prototyping early. Risk prototyping takes a lot of time, and we failed to start early enough, therefore, we had to stay up a lot of times in order to meet our project timeline. In the future, I will make sure that risk prototyping starts early in the project and will have more people involved in it.

IX. Data modeling – We should try to keep the model as simple as possible. Complicated models are confusing and are difficult to build. We had a very complicated model in the early stages of our project, but we realized that it would be very difficult to build, thus we simplified our model to make it easier to build. It will also be easier for the client to use. In the future, I will make sure that data models are as simple as possible and not totally “out of control”.

X. Alpha testing – We should be more specific about the data that would be used in the test, so that our expected results would be more specific. We were too general about the test data, thus we cannot pinpoint the exact expected results of the tests. In the future, I will make sure that test data is very specific so I will know what to expect from the tests.

XI. Beta testing – We should be more specific on the criteria for evaluating passing. We were not specific enough on our criteria for passing/failing a test. Therefore, the beta testing was not thorough enough. In the future, I will make sure that pass/fail criteria are very specific to ensure that the tests are performed correctly and the system is really functioning appropriately.

XII. Transition planning – We should have a backup transition plan in place. We should plan for unexpected circumstances that will happen. During our scheduled data transition day, I was sick and was unable to go to the client’s office to do the data conversion. Since I am the only person in the team who knows how to do the conversion, we had to cancel and reschedule another day for conversion (but I’d rather cancel and reschedule
than to throw up in the client’s office). I should have taught the other team members how to do the conversion or have another day scheduled just in case something happens. In the future, I will make sure that backup plans are always available. (Another important lesson is not to eat too much greasy food if you know you don’t have a good gastrointestinal system.)

XIII. Construction phase – We should construct our project and iterations according to the importance of the business processes. We dealt with the registration process, which is the main business process in iteration 1 to make sure that we had enough time to fix the bugs. Since our client deal with student records everyday, it is important that we make sure this portion of the system is functioning correctly. In the future, I will make sure that the system is constructed according to the priority of different processes and different specifications.

XIV. Client relationship – We should constantly exchange emails and phone calls with our client to make sure that they understand what we are doing and that everybody’s on the same page. We emailed Taynay a lot to clarify any questions we have, or to clarify their questions and concerns. Frequent communication can definitely build a stronger client relationship. In the future, I will remember that the more communication we have with the client, the better the relationship will be.
Lessons Learned—Joe

I. Project Planning
I learned the importance of spending more time when developing a project plan so you can stick to it. We didn’t really know how much time and work was involved with each task associated with this project. We ended up having to deviate from the plan because it was not realistic. The time frames were not accurate and we didn’t have enough people assigned to certain tasks and we had too many people assigned to other tasks. In the future I will be able to rely on this experience and I will be in a better position to know what are realistic timetables and how to assign tasks equitably.

II. First Client Meeting
I learned the importance of making sure the client understood everything discussed at the meeting. The best way to do this is to ask the client if they have any questions or concerns, and to review what my understanding of the outcome of our meeting. We did not do this at our first meeting and we almost lost our client due to miscommunication.

III. Business Case Development
I learned the importance of understanding the business objectives and the business problems of an organization. We initially misunderstood the objectives and problems of YBS. We came to the conclusions based on what we were told by several employees. I think it may have been helpful to interview Pat first, to find out what YBS was all about instead of hearing it from her employees. Each person had there own interpretation of what they thought YBS was all about. If you don’t understand the objectives of the business, it will be difficult to develop a solution. In the future, I will make sure I speak with the executive sponsoring the project before I make an opinion about the goals and objectives of an organization.

IV. Understanding Technical and Business Opportunities and Solutions
This was a very important lesson. I am sure that my limited knowledge of the technical abilities of Access limited my creativity in finding solutions. In fact, initially I didn’t really feel confident that we would be able to develop a solution because of the entire group’s limited knowledge of Access. In the future, I will make sure I either have a working knowledge of the database I am working with, or someone on my team is knowledgeable about the system.

V. As-Is Modeling
I learned the importance of this step is to understanding what each person does in the business process. We met with each employee at YBS once, but we were not allowed to meet with them again. We were
not able to review the As-Is model with each employee. We reviewed the model with Taynay instead. We ended up not having a total understanding of what each employee did. In the future, I will be more aggressive and try to convince the client why it is important that I review the As-Is model with the employees who are actually being modeled.

VI. Running JAD Sessions
I learned the importance of having everyone involved in the JAD session. We didn’t even have ½ of the people present in our JAD session that we requested. Decisions were made based on information received from people who were not doing the tasks that we were discussing. We would have had an easier time understanding each employee’s needs if people who were doing those jobs were present.

VII. Writing FURPS
I learned the importance of having an feedback from the client when preparing this document. We didn’t get much feedback from our client when we were preparing our deliverables, especially this one. We made several requests for information from YBS to assist us in preparing this document, but we didn’t get most of it, so we had to make a lot of assumptions. In the future, I will make sure I sit down and review the document with the client. That way I can explain why it is important that I receive all the data I need so I don’t waste their time and money writing a document that could lead us in the wrong direction.

VIII. Risk Reduction Planning and Prototyping
I learned how important this is. We strayed from our risk reduction plan by not submitting all of our prototypes on time to YBS. This got us behind schedule because we thought we were designing what their employees wanted. Once they saw the prototypes, they requested several changes. Submitting the prototype to the client on time is very important, especially when you are not discussing the design and functionality with the people who will be using it. In the future, I will make sure some type of prototype is delivered to the client on time. This will avoid having to make major changes just before the final project is due.

IX. Data Modeling
I didn’t realize how important a good, simple data model/ERD was until we started linking tables. That’s when I realized how helpful the document really is. Ours was a little complex, so it made it difficult to understand what tables were linked together.

X. Alpha Testing
This was a very important lesson because without a good, effective alpha testing plan, you could end up delivering a system that does not work. That can be a very embarrassing situation. In the future, I will make sure my group adheres to the time schedule. That way we can make sure we get all of the bugs out of the system and still deliver the system on time.

XI. Beta Testing
I learned that we must emphasize the importance of the beta test to the client. We provided the client with a beta test form, but they didn’t use it. They just called or sent e-mails when they had questions. I don’t think all of their employees took the testing too seriously. Qiana is going to be the primary user of the system, but she felt she didn’t have time to test the system. In the future I will make sure the clients understand the importance of testing the system even if it is time consuming. If they don’t test it, we can’t modify it to meet their needs.

XII. Transition Phase
I learned the importance of reviewing this document with the client. You really won’t know what type of organizational changes the client will make after the system is installed if you don’t review this document with them. The type of changes will help you determine if your system is a success. In the future, I will review this document with my client.

XIII. Construction Phase
I learned the importance of understanding the functionality of the database. It was very time consuming and frustrating building this system because none of us had a lot of knowledge about Access. In the future, I will make sure I have access to someone who is constantly available to assist with the technical difficulties associated with designing an information system that I am not familiar with.

XIV. Client Relationship
I learned how important a good client relationship is after our first meeting. I thought everything went well until you told us YBS wanted to fire us. My heart sank. I realized then, the bottom line is that you must make the client happy no matter what, otherwise you may be out of work. In the future, I will make sure I understand the client’s needs and wants. That way I can cater to the client’s needs. The need we didn’t initially fulfill was their need to have confidence in us to provide a quality product that would actually solve their problems.
Students obtain application form from high school or YBS website

Fill Out Application, Mail or Turn in on Registration Day

Application Received on 1st Registration Day

Application Received on 2nd Registration Day

Application Received by Mail

Issues Student Number and ID Card

ID Card and Number Issued

Enters Application, Payment and Transcript Information

Information Entered

Qiana
Taynay

Records Volunteer Hours

Information Used to Determine "Volunteer of the Year"

Qiana

Records Attendance of Each Student

Attendance Info Used to Determine if Students Met Minimum Requirements
Scholarships Available

Enfers Scholarship Information

Scholarship Information Entered

Identifies Students Who Meet Criteria

Students Identified

Notifies Students of Scholarship Availability

Students Notified of Scholarship Availability
Students obtain application form from high school or YBS website

Student/Parent Fill Out Application, Mail or Turn in on Registration Day

Application Received on 1st Registration Day

Application Received on 2nd Registration Day

Application Received by Mail

Issues Student Number and ID Card

ID Card and Number Issued

Enters Application, Payment and Transcript Information

Information Entered

Finalized To-Be Model
Determines If Application Is Complete

Complete Application

Verifies GPA

GPA Verified

Determines If GPA Requirement Is Satisfied

GPA Requirement Satisfied

GPA Requirement Not Satisfied

Contacts Parent by Phone or Mail

Parent Contact

Requests for Additional Information

Additional Information/Materials Received

Completes Application Process

Student Enrolled

Sends Letters to Students

Student Put on Probation

Qiana

automate
automate

Taynay
Records Volunteer Hours

Information Used to Determine "Volunteer of the Year"

Records Attendance of Each Student

Attendance Info Used to Determine if Students Met Minimum Requirements

Qiana
Scholarships Available

Enters Scholarship Information

Scholarship Information Entered

Identifies Students Who Meet Criteria

Students Identified

Notifies Students of Scholarship Availability

Students Notified of Scholarship Availability
Young Black Scholars

Database Consulting Team:

Lita Acosta
Ann Chu
Joseph Pecot

April 24, 2001

Agenda

• Introduction
• Selection of Business Processes
• As-Is and To-Be Registration Process
• As-Is and To-Be Event Process
• Take-Aways
Business Problems

- Data Integrity
- Incomplete Data
- Inefficiencies

Selection of Business Process

- Registration
  - Foundation of Other Business Processes
  - Inefficiencies
Success Metrics

- Identifies Pertinent Missing Data
- Thorough Reports
- Accurate Calculation of GPA

Selection of Business Process

- Event
  - Data Integrity Issues
  - Inefficiencies
**Success Metrics**

- Reduction of data entry time
  - Student attendance

- Reduction in event coordination time
  - Volunteer availability

- Instantly find the 100 New Stars winner

**Benefits of Automated As-Is Registration Process**

- Efficient Data Input
- Transcript Information
- Payment Status
Value-Added to Registration Process

• Ensure Data Integrity

• Identify Missing Pertinent Student Information

• Calculate GPA

• Calculate Payment Balance

Registration Walk-Through

• Walk-Through /Role Play of To-Be Registration Process
**Benefits of Automated As-Is Event Process**

- Track Volunteer Hours
- Identify Possible Volunteers

**Value-Added to Event Process**

- Single Database
- Data Integrity
- Calculate Volunteer Hours
- Multiple Searches
Event Walk-Through

- Walk-Through /Role Play of To-Be Event Process

Take Aways

- Review Results of Meeting with Client
- Back-up Communication Plan