ANALYSIS OF THE CURRENT READY TO HELP COMPUTER SUPPORT SYSTEM

Durham, Dawson, Vailes, and Lowe
Business Software Solutions Inc.

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I. Executive Summary

The Executive Summary includes the summary of recommendation, the summary of problems, opportunities and directives, a brief statement of system improvement objectives and a brief explanation of report contents.

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D.D.V.L

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A. <u>Summary of Recommendations</u>:

D.D.V.L firmly advocates that "Ready to Help Computer Support" create a centralized system which will allow for all five local branches of the business to coordinate inventory, billing, and technical support. This report is a summary of the information gathered as a team and is intended to fully describe a solution that our software development team is able to offer your business.

B. <u>Summary of Problems, Opportunities and Directives</u>:

"Ready to Help Computer Support" is currently using a fragmented system which consists of spreadsheets, off the shelf accounting software, hand-written invoices, and procedures that are not standardized or written down.

* The current method of hand-written record keeping is antiquated and provides an environment that allows for errors and data redundancy.

* The current inventory process does not accurately account for and maintain specific key items that are needed by stores and technicians.

* Technician scheduling is handled inadequately and lacks a method for matching specialized technician skill sets with repair jobs requirements.

* A centralized, comprehensive inventory management system is needed to ensure accurate count of retail items in stock and on order.

* The methods currently in place to handle the accounts payable and payroll tracking are limited in functionality and dependability; allowing for inaccurate accounting of repair processes and billing.

C. <u>Statement of System Improvement Objectives</u>:

This report contains detailed information regarding the creation of an all-encompassing system that our team recommends in order to improve "Ready to Help Computer Support". The need to obtain or create a customized system contoured to the specific business specifications and operation is vital. A streamlined, centralized system will ensure accurate standardized reporting, and significantly ease the current burden of inventory management thus assisting in effective and efficient management of business procedures.

We plan on improving the business process by:

- Decreasing the total times spent on the upkeep of information by 70 percent.

- Decreasing the total time spent creating and editing reports by 60 percent.

- Increasing reliability of information gathered from accumulated data.

- Standardize processes and procedures to make functions more efficient.

D. <u>Explanation of Report Contents</u>:

- **Background Information:** This section contains a brief overview of the company, brief accounts of team meetings, interviews conducted, and key techniques utilized during the analysis of the current system.

- **Overview of the Current System:** This section contains information on the current system as gathered through working with your company, interviewing your employees, and observing the day to day work.

- **Analysis of the Current System:** This section is a cause and effect analysis of the current performance problems, information problems, economic problems, control problems, efficiency problems, and service problems.

- **Detailed Recommendations:** This section contains system improvement objectives and priorities, as well as constraints. This section will also provide your company with our team's project plan in great detail.

- **Appendixes:** This section contains the original request for analysis from "Ready to Help Computer Support", questions generated by our team for the initial meeting with company contact, and meeting minutes of our systems analysis team meetings.

II. Background Information

This section contains a brief overview of the company, brief accounts of team meetings, interviews conducted, and key techniques utilized during the analysis of the current system.

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A. <u>Company Overview</u>:

"Ready to Help Computer Support" is a computer hardware repair company that also performs network installation, retail sales, and maintenance utilizing five local branch locations. The company's main customer target is small businesses and individual consumers. "Ready to Help Computer Support" is staffed with one store manager, two customer service representatives and two to three repair technicians on hand at each store with varying skillsets.

The company currently uses a system of spreadsheets, off the shelf software, and manual record keeping for managing and maintaining their business accounting, inventory and repair job scheduling. The use of this system creates inherent difficulties and will ultimately inhibit the growth and success of the business. It is in D.D.V.L's expert opinion that a centralized computer system will greatly benefit "Ready to Help Computer Support" by making its administrative processes, accounting, and inventory management more efficient, and ultimately increase profits by maximizing their resources.

B. <u>History of Project</u>:

On January 27, 2014, D.D.V.L. was contacted by "Ready to Help Computer Support" President, Elizabeth Carter requesting that our team evaluate their current information system. Our team of specialized individuals, consisting of Ashley Durham, Robert Dawson, Michael Vailes, and Kevin Lowe reviewed the memorandum from "Ready to Help Computer Support" which outlines the company's requirements and goals.

C. <u>Meeting Times and Locations</u>:

❋ <u>January 28, 2014</u>: The D.D.V.L. systems analysis team members met in Austin Peay State University's Maynard Building to prepare for an initial meeting with the contact person for "Ready to Help Computer Support", Bruce Myers. This was the first meeting that the team conducted with each other where a plan of action and schedule for the study phase was devised.

❋ <u>January 30, 2014</u>: The D.D.V.L. systems analysis team members met in the Bruce Myers Conference room in the Maynard building at Austin Peay State University. The purpose of this meeting was to compile a list of questions to propose to the "Ready to Help Computer Support" business contact, Bruce Myers. These questions would help to outline the problems that "Ready to Help Computer Support" is having with regard to their information system, how the company currently operates, and what direction the company is currently seeking in order to resolve the issues with their current process.

❈ February 4, 2014: The D.D.V.L. systems analysis team members met with the "Ready to Help Computer Support" contact person, Bruce Myers in the Bruce Myers Conference Room of the Maynard Building at Austin Peay State University in order to answer any questions and concerns that D.D.V.L.'s team had prior to continuing with the study phase.

❈ February 11, 2014: The D.D.V.L. systems analysis team members met in the Computer Lab at Austin Peay State University's Maynard building. At that time, the team set out to prepare the documentation needed to complete the first draft of the study phase report. This encompassed organizing the data collected by our individual team members into a detailed outline on our proposals and recommendations for formal presentation to the "Ready to Help Computer Support" business.

❈ February 16, 2014: The D.D.V.L. systems analysis team members met briefly in room 130 of the Maynard Building at Austin Peay State University to review and edit the first draft of the study phase report and discuss the format for the report presentation due on February 25, 2014.

❈ February 17, 2014: The D.D.V.L. systems analysis team members met in room 130 of the Maynard Building at Austin Peay State University to formalize the final format and overall content of the report.

❈ February 18, 2014: The D.D.V.L. systems analysis team members met in the Maynard Building computer lab to perform final edits and publish the completed study phase report.

❈ February 19, 2014: The D.D.V.L. systems analysis team members met briefly in the Maynard Building computer lab for a final review of the study phase report prior to delivery to the "Ready to Help Computer Support" contact person, Bruce Myers.

D. Description of Analytical Techniques Used:

Analysis of Ready to Help Computer Support's current system was performed using the "PIECES" framework, which was created by James Weatherbe. This framework evaluates the current information system based on the following criteria:

❈ The need to correct or improve Performance.
❈ The need to correct or improve information and data.
❈ The need to correct or improve economics, control costs, or increase profits.
❈ The need to correct or improve control or security.
❈ The need to correct or improve efficiency of people and processes.
❈ The need to correct or improve service to customers, suppliers, partners, and employees.

E. **Additional Sources of Information**:

During the course of D.D.V.L.'s study of "Ready to Help Computer Support's" current system, the analysis team members acquired information for use in this report from a wide variety of sources. These sources included interviews with customer service representatives, branch store managers, branch store inventory managers, repair technicians, repair shop managers, human resource managers, and upper management from "Ready to Help Computer Support". The analysis team also performed a comparison with other businesses that utilized a business model similar to that which the "Ready to Help Computer Support" business uses. Additional sources include the World Wide Web and other successful information systems utilized in businesses that perform similar functions. These sources and possibly others will be used in further stages of the project.

III. Overview of Current System

This section contains information on the current system as gathered through working with your company, interviewing your employees, and observing the day to day work.

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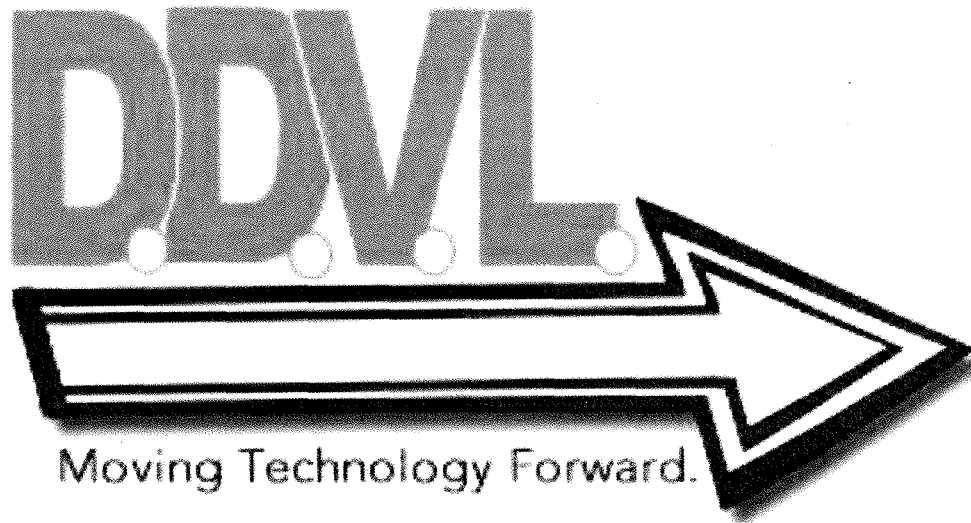
A. **Company Infrastructure:**

In the course of this study phase, D.D.V.L.'s systems analysis team has researched the business infrastructure of the "Ready to Help Computer Support" business, and their day-to-day process which encompassed the study of their current information system and its effect, both positive and negative, on the businesses customer interaction and information collection, billing for services rendered, both on site and off site repair scheduling, inventory management, and report processing as it pertains to overall upper management of all five branch storefronts. The current system employs a combination of multiple spreadsheets, different off-the-shelf accounting software applications, and hand written customer information collection.

1. Retail Sales:

   * Reports of retail sales preformed daily and bank deposit receipts for daily deposits from all five locations are sent to the main store electronically by the individual branch store managers at end of business day processing and are combined by the manager at the main store.

   * The main store manager updates a spreadsheet which, when combined with a word document, is sent to the accounting department to be reconciled.

   * The accounting department will then balance the spreadsheet with the corporate bank statements along with daily bank deposit receipts to identify and rectify any disparities.

   * The accounting department will then prepare a summary report of daily sales for presentation to the upper management.

2. On-Site Repair Status Reports:

   * Reports which outlines the daily repair work and documents the current statuses of ongoing trouble tickets is prepared by the individual branch store managers and are sent electronically to the main store manager on a daily basis.

   * The main store manager then combines these reports into one comprehensive report which outlines the overall statuses of completed and outstanding in store customer trouble tickets. This report details the reasons for uncompleted, outstanding trouble tickets and flags the reason; i.e. lack of parts on hand, backorder parts or skill set requirements not present at the branch location.

   * This report is then sent to the upper management for review and reconciliation.

3. Off-Site Repair Status Reports:

   * Reports outlining the status of customer trouble tickets that require a technician to complete at the customer location are compiled daily by the individual branch store managers and are sent electronically to the main store manager at end of business day processing.

❀ The main store manager then combines these reports into one comprehensive report which outlines in detail the statuses of off-site customer repair trouble tickets, breaking out the skill sets required, hours spent troubleshooting and or repairing the problem, and reasons for uncompleted work; i.e. lack of parts on hand, backorder parts or skill set requirements for specified repair task.

❀ This report is then sent to upper management for review and reconciliation.

4. Customer Information Capture and Maintenance:

❀ Customer Service Representatives interact with new and existing customers both using face to face interaction and phone communication.

❀ New customer information is captured using a spreadsheet which uses the customer's phone number as a unique key element. The process of verifying that a customer is new or existing is done via the representative interviewing the customer or searching the spreadsheet for the customer's phone number.

❀ Existing customers are asked to verify their name, phone number, billing address and business name (if applicable).

5. Trouble Ticket Processing for Off-Site Technical Support:

❀ Trouble tickets for off-site technical support are initiated on a spreadsheet by the customer service representative who will follow up with an e-mail to the repair manager detailing the trouble ticket.

❀ The repair manager will, upon receipt of the e-mail identify the skill set necessary to complete the job and generate a written estimate for the projected cost of the repair. That estimate is then sent via e-mail to the customer.

❀ The repair manager will then assign the trouble ticket to a technician who will then schedule a visit to the customer location.

❀ Repair technician will at end of business day; provide a spreadsheet to their branch repair manager outlining the status of a current outstanding or completed trouble ticket. This spreadsheet is then compiled by the repair manager and presented to the store manager.

6. Inventory Management:

❀ A comprehensive physical inventory is completed annually at each local store location and balanced against the monthly inventory counts which are maintained on a large spreadsheet.

❀ Monthly inventories are reconciled by hand at each local store location, recorded into a spreadsheet which is sent electronically to the main store, and combined into an overall report for the inventory manager by each store manager.

❀ This report is compiled by the inventory manager, who then identifies key item levels and starts the order process.

❧ The inventory manager will receive ordered items, adjusting the main inventory report and then will send the item(s) to the local branch store in need of the item via a company courier.

❧ The manager at the local branch store will receive the item and record it into their local inventory report.

7. <u>Record Keeping</u>:

❧ Record keeping is maintained using a combination of both spreadsheets and physical filing.

❧ Records maintained by the local branch stores are duplicated in the main stores physical filing system.

8. <u>Payroll</u>:

❧ Payroll accounting is performed using off-the-shelf accounting software (QuickBooks).

❧ Each individual local branch store manager maintains their own payroll accounting using this same system. They produce pre-made, software generated reports that are sent electronically to the human resources manager at the main store who duplicates the information in their system.

❧ A report is generated by the human resource manager and is sent to the upper management for approval.

B. <u>Overview of Current System</u>:

Based on D.D.V.L.'s analysis of the information system utilized by Ready to Help Computer Support, we have produced the following context diagram which currently shows the business process work flow.

1. <u>Context Diagram</u>:
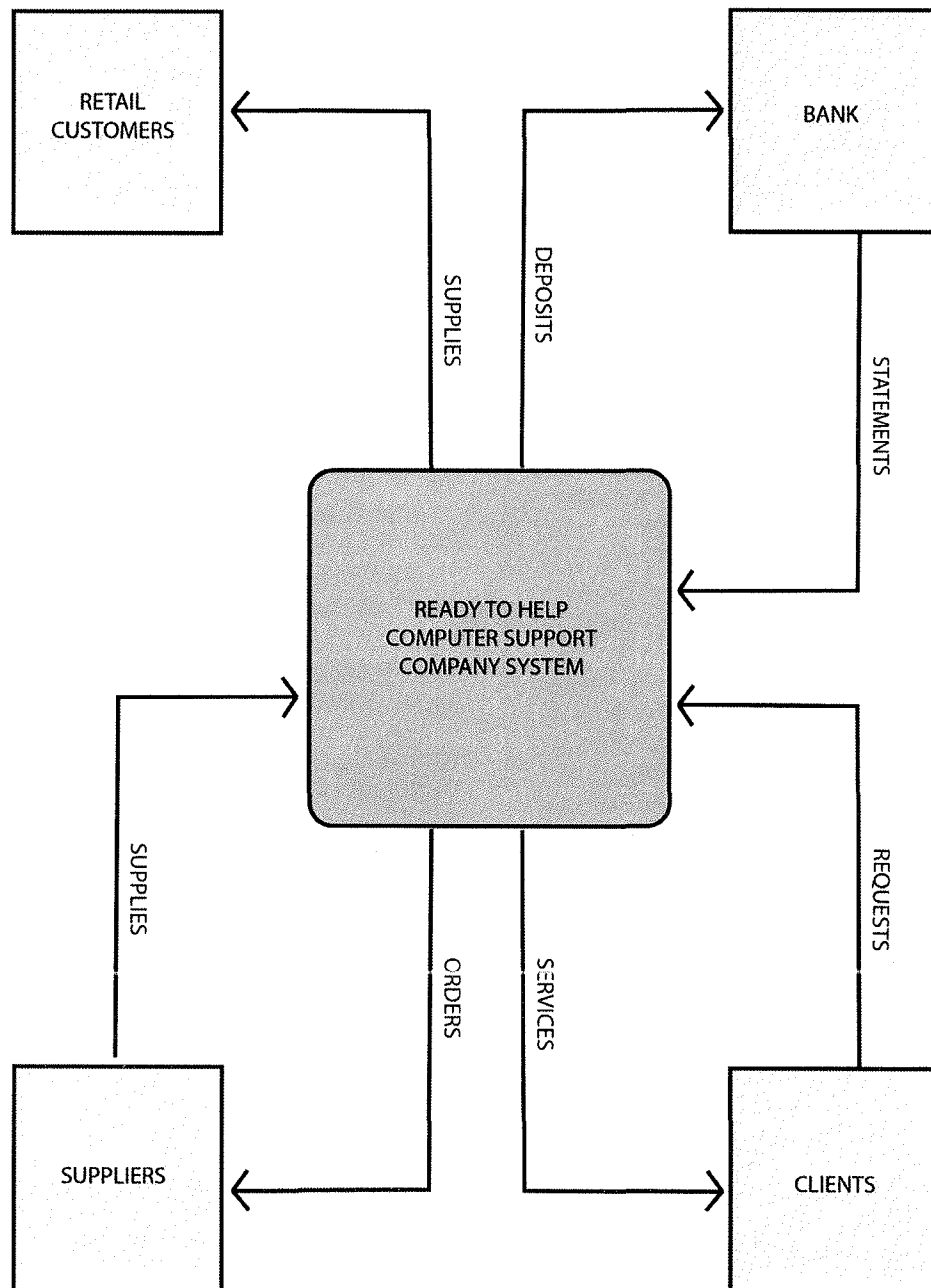
IV. Analysis of Current System

This section is a cause and effect analysis of the current performance problems, information problems, economic problems, control problems, efficiency problems, and service problems.

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A. <u>Performance Problems, Opportunities, and Cause-effect analysis</u>

<u>Problems:</u>

* The use of multiple systems to capture, and analyze business critical information allows for a large number of redundancies and creates a delay in the exchange of data between different local branch stores.
* An excessive amount of time and energy is expended collecting information from different sources which translates to loss of productivity which equates to a waste of manpower.
* There is a critical void in accuracy where inventory, billing, and manpower hours worked is transmitted to the central office.
* The process of manually calculating daily sales and inventory levels from written invoices and spreadsheets is time consuming and can be inaccurate.
* Customer trouble ticket repair tracking is antiquated and can cause delays in completing time critical service.

<u>Cause-Effect:</u>

* The current fragmented system creates a burden for customer service representatives to capture accurate information during customer interaction.
* Current method of information input and retrieval is antiquated and inaccurate.
* Sales data and inventory levels are inaccurate and prevent sound decision making by management.
* Ineffective trouble ticket tracking equates to poor customer service.

<u>Opportunities:</u>

* One centrally located, networked system will allow for real time updates of business critical information.
* A simple web enabled system will allow for quick data collection eliminating redundancies and expediting processes allowing for better manpower management.
* Real time update of inventory, billing and manpower hours worked from five different locations to a centralized system will increase accuracy and almost eliminate employee fraud.
* Real time update of a daily retail sales and inventory levels to a single networked data repository will expedite sales calculation and inventory management, ensuring increase accuracy and solid decision foundation.
* A centralized system that tracks customer trouble ticket statuses that allows for real time information update will streamline the repair process which will equate to improved customer service.

B. Information Problems, Opportunities, and cause-effect analysis:

Problems:

* Lack of a centralized information repository.
* Important, critical information is distributed between multiple locations and formats.
* No method of generating a key set of standardized reports for management.
* No method of creating custom, special purpose reports on demand.
* No structured inventory management system in place. Inventory is physically counted with no accurate method of locating specific items.
* No centralized tracking system for customer trouble tickets in place.
* No method of identifying and matching technical skill sets to unique repair jobs.

Cause-Effect:

* Lack of a centralized system causes a geographic fragmentation of information and leads to inaccurate information and unstable basis for management decisions.
* Fragmentation of information between different systems cause information redundancy and inaccuracies.
* Lack of daily standard report processing creates an information lag for upper management.
* With a lack of a process to create quick, accurate, real time special case reports on demand allows for management to miss unique opportunities for sales promotion.
* No structured inventory management system creates a situation where accurate item levels may be missed, retail sales opportunities at store locations could be lost or customer repair processes could be delayed.
* No method of tracking real time customer trouble ticket status can cause customers to have to endure delayed repair jobs. For small businesses, this could be catastrophic.
* Lack of a system to match technician skills with repair job needs can created delays in repair job completion for customers.
* Data isn't in a set format making it harder for employees to keep it organized.

Opportunities:

* A centralized system will ensure accurate and efficient information capture.
* One information repository with help to prevent redundancy, increase accuracy and expedite information retrieval for management.
* Centralized tracking of customer trouble ticket repair will increase customer satisfaction.

C. <u>Economic Problems, Opportunities and Cause-Effect analysis:</u>

<u>Problems:</u>

* No consistent methodology of monitoring the track of inventory and the cash coming in and out of the business.
* Excessive inventory of specific items.
* Inadequate inventory levels for key, popular items.
* Excessive expenditure of manpower time and energy.
* Wasted sales opportunities.
* Increased cost for items needed due to inventory shortfalls.

<u>Cause-effect:</u>

* With no consistent method of managing inventory and retail sales information, business managers cannot get a consistent snapshot of cash flow and company assets on hand.
* With no way of keeping track of cash flow coming from the individual local branch stores, there is no way to keep track of store performances.
* Handwritten records enable inconsistencies to occur within expense reports, thus allowing revenue to be unaccounted for.
* Due to the inconsistent nature of hand counted inventory, revenue is lost in unnecessary stock replenishments.
* When inventory levels are not replenished correctly revenue is forfeited by missing sales opportunities.
* With improper inventory management, the business incurs unnecessary expenses rush ordering stock due to inventory shortfalls.

<u>Opportunities:</u>

* Having a centralized system will ensure accurate and efficient Inventory management, allowing for real-time reporting of company assets.
* The system will handle inventory and expense tracking, thus reducing expenses caused by emergency inventory replenishment.
* Store performances can be tracked by management in a real-time environment.
* Automating the inventory system will reduce manpower hours required for stock upkeep.

D. Control Problems, Opportunities, and cause-effect analysis:

Problems:

* Handwritten payroll records constitutes a high level security risk.
* The current system is susceptible to embezzlement.
* Inventory transactions are filed inadequately.

Cause-Effect:

* Handwritten payroll records are accessible to any employee or individual, which can result in discord among employees and compromise the business's financial situation.
* With the current payroll access control, the business is wide open to embezzlement.
* The current method of hand filing inventory transaction raises a physical security concern.

Opportunites:

* Automating forms for payroll will help to mitigate security risks.
* The storing of records in a physical location poses risk. The solution is to have access controlled records kept virtually.
* Giving management exclusive access to sensitive information reduces the risk in keeping the payroll records confidential. This process reduces dissension among employees and business.

E. Efficiency Problems, Opportunities, and cause-effect analysis:

Problems:

- Handwritten orders are inefficient.
- Inaccurate reporting.
- The current system enables redundancy.

Cause-Effect:

- Since data is entered by hand there is little in the way to keep track of redundancies, this causes inaccurate reports to be produced.
- Due to inaccurate reporting, management is unable to make time critical decisions.
- The business process suffers in efficiency due to correcting redundancies in data.

Opportunities:

- Implementing a well-structured system will nullify inconsistences and redundancies. This will help keep costs down and allow more accurate reporting.
- Management will be able to make optimum decisions from access to accurate real-time reports.

F. Service Problems, Opportunities, and Cause-Effect analysis:

Problems:

- ❊ The current information system is fragmented.
- ❊ Transaction processing requires numerous repetition.

Cause-Effect:

- ❊ The business uses various methods of compiling data, which often consists of transcribing information to and from spreadsheets. This current method is time-consuming, and promotes mismanagement of business assets.
- ❊ The current system is not scalable to new situations, which poses undesirable results.
- ❊ The current method for inputting transactions is labor-intensive with an abundance of repetition. The redundancy involved with manual transaction processing enables inaccurate input.

Opportunities:

- ❊ Standardizing forms and procedures for business process will alleviate repetition.

- ❊ Proper design will ensure stability with system growth.

- ❊ The creations of forms will reduce the inconsistencies caused by repetition.

- ❊ Processing of transactions and orders will be streamlined, thus increasing business flow and service.

V. Detailed Recommendations

Detailed Recommendations includes system improvement
objectives and priorities, as well as constraints and the project
plan.

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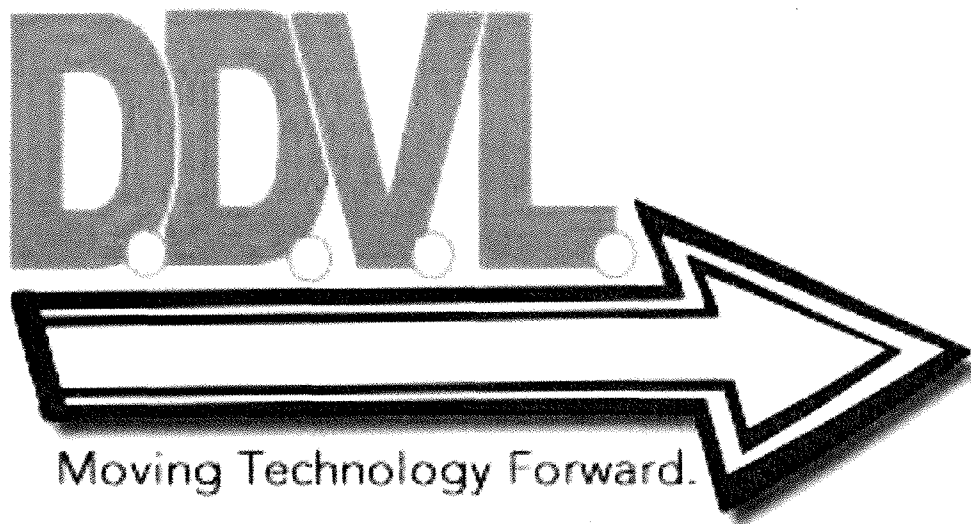
A. Project Plan:

❋ Proposal Option 1:

The first recommended option for the Ready to Help Computer Support business would be to continue using their record keeping, inventory, accounting, and scheduling system which is currently in place.

The following details the proposed estimated costs associated with option 1:

Implementation:

Study/Design:	$0
Hardware:	$0
Software:	$0
Training:	$0

Annual Costs:

Maintenance:	$0
Loss of Manpower Hours:	$30,000.00
Additional Inventory Costs:	$25,000.00
Annual Fees:	$0

Total Implementation Cost:	$0
Annual Costs:	$55,000.00
Total Estimated Costs:	$55,000.00

The Loss of Manpower Hours estimate is based on the current labor intensive process in place currently.

The Additional Inventory Cost estimate is based on the current inventory system that is employed.

✳ Proposal Option 2:

This recommendation would be an off the shelf solution that would be a complete web based business software program provided by NetSuite. This system would be cloud based with IT support provided base on a monthly subscription/fee. In order for this system to be completely integrated into the Ready to Help Computer Support business, it would require considerable customization along with significant user training. Additionally, this system would have to be supplemented by another product to provide the needed scheduling functionality that Ready to Help Computer support requires.

The following details the proposed estimated costs associated with option 2:

Implementation:

Study/Design:	$0
Hardware:	$15,000.00
Software:	$3,000.00
Training:	$8,500.00

Annual Costs:

Maintenance:	$0
Loss of Manpower Hours:	$0
Additional Inventory Costs:	$0
Annual Fees:	$15,000.00

Total Implementation Cost:	$26,500.00
Annual Costs:	$15,000.00
Total Estimated Costs:	$41,500.00

Though this solution would solve the record keeping, accounting, inventory management, and scheduling needs of the business, the products extensive initial and annual costs are elements that should be weighed by management carefully.

❋ Proposal Option 3:

This recommendation would be an customized, .net web based solution designed from the foundation up specifically for the Ready to Help Computer Support business with the their record keeping, accounting, inventory, and scheduling needs placed directly in the forefront. This solution would use the hardware and operating system platform currently in place which would translate into simple integration and minimal user training.

The following details the proposed estimated costs associated with option 3:

Implementation:

Study/Design:	$5,000.00
Hardware:	$0
Software:	$5,000.00
Training:	$4,000.00

Annual Costs:

Maintenance:	$0
Loss of Manpower Hours:	$0
Additional Inventory Costs:	$0
Annual Fees:	$0

Total Implementation Costs:	$14,000.00
Annual Costs:	$0
Total Estimated Costs:	$14,000.00

This solution will solve all immediate accounting, record keeping, inventory management, and scheduling needs and provided a stable business solution platform that is scalable for future growth. Due to its web based, user interface environment, it would not be operating system platform dependent, which would allow for seamless transition to future client system upgrades. Additionally, due to its environment, it would allow for simple mobile software integration with both the Android, iOS and Windows Phone platforms using a simple web based user interface.

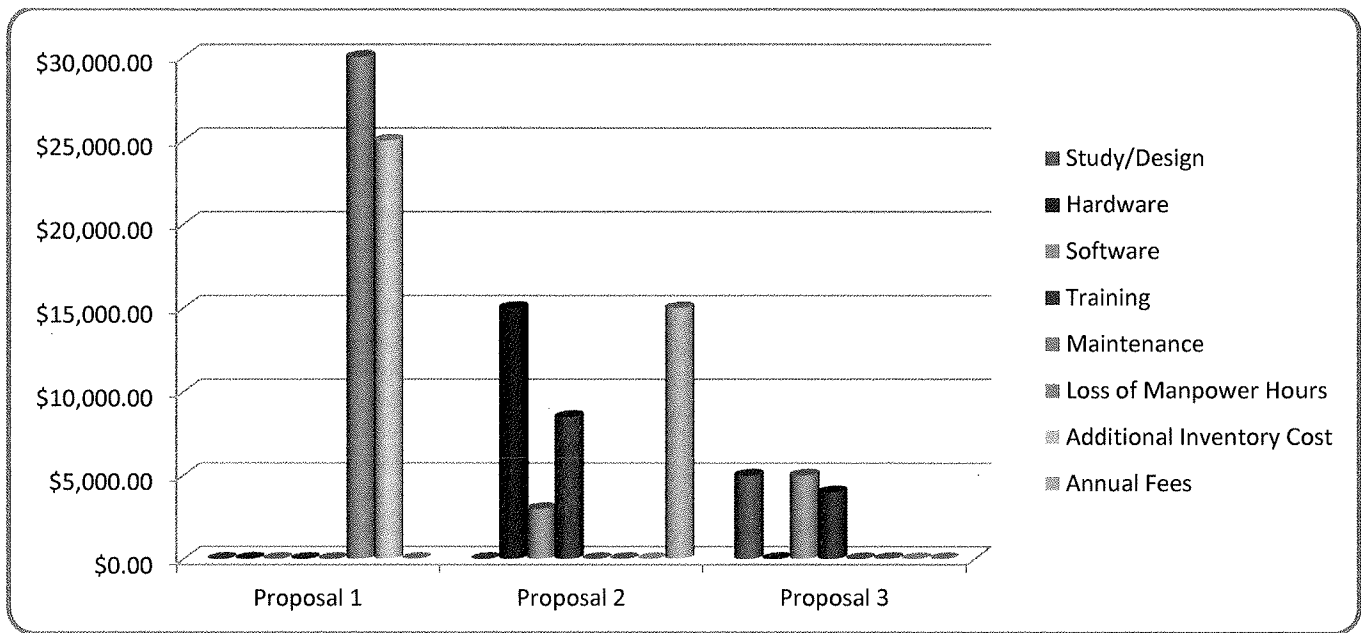✤ <u>Side by side cost comparison of proposal options:</u>

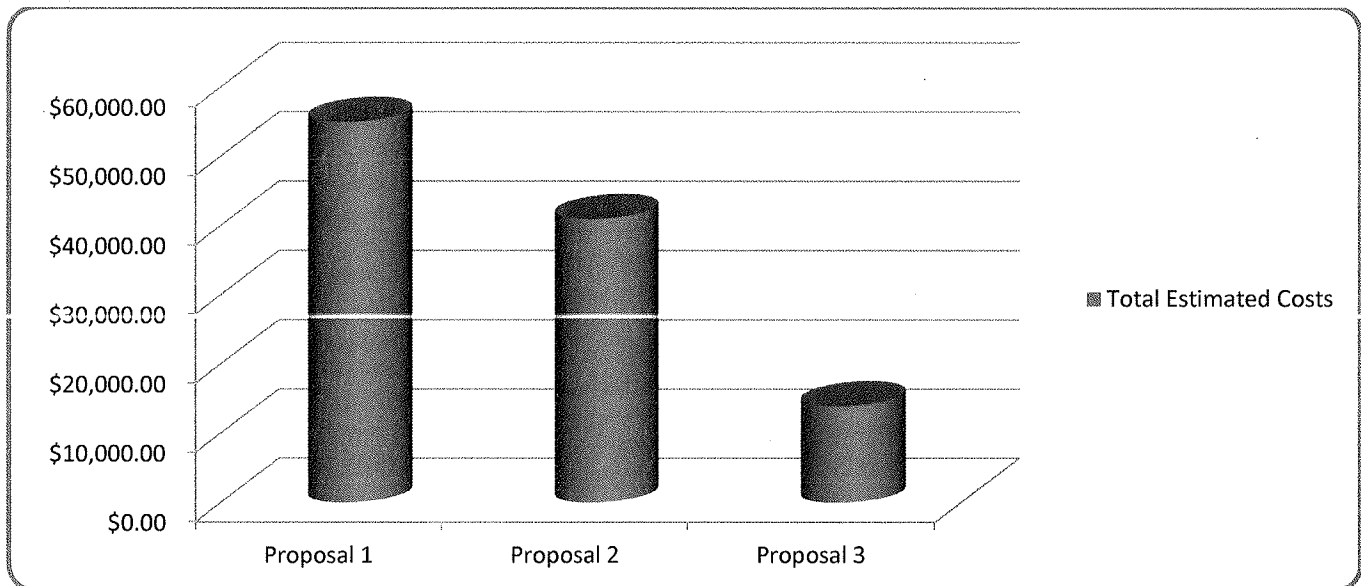Figure 1

✤ *Overall cost of all three proposal options.*

Figure 2

B. System Improvement Objectives and Priorities:

The new system proposed in option 3, will perform the following:

* Organize your businesses day to day customer contacts, maintaining a comprehensive database that will provide quick historical information on past and current customer interactions and transactions.

* Will streamline customer data collection by using a more effective interface that will be based on a menu driven, point and click capture, thus minimizing keyboard input which will help eliminate erroneous data inconsistency and input. This should increase throughput and expedite customer service by minimizing the time involved in customer and customer service representative interaction.

* Will standardize input forms across all branch storefronts, create and maintain invoice processing, and track from start to finish customer interactions with regard to in store and off site repair and maintenance actions.

* Will provide better overall business on site inventory management across all business storefront branches, which will encompass an automated inventory level tracking and low level alert on individual items to help prevent customer transaction lag due to a unmanaged lack of inventory.

* Will provide for a more efficient scheduling of offsite trouble calls by helping to track technician skill sets and matching them to trouble call skill necessities. This will also provide a more effective and accurate cost estimate for customer on and offsite repair, which will translate to better customer service, streamline repair actions, and appropriate labor billing which in turn will help in preventing under or over charging for services rendered to the customer.

* Will provide different levels of access for users of the system by providing different access levels for customer service representatives, supervisors, inventory managers, technicians and management. This will translate to preventing access to critical private customer information to only privileged users.

* Will provide a better system of report management by defining a standardized set of reports, specified by user level that will give up to date, real time information to supervisors, technicians, inventory managers, and management. Additionally, special case reports will be able to be defined on demand in order to provide for special and unique situational data management and assessment.

* Using a .net web based infrastructure will allow for use of current system platforms in place thus eliminating the need for business wide hardware upgrades.

* System will provide for the possibility of integrating a virtual store front for retail sales and online, customer driven trouble call initiation and status updates.

C. <u>System Constraints</u>:

The system proposed in option 1 and outlined in the previous section, must adhere to the following limitations and constraints:

* The system must be completed and operational no later than May 5, 2014.

* The system must be user friendly and require a very minimal training curve.

* The system must utilize a standard set of input forms and customer invoices.

* The system must provide a set of privileged user level account access to prevent access to privileged customer information to unauthorized users.

* The system must provide a method of transaction validation to ensure accurate and consistent data collection.

* The system must provide an inventory management interface and automate a triggered low item inventory alert.

* The system must provide a technician scheduling interface including report management for technician skill sets and job skill requirements.

* The system must be compatible with the businesses current hardware architecture.

D. **Project Timeline:**

1. Study Phase:

    * **January 27, 2014:** Received team assignment and project request.

    * **February 4, 2014:** Met with Bruce Myers of Ready to Help Computer Support to discuss project.

    * **February 20, 2014:** Study Phase Report Due.

    * **February 25, 2014:** Presentation of Study Phase findings.

2. Design Phase:

    * **February 26, 2014:** Begin Design Phase.

    * **March 25, 2014:** Design Phase Report Due.

    * **March 27, 2014:** Presentation of Design Phase Result.

3. Implementation Phase:

    * **March 28, 2014:** Begin Implementation Phase.

    * **April 3, 2014:** Progress Report 1 due to Bruce Myers.

    * **April 8, 2014:** Progress Report 2 due to Bruce Myers.

    * **April 15, 2014:** Progress Report 3 due to Bruce Myers.

    * **April 22, 2014:** Progress Report 4 due to Bruce Myers.

    * **April 24, 2014:** Progress Report 5 due to Bruce Myers.

    * **May 6, 2014:** Presentation of implemented system.

VI. Appendix

Contains the Information Technology Request, Initial Interview Questions with Company Contact and Meeting Minutes of the Analysis Team.

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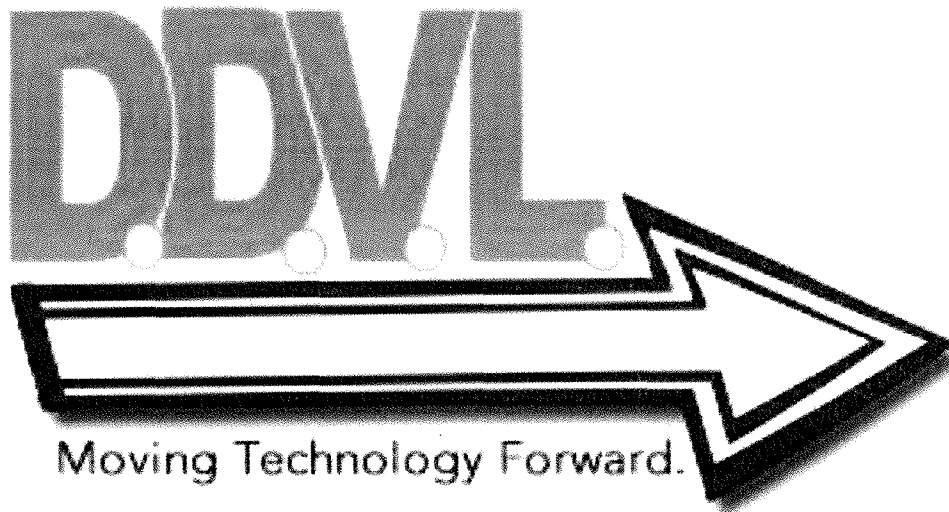
Memorandum

To: Bruce Myers

From: Elizabeth Carter, President
           Ready To Help Computer Support

Date: 1/27/2014

Re: Computer Support for Business Operation

Our company performs computer hardware repair and setup as well as network installation and maintenance at each of our five locations. Our computerized support for record keeping, scheduling, and parts inventory is limited. We use some spreadsheets, a basic accounting software program, and lots of manual records to manage our business. We sell some hardware components at retail and also maintain an inventory of components for use in our own repair work. We have an inventory at each store and often want to check with all of stores to determine the availability of a needed component. We need better record keeping to regularly stock certain key items and we have no way of combining needs at our different stores and automatically placing orders when inventory is low for a particular component. We feel that there is an opportunity to greatly increase the sale of components with the proper computer support.

Finally, we need to be able to better account for the work of our technicians and to charge their work to the particular job that they work on. Technicians may work at one or more stores during a given day or week. They also may be sent on calls to work on equipment at the customer's location. Timely reports on the scheduling of technicians are badly needed. Technicians have various areas of expertise that are needed at different locations and we are not able to match the most skilled people to key jobs because of scheduling.

We can continue to work with our current accounting and payroll systems but we badly need support in the areas that I have mentioned above. Please schedule a meeting with a team of people from your company to evaluate our situation and determine how we might better involve computer processing in our business.

Appendix A

General

1. What problem is this business having that you hope to solve by developing this project?

2. What is the business doing at present to alleviate or solve the issue? What has been tried in the past?

3. Who are the clients? Are they Small businesses, average consumers, or both?

4. What is the overall purpose of the product or project?

5. What is the client's goal with this product or project?

6. Is there any existing documentation or other introductory information for this project? (This could include users manuals, functional specifications, design specifications, or even memos and e-mails.)

7. How much, if any, of this project is already complete or underway?

8. What's the environment in which this product will be used?

Process

1. What is the process of the day to day work?

2. What kind of data/information do they collect? What do you do with that info? How is that information used?

3. How do you currently do your records keeping? What sorts of applications are used for record keeping?

4. How do you currently manage your employees' schedules?

5. Do you have specific business policies?

6. What are the state and Local Tax Laws?

7. What are the current Throughput times?

System

1. Who is managing the system after implementation? What are the post-development support needs?

2. What inside resources (IT department, servers, and updating current server?) will this project be utilizing?

3. Does the company currently have an IT department?

4. What kind of documentation does the client expect you to create? (If developing software, this could range from simply using comments freely within the code to writing the user's manual.)

5. How frequently is the current software updated?

Appendix B-1

6. What operating system is used? What browser software is used? What version?

7. Where are the servers located?

8. Do you do any retail from a virtual storefront?

9. Where is the company headquarters located?

Users

1. How many users will there be?

2. Who is the end user? What support will they have?

3. Who are the primary users of the product, and what is their technical level? Are they familiar with this technology already?

4. What Privileges will the users need?

Technicians / Employees

1. How many technicians are currently employed? What is the anticipated growth of technicians?

2. What relationship is held between the expertises in technicians to key jobs? Example: What specific expertise are needed or called upon?

3. What are the categories needed or currently used for specialization of workers?

Inventory

1. How do you currently manage your inventory?

2. Which key items are needed to be kept in stock? What numbers are needed? Which locations are these needed at?

3. How is shipping handled? Who transports these items from store to store?

4. How are transactions with other businesses Handled?

5. Will integration be needed for Business to Business Commerce?

6. Is there a central warehouse that the stores replenish their inventory from?

Appendix B-2

D.D.V.L. Team 1
Meeting Minutes
January 28, 2014

I. Call to order

Ashley Durham called to order the regular meeting of the systems analysis Team 1 at 1600 on February 28, 2014 at Austin Peay State University's Maynard Building.

II. Roll call

Robert Dawson conducted a roll call. The following persons were present: Ashley Durham, Robert Dawson, Michael Vailes, and Kevin Lowe.

III. Approval of Request to Study

Robert Dawson read the Memorandum from Ready to Help Computer Support. The request was approved and a schedule was devised.

IV. Open issues

   a) Schedule devised, regular meetings at 1600 on Tuesdays and Thursdays.

   b) Plan of action to evaluate Ready TO Help Computer Support's business process.

V. New business

   a) Study the business problem for Ready to Help Computer Support.

   b) Devise a list of questions to present at the initial meeting.

VI. Adjournment

Ashley Durham Adjourned the meeting at 1800.

Minutes submitted by: Robert Dawson

Minutes approved by: Ashley Durham, Project Manager

Appendix C-1

D.D.V.L. Team 1
Meeting Minutes
January 30, 2014

VII. Call to order

Ashley Durham called to order the meeting of the systems analysis Team 1 at 1245 on February 30, 2014 in the Bruce Myers Conference room at Austin Peay State University's Maynard Building.

VIII. Roll call

Robert Dawson conducted a roll call. The following persons were present: Ashley Durham, Robert Dawson, Michael Vailes, and Kevin Lowe.

IX. Approval of minutes from last meeting

Robert Dawson read the minutes from the last meeting. The minutes were approved as read.

X. Open issues

    c) Questions need to be revised for the initial contact meeting with Bruce Myers.

    d) Approval of questions and initial meeting with Bruce Myers Scheduled for February 4, 2014 at 1600 in the Bruce Myers Conference room at Austin Peay State University's Maynard Building.

XI. New business

    c) Send a copy of the questions regarding the problems that Ready to Help Computer Support is having with their information system, how the company currently operates, and what direction the company is currently seeking in order to resolve the current issues.

XII. Adjournment

Ashley Durham adjourned the meeting at 1400.

Minutes submitted by: Robert Dawson

Minutes approved by: Ashley Durham, Project Manager

Appendix C-2

D.D.V.L. Team 1
Meeting Minutes
February 4, 2014

XIII. Call to order

Ashley Durham called to order the meeting of the systems analysis Team 1 at 1600 on February 4, 2014 in the Bruce Myers Conference room at Austin Peay State University's Maynard Building.

XIV. Roll call

Robert Dawson conducted a roll call. The following persons were present: Ashley Durham, Robert Dawson, Michael Vailes, Kevin Lowe, and Bruce Myers, Ready to Help Computer Support contact person.

XV. Approval of minutes from last meeting

Robert Dawson read the minutes from the last meeting. The minutes were approved as read.

XVI. Open issues

    e) Questions reviewed and answered by Bruce Myers.

XVII. New business

    d) Research for methods to resolve or design a new centralized information system for Ready to Help Computer Support.

XVIII. Adjournment

Ashley Durham adjourned the meeting at 1700.

Minutes submitted by: Robert Dawson

Minutes approved by: Ashley Durham, Project Manager

Appendix C-3

D.D.V.L. Team 1
Meeting Minutes
February 11, 2014

XIX. Call to order

Ashley Durham called to order the meeting of the systems analysis Team 1 at 1600 on February 11, 2014 in the Computer Lab at Austin Peay State University's Maynard Building.

XX. Roll call

Robert Dawson conducted a roll call. The following persons were present: Ashley Durham, Robert Dawson, Michael Vailes, and Kevin Lowe.

XXI. Approval of minutes from last meeting

Robert Dawson read the minutes from the last meeting. The minutes were approved as read.

XXII. Open issues

f) Review of information gathered from the analysis of Ready to Help Computer Support's day-to-day process.

XXIII. New business

e) Gather and begin the first draft of the study phase report. This encompasses organizing the data collected by our individual team members into a detailed outline of our proposal.

XXIV. Adjournment

Ashley Durham adjourned the meeting at 1800.

Minutes submitted by: Robert Dawson

Minutes approved by: Ashley Durham, Project Manager

Appendix C-4

D.D.V.L. Team 1
Meeting Minutes
February 16, 2014

XXV. Call to order

Ashley Durham called to order the meeting of the systems analysis Team 1 at 1600 on February 16, 2014 in room 130 of Austin Peay State University's Maynard Building.

XXVI. Roll call

Robert Dawson conducted a roll call. The following persons were present: Ashley Durham, Robert Dawson, Michael Vailes, and Kevin Lowe.

XXVII. Approval of minutes from last meeting

Robert Dawson read the minutes from the last meeting. The minutes were approved as read.

XXVIII. Open issues

g) Review and edit the first draft of the study phase report and discuss the format for the presentation due on February 25, 2014.

XXIX. New business

f) Continue to edit the Format on the study phase report.

g) Prepare to finalize the study phase report for the projected due date of February 20, 2014.

XXX. Adjournment

Ashley Durham adjourned the meeting at 1800.

Minutes submitted by: Robert Dawson

Minutes approved by: Ashley Durham, Project Manager

Appendix C-5

D.D.V.L. Team 1
Meeting Minutes
February 17, 2014

XXXI. Call to order

Ashley Durham called to order the meeting of the systems analysis Team 1 at 1600 on February 17, 2014 in room 130 of Austin Peay State University's Maynard Building.

XXXII. Roll call

Robert Dawson conducted a roll call. The following persons were present: Ashley Durham, Robert Dawson, Michael Vailes, and Kevin Lowe.

XXXIII. Approval of minutes from last meeting

Robert Dawson read the minutes from the last meeting. The minutes were approved as read.

XXXIV. Open issues

h) Finalize the Format on the study phase report for the projected due date of February 20, 2014.

XXXV. New business

h) Perform Final edits to the report and have it ready to be submitted by February 20, 2014.

XXXVI. Adjournment

Ashley Durham adjourned the meeting at 1800.

Minutes submitted by: Robert Dawson

Minutes approved by: Ashley Durham, Project Manager

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D.D.V.L. Team 1
Meeting Minutes
February 18, 2014

XXXVII. Call to order

Ashley Durham called to order the meeting of the systems analysis Team 1 at 1600 on February 18, 2014 in computer lab of Austin Peay State University's Maynard Building.

XXXVIII. Roll call

Robert Dawson conducted a roll call. The following persons were present: Ashley Durham, Robert Dawson, Michael Vailes, and Kevin Lowe.

XXXIX. Approval of minutes from last meeting

Robert Dawson read the minutes from the last meeting. The minutes were approved as read.

XL. Open issues

i) Perform final edits on the study phase report for the projected due date of February 20, 2014.

XLI. New business

i) Perform final review of the study phase report prior to delivery to the Ready to Help Computer Support contact person, Bruce Myers.

j) Begin designing the power point presentation for the projected due date of February 25, 2014.

XLII. Adjournment

Ashley Durham adjourned the meeting at 1800.

Minutes submitted by: Robert Dawson

Minutes approved by: Ashley Durham, Project Manager

Appendix C-7

D.D.V.L. Team 1
Meeting Minutes
February 19, 2014

XLIII.   Call to order

Ashley Durham called to order the meeting of the systems analysis Team 1 at 1600 on February 19, 2014 in computer lab of Austin Peay State University's Maynard Building.

XLIV.   Roll call

Robert Dawson conducted a roll call. The following persons were present: Ashley Durham, Robert Dawson, Michael Vailes, and Kevin Lowe.

XLV.   Approval of minutes from last meeting

Robert Dawson read the minutes from the last meeting. The minutes were approved as read.

XLVI.   Open issues

j)   Final review of the study phase report prior to delivery to the Ready to Help Computer Support contact person, Bruce Myers.

XLVII.   New business

k)   Deliver the study phase report directly to Ready to Help Computer Support contact person, Bruce Myers.

l)   Continue designing the power point presentation for the projected due date of February 25, 2014.

XLVIII.   Adjournment

Ashley Durham adjourned the meeting at 1800.

Minutes submitted by: Robert Dawson

Minutes approved by: Ashley Durham, Project Manager

Appendix C-8