

A-1 Information Systems

MIS 432

Group C

Cleerman, Daniel

Easton, Steven

Enockson, William

Stender, Jacob

Vang, Naipong

Overview

This is a proposal for the new ESSS at A-1 Information Systems. Our group has worked tirelessly to provide this company with the most feasible and profitable system we could design.

Our goals were simple:

- Create profitability
- Increase usability
- Decrease redundancy
- Boost efficiency
- Update technology
- Increase Security

Group C excelled and surpassed our goals in every sense. We were under budget by nearly \$50,000, created an ROI of over 200% and will have created over \$400,000 in profit the first year.

Contained in this proposal are:

- System Requirements
- Economic Feasibility
- Project Size Estimation
- Functional/Non-Functional Requirements
- Requirements Gathering
- Use Cases and the Use Case Diagram
- Context Diagram
- Activity Diagram
- CRC Cards
- Class Diagram and
- Sequence Diagram

This proposal will enlighten you, the reader, to our methods, our work ethic and our superior plan.

Throughout you will find brief descriptions of some of the diagrams in this proposal.

Enjoy!

Sincerely,

-Group C



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System Request – ESSS Project

Project sponsor: Jack Mills, Vice President of Human Resources

Business Need: This project is being conducted to develop an Employee Self Service System to better integrate employee records within the company and to serve as a repository for employee data.

Business Requirements: Using the firms' local intranet as well as the web, employees should be able to update, via a user-friendly secure GUI-based system, allowing for zero lag time in maintaining up to date record keeping, the following items:

- Employee Personal Info.
- Employee Company Info.
- Employee Payroll Info.
- Employee Deductions

Additionally the system will also allow for managers, administrators and HR to access employee records while employees will have access to only their own data. The system will, however, allow all employees to access “employee directory” data without having manager/administrator authorization levels.

The functionality that the system should have is listed below:

- Users, depending on their status, will be able to:
 - View and edit their personal information.
 - View information of their subordinates.
 - Create, edit, update and remove employees in the system.
 - Manage/view their deductions.
 - Manage pay-grades, promotions, and employee type (hourly, salary, etc.) details.

Business Value: The new system can be expected to cut costs in several areas as well as decrease, if not completely eliminate, any information sharing lag time and reduce employee workload. Eliminating the printed version of the employee directory, along with updated hardware/software and increased functionality will lead to savings in computing costs, employee pay and paper costs amongst others.

Conservative estimates of tangible value to the company include:

- Elimination of the \$27,000 employee directory.
- Expected reduction of operating costs by \$150,000.
- Expected reduction of \$86,250 employee data change processing costs.
- Increased United Way participation.

Special Issues or Constraints:

- The ESSS system should be in place and fully operational in six months.
- As stated by Jack Mills, the addition of a biometric security system to protect private employee data could prove important as the firm cannot afford any incident of I.D. theft. This is a measure to ensure the secure logins of employees using the internet on a home-based PC.
- New system must seamlessly integrate with the current email system.
- Problems with data migration time from the old system to the new ESSS system could arise.

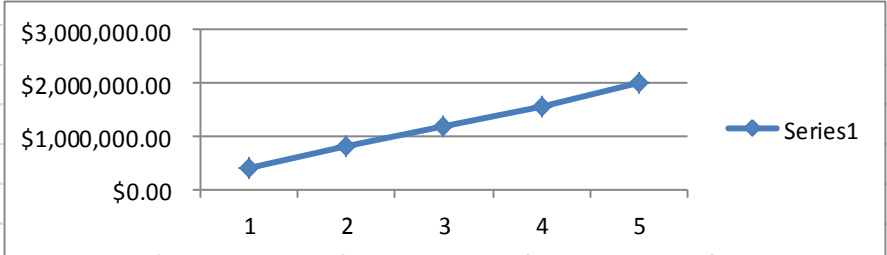


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Economic Feasibility

Discount Rate	6%					
	2012	2013	2014	2015	2016	
Reduction in Time Wasted	\$9,000.00	\$10,350.00	\$11,902.50	\$13,687.88	\$15,741.06	
Elimination of Printed Directory	\$27,000.00	\$31,050.00	\$35,707.50	\$41,063.63	\$47,223.17	
Reduction in System Costs	\$150,000.00	\$172,500.00	\$198,375.00	\$228,131.25	\$262,350.94	
Reduction in Labor/Computing Costs	\$172,500.00	\$198,375.00	\$228,131.25	\$262,350.94	\$301,703.58	
Elimination of Administrative Positions	\$225,000.00	\$0.00	\$0.00	\$0.00	\$0.00	
Benefits	\$585,512.00	\$412,275.00	\$474,116.25	\$545,233.69	\$627,018.74	
PV of Benefits	\$585,512.00	\$388,938.68	\$421,961.77	\$457,788.72	\$496,657.57	\$2,350,858.74
Cumulative PV of Benefits	\$585,512.00	\$974,450.68	\$1,396,412.45	\$1,854,201.17	\$2,350,858.74	
Development Cost	(\$175,289.00)	\$0.00	\$0.00	\$0.00	\$0.00	
Dell PowerEdge™ T710 Server	(\$1,019.00)	\$0.00	\$0.00	\$0.00	\$0.00	
Software Licenses	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Development Labor (3 Developers, 6.6 months * \$50/hr)	(\$174,270.00)	\$0.00	\$0.00	\$0.00	\$0.00	
Operational Costs (300k * 1/2)	(\$150,000.00)	(\$161,250.00)	(\$173,343.75)	(\$186,344.53)	(\$200,320.37)	
PV of Costs	(\$175,289.00)	(\$152,122.64)	(\$163,531.84)	(\$175,796.73)	(\$188,981.48)	(\$855,721.69)
Cumulative PV of Costs	(\$175,289.00)	(\$327,411.64)	(\$490,943.48)	(\$666,740.21)	(\$855,721.69)	
Profit	\$410,223.00	\$412,275.00	\$474,116.25	\$545,233.69	\$627,018.74	
PV of Profit	\$410,223.00	\$387,002.83	\$366,923.28	\$398,077.15	\$431,876.15	\$1,994,102.41
Cumulative PV of Profit	\$410,223.00	\$797,225.83	\$1,164,149.11	\$1,562,226.26	\$1,994,102.41	
NPV	\$1,994,102.41					
ROI	233.03%					
Break-Even	1.06					





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Project Size Estimation

System Components	Complexity				Total		
	Total N	Low	Medium	High			
Inputs	7	12	4	12	28		
Outputs	32	120	10	0	130		
Queries	9	18	4	12	34		
Files	8	35	10	30	75		
Program Interface	5	15	7	10	32		
TUFP	61				299		
Overall System:			APC:	0.72			
Data communications	3		TAFP:	215.28			
Heavy use configuration	0					COCOMO	
Transaction rate	0		Language:	L.O.C.	Total L.O.C.	Person-Months	Time Required
End-user efficiency	0		C	130	38870	54.42	11.37
Complex processing	1		COBOL	110	32890	46.05	10.75
Installation ease	0		Java	55	16445	23.02	8.53
Multiple sites	1		C++	50	14950	20.93	8.27
Performance	0		Turbo Pascal	50	14950	20.93	8.27
Distributed functions	2		Visual Basic	30	8970	12.56	6.97
Online data entry	0		Power Build	15	4485	6.28	5.53
Online update	0		HTML	15	4485	6.28	5.53
Reusability	0		Packages	25	7475	10.47	6.56
Operational ease	0						
Extensibility	0						
Total Processing Complexity (PC):	7						

Descriptions:	Low	Medium	High	Total
Inputs	4 Data Entry Screens	1 Web-based Data Entry Screen	2 Managerial (ad-hoc) data entry screens	7
Outputs	30 Employee, Personal, bank, United Way, payroll, etc. data output screens	2 Managerial (ad-hoc) data output screens		32
Queries	6 Employee query screens (search, payroll, UW, etc.)	1 Financial Query page	1 Managerial search query and 1 Company Financial Query	9
Files	5 (employee listing, financial records, paychecks, pay history, deductions)	1 paycheck file	2 Invoice files and banking files	8
Program Interfaces	3 (data entry/change, profile, existing information)	1 (Log in page)	1 (search)	5



Functional and Non-Functional Requirements

Functional Requirements

1. Employee Data Repository (Real-Time)

- 1.1. The user will be able to update(dependent on status)/view up-to-date personal information in real time
 - 1.1.1. Payroll Information
 - 1.1.2. Subordinate Information
 - 1.1.3. Contact/Personal Information (Employee Directory)
 - 1.1.4. Deductions
 - 1.1.4.1. United Way
 - 1.1.4.2. Insurance
 - 1.1.4.3. Parking
 - 1.1.4.4. Medical Reimbursement
- 1.2. The user will be able to request, view and print reports instantaneously
 - 1.2.1. United Way
 - 1.2.2. Insurance
 - 1.2.3. Payroll Info.

Non-Functional Requirements

1. Operational Requirements

- 1.1. The system will be accessible via any modern web browser (IE, Chrome, Opera, Safari, Firefox)
- 1.2. The system will allow for inter-departmental communications
- 1.3. The system mainframe will utilize a Linux based OS

2. Performance Requirements

- 2.1. The system will not take longer than 5 seconds to respond to any query or request
- 2.2. The system will be available to users 24 hours a day, 365 days a year
- 2.3. The systems database will be updated immediately, in real time, following any employee changes/updates

3. Security Requirements

- 3.1. The system will be secured at all times using encryption and biometric technologies
- 3.2. Only managers and administrators will be able to view other employees personal data

4. Cultural and Political Requirements

- 4.1. No special cultural and political requirements are anticipated



Requirements Gathering Document Analysis

Goal

Our goal will be to allow employees to gather as much information from a minimum amount of documents. We will look at blank and completed documents to compare and contrast the efficiency of documents.

Methods

We can easily gather a wealth of information from the inefficient practices of the current system. The Human Resources department is in charge of filling out forms and inputting the data. Most of our documents will be obtained from HR. We will need permission from the HR administration to access documents deemed confidential. Dotty Jones will be our direct contact.

Problems

The biggest issue is lag. The manual input causes severe lag between updates and form submissions. The second biggest issue is the multiple copies of data. We will want to integrate these data items into one single system. Any unused forms will be eliminated.

We will look specifically at documents in areas with unacceptable problems:

Payroll deduction changes

- Company Mailings
- Paychecks
- Mailing Addresses
- Employee Directory (Printed every six months)
- United Way donation system

We will also look at these items:

Forms, reports, policy manuals, organization charts, user training manuals, memorandums, time and attendance.

Conclusion

Each of these documents is a small part of a huge information system. We want to streamline the forms so that we can easily gather data and turn it into useful information.

Once we have a good understanding of the current system of documents we will make changes that allow information to be understandable, accessible, secure, accurate and editable.



Requirements Gathering Session Agenda for e-Joint Application Development (JAD)

We believe that our session should be an electronic-JAD session, because it allows people to argue their point without fear of reprisal because their input is anonymous.

People that need to participate in our e-JAD session are:

- Jack Mills - VP of Human Resources
 - Because he was the one that requested that we create this information system
- Dotty Jones – Manager of Employee relations
 - Dotty knows of the current problems plaguing the employee directory and her input is vital in determining what needs to be done, to make the system work smoothly for her people.
- Jennifer Fiskus – Manager of Compensation
 - *As with Dotty, Jennifer and her co-workers are end users and admins of this system so their input is vital to the success of this system*
- Don Harris – Manager of Benefits
 - *As with Dotty, Don and his co-workers are end users and admins of this system so their input is vital to the success of this system*
- June Lang – Manager of Staffing
 - *As with Dotty, Jun and her co-workers are end users and admins of this system so their input is vital to the success of this system*
- Alice Cockran
 - We need to involve her, because she is the one that is currently maintaining tons of information that's on paper and she can help us learn where its coming from and where it needs to go much better than we can be ourselves.
- Stakeholders (end users) – a random group of about 9 people taken from all over the country
 - These people need to be involved because they are the people that will be using this system on a daily basis

Agenda: well have a timed networked meeting with the selected individuals (listed above) we as facilitators will present our discussion topics and the individuals can type in their input in real time. [ADD DATES & TIMES]

- What are the current issues with the systems
 - **(Monday, November 21st 2011 – 9AM-12PM, 1PM-4PM)**
 - We need to hear what the people who work daily with the current system think about it (maybe keep something's that they like)
- What people would like done with the system
 - **(Wednesday, November 23rd 2011 – 9AM-12PM, 1PM – 4PM)**
 - We need to hear what people think about, what should be implemented into the new system what are some of the features that they would like to see included
- Decide who the Admins of the system are, and what level of control each one gets.
 - **(Monday, November 28th 2011 – 9AM-12PM)**
 - We need to decide this because not everybody needs or can have equal level of control (admin privileges)
 - Amount of data that employees can access from their own computers
- What are some further questions people have about the system? (Follow-Up Q&A)
 - **(Wednesday, November 30th 2011 – 1PM-4PM)**



Requirements Gathering Observation

We will also be using Observation as a technique to gather information regarding the work processes associated with the existing system. This will enable us to check the validity of the information we've previously gathered through the use of our JAD session, Questionnaire's, and Document Analysis. We will observe the many processes of the existing ESSS and will use our expertise in this area to determine what tasks and systems will be changed.

We will be observing the following processes:

- Orientation Program – we will watch the techniques used in the program to get a firm grasp of what a new employee must go through, what information is required from them, and how we can reduce the redundancies and inefficiencies of this program.
 - Personal Information Form Entry – we will monitor how the employees enter data into the forms, how the forms are then entered into the system, and how that data is then shared throughout the company. We will be able to identify any slowdowns and any redundancy and inefficiency.
- Payroll Operations – we will analyze payroll to identify any processes that may be contributing to the slowdown of form updates. This is important as the ability of freely flowing information throughout the company can help with the identification of bottlenecks in the system and can also help us identify what causes of these bottlenecks are.
 - Change of Employee Information Form Entry – we will monitor how the employees enter data into the forms, how the forms are then entered into the system, and how that data is then shared throughout the company. We will be able to identify any slowdowns and any redundancy and inefficiency.
- Employee Telephone Listing – the purpose of monitoring the telephone listing is three fold. We want to know how much the listing is actually used by employees in the company, how the employees use it on a day to day basis, and what information is actually pertinent to the employees in the listing.
 - Monitor Dotty Cockran – In our preliminary interview with Jack Mills, VP of HR, it was brought to our attention that Dotty is spending around thirty percent of her workweek “maintaining the information” in the employee telephone listing. We want to observe how she updates/changes the information, what information is most important to her, and how any changes made to the system could reduce the time spent managing the system.
 - Analyze Her Maintenance of the Employee Listing – to get a true understanding of how the firm handles the data entered into the system, we will silently monitor Dotty and the techniques she uses to manage the telephone listing. We want to understand what can be done to speed up the process as well as what issues she may be having with the current system
- Data Entry – we will need to monitor every aspect of data entry in the company. We want to understand what problems the current paper-driven system has and how to remedy them. We will be monitoring every level of the company, from entry level positions to administrative. The idea is to follow the information from top to bottom and to understand how the data flows between departments and locations.

To minimize the effects on the employees of our monitoring their day to day work life, we plan on first meeting with

[Continued on Page 12]



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the individuals associated with the aforementioned tasks and assuring them that we're there to monitor the system and not them or their actual work performance. It is important that the employees feel comfortable with our presence and that they understand that we're trying to understand how to make their jobs easier and the time they spend at work more productive. When observation starts we will in no way interfere with or communicate directly (other than questions regarding processes) with the employees. We feel this 'fly on the wall' technique is the best way to gather information in a non-biased manner.



Requirements Gathering Questionnaire

Questionnaire one will be for the directors and managers of the Human Resources Department. Questionnaire one will be given out to the Human Resources directors and managers at the JAD session

Questionnaire for Human Resources Directors and Managers

1. How long does it currently take to transfer all of an employee's personal information to another office if they move?

We asked this question to get an idea of how much time the Human Resources employees were spending on transfers using the old system.

2. How many problems have you encountered with duplicate information in the old system? Please list some of these problems.

We asked this question to find out what the Human Resources directors and managers thought were wrong with the old system to prevent these from occurring in the new system.

3. How much time do you think could be saved if employees could access and change their own personal information if they relocated to another office?

We asked this to find out how much time they thought could be saved with the new system.

4. Would it be beneficial to the Human Resources Department if employees could change their own personal information?

We asked this to make sure they wanted employees to be able to change their own personal information.

5. What level of control should employees have over their own information?

We wanted to get their opinion on what level of control employees should have over the information.



Questionnaire Cont.

Questionnaire two will be distributed to a randomly selected pool of employee's that will be end users of the new system. Each office will have its own pool to ensure that all offices are represented.

Employee Questionnaire

1. What features would you like to see in the employee self-service program?

We asked this to get an idea of what end users would like to see in the new system

2. Would you use the new system from home if that was an option?

This is to find out if employees with use the new system from home.

3. Would it be easier to collaborate with other employees if their office phone numbers were easier to access?

We asked this to find out if the end users would be more likely to collaborate with each other. This will be important for future projects.

4. Do you feel projects would move smoother if it was easier to access other employees?

This is to find out if employees think future projects will move along smoother.

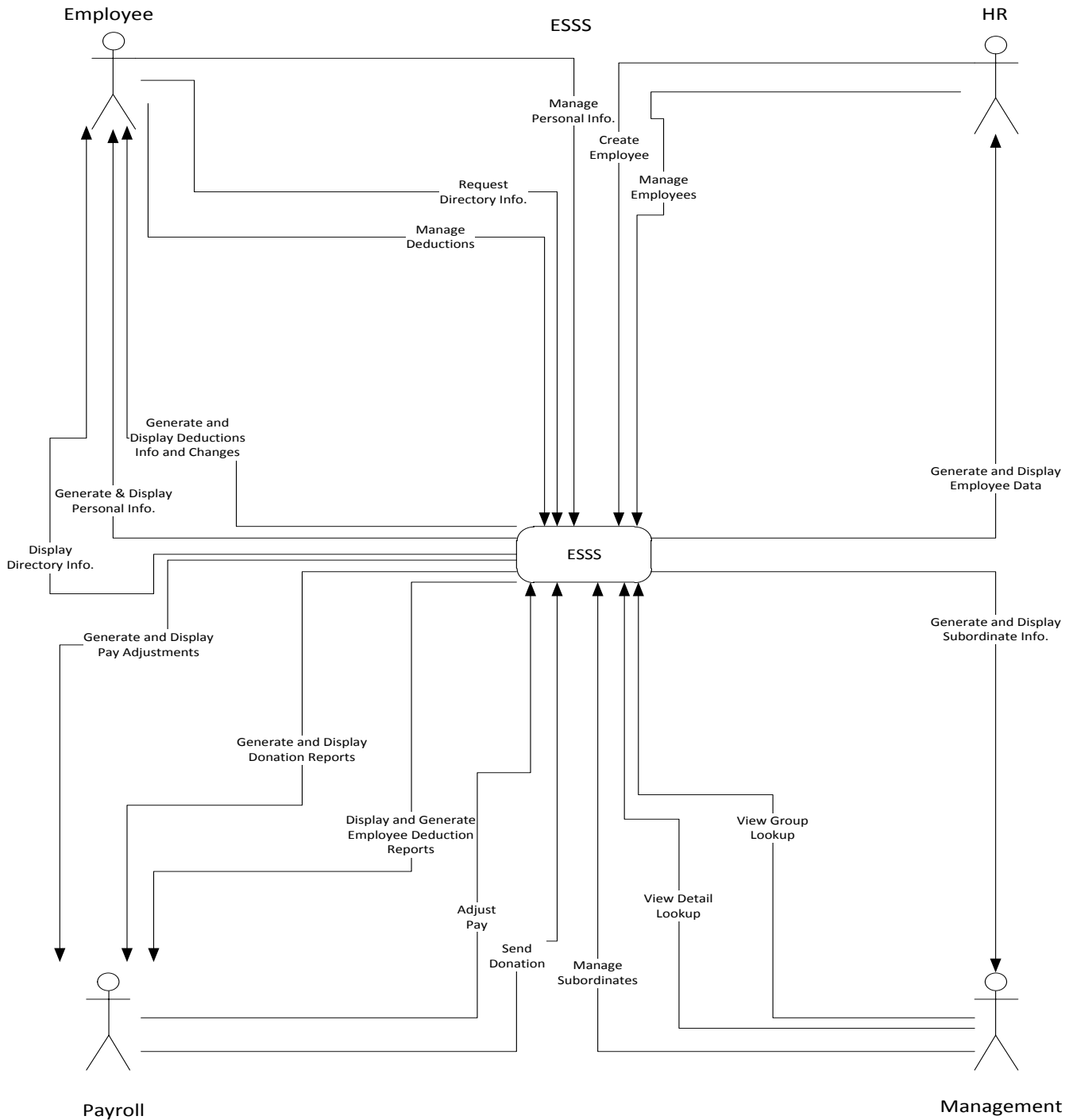
5. Would you be more likely to participate in the United Way if your participation was being logged?

This is to find out if the new system will increase United Way participation which is important to the president of the company.



Context Diagram

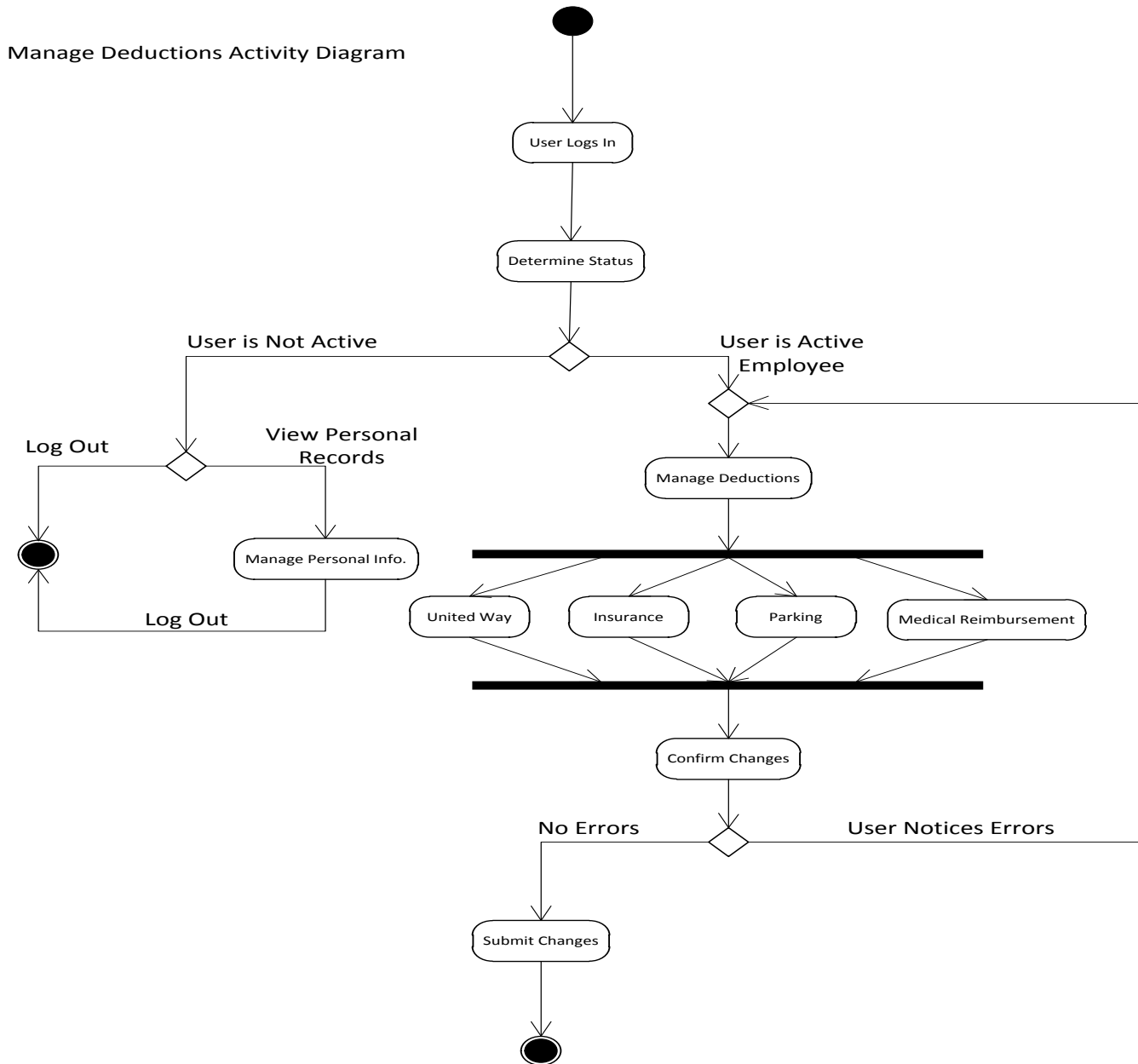
This Context DFD displays the data flows that are pertinent for each actor. Hidden use cases include the data flows to and from HR, Management and Payroll regarding sending and receiving Employee Directory requests, deductions information and personal information requests. As HR, Management and Payroll actors are all “Employees,” there was no need to display these data flows between these actors.





Activity Diagram

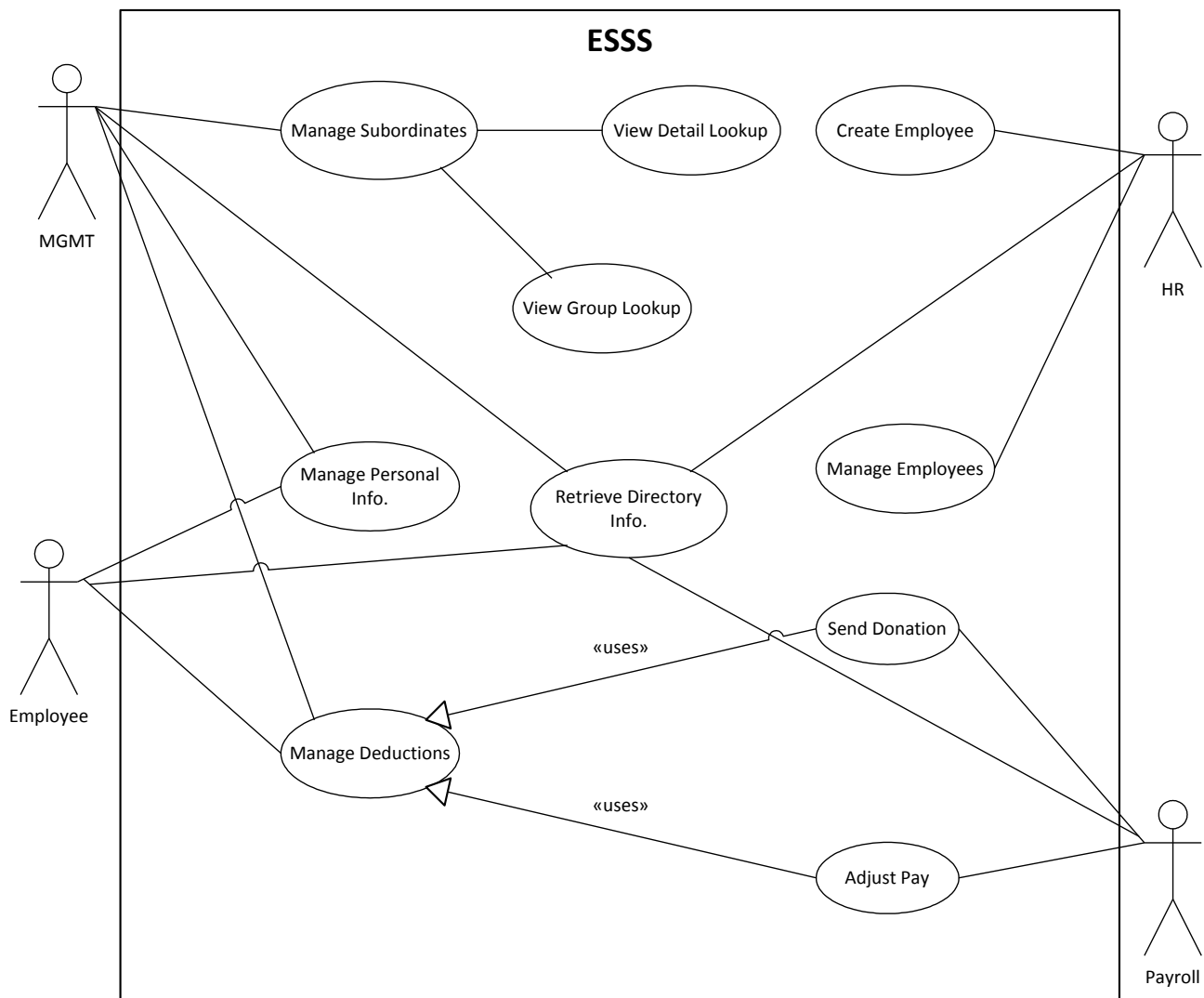
This activity diagram outlines the process of the Manage Deductions Use Case. It is the most complex use case due to the amount of changes and decisions the user must make. This diagram also outlines how the system handles alternative courses with regards to EX or inactive employees.





Use Case Diagram

The Use Case Diagram visually outlines the relationships between our Use Cases. There are ten use cases with four actors: HR, Management, Employee and Payroll. Each of these have access to the Employee Directory, however status levels restrict general employees from accessing the Use Cases of the other actors.





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Use Case Descriptions ESSS

USE CASE NAME:	Create Employee		USE CASE TYPE Business Requirements: <input checked="" type="checkbox"/>
USE CASE ID:	1		
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	HR Employee		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> • Payroll • HR • Management 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> • United Way 		
DESCRIPTION:	This use case describes the event of an HR employee entering new employee information into the ESSS. The HR employee logs into the system. Then the HR employee can add a new employee. The HR employee can then confirm the changes he/she has made and submit them into the system.		
PRE-CONDITION:	The user must be an active HR employee of A-1 Information Systems.		
TRIGGER:	This use case is initiated when the HR employee logs into the ESSS and selects the Create Employee tab in the ESSS.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: HR employee logs in.	Step 2: The system responds by confirming the status of the HR employee and displays the HR landing page.	
	Step 3: The HR employee chooses the Create Employee tab.	Step 4: The system responds by displaying the Create Employee page.	
	Step 5: The HR employee enters the relevant information and chooses Submit.	Step 6: The system takes note of the changes and prompts the employee to confirm.	
	Step 7: The HR employee chooses confirm to confirm the changes.	Step 8: The system submits the changes to the database.	
ALTERNATE COURSES:	Step 2: The employee trying to log in is not in the HR department. The user is then directed to the appropriate section given their status.		
	Step 5: The HR employee chooses cancel to cancel the changes and returns to step 4.		
	Step 7: The employee notices errors, chooses cancel and returns to step 4.		
CONCLUSION:	This use case concludes when the HR employee submits the changes to the database.		
POST-CONDITION:	The changes, if any, have been applied in the database and are available to the ESSS.		
BUSINESS RULES	<ul style="list-style-type: none"> • User must be a current HR employee. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> • Use case must be available to HR employees 24*7 • Use case must be secure 		
ASSUMPTIONS:	<ul style="list-style-type: none"> • User is an HR employee • HR employee notices errors before submission 		
OPEN ISSUES:	None		



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ESSS

USE CASE NAME:	Manage Subordinates	USE CASE TYPE Business Requirements: <input checked="" type="checkbox"/>	
USE CASE ID:	2		
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	Management		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> Other Employees HR 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> Payroll 		
DESCRIPTION:	This use case describes the event of a manager managing their subordinates in the ESSS. The manager logs into the system. Then the manager can view their subordinates personal, pay and UW information such as name, address, phone number, pay scale, donations etc... The manager can then print UW and other reports.		
PRE-CONDITION:	The user must be an active manager of A-1 Information Systems.		
TRIGGER:	This use case is initiated when the manager logs into the ESSS and selects the Manage Subordinates tab in the GUI.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: Manager logs in.	Step 2: The system responds by confirming the status of the manager and displays the management landing page.	
	Step 3: The manager chooses the Manage Subordinates tab.	Step 4: The system responds by displaying the Manage Subordinates page.	
	Step 5: The manager chooses View Detail Lookup tab and enters in the pertinent search criteria.	Step 6: The system takes note of the search criteria and displays subordinates who match.	
	Step 7: The manager chooses an employee and record type to print and chooses print.	Step 8: The system submits the print request and prints out the chosen employees record.	
ALTERNATE COURSES:	Step 2: The employee trying to log in is not a manager. The user is then directed to the appropriate section given their status.		
	Step 5: The manager chooses View Group Lookup tab.		
	Step 7: The manager chooses View instead of Print.		
	Step 8: The system displays the chosen employees record.		
CONCLUSION:	This use case concludes when the manager either views or prints a detail or group report.		
POST-CONDITION:	The printer, if print was chosen, prints the report.		
BUSINESS RULES	<ul style="list-style-type: none"> User must be current manager. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> Use case must be secure Use case must be up to date and available 24*7 		
ASSUMPTIONS:	<ul style="list-style-type: none"> Managers has subordinates 		
OPEN ISSUES:	None		



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ESSS

USE CASE NAME:	Manage Deductions.		USE CASE TYPE Business Requirements: <input checked="" type="checkbox"/>
USE CASE ID:	3		
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	Employee		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> • Payroll • Management • HR 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> • United Way 		
DESCRIPTION:	This use case describes the event of an employee entering in UW, parking, extra life insurance or pre-tax medical reimbursement deductions. The employee logs into the system. Then the employee can add, change or update their deductions. The employee can then confirm the changes he/she has made and submit them into the system.		
PRE-CONDITION:	The user must be an active employee of A-1 Information Systems.		
TRIGGER:	This use case is initiated when the employee logs into the ESSS and selects the Manage Deductions tab in the GUI.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: Employee logs in.	Step 2: The system responds by confirming the status of the employee and displays the landing page.	
	Step 3: The employee chooses the Manage Donations tab.	Step 4: The system responds by displaying the Manage Donations page.	
	Step 5: The employee selects the type of deduction and enters the amount they want deducted from their paycheck.	Step 6: The system takes note of the changes and prompts the employee to confirm the changes.	
	Step 7: The employee chooses confirm to confirm the changes.	Step 8: The system submits the changes to the database.	
ALTERNATE COURSES:	Step 2: The user is not an active employee of A-1.		
	Step 3: The employee chooses the Manage Personal Info tab.		
	Step 4: The system responds by displaying the Manage Personal Info page.		
	Step 5: The employee chooses cancel to cancel the changes and returns to step 4 or chooses a different type of deduction.		
	Step 7: The employee notices errors, chooses cancel and returns to step 4.		
CONCLUSION:	This use case concludes when the employee submits the changes to the database.		
POST-CONDITION:	The changes, if any, have been applied in the database and are available in the database for United Way.		
BUSINESS RULES	<ul style="list-style-type: none"> • User must be current employee. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> • Use case must be secure • Use case must be up to date and available 24*7 		
ASSUMPTIONS:	<ul style="list-style-type: none"> • Employee notices errors before submission 		
OPEN ISSUES:	None		



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

ESSS

USE CASE NAME:	Manage Personal Info	USE CASE TYPE	
USE CASE ID:	4	Business Requirements: <input checked="" type="checkbox"/>	
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	Employee		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> • Management • Payroll • HR 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> • NA 		
DESCRIPTION:	This use case describes the event of an employee entering/changing/updating personal information into the ESSS. The employee logs into the system. Then the employee can add, change or update their info. The employee can then confirm the changes he/she has made and submit them into the system.		
PRE-CONDITION:	The user must be an employee of A-1		
TRIGGER:	This use case is initiated when an employee logs into the ESSS and selects the Manage Personal Info tab in the GUI.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: Employee logs in.	Step 2: The system responds by confirming the status of the employee and displays the landing page.	
	Step 3: The employee chooses the Manage Personal Info tab.	Step 4: The system responds by displaying the Manage Personal Info page.	
	Step 5: The employee then begins to update their personal information.	Step 6: The system takes note of the changes and prompts the employee to confirm the changes.	
	Step 7: The employee chooses confirm to confirm the changes.	Step 8: The system submits the changes to the database.	
ALTERNATE COURSES:	Step 2: The user is not an active employee of A-1.		
	Step 3: The employee chooses the Manage Deductions tab.		
	Step 4: The system responds by displaying the Manage Deductions page.		
	Step 5: The employee chooses cancel to cancel the changes and returns to step 4.		
Step 7: The employee notices errors, chooses cancel and returns to step 4.			
CONCLUSION:	This use case concludes when the employee submits the changes to the database.		
POST-CONDITION:	The changes have been applied in the database and are available in the database for HR and the employee directory.		
BUSINESS RULES	<ul style="list-style-type: none"> • User must be an employee. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> • Use case must be secure • Use case must be up to date and available 24*7 		
ASSUMPTIONS:	<ul style="list-style-type: none"> • Employee notices errors before submission 		
OPEN ISSUES:	None		



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

ESSS

USE CASE NAME:	View Detail Lookup		USE CASE TYPE Business Requirements: <input checked="" type="checkbox"/>
USE CASE ID:	5		
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	Management		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> Subordinate Employees 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> NA 		
DESCRIPTION:	This use case describes the event of a manager viewing a specific subordinates name/address, salary/wage info, emergency contact info, employee locations, deduction options, etc.. The manager logs into the system. Then the manager can search for a specific subordinate. The manager can then select a subordinate and see their profile.		
PRE-CONDITION:	The user must be a manager in A-1 Information Systems		
TRIGGER:	This use case is initiated when an manager logs into the ESSS and selects the Manage Subordinates tab, then chooses View Detail Lookup.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: Manager logs in.	Step 2: The system responds by confirming the status of the manager and displays the landing page.	
	Step 3: The manager chooses the View Detail Lookup tab.	Step 4: The system responds by displaying the View Detail Lookup page.	
	Step 5: The manager then enters search criteria such as Employee ID number.	Step 6: The system takes note of the query and displays any matching employee profiles.	
	Step 7: The manager then views the data and logs out.	Step 8: The system closes the connection to the DB and logs the manager out.	
ALTERNATE COURSES:	Step 2: The user is not a manager at A-1 and displays the appropriate landing page.		
	Step 3: The manager chooses the View Group Lookup tab.		
	Step 4: The system responds by displaying the View Group Lookup page.		
	Step 7: The manager needs to submit another query and returns to step 5.		
CONCLUSION:	This use case concludes when the manager logs out of the system.		
POST-CONDITION:	The information in the database is up-to-date and correct.		
BUSINESS RULES	<ul style="list-style-type: none"> User must be a manager. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> Use case must be secure Use case must be up to date and available 24*7 		
ASSUMPTIONS:	<ul style="list-style-type: none"> Manager has subordinates. 		
OPEN ISSUES:	None		



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

ESSS

USE CASE NAME:	View Group Lookup		USE CASE TYPE Business Requirements: <input checked="" type="checkbox"/>
USE CASE ID:	6		
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	Manager		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> Subordinate Employees 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> NA 		
DESCRIPTION:	This use case describes the event of a manager viewing a group of subordinates via a query of job code, building, department, salary/wage, home city, phone exchange, employment status, etc.. The manager logs into the system. Then the manager can search for a group of subordinates. The manager can then view a list of subordinates, print a list or them or select a specific subordinate .		
PRE-CONDITION:	The user must be a manager in A-1 Information Systems		
TRIGGER:	This use case is initiated when an manager logs into the ESSS and selects the Manage Subordinates tab, then chooses View Detail Lookup.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: Manager logs in.	Step 2: The system responds by confirming the status of the manager and displays the landing page.	
	Step 3: The manager chooses the View Group Lookup tab.	Step 4: The system responds by displaying the View Group Lookup page.	
	Step 5: The manager then enters search criteria such as job code.	Step 6: The system takes note of the query and displays a list of any matching employee profiles.	
	Step 7: The manager then “drills down” in the list and views a specific profile.	Step 8: The system retrieves the profile and displays it to the manager.	
	Step 9: The manager views the data and logs out.	Step 9: The system closes the connection to the DB and logs the manager out.	
ALTERNATE COURSES:	Step 2: The user is not a manager at A-1 and displays the appropriate landing page.		
	Step 3: The manager chooses the View Detail Lookup tab.		
	Step 4: The system responds by displaying the View Detail Lookup page.		
	Step 7: The manager prints the list of matching employees and logs out. Continue to step 9.		
CONCLUSION:	This use case concludes when the manager logs out of the system.		
POST-CONDITION:	The information in the database is up-to-date and correct.		
BUSINESS RULES	<ul style="list-style-type: none"> User must be a manager. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> Use case must be secure Use case must be up to date and available 24*7 		
ASSUMPTIONS:	<ul style="list-style-type: none"> Manager has subordinates. 		
OPEN ISSUES:	None		



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

ESSS

USE CASE NAME:	Manage Employees	USE CASE TYPE	
USE CASE ID:	7	Business Requirements: <input checked="" type="checkbox"/>	
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	HR		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> • Management • Payroll • Employees 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> • NA 		
DESCRIPTION:	This use case describes the event of an HR employee entering/changing/updating employee information into the ESSS. The HR employee logs into the system. Then the HR employee can add, change or update any employee's info. The HR employee can then confirm the changes he/she has made and submit them into the system.		
PRE-CONDITION:	The user must be an HR employee of A-1		
TRIGGER:	This use case is initiated when an HR employee logs into the ESSS and selects the Manage Employees tab in the GUI.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: HR employee logs in.	Step 2: The system responds by confirming the status of the HR employee and displays the landing page.	
	Step 3: The HR employee chooses the Manage Employees tab.	Step 4: The system responds by displaying the Manage Employees page.	
	Step 5: The HR employee then searches for an employee to begin manipulating records.	Step 6: The system takes note of the query and displays any matching employees.	
	Step 7: The HR employee makes changes to that employee's records and submits them to the ESSS.	Step 8: The system takes note of the changes and prompts the HR employee to confirm.	
	Step 9: The employee chooses confirm to confirm the changes.	Step 10: The system submits the changes to the database.	
ALTERNATE COURSES:	Step 2: The user is not an HR employee of A-1.		
	Step 3: The HR employee chooses the Create Employee tab.		
	Step 4: The system responds by displaying the Create Employee page.		
	Step 6: The system cannot find a matching employee and returns user to step 5.		
	Step 7: The HR employee chooses cancel to cancel the changes and returns to step 5.		
Step 9: The HR employee notices errors, chooses cancel and returns to step 4.			
CONCLUSION:	This use case concludes when the HR employee submits the changes to the database.		
POST-CONDITION:	The changes have been applied in the database and are available in the database for HR and the employee directory.		
BUSINESS RULES	<ul style="list-style-type: none"> • User must be an employee. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> • Use case must be secure • Use case must be up to date and available 24*7 		
ASSUMPTIONS:	<ul style="list-style-type: none"> • Employee notices errors before submission 		
OPEN ISSUES:	None		



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

ESSS

USE CASE NAME:	Send Donation	USE CASE TYPE	
USE CASE ID:	8	Business Requirements: <input checked="" type="checkbox"/>	
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	Payroll		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> • Management • Employees • HR 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> • United Way 		
DESCRIPTION:	This use case describes the event of a Payroll employee sending donations to United Way. The Payroll employee logs into the system. Then the Payroll employee can print the company's monthly check to The United Way. The Payroll employee then sends the check to The United Way via courier.		
PRE-CONDITION:	The user must be a Payroll employee of A-1.		
TRIGGER:	This use case is initiated when a Payroll employee logs into the ESSS and selects the Send Donation tab in the GUI.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: Payroll employee logs in.	Step 2: The system responds by confirming the status of the Payroll employee and displays the landing page.	
	Step 3: The Payroll employee chooses the Send Donation tab.	Step 4: The system responds by displaying the Send Donation page.	
	Step 5: The Payroll employee then prints the check.	Step 6: The system then sends the print request to the printer.	
	Step 7: The employee retrieves the check and delivers it to the courier.	Step 8: The courier delivers the check to The United Way.	
ALTERNATE COURSES:	Step 2: The user is not an active Payroll employee of A-1.		
	Step 3: The Payroll employee chooses the Adjust Pay tab.		
	Step 4: The system responds by displaying the Adjust Pay page.		
	Step 5: The employee chooses cancel to cancel the print job and returns to step 4.		
CONCLUSION:	This use case concludes when the courier delivers the check to The United Way.		
POST-CONDITION:	Employees have made donations to The United Way.		
BUSINESS RULES	<ul style="list-style-type: none"> • User must be a Payroll employee. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> • Use case must be secure • Use case must be up to date and available 24*7 		
ASSUMPTIONS:	<ul style="list-style-type: none"> • Printer is functioning • Courier must be available 		
OPEN ISSUES:	None		



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

ESSS

USE CASE NAME:	Adjust Pay	USE CASE TYPE	
USE CASE ID:	9	Business Requirements: <input checked="" type="checkbox"/>	
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	Payroll		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> • Management • Payroll • HR 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> • Parking Garage owner • Insurance Company 		
DESCRIPTION:	This use case describes the event of a Payroll employee adjusting the pay of employees due to their deductions. The Payroll employee logs into the system. Then the Payroll employee can adjust the paychecks of employees. The Payroll employee can then confirm the changes he/she has made and submit them into the system.		
PRE-CONDITION:	The user must be a Payroll employee of A-1		
TRIGGER:	This use case is initiated when a Payroll employee logs into the ESSS and selects the Adjust Pay tab in the GUI.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: Payroll employee logs in.	Step 2: The system responds by confirming the status of the Payroll employee and displays the landing page.	
	Step 3: The Payroll employee chooses the Adjust Pay tab.	Step 4: The system responds by displaying the Adjust Pay page.	
	Step 5: The Payroll employee then begins to adjust paychecks.	Step 6: The system takes note of the changes and prompts the Payroll employee to confirm the changes.	
	Step 7: The Payroll employee chooses confirm to confirm the changes.	Step 8: The system submits the changes to the database.	
		Step 9: The system prompts the Payroll employee to print paychecks.	
	Step 10: The Payroll employee selects print.	Step 11: The system sends the print request to the printer.	
	Step 12: The Payroll employee delivers or sends the checks to the appropriate mailstop.		
ALTERNATE COURSES:	Step 2: The user is not an active Payroll employee of A-1.		
	Step 3: The employee chooses the Send Donation tab.		
	Step 4: The system responds by displaying the Send Donation page.		
	Step 7: The employee chooses cancel to cancel the changes and returns to step 4.		
	Step 10: The Payroll employee does not choose print and returns to step 4.		
CONCLUSION:	This use case concludes when the Payroll employee distributes the paychecks to employees.		
POST-CONDITION:	The appropriate deductions have been applied in the database and are available to Payroll employees.		
BUSINESS RULES	<ul style="list-style-type: none"> • User must be a Payroll employee. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> • Use case must be secure • Use case must be up to date and available 24*7 		
ASSUMPTIONS:	<ul style="list-style-type: none"> • Payroll employee notices errors before printing 		
OPEN ISSUES:	None		



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

ESSS

USE CASE NAME:	Retrieve Directory Info.	USE CASE TYPE Business Requirements: <input checked="" type="checkbox"/>	
USE CASE ID:	10		
PRIORITY:	High		
SOURCE:	Requirement – ESSS Sys. Analysis		
PRIMARY BUSINESS ACTOR:	All Employees of A-1 Information Systems		
OTHER PARTICIPATING ACTORS:	<ul style="list-style-type: none"> • NA 		
OTHER INTERESTED STAKEHOLDERS:	<ul style="list-style-type: none"> • NA 		
DESCRIPTION:	This use case describes the event of an employee (user) retrieving data from the Employee Directory. The employee (user) logs into the system. Then the employee (user) can search the Directory for another employee's contact information.		
PRE-CONDITION:	The user must be an employee of A-1		
TRIGGER:	This use case is initiated when an employee logs into the ESSS and selects the Employee Directory tab in the GUI.		
TYPICAL COURSE OF EVENTS:	Actor Action	System Response	
	Step 1: Employee logs in.	Step 2: The system responds by confirming the status of the employee and displays the landing page.	
	Step 3: The employee chooses the Employee Directory tab.	Step 4: The system responds by displaying the Employee Directory page.	
	Step 5: The employee then searches for an employee or group of employees given a set of search criteria (ID, Location, etc.).	Step 6: The system takes note of the search query and displays any matches.	
	Step 7: The employee views the data and logs out.	Step 8: The system closes the connection to the database and logs the user out.	
ALTERNATE COURSES:	Step 2: The user is not an active employee of A-1.		
	Step 3: The employee chooses the Manage Deductions or Personal Info tab.		
	Step 4: The system responds by displaying the Manage Deductions or Personal Info page.		
	Step 6: The system cannot find any matches. User is returned to step 5.		
Step 7: The employee conducts another search and returns to step 5.			
CONCLUSION:	This use case concludes when the employee logs out of the ESSS.		
POST-CONDITION:	Up-To-Date employee information has been applied in the database and are available to the Employee Directory.		
BUSINESS RULES	<ul style="list-style-type: none"> • User must be an employee. 		
IMPLEMENTATION CONSTRAINTS AND SPECIFICATIONS	<ul style="list-style-type: none"> • Use case must be secure • Use case must be up to date and available 24*7 		
ASSUMPTIONS:	<ul style="list-style-type: none"> • Employee submits relevant search criteria 		
OPEN ISSUES:	None		



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

CRC Card: Person

Front:

Class Name: Person	ID: 1	Type: Abstract
Description: An abstract class that holds all data a person would normally have.		Associated Use Cases: All
<p style="text-align: center;"><u>Responsibilities</u></p> <p>Holds data common to all users. _____</p> <p>Adds Phone Numbers _____</p> <p>Adds Emergency Contact Info. _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>		<p style="text-align: center;"><u>Collaborators</u></p> <p>Employee _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

Back:

Attributes:	
First Name _____	Sex _____
Middle Name _____	Emergency Contact Info. _____
Last Name _____	Date of Birth _____
Address _____	Marital Status _____
Work Phone _____	SSN _____
Personal Phone _____	_____
Relationships:	
Generalization (a-kind-of):	_____

Aggregation (has-parts):	Employee _____

Other Associations:	_____



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

CRC Card: Employee

Front:

Class Name: Employee	ID: 2	Type: Concrete
Description: An employee at A-1 that needs represented in the ESSS		Associated Use Cases: All, depending on status
<p style="text-align: center;"><u>Responsibilities</u></p> <p>Holds data common to all employees.</p> <p><u>Checks Employee Status</u></p> <p><u>Checks Employee Type</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>		<p style="text-align: center;"><u>Collaborators</u></p> <p><u>Payroll</u></p> <p><u>Directory</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

Back:

Attributes:	
<u>Employee Status</u>	<u>Site</u>
<u>Location</u>	<u>Building</u>
<u>Job Title</u>	<u>Room</u>
<u>Supervisor</u>	<u>Mail Stop</u>
<u>Department</u>	<u>Pay Period</u>
<u>Employee ID</u>	<u>Date Hired</u>
Relationships:	
Generalization (a-kind-of):	<u>Person</u>

Aggregation (has-parts):	<u>Payroll, Directory</u>

Other Associations:	_____



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

CRC Card: Payroll

Front:

Class Name: Payroll	ID: 3	Type: Concrete
Description: Payroll handles all financial aspects of the ESSS		Associated Use Cases: Send Donation, Adjust Pay, Manage Deductions, Retrieve Directory Info.
<p style="text-align: center;"><u>Responsibilities</u></p> <u>Calculates Pay</u> <u>Confirms Status</u> <u>Prints Paychecks</u> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		<p style="text-align: center;"><u>Collaborators</u></p> <u>United Way</u> <u>Medical reimbursement</u> <u>Insurance</u> <u>Parking</u> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Back:

Attributes:	
<u>Amount to Deduct</u>	_____
<u>Deduction Type</u>	_____
<u>Wage</u>	_____
<u>Salary</u>	_____
<u>Contract Amount</u>	_____

Relationships:	
Generalization (a-kind-of):	<u>Employee</u>

Aggregation (has-parts):	<u>United Way, Parking, Insurance, Medical Reimbursement</u>

Other Associations:	_____



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

CRC Card: United Way

Front:

Class Name: United Way	ID: 4	Type: Concrete
Description: The United Way class handles all donation information.		Associated Use Cases: Send Donation, Manage Deductions, Manage Subordinates, Adjust Pay
<p style="text-align: center;"><u>Responsibilities</u></p> <u>Handles Donation Amount & Types</u> <u>Gets the Donation Date</u> <u>Prints Donation Reports</u> <u>Prints Donation Checks</u> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		<p style="text-align: center;"><u>Collaborators</u></p> <u>Payroll</u> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Back:

Attributes:	
<u>Donation Amount</u>	_____
<u>Recurring Donation</u>	_____
<u>Donation Date</u>	_____
<u>Gross Donation</u>	_____
<u>One Time Donation</u>	_____
<u>Donation Status</u>	_____
Relationships:	
Generalization (a-kind-of):	<u>Payroll</u>

Aggregation (has-parts):	_____

Other Associations:	_____



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

CRC Card: Directory

Front:

Class Name: Directory	ID: 5	Type: Concrete
Description: Retrieves employee data and displays it in the Employee Directory.		Associated Use Cases: Manage Personal Info.
<p style="text-align: center;"><u>Responsibilities</u></p> <p><u>Adds Employees to the Directory</u></p> <p><u>Displays the Employee Directory</u></p> <p><u>Removes Employees from the Dir.</u></p> <p><u>Checks Status of Employee</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>		<p style="text-align: center;"><u>Collaborators</u></p> <p><u>Employee</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

Back:

Attributes:	
<u>Is Employee Active</u>	_____
_____	_____
_____	_____
_____	_____
_____	_____
Relationships:	
Generalization (a-kind-of):	<u>Employee</u>
_____	_____
Aggregation (has-parts):	_____
_____	_____
Other Associations:	_____
_____	_____



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

CRC Card: Parking

Front:

Class Name: Parking	ID: 6	Type: Concrete
Description: A parking garage class that handles the assignment of spots and associated fees.		Associated Use Cases: Manage Deductions
<p style="text-align: center;"><u>Responsibilities</u></p> <p>Adds spaces to employees profile _____</p> <p>Adds lot number to employee profile _____</p> <p>Calculates Fees _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>		<p style="text-align: center;"><u>Collaborators</u></p> <p>Payroll _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

Back:

Attributes:	
Lot Number _____	_____
Spot Number _____	_____
Fees _____	_____
_____	_____
_____	_____
Relationships:	
Generalization (a-kind-of):	<u>Payroll</u> _____
_____	_____
Aggregation (has-parts):	_____
_____	_____
Other Associations:	_____
_____	_____



A-1 IS • GROUP C

Cleereman, Daniel
 Easton, Steven
 Enockson, William
 Stender, Jacob
 Vang, Naipong

CRC Card: Insurance

Front:

Class Name: Insurance	ID: 7	Type: Concrete
Description: An insurance class that handles extra insurance deductions made by an employee of A-1.		Associated Use Cases: Manage Deductions, Adjust Pay
<p style="text-align: center;"><u>Responsibilities</u></p> <p><u>Calculates total insurance to deduct</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>		<p style="text-align: center;"><u>Collaborators</u></p> <p><u>Payroll</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

Back:

Attributes:	
<u>Has Extra Insurance</u>	_____
<u>Age-Rate</u>	_____
_____	_____
_____	_____
_____	_____
Relationships:	
Generalization (a-kind-of):	<u>Payroll</u>
_____	_____
Aggregation (has-parts):	_____
_____	_____
Other Associations:	_____
_____	_____



A-1 IS • GROUP C

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 Stender, Jacob
 Vang, Naipong

CRC Card: MedicalReimbursement

Front:

Class Name: MedicalReimbursement	ID: 8	Type: Concrete
Description: Determines the amount to deduct from an employees paycheck due to putting money into Medical Reimbursement.		Associated Use Cases: Manage Deductions, Adjust Pay
<p style="text-align: center;"><u>Responsibilities</u></p> <p><u>Changes amount employee contributes</u></p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		<p style="text-align: center;"><u>Collaborators</u></p> <p><u>Payroll</u></p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Back:

Attributes:	
<u>Amount</u>	_____
_____	_____
_____	_____
_____	_____
_____	_____
Relationships:	
Generalization (a-kind-of):	<u>Payroll</u>
_____	_____
Aggregation (has-parts):	_____
_____	_____
Other Associations:	_____
_____	_____

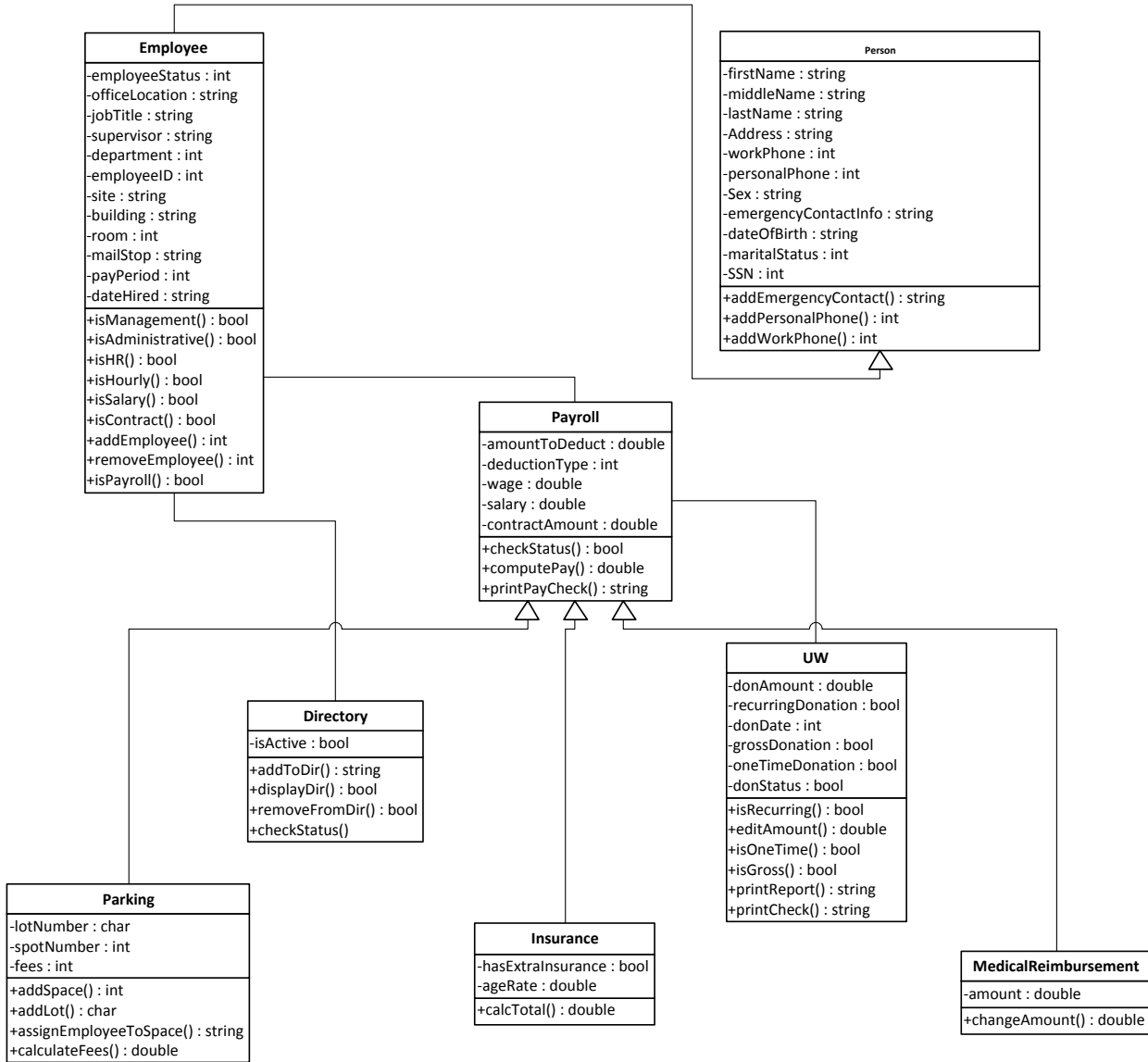


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Class Diagram

This class diagram represents eight classes: Person, Employee, Payroll, UW, Directory, Parking, Insurance, and MedicalReimbursement. The design is simple yet functional. It reduces redundancy by using a status system that, rather than creating multiple types of employee, creates access levels based on integer values tied into an employee's job title and position. This design drastically reduced our total L.O.C. and budget.





Sequence Diagram

The sequence diagram outlines the Adjust Pay Use Case. This process consists of the system checking the status of the employee, the employee requesting the type of deduction from the system, and then the system responding with the appropriate data. At this point the employee adjusts the paycheck to reflect the deductions set in the database. The employee then prints the paycheck(s) and the check for United Way.

