

***“Fresh Ideas”* Employee Suggestion Program**

By

William Christopher Porter

Submitted to
the Faculty of the Information Technology Program
in Partial Fulfillment of the Requirements for
the Degree of Bachelor of Science
in Information Technology

University of Cincinnati
College of Applied Science

May 2007

"Fresh Ideas" Employee Suggestion Program

By

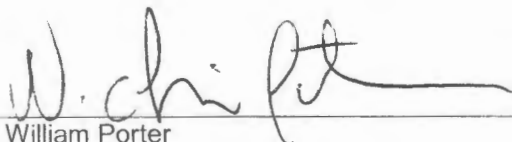

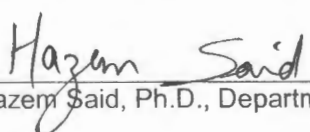
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Abstract

"Fresh Ideas" Employee Suggestion Program is a Web application that allows employees to submit cost-saving ideas. This Web application streamlines the process between the employee (the submitter) and the administration (the evaluator). The goal is also to eliminate or reduce the paper trail that paper copies create. Employees will have a Web interface which they can use to enter their ideas and the Administration will have a restricted Web interface with access to many different functions such as transferring the request to others, approving or declining an idea, or doing an analysis of the idea. Microsoft technologies will be used. The program is designed to be used on the Intranet.

"Fresh Ideas" Employee Suggestion Program

1. Product Description and Intended Use

Fresh Ideas Employee Suggestion Program for Hamilton County is a Web based designed to allow employees to share their ideas in the most efficient manner. The employees will utilize the homepage of Fresh Ideas to enter their ideas and to be able to track their ideas as well. The administrative team consists of a moderator from the Personnel Department, budget analysts, and the county assistant administrators who will be reviewing the suggestions. (See Appendix A.)

Fresh Ideas Program is a fully featured application that will collect all the necessary information and track the data throughout the life of the suggestion. Logging capacities will be incorporated.

1.1 Statement of the Problem

Currently, whenever an Employee have an idea, the Employee is required to write his or her suggestion on a form and submit to the Department Head who, once completing the form, turns it over to the County Budget Analyst who does the cost feasibility analysis. The County Budget Analyst then returns it to Personnel Moderator. When the Personnel Moderator receives it, the Personnel Moderator makes recommendations to the County Administrator or one of his assistants, who then make the final decision. If the idea is approved, the Employee can choose either vacation time or compensation in terms of bonuses. This process creates a paper trail for everyone and wastes many hours tracking

the progress, not to mention the lack of contact between the Employee and the person reviewing the idea. A submitted idea often takes a long period of time to process. Employees often do not receive results for several weeks or months.

2. Description of the Solution

The Web-based application utilizes ASP with VBScripting (Web development) and SQL Server (Database). The equipment and software are already in place and all the county applications are currently utilizing those machines. Fresh Ideas Web application is deployed on the Internet with access restricted to the county network.

ASP was chosen because

1. The county IT personnel are well versed in ASP and the county is not willing to train any staff in the new language due to budgetary reasons.
2. It is browser-independent; anyone inside the county network is able to access the application.
3. It is design friendly because it is Microsoft proprietary and is designed to work well with other Microsoft products such as SQL Server.

2.1 User Profile

The users for the Fresh Ideas Employee Suggestion Program are the Employees, Personnel Moderator, Budget Analysts, County Administrator and his Assistants and the Administrator / Database Administrator. (See Figure 1.)

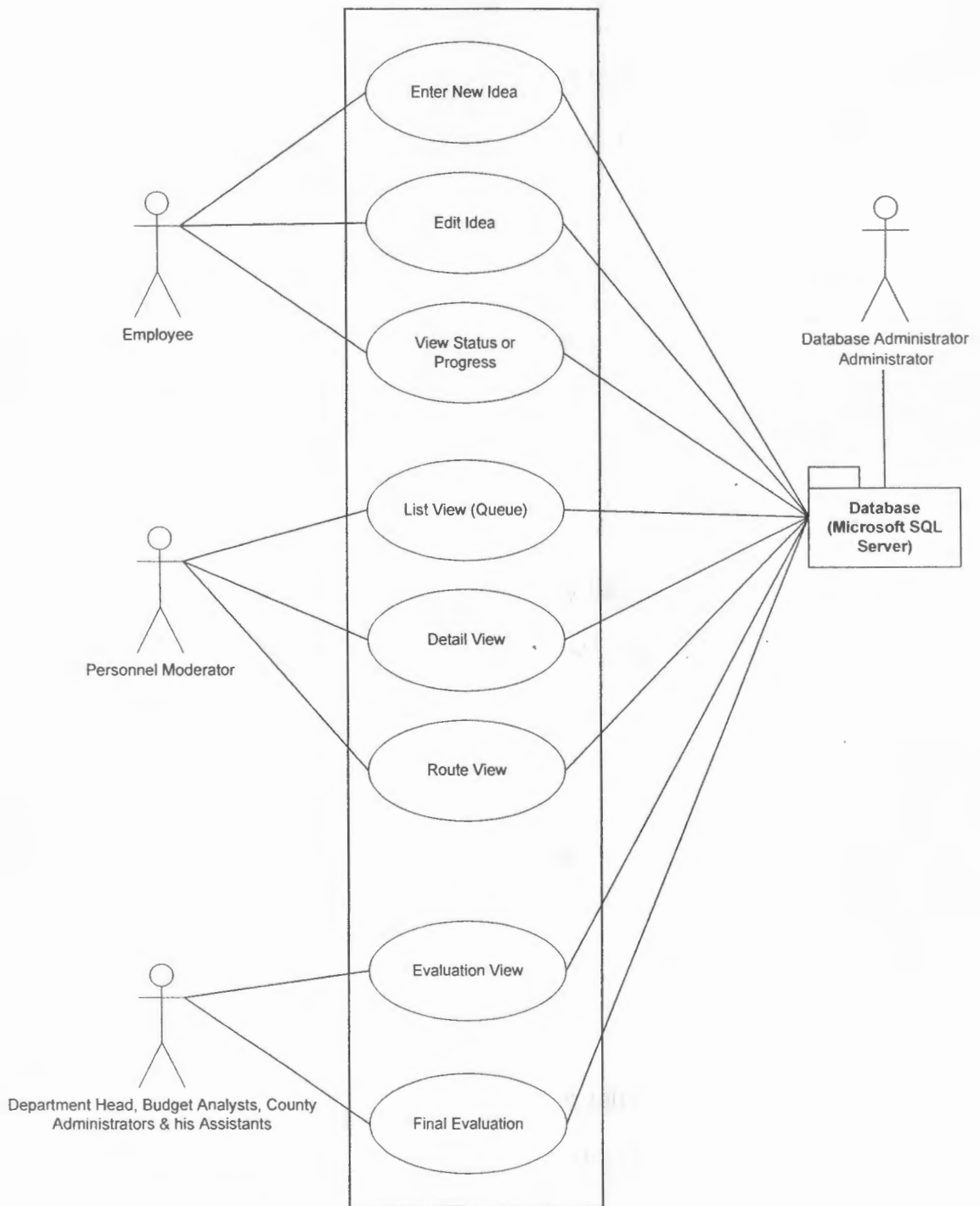


Figure 1 – Use Case Actors

2.1.1 Administrator / Database Administrator

The Administrator / Database Administrator maintains the database and assigns user IDs and passwords to the Personnel Moderator and the Assistant County Administrators. The Administrator is also responsible for code repairs, upgrades and additional features.

2.1.2 Personnel Moderator

The Personnel Moderator is the first person who reviews the idea. The Personnel Moderator is in charge of viewing and referring the idea to appropriate people or, if necessary, sending it back to the Employee who started the idea if the form was incomplete or unclear. The Personnel Moderator has the option of referring the idea back to the Department Head in the section where the Employee works. The Personnel Moderator will also determine which Assistant County Administrator to refer this idea to for final approval.

2.1.3 Department Head

The Department Head determines whether the idea will be implemented. The Department Head reports this decision back to the Personnel Moderator. This process eliminates redundancies in ideas accepted.

2.1.4 County Administrator and Assistant County Administrators

The County Administrator and Assistant County Administrators will make the final decision. They will decide whether the idea is approved and calculate whether the idea will result in cost savings. They also approve vacation time or allocate compensation to the Employee. The County Administrator and Assistant County Administrators send their comments back to the Personnel Moderator who then informs the Employee.

2.1.5 Employee

The Employee initiates the idea by using the Suggestion Form on the Web site. The Employee also has tracking capabilities using the confirmation number. There will be an interface in which the Employee enters their confirmation number and the interface will bring up the status of the suggestion.

2.2 Design Protocol

The Web application has three major modules: Employee Suggestion (See Figure 2.), Employee Suggestion Manager (See Figure 3.), and Employee Suggestion Evaluation. (See Figure 4.)

The Employee Suggestion application resides on the county Intranet. Virtually everyone connected on the county networks is able to access this application to enter ideas. This interface will not be a restricted page; no password or login name will be needed. The Employees will have the option of using paper copy or entering their ideas using the program. The Employees will receive a confirmation number once they submit the form and they can use the confirmation number to track their suggestions. The Employees also have access to FAQ's and the documents related to this program in form of an Acrobat PDF.

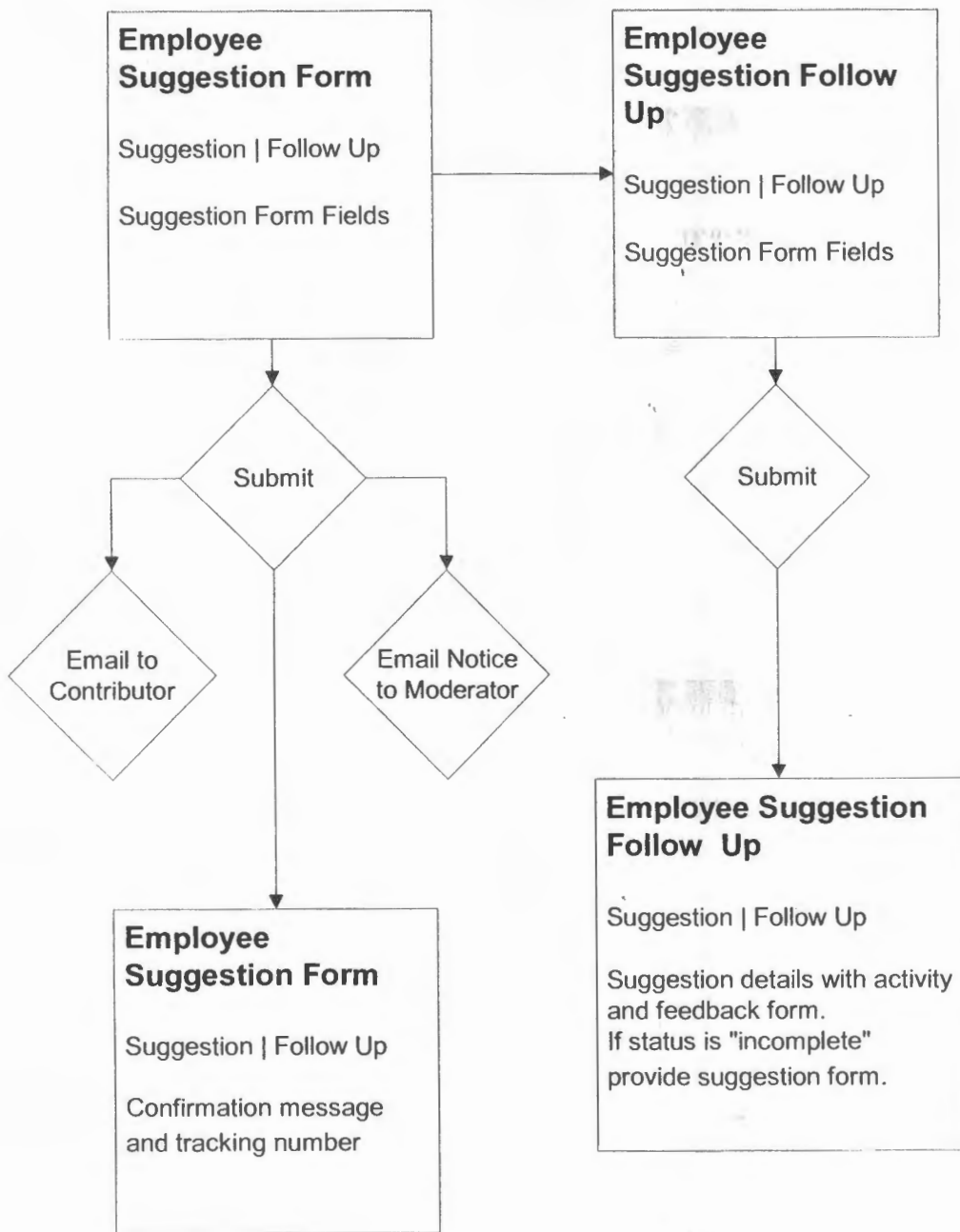


Figure 2 – EMPLOYEE SUGGESTION AREA - Flowchart of the Employee Suggestion Area of the Web

Before logging into the Employee Suggestion Manager, a designated employee needs a user id and a password. The login and password are assigned by the Database Administrator. Employee Suggestion Manager is a secured Web site in which only the personnel moderator, budget analysts and the County Administrator and his Assistants have access. The Personnel Moderator, Budget Analysts and the County Administrator and his Assistants encounter a welcome screen then click on the appropriate feature on the right side to access the pages to which they are assigned. The Employee Suggestion Manager has List View, Detail View, and the Route View. Details of the Employee Suggestion Manager interface are explained in Figure 3 below.

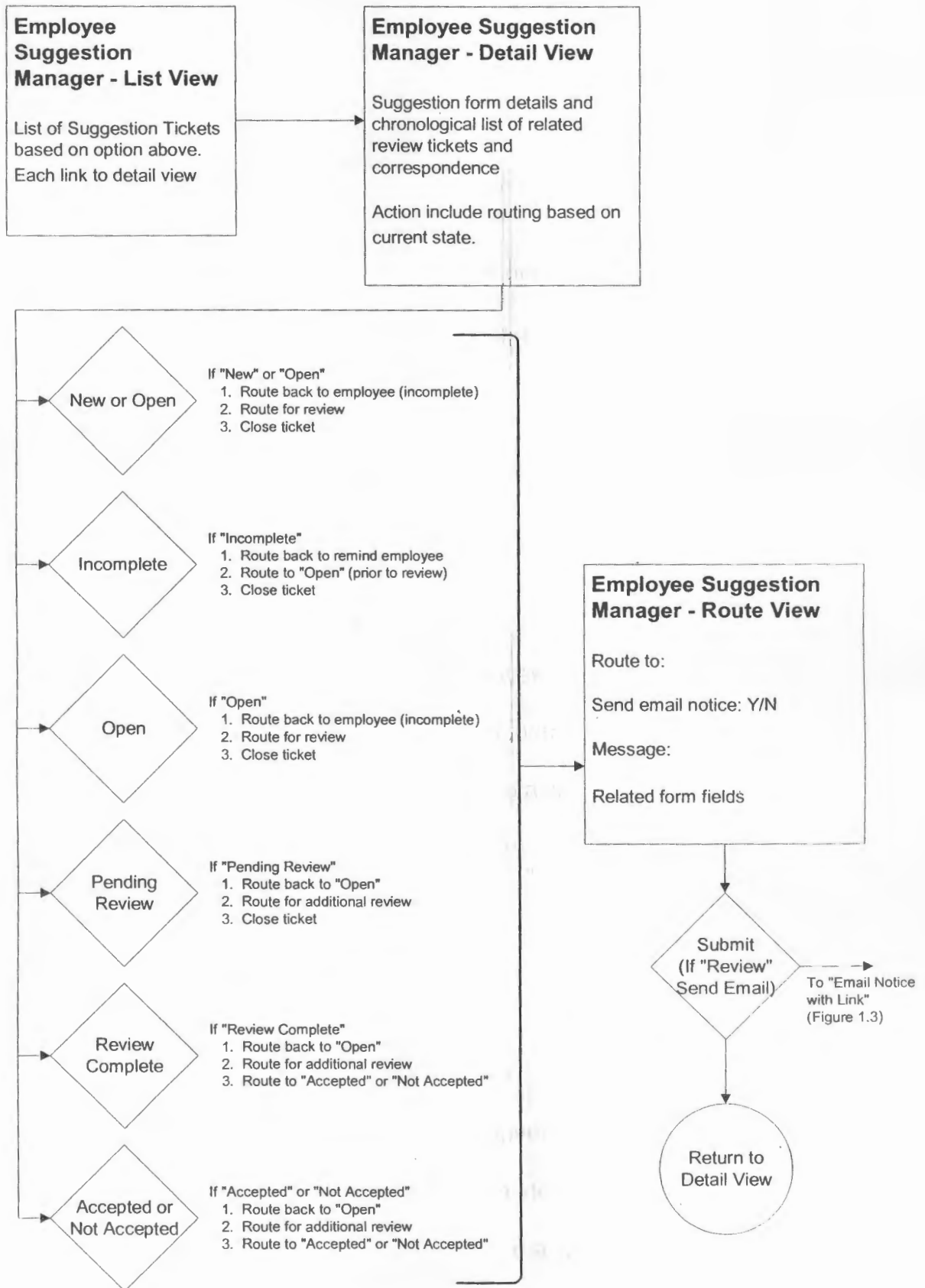


Figure 3 – EMPLOYEE SUGGESTION MANAGER – Password Protected Area of the Web

Employee Suggestion Evaluation (Figure 4) is accessed by the County Administrator, his assistants, and the County Budget Analysts. Here the County Administrator and his assistants evaluate the idea and give input and make the final decision. In this module, there is also an option for the Budget Analyst to submit the cost feasibility analysis.

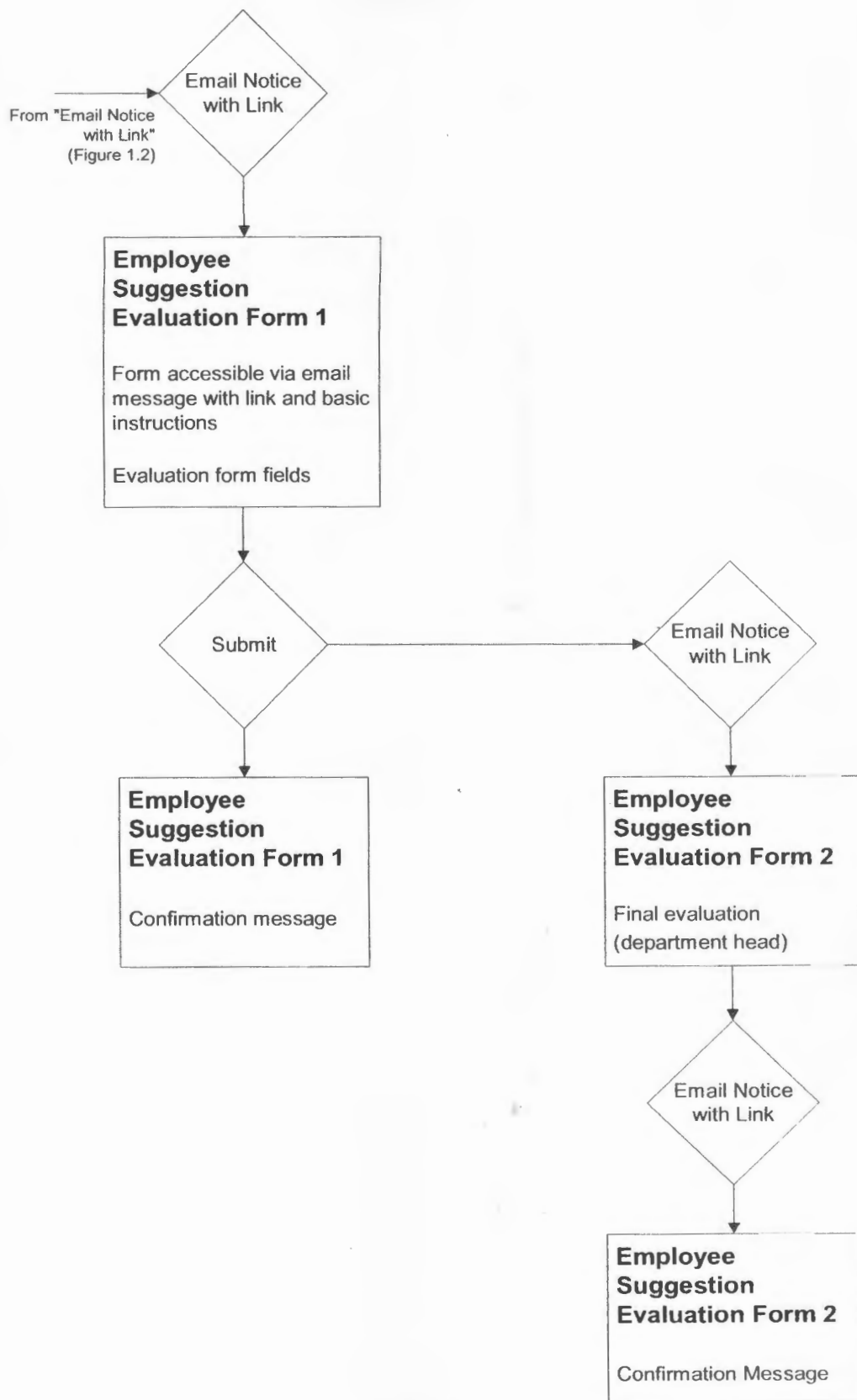


Figure 4 – EMPLOYEE SUGGESTION EVALUATION AREA – Accessible via URLs delivered by Email

3. Deliverables

A fully functional application has the following features:

1. A Web-based Fresh Ideas Employee Suggestions application which allows the employees to enter or edit their ideas and to track the progress.
2. User Interface written in ASP which allows for queries and communication between the client and the database
3. Users of the Employee Suggestion Application have a restricted access which requires both user id and a password. This is authenticated by the Microsoft SQL Server 7.0
4. Employees have the following capabilities:
 - Enter an idea
 - Follow up with the process
 - Edit their ideas
 - Check FAQ page and relevant documents

5. Personnel, Budget Analysts, and the County Administrator and his Assistants have the following capabilities:

- Review the idea
- Follow up with the process
- Enter their decisions
- Refer back to the Personnel Moderator
- Approve / Decline the idea

6. Database Tables (See Appendix B.)

4. Design and Development

The next sections describe the project's timeline and overall budget with hardware and software costs.

4.1 Budget

Most of the work was done in-house at the Hamilton County Administration Building. Most of the hardware and software already exists in the office. The county purchased a laptop to use as staging area, for development and testing. The Retail and Incurred Costs columns in the budget table below reflect the costs that were either paid in the past or need to be covered in order for this project to be completed. There was no cost to the student. (See Figure 5.)

Item	Description	Retail Cost	Cost Incurred
IBM XSeries 346	Have (Includes Window Server 2003)	\$4500.00	\$0.00
Internet Information Services	Have	0.00	0.00
Microsoft SQL Server 2000	Have	0.00	0.00
Macromedia Studio 8	Have	999.00	0.00
1 GB USB Jump Drive	Have	34.90	0.00
	Retail Total:	\$7382.90	
	Student's Total		\$0.00

Figure 5 – Budget Breakdown

4.2 Timeline

The project proved to be challenging at times. Mistakes were made during the project providing opportunities to learn how to rectify errors. Below are the achievements that I have made during the Senior Design. The detailed timeline in Microsoft Project format can also be found below. (Figure 6.)

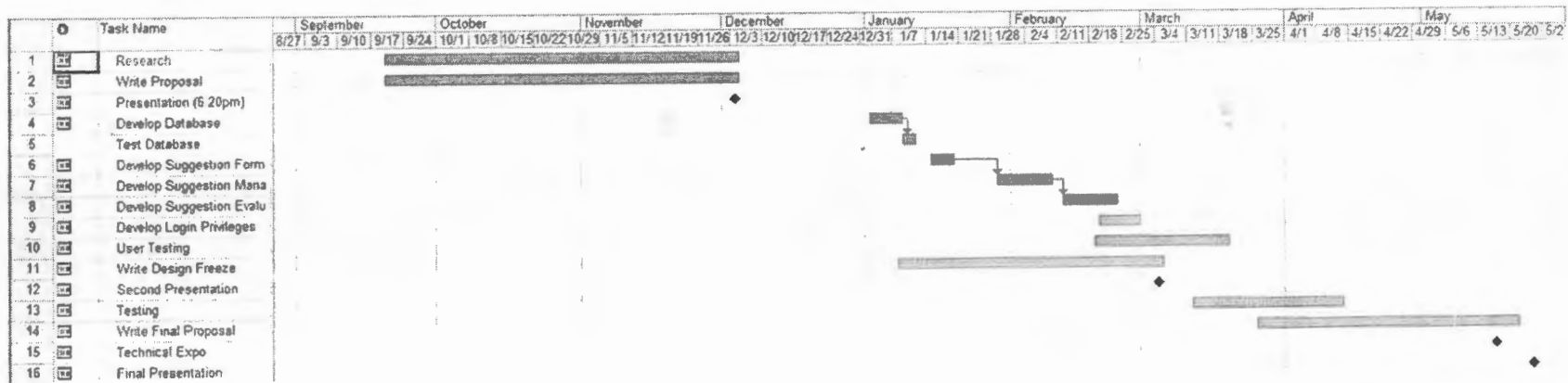


Figure 6 – Timeline

4.2.1 Senior Design I Accomplishments

During Senior Design I, the following was accomplished:

- Researched and analyzed the requirements to make the program
- Analyzed the need of target audience
- Developing an understanding of the tools involved
- Structured design and layout
- Began database design and development process
- Provided proposal
- Gave oral presentation

4.2.2 Senior Design II Accomplishments

During Senior Design II, the following was accomplished:

- Continued to develop database and connectivity
- Created login page and authentication
- Created user interface
- Started development of different modules
- Prepared Design Freeze
- Gave oral presentation

4.2.3 Senior Design III Accomplishments

During Senior Design III, the following was accomplished:

- Completed programming
- Tested program
- Modified program
- Created documentation for the project
- Created Abstract
- Prepared Final Documentation
- Gave oral presentation

4.3 Hardware

- *IBM Server* – Used to host the application and the database.

Specifications: IBM x346, Xeon 2.4GHz/400MHz, 512KB, 2 GB, OB, Ultra320, Rack, 2.4GHz/400Mhz, 512KB with Intel Xeon Processor, 512MB PC2100 CL2.5 ECC DDR SDRAM RDIMM, ServeRAID-5i SCSI Controller, 18.2 GB 15K-rpm Ultra 160 SCSI HS SL HDD, 350 Watts Hot Swap Redundant Power Supply Upgrade Kit, EPac 3 Year Onsite Warranty, 24x7x4 (x360), Server Hardware Integration

- *Dell XPS M1710 Laptop* – Used for testing and presenting the code and application to faculty, students and other interested parties. This laptop

is a staging area which is easy to carry back and forth to school and work and was used at Tech Expo 2007. The laptop hosted a developer edition of SQL Server.

4.4 Software

- *Windows 2003 Server* – Operating System that is needed to run the application “Fresh Ideas”
- *Internet Information Systems (IIS)* – Used to present ASP
- *Microsoft SQL Server* – Used to create the databases and all necessary tables to achieve this project.
- *Macromedia Dreamweaver 8* – Used to partially code the application because of its quickness, ease of use and robust code handling. It is also able to handle ASP snippets.
- *Macromedia Fireworks 8* – Used to create the design for interface for this project

5. Proof of Design

The next section describes in details the different interfaces that were developed during the duration of the project.

5.1 Employee Interface (Employee Suggestion Entry Form)

The screenshot shows a web browser window displaying the Hamilton County, Ohio website. The page title is "Fresh Ideas Form Employee Suggestion Program". The navigation menu includes "Home", "About Us", "Services", "Departments", "Phone Directory", and "Contact Us/Feedback". The main content area contains the following text and form fields:

**Fresh Ideas Form
Employee Suggestion Program**

[Suggestion Form](#) | [Follow us](#) | [Generate a Suggestion](#) | [Program Information](#) | [FAQ](#)

This form is for use by Hamilton County employees. If you are a citizen and would like to make a suggestion please use [click here](#).

Name: **Department:**

Job Title: **Work Address:**

Email: **Supervisor's Name:**

Work Phone: **Supervisor's Phone:**

Supervisor's Email:

Suggestion Title:

Present Condition: Describe the present condition you would like to improve

Current Process:

Employees will use this interface. This interface (See Figure 7.) will allow employees to input as much information as possible to make sure that the idea is understood. No login is necessary to access this page.

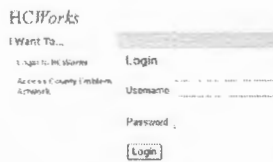
Figure 7 – Employee Suggestion Interface

If an Employee wants to follow up on the progress of the idea, they go to the “Follow Up” link and it will lead the Employee to a separate page where the Employee enters the confirmation number. (See Figure 8.) Once the Employee enters their confirmation number, the Employee will be transferred to an activity report.



Figure 8 – Employee Suggestion Confirmation Page for Tracking

5.2 Login for Personnel Moderator / County Administrators and Assistant County Administrators (Employee Suggestion Manager)



This interface requires a login and an authentication from the SQL Server. (See Figure 9.)

Figure 9 – Login

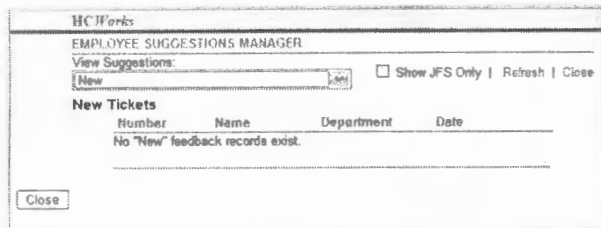
5.3 Options Portal for Personnel Moderator / County Administrators and Assistant County Administrators (Employee Suggestion Evaluation)

After logging in, the authorized person will be brought to this options page where the authorized person chooses one of the options. (See Figure 10.).



Figure 10 – Options Portal

5.4 Personnel Moderator Interface (Employee Suggestion Manager Page)



This interface allows the Personnel Moderator to view the status of individual suggestions (or ticket). (See Figure 11.)

Figure 11 – Employee Suggestion Manager

5.5 Personnel Moderator Review Interface (Employee Suggestion Manager Review)

This interface allows the Personnel Moderator to review the options and decide how to route a specific suggestion based on the option in the top portion of the page. (See Figure 12.)

The screenshot shows a web interface for reviewing employee suggestions. At the top, it says "HCWorks" and "EMPLOYEE SUGGESTIONS MANAGER". There are navigation links: "Suggestion Detail", "Suggestion Information", "Update Progress", "View Activity", "Send for Department Review", "Send for Budget Review", and "Send for Administration Review". A "Close" button is in the top right. The main content area includes:

- Name:** [blank]
- Job Title:** [blank]
- Email:** [blank]
- Work Phone:** [blank]
- Home Phone:** [blank]
- Status:** Pending Review
- Dept:** [blank]
- Work Address:** [blank]
- Supervisor's Name:** [blank]
- Supervisor's Phone:** [blank]
- Supervisor's Email:** [blank]
- Title:** [blank]
- Present Condition:** [blank]
- Suggestion will:**
 - Increase Productivity
 - Improve Service
 - Improve Methods
 - Reduce Costs
 - Improve Quality
 - Prevent Accidents
 - Other
- Suggestion:** [blank]
- Department or Agency Idea is regarding:** [blank]
- Savings or Benefits:** [blank]
- Award Selected:**
 - Selected agreement
- Close** button

Figure 12 – Employee Suggestion Manager Review Page

5.6 County Administrator and Assistants (Administrative Review Report)

The screenshot shows the HCFWorks interface for an Administrative Review Report. The page title is "Employee Suggestion Program Administrator Review Report (Jeff Aluotto)". The report details include:

- Suggestion Information:**
 - Title: TEST WEB DEVELOPERS IDEA
 - Requestor Contact: I am testing to make sure it works
 - Suggestion Description: Testing
 - Department or Agency: Planning and Zoning
 - Savings or Benefits: 1 dollar saved
 - Preferred Award: Leave
- Department Review Information:**
 - Evaluator:
 - Department Head:
 - Evaluation Details:
 - Budget Savings: \$0.00 [View](#)
- Budget Review Information:**
 - Budget Analyst:
 - Review Recommendation:
 - Comments:
- Administrator Review Information:**
 - Reviewer: Jeff Aluotto
 - Radio buttons: Approved, Requires Further Consideration, Not Approved
 - Comments field: A text area with the word "denied" entered.
 - Buttons: "Finalize Suggestions"

Administrative Review Report is the interface in which Administrators review and decide whether the idea is approved or not. The County Administrator or his assistant will put in the comment in the little box and select one of the radio boxes reflecting their decision. (See Figure 13.)

Figure 13 – Administrative Review Report

5.7 Administrative Session

After a period of inactivity, the administrative session will expire and force you to login again. (See Figure 14.)

The screenshot shows the HCFWorks interface with a "Login Error" message. The message text reads: "You do not have permission to access the requested page or your administrative session has expired." The page also shows the "Login to HCFWorks" link and the "Access County Employee Artwork" link.

Figure 14 – Administrative Session Expired

5.8 Color Scheme

The Hamilton County Employee Suggestion Application adheres to the Hamilton County Web standards. The color selection is consistent throughout the County Web site. The white background represents professional appearance and soft gray and blue are used for both the text and appearance. The color palette has been tested against the standards and proved to be Web compatible. We serve all populations, including color-blind people. This color scheme provides a good contrast not only for the color-blind people, but also for the general population.

6. Testing Procedures

Each module was tested individually throughout the entire project to ensure that it works well with each other. First, the modules were tested as they were being developed to ensure communication between the application and the database. The database was also tested for security and authentication. Once the Employee Suggestion Project became whole, the usability test was conducted with the help of the Personnel Moderator to ensure that the application works as designed and agreed upon. Feedback was collected by the Developer (student).

7. Conclusions and Recommendations

7.1 Conclusion

It is obvious that the Intranet is a great tool for bringing people together and allowing them to share their ideas. With a Web-based Employee Suggestion Program, the Employee can go on the Intranet using URL supplied and enter their ideas. These contributors will also be able to keep track of the progress of their ideas. At the same time, project managers (HR Personnel), Budget Analysts, and the County Administrator can view the status of the ideas and make comments as well. The Intranet application will be the most efficient solution and it will reduce the amount of paper trail that the County is currently experiencing. The ease of use of the application will be evident in the increase in suggestions. The Intranet application will solve many of the communication problems currently faced by the County personnel. It will help streamline the process and reduce the paper trail.

7.2 Recommendations

The application needs to be written in new generation of code: ASP.NET. The SQL Server needs to be upgraded to MSSQL 2005. Training is needed for older ASP coders here in Hamilton County. A Web page with tabs is encouraged for status viewing because it will help streamline the viewing process and improve the speed of retrieving data from the SQL Server.

Appendix A

Research Information

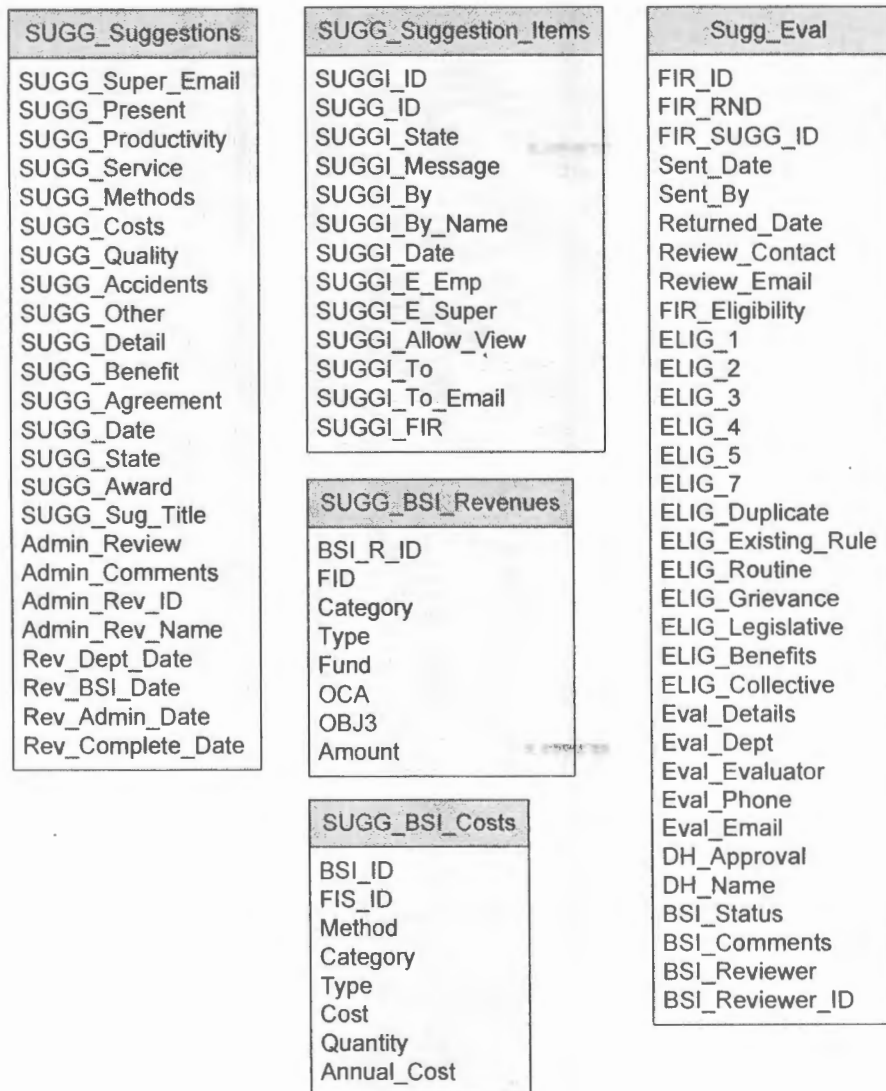
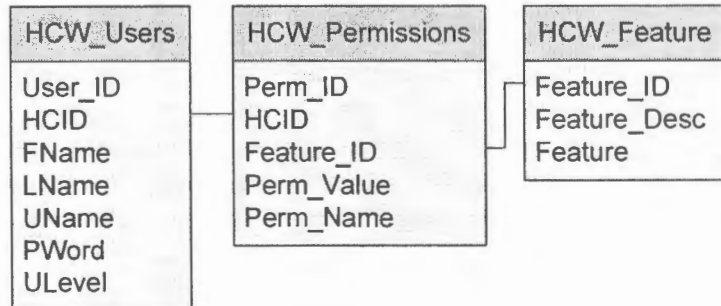
Suggesting ideas to improve efficiency is a complicated endeavor. The Hamilton County government has 5,000 employees who share many ideas for improving the county and its departments. A suggestion, if constructive, should result in a savings of time or money or other improvement. It poses a solution to a problem, a solution to a potential problem, or an opportunity to effect change (1). Currently, the Employees are required to submit ideas on a form to the supervisors who review them turning them over to the County Budget Analyst. The County Budget Analyst does the cost feasibility and once that is completed, the County Budget Analyst delivers to the Human Resources. When HR receives it, they make recommendations to the County Administrator, who then makes the final decision. If the idea is approved, the contributor gets either vacation time or compensation in terms of bonuses. This process creates a paper trail for everyone and wastes a lot of hours tracking the progress not to mention lack of contact between the contributor and the person reviewing the idea. A submitted idea often takes a long period of time to process. The contributor or contributors often do not hear anything for several weeks or months. According to Kim Pennekamp, "We have so many papers that we are losing track of and sometimes we cannot find them and we are forced to ask the employees to submit their ideas again" (4). The employees have expressed the desire to keep track of their own ideas but are unable to.

The most appropriate solution would be to create a Web interface that will allow a person to enter his or her ideas and compete for either compensation or vacation time. The Intranet (Web) application will also allow the contributor to monitor the progress of his or her idea. Ms. Stephenson stressed that, "We do not want the program to cease, as matter of fact; having a Web version of "Fresh Ideas" will motivate people to participate more" (5). Suggestions or Suggestion Programs "can contribute actual savings, a high quality product, or make it easier to get work done" (1). There is a keen interest in keeping this program but to try and streamline the process or rather simplify it. One of the ideas being generated is an Intranet application that only the employees can access and enter their information and keep track of it. It is also a great tool to bring people together and enable them to share their ideas. With an Intranet application in place, people can track their progress and follow up if there are any problems or missing information that may be needed. *Suggestion program saves \$22 million in 18 months – The Power of Incentives*: "In 18 months that Atkinson headed up the program, West Valley Nuclear Services received 183 suggestions" (3). The Hamilton County Government is willing to wager that the suggestions will increase dramatically with a Web application in place.

It is believed that the workplace suggestion box started with the Japanese in 1721 when the eighth shogun, Yoshimuni Tokugawa...posted the following note: "Make your idea known.... Rewards are given for ideas that are accepted." (6) With the expansion of the suggestion program, hopefully people will begin to appreciate it and take advantage of it.

Appendix B

Database Design



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