Spring 2009

CRM and Spiritual Care

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Regis University
College for Professional Studies Graduate Programs
Final Project/Thesis

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CRM and Spiritual Care

by

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A Thesis/Practicum Report submitted in partial fulfillment of the requirements for the
degree of Master of Science in Computer Information Technology

School of Computer and Information Sciences
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Denver, Colorado

February 7, 2009

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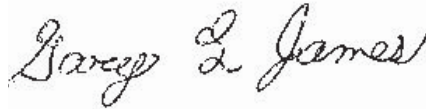
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Abstract

The Spiritual Care Department at Senior Care Residences does not have a computer database to record the chaplain's time during residents' visits, working with volunteers, and working with current or potential donors. This poses several problems such as keeping track of visits. Tracking this information will allow the chaplain to know whom he/she has provided spiritual care. This information is also critical for the volunteers he/she works with and current and potential donors. By implementing a CRM (Customer Relationship Management) application, the chaplain will have this information to help make informed decisions, and the automated computer system will help make recommendations.

Acknowledgements

I would like to thank my instructors who were willing to sacrifice their time. To my wife, Jody James, who encouraged me to continue my educational and spiritual process through hardships.

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Executive Summary

After researching many senior long-term care facilities, it is apparent that chaplains and pastors do not have the appropriate record keeping database management that other departments use. This project suggests a solution to this problem. Senior Care Residences is a compilation of several facilities, yet represents an individual senior long-term community for purposes of this study. The Spiritual Care Department at Senior Care Residences requires the necessary tools to incorporate a CRM (Customer Relationship Management) process. Extremely low resources for the Spiritual Care department are catalysts for this study and resulting project. Although CRM is not a new tool, it will provide a mechanism to track vital information. The solution will allow the department to track how the chaplain spends his/her time and ways to improve upon it. This includes identifying individuals that are not receiving the spiritual care visits necessary and identifying lack of resources for church services. Other customer relationship potentials include managing donors, potential donors, and identifying contact information and scheduling. Scheduling may include clients, volunteers, Bible studies, and any other activity. The tool will provide a mechanism to add new activity types and schedules.

It is unlikely that a technical solution for this already exists. However, many CRM applications are available, so utilizing the application for a new environment is possible. The new environment will have the specific requirements for the Spiritual Care Department.

Chapter 1 – Introduction

With health costs on the rise, many long-term senior care residences no longer provide spiritual care or their resources are severely limited. With limited resources, it is difficult to visit all the residents, current and potential donors, and volunteers. To help solve this problem Senior Care Residences requires a CRM (Customer Relationship Management) application. This application will allow the chaplain to keep track how he/she spends his/her time and make recommendations. Some recommendations may include who needs visits, and reminders to call the volunteers.

This project started with a conversation with a chaplain who works in the long-term care senior field. The chaplain mentioned that she needed a tool to keep track of the contacts she was making within and outside the facility. She continued to describe the issues, and we decided that developing or customizing a tool was feasible.

After interviewing several chaplains and pastors who work with seniors in long-term care, it became evident that they have an enormous amount of responsibility. Chaplains often have responsibilities besides pastoral care of residents. The other tasks include working with donors, potential donors, and volunteers. This is an enormous amount of responsibility for one person. Many Spiritual Care Departments at long-term care residences do not have a method to record how the chaplain spends his/her time; it is not a concern that the chaplain is keeping busy. However, this information is vital. Knowing whom the chaplain is providing spiritual care is impossible without accurate data entry. The facility would like to track the chaplain's time and find methods to improve it. This may provide justification for intern chaplains that could help reduce the enormous workload for one person or a small Spiritual Care Department.

A technical solution for tracking employees' time or the projects they work on is nothing new. Process engineering is the name given to this solution. It is not new, but it appears new to the Spiritual Care departments in Senior Care and Assisted Living facilities. This tool may help identify individuals who are not receiving required visitations or who is lacking resources for church services. Other customer relationship potentials include managing donors, potential donors, and identifying contact information for key individuals. The CRM application will provide more information for the chaplain. This information can help the chaplain respond to the present needs and predict future needs. The goal is to research and implement a technical feasible solution. Many CRM applications and solutions are available yet there is room for utilizing it in a new environment. This professional project will address the needs of several issues. How does Senior Care Residences acquire the most effective solution at a reasonable price? What strategy should they use? What methodology should be used for solving the problem?

Chapter 2 – Review of Literature and Research

There are many books written about CRM. It appears that several books provide very little new information and much of it is redundant. However, some books do provide different insights on how a CRM may dramatically improve a company's customer relationships. Taking a close look at these books is important because many chapters do include valuable information on the CRM.

Several authors recognized that many CRM projects focus on the mechanics or technical solutions rather than the goal of increasing the value of the customer relationship. As with most projects, management buy-in is a key. Many books noted that companies start planning the technical solutions before understanding the customers' strategy.

Companies should research what customers need and realign their own customer views with very individualized view of the customers' insights. These insights can increase possibilities. Creating the correct CRM capabilities is the first part of the CRM journey. Several authors point out CRM is not a software application but instead a business strategy. This strategy can optimize one or several aspects profitability, revenue, and satisfaction of the individual customer.

Any software package chosen will require some modification, to achieve the company's CRM initiative. Several companies will cater to business sizes, typically small companies, midsize companies, and enterprises (Reynolds, 2002). Our application is for a small company so we will look at software packages from Goldmine and ACT!.

After the capabilities are in place, the organization needs to take the necessary steps to ensure they leverage the CRM capabilities. This is vital when creating CRM

data. However, one must not confuse quantity of data with quality. It is the quality of

the data that will allow the organization to build a strong relationship with the customer

(Freeland , 2003).

Chapter 3 – Methodology

The project will be implemented incorporating agile methods with Agile Unified

Process (AUP). This project uses four phases Inception, Elaboration, Construction, and

Transition. One of the goals of using an agile methodology is flexibility. AUP is a

simplified version of Rational Unified Process (RUP). It is also a good compromise from

Extreme Programming (XP). The Inception phase focuses on the initial scope of the

project and feasibility. The Elaboration phase will prove the architecture of the system.

The Construction phase builds the working software and proves highest priority needed

by the stakeholders. Finally, the Transition phase validates and deploys the system into a

production environment at the Senior Care Residences. The Inception phase includes

several steps. One of these steps is creating a vision statement. A representative of

Senior Care Residences will create the vision statement. Using Use Cases to capture the

most significant components will help the stakeholders articulate the system

requirements, and help the designer to validate the requirements (Keefer, 2004).

After developing the use cases, the next step is to evaluate various software

solutions that will meet the required objectives. This may require modifying an existing

package, or creating a new solution. During this process, the developer will evaluate

several software packages or documentation to identify if it meets the initial use case

requirements.

Because the AUP is an iterative process, during the Elaboration phase we will

refine the vision and use cases. During this process, Senior Care Residences

representative prioritizes the use cases. Generally, the AUP prioritizes the use cases by

risk. However, during this process the representative will prioritize according to importance and risk (Keefer, 2004). The Elaboration phase does not only allow the users to refine the early processes. It also allows for creating new ones. During the Elaboration phase, the developer creates the software architecture document. The designer implements the highest priority features keeping the complexity as simple as possible and only adding complexity based on the use case.

The Construction and the elaboration phase are similar. During this phase, the project continues to grow and the iterative process continues. During the construction phase, the developer stabilizes the construction and develops release schedules with Senior Care Residences representatives.

Transition is the final phase. Typically, the Transition phase starts after the first release. During this time, the system is live but may not have all of the functionality. However, this may not be feasible with this project. During the Transition phase, the users will undergo training to understand how the system works. The training will demonstrate all of the features specified as requirements. The Agile approach uses an iterative process; this may require an iterative approach for training if the application does not have all of the requirements on the initial release.

After incorporating a new release, the user will provide feedback to the designer. This process is vital to ensure the designer is aware if the system is meeting the users' requirements. During the Transition phase, the use cases are validated to ensure all system requirements are met. In addition, the developer analyzes the data to verify the system has met the user objectives.

Chapter 4 – Inception

The Inception phase focuses on the initial scope of the project and feasibility. One of these steps is creating a vision statement. Using Use Cases to capture the most significant components will help the stakeholders articulate the system requirements, and help the designer to validate the requirements (Keefer, 2004).

4.1 – Justification

One previous weakness with Senior Care Residences is working with the marketing aspect. They wish to create relationships with those outside the community. Reaching those outside the community will provide future benefits for the facility and the residents. Marketing may provide future donations to meet the needs of the residents and the facility. According to Reynolds, a common term with CRM is one-to-one marketing. The goal is to create a one-to-one relationship with the customer (Reynolds, 2002, p. 84). Because Senior Care Residences is concerned with residents, volunteers, and donors, the traditional sense of a customer may not apply. However, each of these is a customer. The residents pay or have a means to pay at the facility. The volunteers help provide a service to the facility and the residents. The donors help provide financially through various means of donations.

The one-to-one relationship is simply a process that anticipates the customer's needs. In a typical business scenario, this may mean providing additional goods that the customer may have purchased elsewhere. Because they already have this relationship, purchasing it from one supplier is easier (Reynolds, 2002, p. 84). Using this one-to-one relationship can apply to even the volunteers. They wish to provide a service to the facility and/or the residents. By understanding the volunteer's needs, accommodating

their needs is easier. By accommodating their needs, they have greater probability of continuing their services. An example of meeting the volunteers' needs is providing a schedule and thanking them for their services.

4.2 – Creation of Vision

Typically, the agile process states the customer is responsible for creating the vision statement (Keefer, 2004). However, because of resource limitations, the project developer created the vision statement. The project developer sent the vision statement to a representative at Senior Care Residences for review. Once time permitted, the representative reviewed the vision statement.

Vision Document
Spiritual Care Project

Purpose

Business Opportunity

The system will help identify where the chaplain spends his/her time. This provides several opportunities for the Spiritual Care Department. Understanding where the chaplain spends his/her time identifies what is the primary focus. It may also identify residents that need additional visits and make automatic schedules. This is also true for the relationship between the donors and the Spiritual Care Department.

Problem Statement

The chaplain is responsible for providing spiritual care for residents and staff. The chaplain also works with donors, potential donors, and volunteers. The Spiritual Care Department at Senior Care Residences needs a method to record how the chaplain

spends his/her time. In addition, the chaplain records the contacts of all the stakeholders

(residents, staff, donors, and volunteers) and the time she spent with them. It is also

necessary to have a method to automatically identify tasks that need addressed. One

example includes whom to visit on a given day.

Market

The user of the system is the Spiritual Care Department. They will input the

client (Staff, Residents, Donors, and Volunteers) data. The data will provide information

to help track the visitations to the staff, residents, donors, and volunteers. This data is

useful for tracking the Spiritual Care time and scheduling new appointments. It is also

useful for identifying possible shortcomings.

Product Position

This product is a cross between a Time Management application and a Customer

Relationship Management application. The features alone are not new. However, using

the system features in the Spiritual Care Department is new.

<div align="center">Stakeholders</div>

Designer   The designer ensures that the system is working properly.

Staff   Some of the staff (Spiritual Care Department) are users of the

system. The other staff does not have direct access to the system.

However, some staff members may have influence from the

Spiritual Care Department

Residents   The Residents do not have direct access to the system. However,

the system may influence them. Part of the data collected from the

system is for the residents. It may help schedule appointments and

identify when they have received spiritual care.

Donors   The Donors like the residents do not have direct access to the

system. However, the system will contain data concerning them

and schedule meetings and reminders. One possible reminder is a

thank you notification.

Volunteers   The volunteers also do not have direct access to the system. The

system will help track schedules for the volunteers. It may also

help identify shortcomings of volunteers for various projects or

services.

Administrator   The Administrator gives the approval for implementing the system.

Product Overview

The Residences at Senior Care Residences primarily plans to use the system in the

Spiritual Care Department. Overall, the system is a hybrid of a time tracking system and

Customer Relationship Management program. The program will help the Chaplain track

where his/her time is spent, and can help manage his/her time. The program will utilize

all of the Chaplain's contact information. The contacts may include, but is not limited to

the staff, residents, volunteers, and donors.

The Spiritual Care Department has the primary interaction with the Spiritual Care

Program. The interaction of the system falls into three major categories: entering

contacts, activities, and reporting. The Spiritual Care Program stores contact

information. The Chaplain can add, edit, and delete contact information.

To track how the time is spent, the user will enter activity information. Activity

information may include visitations of a staff, resident, volunteer, or a donor. It may also

include personal activities, such as preparing for a sermon. The user can add new

activities, schedule activities, delete, and confirm completion of activities. The activities

may be scheduled as one time event or recurring events.

The chaplain has the ability to generate ad-hoc reports, in addition to those report

provided by the Spiritual Care Program. Some examples of reports include contact

reports, activities and time-spent reports, and task reports.

Features and Benefits

- **User Logon** – The users need the ability to logon to the system for security
  reasons.

- **Create Contacts** – Create new contact information with personal information,
  such as name, phone, address, etc.

- **Edit Contacts** - Edit contact information, the user may have entered information
  or the user information may have changed.

- **Delete Contact** – Delete a contact from the contact database.

- **Search Contacts** – Search for contact information by name or other field.

- **Schedule Activity** – Schedule activity, may include contact information or other type of activity.

- **Edit Schedule** - Edit schedule activities, activities will change and the user needs the ability to make modifications as needed.

- **Remove Scheduled Activity** - Remove a previously scheduled activity. The activity may need removed from calendar because of a change in schedule or the task is no longer required.

- **Automatically Suggest Activities** - Automatically suggest activities based on previous activities.

- **Report Contacts** – Report the current contacts in the system. Reporting current contacts can easily help identify contacts.

- **Report Activity and time-spent** – Reports what activities and duration of the activities. This report will identify the primary focus of the Pastoral Service Department.

- **Report Tasks** – The report tasks identifies tasks that have or will occur. Identifying the tasks by specified date range can help narrow or broaden the task list.

External Requirements and Constraints

No known external requirements or constraints are known at this time.

4.3 – **Major Use Cases**

After creating the vision statement, the program developer created the major use cases. The use cases include fully dressed use cases and use case diagrams.

UC-1   User Logon   P1

Pastoral Service Department logs into the system. This will ensure that only those who have rights to the system can access it.

Details	
Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:** Pastoral Service Dept.
Preconditions: The user has access to the system	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. User enters user name
2. User enters password
3. System validates user name and password
4. System logs user into the system

Extensions:
3.a Invalid user name or password
      1. Display message indicating login failure

UC-2   Create Contacts   P1

Pastoral Service Department user creates a new contact with name, phone number, address and other applicable information.

Details	
Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain enters the name, phone number, address and other applicable information.
2. The Chaplain chooses to save the new contact information.
3. The system saves the new contact information.

Extensions:
2.a Chaplain decides not to save the new contact information.
      1. Display warning message
3.a System cannot save contact information.
      1. Display error message

UC-3   Edit Contact   P1

Pastoral Service Department user edits contact one or more fields of the contact information.

Details	
Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in, and the contact to edit exits	**Success Guarantee**:
Level:	**Complexity:**

Use Case Status:	Implementation Status:
Assigned To:	Release:

Flow of Events

Main Success Scenario:
1. Chaplain finds the contact to edit.
2. Chaplain modifies one or more of the contact fields.
3. Chaplain saves the modified contact information.
4. The system saves the modified contact information.

Extensions:
4.a System cannot save contact information.
    1. Display error message

UC-4   Delete Contact   P1

Pastoral Service Department user deletes a contact from the database.

Details

Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in, and the contact to delete exits	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain finds the contact to delete.
2. Chaplain requests system to delete contact.
3. System deletes contact information

Extensions:
3.a System cannot delete contact information.
    1. Display error message

UC-5   Search Contacts   P1

Pastoral Service Department searches for contact by name, address, or phone number. A search may yield zero or more contact depending on search criteria.

Details
Parent: SpiritualCare

Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in, and enters search criteria.	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain enters the name, address, or phone number.
2. The system will search the database for the requested information.
3. The viewer displays the requested contact(s).

Extensions:
2.a System does not find the requested contact
    1. The system will display either an error message or an empty list.

UC-6   Schedule activity   P1

Pastoral Service Department tracks how they spend their time. Scheduling an activity before the activity or after the activity has occurred allows the Pastoral Service Department to track activity. The activity may include a contact or a specified activity.

Details

Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:** Residents, Donor, or Volunteer
Preconditions: Chaplain is logged in. The contact information is available	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects day and time for activity.
2. Chaplain selects activity type meeting, phone call, or specified activity
3. Chaplain selects contact(s) if necessary
4. System stores the activity

Extensions:
1.a Chaplain forgets to set the date and time for the activity.
      1. System will either default to current date and time or display error message.
2.a Chaplain does not enter activity type.
      2. System will either default to default type or display error message.
4.a System cannot store the activity
      1. Display error message

UC-7   Edit Schedule   P1

The user may need to edit a schedule, if the user selected an incorrect contact, type, or the duration was incorrect.

Details

Parent: SpiritualCare

Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: The Chaplain entered an activity that needs edited.	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects an activity to edit.
2. Chaplain modifies one or more fields in the activity schedule.
3. System stores the modified activity.

Extensions:
3.a System cannot store the modified activity
       1. Display error message

UC-8   Remove Scheduled Activity   P1

The user may need to remove a activity.

Details

Parent: SpiritualCare

Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: The Chaplain entered an activity that needs removed.	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects an activity to remove.
2. Chaplain confirms to remove the activity.
3. System stores the modified activity.

Extensions:
2.a Chaplain cancels remove activity.
      1. Display cancellation message
3.a System cannot remove the activity
      1. Display error message

UC-9   Automatically Suggest   P1
         Activities

The system will suggest activities based on previous activities.

Details

Parent: SpiritualCare
Primary Actor: System	**Supporting Actors:** Chaplain
Preconditions: Preexisting activities already exist.	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain requests system to report suggested activities or the system can automatically generate suggestions.
2. System displays the suggestions. The system may allow user to automatically put on the calendar after confirmation.

Extensions:
1.a The system is unable to automatically generate suggestions.
   1. Display error message the system is unable to automatically generate suggestions.

2.a The system is unable to identify suggested activities.
   1. Display message that no suggestions are available.

UC-10   Report Contacts   P1

Pastoral Service Department requests a report of the current contacts.

Details

Parent: SpiritualCare
Primary Actor: Chaplain   **Supporting Actors:**
Preconditions: Contacts exist   **Success Guarantee**:
in the database
Level: **Complexity:**
Use Case Status: **Implementation Status:**
Assigned To: **Release:**

Flow of Events

Main Success Scenario:
1. Chaplain requests a list of the current contacts, the user can request to sort the contacts by various categories.
2. Display contact information

Extensions:
2.a No contacts exist or the system is not responding
   1. Display empty list or display an error message if the system is unable to perform the request.

UC-11　　Report Activity and Time-spent　P1

Pastoral Service Department requests a report of activity and time spent. The report may include activity report from a day activity, week, or specified date ranges.

Details

Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Activity data included in database	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain requests an activity and time-spent report.
2. Chaplain enters date or specified range of dates allowed by system.
3. The activity report includes activity and time spent per activity.

Extensions:
3.a No activity information exists, activity data does not exists for the specified date range, or the system cannot respond to the request.
    1. Display empty list or display an error message if the system is unable to perform the request.

UC-12　　Report Tasks　　　　　　　　　P1

Pastoral Service Department requests a task report. The report identifies tasks (e.g. meetings, calls, to-do activities). The user may identify the tasks by specified date range to narrow or broaden the task list.

Details

Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**

Preconditions: Tasks exist in the database.   **Success Guarantee**:

Level: **Complexity:**

Use Case Status: **Implementation Status:**

Assigned To: **Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects report to run
2. Chaplain may specify the type of activity
3. Chaplain specifies the tasks by date range to narrow or broaden list.
4. System displays the task report

Extensions:
4.a No task exits or the system is not responding
>   1. Display empty list or display an error message if the system is unable to perform the request.

The use-case diagrams are included below. In each case, the main user is the

Chaplain. Several of the use-case diagrams are included into subsystems. For more

information, refer to the fully dressed Use Cases.

- theLogon

Logon

0..1

Chaplain
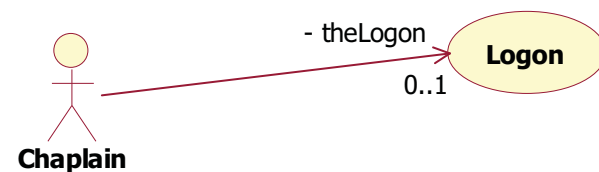
Figure 1 - Logon Use Case

Contact subsystem
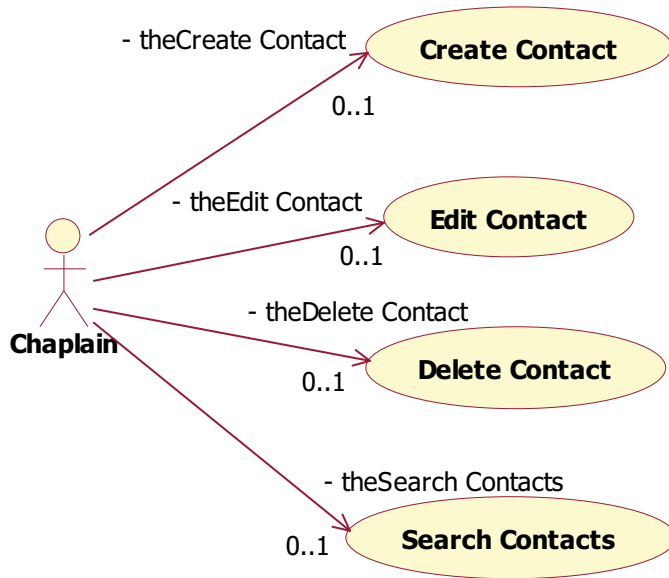
Figure 2 - Contact subsystem Use Case

Schedule subsystem
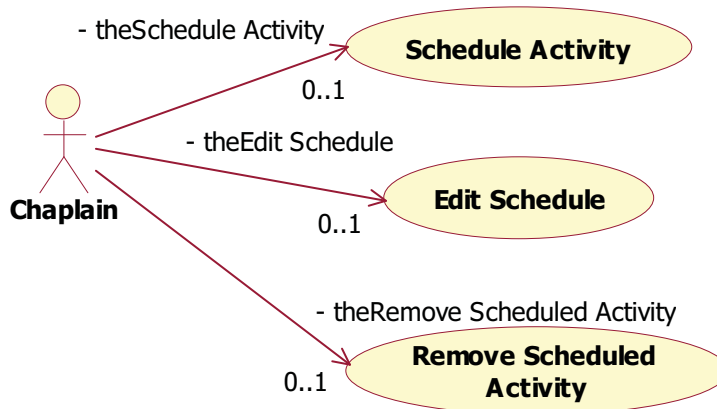
Figure 3 - Schedule subsystem Use Case

- theAutomatically Suggest Activities

Automatically Suggest Activities

0..*

0..*

- theAutomatically Suggest Activities

Chaplain
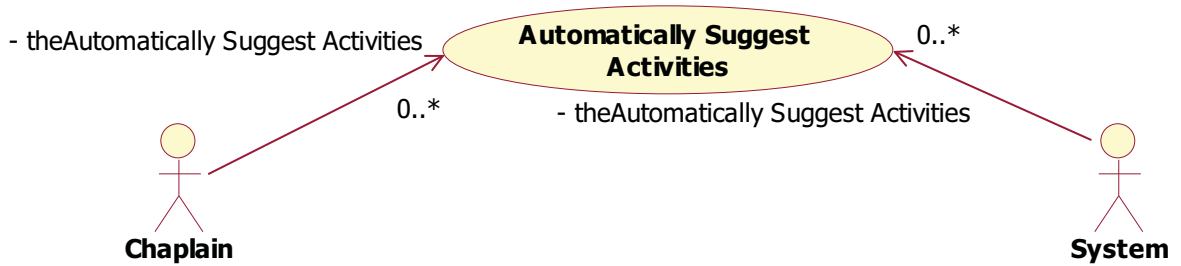
System

Figure 4 - Automatic Activity Use Case

Report subsystem

- theReport Contacts

Report Contacts

0..*

- theReport Activity and Time-spent

Report Activity and Time-spent

0..1

Chaplain

- theReport Tasks

Report Tasks

0..*
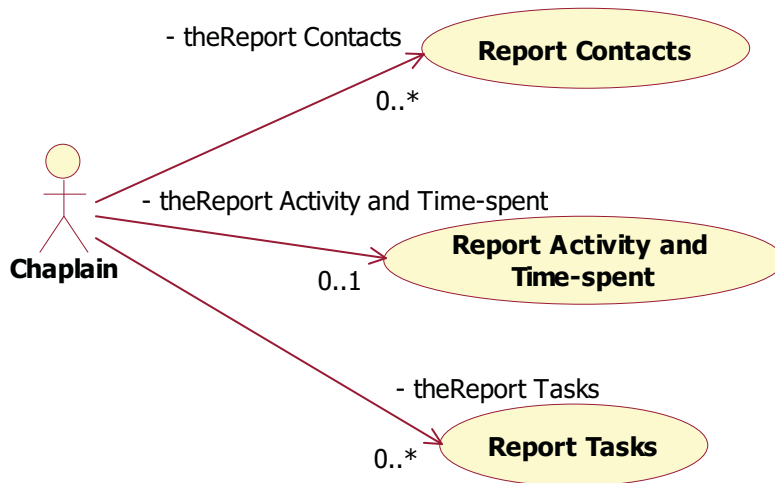
Figure 5 - Report subsystem Use Case

4.4 – Evaluate Technical Possibilities

Evaluating the system requirements is essential for this project. Senior Care Residences does not keep up with current technology. Some of the computers may not be suited for this project. Before purchasing software, a computer may require upgrades or replacement.

4.4.1 – ACT! System Requirements

Client Installation

- Microsoft® Windows® XP Home (Service Pack 2), XP Professional (Service Pack 2), 2000 Professional (Service Pack 4), 2000 Server Standard Edition (Service Pack 4), Server 2003 Standard Edition, Server 2003 Enterprise Edition, Server 2003 Web Edition, 2003 Small Business Server operating system (all Server 2003 operating systems need Service Pack 1)

- Minimum 600 MHz Pentium III (or equivalent) processor

- Minimum 512 MB RAM

- Minimum 1000 MB of available hard disk space

- CD-ROM drive

- SVGA (800x600) or higher resolution monitor ("System Requirements,")

4.4.2   – GoldMine System Requirements

Undocked/Single-user Requirements
- Minimum Pentium 200 MHz recommended Pentium I/III+

- Minimum 65 MB of available hard disk space, recommended 165 MB

- Minimum 64 MB RAM recommended 128 MB

- Microsoft® Windows® 98/98 SE

- Microsoft® Windows® ME

- Microsoft® Windows® 2000 Professional/Server/Advanced Server

- Microsoft® Windows® XP (Home/Professional)

FrontRange Solutions (2003).

4.4.3   – System Test

All testing of software was performed on a VAIO Pentium 4 3 GHz with 512 MB

RAM. This system may not represent the system used in the actual environment.

4.4.4   – User Logon

ACT! and GoldMine provide customizable user logons. Both can add new user

logins. They also provide different levels of access to data. Both products meet the

specified needs. ACT! provides different login levels ranging from browse to administer.

However, GoldMine provides more flexibility in system configuration and data access.

4.4.5   – Create Contacts

ACT! and GoldMine allow the user to create new contacts. The products provide

different methods to create new contacts. ACT! provides several fields when entering a

new contact. Some fields allow the user to select the item. The field company is one

example. The user may select a company they have previously entered. Otherwise, they

may enter the new information. If several contacts belong to the same company, adding

the company information is advantageous, prior to adding the contact information.

Otherwise, the contact will not have the proper link. GoldMine requires the user to enter

company contacts first so this error does not occur. It also provides a drop down fields

for several items such as "Title" and "Department." If the desired choice is not available,

the user can add a new title or department name. The figure "Create Contact with ACT!"

shows the fields.

Figure 6 - Create Contact with ACT!

To simplify contact entry ACT! allows for duplicate contact information from

primary fields to all fields. These options reduce entry time because ACT! automatically

enters data for the fields.

GoldMine requires a company contact. GoldMine provides a simpler view when

entering a new contact. See the figure "Creating Contact with GoldMine."

Figure 7 – Create Contact with GoldMine

The creation method allows for creating a duplicate record or view in a new window. The default is "Create duplicate record." If the "Create duplicate record" option is selected some fields will already have the appropriate information. Once the user enters the company and contact information, a new dialog appears.

Figure 8 - Create Contact with GoldMine Continued

Much of the information required of GoldMine is also required with ACT!. As

with the product, ACT!, GoldMine also provides the ability to add new department and

title information. Both methods meet the required use case. GoldMine ensures the user

will enter the company information first. However, ACT! has a cleaner easier to read

dialogs. ACT! also includes birthday and spouse information. This information is useful

because it is personal. Because the primary focus of the project is working with

residents, volunteers and donors, this may be helpful when getting to know them.

4.4.6 – Edit Contacts

ACT! and GoldMine allow the user to edit contact information. When the user

enters an additional name to the contact field (e.g., Bob Little, Bob Andrew Little), ACT!

will display a dialog allowing the user to pick middle name, first name or last name.

GoldMine does not validate if this is the middle name. GoldMine records the name as

the user enters the name. The other fields act similar between the products. The products

allow the user to change the data by typing or using the appropriate pull down menus. If

a pull down menu is used, the products allow the user to add another data item in the

database.

4.4.7   – Delete Contact

When deleting a contact with GoldMine, the application allows the user to select the

type of information to delete. The default is all items selected as shown in the figure

"Delete Contact Information with GoldMine." This option will allow the user to delete

all of the information, or just some. If the user deletes a contact, all of the history

remains in the database. This is possibly useful information to retrieve later.

Figure 9 - Delete Contact Information with GoldMine

ACT! does not have this flexibility when deleting a contact. ACT! allows for two

options, "Delete Contact" and "Delete Lookup."
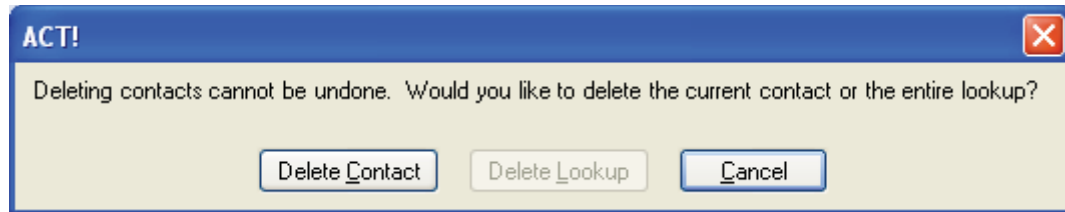
Figure 10 - Delete Contact Information with ACT!

Deleting the contact will delete all notes, history, and attachments. Neither, product has the capability to undo the delete function. Both products meet the required use case. However, GoldMine has provided flexibility in the delete process.

4.4.8 – Search Contact

ACT! and GoldMine can search for contact(s). The methods are very similar; each allows the user to select the contact by the field. ACT! allows for first name and last name searches. GoldMine does not distinguish between the first and last names merely contact names. ACT! and GoldMine allow for searches on other field names (e.g., Company, Country, City, etc.). GoldMine automatically generates the entire user list for the user to select one, or enter the field. See the "Lookup Contact with GoldMine" figure. ACT! displays a dialog (see Lookup Contact with ACT!) for the user to enter the contact information or select Empty field or Non-empty field. Selecting a Non-empty field should display a list with all of the contact information.
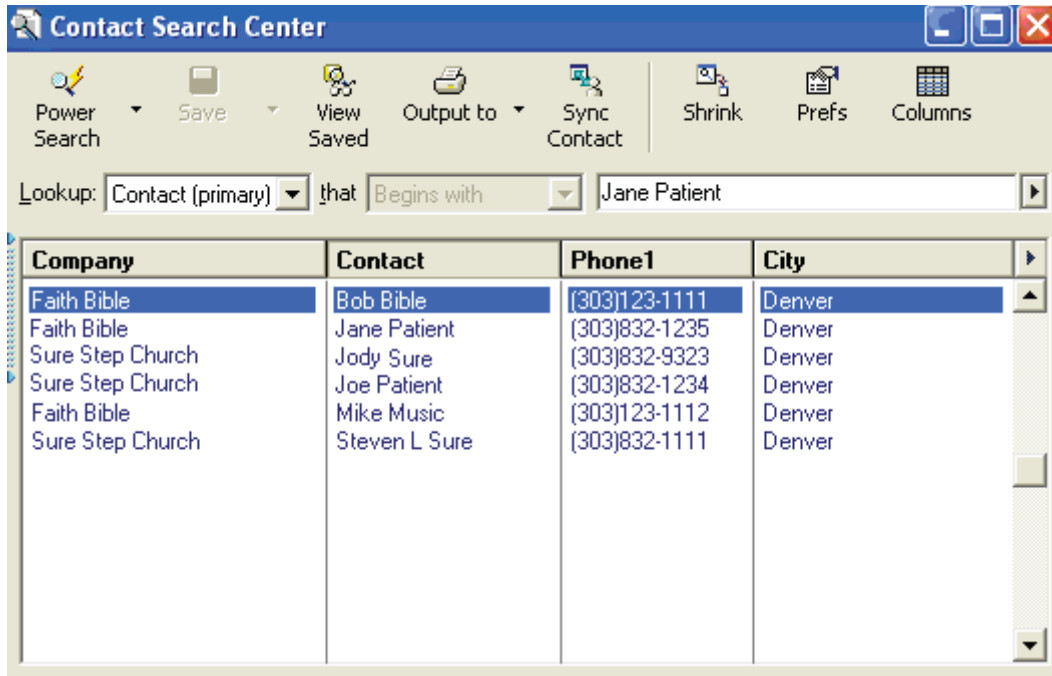
Figure 11 - Lookup Contact with GoldMine
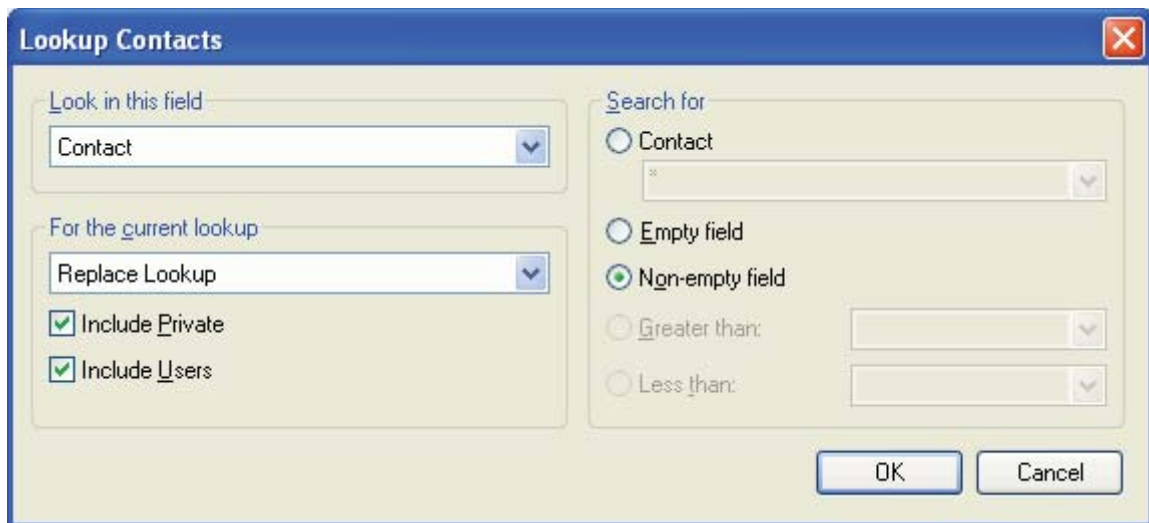
Figure 12 - Lookup Contact with ACT!

Both methods are easy to use and neither method has a significant advantage or

disadvantage over the other.

4.4.9 – Schedule Activity

ACT! allows the user to schedule an activity through a calendar or a menu drop down. ACT! default activities include call, meeting, and To-Do. However, the user can create other activities. Once the user creates an activity, it is available from the list. Some common activities for the chaplain may include visitation and sermon preparation. ACT! can schedule activities on a regularly. See "Schedule Activity with ACT!."

Figure 13 - Schedule Activity with ACT!

GoldMine also allows the user to schedule activities in various ways. GoldMine uses the calendar, the pending tab, and the schedule menu. With GoldMine, the user can choose from several activities call, next action, appointment, literature request, forecasted

sale, other action, To-Do, and event. Although GoldMine has more activities to choose

from it does not allow the user to create new activities. To have specific details for an

activity the user needs to use the optional field "references." This field will allow the

user to enter specific items needed for the project like visitation, and sermon preparation.

However, this is an optional field so the user may forget to enter the specific item.

GoldMine can automatically schedule recurring activities. See "Schedule Activity with

GoldMine." ACT! and GoldMine allow the user to schedule activities with ease.

However, ACT! is preferable because of the ability to create new activities. GoldMine

allows the user to enter the same type of information in another field. However, this is an

optional field; if this field is empty, the chaplain cannot report activities accurately.

Figure 14 - Schedule Activity with GoldMine

4.4.10 – Edit Schedule

ACT! and GoldMine allow the user effortlessly to edit a schedule. From the

calendar view, both products allow the user to edit any information within the selected

schedule.

4.4.11 – Remove Schedule Activity

Similarly, to editing the schedule both products allow the user easily to remove an

activity from the schedule. From the calendar view, both products allow the user to

remove an activity from the schedule.

4.4.12 – Report Contacts

Both of the products can easily list or report all contact information. The user can

choose from a predefined report in both of the products. Although GoldMine has

predefined reports, the user must clone public reports before using them. Otherwise, the

system defaults to the default public user and only displays empty reports.

4.4.13 – Report Activity and Time Spent

ACT! can easily display the activity and time spent with a predefined report. The

report is broken up in categories and displays the time spent for each and the total.

GoldMine also has a predefined report for completed activities. However, GoldMine

does not display the duration of the activity.

4.4.14 – Report Tasks

ACT! and GoldMine provide the ability to display the user tasks or activities.

ACT! allows the user to display the activity based on the time as required by the use case.

The default report for GoldMine does not provide this support.

4.4.15 – Review of ACT! 2007

ACT! 2007 provides many tools for CRM, and it uses a simpler data-based

system than some advanced CRM tools. It gives contact management tools e-mail

facilities, a wide range of sales and marketing tools. The product is well suited

throughout the contact management spectrum. The tool is easy to navigate and provides

flexibility for the unique system Senior Care Residences desires.

ACT! 2007 also provides tools that go beyond the vision statement. It can log

calls to customers and clients. In addition, it can synchronize with Palm OS and Pocket

PC devices. ACT! 2007 utilizes several management tools, such as scheduling calls, and

providing support for coordinating marketing campaigns ("Sage - ACT! 2007 review,").

Unlike several sophisticated CRM systems that require custom-made designs,

ACT! comes in a retail box. ACT! can be installed on a stand-alone or network PC. The

minimum system requirements include a 600MHz Pentium processor and 512MB of

RAM. However, the minimum requirements do not provide enough power for a user-

friendly system. Even with increased processing speed and increased memory, the

program still runs slow. The article referred to installing ACT! as "attaching lead boots

to a PC, and even on a machine with far more processing power and 1GB of performance

penalty is evident. It's not just ACT! that performs sluggishly; so do Word, Excel and

Outlook once they've been tied to it" ("Sage - ACT! 2007 review,"). Through the

inception phase, the slowing of Word and Excel was not perceptible. However, ACT! did run slow.

ACT! automatically installs SQL Server 2005 and .NET Framework 2.0. ACT! uses SQL Server 2005 for data storage and .NET Framework for automation tools and plug-ins. These tools may reduce the application's performance ("Sage - ACT! 2007 review,").

One main difference of the new version of ACT! and one of its predecessors is how the application integrates with Microsoft Outlook. The program also allows the user a choice of using Act's built-in word processor or Microsoft Word. It also allows for using ACT! or Outlook to manage e-mails. In addition to Outlook ACT! provides alternative mail software. Some e-mail clients include Eudora, Internet e-mail (SMTP/POP3), and Lotus Notes (Corporation, 2006; "Sage - ACT! 2007 review,"). The vision statement does not address any e-mail requirements. The Chaplin at Senior Care Residences does not use Microsoft Outlook for e-mail. However, incorporating e-mail features with the CRM may be something to consider.

ACT! allows an open Word and Excel document to attach to a contact. ACT! installs itself onto the standard Word and Excel toolbars. The system is effective, but is cumbersome. ACT! cannot attach itself to an unsaved document and will not save it for you. ACT! will generate a warning message, saying it is unable to add the document to the data store. Although this in itself is not critical, it may cause the user other problems. For example, if the user has typed several pages and saved the work and later creates an additional page ACT! will only attach the saved work. ACT! will give no warnings that it has only attached a portion of the document. This feature is not a major hindrance to

the product, but the user must understand the circumstances ("Sage - ACT! 2007

review,").

ACT! provides a logical layout of toolbars and is easy for a new user to

understand the basic functions. ACT! provides a sample data file for the new user to

experiment with, without fear of modifying personal data. ACT! also provides links to

introductory tours ("Sage - ACT! 2007 review,").

Despite its slow performance, it does perform the tasks required. During the

inception phase, ACT! performed all of the requirements stated in the vision statement. It

can also provide several other functions that were not included in the vision statement.

However, it was notably slow, as several reviews have stated.

4.4.16 – Review of Goldmine 6.5

For users wanting more than a glorified address book, the market has two main

players for serious CRM applications. The two main players are ACT! and GoldMine.

ACT! has two primary advantages, ACT! is less expensive and is easier to use.

GoldMine has the advantage of sheer power.

GoldMine provides more tools than just contact management, but rather a tool for

customer relationship management. For a single user this tool is overkill. The primary

target for this tool is a small business and above. The primary focus of the tool is for the

sales team. ACT! is better suited for very small organizations.

Before using the tools of GoldMine, the user needs to get past the complexity of

the user interface. The upgraded addition allows for new wizards for mundane tasks, but

GoldMine is complex to navigate. Although FrontRange did make improvements in this

addition with drag and drop, auto scrolling and several other features, the product is still difficult to use.

GoldMine allows for importing existing contact data from ACT!, Excel and Outlook, during the installation phase. GoldMine provides an Excel link allowing for GoldMine contact records into spreadsheet, and calendar publishing. The calendar functions allow non-GoldMine users to share information that they posted on the Web or directly into contacts.

GoldMine has redesigned built-in reports and Crystal-based reports. The user can view the reports in a tree-view and have two list views within a three-pane window.

Another feature that GoldMine provides is, forced/required data field entry. This feature can help improve data integrity. It also has an override feature that allows the user to turn off forced entry requirements for mandatory fields. This is important for instances when the data is not available ("FrontRange Review,").

4.4.17 – Review Summary

After reviewing the evaluation software and reading many reviews, my conclusion is similar to many reviews. GoldMine has the advantage for power and flexibility. However, this power comes with a price. The user interface is difficult to use and the product has a longer learning curve than ACT!. Although ACT! is not as powerful it is much simpler to use. The major downfall of ACT! is its performance.

Since the primary user of the application is one person, it makes sense to use ACT! instead of GoldMine. Both products can meet the user needs and go beyond the original vision statement. Although ACT! is a good candidate to accomplish the task, it does have performance issues. Some reviewers recommend not upgrading to the new

version of ACT!, because of the performance issues. Because of the popularity of ACT!

version 6.0, Sage is still offering this product. To offset the performance issues of ACT!

Senior Care Residences will use an older version of ACT!. They will use ACT! 6.0

opposed to ACT! 2007 (ACT! 2007 is the 9.0 version). Many features that FrontRange

added in the subsequent versions are not necessary for this project. ACT! also allows for

importing older versions of ACT! data into newer versions. This feature will allow

Senior Care Residences to use an older version and upgrading to a newer version later. It

allows the organization to use the application at a low price. However, the performance

issues may prevail if Sage does not correct this issue in newer versions. Senior Care

Residences could also import their data to GoldMine. Importing ACT! data is feasible

but it is not practical, because they would need to go through the learning curve using a

more complex program. Upgrading from a previous version will have a small learning

curve.

Chapter 5 – Elaboration

The Inception phase described the basic concepts of the system. The objective of the Elaboration phase is to understand additional requirements that the stakeholders missed in the Inception phase. After evaluating the original requirements, several additional requirements are apparently necessary.

The chaplain needs to be able to organize the contacts into groups. A group will simplify managing contacts with similar information. A group is a collection of contacts that have something in common. One example is a group that attends a weekly Bible study.

The Chaplain has many activities that do not meet the standard paradigm of activities that traditional CRM application may have. Some examples may include sermon preparation, visitation, and Bible studies. The program needs to have a method to allow the Chaplain to enter custom activities. Another item in standard applications is scheduling recurring activities. This requirement will save time. The user will specify it is a recurring event and enter the occurrence.

Once an activity is completed, the chaplain needs a method to record the activity was completed. Clearing the activity does not mean the activity is deleted from the database. It merely identifies that the activity was completed. This information is vital for historic information; with this information, the application can use the data for report generation of tracking the chaplain's time. The chaplain would also like the program to create letters using a single contact. This will allow the chaplain to enter the contact information into the letter or memo without hand typing the information.

To speed up data entry for contact information, the user would like to have a method to duplicate contact information. The method can duplicate an entire record or just the primary fields. The data is critical for Senior Care Residences. They need to have the database backed up regularly. It is preferable that the application provides a method to backup the data on a scheduled interval, specified by the user.

5.1 – Additional Use Cases

The elaboration phase discovered several additional requirements for the projects as described previously. The newly discovered requirements listed below include fully dressed use cases and use case diagrams.

- Create group

- Add contact to group

- Remove contact from group

- Add activity type

- Remove activity type

- Modify activity type

- Scheduling recurring activities

- Recording completed activity.

UC-13	Create Group	P1

Spiritual Care Department requests a new group. A group is a name designated to help organize contact information. Creating a group will only contain the group name.

Details	
Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain	**Success Guarantee**:

logged in
Level: **Complexity:**
Use Case Status: **Implementation Status:**
Assigned To: **Release:**

Flow of Events

Main Success Scenario:
1. Chaplain enters a new group
2. System creates new group with specified name.

Extensions:
2.a System cannot create a new group name
       1. Display error message if the system is unable to perform the request.

UC-14   Add Contact to Group   P1

Spiritual Care Department adds a contact a group.

Details

Parent: SpiritualCare
Primary Actor: Chaplain   **Supporting Actors:**
Preconditions: Chaplain   **Success Guarantee**:
logged in
Level: **Complexity:**
Use Case Status: **Implementation Status:**
Assigned To: **Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects the contact(s) to enter in the group.
2. The Chaplain chooses to accept the new group contacts.
3. The system saves the new group contact information.

Extensions:
2.a Chaplain decides not to add the contact into the group.
       1. System does not add the contact into group
3.a System cannot save group contact information.
       1. Display error message

Flow of Events

UC-15   Remove Contact from Group   P1

Spiritual Care Department adds a contact a group.

Details

Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in, Group exists, and group contains one or more contacts	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects the contact(s) to remove from the group.
2. The Chaplain chooses to accept the remove the group contact(s).
3. The system saves the new group contact information.

Extensions:
2.a Chaplain decides not to remove contact(s) from the group.
    1. System does not remove the contact into group
3.a System cannot save group contact information.
    1. Display error message

UC-16   Add Activity Type   P1

Spiritual Care Department adds an activity type to the list.

Details
Parent: SpiritualCare

Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in, scheduling an activity	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects to edit the activity list.
2. The Chaplain types the new activity type.
3. The Chaplain accepts to save the new activity type.
4. The system saves the new activity type.

Extensions:
3.a Chaplain decides not to add new activity type.
    1. System does not add a new activity type.
4.a System cannot save the new activity type.
    1. Display error message

UC-17   Remove Activity Type   P1

Spiritual Care Department removes an activity type from the list.

Details
Parent: SpiritualCare

Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in, scheduling an activity	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Flow of Events

Main Success Scenario:
1. Chaplain selects to edit the activity list.
2. The Chaplain selects the activity type to remove from the list.
3. The Chaplain accepts to remove the item from the list.
4. The system removes the request item from the list.

Extensions:
3.a Chaplain decides not to remove an item from the list.
    1. System does not remove an activity type from the list.
4.a System cannot save the modified list.
    1. Display error message

UC-18   Modify Activity Type   P1

Spiritual Care Department modifies an activity type from the list.

Details	
Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in, scheduling an activity	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects to edit the activity list.
2. The Chaplain selects the activity type to modify from the list.
3. The Chaplain modifies the selected item from the list.
4. The Chaplain accepts to modify the item from the list.
5. The system removes the request item from the list.

Extensions:
4.a Chaplain decides not to remove an item from the list.
     1. System does not modify an activity type from the list.
5.a System cannot save the modified list.
     1. Display error message

UC-19   Scheduling recurring activities   P1

Spiritual Care Department schedules activities that recur on a specified time.

Details	
Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in, scheduling an	**Success Guarantee**:

activity
Level: **Complexity:**
Use Case Status: **Implementation Status:**
Assigned To: **Release:**

Flow of Events

Main Success Scenario:
1. Chaplain enters activity meeting information (e.g. Time, Date, With)
2. Chaplain selects frequency (e.g. Once, Daily, Weekly).
3. The Chaplain selects or enters repeat data.
4. The Chaplain enters the ending date.
5. The Chaplain accepts the recurring settings.
6. The system stores the recurring activity information.

Extensions:
5.a Chaplain decides not to accept the activity as recurring.
       1. System does not add the activity as a recurring event.
6.a System cannot save the recurring activity.
       1. Display error message

UC-20   Recording Completed Activity   P1

Spiritual Care Department records completed activity.

Details

Parent: SpiritualCare
Primary Actor: Chaplain   **Supporting Actors:**
Preconditions: Chaplain   **Success Guarantee**:
logged in, has an activity to
clear
Level: **Complexity:**
Use Case Status: **Implementation Status:**
Assigned To: **Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects activity to clear

Flow of Events

2. Chaplain selects item was completed or not completed
3. The Chaplain can enter history data.
4. The Chaplain enters the ending date.
5. The Chaplain accepts the recurring settings.
6. The system stores the recurring activity information.

Extensions:

5.a Chaplain decides not to accept the activity as recurring.
　　　1. System does not add the activity as a recurring event.
6.a System cannot save the recurring activity.
　　　1. Display error message

UC-21　　Add Item to Drop Down List　　P1

Spiritual Care Department add item to a drop down list.

Details

Parent: SpiritualCare
Primary Actor: Chaplain　　　　**Supporting Actors:**
Preconditions: Chaplain　　　　**Success Guarantee**:
logged in, and is in contact
window
Level:　　　　　　　　　　**Complexity:**
Use Case Status:　　　　　**Implementation Status:**
Assigned To:　　　　　　　**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects edit list… from drop down list
2. Chaplain clicks add button to add new item
3. Chaplain enters new item and description.
4. Chaplain clicks OK to add new item.

Extensions:

2.a Chaplain decides to cancel.
　　　1. System cancels from edit list.

Flow of Events

3.a Chaplain decides not to add the new item and selects cancel.
      1. System does not add the item.
4.a System cannot save the new item.
      1. Display error message

UC-22   Modify Item to Drop Down List   P1

Spiritual Care Department modify item to a drop down list.

Details

Parent: SpiritualCare
Primary Actor: Chaplain   **Supporting Actors:**
Preconditions: Chaplain   **Success Guarantee**:
logged in, and is in contact
window
Level: **Complexity:**
Use Case Status: **Implementation Status:**
Assigned To: **Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects edit list… from drop down list
2. Chaplain clicks modify button to modify existing item
3. Chaplain modifies item and description.
4. Chaplain clicks OK to modify item.

Extensions:
2.a Chaplain decides cancel.
1. System cancels from edit list
3.a Chaplain decides not to modify item and selects cancel.
      1. System does not modify the item.
4.a System cannot save the modified item.
      1. Display error message

Flow of Events

UC-23   Remove Item to Drop Down   P1 List

Spiritual Care Department removes item from drop down list.

Details

Parent: SpiritualCare	
Primary Actor: Chaplain	**Supporting Actors:**
Preconditions: Chaplain logged in, and is in contact window	**Success Guarantee**:
Level:	**Complexity:**
Use Case Status:	**Implementation Status:**
Assigned To:	**Release:**

Flow of Events

Main Success Scenario:
1. Chaplain selects edit list… from drop down list
2. Chaplain clicks delete button to delete existing item
3. System displays message to delete item.
4. Chaplain clicks Yes to delete item.

Extensions:
2.a Chaplain decides cancel.
1. System cancels from edit list
3.a Chaplain decides not to remove item and selects not to delete item.
    1. System does not delete the item.
4.a System cannot delete the item.
    1. Display error message

The use case diagrams are included below. For more information about the use cases refer to the fully dressed use cases.

Group subsystem

- theCreate Group

Create Group

0..*

Chaplain

- theAdd Contact To Group

Add Contact To Group

0..*

- theRemove Contact From Group

Remove Contact From Group

0..*
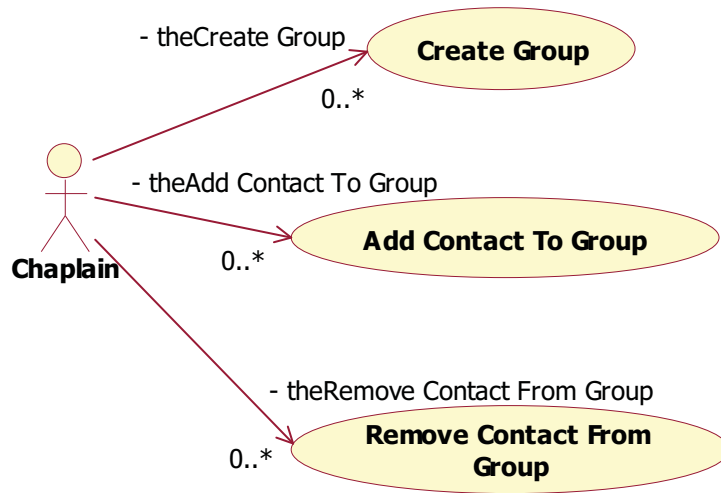
Figure 15 - Group Subsystem

Activity Type Subsystem

- theAdd Activity Type

Add Activity Type

0..*

Chaplain

- theRemove Activity Type

Remove Activity Type

0..*

- theModify Activity Type

Modify Activity Type

0..*
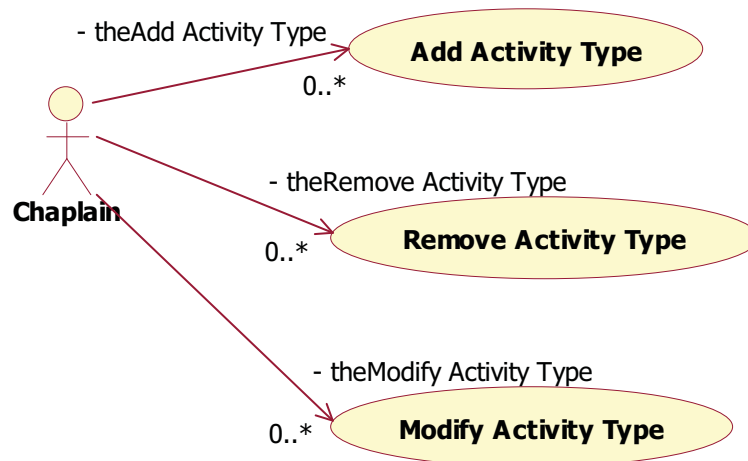
Figure 16 - Activity Type Subsystem

- theSchedule Recurring Activity

Schedule Recurring Activity

0..*

Chaplain
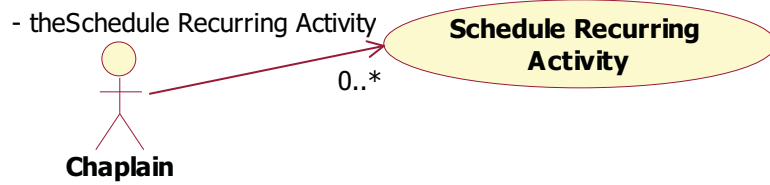
Figure 17 - Schedule Recurring Activity

- theRecord Completed Activity

Record Completed Activity

0..*

Chaplain
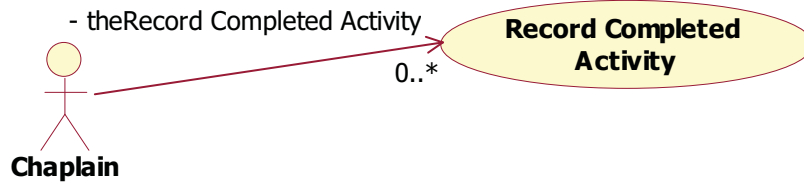
Figure 18 - Record Completed Activity

- theAdd item to drop down list

Add item to drop down list

0..1

- theModify item from drop down list

Modify item from drop down list

0..1

Chaplain

- theRemove item from drop down list

Remove item from drop down list

0..1
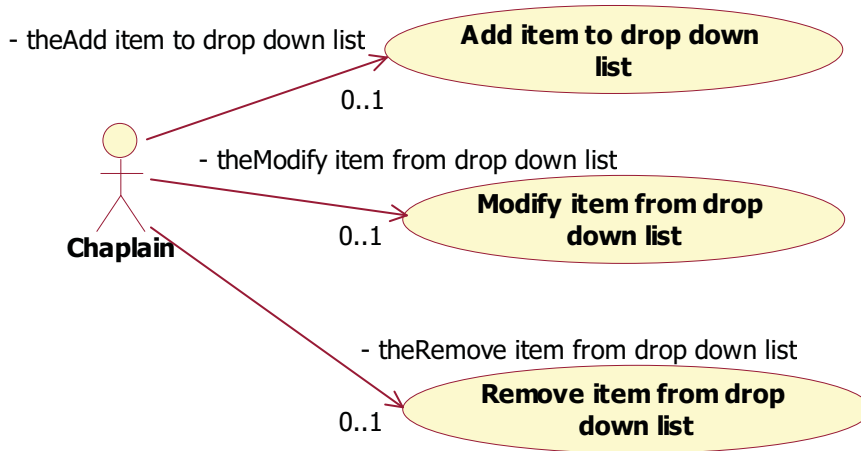
Figure 19 - Changes from item drop down list

5.2 – Sequential Diagrams
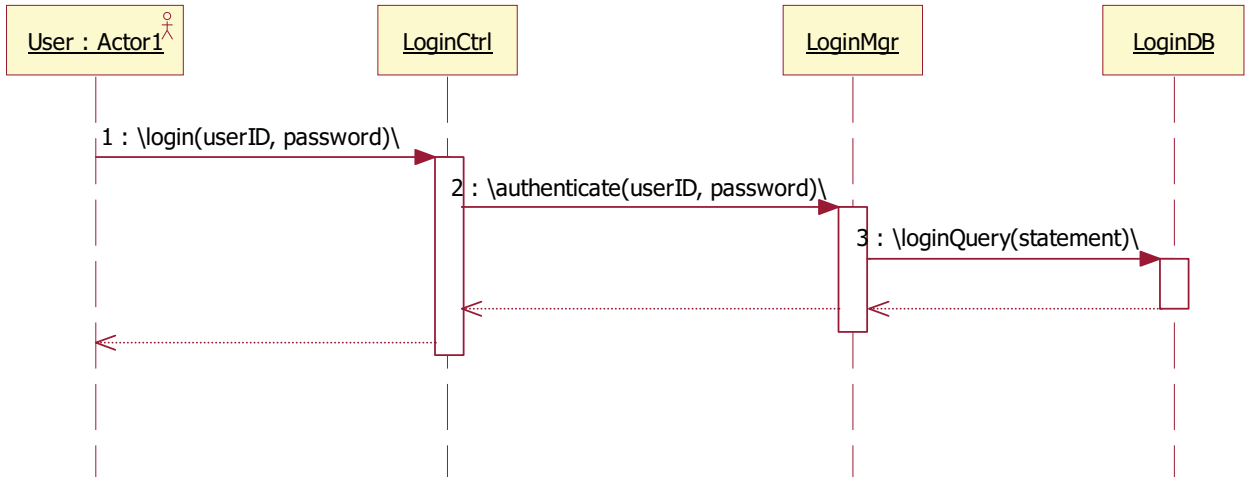
Figure 20 - Login Sequence
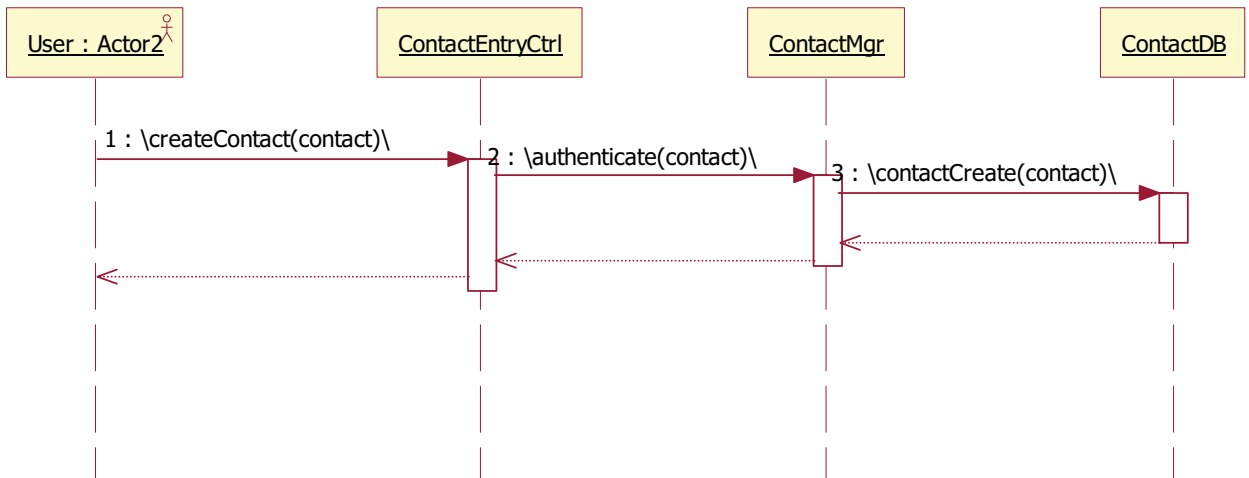
Figure 21 – Create Contact
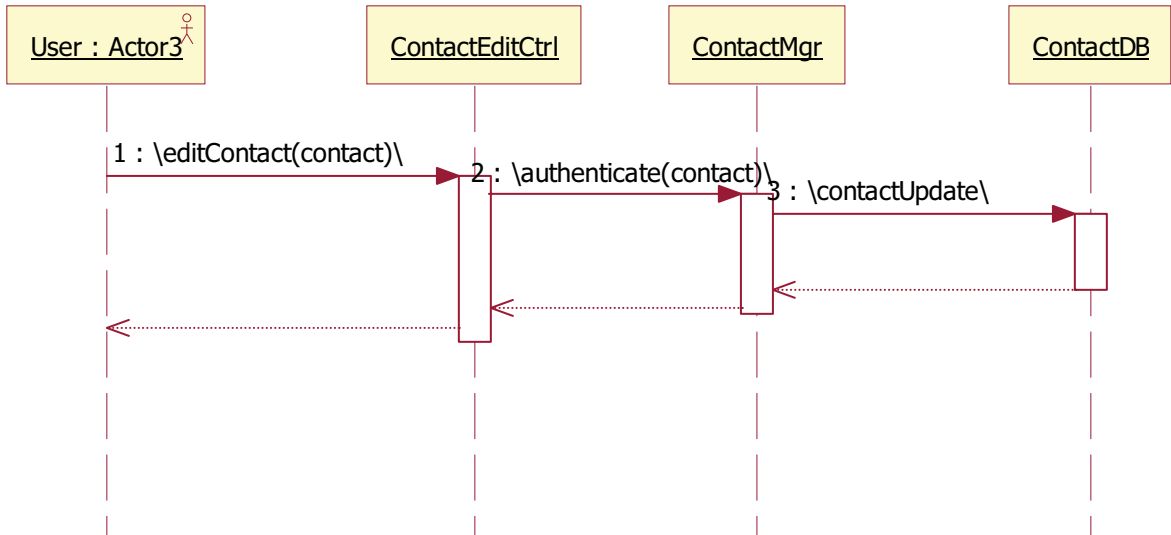
Figure 22 - Edit Contact Sequence
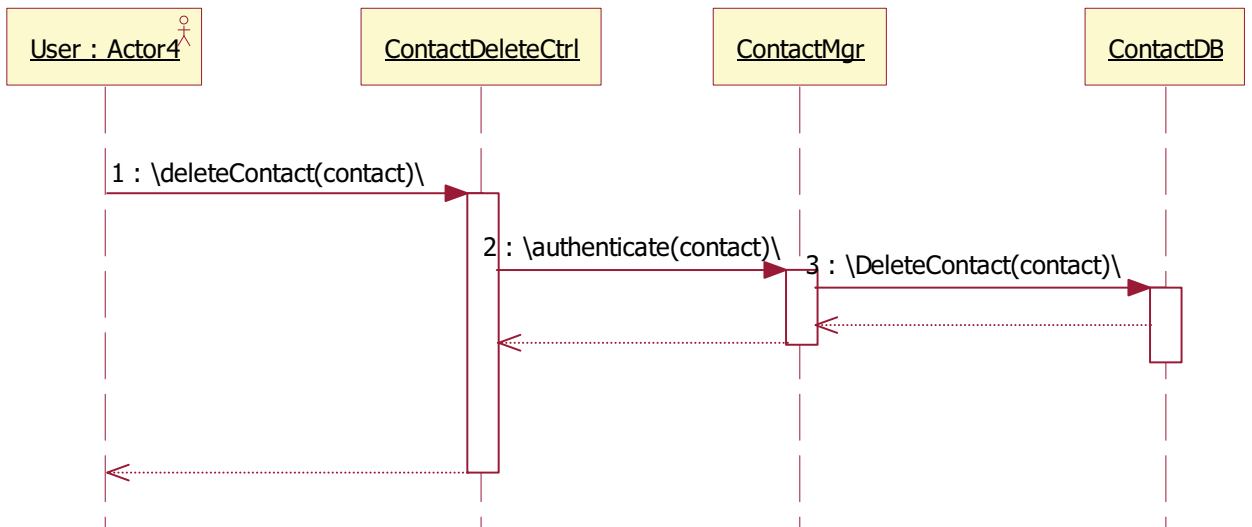
Figure 23 - Delete Contact Sequence
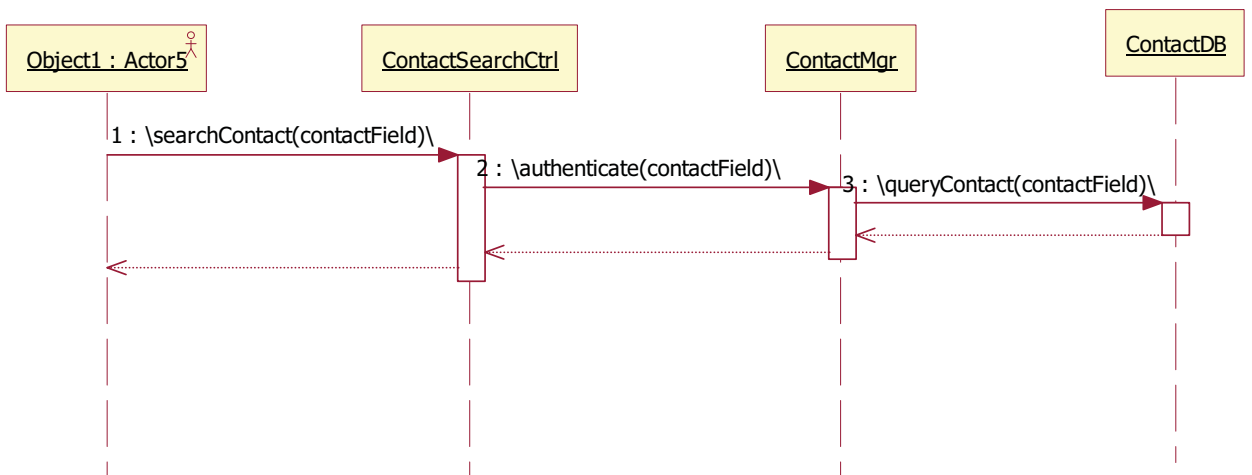
Figure 24 - Search Contact Sequence
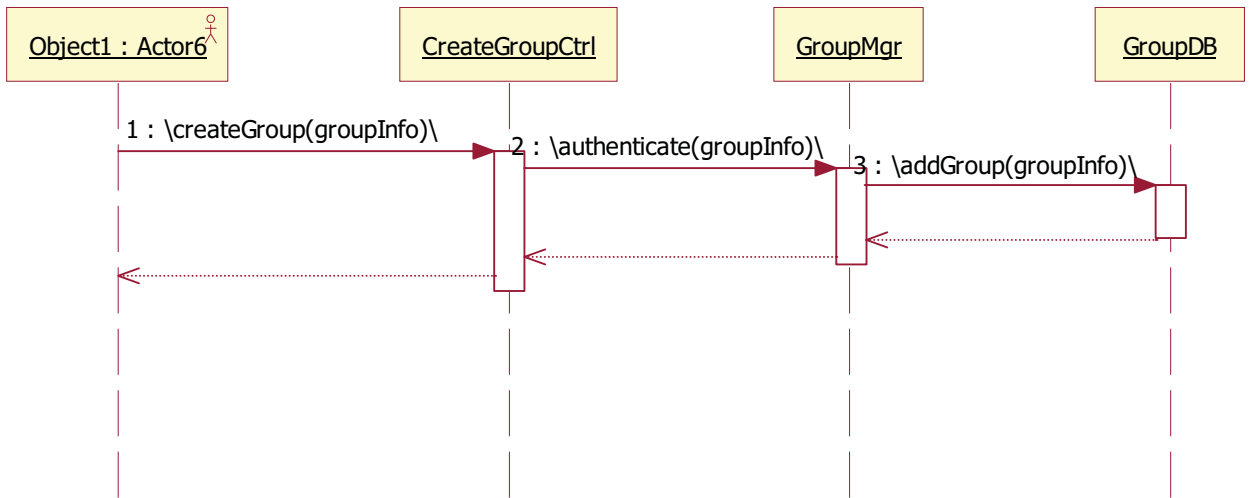
Figure 25 - Create Group Sequence
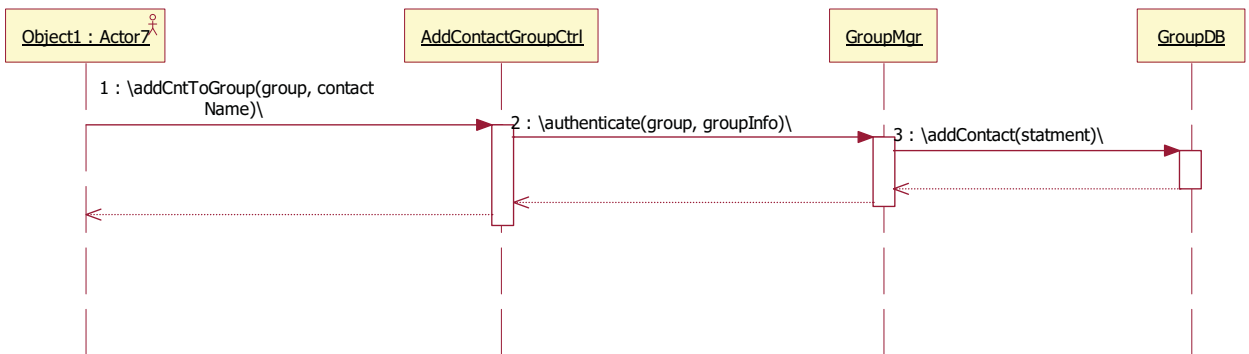
Figure 26 - Add Contact to Group Sequence
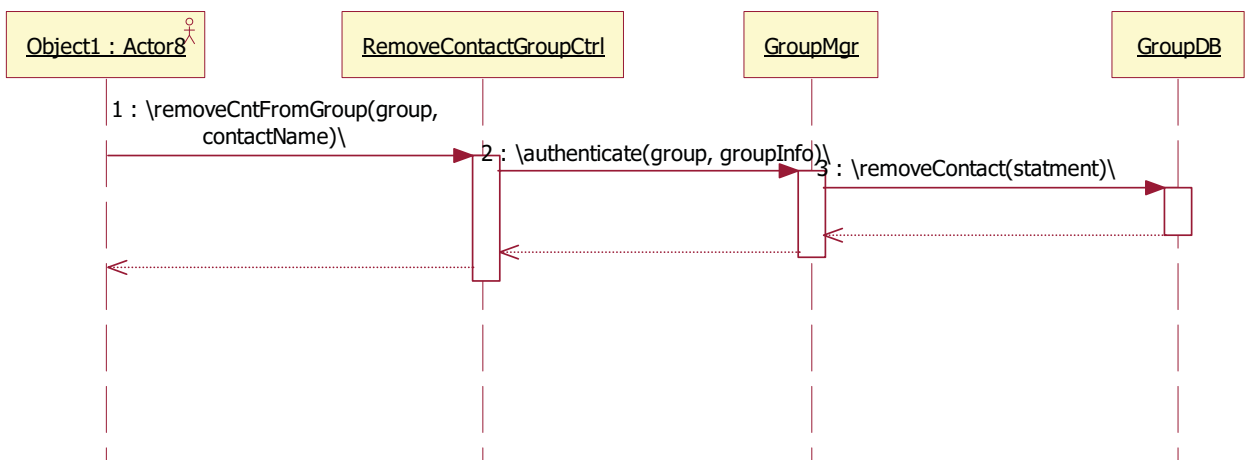
Figure 27 - Remove Contact from Group Sequence
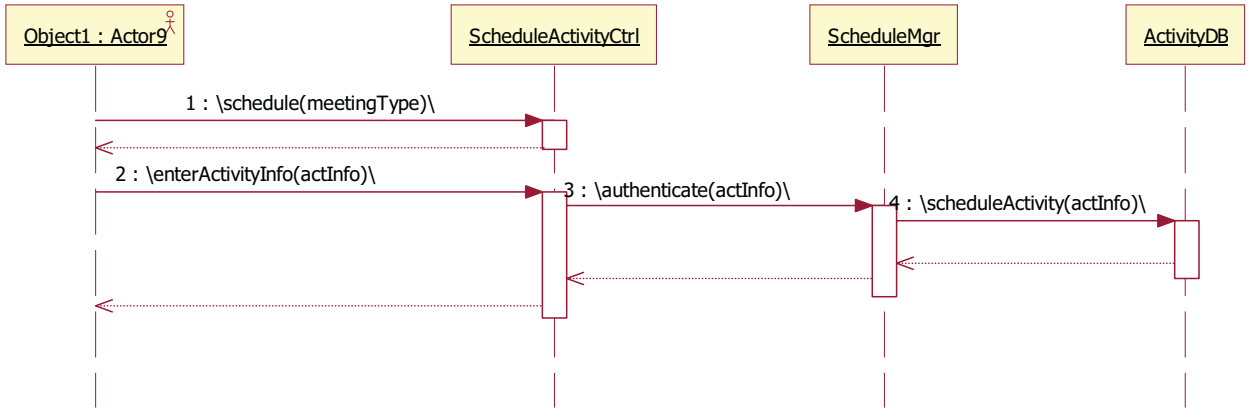
Figure 28 - Schedule Activity Sequence
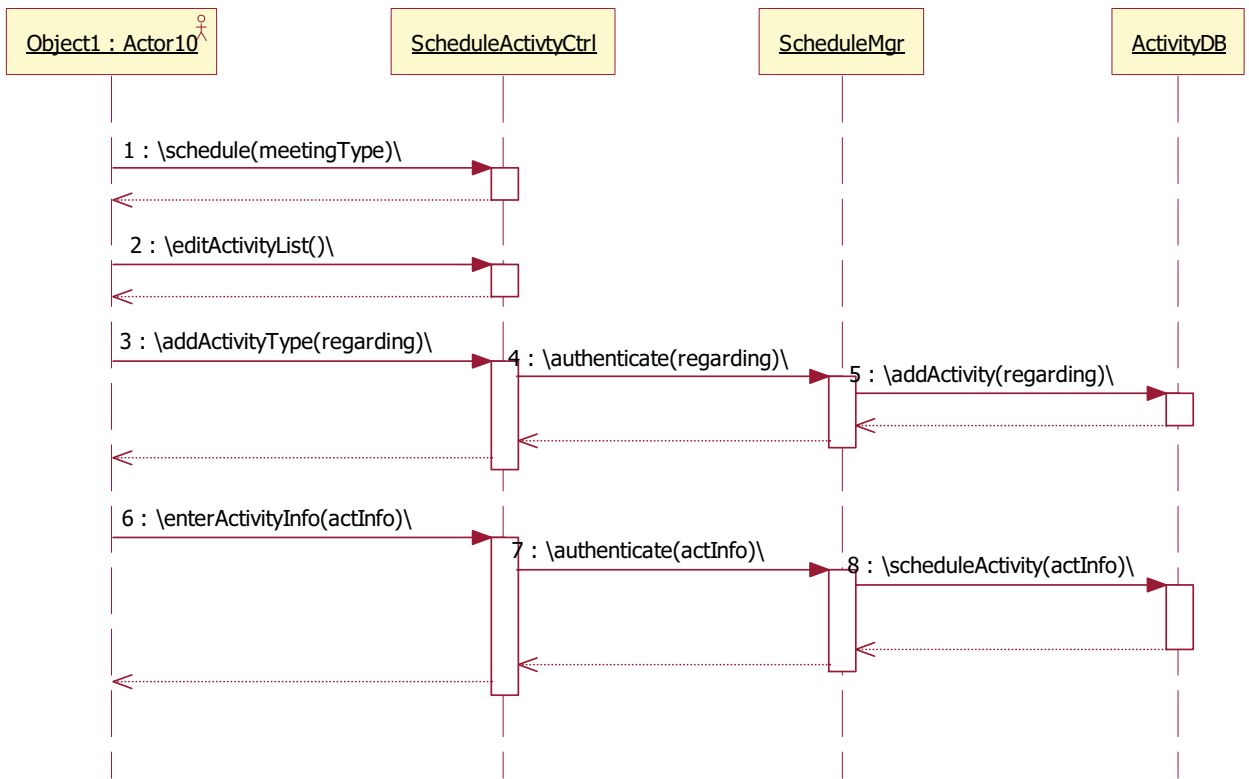
Figure 29 - Schedule Activity
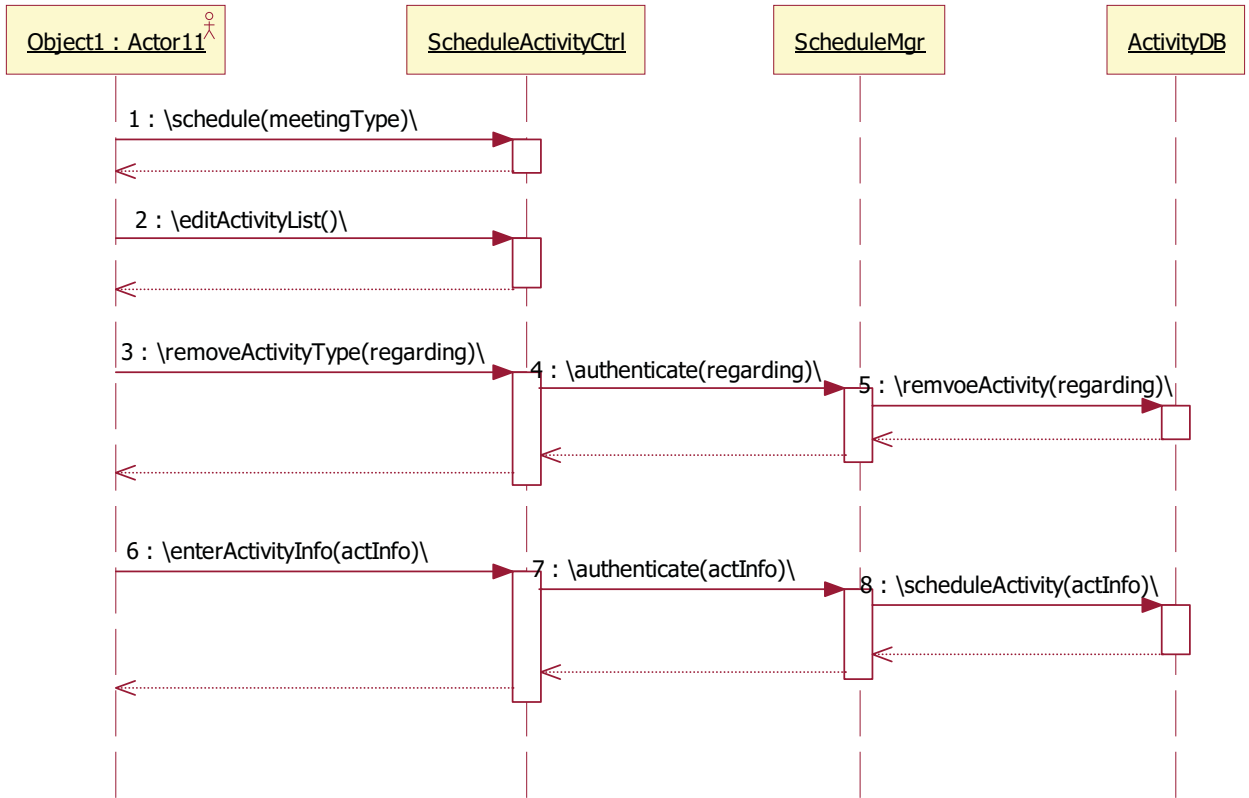
Figure 30 - Remove Scheduled Activity Sequence
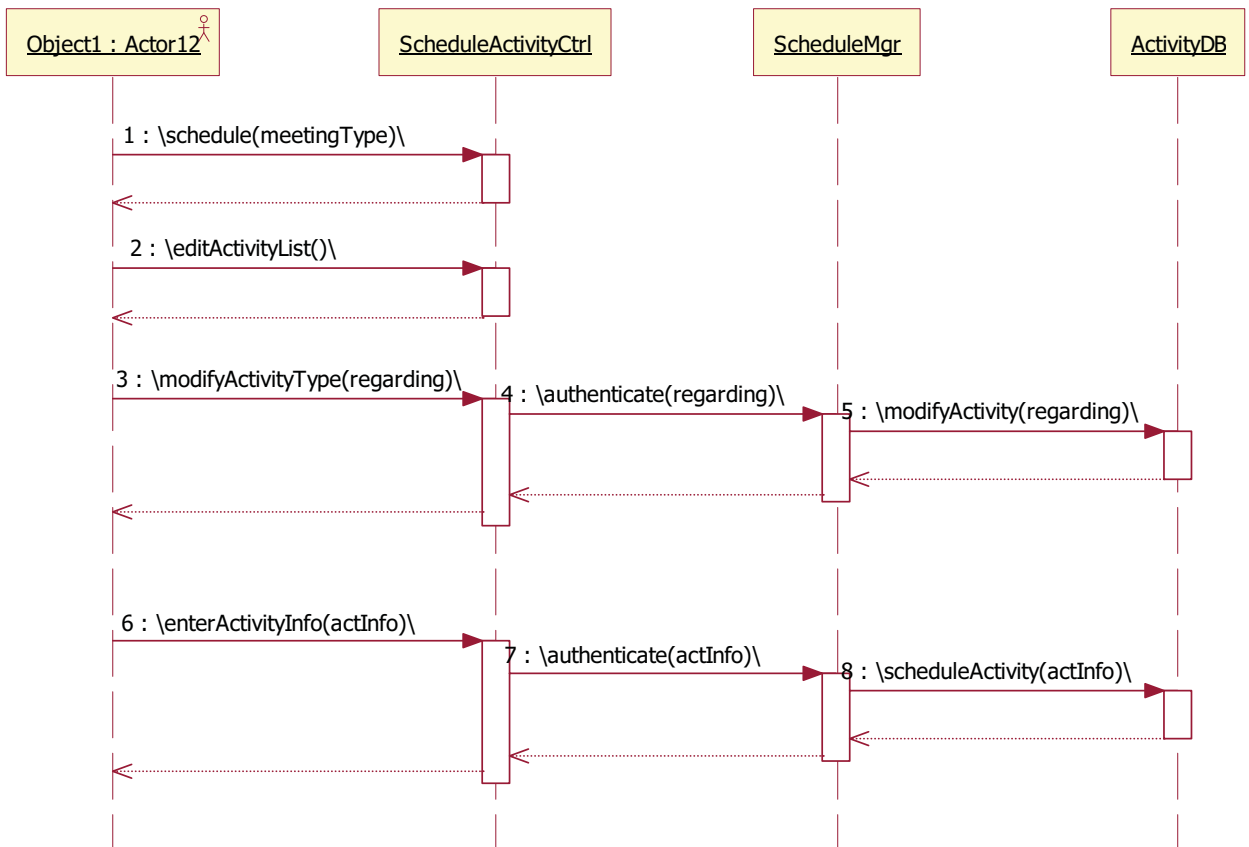
Figure 31 – Modify Activity Type Sequence
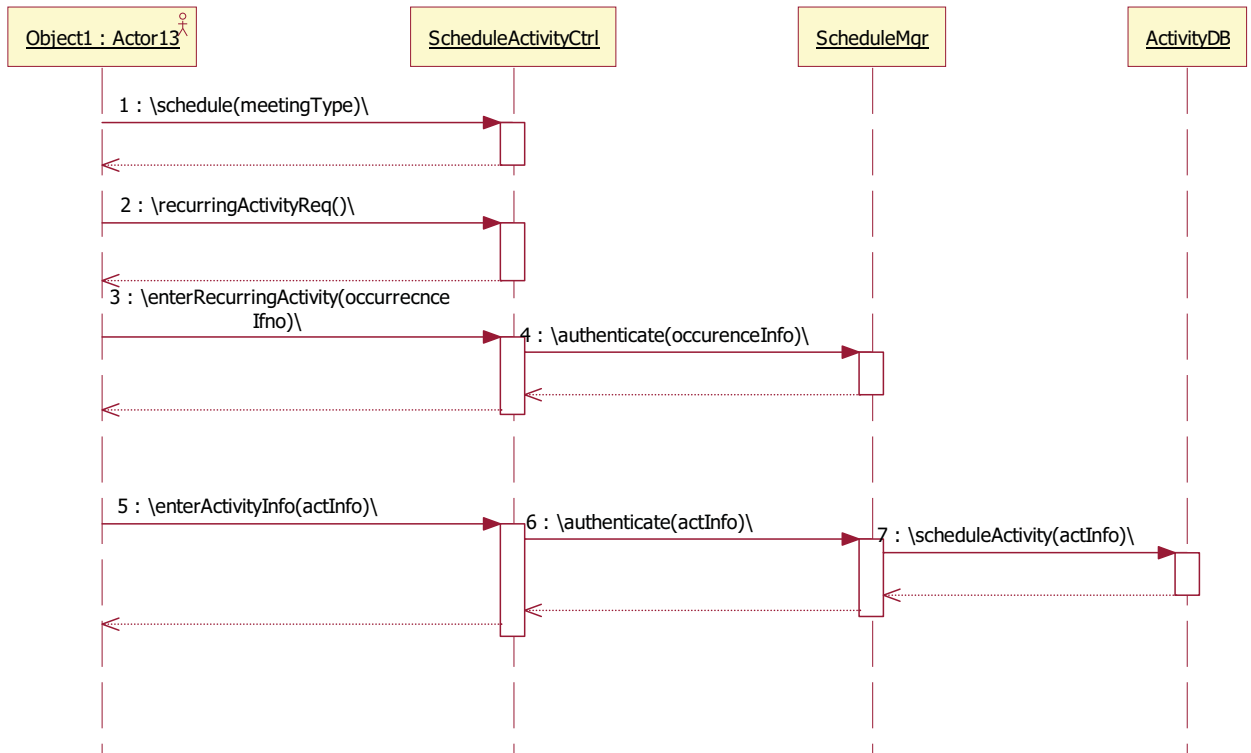
Figure 32 - Schedule Recurring Activities Sequence
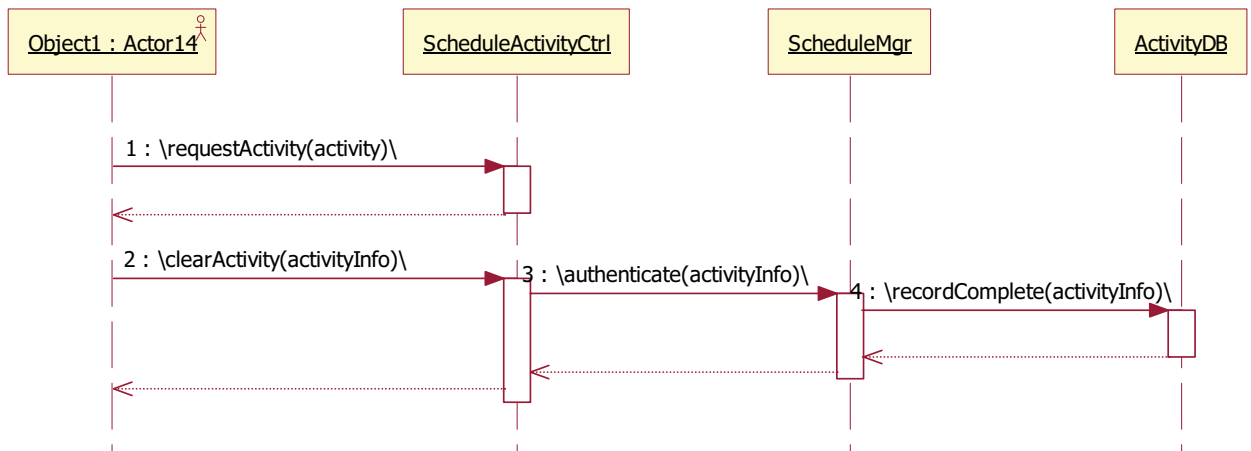
Figure 33 – Record Completed Activity Sequence
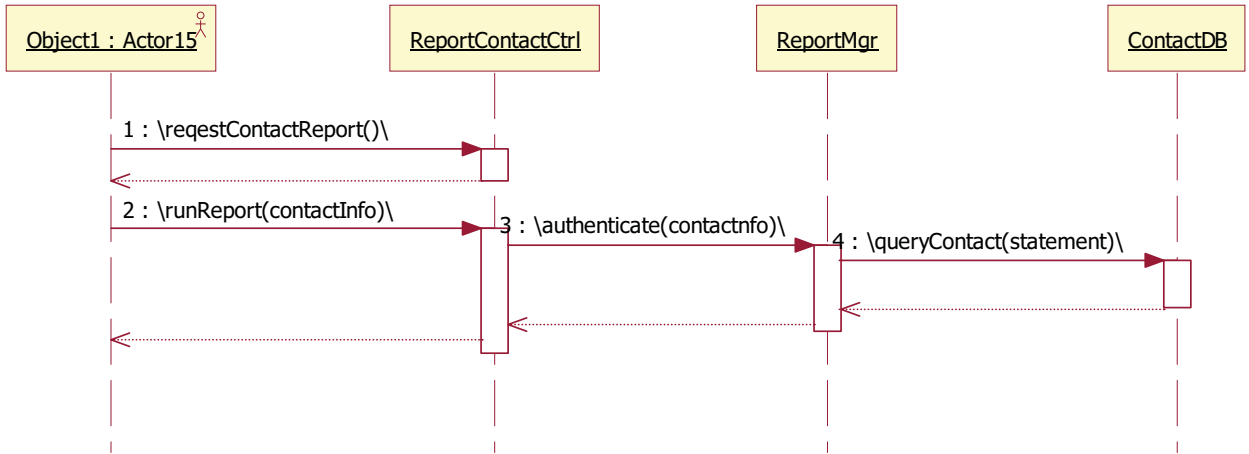
Figure 34 - Report Contacts Sequence
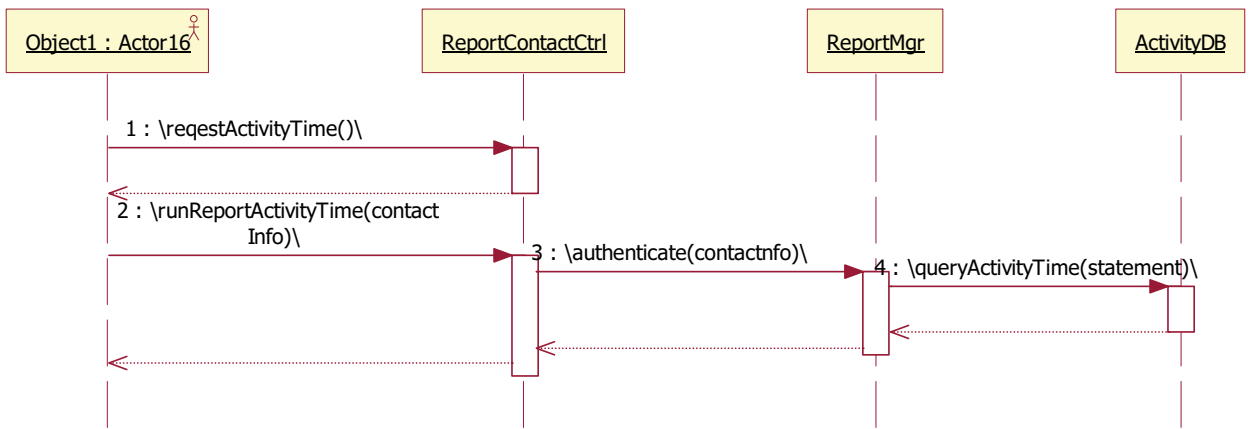
Figure 35 - Report Activity and Time Spent
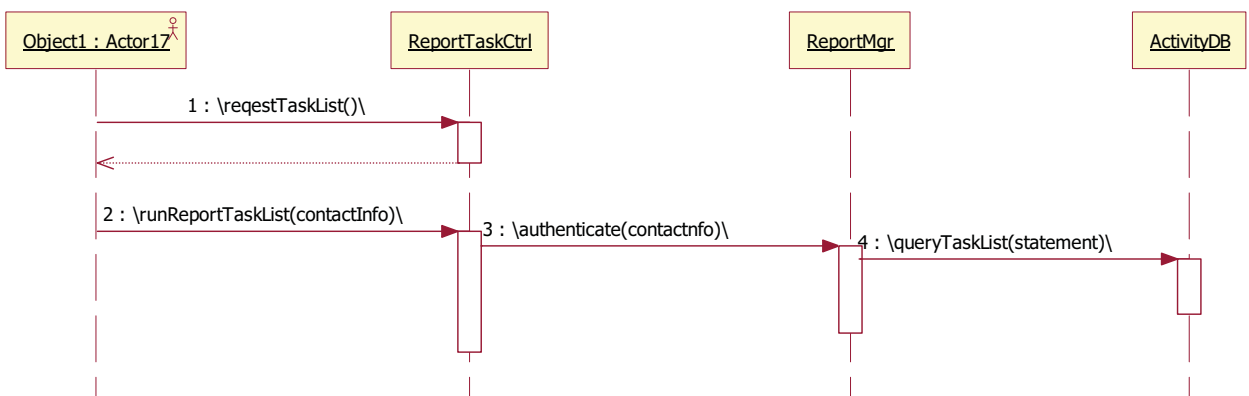
Figure 36 - Report Tasks
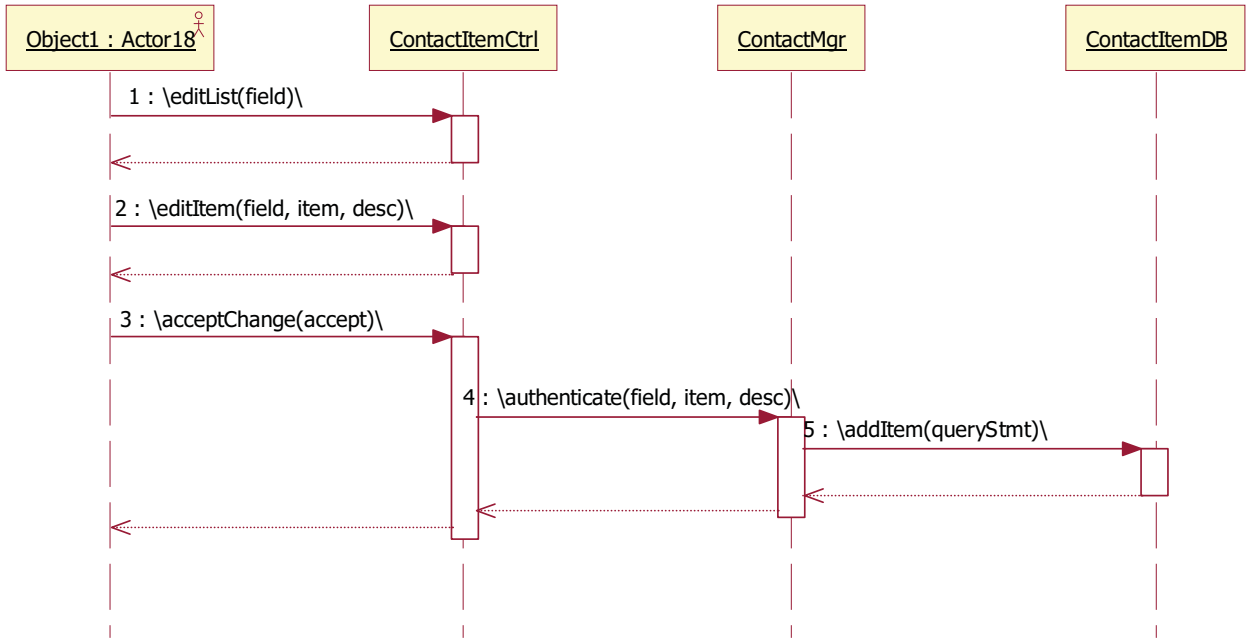
Figure 37 - Add Item to Drop down List
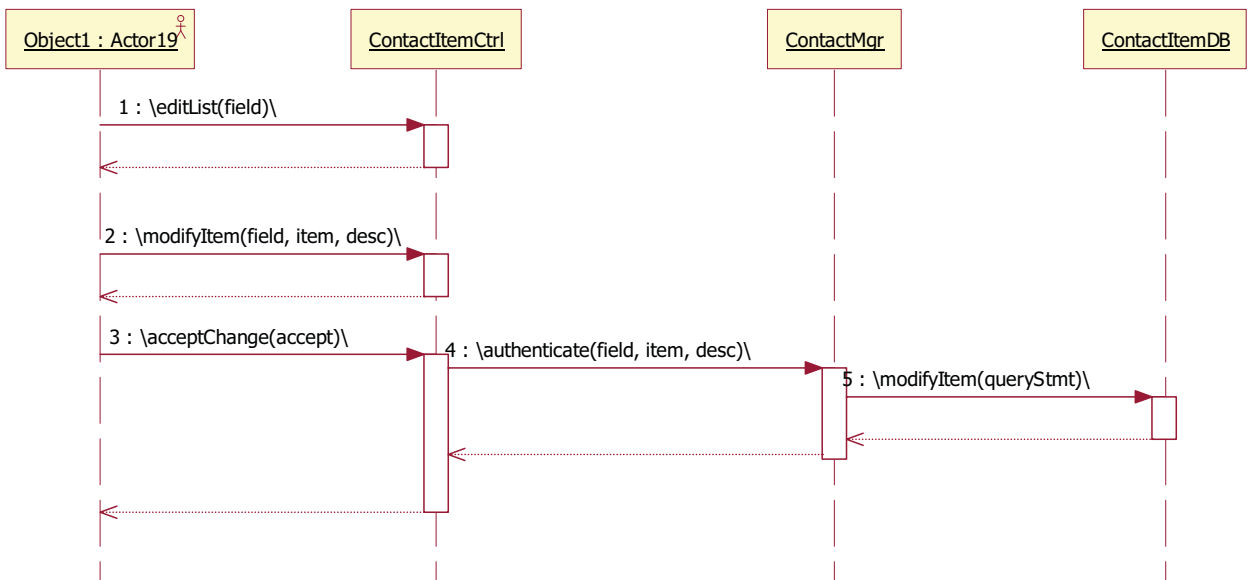
Figure 38 - Modify Item from Drop down List
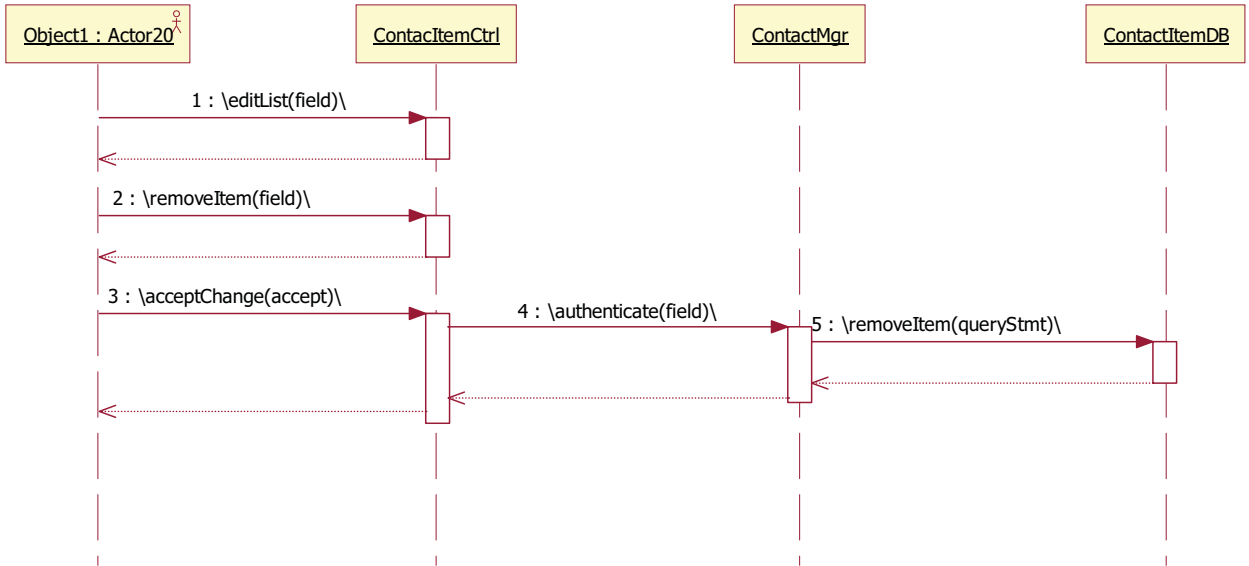
Figure 39 - Remove Item from Drop down list

5.3 – Domain Diagrams

Below is the full domain diagram of the Spiritual Care project. The diagram is also broken into smaller sections in later figures. Please, note the separate diagrams may have duplicate domain names to represent the diagram. However, duplicate domain names do not exist. One common duplicated domain name is "Exception."
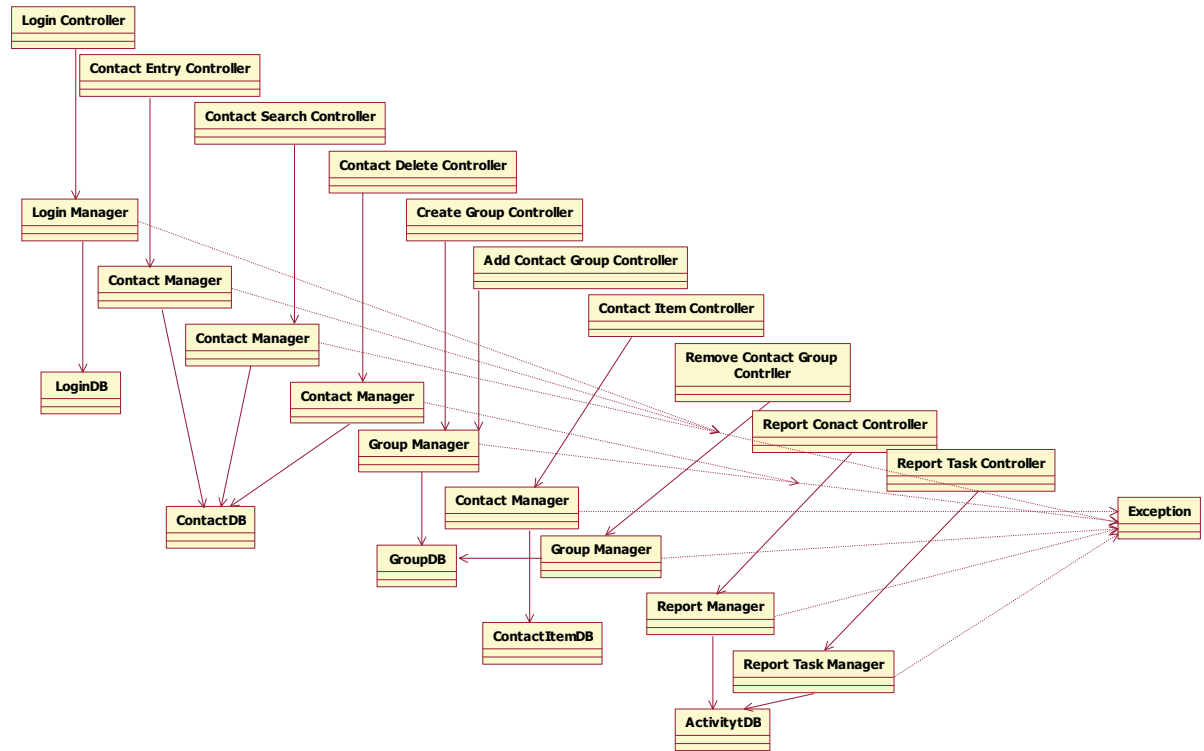
Figure 40 – Full Domain
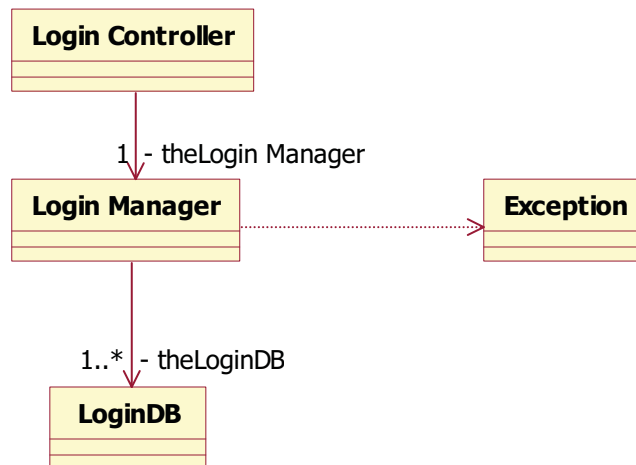
Figure 41 – Login
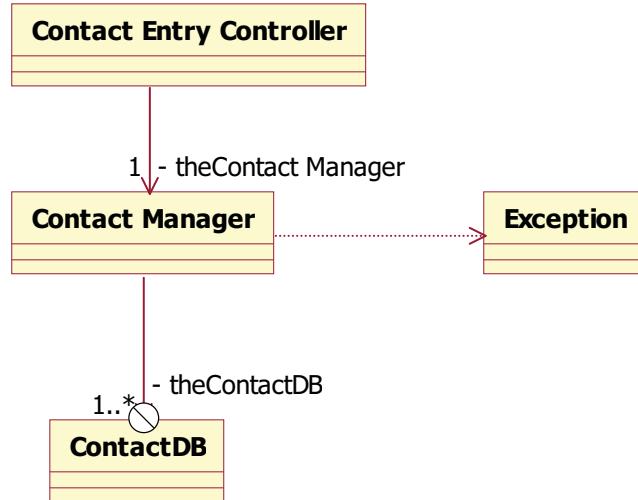
Figure 42 - Contact Entry
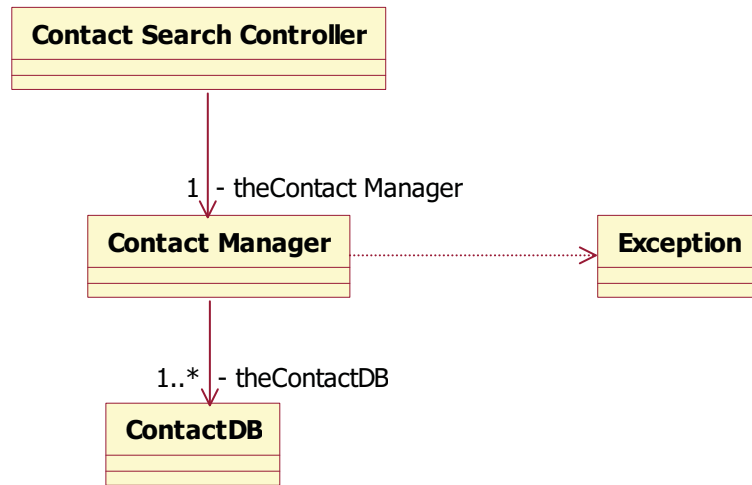
Figure 43 - Contact Search
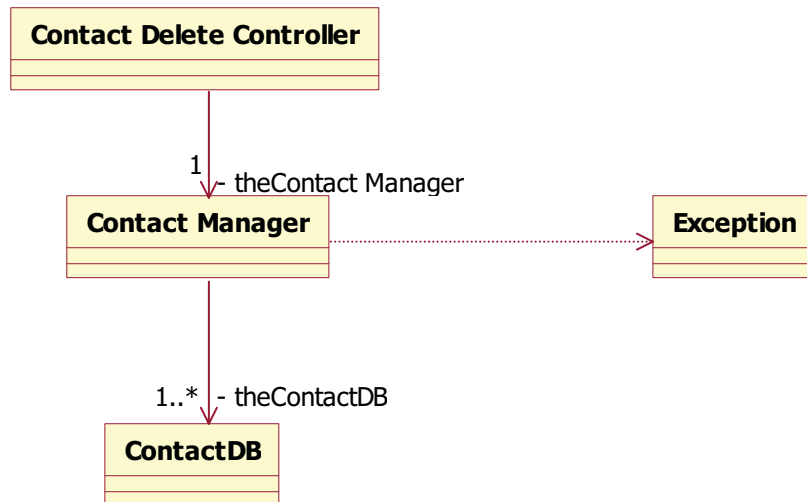
Figure 44 - Delete Contact
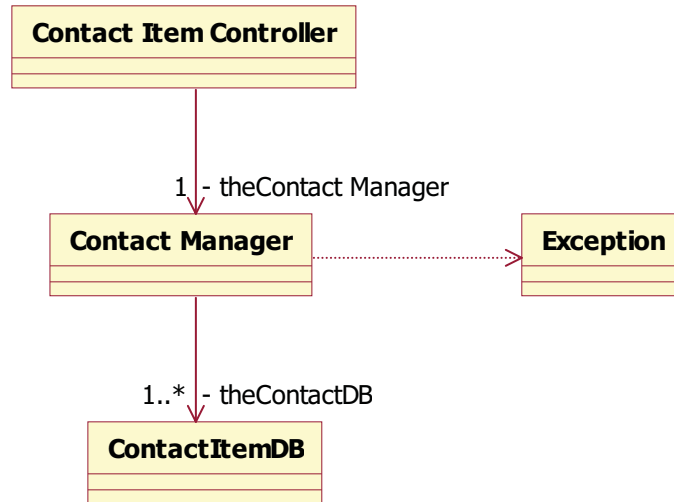
Figure 45 - Add Item Drop Down
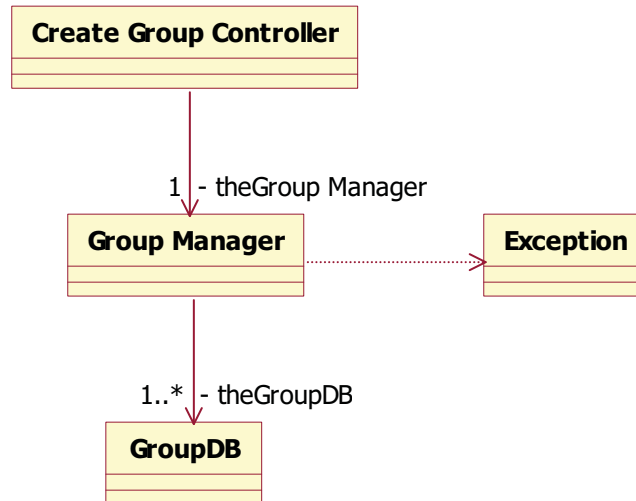
Figure 46 - Create Group
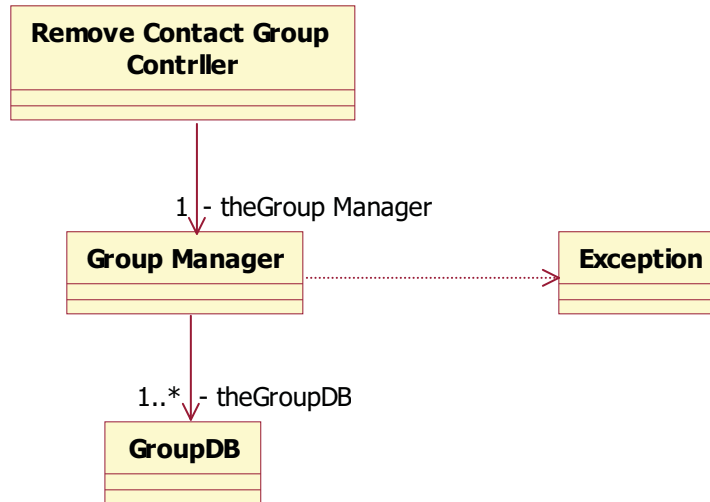
Figure 47 - Remove Contact Group
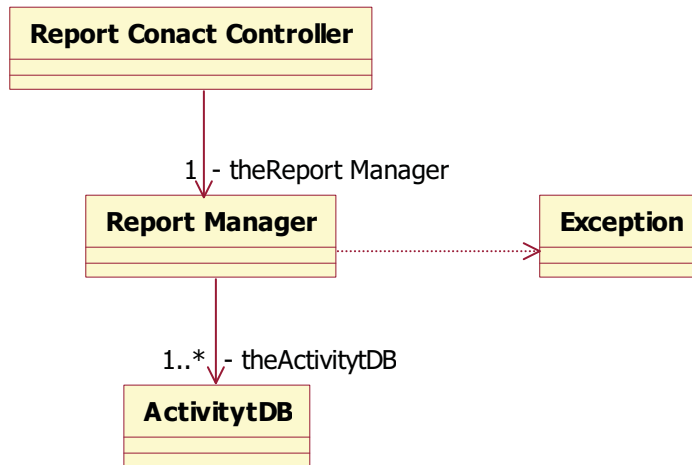
Figure 48 - Contact Report
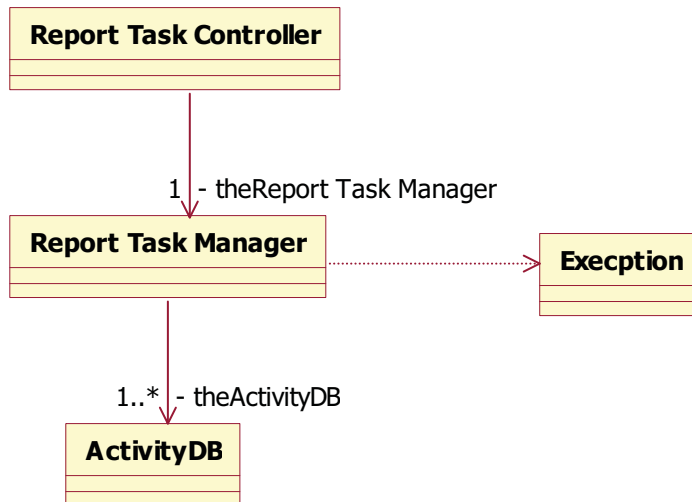
Figure 49 - Task Report
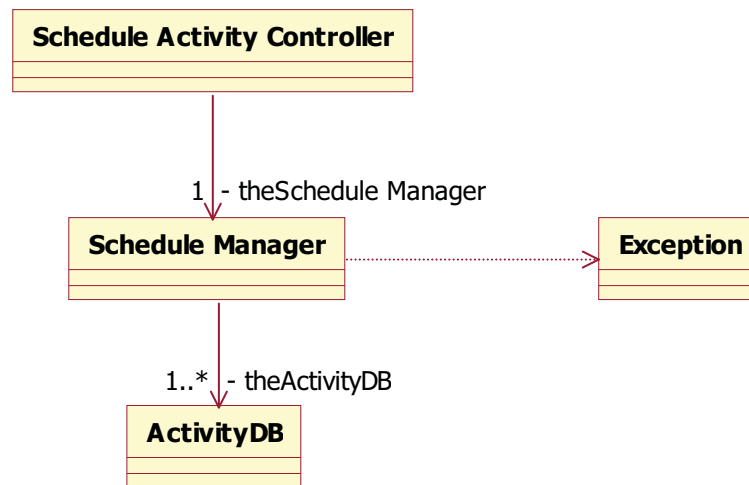
Figure 50 - Schedule Activity

Although this paper provides several diagrams representing software architecture,

the application is an off-the-shelf product. The architecture thus far does not represent

the actual architecture for ACT!. However, this paper will discuss two CRM

architectures' ACT! and Microsoft CRM. Before looking at Sage ACT! and Microsoft's

architecture, looking at some architectural principles is helpful. The architectures need to

use the industry's best practices. Some of these include user-driven requirements.

According to AUP techniques, the end user would provide end user requirements.

Allowing the end user to help with the requirements can help solidify the requirements.

The architecture should have a centric design. The process also includes an iterative

process. An iterative process will keep refining the requirements and architecture until it

meets the customer's needs and has a robust product. A robust product is more than a

product without bugs. To name a few items that make a product robust are flexibility,

adaptability, scalability, and understandable. A robust product allows for new feature

sets. A robust architecture can adapt to new technology. A new technology may include

a different database. The product also needs to have an understandable implementation.

For several years now, the industry has recognized using layers as the best approach to

solving architecture problems. However, the number and types of these layers vary from

architecture. The two architectures we look at are no exception. They have a different

number of layers and types.

Obviously various vendors will use different architectures to implement their

products. We will look at two architectures. ACT! by Sage, since this is the product

recommended for this project and Microsoft CRM. The architecture will only include a

high-level overview, because the limited availability of documentation. They might bias

the documentation according to the manufacturer perspective. This paper does not

attempt to validate the claims.

5.4 – ACT! Architecture Overview

ACT!s' architecture focuses on a feature-rich and customizable platform. The

product also focuses on scalability, reliability, and extensibility. The architecture uses

three logical layers. The layers consist of the Presentation, the Business Logic, and the

Data layer. The presentation layer is responsible for the user interface. This layer

provides data viewing and manipulation to the end user. The Business Logic layer

enforces the business rules and logic. In addition, the Business Logic contains ACT!

Framework. The Data layer is responsible for data storage and data integrity. This is

also where the database resides. The framework is also a vital component of the software

development kit (SDK). SDK provides services such as plug-in loading and presentation

layer manipulation, and access to the Business Logic layer

 (Corporation, 2006). Below is a high-level overview of the three-tier architecture:

Presentation	Application	User interface portal To all functionality
Business Logic	Framework	Business rules, core Data access and manipulation
Data	Database	Data storage and integrity
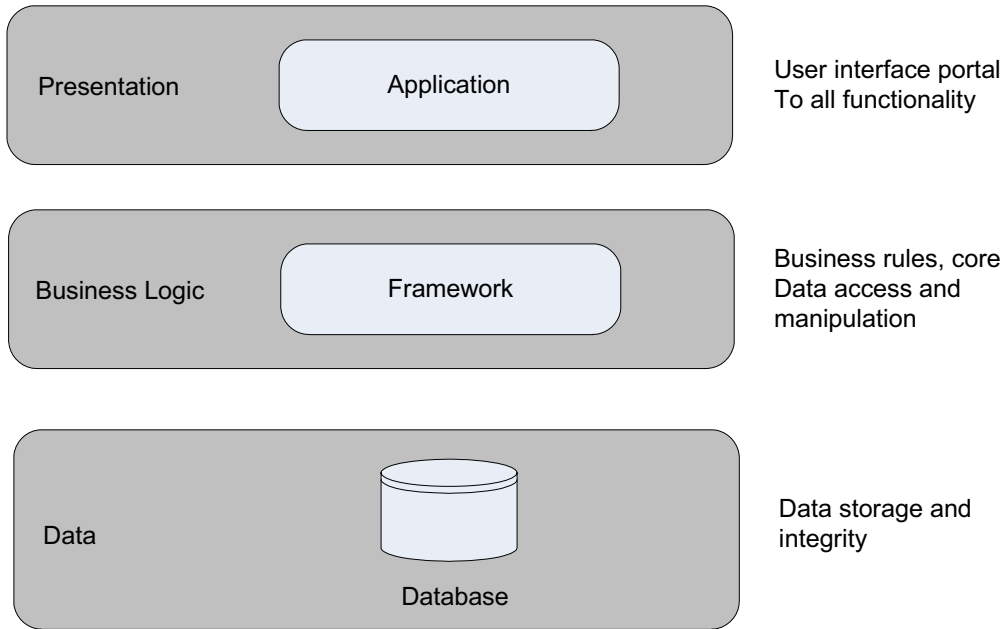
Figure 51 - ACT! Architecture Layered Tiers

Below is a representation of ACT!'s architecture in more detail:
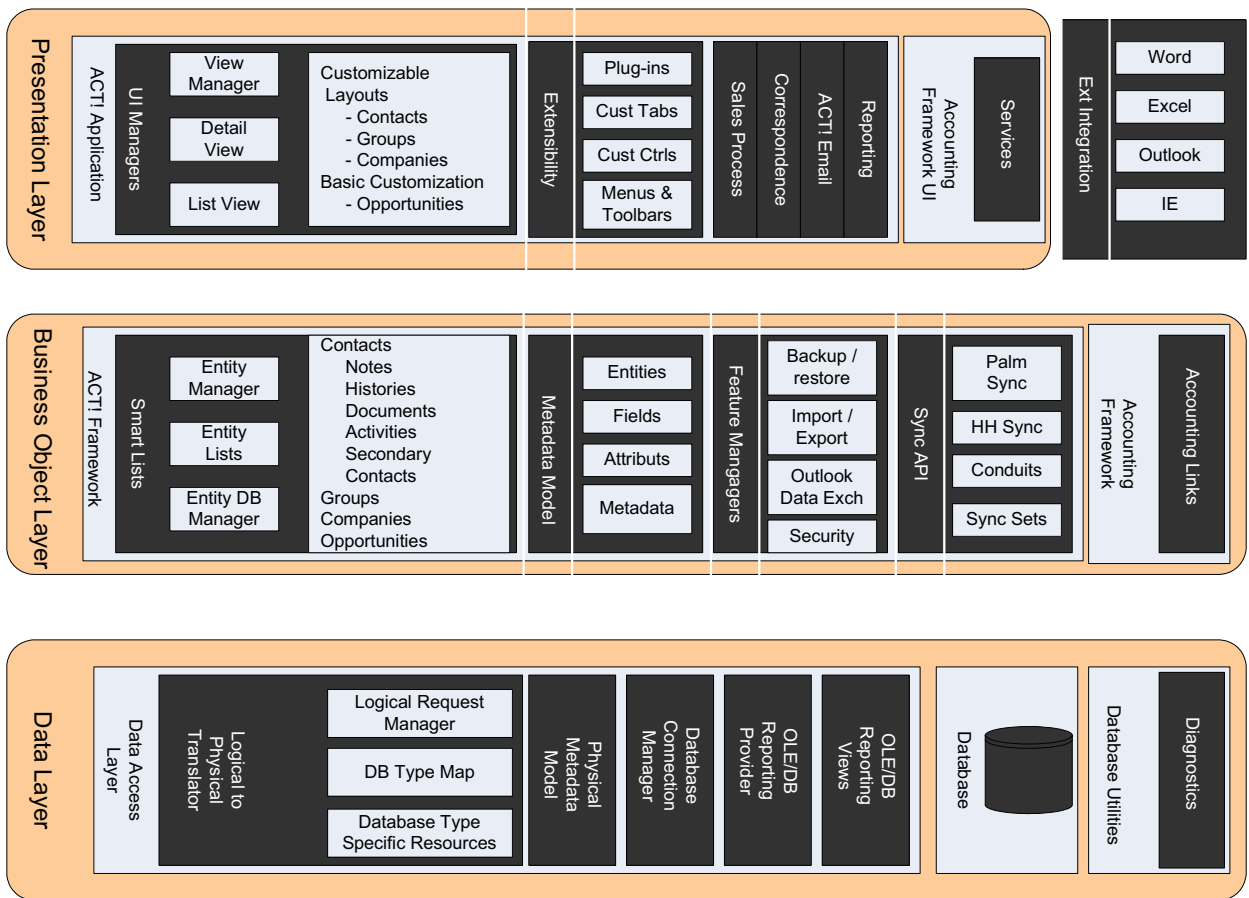
Figure 52 - ACT! Tier Architecture Details

5.5 – Review Summary

ACT! uses a full Relational Database Management System (RDBMS) on the back-end. ACT! claims by providing the database on the back end it supports scalability and stability. This method does not have multiple-user limitations or related database corruption issues. These issues typically occur with flat-file database systems. ACT! insulated the Business layer from database-specific access via the Data Access layer. The Data Access Layer acts an object persistence layer, servicing all requests that require database operations. ACT! had several database goals. Some of these goals include Industry-leading RDBMS, client-server architecture, scalability, and auto tuning.

5.5.1   – The Business Logic Layer

ACT! encapsulated the functionality, logic, rules and access to business entities in the Framework. The Framework supports scalability by keeping a disconnected model between the Business Logic and the Data tier.

According to ACT!, they use the principles of object-oriented design. Using object-oriented design allows for fewer complex base infrastructural components. This can benefit several product features.

The Business layer also has high-level entities to mange, retrieve, edit, and create using entity managers such as Contacts Manger, Opportunities Manager, etc. ACT! built all of the managers based on a component called Smart Lists. Smart Lists component is an intelligent agent mediating access of the database by the application. It provides several features that enhance ACT! scalability and performance. Some of these features include the following:

Collection Management – Smart Lists arbitrate data access. It handles all data source interactions and returns a collection of high-level objects that allows the application to manage.

Predictive Data Fetching – The Smart Lists pre-fetch data in the window region the user is viewing, and the user scrolling and interaction.

Cache Management – Smart Lists manage the "staleness" of information in the list by using advanced heuristically and deterministic algorithms.

5.5.2 – The Presentation Layer

The presentation layer provides familiar views; allows the user to customize the database fields fully. This allows the user to enhance the viewing capabilities. This may occur by customizing reports or several other items. Some include data manipulation, and filtering. The product also allows the third-party add-ons, custom controls, and custom tabs.

5.5.3 – Customization

ACT! provides powerful features to allow the user to customize the fields. The field sets of primary entities include "Contact," "Group," and "Companies." Each entity is fully customizable. These types are metadata-driven, and much of their landscape is discovered dynamically. ACT! stores them as Field Descriptors.
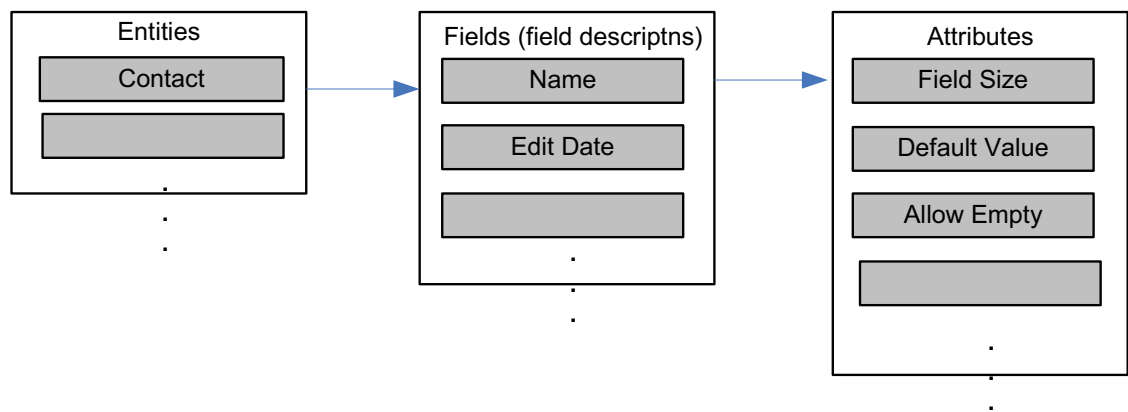
Figure 53 - Entities, Fields, and Attributes

ACT! can define a property or field with several types. For example, several types are string, character, numerical, etc. It can also store the file as read-only, specific types such as uppercase or phone numbers, and the file name is displayed within the application.

ACT! has three types of fields "System – not editable fields", "System – editable fields", and "User – defined fields."

"System – not editable fields" – include fields installed and maintained by the database. Some examples include Last Meeting or Edit Date fields. You cannot use Define Fields to modify System – not editable fields. Although, the user cannot edit the field the user may modify the field position in a layout.

"System- editable fields" – The user may modify the system editable fields they cannot delete them. Some field examples include Contact, Phone, and Address fields 1-3. Although the user can edit the fields, ACT! has limiting constraints on how the fields are modified. The user cannot delete a Contact field, but can prevent an empty or blank value. Although the user cannot delete a system editable field, the user can remove it from the layout.

"User – defined fields" – are fields the user can create and define. The system has a default of ten user-defined fields. Although ACT! only provides ten user-defined fields, the user may create additional fields if needed.

ACT! allows the user to add special data types. The data type may include a value the field can accept. It may include text or numbers, pictures, or check boxes. ACT! also provides a data type called annual events. An annual event data type may include birthdates, anniversaries, or policy renewals. Each time a field changes value, ACT! records the history of who changed the field and the previous value of the field. ACT! also provides several other definitions. The user can define drop-down lists. The user can define if a field is primary. In addition, ACT! provides several other definitions such as setting triggers and linking a field between a company and a contact.

ACT! allows the user to customize the layouts for contacts, companies, and groups using a simple interface. Each entity can have multiple layouts that display different sets of fields depending on the requirements. ACT! provides a report designer tool used to create or customize one of the existing forty standard reports. The user can add custom fields, which appear as "first class" fields.

ACT! provides several ways of accessing the database. ACT! provides three levels of security. These are Administrator, Standard, and browse. Administrator security allows the user to perform all standard functions, add users to the database, perform maintenance, and modify fields. The Standard security allows the user to see the records in the database, add, delete, and modify records. It also allows the users to synchronize with another database or user. Standard security does not allow adding users, performing maintenance on the database, or modifying the fields. Browse security allows the user to see the records in the database. Browse security does not allow the user to modify or delete records.

5.6 – Microsoft CRM Architecture Overview

Microsoft also recognizes that CRM is not so much a technology as it is a business strategy used to help attract new customers and retain current customers. Acquiring new customers can cost four-to-five times the cost of retaining and reselling to existing customers. Microsoft claims that its CRM enables companies to build and implement business process to help retain existing customers.

Before we look at Microsoft's architecture, understanding the basic design goals is important. Microsoft intended to provide low total cost of ownership (TCO). The product must allow the user easily to manage, customize, and deploy. This design lends

itself to provide low-cost product customization. Because each business is unique, it is

important that the CRM is customizable. This is especially true in the environment we

are attempting to use the CRM.

Another design goal is to scale up and out to hosted environments. Microsoft

CRM does not sell the CRM as a hosted solution. However, they designed the product

with this deployment model. The hosted application model imposes high demands on an

application. Not only can the solution scale up to hosted environments, it can also scale

down to a single user desktop. With any CRM tool, it is not very effective if it cannot

work as a disconnected model. This is very true for the environment in which we wish to

use the CRM for the Spiritual Care department.

Microsoft, like ACT!, uses a separate but equal application and platform tiers.

Multiple tiers separate the business logic from the application rendering logic from data

management logic. They provide TCO by implementing a metadata-driven architecture.

This architecture allows the customers to extend the underlying database schema easily.

Although, the customer may change the schema, the underlying application code is

unchanged.

5.6.1 – Product Architecture

Microsoft CRM uses a physical four-tier model opposed to ACT!'s three-tier

model. Although, the CRM has four-tiers, thinking of the layers as further divided is

sometimes favorable. At the logic level, it is possible to identify up to six unique tiers.

Some may consider the number of tiers as chatty or cause performance degradation.

However, these are logic tiers; the physical model has greater optimization. The logical

and physical models have specific functions and supplies information to the immediately surrounding tiers.

Microsoft CRM has four physical layers the presentation, application, business or domain logic, and data management. The only different tier from ACT! is the application tier. The presentation tier has two distinct components, Microsoft Internet Explorer for a Web-based user experience. The second is Microsoft Outlook used as a Microsoft Windows operating system-based experience. Both presentation components use the rendering technology built into Internet Explorer.

Microsoft CRM utilizes two application layers. For the Outlook-based client, a lightweight application framework used to support the Web-based application logic. However, it is in a disconnected mode. The browser client uses ASP.NET application components within the application framework. Only a small amount of business logic exists within the application tiers. The primary application logic performs rendering and data validation. The application layer provides a small amount of customized business logic. To communicate with the underlying platform layers, message passing occurs via XML.

The service tier or domain logic is responsible for creating domain-specific objects. A domain-specific object includes but is not limited to contact, lead, opportunity, account, and business. The service tier should implement the service specific rules by manipulating and combining the principal domain objects. The service tier imposes only generic domain constraints. This layer provides the building blocks for an application. Alone it is nothing more than a collection of related objects. The service tier contains more than Microsoft CRM business objects. It is also responsible for

controlling the access to objects and the database. ACT!s' architecture was lacking this

tier. It performed most of these functions in the data layer. Although, combining the two

tiers is possible, it is not advisable. Microsoft CRM considers this tier as performing all

the "hard plumbing" to complete the application.

Similar to ACT!, the data tier is the lowest level tier and broadly speaking

consists of a database and well-defined data access layer. The data access layer provides

a consistent programming interface for the service developer. The domain tier only has

one direct customer the service data layer.

Identifying six unique layers within the product architecture is possible. These

layers are logical layers, which need to achieve optimal characteristics. This poses a

problem; can the logical architecture be re-factored to meet the physical demands?

Part of the solution may seem unfounded because they push the layers back

together. To achieve this they need to minimize the access paths from layer to layer. The

architecture discussed earlier does not require implementing each logical layer as a

discrete physical layer.

The application layers and the service layers have a natural separation. Not only

is it natural, hosting various components on multiple servers is simple. Each layer

encapsulates the information that provides the service. The application layer contains the

application logic, which includes rendering, custom business logic and data validation.

The service layer holds the service-specific domain knowledge.

5.7 − Identify Requirements and Risk

The table identifies the use cases in relationship to the order of importance and the risk. Traditionally, the customer would rank the importance of the use case or requirements (Keefer, 2004). However, in this case the designer ranked the order.

Table 1 - Requirement Importance and Risk

Use Case	Importance	Risk
User Logon	15	Low
Create Contacts	1	Low
Edit Contact	2	Low
Delete Contact	16	Low
Search Contacts	3	Low
Schedule Activity	4	Low
Edit Schedule	10	Low
Remove Scheduled Activity	12	Low
Automatically Suggest Activities	19	High
Report Contacts	13	Low
Report Activity and time-spent	9	Medium
Report Tasks	17	Low
Create Group	5	Low
Add Contact to Group	6	Low
Remove Contact from group	7	Low
Add Activity Type	11	Medium
Remove Activity Type	18	Medium
Modify Activity Type	20	Medium
Scheduling recurring activities	14	Low
Recording Completed Activity	8	Medium
Add item to drop down list	21	Low
Modify item to drop down list	22	Low
Remove item to drop down list	23	Low

Chapter 6 – Construction

The construction phase and the elaboration phases are essentially the same. However, the difference between the two is the stability of the architecture and the project plan. During the construction phase, the project developer and the customer work together to develop a release schedule.

6.1 – Refine Model

During the construction phase, some fields needed were not available for the project. This is neither a surprise nor a concern. It is understandable that a business CRM may not have the necessary fields for a project of this type. One reason ACT! was chosen was because a user with administrative rights can customize the Contact and Group windows. Changing the layout window color or fonts, renaming, adding, deleting, or modifying fields accomplish this (Corporation, 2002). An administrator can modify any of the fields. ACT! initially comes with fifteen user fields. The administrator can establish field attributes in the contact group records. Field attributes specify how the field is used. The field may only accept text or numbers, a specified number of characters, and whether the field will generate a history. A field may have specific rules for entering data into the field. Some examples may include that the field cannot be empty, and that the data is only selected from a drop-down list and several others. Some examples of fields that needed modified for this project include gender and faith. The faith field includes items such as 'Baptist', 'Catholic', or 'Presbyterian'. Gender may appear in some programs, but rarely does a field faith appear in a standard business CRM. Understanding the faith of the client can help the Chaplain meet his or her needs.

6.2 – **Develop Release Schedules**

The Spiritual Care program uses an off the shelf project. This allowed for a release of basic functionality early. This could have allowed the user to understand the overall package. The Spiritual Care program covered most of the requirements before the end user started using the program. As mentioned earlier some additional features were required. Some basic reports required modification to meet the needs of the Chaplain. In addition, various fields needed to be added or modified.

Chapter 7 – Transition

The Transition phase began after the first release. Typically, this takes place early in the project. This project was no exception. The developer transitions the project or a portion of the project to the end user.

7.1 – Transition Process

A typical project may have limited functionality. This project was different because the project used an off the shelf application. Using an off the shelf product already had many required features already integrated. Some fields were not appropriate because the use of the software was not for business use. However, a business and Spiritual care program still have many similar attributes. Each is dealing with a customer or client.

Although ACT! provided many features required, the Spiritual Care project required several modifications. Even without the modifications, the user could get an understanding of how the application would work. The vision statement initially clarified most of the required features. Several required features that the program did not initially come with, were integrated early in the process, or added at various iterations in the process.

It was anticipated during the Transition phase the end user would provide invaluable information about the project. However, the end user only used the program minimally. Although they did provide some feedback for program improvements, it was minimal. Although the end user minimally tested the project, the developer tested and corrected if it needed all of the required features.

7.1.1 – Training

The initial training session included documentation, and hands on approach to using the tool. The documentation included an abbreviated manual to perform all of the requirements of the project. The abbreviated manual was printed and available as WEB interface. The web interface allowed the user a simple tool for finding information. The developer also provided the full set of ACT! documentation. The full set of documentation could provide additional capabilities the user may want to incorporate or simply start to use.

The intent for the training was to have several short training sessions. Each training session would progress through the project requirements. The first training session was designed to provide basic information to get the user started. This session gave them the information how to login, basic understanding of the user interface, and adding contacts. This basic information allowed the user to start entering critical information into the system.

After the initial training session, the users no longer wanted additional training sessions. Because of the problem of limited hours in the caring field, they were content to use the system for contact information and group organizations. The users were interested in learning more about the project in the future, as time permits.

7.1.2 – Verification of Requirements

The verification process is vital to completing the project. Sometimes this verification is called an acceptance test. The customer typically writes the acceptance test cases. Typically, they may write the acceptance test case with the developer. The customer runs the test case to identify that she is confident that the developer has

implemented the desired functionality (William, 2004). For this project, the developer

verified all tests. For this project, the developer used the use cases as the acceptance test.

The table below lists the use cases and results. Any results identified in "Actual Results"

identify a different result than expected.

Table 2 - Use Case Results

Use Case	Description	Expected Results	Actual Results
User Logon	Precondition: The user has access to the system. • User enters user name • Enters password • User login only if both user name and password are correct	• User logged in when both user name and password correct • User did not log in if either or both were incorrect	
Create Contacts	Precondition: The user is logged in and has write access • User enters name, phone number, address and other applicable information.	• After entering data the new contact was saved	
Edit Contact	Precondition: The user is logged in, and a minimum of one contact is in the system. • User modifies one or more fields	• After modifying field the new data was updated	
Delete Contact	Precondition: The	• After	

	user is logged in, and the contact to delete exists • User deletes contact	deleting contact, the contact is no longer available	
Search Contacts	Precondition: The user logged in, and enters search criteria. • Searches by name, address, or phone number	• System will find any match(s) if available	
Schedule Activity	Precondition: The user is logged in. The contact information is available • Select type call, meeting, or To-Do • Select day and time • Selects additional contacts if necessary	• System accepts scheduled activity	
Edit Schedule	Precondition: User logged in and has an activity that needs edited. • User selects activity to edit • User modifies one or more fields in the activity schedule	• System updates the new information	
Remove Scheduled Activity	Precondition: The user logged in and has an activity that	• System removes the scheduled	

	needs removed. • User selects an activity to remove • System removes activity	activity • System will not remove cleared activity	
Automatically Suggest Activities			
Report Contacts	Precondition: The user logged in and one or more contact(s) exist in the database. • User request a list of the current contacts, the user can request to sort the contacts by various categories. • System displays the information	• System displays the contact information	
Report Activity and time-spent	Precondition: The user logged in and activity data included in database. • User requests an activity and time-spent report. • User enters date or specified range of dates allowed by system.	• System displays the activity report for activity and time spent per activity.	
Report Tasks	Precondition: The	• System	

	user logged in and tasks exist in the database. • User select task report • User specifies the type of activity or defaults to all • User set the date range or defaults to all past dates	outputs tasks for the user or all users depending on requested values.	
Create Group	Precondition: User logged in. • User enters a new group	• System creates a new group with the specified group name.	
Add Contact to Group	Precondition: User logged in. • User selects the contact(s) to enter in the group. • User accepts contacts to add to group.	• System adds contact(s) to the group	
Remove Contact from Group	Precondition: User logged in, group exists, and group contains one or more contacts. • The user selects the contact(s) to remove from the group. • The user	• System contains the modified group information	

	chooses to accept to remove the contacts from the group.		
Add Activity Type	Precondition: User logged in, scheduling an activity. • User selects to edit the activity list. • User types the new activity type. • User accepts to save the new activity type.	• System has the new activity (Regarding) type available.	
Remove Activity Type	Precondition: User logged in, scheduling an activity. • User selects edit list. • User selects activity to remove. • User selects delete.	• System deletes the activity type from the list.	
Modify Activity Type	Precondition: User logged in, scheduling an activity. • User selects edit activity list • User selects activity to modify • User selects modify • User	• System modifies the activity type	

	modifies activity • User accepts changes		
Scheduling recurring activities	Precondition: User logged in, scheduling an activity. • User enters meeting information. • User selects frequency • User selects or enters repeat data.	• System records activity as recurring	
Recording Completed Activity	Precondition: User logged in, has an activity to clear. • User selects activity to clear • User selects item was completed or not completed • User can enter history data • User can enter recurring settings	• System records the activity as assigned by the user.	
Add item to drop down list	Precondition: User logged in, is in the contact window. • User selects edit list… from drop down list • User clicks edit list button to add new item	• System adds new item to the list for future use.	

	• User enters new item and description. • User clicks OK to accept new item.		
Modify item to drop down list	Precondition: User logged in, is in the contact window. • User selects edit list… from drop down list • User clicks edit list button to modify item • User modifies item and description. • User clicks OK to accept modified item.	• System modifies item in the list	
Remove item to drop down list	Precondition: User logged in, is in the contact window. • User selects edit list… from drop down list • User clicks edit list button to remove item • User selects item to delete and selects delete. • User clicks OK to delete	• System removes item from the list.	

	item.		

Chapter 8 – Project History

As previously mentioned this project started by some conversations with many chaplains and pastors who work at long-term care senior residences. One chaplain mentioned that she needed a tool to keep track of the contacts she was making within and outside the facility. She continued to describe the issues, and we decided that developing or customizing a tool was feasible.

The project was implemented incorporating agile methods with Agile Unified Process (AUP). This project used four phases Inception, Elaboration, Construction, and Transition. One of the goals of using an agile methodology is flexibility. AUP is a simplified version of Rational Unified Process (RUP) it is also a good compromise from Extreme Programming (XP). Managing this project required flexibility AUP allowed for this. Several instances the developer took the initiative to write the customer requirements. This was necessary because of time constraints from the customer.

The significant milestones in the project were based on the four AUP phases. The milestones included the inception, elaboration, construction, and transition phases. Although all phases were met, they were not done on the typical timeline as suggested by the AUP process.

In a typical CRM, the critical success factors attribute improvement in sales and profitability. However, these are based on traditional quantitative metrics; these metrics are influenced by many other independent variables that require long-term goals. There are also several other examples of traditional quantitative metrics. They may include

reduction of costs through customer self-service solutions. The reduction in customer churn, improved focus on high value customers, and several others (Reynolds, 2002).

This CRM and several others do not necessarily fit the traditional cost analysis benefits. However, it does focus on retaining customers and understanding their needs. It also provides the ability to understand the Spiritual Care department time allocation. However, because the project was minimal utilized understanding all of the benefits of the system is impossible. Most of what we understand of the project comes through the acceptance test.

Throughout the project, we have used a modified version of the Agile Unified Process. The project went through four phases Inception, Elaboration, Construction, and Transition. We modified this process because it is flexible by nature. It was also necessary because of the scope of the project and the customers' interaction. However, the project incorporated all phases. Each phase had a specific goal to ensure the project competition. Throughout the project, we investigated several CRM applications and strategies. Each application had advantages and disadvantages. Because of cost, simplicity for the user, and meeting all requirements, ACT! was chosen as the solution.

Chapter 9 – Lessons Learned and Next Evolution of the Project

As with any project, the developer may choose any number of methodologies to achieve the same goal. This project may have progressed at a faster rate, by having a better understanding of the customer's needs. This breaks one of the premises for defining a CRM. To have a relationship with the customer you must understand them. Understanding what the customer wants and values are imperative (Nykamp, 2001). This is not only true with CRM, but with project development and the Agile Unified Process.

Understanding the design, developing, and maintaining the correct information for the Spiritual Care department or any organization is important. An information system will influence and manage an organization's business process. However, if such an information system is to take place the business practices will most likely need to change. This will require the customer to embrace change. It is also important for user involvement in the design phase. Ultimately, it is the customer who determines if the application is a success or a failure (Lally, 2004). Agile also suggests the importance of user involvement. Throughout this project, it was a high priority to involve the user. However, the developer can only use the information the user provides.

Cannon (Cannon, J.A., 1994) defined an IS project failure as "Failure is usually in terms of projects that are late or over budget, an inability to fully realize the expected benefits or gain the acceptance and enthusiastic support of users and management." Cannon describes failure as a number of events that occur within a project that does not allow the project to conform to the specifications and obtains the projects objective (Lally, 2004). According to this definition, the project was successful. However, the

user is only using a minimal set of the features. According to Lally "A project is accomplished by having a vision and creating a mission. The mission is achieved by creating a number of strategic goals that will contribute to the success of the project. A project is confined within a start and end date" (Lally, 2004).

The project met all of the requirements. At this time, they require no future developments. Currently, the Spiritual care department uses the system minimally and only uses a small percentage of the features. However, if they require additional training or additional requirements I will assist them.

References

Amber, S. (01). *Rationally Unified Data*. Retrieved August 17, 2007, from
    http://www.ddj.com/architect/184415329

Blandford, A. E., & Green, T. R. (2001). *Group and Individual Time Management Tools:
    What You Get is Not What You Need*. Retrieved February 24, 2007, from
    http://delivery.acm.org.dml.regis.edu/10.1145/600000/594091/10050213.pdf?key
    1=594091&key2=6928337511&coll=portal&dl=ACM&CFID=107482&CFTOK
    EN=14681324

Freeland , J. G. (2003). *The Ultimate CRM Handbook*. : McGraw-Hill.

Hee-Woong, K., & Pan, S. (2006). In *Towards a process model of information systems
    implementation: the case of customer relationship management (CRM)*. Retrieved
    February 27, 2007, from
    http://delivery.acm.org.dml.regis.edu/10.1145/1130000/
    1120506/p59-
    kim.pdf?key1=1120506&key2=3342798511&coll=portal&dl=AC
    M&CFID=568312&CFTOKEN=28308610

Hintze, J. (2006). Systems Get An Institutional Flavor Where Relationships are at Stake. *,
    , .*

Interact Commerce Corporation (Ed.). (2002). *ACT! User's Guide* (Vol. 7). Scottsdale:
    Interact Commerce Corporation.

Keefer, R. (Ed.). (2004). *Agile Software Development*. Dayton: Strategic Data Systems.
    Retrieved October 10, 2006, from Stategic Data Systems Web Site:
    http://www.sds-
    consulting.com/AgileSoftwareDevelopment.pdf#search='Agile%20software%20c
    ycle'

Lally, G. (2004). *Understanding Information Technology System Project Failure* (Dublin
    Institute of Technology). Retrieved May 2, 2008 from
    http://www.comp.dit.ie/rfitzpatrick/MSc_Publications/2004_Glen_Lally.pdf

Larman, C. (2002). *Applying UML and Patterns* (2nd ed.).
    Upper Saddle River: Prentice Hall PTR.

Nykamp, M. (2001). *The Customer Differential*. New York : AMACOM American
    Management Association. Retrieved February 24, 2007, from
    http://library.books24x7.com.dml.regis.edu/toc.asp?boo
    kid=2677

Pc Pro. (2007, May 4). *Product Reviews Office software*. Retrieved March 10, 2007, from http://www.pcpro.co.uk/reviews/54960/frontrange-goldmine-65.html?searchString=goldmine+goldmine

Peppers, D., & Rogers, M. (2004). *Managing Customer Relationships—A Strategic Framework*. Hoboken: John Wiley & Sons, Inc. Retrieved June 6, 2008, from http://library.books24x7.com.dml.regis.edu/book/id_112 63

Reynolds, J. (2002). *A Practical Guide to CRM*. New York: CMP Books. Retrieved February 22, 2007, from http://library.books24x7.com.dml.regis.edu/book/id_5105

Sage. (2007). *ACT! by Sage 2007 (9.0) Product Family Architecture, Customization and Integration*. Retrieved July 10, 2007, from //www.acttrainer.com/Brochure/ACT_Architecture_Whitepaper.pdf

Sage. (2007). *System Requirements*. Retrieved February 24, 2007, from http://www.act.com/products/2007/sysreq/index.cfm

Sage Software (Ed.). (2007). *ACT! by Sage 2007 (9.0) User's Guide*. : Sage SB.

Scott, J. (2003). *GoldMine 6 for Dummies*. New York: Wiley Publishing, Inc. Retrieved February 10, 2007, from http://library.books24x7.com.dml.regis.edu/book/id_112 83

Scott, J., & Lee, D. (2006). *Microsoft CRM 3 for Dummies*. Hoboken: Wiley Publishing, Inc. Retrieved June 6, 2008, from http://library.books24x7.com.dml.regis.edu/book/id_140 36

Stockford, P. (2006, June). CRM Is Dead...Long Live CRM! *, , *. Retrieved November 13, 2007, from http://web.lexis-nexis.com.dml.regis.edu/universe/document?_m=1de9c7a74d0271f432d406a18f4 80a5c&_docnum=2&wchp=dGLzVlz-zSkVb&_md5=41b9a271570985eb2bc718248ba211d5 database.

William, L. (2004). *Agile Requirements Elicitation*. Retrieved March 2, 2003, from http://ecommerce.ncsu.edu/studio/materials/AgileRE.pdf

Winder, D. (2004, May 4). *Product Reviews Office Software*. Retrieved March 7, 2007, from http://www.pcpro.co.uk/reviews/54960/frontrange-goldmine-65.html?searchString=goldmine+goldmine

Wong, T., & Kao , L. (2007). *Salesforce.com for Dummies* (2nd ed.). Hoboken: Wiley Publishing, Inc. Retrieved June 6, 2007, from http://library.books24x7.com.dml.regis.edu/book/id_16983

Appendix A

Abbreviated User Manual

The abbreviated User Manual describes how to use the product for all of the use cases for the Senior Care Residences project. The product has additional capabilities and it is the users' responsibility to refer to ACT! Users Guide. These instructions may not discuss the same detail as provided in the Users Guide.

User Login

To login into the database enter your user name and password, then press the OK button.

Interface

After opening ACT!, the Contact window displays information about one contact. The Contact window is divided into multiple sections it has a View bar, toolbar, and tabs, see below for details.
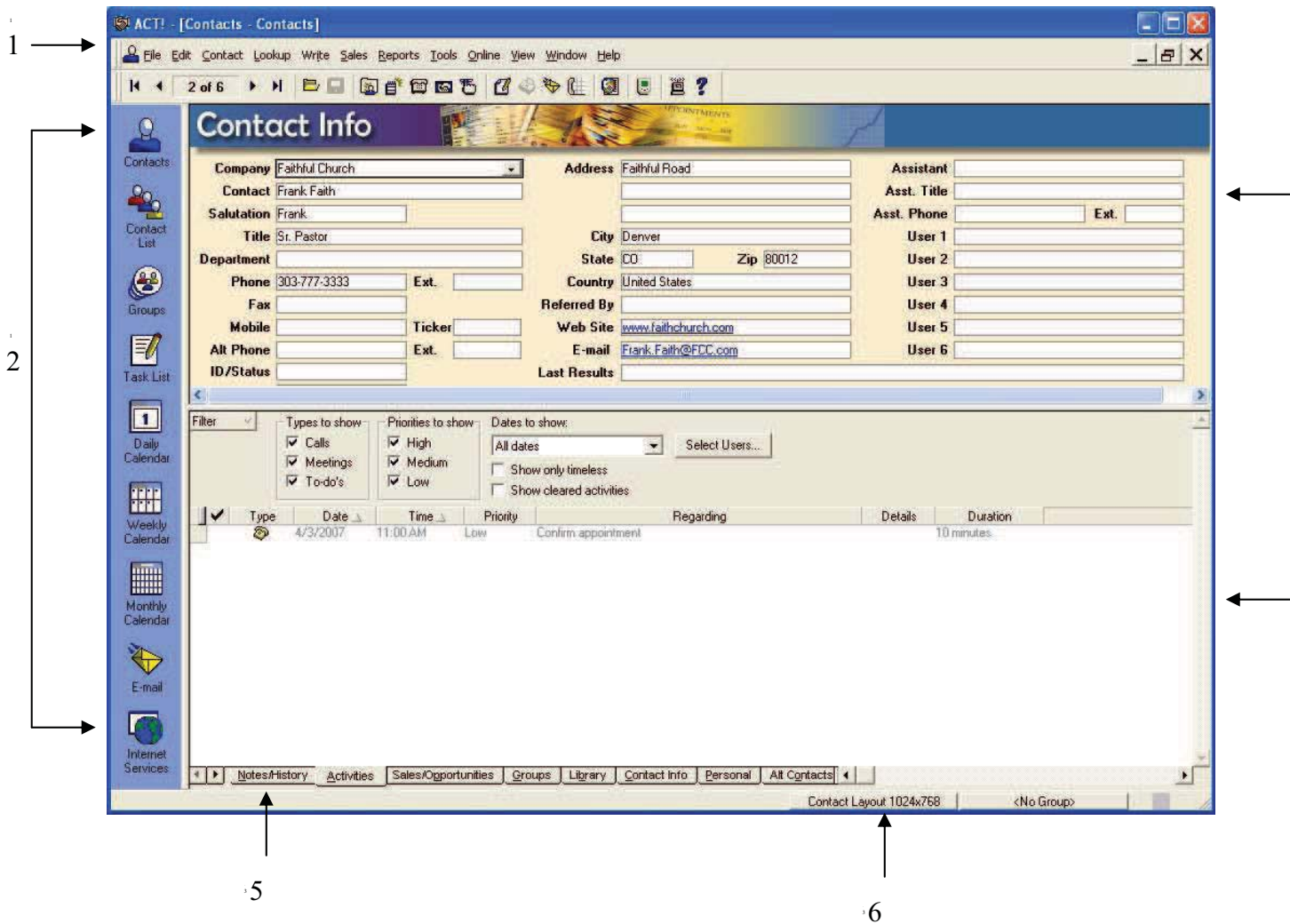
Feature	Function
1 – Toolbar	Includes tools to access features, such as reports and views.
2 – View bar	Contains buttons to change views, such as viewing calendars or list of contacts.
3 – Top portion of window	Includes contact information.
4 – Bottom portion of window	Displays information related to the tab selected.

5 – Tabs	Allow you to view notes, or activities, and to perform related tasks.
6 – Contact Layout button	Changes how the window looks and the fields it contains

Create Contacts

Enter contact information by using the Contact window or the Contact List. Moving to another record or performing another action saves the new contact information automatically.

A contact made "private" will not allow anyone, including the Database Administrator to view the contact information.

Contact entry with Contact window

Enter contacts in the Contact window, to increase speed duplicate information from one record to another.

- Click **New Contact** tool from the toolbar. A blank contact record should appear.

- Enter the information a field and press TAB to move to another field. Note – Ensure that ACT! identifies the contact's first and last name and any title information.

- (Optional) Click in the **Contact** field, next click the **Browse (…)** button to edit contact name details.

- (Optional) Click in the **Phone** or **Fax** fields, next click the **Browse (…)** button to format the telephone numbers.

Note – Clicking a field with an arrow button, identifies a field with a drop-

down list. Either click on the arrow and select an item from the list,

or type one or two letters to allow the program to auto fill from the

list. ACT! automatically adds text to the drop-down list by entering

text in the Title, Department, City, or Country fields.

Duplicate contact information
- Select the contact for information to copy.

- Select the **Contact** menu and click **Duplicate Contact**, either click

  Duplicate data from primary fields or **Duplicate data from all fields**.

  Click **OK**.

Entering contacts in the Contact List

After entering contacts and contact information, ACT! creates a Contact List.

From the Contact List, it is possible to enter or change contact information, and add or

sort contacts.

Add contact to Contact List
- From the **View** bar, click **Contact List**.

- Once the Contact List appears, select **Edit Mode** from the drop-down list,

  above the first column in the Contact List
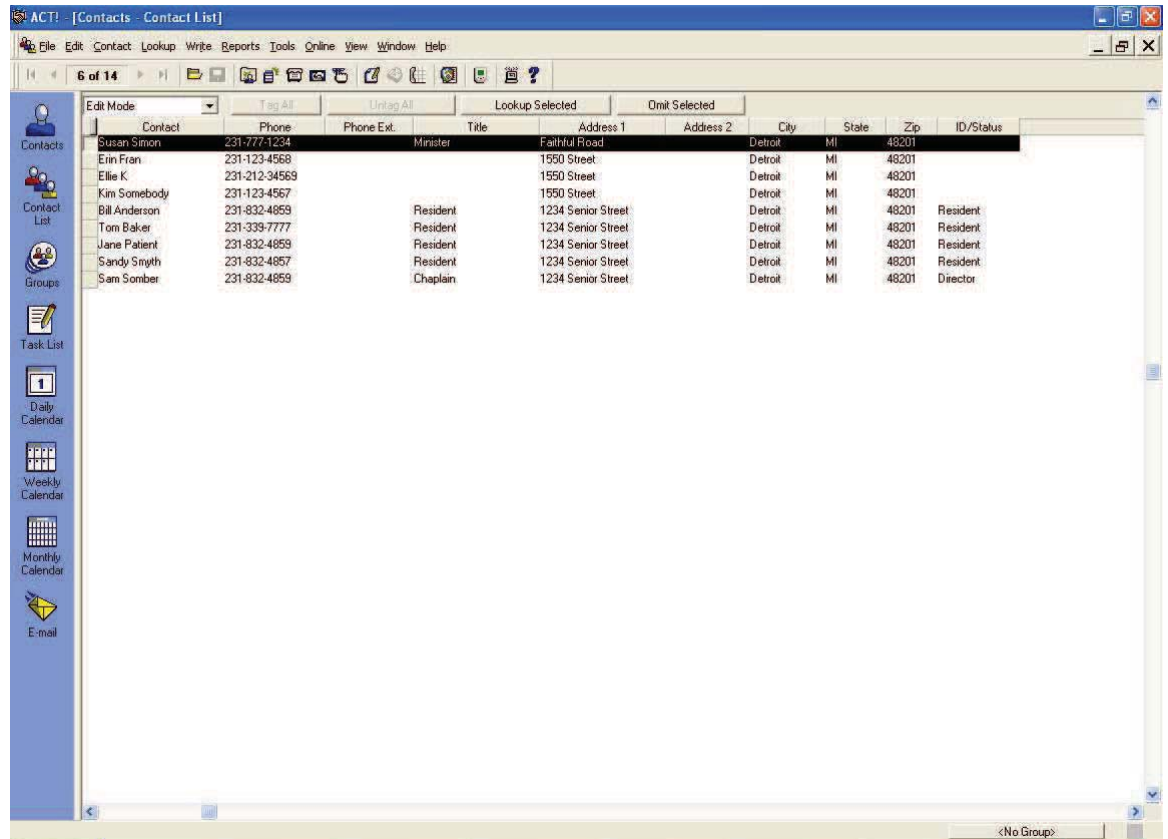
- From the toolbar, click the **New Contact** tool. A blank line appears.

- Enter data in the fields and press TAB to move between fields.

Edit Contacts

To edit a single record follow the steps below:

- From the Contact window or Contact List, find the contact that you wish to
  edit. To find a contact use a Lookup command to find the contact. To edit a
  contact in the Contact List, it must be in Edit mode.

- Move to the field that you need to update.

- Select the data that you want to replace and type new data, or delete the
  existing data.

To edit a multiple contact records follow the steps below:

- From the **Contact window** do a lookup to find the contact records you want

  to edit.

- From the **Edit** menu, click **Replace**. The replace window appears with

  empty fields. To modify the information

- Enter the new information.

- Click the **Apply** tool.

- Click **Yes** to confirm edit selection.

Delete Contact

To delete a single record follow the steps below:

- Use the Lookup command to find the contact records to delete.

- From the **Contact** menu, click **Delete Contact**.

- When the warning dialog appears, click **Delete Lookup** to delete the

  current lookup of contacts.

- When a second warning dialog appears, click **Yes** to delete contact.

Search Contacts

Use either the Contact window or the Contact List using lookups, keywords, and

queries, or by using criteria that you specify. In addition, use the Look for feature to find

a contact in the Contact List.

Follow the steps below to find a contact using the Look for feature:

- On the Contact List, click the column heading that you want to search. For

  example, click on City field.

- Although no field appears, start typing the contact information you want to find.

Once you start typing, the Look field appears above the column heading, and

the closest match is located. The Look field will close once you select a

contact or click anywhere on the screen.

To search for specific contacts use lookup to find contact(s). A lookup is a

selection of contact records on specified criteria. Some examples for looking up contacts

include but are not limited to looking up contacts that attend the same church. Another

example is contacts or residents at the facility.

It is also possible to find contacts using a single search criterion. Follow the steps

below to find contacts using a single search criterion:

- From the **Lookup** menu, click on one of the Lookup commands. A Lookup

  dialog will appear unless the user selects My Reocrd, All Contacts, Keyword

  Search, Previous, By Example, Internet Directory, or Synchronized Records.

- From the **Search For** input, type a word to search for or select a word from the

  list, then click **OK**.

Add Item to Drop Down List

You can add item to the drop down list from the contact window. To add

additional item(s) to the drop down list follow these steps:

- From the contact window click on the drop down field that you wish to add an

  additional item.

- Select Edit list …

- Click the Add… button

- Enter the new item in the item box. Optional enter a description in the description

  box.

- Click the OK button.

Modify Item in Drop down List

You can modify item in the drop down list from the contact window. To modify item(s) in the drop down list follow these steps:

- From the contact window click on the drop down field that you wish to modify item(s).

- Select Edit list …

- Click on the item you wish to modify

- Click the Modify… button

- Modify the existing item in the item box. Optional modify the description in the description box.

- Click the OK button.

Remove Item in Drop down List

You can remove item(s) from the drop down list from the contact window. To remove item(s) in the drop down list follow these steps:

- From the contact window, click on the drop down field for that item you wish to remove.

- Select Edit list …

- Click on the item you wish to remove

- Click the Delete button

- When prompted to delete the item select the "Yes" button.

Create Group

You can create a group and subgroups. To create additional groups or subgroups duplicate an existing group. Follow the steps to create a new group:

- From the **View** bar, click **Groups**.

- From the toolbar, click the **New Group** tool. A blank group record appears.

- In the Group Name field, enter a name for the new group. Enter the necessary information and press the TAB key to move between fields.

Add Contact to Group

Once a group or subgroup is created, you can add contacts to the group or subgroup. A contact may belong to more than one group. Follow the steps below to add a contact to a group:

- From the **Groups** window, click on the **Add/Remove** tool.

- From the Add/Remove Contacts dialog box, select the name of the contact to add to the group.

- Click on the **Add** button. Repeat this step to add additional contacts to the group.

  Note - You can also select multiple contacts at one time, by holding the SHIFT key as you select each contact. To select non-adjacent names hold the CTRL key as you select each name.

- Click on the OK button, when finished.

Remove Contact from Group

A contact may need removed from a group, this work much the same way as adding a contact to a group. Follow the steps below to remove a contact from a group:

- From the **Groups** window, click on the **Add/Remove** tool.

- From the Add/Remove Contacts dialog box, select the name of the contact to remove from the group.

- Click on the **Remove** button. Repeat this step to add additional contacts to the group.

Note - You can also select multiple contacts at one time, by holding the SHIFT key as you select each contact. To select non-adjacent names hold the CTRL key as you select each name.

- Click on the OK button, when finished.

Schedule Activity

All scheduled activity must include a contact. It is possible to schedule a telephone call with a contact by entering the time and date that the call is scheduled for. The details of the call may also be included.

To schedule an activity from the contact record follow the steps below:

- From the Contact window, click the **Schedule Call**, **Meeting**, or **To-do** tool on the toolbar.

- On the General tab of the Schedule Activity dialog box, enter the appropriate information.

Schedule Activity

General | Details | Recurring Settings | Advanced Options

Activity type: Date: Time: Duration:
Meeting   ▼   3/14/2007 ▼   11:00AM ▼   30 minutes ▼

With:
Baker, Tom [Senior Care Residences]   ▼   Contacts ▼

Regarding: Priority:
Visitation   ▼   Low   ▼

Associate with group: Activity Color:
| ▼   [   ] ▼

☐ Ring alarm   30 minutes ▼   before activity
☐ Show full day banner

Scheduled for: Scheduled by:
Jody James   ▼   Jody James   ▼

Schedule For/By △   OK   Cancel

- o Select or type the time. In the **Time** list, select **Timeless** to schedule an activity that occurs on a specified day, but does not include a specified time.

- o Specify whom the activity is scheduled, the current contact is the default. To schedule a personal activity click **My Record** in the **Contact** list.

- o Select or type a description in the **Regarding** field. If the selection is not available and you would like to use this in the future select **Edit list…** to add a new item to the list.

- o Select the **Ring Alarm** check box to add a reminder for the activity.

- o To schedule this activity for another user, click **Schedule For/By** button.

- Click the **OK** button

When you schedule an activity with a contact or group, you can attach the activity to an e-mail message to notify them.

You can schedule a meeting from the Daily calendar. Specify the starting time and duration, and then select the people with whom you will meet. By using calendar preferences to notify you of any scheduling conflicts.

To schedule an activity from a Daily or Weekly calendar follow the steps below:

- From the **View** bar, click **Daily** or **Weekly** calendar.

    A small monthly calendar and a calendar with time slots appear. The Daily calendar displays today's date, and the Weekly calendar displays this week's dates.

- Click the date you want to schedule the activity on the small monthly calendar.

- On the calendar, double-click the time you want to schedule the activity.

- On the General tab of the Schedule Activity dialog box, enter the appropriate information.

- o Select or type the time. In the **Time** list, select **Timeless** to schedule an activity that occurs on a specified day, but does not include a specified time.

- o Specify whom the activity is scheduled, the current contact is the default. To schedule a personal activity click **My Record** in the **Contact** list.

- o Select or type a description in the **Regarding** field. If the selection is not available and you would like to use this in the future select **Edit list…** to add a new item to the list.

- o Select the **Ring Alarm** check box to add a reminder for the activity.

- o To schedule this activity for another user, click **Schedule For/By** button.

- Click the **OK** button

Add Activity Type (Regarding Field)

ACT! only has three types of activity calls, meetings, and to-do items. To utilize

additional activities, use the regarding field from the schedule activity dialog box. See

below for adding a new regarding item.

- Select or type a description in the **Regarding** field. If the selection is not

  available and you would like to use this in the future select **Edit list…** to add

  a new item to the list.

- Click on the **Add** button

- Enter the new regarding item, in the item field. Optionally, enter a

  description.

- Click on the **OK** button.

- Click on the **OK** button to close the edit list dialog box.

Remove Activity Type (Regarding Field)

It is only possible to remove an existing activity type or regarding field from the

schedule activity dialog box.

- To remove a regarding item select **Edit list…**

- Select the item to remove

- Click on the **Delete…** button.

- When prompted select the **Yes** button.

- Click on the **OK** button to close the edit list dialog box.

Modify Activity Type (Regarding Field)

It is only possible to modify an existing activity type or regarding field from the

schedule activity dialog box.

- To remove a regarding item select **Edit list…**

- Select the item to remove

- Click on the **Modify…** button.

- Modify the item field and or the description field.

- Click on the **OK** button.

- Click on the **OK** button to close the edit list dialog box.

Scheduling Recurring Activities

Some activities reoccur on a regular basis. Instead of entering, them in each time

only enter the activity in once and specify it as recurring. To create recurring activities

follow the following steps:

- From the Schedule Activity dialog box (see Schedule Activity for more

  information), click the **Recurring Setting** tab.

- Select the **Frequency**, the default is **Once**.

  The information in the Activity Occurs box changes depending on the frequency

  selected.

- Provide the field information as necessary, and then click on the **OK** button.

Edit Schedule

A schedule activity may need modified. It is possible to modify the schedule by

either viewing the task list or editing the activity within one of the three calendars (Daily,

Weekly, or Monthly).

To edit a schedule from calendar follow the steps below:

- From the **View** bar, click **Daily**, **Weekly**, or **Monthly** calendar.

- Double click on the activity to edit.

- Change one or more of the fields, and then click the **OK** button.

   To edit a schedule from the task list follow the steps below:
- From the **View** bar, click **Task** list.

- The default tasks list from today's date to the future. If this is not acceptable,

   change the dates by selecting another date range or entering a new range.

- Change one or more of the fields on the selected activity.

Remove Scheduled Activity

   A schedule activity may need removed. It is possible to remove a scheduled

activity from one of the three calendars (Daily, Weekly, or Monthly).

   To remove scheduled activities from calendar follow the steps below:

- From the **View** bar, click **Daily**, **Weekly**, or **Monthly** calendar.

- Right-click on the activity you wish to remove, and then select **Erase Activity**

   from the menu.

Record Completed Activity

   Once you have completed an activity from your schedule record the outcome of

the activity. ACT! will automatically create a history for it. This allows you to view the

details of any activity later. Follow the steps below to clear an activity:

- View the activity that needs cleared either from the Activity tab of the Contact or

   Group window, the Task List, or from a calendar, that displays the activity.

- Select the activity you want to clear by clicking in the check mark column next to

   the activity.

- Enter the activity details and result of the activity

- (Optional) Schedule a follow-up activity:

    o Click on the **Follow-Up Activity…** button.

    o Enter information in the in the **General** tab of the Schedule Activity

    dialog box.

    o Click the **OK** button.

- Click on the **OK** button to close the **Clear Activity** dialog box.

Note – Clearing an activity does not delete the information about the activity. It

marks it as completed and changes the display on the calendars and in the Task list.

Report Contacts

A contact report may include the current contact record, all contacts, the current

group record, all groups, the current lookup, and the current group lookup. For example,

you could run report to list the directory of all contacts.

- Select a contact or group record, or perform a lookup to find the records that you

    want to include in the report.

- From the Reports menu, click the report that you want to run. Otherwise, click

    Other Report if the report is not listed.

- From the General tab of the Run Report dialog box, specify the contacts or groups

    to include in the report.
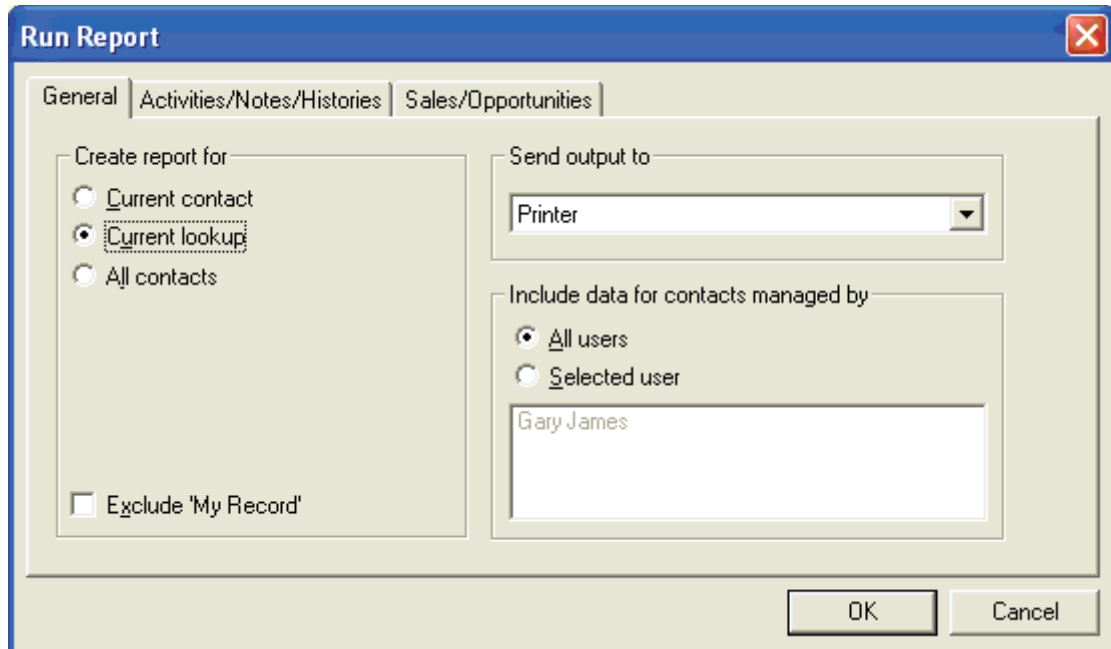
- Check Exclude "My Record" if you do not want information from yourself in the

  report.

- In the Send output to list, select the desired output.

  - o Printer – Send the report to the default printer.

  - o Preview – Displays a preview of the report on-screen.

  - o Fax – Sends the report to fax using selected fax software.

  - o E-Mail – Sends the report as an attachment to an e-mail message.

  - o File ACT! Report – Saves the report as an ACT! reports (.RPT) file.

  - o File Editable Text – Saves the report in a .RPT, .RTF, or .TXT format

- In the **Include data for contacts managed by** box, select one of the following:

  - o All Users – Includes contact records managed by all users.

  - o Select Users – Includes contact records managed by other users of the

    database.

Report Activity and Time Spent

A report task may include the current contact record, all contacts, the current

group record, all groups, the current lookup, and the current group lookup.

- From the **Reports** menu, select **Activities/Time Spent**.

- From the General tab of the Run Report dialog box, specify the contacts or groups

  to include in the report.

- (Optional) Select **Activites/Notes/Hisoties** tab and specify the data to include in

  the report.

  o Select a date range for Notes/History and for Activities, or click Custom to

    specify a custom date range.

  o Specify whether to run the report for all users or selected users.

  o Click on the Activities check box to include or eliminate

    ▪ Calls

    ▪ Meetings

    ▪ To-Do's

    ▪ Include cleared

    The reports defaults to all items selected.

    o   Click on the **OK** button.

Report Tasks

        A report task may include the current contact record, all contacts, the current

group record, all groups, the current lookup, and the current group lookup.

- From the **Reports** menu, select **Task List**.

- From the General tab of the Run Report dialog box, specify the contacts or groups
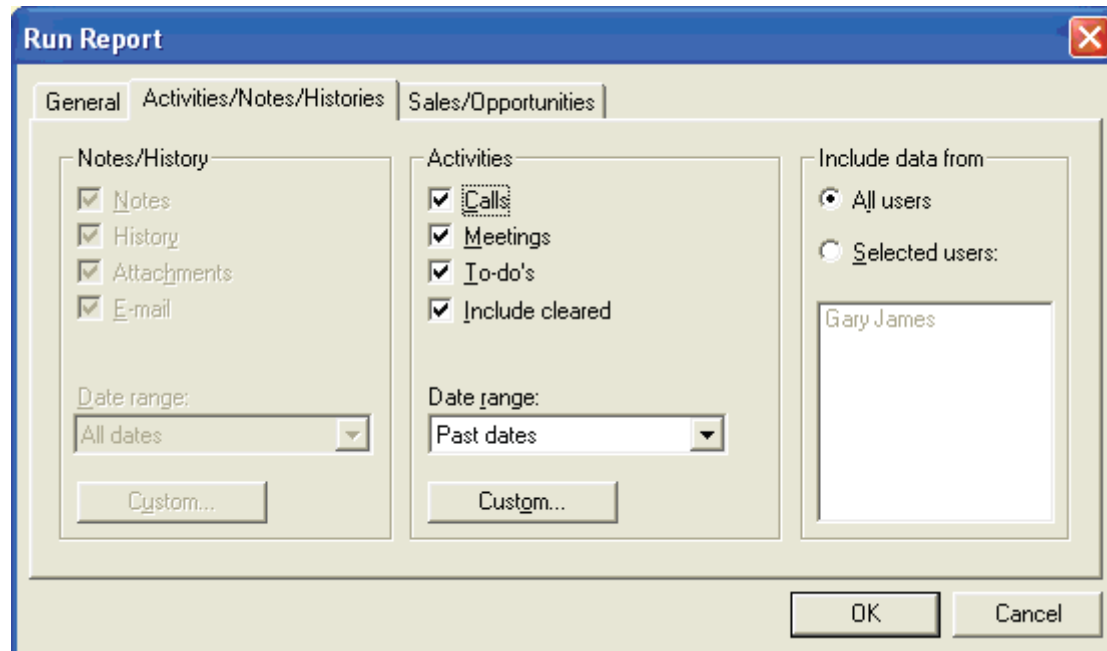
  to include in the report.

- (Optional) Select **Activites/Notes/Hisoties** tab and specify the data to include in

  the report.

  - o   Select a date range for Notes/History and for Activities, or click Custom to

    specify a custom date range.

  - o   Specify whether to run the report for all users or selected users.

  - o   Click on the Activities check box to include or eliminate

- Calls

- Meetings

- To-Do's

- Include cleared

The reports defaults to all items selected.
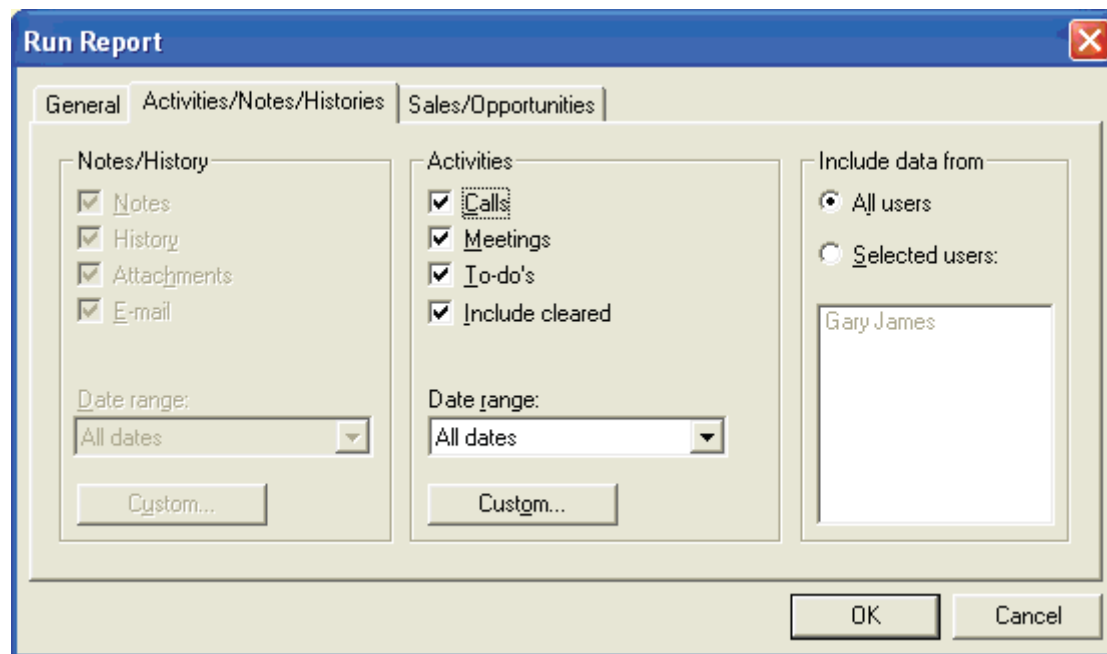

o   Click on the **OK** button.

Annotated Bibliography

Amber, S. (01). *Rationally Unified Data*. Retrieved August 17, 2007, from

http://www.ddj.com/architect/184415329
Rationally Unified Data examines the importance of data to all projects.

However, data is often considered a secondary item. Professionals understand

that data needs consistent and accurate information across all platforms. As

requirements change the design must also change, this requires a flexible

approach and non-serial approach. Amber describes the phases that occur when

using RUP and what is expected.

Blandford, A. E., & Green, T. R. (2001). *Group and Individual Time Management Tools:*

What You Get is Not What You Need. Retrieved February 24, 2007, from

http://delivery.acm.org.dml.regis.edu/10.1145/600000/594091/10050213.pdf?key

1=594091&key2=6928337511&coll=portal&dl=ACM&CFID=107482&CFTOK

EN=14681324
Some studies of diaries and scheduling systems have considered how individuals

use diaries with a view to proposing requirements for computerized time

management tools. Others have focused on the criteria for success of group

scheduling systems. Few have paid attention to how people use a battery of tools

as an ensemble. This interview study reports how users exploit paper, personal

digital assistants (PDAs) and a group scheduling system for their time

management. As with earlier studies, we find many shortcomings of different

technologies, but studying the ensemble rather than individual tools points

towards a different conclusion: rather than aiming towards producing electronic

time management tools that replace existing paper-based tools, we should be
aiming to understand the relative strengths and weaknesses of each technology
and look towards more seamless integration between tools. In particular, the
requirements for scheduling and those for more responsive, fluid time
management conflict in ways that demand different kinds of support.

Freeland , J. G. (2003). *The Ultimate CRM Handbook*. : McGraw-Hill.

The author provide several aspects of understanding CRM. Defines how
customer relationships have changed over the past decade and how CRM helps
evolve these companies. It also provides strategic items on issues that will come
before purchasing any CRM software package. It provides some insights from
the customers' perspective and understands better ways to communicate with
them. The author provides several insights on the challenges that marketing
organizations face, and the need to integrate CRM.

Hee-Woong, K., & Pan, S. (2006). In *Towards a process model of information systems
implementation: the case of customer relationship management (CRM)*. Retrieved
February 27, 2007, from
http://delivery.acm.org.dml.regis.edu/10.1145/1130000/1120506/p59-
kim.pdf?key1=1120506&key2=3342798511&coll=portal&dl=ACM&CFID=568
312&CFTOKEN=28308610

The failure rate of Customer Relationship Management (CRM) implementations
is estimated to be greater than 65%. Lowering the failure rate and supporting the
success of information systems (IS) are the ultimate goals of IS practitioners and

researchers. However, most previous research in the area has focused on

identifying factors such as critical success factors (CSFs) that are correlated with

IS success. There has been little research on how IS implementation may lead to

successful results. The state of knowledge in IS implementation may be likened to

cooking with a list of ingredients but not the recipe. Drawing on process theory,

this study examines the process of IS implementation by explaining how factors

of IS implementation influence each other and how interactions among them

produce results. Based on one successful case and two unsuccessful cases, we

develop the process model of IS implementation, by which the process of IS

implementation and the dynamics of IS success can be explained. The proposed

model facilitates an understanding of how repeating patterns of IS failure can be

reversed, and could serve to guide new IS implementation projects.

Hintze, J. (2006). Systems Get An Institutional Flavor Where Relationships are at Stake. *,*

, .

CRM systems are used in a variety of ways including recruiting new professionals

to managing conferences. The CRM is useful for solving obstacles of finding a

client's contact status and when the contact is available. The tools immediately

update their desktops. The CRM is less than a system and more of a culture. The

technology merely enables the culture.

Interact Commerce Corporation (Ed.). (2002). *ACT! User's Guide* (Vol. 7). Scottsdale:

Interact Commerce Corporation.

ACT! User's guide provides instructions on how to use the software. The guide

provides the user with information to plan daily activities and keeping track of

contacts. The guide proves real-world scenarios to help the user understand

ACT!. The guide also provides additional online help and other resources for

more detailed information.

Keefer, R. (Ed.). (2004). *Agile Software Development*. Dayton: Strategic Data Systems.

Retrieved October 10, 2006, from Stategic Data Systems Web Site:

http://www.sds-

consulting.com/AgileSoftwareDevelopment.pdf#search='Agile%20software%20c

ycle'

Agile software development methodologies provide many benefits including

reduced time to market, lower defect rates, and more accurate requirements

tracking. This paper describes Strategic Data Systems' experience with agile

software development, and demonstrates the advantages an organization may gain

through implementing a similar development process.

Lally, G. (2004). *Understanding Information Technology System Project Failure* (Dublin

Institute of Technology). Retrieved May 2, 2008 from

http://www.comp.dit.ie/rfitzpatrick/MSc_Publications/2004_Glen_Lally.pdf

Failure has been synonymous with many information system (IS) projects over the last twenty years. The aim of this paper is to investigate and understand the reasons for IS project failure. There are a number of issues and challenges that require detailed understanding and examination within the context of an information system. The paper illustrates the fact that IS project failure is not restricted to a single industry, a geographical location and it transcends time. A critical analysis of past literature and empirical study is achieved to develop a deeper understanding of the roots of IS project failure. Having established a number of reasons for failure in IS projects, the author examines a number of high profile IS case studies. This should reaffirm and support the idea that IS project failure is caused by deeper sociological patterns in business and relationships among interested parties. It is known that the roots of IS failure is not caused by technological difficulties alone, but a combination for organizational and functional problems within a business. This research links a number of areas that are of importance in IS failure analysis. The author proposes a framework that identifies twenty critical success factors that are required for project success. These are developed from empirical study and are applied to the case studies.

Larman, C. (2002). *Applying UML and Patterns* (2nd ed.). Upper Saddle River: Prentice Hall PTR.

An introductory text for applying OOA/D while applying the Unified Modeling

Language (UML), patterns, and the Unified Process. Text emphasizes mastery of

the fundamentals, such as how to assign responsibilities to objects, frequently

used in UML notation, and common design patterns. The later chapters

progresses to a few intermediate-level topics, such as framework design.

Nykamp, M. (2001). *The Customer Differential*. New York : AMACOM American

Management Association. Retrieved February 24, 2007, from

http://library.books24x7.com.dml.regis.edu/toc.asp?bookid=2677

CRM helps provide positive customer experience. This can help with customer

loyalty and advocacy. The CRM process should help customers, by providing

better service and this may increase business. The book provides insights to

transforming a business with CRM, by changing the business focus. The book

also offers suggestions on measuring the success of your CRM initiatives and

several case studies.

Pc Pro. (2007, May 4). *Product Reviews Office software*. Retrieved March 10, 2007, from

http://www.pcpro.co.uk/reviews/54960/frontrange-goldmine-
65.html?searchString=goldmine+goldmine

The article provides a detailed review of FrontRange GoldMine 6.5. The overall

review was a positive upgrade. The tool is a serious CRM not a glorified address

book. GoldMine is more complex and more expensive than ACT!. However,

Goldmine has greater power. GoldMine has a complex user interface.

Peppers, D., & Rogers, M. (2004). *Managing Customer Relationships—A Strategic*

Framework. Hoboken: John Wiley & Sons, Inc. Retrieved June 6, 2008, from

http://library.books24x7.com.dml.regis.edu/book/id_11263

Reynolds, J. (2002). *A Practical Guide to CRM*. New York: CMP Books. Retrieved

February 22, 2007, from

http://library.books24x7.com.dml.regis.edu/book/id_5105

Customer Relationship Management (CRM) has its roots in the age-old principle

of "the customer is always right." But CRM is much more than that, since it

identifies how to profitably act on that axiom — at all times and across all

channels and functions. Moreover, even in its simplest form, CRM defines the

way a company FINDS, GETS, and KEEPS its customers."

CRM is a strategy; instead, many businesses have attempted to implement CRM

through technology. No one vendor provides a complete CRM solution. The

author examines the quagmire of CRM vendor's offerings. CRM is not only a

technology it is a strategy.

Sage. (2007). *ACT! by Sage 2007 (9.0) Product Family Architecture, Customization and*

Integration. Retrieved July 10, 2007, from

//www.acttrainer.com/Brochure/ACT_Architecture_Whitepaper.pdf

The white paper discusses the ACT! product family architecture, deployment

methods, customization, and integration capabilities with other products and is

intended for IT managers or system administrators that want to better understand

the underlying platform and capabilities. The information in the white paper also

includes some information that is only applicable to a specific product or tier and

they are highlighted as appropriate.

Sage. (2007). *System Requirements*. Retrieved February 24, 2007, from

http://www.act.com/products/2007/sysreq/index.cfm

The article reviews the system requirements to run ACT!. The system

requirements include several items ranging from system memory to CPU speed.

Sage Software (Ed.). (2007). *ACT! by Sage 2007 (9.0) User's Guide*. : Sage SB.

ACT! User's guide provides instructions on how to use the software. The guide

provides the user with information to plan daily activities and keeping track of

contacts. The guide proves real-world scenarios to help the user understand

ACT!.   The guide also provides additional online help and other resources for

more detailed information.

Scott, J. (2003). *GoldMine 6 for Dummies*. New York: Wiley Publishing, Inc. Retrieved

February 10, 2007, from

http://library.books24x7.com.dml.regis.edu/book/id_11283

The book provided details for GoldMine 6. It provided a users perspective on

how to use the GoldMine and make the most of the available features. The author

provided examples in easy to understand terms. It provides details to track sales,

predict trends, and prospect with GoldMine. The practical guide shows the user

how to manage contacts, set schedules, and create reports.

Scott, J., & Lee, D. (2006). *Microsoft CRM 3 for Dummies*.

Hoboken: Wiley Publishing, Inc. Retrieved June 6,

2008, from

http://library.books24x7.com.dml.regis.edu/book/id_140

36

The book provides an easy to understand format for the user that is completely

new to customer relationship management (CRM). The book provides

information to naviage and customizes the system, collect leads, forecast sales,

and much more.
Stockford, P. (2006, June). CRM Is Dead...Long Live CRM! ,

, . Retrieved November 13, 2007, from

http://web.lexis-

nexis.com.dml.regis.edu/universe/document?_m=1de9c7a74

d0271f432d406a18f480a5c&_docnum=2&wchp=dGLzVlz-

zSkVb&_md5=41b9a271570985eb2bc718248ba211d5 database.

The white paper discusses the ACT! product family architecture, deployment the

author looks at the changes CRM when CRM companies crumbled in 2001 and

2002. Shelf ware solutions were sold but never installed because they were

unable to meet the demands. Today, CRM is gaining ground but not on the same

principles of gaining short-term gains. The new premise is on having a

relationship with your customer and using this as part of the CRM strategy.

Today, CRM solutions have more flexibility than a few years ago.

William, L. (2004). *Agile Requirements Elicitation*. Retrieved March 2, 2003, from

http://ecommerce.ncsu.edu/studio/materials/AgileRE.pdf

The whitepaper describes the Agile requirements elicitation. It describes in

details several Agile requirements, such as user stories, acceptance tests,

documenting non-functional requirements and constraints.

Winder, D. (2004, May 4). *Product Reviews Office Software*. Retrieved March 7, 2007,

from http://www.pcpro.co.uk/reviews/54960/frontrange-goldmine-

65.html?searchString=goldmine+goldmine

The article provides a detailed review of FrontRange GoldMine 6.5. The overall

review was a positive upgrade. The tool is a serious CRM not a glorified address

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Goldmine has greater power. GoldMine has a complex user interface.

Wong, T., & Kao , L. (2007). *Salesforce.com for Dummies* (2nd ed.). Hoboken: Wiley

Publishing, Inc. Retrieved June 6, 2007, from

http://library.books24x7.com.dml.regis.edu/book/id_16983

This book provides essential information for the salesperson, channel manager, marketing mogul, customer service rep, or executive. The book provides secrets for making your job easier and the day more productive. It provides a very good overview of Salesforce, in navigational and customizing the software. It also provides information for prospective leads, managing accounts and developing contacts and several other tools such as forecasts and generating reports.