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Final Report

I. Executive Summary

The Youth Empowerment Project (YEP) established a business objective for itself of completing three Youth Leadership Academy programs a year. The organization has not been able to meet this objective due to a lack of funding. YEP, in particular the Program Director, is responsible for researching, analyzing and applying for all the grants necessary to fund their programs. After conducting a time versus responsibility survey, it was determined the Director was devoting too much time and energy toward completing tasks other than researching and applying for grants. In addition, the Associate Director was unable to assume some of these tasks due to the current responsibilities involved with that position. Two recommendations were made with the goal of increasing the time the Director allocated to grant research and application from 20% to 50%. Two processes were targeted because of the amount of the staff’s time consumed completing them. The first recommendation was to reassign a process consuming 25% of the Director’s time to the Program Coordinator. The second recommendation was the development of an information system using Microsoft Access to reduce the time the Associate Director and the Program Coordinator spent completing the two processes so they could assume some of the Director’s staff and management responsibilities.

The information system was developed using an iterative approach. Automation of the CARE process took place in the first iteration and the Community Service process followed in the second iteration. Portions of the CARE process were being handled outside of YEP, but with the introduction of the information system these functions were brought back into the organization because the system automated the entire process. Even with the reintroduction of these functions to the organization, the project objective of increasing the time available for the Director to research and apply for grants has been met. Moving the CARE process to the Program Coordinator resulted in an immediate increase in the amount of time the Director had available to apply for grants. In addition, the information system is projected to allow the Associate Director and the Program Coordinator to spend an additional 10% of each of their time working on issues the Director previously had to handle. The information system has also allowed us to provide YEP with some information previously not available or easily accessible. With the implementation of the information system, YEP will be able to track estimated versus actual supplies used in the CARE process. This will provide YEP with information crucial to planning paint needs. The information system will also provide YEP with a way to run demographic reports on those people who volunteer with the organization. This information will provide YEP with additional information for use in grant applications.
II. Business Case

2.1 Business Problems / Opportunities
The business issue currently facing the Youth Empowerment Project (YEP) is that while they have successfully provided eight rounds of their Youth Leadership Academy, they have been unable to provide the maximum number of leadership programs due to lack of funding. YEP is responsible for researching, analyzing and applying for all of the grants necessary to fund their programs. The Director of YEP is the only individual responsible for this task. Current processes only allow for the Director to spend 20% of his time obtaining grants. We have identified those elements of the Directors current job functions, which could be transferred to other individuals in the organization. The Director’s ability to spend additional time obtaining grants rests on the ability of these individuals to assume the functions being transferred in addition to their current functions. We selected two processes which require significant time to complete and that may impact YEP’s ability to increase the number of grant applications.

The first process is the CARE process which results in the production of a report required by the city as part of YEP’s graffiti removal contract with the city. This report requires approximately 25% of the Director’s time a month to complete. The responsibility for producing this report is currently being transferred to the Program Coordinator in an effort to free more of the Director’s time for grant proposals. We believe we can reduce the amount of time it will take the Program Coordinator to complete this process so he/she will have additional time available to assume some of the Director’s staffing issues or to be trained to research grants.

The second process is the Community Service process, which is currently the responsibility of the Associate Director. The Associate Director for YEP is responsible for several different functions at YEP. With the functions and tasks the position currently oversees, the Associate Director is not able to assume additional functions from the Director to allow more time for grant proposals. We evaluated the processes taking significant amounts of the Associate Director’s time. It was determined that the Community Service process, which consumed 20% of the position’s time, would be the best process on which to focus. Significant amounts of time were required to answer questions because information regarding an individuals’ community service hours were being maintained by hand. Rework could be eliminated and response time could be shortened for this process. This would free time for the Associate Director to assume some of the Director’s staffing issues or to be trained to research grants.

2.2 Proposed Technical and Business Solutions
In order to improve the operational efficiency of the organization, we have proposed to automate the two processes of concern; CARE and Community Service. We recommend that automation through a DBMS, in particular, by using MS Access. Further, we proposed restructuring certain job responsibilities in order to provide the Director with more time to apply for grants. Evaluation of current job responsibilities
was done by carrying out a time versus responsibility analysis for those individuals involved with the two processes to be automated.

During the evaluation process, we recognized an opportunity to add value to the organization by including in the information system, the ability to track and forecast their supply of paints, chemicals and boxes of trash bags. Further, we have established a demographics report, which can provide valuable information when applying for the larger grants.

2.3 Metrics
YEP’s primary goal is to increase funding for sustaining and expanding their activities. Since the Director is the only person who prepares grant applications, it is key to keep his time for grant applications. We recognized three steps to reach this goal.

(1) Increase the time allocated for grant application preparation
(2) Increase the amounts of grants applied for
(3) Increase the amounts of grants actually acquired

Although (2) and (3) are more direct measurable metrics of success, the downside of them is that it takes time to know the actual results, for example, six months to one year. Therefore in order to measure the success of this project immediately, we would like to target (1), the time allocated for grant application preparation as the measurable metric. Our goal is to increase the Director’s time for grant research and application from 20% of his time to 50% of his time. This metrics will be evaluated by interviewing the Director soon after the completion of our project.

The measures around the value added processes were less measurable than those used above. If the demographic information were used in only one grant proposal, the system would be a success. As for the supply information, it will take longer for YEP to become accustomed to using this information and it will take some time before they have enough information to help assist with seasonal fluctuations in use. If the system helps them reduce the number of physical inventory checks by three a purchase cycle, it will be successful in helping YEP’s efficiency.

2.4 Project Objectives
The Youth Empowerment Project (YEP) has determined that they need a database management system (DBMS) to streamline their current processes. The strategy of YEP is to increase the time allocation of Program Director for preparing grant applications by reducing his other responsibilities through reengineering work processes and achieving operational efficiency with the new DBMS. This system is intended to increase the percentage of time Program Director spends on researching and proposing grants from 20% to 50%.
2.5 Context Diagram of System
YEP does not have a legacy system in place currently so this system does not need to relate to or interface with other systems within YEP. Therefore, a context diagram does not apply for our project.

2.6 Actual Return-On-Investment

2.6.1 Cost-Benefit Analysis
Although return-on-investment is a precise and elaborate metrics of cost-benefit analysis, considering the nature of our IS consulting project such as relatively conceptual assumptions and unstable grant application processes, we decided to use only payback period to measure the economic feasibility of this project.

In this project YEP spends totally $38,000 on consulting fee as well as computer hardware and software purchases while it gains $75,000 difference in funding due to the increase number of grant wins. As a result, this project has the payback period of 6 months 2days. This means that after spending the investment, YEP can collect the same amount of money in just 6 months. Thereafter, YEP can enjoy the operational excellence as its infrastructure until it decides to develop another database. Though technological advances are very rapid nowadays and this system will become obsolete soon or later, we believe this project is still a good investment because of its very short payback period.

2.6.2 Costs
The calculations of costs are as follows.

2.6.3 Benefits
Compared to the straightforward calculations of costs shown above, those of benefits are somewhat troublesome due to the complex premises. There are three factors to be considered. First, according to former Program Director Mark Anthony Wilson, the range of amount of one grant is relatively large, between $25,000 and $100,000. Second, he used to apply for 10 grants per year by using his 20 % of work time. He says, however, that if he can allocate 50% of his time to the preparation of grant applications, he could apply for 25 grants per year. Third, he estimates that the probability of grant approval is between 20% and 50%.

Given these broad information, we decided to focus on minimum benefits because if we justify the project feasibility under the minimum benefit assumptions, we can verify the whole cases. Thus, we chose $25,000 as the average grant amount and 20% as the average probability of grant approval. Although the numbers are very hypothetical, we used 20% for as-is time allocation for grant applications and 50% for to-be. The calculations are shown below.
2.6.4 Analysis

Payback period calculation is as follows.

Payback Period = 6 months 2 days = $38,000 / $75,000 * 12 months
III. Project Plan Used
3.1 Development Methodology

<table>
<thead>
<tr>
<th>GENERAL WBS</th>
<th>Start Date</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS-IS Process Model&quot;</td>
<td>Tue 1/19/01</td>
<td>Tue 1/30/01</td>
</tr>
<tr>
<td>Update and Prepare Project Plan</td>
<td>Tue 1/19/01</td>
<td>Tue 2/20/01</td>
</tr>
<tr>
<td>Business Case Update &amp; Preparation</td>
<td>Tue 1/23/01</td>
<td>Tue 2/13/01</td>
</tr>
<tr>
<td>Begin &amp; Update TO-BE Process Model</td>
<td>Tue 1/30/01</td>
<td>Tue 2/06/01</td>
</tr>
<tr>
<td>Prototyping for iteration # 1</td>
<td>Tue 2/06/01</td>
<td>Tue 2/20/01</td>
</tr>
<tr>
<td>Business Case</td>
<td></td>
<td>Tue 2/13/01</td>
</tr>
<tr>
<td>Update &amp; Prepare Transition Plan</td>
<td>Tue 2/06/01</td>
<td>Tue 2/27/01</td>
</tr>
<tr>
<td>New Project Plan</td>
<td></td>
<td>Tue 2/20/01</td>
</tr>
<tr>
<td>Update &amp; Prepare Spec. Doc. For Iteration # 1</td>
<td>Tue 2/20/01</td>
<td>Tue 2/27/01</td>
</tr>
<tr>
<td>Update &amp; Prepare Risk Analysis/status sheets</td>
<td>Tue 2/20/01</td>
<td>Tue 2/27/01</td>
</tr>
<tr>
<td>Convert &amp; Complete Prototypes to iteration # 1</td>
<td>Tue 2/20/01</td>
<td>Tue 3/06/01</td>
</tr>
<tr>
<td>Spec Doc. For Iteration 1</td>
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<td>Tue 2/27/01</td>
</tr>
<tr>
<td>Update &amp; Prepare for Alpha Test Plan for iteration # 1</td>
<td>Tue 2/27/01</td>
<td>Thurs 3/08/01</td>
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<td>Tue 3/06/01</td>
</tr>
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<td>Alpha Test Plan for iteration # 1 conducted at site</td>
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<td>Fri 3/09/01</td>
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<tr>
<td>Begin &amp; Update iteration # 2 spec. doc</td>
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<td>Tue 3/27/01</td>
</tr>
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<td>Tue 3/27/01</td>
</tr>
<tr>
<td>Update Transition Plan and Project Plan</td>
<td>Tue 3/20/01</td>
<td>Tue 3/27/01</td>
</tr>
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<td>Iteration 2 Spec. Doc.</td>
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<td>Tue 3/27/01</td>
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<td>Thurs 4/12/01</td>
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<td>Thurs 4/12/01</td>
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<td>Update Final Transition Plan</td>
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<td><strong>FINAL REPORT</strong></td>
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<td>Mon 5/7/01</td>
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### 3.2 GANTT Chart

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<th>Start Date</th>
<th>Completion Date (Actual)</th>
<th>Comments</th>
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<tbody>
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<td>First Client meeting</td>
<td>Team and client</td>
<td>Tue 1/19/01</td>
<td>Tue 1/19/01</td>
<td>Focused on current as-is process.</td>
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<td>&quot;&quot;AS-IS&quot;&quot; Process Model&quot;</td>
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<td>Tue 1/19/01</td>
<td>Tue 2/20/01</td>
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<tr>
<td>Business Case Update &amp; Preparation</td>
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<td>Tue 2/13/01</td>
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<td>Client Meeting</td>
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<td>Fri 1/26/01</td>
<td>Fri 1/26/01</td>
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</tr>
<tr>
<td>Begin &amp; Update TO-BE Process Model</td>
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<td>Tue 2/06/01</td>
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</tr>
<tr>
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<td>Tue 2/06/01</td>
<td>Tue 2/20/01</td>
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<tr>
<td>Client Meeting</td>
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<td>Fri 2/09/01</td>
<td>Fri 02/09/01</td>
<td>JAD Session conducted with stakeholders &amp; users</td>
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<td>Business Case</td>
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<tr>
<td>Update &amp; Prepare Transition Plan</td>
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<td>Tue 2/06/01</td>
<td>Tue 2/27/01</td>
<td></td>
</tr>
<tr>
<td>New Project Plan</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1.2: Generate City Report</td>
<td></td>
<td></td>
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<td>T1.2.3: Summary of Graffiti Removal</td>
<td>Barbara</td>
<td>Tue 2/15/01</td>
<td>Tue 2/27/01</td>
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<td>Barbara</td>
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<td>Tue 2/27/01</td>
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<td>Tue 2/27/01</td>
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</tr>
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<td>Tue 2/20/01</td>
<td>Tue 3/06/01</td>
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<td>T1.2: Generate City Report</td>
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<td>Vinceth</td>
<td>Tue 2/20/01</td>
<td>Tue 2/27/01</td>
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<td>Vinceth</td>
<td>Tue 2/20/01</td>
<td>Tue 2/27/01</td>
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<tr>
<td>Spec Doc. For Iteration 1</td>
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<td>Fri 2/23/01</td>
<td>Fri 2/23/01</td>
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<td>Tue 2/27/01</td>
<td>Thurs 3/08/01</td>
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<td>TASK</td>
<td>By Who</td>
<td>Start Date</td>
<td>Completion Date (Actual)</td>
<td>Comments</td>
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<td>Alpha Test Plan for iteration # 1</td>
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<td>Tue 03/06/01</td>
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<td>Team</td>
<td>Fri 3/09/01</td>
<td>Fri 3/09/01</td>
<td>Presented Iteration # 1. Gained Feed-back</td>
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<td>Vinceth</td>
<td>Fri 3/09/01</td>
<td>Mon 4/2/2001</td>
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<td>Table &amp; Report</td>
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<td>*Query &amp; Calculation needs to be re-visited.</td>
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<td>*Link Purchased materials yet to come.</td>
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<td>Tue 3/27/01</td>
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<td>Kiyo</td>
<td>Tue 3/20/01</td>
<td>Mon 4/2/2001</td>
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<td>*Volunteer Log Sheet Completed</td>
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<td>Tue 3/27/01</td>
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<td>T1.3: Generate Volunteer Referral Report</td>
<td>Vinceth</td>
<td>Tue 3/20/01</td>
<td>Mon 4/2/2001</td>
<td>*Remaining hours Calculation.</td>
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<tr>
<td>T1.5.1: Generate Invoice Report</td>
<td>Barbara</td>
<td>Tue 3/20/01</td>
<td>Mon 4/2/2001</td>
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<td></td>
<td>Vinceth</td>
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<td>Team and client</td>
<td>Fri 3/24/01</td>
<td>Fri 3/24/01</td>
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<td>Presented business plan to new director.</td>
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<td>Iteration 2 Spec. Doc.</td>
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<td>Tue 3/27/01</td>
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<td>Tue 3/27/01</td>
<td>Th 4/12/01</td>
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<td>Tue 3/27/01</td>
<td>Th 4/12/01</td>
</tr>
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<td>T1.6: Link CARE &amp; Community Processes</td>
<td>Team</td>
<td>Fri 03/30/01</td>
<td>Mon 4/2/2001</td>
<td>*Still completing Community Service Process.</td>
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<td>*Final Touches on CARE Process (RETAG).</td>
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<td>Vinceth</td>
<td>Mon 4/2/2001</td>
<td>Mon 4/2/2001</td>
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<td>Tue 04/02/01</td>
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<td>Prepare &amp; Update Beta Test Plan</td>
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<td>Th 4/26/01</td>
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<td>Fri 4/06/01</td>
<td>Presented iteration # 2</td>
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<tr>
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<td>Fri 4/13/01</td>
<td>Fri 4/13/01</td>
<td>Gained feed-back from iteration # 2.</td>
</tr>
<tr>
<td>Detailed Transition &amp; Beta Plan</td>
<td></td>
<td>Tue 4/17/01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1.9: Class Presentation</td>
<td>Team</td>
<td>Tue 4/17/01</td>
<td>Tue 4/24/01</td>
<td>Completed and Tested.</td>
</tr>
<tr>
<td>T1.8: Transition to YEP</td>
<td>Team</td>
<td>Tue 4/17/01</td>
<td>Fri 4/20/01</td>
<td>Completed and Tested.</td>
</tr>
<tr>
<td>Client Meeting</td>
<td>Team</td>
<td>Fri 4/20/01</td>
<td>Fri 4/20/01</td>
<td>Gained feed-back from final information system… training begins</td>
</tr>
<tr>
<td>T2.0: Training Staff</td>
<td>Team</td>
<td>Mon 4/23/01</td>
<td>Fri 4/27/01</td>
<td></td>
</tr>
<tr>
<td>T2.1: Miscellaneous work</td>
<td>Team</td>
<td>Mon 4/30/01</td>
<td>Th 5/03/01</td>
<td>Minor work on system.</td>
</tr>
<tr>
<td>FINAL REPORT</td>
<td>Team</td>
<td>Fri 1/19/01</td>
<td>Mon 5/7/01</td>
<td></td>
</tr>
</tbody>
</table>
### 3.3 Responsibility Chart

- **R** – Reviews Completed Tasks.
- **E** – Executes Completed Tasks (Alpha Test Iteration # 1).
- **S** – Supports & Provides Assistance during execution.

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Barbara</th>
<th>Kiyo</th>
<th>Vineeth</th>
<th>Larry</th>
<th>Erika</th>
<th>Fernando</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliverable 1</td>
<td>R</td>
<td>R</td>
<td>E</td>
<td>n/a</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Deliverable 2</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>n/a</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Deliverable 3</td>
<td>R</td>
<td>R</td>
<td>E</td>
<td>n/a</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Deliverable 4</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>n/a</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Deliverable 5</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>n/a</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Test Daily Work Log Information Update</td>
<td>R</td>
<td>R</td>
<td>E</td>
<td>R</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Test CARE Process Report Production</td>
<td>R</td>
<td>R</td>
<td>E</td>
<td>R</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Test CARE Process Switchboard</td>
<td>S</td>
<td>S</td>
<td>R/E</td>
<td>R</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Initial Test of Volunteer Log Form</td>
<td>R</td>
<td>R/E</td>
<td>R</td>
<td>R</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Deliverable 6</td>
<td>R/E</td>
<td>R/E</td>
<td>R/E</td>
<td>S</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Deliverable 7</td>
<td>R</td>
<td>R/E</td>
<td>R/E</td>
<td>R</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Deliverable 8</td>
<td>R/E</td>
<td>R/E</td>
<td>R/E</td>
<td>S</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Deliverable 9</td>
<td>R/E</td>
<td>R/E</td>
<td>R/E</td>
<td>S</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Volunteer Log Form Update</td>
<td>R/E</td>
<td>R/E</td>
<td>R/E</td>
<td>R</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Community Process Report Production</td>
<td>R/E</td>
<td>R/E</td>
<td>R/E</td>
<td>S</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Supply Inventory Report &amp; Query</td>
<td>R/E</td>
<td>R</td>
<td>R/E</td>
<td>S</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Final Touches CARE Process</td>
<td>R/E</td>
<td>R</td>
<td>R/E</td>
<td>S</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Switchboard</td>
<td>R</td>
<td>R</td>
<td>R/E</td>
<td>S</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Presentation</td>
<td>R/E</td>
<td>R/E</td>
<td>R/E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transition Plan</td>
<td>R/E</td>
<td>R/E</td>
<td>R/E</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>YEP Training</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>R</td>
<td>S</td>
<td>S</td>
</tr>
</tbody>
</table>
3.4 Risk Management Plan

Designing and implementing a new system’s architecture involves a certain amount of risk. These risks are best solved in the early phases of a project, but solving them is a continual process, and therefore, it should be re-visited and revised.

The following table lists the risks involved with the new project plan; further, it details a risk reduction plan. A contingency plan is included, as well as the current status of the risks.

<table>
<thead>
<tr>
<th>A. Description of Risk</th>
<th>B. Likelihood of Risk Materializing</th>
<th>C. Consequence / Effect of Risk</th>
<th>Priority (BXC)</th>
<th>Risk Reduction Plan</th>
<th>Contingency Plan</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 1.1 Difficulty linking tables relating to the different processes</td>
<td>High</td>
<td>If tables cannot be linked, the processes will need to be maintained separately requiring the maintenance of redundant volunteer data to support the required reports.</td>
<td>High</td>
<td>Team members will be researching ways to link tables prior to release of Iteration #1. Prototyping and testing will be completed prior to April 1st. TA will be asked for help on technical issues.</td>
<td>Separate data will be maintained.</td>
<td>Completed</td>
</tr>
<tr>
<td>R 1.2 Creating the query required to combine the substrate types into the groupings required in the Summary of Graffiti Removal report.</td>
<td>Low</td>
<td>Current report format for Summary of Graffiti Removal report will not be able to be duplicated (Functional Req. # 2.5.3).</td>
<td>Medium</td>
<td>Barbara will be asking TA for assistance as well as researching independently how to achieve the current groupings. Issue should be resolved by March 9th or pushed to Iteration #2.</td>
<td>Another format will need to be presented to YEP for the report. If this is unacceptable, the information will have to be used to manually complete the required format.</td>
<td>Completed</td>
</tr>
<tr>
<td>A. Description of Risk</td>
<td>B. Likelihood of Risk Materializing</td>
<td>C. Consequence / Effect of Risk</td>
<td>Priority (BXC)</td>
<td>Risk Reduction Plan</td>
<td>Contingency Plan</td>
<td>Status</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------</td>
<td>------------------------------------</td>
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<td>-------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>R 1.3 Creating the queries necessary to count the two types of light poles and show the counts by corridor including null values.</td>
<td>Low</td>
<td>Current report format for Monthly Light Standards Report will not be able to be duplicated (Functional Req. # 2.5.5).</td>
<td>Medium</td>
<td>Barbara will be asking TA for assistance as well as researching independently how to achieve the current format. Issue should be resolved by March 12th or pushed to Iteration #2.</td>
<td>Another format will need to be presented to YEP for the report. If this is unacceptable, the information will have to be used to manually complete the required format.</td>
<td>Completed</td>
</tr>
<tr>
<td>R 1.4 Duplicating the Invoice report format</td>
<td>Medium</td>
<td>Current report format for Operation Clean Sweep Invoice will not be able to be duplicated (Functional Req. # 2.5.2).</td>
<td>Medium</td>
<td>Barbara and Vineeth will be asking TA for assistance as well as researching independently how to achieve the current groupings. Issue should be resolved by March 15th or pushed to Iteration #2.</td>
<td>Another format will need to be presented to YEP for the report. If this is unacceptable, the information will have to be used to manually complete the required format.</td>
<td>Completed</td>
</tr>
<tr>
<td>R 1.5 Creating a form that will accurately enter data into multiple tables.</td>
<td>Medium</td>
<td>It will be extremely difficult for the client to use the database without this interface (Functional Req. #s 2.1, 2.2, 2.3).</td>
<td>High</td>
<td>Barbara and Kiyo are researching, creating, and testing forms for the processes they are working on using limited data to determine if the forms are working properly. This should be completed by March 15th or moved to Iteration #2.</td>
<td>If the forms cannot be created, additional training will need to be provided to YEP so they are properly trained on data entry. A user guide will also need to be developed to assist later users we are unable to train or for later reference for trained users.</td>
<td>Completed</td>
</tr>
<tr>
<td>A. Description of Risk</td>
<td>B. Likelihood of Risk Materializing</td>
<td>C. Consequence / Effect of Risk</td>
<td>Priority (BXC)</td>
<td>Risk Reduction Plan</td>
<td>Contingency Plan</td>
<td>Status</td>
</tr>
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</tr>
<tr>
<td>R 1.6 Creation of a switchboard to help navigate the system</td>
<td>Low</td>
<td>YEP will require some additional training to ensure they know all of the reports and forms and where to find them.</td>
<td>Low</td>
<td>Vineeth is researching how to set the switchboard up and will request help from the TA as needed. This should be completed by March 15th or moved to Iteration #2.</td>
<td>If the switchboard cannot be created, additional training will need to be provided to YEP so they are properly trained on where the reports, forms, and reports are located and how to access them. A user guide will also need to be developed to assist later users we are unable to train or for later reference for trained users.</td>
<td>Completed.</td>
</tr>
<tr>
<td>R.1.7 Create an interface that allows the user to update to date in the queries so the reports can be run for any time period.</td>
<td>High</td>
<td>This interface will allow changes to be made to the queries without going into the design view of the query. This will be easier for the client and provide less of an opportunity for there to be any unwanted changes made to the query (Function Req. #2.4, 2.5 (all), 2.6).</td>
<td>Medium</td>
<td>Vineeth is researching this and will request help from the TA as needed. This function must be developed and tested prior to April 5th to be included in the release of Iteration #2.</td>
<td>If the interface cannot be created, additional training will need to be provided to YEP so they are properly trained on where to change the dates in the queries and which queries require the changes. Information will need to be included in a user guide.</td>
<td>Completed</td>
</tr>
<tr>
<td>A. Description of Risk</td>
<td>B. Likelihood of Risk Materializing</td>
<td>C. Consequence / Effect of Risk</td>
<td>Priority (BXC)</td>
<td>Risk Reduction Plan</td>
<td>Contingency Plan</td>
<td>Status</td>
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<tr>
<td>------------------------</td>
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<td>--------</td>
</tr>
<tr>
<td>R.1.8 Calculating buckets of paint remaining to track current estimate of paint by color.</td>
<td>High</td>
<td>Value added portion of database will not be as useful as currently planned.</td>
<td>Medium</td>
<td>Vineeth worked this issue and completed with release of Iteration #2.</td>
<td>YEP can maintain their current supply tracking process.</td>
<td>It was only realized with the final release that the query and the reports were not providing the information we had hoped.</td>
</tr>
</tbody>
</table>

### Development Team Process Risks

<table>
<thead>
<tr>
<th>Risk Type</th>
<th>Likelihood</th>
<th>Description</th>
<th>Priority</th>
<th>Risk Reduction Plan</th>
<th>Contingency Plan</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 2.1 Members Left Behind</td>
<td>Medium</td>
<td>Workload for other members increase and project is delayed.</td>
<td>Medium</td>
<td>Internal meetings with team members as well as meetings with Professor and/or TA.</td>
<td></td>
<td>Prioritize needs and split jobs.</td>
</tr>
<tr>
<td>R 2.2 Unequal Workload</td>
<td>Medium</td>
<td>Workload for other members increase.</td>
<td>Medium</td>
<td>Re-evaluate work load before deliverable date</td>
<td>Complete deliverable consult with members</td>
<td>In progress</td>
</tr>
<tr>
<td>R 2.3 Meetings Providing input</td>
<td>Medium</td>
<td>Lack of important input</td>
<td>High</td>
<td>Facilitate meetings so members input is heard</td>
<td></td>
<td>Find and rectify problem</td>
</tr>
</tbody>
</table>

Currently working
<table>
<thead>
<tr>
<th>A. Description of Risk</th>
<th>B. Likelihood of Risk Materializing</th>
<th>C. Consequence / Effect of Risk</th>
<th>Priority (BXC)</th>
<th>Risk Reduction Plan</th>
<th>Contingency Plan</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 3.1 Software not present</td>
<td>Medium</td>
<td>Prototype testing on location not possible</td>
<td>Medium</td>
<td>Deadline of March 2\textsuperscript{nd} set for purchase of software with weekly follow-ups to be completed by the team during client meetings. Professor will asked to assist with this issue if not resolved by release of Iteration #1 on March 16\textsuperscript{th}.</td>
<td>Prototyping will continue with presentations being provided using a laptop. Biweekly meetings will be held on campus so the client can use the application. If not resolved by end of project, application will be provided to client on CD for future use.</td>
<td>Completed. New computer and Access 2000 at location as of Friday, March 23\textsuperscript{rd}.</td>
</tr>
<tr>
<td>R 3.2 Client expectation too high</td>
<td>Medium</td>
<td>Client dissatisfaction</td>
<td>Medium</td>
<td>Weekly meetings with the client will enable each team member to discuss the abilities and scope of the process they are working on with regard to what will be provided in the final deliverable.</td>
<td>Refer to copies of deliverables with client approval to reemphasize the scope of the project.</td>
<td>Continual discussion</td>
</tr>
<tr>
<td>R 3.3 New user</td>
<td>High</td>
<td>Change in interface</td>
<td>Medium</td>
<td>A list of users and their computer skills will be requested before April 7\textsuperscript{th} to ensure the database interface will meet the needs of all of the users.</td>
<td>Create a simple user manual outlining basic functions and steps for processing set reports.</td>
<td>Have been working with the client. Changes in staffing have delayed completion of this portion of the project.</td>
</tr>
<tr>
<td>Risk Description</td>
<td>Likelihood</td>
<td>Consequence</td>
<td>Priority (BXC)</td>
<td>Risk Reduction Plan</td>
<td>Contingency Plan</td>
<td>Status</td>
</tr>
<tr>
<td>------------------</td>
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<td>-----------------</td>
<td>--------</td>
</tr>
<tr>
<td>R 4.1 Problems converting existing records</td>
<td>High</td>
<td>Database will not be able to produce past reports and some individuals will have missing information in the database. It is possible individuals in the middle of completing their court required hours may not be able to be input to the system.</td>
<td>High</td>
<td>Through weekly client meetings, client is aware of the data needs for the system and has been asked to gather the information. The client will be responsible for entering all data to the database. Client will have database to begin data entry the beginning of April.</td>
<td>Client may have to start use of the database at the beginning of the month for the CARE project and only new rather than existing volunteers will be included in the database.</td>
<td>Completed</td>
</tr>
<tr>
<td>R 4.2 Training</td>
<td>Medium</td>
<td>If training needs are not met, there is potential the system will not be used the way it was designed and will not provide the benefits it was intended to.</td>
<td>Medium</td>
<td>Create as many simplified user interfaces as possible. The current training schedule is 2 hours the day Iteration #2 is delivered to the client. If the users are not comfortable with the system after the completion of training, another training session will be scheduled for the next week. Comfort level will be determined through questioning the users.</td>
<td>To deal with initial training questions, users will be able to contact team members for assistance over the phone. If questions persist, a training manual will be developed which addresses the most frequently asked questions.</td>
<td>Completed</td>
</tr>
<tr>
<td>A. Description of Risk</td>
<td>B. Likelihood of Risk Materializing</td>
<td>C. Consequence / Effect of Risk</td>
<td>Priority (BXC)</td>
<td>Risk Reduction Plan</td>
<td>Contingency Plan</td>
<td>Status</td>
</tr>
<tr>
<td>-----------------------</td>
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<td>---------------------------------</td>
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<td>--------------------</td>
<td>-----------------</td>
<td>--------</td>
</tr>
<tr>
<td>R 4.3 Delayed Roll-out</td>
<td>Low</td>
<td>Client will not be given enough time to evaluate the system, ask for additional training, or find issues with the programming.</td>
<td>High</td>
<td>Team has developed a schedule for release of Iteration #2 which will be evaluated every 4 days to determine where there are release concerns and where the risks for delay are. Team will communicate these risks and reallocate work to meet deadlines.</td>
<td>Team will meet for the weekend of April 31st to work through all issues together if members cannot meet their individual goals.</td>
<td>Currently in progress.</td>
</tr>
<tr>
<td>R 4.4 Process changes</td>
<td>Medium</td>
<td>Few process changes will be required. If the new work log format is not used by the crews on a daily basis, potentially there will be missing information from the database.</td>
<td>Medium</td>
<td>A new work log was created by Vineeth and supplied to YEP for immediate use. By starting this process before the database was presented, the crews are in the habit of utilizing the new format.</td>
<td>Crews will need to fill out missing information at the end of the day if the new format is not used.</td>
<td>Completed.</td>
</tr>
<tr>
<td>R 4.5 Problems with beta testing by client</td>
<td>High</td>
<td>Delayed beta testing by the client means there is not sufficient feedback regarding any additional system needs or discovered problems with the application.</td>
<td>High</td>
<td>See Risk Reduction plan R 3.1. Client cannot beta test until they have the software to run the application. As soon as the software and hardware are ready to be used, we will install the application for beta testing.</td>
<td>Client will have to beta test with limited data using an off site facility.</td>
<td>Client has software and hardware on location, but it is not ready to go yet. Client will be prepared to begin beta testing by April 7th.</td>
</tr>
</tbody>
</table>
IV. Analysis of As-Is Process

From many business processes that YEP possesses, we selected four key business processes: volunteer, CARE, supply / inventory, and grant application. In terms of success metrics, we use the time allocation of Program Director for the preparation of grant applications. He uses only 20% of his time for grant application. We feel that his time allocation for grant could be increased through streamlining business processes with database and shifting his job responsibilities to other members.

4.1 As-Is Volunteer Process
Volunteer process has four sub-processes: (1) registration, (2) daily work, (3) inquiry, letter, and report, and (4) daily record (See Appendix A.1). This entire process is how to manage volunteer information.

4.1.1 Registration
Before volunteers start working for YEP, they have to register, with submitting applications. Ms. Melina Robeldo currently files these applications as paper forms. Since applications contains basic information on each volunteer such as name and address, these data should be in the database.

4.1.2 Daily Work
When volunteers work at YEP, they fill in Sign-In Sheet. This process will be unchanged.

4.1.3 Inquiry, Letter, and Report
Some volunteers have to complete required hours. Thus, they sometimes ask YEP how many hours they have completed at that point. After completing such hours, YEP has to provide volunteers with letters or Volunteer Referral Forms. Currently, each time these requests are made, YEP manually calculate hours worked. This process is a good candidate for automation.

4.1.4 Daily Record
At the end of each workday, Ms. Robeldo files Sign-In Sheet as paper form. To calculate hours worked automatically, these data should be input in database.

4.2 As-Is CARE Process
CARE process has three sub-processes: (1) cleaning, (2) work log, and (3) report (See Appendix A.2). Since YEP contracted cleaning activities with Los Angeles City, it has to submit monthly reports. Thus, this entire process is directed to collect cleaning activity data and integrate them into City reports.

4.2.1 Cleaning
Every weekday morning, three crews head for assigned area to remove graffiti or to collect trash. Although crews themselves search graffiti, some information is given as request through City or Headquarter. This request information is filed as paper base. Since whether an actual graffiti removal activity is based on a request or not is required to be included in City report, these data should be input in the database.

Each time a crew clean a worksite, it records the activity information such as address and square footage cleaned. This basic process, however, will be unchanged.

4.2.2 Work Log
Currently YEP shares workloads of inputting work log with headquarter. Every workday, YEP send hand-written work logs to headquarter by fax. Headquarter types them in Excel everyday and sends hardcopies back at the end of month for YEP to generate City reports. YEP plans to do this process by itself after the introduction of the database.

4.2.3 Report
Every month YEP submits four City reports: graffiti removal project invoice, summary of graffiti removal, CARE clean-up summary, and light standards report. It is a very cumbersome work to calculate many numbers, such as the total square footage of graffiti removed in this month, without a database.

4.3 As-Is Supply / Inventory Process
Supply / inventory process is how to manage paints, chemicals and other stuffs necessary for CARE activities (Appendix A.3). In supply / inventory process, there are three key trigger points: City-supply pick-up day, every Friday, and every 6 week. First, YEP picks up paints provided by City when City notices. Second, every Friday, Mr. Fernando Miranda physically checks the inventory, and if some inventories are very short, crew leaders make minor purchase. Third, every 6 weeks crew leaders make major purchase.

When these supply / inventory changes are made, Mr. Miranda records them in CARE paint request form. This data could be transferred to the database and the interval of physical inventory check could be increased from 1 week to 6 weeks, capitalizing on the database.

4.4 As-Is Grant Application Process
Grant application process consists of three main sub-processes: researching available grants, producing necessary statistics, and application write-up (See Appendix A.4). Among these sub-processes, the second sub-process of producing necessary statistics is a candidate of automation. Depending on the requirements of each grant, Program Director Larry Foy has to collect data from existing files at YEP to produce statistics.
Once all data are stored in a single database, the productivity of producing statistics would increase substantially. We see this feature as a potential value-added.

V. Presentation of To-Be Process
As we introduced in the previous chapter, we worked for four key business processes at YEP: volunteer, CARE, supply/inventory, and grant application.

As of May 7, we completed the development of a database, introduced and tested the database, and provided for training sessions. YEP has just started using this new database. For example, it input CARE data of five days, about 300-worksite information. YEP, however, has not yet used this database for generating actual city reports, because it is necessary to input the whole one-month information. Thus, in terms of realization of to-be process, YEP is still in the transition phase.

5.1 To-Be Volunteer Process
Volunteer process has four sub-processes: (1) registration, (2) daily work, (3) inquiry, letter, and report, and (4) daily record (See Appendix B.1). Except daily work process, all processes are changed along with the introduction of our database.

5.1.1 Registration
After receiving volunteer applications, Ms. Melina Robeldo will input the data on these applications into the database. These data will be the basis of increasing efficiencies in other processes.

5.1.2 Daily Work
When volunteers work at YEP, they fill in Sign-In Sheet. This process will be unchanged.

5.1.3 Inquiry, Letter, and Report
Once the database stores the data, it will be very easy for Ms. Robeldo to show hours worked for each volunteer. Although writing a letter remains a manual process, generating Volunteer Referral Form will be automated.

5.1.4 Daily Record
At the end of each workday, Ms. Robeldo will input the data of Sign-In Sheet. This process is also the basis of automation.

5.2 To-Be CARE Process
CARE process has three sub-processes: (1) cleaning, (2) work log, and (3) report (See Appendix B.2). All three sub-processes are changed with the introduction of a database.

5.2.1 Cleaning
After receiving graffiti removal requests from LA City or Headquarter, Ms. Robeldo will input the data into the database. Other processes are the same as the as-is process.
5.2.2 Work Log
Ms. Robeldo will input the daily work log into the database. The assistance of Headquarter will be eliminated.

5.2.3 Report
Every month YEP will generate four City reports automatically from the database. This change will substantially reduce the workload of YEP.

5.3 To-Be Supply / Inventory Process
Supply / inventory process is how to manage paints, chemicals and other stuffs necessary for CARE activities (Appendix B.3).

With the use of formula, 1,000 square footage of graffiti removal equal 1 bucket of paint, the database will calculate the status of inventory in the daily basis, based on CARE data. As a result, the interval of physical inventory check will be increased from 1 week to 6 weeks. This change will offer Mr. Miranda a good amount of time saving.

5.4 To-Be Grant Application Process
Although grant application process is a good candidate of value added, we did not include specific features for generating statistics in the database such as queries and graph generation. YEP, however, will find this database useful for searching basic statistics needed to produce grant applications, because the data are already stored. It will take another project to identify what kinds of statistics are effective to produce good grant applications and to include such features in the database.
VI. Specifications
6.1 Specification Documents

6.1.1 Functionalities

6.1.1.1 Maintain Work Log
- The system shall display a Work Log screen upon MENU option activation containing the following fields:
  - District Number
  - Corridor Name
  - Date
  - Start Time
  - End Time
  - Crew Leader
  - Project Address
  - Ownership
  - Square Footage
  - Bag Count

- The system shall allow edits in all Work Log fields.
- The system shall save all new information upon the SAVE command and commit the changes to the Work Log database.

Original Priority: Iteration 1
Realized: Iteration 1
Changes to Specification: None

Query Language: A query was not required to meet this specification.
6.1.1.2 Maintain Supply

- The system shall display a Supply screen upon MENU option activation containing the following fields:
  - Date
  - Supply Type
  - Paint Color / Chemical
  - Target (Bucket)
  - Have (Bucket)
  - Need (Bucket)
  - Square Footage Used
  - Bag Count

- The system shall allow edits in Supply fields. For example, users will edit fields when they purchase paint or received it from LA city.
- The system shall update Supply fields when users enter the information of supply usage through Work Log entry command.
• The system shall save all new information upon the SAVE command and commit the changes to the Supply database.

Original Priority: Iteration 2
Realized: Iteration 2
Changes to Specification: Buckets have and buckets needed are calculation fields not requiring data entry. Since these are calculated fields, they will become part of the reports rather than data entry/information maintenance.

Query Language: A query was not required to meet this specification.

User Interfaces:
6.1.1.3 Maintain Request
- The system shall display a Request screen upon MENU option activation containing the following fields:

- Date Requested
- Last Name
- First Name
- Phone Number
- Relationship to Property
- Request Taken by
- Type of Property
- Street Address
- Cross Street
- Type of Structure
- Removal Type
- Date Request Referred to Agency
- Data Entry Date
- Completion Date
- Type of Service
• The system shall allow edits in Request fields.
• The system shall save all new information upon the SAVE command and commit the changes to the Request database.

Original Priority: Iteration 2
Realized: Iteration 2
Changes to Specification: No major changes. Because of the way YEP receives and handles Request information, some manual workarounds had to be developed.

Query Language: A query was not required to meet this specification.

User Interface:
6.1.1.4 Maintain Volunteer

- The system shall display a Volunteer screen upon MENU option activation containing the following fields:

  - Last Name
  - First Name
  - Middle Initial
  - ID / Driver’s License Number
  - Street Address
  - City
  - State
  - Zip Code
  - Day phone Number
  - Evening Phone Number
  - Gender
  - Race
  - Birth Date
  - Community Service Type
  - Start Date
  - Case Number
  - Required Hours
  - Report Date
  - Due Date
  - Intake Date

- The system shall allow edits in all Volunteer fields.
- The system shall save all new information upon the SAVE command and commit the changes to the Volunteer database.

Original Priority: Iteration 1
Realized: Iteration 2
Changes in Specification: None

Query Language: A query was not required to meet this specification.

User Interface:
6.1.1.5 Generate City Report

- The system shall allow the user to generate five different summary reports.
- User shall be able to query for information, in addition to report generation.
- The system shall generate monthly reports with users’ manual operation.

(1) Invoice (See Appendix A)

- The system shall summarize the activity of the operation clean sweep – graffiti removal project to ask reimbursement to Los Angeles City.
- This report shall contain the following information.
  - Amount of square footage completed
  - Number of Clean-Up projects completed, including the bag count
  - Number of court referral
  - Reimbursement

Original Priority: Iteration 1
Realized: Iteration 2
Changes in Specification: None
Query Language:

Non-trash Query
SELECT district_table.district_number, Sum(project_table.square_footage) AS SumOfsquare_footage
FROM work_log_table INNER JOIN (district_table INNER JOIN (corridor_table INNER JOIN project_table ON corridor_table.corridor_key = project_table.corridor_key) ON district_table.district_key = corridor_table.district_key) ON work_log_table.work_log_number = project_table.work_log_number
WHERE (((work_log_table.date) Between [Forms]![Switchboard]![Start Date] And
            [Forms]![Switchboard]![End Date]) AND ((project_table.substrate_type)<>"Trash"))
GROUP BY district_table.district_number;

Trash query
SELECT [district_table].[district_number],
Count([project_table].[substrate_type]) AS [Number],
Sum([project_table].[square_footage]) AS Bags
FROM work_log_table INNER JOIN (district_table INNER JOIN (corridor_table INNER JOIN project_table ON [corridor_table].[corridor_key]=[project_table].[corridor_key]) ON [district_table].[district_key]=[corridor_table].[district_key]) ON [work_log_table].[work_log_number]=[project_table].[work_log_number]
WHERE ((([work_log_table].[date]) Between [Forms]![Switchboard]![Start Date] And
            [Forms]![Switchboard]![End Date]) And (([project_table].[substrate_type])="Trash")
GROUP BY [district_table].[district_number];

Court Ref Query
SELECT Sum(Hour([end_time])-Hour([start_time])) AS Hours,
court_ref_vols_sum_query.[SumOfCourt Ref]
FROM court_ref_vols_sum_query, volunteer_period_table INNER JOIN volunteer_log_table ON volunteer_period_table.volunteer_period_number = volunteer_log_table.volunteer_period_number
WHERE (((volunteer_period_table.reason_for_community_service)="Court Referral") AND ((volunteer_log_table.work_type)="Graffiti Removal") AND ((volunteer_log_table.date) Between [Forms]![Switchboard]![Start Date] And
            [Forms]![Switchboard]![End Date]))
GROUP BY court_ref_vols_sum_query.[SumOfCourt Ref];
User Interface:

(2) Summary of Graffiti Removal (See Appendix B)
- The system shall summarize the graffiti removal information in terms of number of projects and amount of square footage, grouped by property ownership and object classification.
- This report shall contain the following fields.

(City Property)
- Metal
- Granite
- Traffic control cabinet
- Traffic regulatory signs
- Trees
- Other city property
- Total

(Private Property)
- Commercial
- Residential
- Other private property
- Total

(Additional Information)
- Number of court referral used
- Number of hours worked

Original Priority: Iteration 1
Realized: CARE Process Portion in Iteration 1, Community Service Portion in Iteration 2
Changes in Specification: None

Query Language:

**Graffiti Removal**

```sql
SELECT Count(project_table.substrate_type) AS CountOfSubstrate_type1,
       Sum(project_table.square_footage) AS SumOfSquare_footage1,
       project_table.ownership,
       If([ownership]<="Public",If([ownership]="Private - Commercial","Commercial",If([ownership]="Private - Residential","Residential","Other Private Property")))) AS [Private Substrate Classification],
       If([ownership]="Public","City Property","Private Property") AS [Ownership Classification],
       If([substrate_type]="Pole","Granite",If([substrate_type]="Electric pole","Metal",If([substrate_type]="Control box","Traffic Control Cabinets",If([substrate_type]="Street sign","Traffic Regulatory Signs",If([substrate_type]="Trees","Trees","Other City Property")))))) AS Expr1
FROM work_log_table INNER JOIN project_table ON work_log_table.work_log_number = project_table.work_log_number
WHERE (((project_table.substrate_type)<>"Trash") AND ((work_log_table.date) Between [Forms]![Switchboard]![Start Date] And [Forms]![Switchboard]![End Date]))
GROUP BY project_table.ownership,
       If([substrate_type]="Pole","Granite",If([substrate_type]="Electric pole","Metal",If([substrate_type]="Control box","Traffic Control Cabinets",If([substrate_type]="Street sign","Traffic Regulatory Signs",If([substrate_type]="Trees","Trees","Other City Property")))))
```

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ORDER BY project_table.ownership DESC;

Court Referrals

Court Referral Vols Query

SELECT volunteer_period_table.volunteer_period_number AS volunteer_period_table_volunteer_period_number,
       volunteer_period_table.volunteer_number,
       Count(volunteer_period_table.volunteer_number) AS CountOfvolunteer_number,
       (IF(Count([volunteer_period_table_volunteer_period_number])>=1,1,0)) AS [Court Ref]
FROM volunteer_period_table INNER JOIN volunteer_log_table ON
       volunteer_period_table.volunteer_period_number =
       volunteer_log_table.volunteer_period_number
WHERE ((volunteer_log_table.date) Between [Forms]![Switchboard]![Start Date] And [Forms]![Switchboard]![End Date]) AND
       ((volunteer_log_table.work_type)="Graffiti removal") AND
       ((volunteer_period_table.reason_for_community_service)="Court referral")
GROUP BY volunteer_period_table.volunteer_period_number;

Court Referral Vols Sum Query

SELECT Sum(court_ref_vols_query.[Court Ref]) AS [SumOfCourt Ref]
FROM court_ref_vols_query;
(3) Clean-Up Summary (See Appendix C)

- The system shall describe each Clean-Up project by date.
- This report shall contain the following fields and total.

- Date
- Location
- Bag count
- Number of volunteers
- Number of court referred
- Volunteer hours
- Type of request

Original Priority: Iteration 1
Realized: CARE Process Portion in Iteration 1, Community Service Portion in Iteration 2
Changes to Specification: After discussion with client, volunteer hours and Type of request were removed since the client did not use the information.
Query Language:

**Clean-up Outer Join Query**

```sql
SELECT volunteer_log_table.work_log_number, volunteer_log_table.date,
Sum(IIf([reason_for_community_service]<>"Court referral",1,0)) AS Volunteers,
Sum(IIf([reason_for_community_service]="Court referral",1,0)) AS [Court Referrals]
FROM volunteer_table INNER JOIN (volunteer_period_table INNER JOIN
volunteer_log_table ON volunteer_period_table.volunteer_period_number =
volunteer_log_table.volunteer_period_number)
ON volunteer_table.volunteer_number = volunteer_period_table.volunteer_number
WHERE (((volunteer_log_table.work_type)="Graffiti removal")
GROUP BY volunteer_log_table.work_log_number, volunteer_log_table.date
HAVING (((volunteer_log_table.date) Between [Forms]![Switchboard]![Start Date] And [Forms]![Switchboard]![End Date]));
```

**Clean-up Sum Query**

```sql
SELECT work_log_table.date, project_table.project_address AS Location,
project_table.square_footage AS Bags, cleanup_outer_join_query.Volunteers,
cleanup_outer_join_query.[Court Referrals], Sum([Bags]) AS SumofBags
FROM (work_log_table INNER JOIN cleanup_outer_join_query ON
work_log_table.work_log_number = cleanup_outer_join_query.work_log_number)
INNER JOIN project_table ON work_log_table.work_log_number = project_table.work_log_number
WHERE (((work_log_table.date) Between [Forms]![Switchboard]![Start Date] And [Forms]![Switchboard]![End Date])
AND ((project_table.substrate_type)="Trash")
GROUP BY work_log_table.date, project_table.project_address, project_table.square_footage,
cleanup_outer_join_query.Volunteers,
cleanup_outer_join_query.[Court Referrals];
```
User Interface:

(4) Light Standard Summary (See Appendix D)

- The system shall summarize the removal of graffiti on Light Standards by location.
- This report shall contain the following information and overall total.

  - Location
  - Council district
  - Granite poles: Number of granite poles cleaned
  - Metal poles: Number of metal poles cleaned
  - Total: Total number of poles cleaned

Original Priority: Iteration 1
Realized: Iteration 1
Changes to Specification: None
Query Language:

Light Standard Outer Join Query
SELECT corridor_table.corridor_name, project_table.work_log_number, 
IIf([substrate_type]="Pole",1,0) AS [Granite Poles], IIf([substrate_type]="Electric pole",1,0) AS [Electric Poles], [Granite Poles]+[Electric Poles] AS [Total Poles] 
FROM corridor_table LEFT JOIN project_table ON corridor_table.corridor_key = project_table.corridor_key;

Light Standard Query
SELECT district_table.district_number, 
light_standard_outer_join_query.corridor_name, 
Sum(light_standard_outer_join_query.[Granite Poles]) AS [SumOfGranite Poles], 
Sum(light_standard_outer_join_query.[Electric Poles]) AS [SumOfElectric Poles], 
Sum(light_standard_outer_join_query.[Total Poles]) AS [SumOfTotal Poles] 
FROM district_table INNER JOIN ((work_log_table RIGHT JOIN 
light_standard_outer_join_query ON work_log_table.work_log_number = 
light_standard_outer_join_query.work_log_number) INNER JOIN corridor_table 
ON light_standard_outer_join_query.corridor_name = 
corridor_table.corridor_name) ON district_table.district_key = 
corridor_table.district_key 
WHERE (((work_log_table.date) Between [Forms]![Switchboard]![Start Date] 
And [Forms]![Switchboard]![End Date] Or (work_log_table.date) Is Null)) 
GROUP BY district_table.district_number, 
light_standard_outer_join_query.corridor_name;
(5) Monthly Care Report Support (See Appendix D)

- The system shall produce a report reflecting all of the graffiti removal activity over the course of the month.
- This report shall contain the following information.
  - Council district
  - Date
  - Site Address
  - Substrate
  - Supply used for removal
  - Square footage

Original Priority: Not original included
Realized: Iteration 2
Changes to Specification: Client indicated after Iteration 1 that the city required the back-up be submitted with the monthly reports.
Query Language:

**Work Log Info Query**

```sql
SELECT district_table.district_name, work_log_table.date,
       project_table.project_address, project_table.substrate_type,
       If([project_table][supply_number]=12,"Bags",If([project_table][supply_number]=13,"Chemicals","Paint")) AS Removal,
       project_table.square_footage,
       supply_table.supply_number
FROM work_log_table AS work_log_table_1, supply_table INNER JOIN
(district_table INNER JOIN (corridor_table INNER JOIN (work_log_table INNER JOIN project_table ON work_log_table.work_log_number = project_table.work_log_number) ON corridor_table.corridor_key = project_table.corridor_key) ON district_table.district_key = corridor_table.district_key) ON supply_table.supply_number = project_table.supply_number
GROUP BY district_table.district_name, work_log_table.date,
       project_table.project_address, project_table.substrate_type,
       If([project_table][supply_number]=12,"Bags",If([project_table][supply_number]=13,"Chemicals","Paint")),
       project_table.square_footage,
       supply_table.supply_number
HAVING (((work_log_table.date) Between [Forms]![Switchboard]![Start Date] And [Forms]![Switchboard]![End Date]));
```
6.1.1.6 Outstanding Request Report

- The system shall produce a report showing the requests on a specified day and whether they have been completed or not.
- The system shall allow the user to generate reports on any number of specified days or time spans.
- This report shall contain the following fields:
  - Date Requested
  - First and Last Name, Address and Phone number of Requestor
  - Cross street of the graffiti
  - Type of structure
  - Instructions
  - Substance necessary for removal
  - Date completed and Crew leader if completed
Original Priority:  Iteration 2
Realized:  Iteration 2
Changes to Specification:  None

Query Language:

Request Query
SELECT request_table.request_number AS request_table_request_number,
    request_table.date_requested,
    request_table.requestor_last_name,
    request_table.requestor_first_name,
    request_table.type_of_property,
    request_table.street_add_of_request,
    request_table.cross_streets,
    request_table.type_of_structure,
    request_table.removal_type,
    request_table.type_of_service,
    request_table.instruction_for_removal,
    request_table.multiple_request,
    request_table.council_district,
    work_log_table.date,
    work_log_table.crew_leader
FROM work_log_table RIGHT JOIN (request_table LEFT JOIN project_table
ON request_table.request_number = project_table.request_number) ON
work_log_table.work_log_number = project_table.work_log_number
WHERE (((request_table.date_requested) Between [Forms]![Switchboard]![Start
Date] And [Forms]![Switchboard]![End Date]));

User Interface:
6.1.1.7 Volunteer Referral Form (See Appendix E)

- The system shall accept and update volunteer referral forms.
- The system shall allow the user to generate reports on request from any parties concerned.
- This report shall contain the following fields on the top to show the volunteer identification and work status.

- Last Name
- First Name
- ID / Drivers License Number
- Case No
- Address
- City
- Zip
- Phone
- Intake Date
- Hours Assigned
- Due Date
- Agency Name: Youth Empowerment Project
- Agency Address: 1373 West 29th Street, Los Angeles, California 90007
- Contact Person: Erika Andrade
- Report Date
- Report Time
- Extension Date
- Hours Remaining

- The middle part of report contains work logs by date. The fields are as follows.

- Number
- Date
- Work Record Hours: From ___ To ___
- Job Description
- Supervisor’s Signature

- The bottom part includes the summary information with check boxes.

  - □ Client Completed ___ Hours of Community Service
  - □ Client Partially Completed ___ Hours
  - □ Client Need Extension
  - □ Client Referred Back to Community Service Office

Original Priority: Iteration 1
Realized: Iteration 2
Changes to Specification: None

Query Language:

**Community Service Query**

```
SELECT volunteer_table.last_name, volunteer_table.first_name, volunteer_table.middle_initial, volunteer_table.street_address, volunteer_table.city, volunteer_table.zip_code, volunteer_table.day_phone_number, volunteer_period_table.case_number, volunteer_period_table.[required hours], volunteer_period_table.report_date, volunteer_period_table.due_date, volunteer_period_table.intake_date, volunteer_log_table.volunteer_period_number, volunteer_log_table.volunteer_log_number, volunteer_log_table.start_time, volunteer_log_table.end_time, volunteer_log_table.work_type, IIf(Hour([end_time]) - Hour([start_time]) > 4, Hour([end_time]) - Hour([start_time]) - 1, Hour([end_time]) - Hour([start_time])) AS [Hour], work_log_table.crew_leader FROM work_log_table INNER JOIN (volunteer_table INNER JOIN (volunteer_period_table INNER JOIN volunteer_log_table ON volunteer_period_table.volunteer_period_number = volunteer_log_table.volunteer_period_number) ON volunteer_table.volunteer_number = volunteer_period_table.volunteer_number) ON work_log_table.work_log_number = volunteer_log_table.work_log_number WHERE (((volunteer_table.last_name)=[Forms]![Switchboard]![Last Name]));
```
User Interface:

6.1.1.8 Supplies Used Report

- The system shall produce a report showing the estimated amount of paint used in a month compared to the actual amount of paint used in a month.
- The report will contain the following fields:
  - Year
  - Month
  - Paint/Supply Type
  - Estimated Used
  - Actual Used

Original Priority: Iteration 2
Realized: Iteration 2
Change in Specification: We were not able to provide a report showing current estimated amount on hand.

Query Language:

Supply Adj Query
SELECT DatePart("m",[supply_table_adjustment]![date]) AS [adj month],
DatePart("yyyy",[supply_table_adjustment]![date]) AS [adj year],
Sum(supply_table_adjustment.paint_purchased) AS SumOfpaint_purchased,
Sum(supply_table_adjustment.paint_adjustment) AS SumOfpaint_adjustment,
supply_table_adjustment.supply_number
FROM supply_table_adjustment
GROUP BY DatePart("m", [supply_table_adjustment]![date]),
DatePart("yyyy", [supply_table_adjustment]![date]),
supply_table_adjustment.supply_number;

Paint Sqft Query
SELECT project_table.supply_number, Sum(project_table.square_footage) AS SumOfsquare_footage1, DatePart("m", [work_log_table]![date]) AS [Month],
DatePart("yyyy", [work_log_table]![date]) AS [Year],
IIf(Int(Sum([project_table]![square_footage])/1000) Is Null, 0, Int(Sum([project_table]![square_footage])/1000)) AS [Est consumed]
FROM work_log_table INNER JOIN project_table ON
work_log_table.work_log_number = project_table.work_log_number
GROUP BY project_table.supply_number,
DatePart("m", [work_log_table]![date]),
DatePart("yyyy", [work_log_table]![date]);

Actual Used Query
SELECT paint_sqft_query.supply_number AS paint_sqft_query_supply_number,
paint_sqft_query.Month, paint_sqft_query.Year, [Est consumed]-
[SumOfpaint_adjustment] AS Actual
FROM paint_sqft_query LEFT JOIN [sup_adj_ Query] ON
paint_sqft_query.supply_number = [sup_adj_ Query].supply_number
WHERE (((paint_sqft_query.Month)=[adj month]) AND
((paint_sqft_query.Year)=[adj year]) AND ((([sup_adj_ Query].[adj month])=[Month])) AND ((([sup_adj_ Query].[adj year])=[Year]));

Supply Report Query
SELECT actual_used.Month AS actual_used_Month, actual_used.Year AS actual_used_Year, actual_used.Actual, paint_sqft_query.SumOfsquare_footage1, paint_sqft_query.Month AS paint_sqft_query_Month, paint_sqft_query.Year AS paint_sqft_query_Year, paint_sqft_query.[Est consumed],
IIf([actual_used_Month]]=[paint_sqft_query_Month],[Actual], 0) AS [Report Actual], supply_table.[paint_color/chemical/bags], IIf([paint_sqft_query_Month] Is Null, 1, [paint_sqft_query_Month]) AS [Report Month],
IIf([paint_sqft_query_Year] Is Null, 2001, [paint_sqft_query_Year]) AS [Report Year]
FROM (supply_table LEFT JOIN paint_sqft_query
ON supply_table.supply_number = paint_sqft_query.supply_number) LEFT JOIN
actual_used ON supply_table.supply_number = actual_used.paint_sqft_query_supply_number
WHERE (((supply_table.[paint_color/chemical/bags])<>"Chemicals" Or
(supply_table.[paint_color/chemical/bags])<>"Bags"));
6.1.1.9 Target Report

- The system shall produce a report showing the target number of buckets YEP wishes to have on hand for a given month
- The report will contain the following fields:
  - Month
  - Paint/Supply Type
  - Target number of buckets

Original Priority: Iteration 2
Realized: Iteration 2
Change in Specification: We were not able to provide a report showing current estimated amount on hand.

Query Language:

**Supply Target Table Query**

```sql
SELECT supply_target_table.supply_target_number, supply_target_table.target_month, supply_target_table.target_year,
```
supply_target_table.target_number, supply_target_table.supply_number, supply_table.[paint_color/chemical/bags]
FROM supply_table INNER JOIN supply_target_table ON supply_table.supply_number = supply_target_table.supply_number
WHERE (((supply_target_table.target_month)=[Forms]![Switchboard]![Month Value]) AND ((supply_target_table.target_year)=2001));

User Interface:

6.1.2.0 Demographic Report
- The system shall produce a report showing demographic information for all of the volunteers
- The report will contain the following fields:
  - Age/Gender Information
  - Gender Percentages
  - Summary of Volunteers Races

Original Priority: Iteration 2
Realized: Iteration 2
Change in Specification: None

Query Language:

**Age/Gender Query**
SELECT volunteer_table.gender, Sum((Int((Now()-[birth_date])/365))) AS Age
FROM volunteer_table
GROUP BY volunteer_table.gender, volunteer_table.volunteer_number, volunteer_table.birth_date;

**Gender Query**
SELECT Count(volunteer_table.gender) AS CountOfgender,
Sum(IIf([gender]="Female",1,0)) AS [Female Count],
Sum(IIf([gender]="Male",1,0)) AS [Male Count]
FROM volunteer_table;

**Race Query**
SELECT volunteer_table.race, Count(volunteer_table.race) AS CountOfrace
FROM volunteer_table
GROUP BY volunteer_table.race;
User Interface:

6.1.2.1 Interoperability
- The system shall allow the user to exchange information between computers with MS Access 2000.

6.1.2.2 Compliance Standards
- The system shall use Windows 98/2000 as operation system platform and MS Access 2000 as application software.

6.1.2.1 Security
- Each user shall have a unique login and associated password.

6.2 Usability Requirements

6.2.1 Consistency
- The system shall keep the same information that YEP currently use for managing projects, volunteers, and reports to LA city.

6.2.2 Documentation
• The user shall be provided with a User Manual for this system describing how to maintain the information.

6.2.3 Learning Requirement
• The user shall have a two-hour training session upon the introduction of the new system.
• The user shall be able to ask inquiries whenever they have problems within a week after the introduction of the new system.
• The user shall have a one-hour follow-up session one week after the introduction of the new system.

6.3 Reliability Requirements

6.3.1 General
This will be detailed using three main issues and aspects; tolerance, recoverability, and mean time between failure (MTBF).

6.3.2 Tolerance
The system will tolerate most inputs and changes by the user. Further, it will tolerate the generation of reports, regardless of length and data entities and entries. Unfortunately, the system will have a maximum limit. For our case, this is not easily reached, and therefore, should the need arise, a value (TBD) will be stipulated after designing the system.

6.3.3 Recoverability
All entries that are made during the day will be automatically saved every 5 minutes. The system will recover any lost material, which had been saved 5 minutes prior to a power loss or a computer shutdown.

6.3.4 Mean Time Between Failure (MTBF)
This is defined as the average time between failures for a system, in our case, the time between when the system does and does not function to expectation i.e. fails in its operational functions. We expect the MTBF value to be 1 failure per 2 months.

6.4 Performance Requirements

6.4.1 General
These are the requirements that the system will be held liable for. We will focus on three main aspects; speed, response time, and memory resource requirements.

6.4.2 Speed
We believe the speed of the system will be adequate to run the new architecture/database. Further, since the computer on which we will be implementing the architecture is new and has a speed of 750 MHz, it is capable of
running the architecture efficiently.

6.4.3 Response Time
The system will have a very high response time i.e. the time between the user entering the data and the system processing this data. Although, as more data entries and entities are added, the system response time will gradually decrease, but not sufficiently enough to be noticed or be a cause of concern.

6.4.4 Memory Resource Requirements
The computer, to which the new information architecture will be implemented, is new. Further, the sole purpose of this computer is to run and maintain this system architecture. Therefore, having a high memory capacity and RAM (Random Access Memory), which is virtually empty, will secure the memory resource requirements.

6.5 Supportability Requirements

6.5.1 Organizational Changes

6.5.1.1 Process Steps
Due to the development of this system, YEP will be completing all aspects of the CARE report themselves. Current processes were to send daily work logs to the central office for input to a spreadsheet. All data entry will now be done by YEP into the new database. Other process steps will remain the same with the exception that manual collection of information will be replace with data entry to the database.

6.5.1.2 Process Forms
A new work log form will be used by the field to simplify the data entry around this process.

6.5.1.3 Job Responsibilities
The new Program Director, Larry Foy will have the primary responsibility of researching and proposing grants application. His time allocation for these activities will be 50%, which is significantly increased from 20% that former Program Director Mr. Wilson used when YEP did not have a database.

The responsibility of creating the monthly CARE reports is removed from Program Director’s job, and this work will be moved to Mr. Miranda. In addition, it is the goal of this project to increase the time Ms. Andrade and Mr. Miranda have available to assume additional staffing issues from Mr. Foy thus further changing the scope of their responsibilities.
6.5.2 Maintainability

6.5.2.1 Analyzability
The system will be able to analyze all data, and correct or upgrade before it outputs a value.

6.5.2.2 Changeability
The system will have the capability to be altered or re-modeled in the future, should the need arise.

6.5.2.3 Stability
The system will be stable from failures (please refer to MTBF section above), and other factors causing instability (power surges and cuts, missing information etc…).

6.5.2.4 Testability
The system will run, with the help of a user, a check every month to guarantee proper processing. The system will also run automatic tests to verify proper internal operations.

6.5.2.5 Portability and Localizability
The system will have the capability to run on a stand-alone and/or on a networked computer. Further, data maybe stored in different forms (zip-disk, CD etc…), which maybe accessed in any location where Access 2000 is available.

6.5.2.6. Serviceability
Should they arise, the system maybe serviced for glitches, but caution is taken when tampering with or debugging the back-end.

6.2 Finalized ERD
See Appendix C.
### 6.3 Finalized CRUD

This matrix lists the business processes that must be considered and how each of the processes affects the entities in the model. There are four possible operations, which represent how each entity is affected.

<table>
<thead>
<tr>
<th>Business Process</th>
<th>Supplies</th>
<th>Volunteer</th>
<th>Emergency Contact</th>
<th>Probation</th>
<th>District</th>
<th>Corridor</th>
<th>Project</th>
<th>Request</th>
<th>Work Log</th>
<th>Remaining Hours</th>
<th>Supplies Used</th>
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VII. Transition Plan and Results

7.1 Beta-Testing Plan

7.1.1 Installation Plan
   7.1.1.1 Beta test computer
   YEP plans to use the new database at a stand-alone computer, which was recently purchased. The computer is a Compaq desktop with 60 GB hard drive and 933 MHz. We will conduct beta testing on this computer and then later install the system on the same machine.

   7.1.1.2 Impact of the new IS
   After the introduction of the new information system, YEP will face large impacts in many job responsibilities. Organizational changes also have to be managed.

   7.1.1.3 Beta test schedule
   On April 17, the Access-based database management system will be installed for the beta test. The schedule was determined by considering the progress of our team’s system development and the availability of YEP’s members.
7.1.2 Test Data Plan

7.1.2.1 Pilot data

We plan to demonstrate the sample data entry shown below on Tuesday, April 17 to serve as training material. We are asking YEP to beta test the DBMS by entering actual data during the week (April 16 to April 20). In the new database management system (DBMS), there are four data entry forms: Volunteer, Project, Request, and Supply.

(1) Volunteer Records

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<tr>
<th>#</th>
<th>Last Name</th>
<th>First Name</th>
<th>Middle Initial</th>
<th>Address</th>
<th>City</th>
<th>Zip Code</th>
<th>State</th>
<th>Day Phone</th>
<th>Evening Phone</th>
<th>ID Number</th>
<th>Gender</th>
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<td>Franco</td>
<td>Steve</td>
<td>M</td>
<td>2207 S. Budlong Ave</td>
<td>Los Angeles</td>
<td>90007</td>
<td>CA</td>
<td>213-737-7946</td>
<td>213-456-3214</td>
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<tr>
<td>2</td>
<td>Orellana</td>
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<td></td>
<td>505 W. 46th Apt #9</td>
<td>Los Angeles</td>
<td>90037</td>
<td>CA</td>
<td>323-846-9002</td>
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<th>Contact First Name</th>
<th>Contact Address</th>
<th>Contact City</th>
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<th>Monday End Time</th>
<th>Tuesday Start Time</th>
<th>Tuesday End Time</th>
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<tr>
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**New Record**

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| # | Date Registered | Reason of Community Service | Start Date | End Date | Required Hours | Monday Start Time | Monday End Time | Tuesday Start Time | Tuesday End Time | Wednesday Start Time | Wednesday End Time | Thursday Start Time | Thursday End Time |
|---|-----------------|----------------------------|------------|-----------|-----------------|------------------|------------------|---------------------|-------------------|---------------------|---------------------|---------------------|
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<td>1/21/2001</td>
<td>9</td>
<td>Hoover Corridor</td>
<td>5851 Hoover</td>
<td>Brick wall</td>
<td>Paint</td>
<td>Brick Red</td>
<td>Private (residential),</td>
<td>100</td>
<td>Jesus Hernandez</td>
</tr>
<tr>
<td>5</td>
<td>1/23/2001</td>
<td>9</td>
<td>Figueroa Corridor</td>
<td>7427 S. Figueroa</td>
<td>Electric pole</td>
<td>Paint</td>
<td>Lamppost gray</td>
<td>Public</td>
<td>35</td>
<td>Armando Acevedo</td>
</tr>
<tr>
<td>6</td>
<td>1/23/2001</td>
<td>8</td>
<td>27th &amp; Normandie</td>
<td>3771 3rd Ave</td>
<td>Street sign</td>
<td>Chemical</td>
<td>-</td>
<td>Public</td>
<td>10</td>
<td>Jesus Hernandez</td>
</tr>
</tbody>
</table>

**New Record**

<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>District</th>
<th>Corridor</th>
<th>Location</th>
<th>Substrate / Object</th>
<th>Removal Method</th>
<th>Color</th>
<th>Property</th>
<th>Sq. Ft / Bag Counts</th>
<th>Crew Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>1/30/2001</td>
<td>9</td>
<td>Hoover Corridor</td>
<td>7216 S. Hoover</td>
<td>Control box</td>
<td>Paint</td>
<td>Lamppost gray</td>
<td>Public</td>
<td>40</td>
<td>Raymond Ramos</td>
</tr>
</tbody>
</table>
### Existing Record

<table>
<thead>
<tr>
<th>#</th>
<th>Date Requested</th>
<th>Requestor Last Name</th>
<th>Requestor First Name</th>
<th>Phone</th>
<th>Relationship to Property</th>
<th>Request Taken By</th>
<th>Type of Property</th>
<th>Address of Request</th>
<th>Cross Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4/3/01</td>
<td>Jawice</td>
<td></td>
<td>310-662-5595</td>
<td>Public</td>
<td></td>
<td>On La Brea</td>
<td>Veronica</td>
<td></td>
</tr>
</tbody>
</table>

### New Record

<table>
<thead>
<tr>
<th>#</th>
<th>Date Requested</th>
<th>Requestor Last Name</th>
<th>Requestor First Name</th>
<th>Phone</th>
<th>Relationship to Property</th>
<th>Request Taken By</th>
<th>Type of Property</th>
<th>Address of Request</th>
<th>Cross Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4/3/01</td>
<td></td>
<td></td>
<td>313-294-5226</td>
<td>Private</td>
<td></td>
<td>5133 Crenshaw</td>
<td>52nd St</td>
<td></td>
</tr>
</tbody>
</table>

### Type of Structure

<table>
<thead>
<tr>
<th>#</th>
<th>Type of Structure</th>
<th>Removal Type</th>
<th>Date Request Ref to Agency</th>
<th>Data Entry Date</th>
<th>Completion Date</th>
<th>Type of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Retaining Wall</td>
<td>White Grey Paint</td>
<td>OCS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Type of Structure</th>
<th>Removal Type</th>
<th>Date Request Ref to Agency</th>
<th>Data Entry Date</th>
<th>Completion Date</th>
<th>Type of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Building</td>
<td></td>
<td>OCS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(4) Supply Records

**Existing Records**

<table>
<thead>
<tr>
<th>#</th>
<th>Paint Color / Chemical</th>
<th>Target</th>
<th>Have</th>
<th>Need</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Palomine Beige</td>
<td>30</td>
<td>16</td>
<td>14</td>
<td>4/1/2001</td>
</tr>
<tr>
<td>2</td>
<td>Brick Red</td>
<td>25</td>
<td>20</td>
<td>5</td>
<td>4/1/2001</td>
</tr>
<tr>
<td>3</td>
<td>Lamppost Gray</td>
<td>25</td>
<td>3</td>
<td>22</td>
<td>4/1/2001</td>
</tr>
<tr>
<td>4</td>
<td>Chemical</td>
<td>25</td>
<td>10</td>
<td>15</td>
<td>4/1/2001</td>
</tr>
</tbody>
</table>

**Adjustment for Target**

<table>
<thead>
<tr>
<th>#</th>
<th>Paint Color / Chemical</th>
<th>Target</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Palomine Beige</td>
<td>-3</td>
<td>4/1/2001</td>
</tr>
<tr>
<td>2</td>
<td>Brick Red</td>
<td>5</td>
<td>4/1/2001</td>
</tr>
</tbody>
</table>

**Adjustment for Have**

<table>
<thead>
<tr>
<th>#</th>
<th>Paint Color / Chemical</th>
<th>Have</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Palomine Beige</td>
<td>-10</td>
<td>4/1/2001</td>
</tr>
<tr>
<td>2</td>
<td>Brick Red</td>
<td>-8</td>
<td>4/1/2001</td>
</tr>
<tr>
<td>3</td>
<td>Lamppost Gray</td>
<td>10</td>
<td>4/1/2001</td>
</tr>
<tr>
<td>4</td>
<td>Chemical</td>
<td>12</td>
<td>4/1/2001</td>
</tr>
</tbody>
</table>

**New Records**

<table>
<thead>
<tr>
<th>#</th>
<th>Paint Color / Chemical</th>
<th>Target</th>
<th>Have</th>
<th>Need</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Palomino Beige</td>
<td>27</td>
<td>6</td>
<td>21</td>
<td>4/16/2001</td>
</tr>
<tr>
<td>2</td>
<td>Brick Red</td>
<td>30</td>
<td>12</td>
<td>8</td>
<td>4/16/2001</td>
</tr>
<tr>
<td>3</td>
<td>Lamppost Gray</td>
<td>25</td>
<td>13</td>
<td>12</td>
<td>4/16/2001</td>
</tr>
<tr>
<td>4</td>
<td>Chemical</td>
<td>25</td>
<td>22</td>
<td>3</td>
<td>4/16/2001</td>
</tr>
</tbody>
</table>

7.1.2.2 Verification of full functionality

YEP needs to verify the full functionality of the system by comparing the system-generated results with results they would expect to see based on the data entered.
7.1.3 Test Training Material

7.1.3.1 Training materials
The training material consists of three main items:

1. An Information System/Database, with existing records as detailed above.
2. A one-page quick reference sheet, which discusses the basics of the system, and develop the skills required by the user to efficiently refer to a final copy of the manual; the later being delivered with the complete system.
3. A detailed manual of the system being implemented, which includes the entire system lay-out, the data entry points, the form and query lay-out, the accessibility, and finally propositions on how to de-bug the system should any problems occur.

7.1.3.2 Administration
The test material and system is administered under close supervision of the consulting team, with focus on usability, verifiability, and maintainability.

7.1.4 Beta Test Questionnaire
YEP will be asked to fill in the attached beta test questionnaire, following the actual Test.

7.1.5 Observation Plan

7.1.5.1 Plans for Observing Beta Test
As proposed, the beta test will take place under the supervision of the consulting team. The initial implementation will primarily be governed by the entire team, after which the team will spend a total of three hours in the coming week observing YEP’s use of the system. This is based on the current schedule of the team and YEP’s staff. Should we feel more observation is required prior to finalizing the system, measures will be taken to conduct further observation. Issues gathered during observation will be incorporated into the final system training and/or into enhancements to the system.

7.1.5.2 Observation Requirements
Since the working of MS Access is new to YEP, we will observe for the following capabilities, and usability of the system:

1. Capabilities of the System
   • Entering of data into the various tables and queries.
   • Producing the data through the various queries, and verification that this data is accurate through manual crosscheck (as-is process).
   • Production of the reports, and readability of these reports.

2. Usability of the System
   • Locating the right form, and input the necessary data correctly.
   • Locating the right report, access this report, and print out the results.
• Verifying that the information, evaluated through the system, is comparable and correct to a manual evaluation.
• Gaining an understanding of the working system, and able to use the system to obtain necessary information.
• Using the manual and quick reference to further enhance operability and user friendliness.

### 7.1.6 Work Plan

<table>
<thead>
<tr>
<th>Beta-Test Plan Component</th>
<th>Responsible Team Member(s)</th>
<th>Start Date</th>
<th>End Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation plan</td>
<td>Consulting team</td>
<td>April 17, 2001</td>
<td>April 17, 2001</td>
<td>Completed as planned</td>
</tr>
<tr>
<td>Test data plan</td>
<td>Consulting team and YEP (Erika Andrade, Fernando Mirando, and Melina Robledo)</td>
<td>April 17, 2001</td>
<td>April 20, 2001</td>
<td>Completed as planned</td>
</tr>
<tr>
<td>Test training material</td>
<td>Vineeth</td>
<td>April 14, 2001</td>
<td>April 27, 2001</td>
<td>Completed as planned</td>
</tr>
<tr>
<td>Beta test questionnaire</td>
<td>Barbara writing and YEP members working the beta test plan completing</td>
<td>April 14, 2001</td>
<td>April 20, 2001</td>
<td>Completed, May 7</td>
</tr>
<tr>
<td>Observation plan</td>
<td>Vineeth and Kiyo observing YEP members completing the beta test plan</td>
<td>April 16, 2001</td>
<td>April 20, 2001</td>
<td>Completed as planned</td>
</tr>
<tr>
<td>Debugging of program</td>
<td>Consulting team</td>
<td>April 20, 2001</td>
<td>April 24, 2001</td>
<td>Completed as planned</td>
</tr>
<tr>
<td>2nd test data plan (if necessary)</td>
<td>Consulting team and YEP (Erika Andrade, Fernando Mirando, and Melina Robledo)</td>
<td>April 24, 2001</td>
<td>April 27, 2001</td>
<td>Completed as planned</td>
</tr>
<tr>
<td>Additional debugging (if necessary)</td>
<td>Consulting team (concurrent with 2nd test data plan)</td>
<td>April 24, 2001 (finish by 4/27/01 if possible)</td>
<td>May 1, 2001</td>
<td>Completed, May 7</td>
</tr>
</tbody>
</table>
7.2 Rollout Plan
As with any system implementation, it is crucial to define a rollout option that will suit both the client and consulting team. Prior to deciding on the rollout options, the system has to be defined for its capabilities, its uses, and the knowledge of the user. Since, we are dealing with a computer system, we expect the user to be comfortable with the workings of a computer.

7.2.1 Rollout Option Selected
YEP currently performs most of its report production manually or with limited spreadsheet usage. We believe YEP’s staff have computer knowledge sufficient enough to access and run a database to perform their daily business. Also, they do not have an existing database, and only perform operations from their center located in Los Angeles. Through discussion with YEP, we further realized that part-by-part installation would only lead to confusion, as they are not computer proficient and time constraints/learning curve is very high.

We have, therefore, agreed to use a parallel rollout option. Considering the risks such as crashes, unexpected bugs, and users’ learning period, this option is the most practical for YEP’s situation.

7.2.2 Work Plan

<table>
<thead>
<tr>
<th>Member</th>
<th>Function Carried out by person/s during roll-out</th>
<th>Start Date</th>
<th>End Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEP</td>
<td>• Buying Computer, and installing MS Access. • Compiling data to be converted, and • Inputting Data into system.</td>
<td>• Already completed. • Gathering data for April (04/01/01). • Will begin in beta testing (04/17/01)</td>
<td>• Data will be completed on (04/27/01). • End of beta testing (04/20/01).</td>
<td>In the process of learning</td>
</tr>
<tr>
<td>Barbara</td>
<td>• Initial implementation of Beta Test. • Establish implementation protocols. • Clarify protocols, and verify its ability in final roll-out .installation.</td>
<td>04/17/01</td>
<td>04/27/01</td>
<td>Completed, May 7</td>
</tr>
<tr>
<td>Kiyo</td>
<td>• Initial implementation of Beta Test. • Develop possible alternatives to initial implementation protocols. • Client-customer satisfaction during roll-out.</td>
<td>04/17/01</td>
<td>04/27/01</td>
<td>Completed, May 7</td>
</tr>
<tr>
<td>Vineeth</td>
<td>• Initial implementation of Beta Test. • Establish implementation protocols. • Maintain roll-out schedule. • Attain continuous feed-back during roll-out.</td>
<td>04/17/01</td>
<td>04/27/01</td>
<td>Completed, May 7</td>
</tr>
</tbody>
</table>
7.3 Data Conversion Plan

7.3.1 The Way of Converting the Existing Data
YEP does not have an existing system. All work is done manually at this time. Because of the current processes, it will be up to the client to determine the number of months of historical information they would like to enter into the system. Our current plan calls for the client to enter April data as part of the test plan. This will also begin our recommended parallel rollout strategy. Thus, April will be the first full month of information included in the database.

7.3.2 Work Plan
Since the client will be converting the data and determining the amount to be converted and included in the system, a detailed work plan is not necessary.

7.4 Organizational Change Plan

7.4.1 New Work Methods or Business Forms
To help facilitate the use of the database, limited organizational changes were made or need to be made to the operating procedures and paperwork currently used. YEP was presented with a new work log form three weeks ago. The new work log form included slight adjustments to the form the crews were currently using in the field to log all of the graffiti removal projects. The new form was set up to ensure all of the information necessary for completion of the city reports was tracked at the time the work was completed.

In addition, we will be presenting YEP with a new volunteer sign-in sheet, which will help ensure all of the necessary information is captured on the volunteers as they work their hours. This new form will be presented to YEP during beta testing. The new forms do not represent any significant changes to any jobs. The forms were previously being used, but were missing pieces of information or were not being filled out properly because it was time consuming. We have streamlined the time necessary to complete the forms by including boxes for checking to replace fields requiring written comments.

7.4.2 Job Changes
There will be some changes to job functions that have been discussed with YEP. The two most significant changes to job functions were:

- The shift in the completion of the CARE reports from Mr. Mark Anthony Wilson (now replaced by Mr. Larry Foy) to Mr. Fernando Miranda.
- The need to include data entry of the CARE reports to Ms. Melina Robledo’s job functions rather than having this information faxed to headquarters.

There will be some impact to a few job functions as a result of the implementation of the system. These are:
• The time necessary for Fernando to complete the CARE reports is estimated to be reduced from 25% of the month to less than 15% of the month. This includes the addition of the time required to input the data, which was not part of the previously needed 25% of the month.
• The time necessary to respond to community service hour questions will be reduced due to the automated tracking of the remaining hours.
• All court reporting information will be ready to be released immediately upon completion of an individual’s community service hour.
• Mr. Foy (previously Mr. Wilson) should have significantly more time for preparing grant applications with the removal of the CARE reports from his job function.
• Graffiti removal supply tracking should be more efficient due to the inclusion of supply reports, which estimate the used and needed amounts of paint using square footage as an estimator of use.

The changes mentioned above will be made as the system is implemented. The summary of job changes is shown below.

<table>
<thead>
<tr>
<th>Employee</th>
<th>As-Is</th>
<th>To-Be</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larry Foy</td>
<td>Former Program Director, Mark Anthony Wilson used to spend his time as shown below.</td>
<td>As of March 19, new Program Director, Larry Foy was assigned. His time allocation is supposed to be changed upon the introduction of the new system as planned below.</td>
</tr>
</tbody>
</table>
| Program Director  | 20% Grants  
25% CARE  
10% Staffing  
45% Meeting & Program | 50% Grants  
5% Staffing  
45% Meeting & Program |
| Erika Andrade     | Ms Andrade’s time allocation was as follows. | Ms Andrade’s new responsibility is as follows |
| Associate Director| 20% Event  
25% Community Service  
10% Staffing  
45% Others | 20% Event  
15% Community Service  
35% Staffing  
30% Others |
| Fernando Miranda  | Mr. Miranda’s time allocation was as follows. | Mr. Miranda’s new time allocation should be: |
| Program Coordinator| 45% Monitoring  
25% CARE  
15% Staffing  
15% Others | 45% Monitoring  
15% CARE  
20% Staffing  
20% Others |
| Melina Robledo    | Ms. Robledo is newly hired receptionist. Her time allocation is: | Ms. Robledo will be responsible for input the daily data into the database. Her new time allocation should be: |
| Youth Intern      | 50% Reception  
50% Filing | 50% Reception  
30% Data Input  
20% Filing |
### 7.4.3 Training Needs

<table>
<thead>
<tr>
<th>User Types</th>
<th>Overview</th>
<th>New Process Step</th>
<th>Button Pushing</th>
<th>Trouble Shooting</th>
<th>Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequent Users/Resident Experts</strong></td>
<td><strong>Melina Robledo</strong></td>
<td>• Concise manual, describing all functions of the information system.</td>
<td>• Ability to include new processes, suggested by YEP management.</td>
<td>• User interface, feedback, usability coherence</td>
<td>• Verifiability of data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included in training manual.</td>
<td>• Detailed reference manual and consulting team.</td>
<td>• Push button switchboard/interface.</td>
<td>• Efficiency of system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Feedback as per usability and mechanism instructional value. Comprehensive evaluation.</td>
<td>• Compare existing data with system data, till verification is confirmed (Tracking results)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Continuous noting down, and reference to training manual.</td>
<td></td>
</tr>
<tr>
<td><strong>Occasional Users</strong></td>
<td><strong>Larry Foy</strong></td>
<td>• Ease of access to immediate information.</td>
<td>• These users should not deal with this issue, as they lack proficiency.</td>
<td>•Clearly labeled buttons, describing the functions.</td>
<td>• Present all reports to frequent users.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included in quick reference manual.</td>
<td></td>
<td>• Push button switchboard/interface present.</td>
<td>• Printability of data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• To describe the problems with the system.</td>
<td></td>
</tr>
<tr>
<td><strong>Beneficiaries</strong></td>
<td><strong>Fernando Miranda</strong></td>
<td>• One page synopsis of the system.</td>
<td>• Discuss the possibility of inputting additional data.</td>
<td>• Requires some proof of workability and verification of data.</td>
<td>• Printout reports and forms for comparison.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included in detailed reference manual.</td>
<td>• Approach proficient user (frequent user), and describe new process.</td>
<td>• Quick approach to reports.</td>
<td>• Printability of data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Frequent user has detailed reference manual.</td>
<td>• Push button switchboard/interface present.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Should not look to trouble shoot; rather leave it to the proficient users.</td>
<td></td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td><strong>Erika Andrade</strong></td>
<td>• Continuous feedback on the system.</td>
<td>• Possible ways to upgrade the system, if required.</td>
<td>• All buttons go to right report or form.</td>
<td>• Maintenance is a continuous process having different completion results.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• By keeping in touch with frequent users and resident experts etc. while they track results.</td>
<td>• Referring to the detailed manual, or call-in IS experts for further consulting.</td>
<td>• Compare with existing or previous data.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Capability of debugging system, if required.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Frequent user knowledge, and detailed reference manual.</td>
<td></td>
</tr>
</tbody>
</table>
In the above training needs assessment, we have assumed that the resident experts and frequent users are the same. We believe that such an assumption is acceptable, as YEP currently don’t have any database experts, and thus the frequent users, after long usage will be more than comfortable with the workings of the system.

7.4.4 The Change Methods
These organizational changes will be made through training session.

7.4.5 Work Plan
Vineeth and Kiyo prepared the training materials on May 7. Other change schedules were as follows.

<table>
<thead>
<tr>
<th>Organizational Change</th>
<th>Responsible Individual</th>
<th>Start Date</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>New work log form</td>
<td>Vineeth and Fernando Miranda of YEP</td>
<td>March 30, 2001</td>
<td>Completed as planned</td>
</tr>
<tr>
<td>New volunteer sign-in sheet</td>
<td>Kiyo and Erika Andrade of YEP</td>
<td>April 20, 2001</td>
<td>Completed as planned</td>
</tr>
<tr>
<td>CARE report shift to Fernando Miranda</td>
<td>YEP</td>
<td>February 1, 2001</td>
<td>Completed as planned</td>
</tr>
</tbody>
</table>

7.5 Plan for Tracking IS against Project Objectives

7.5.1 Project Objectives
The project objective is to increase funding through expansion of the time allocated to researching and writing grants proposals. Increased funding is the most important factor to enabling YEP to increase their community activities and we believe this can be accomplished by capitalizing on the Database Management System (DBMS). The strategy of YEP is to increase the time allocation of Program Director for preparing grant applications by reducing his other responsibilities through reengineering work processes and achieving operational efficiency with the new DBMS. This system is intended to increase the percentage of time Program Director spends on researching and proposing grants from 20% to 50%.

7.5.2 Metrics of Measurement
As we discussed in 2.3, we use the metrics of Program Director’s time allocation for grant. Our goal is to increase Program Director’s time for grant from current 20% of his time to 50%. We also use two other metrics of success, the project execution on time and on budget.

7.5.3 Metrics Collection Process
The first metric of time allocation will be evaluated by interviewing the Program Director soon after the completion of our project. The two other metrics will be evaluated by the consulting team and approved by the client.

7.5.4 Work Plan
Kiyo will be meeting with YEP on May 7 to discuss the client’s evaluation of the metrics.
7.6 Evolution Plans

7.6.1 Next Steps for the System
The next iteration we would recommend would include the expansion of the volunteer portion of the system to include those individuals who participate in the events YEP sponsors in the community.

7.6.2 Rationales for the Next Steps
The expansion to include these individuals in the database would provide YEP with the following opportunities:

• Allow targeted mailings within the community. YEP can reduce the costs of its mailings by being able to send letters and flyers to those individuals who fit the desired demographics (i.e. age group) of the event.
• YEP would be able to identify those individuals more comfortable receiving materials in Spanish.
• Having this information would provide YEP with a source of event participation and demographic statistics to include in grant proposals.
• Event participants can be tracked as possible participants in the Youth Leadership Academy
7.6.3 Suggested Work Plan

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VIII. Publicly Available Reference from Client
IX. Appendices