

SYSANAL  
Reader

By:

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For

SYSANAL  
(System Analysis)



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Joseph Farin  
SYSANAL

June 3, 2008  
CASE STUDY

STEVE WOZNIAK

The experience Steve Wozniak had is very inspiring because when he was still in his high school days, he wished of having his own computer and when he grew up, he was able to fulfill his dream of owning a computer and he even made it by himself.

Because of his experience, I learned a lot of things and it made me think of the things I want to do in the future. I learned that you don't need to have a very nice place in order for you to create a project that will someday be successful. I also found out that you don't need a very large amount of money in creating a project because it depends on how you want to do it and since you are a technical expert, you know how to create things out of used materials and still it will have a very high- quality project.

Joseph Farin  
SYSANAL

June 3, 2008  
CASE STUDY

JOE KRAUSS

I was taught that I should grab every possible opportunity that I will encounter because opportunity comes once in a while and in this article I learned that opportunity creates opportunity. If you grab an opportunity of making your project be known in the market, other opportunities will come to you especially if your project is of high- quality. I also learned that if you really want to be successful in this business, you should be patient and you should not give up easily because business is like gambling and sometimes, you will fail but in all those failures and in all the effort you've exerted, you will eventually feel the victory.

Joseph Farin  
SYSANAL

June 3, 2008  
CASE STUDY

DAN BRICKLIN

In this article I've learned that it is better if you know your co workers and if you trust them because it's better to work with the people you know and people who understand you. Friendship is very important in business because when you are in good terms with your co workers, the project you are doing will be better than what you expect it to be. I also learned that not all projects will be successful but all of the things you did for your project to be successful will still be remembered and maybe it is for a lifetime.

## Book Review

Title: Systems Analysis and Design

Author: Shelley, Cashman, Rosenblatt

### Chapter 1

Chapter 1 of the book deals with Introduction to Systems Analysis and Design. The chapter introduces to the readers the role of information technology in today's dynamic business environment. The reader will learn about the development of information systems, systems analysis and design concepts, the systems development life cycle, and various systems development methodologies, tools, and techniques. This chapter also describes the role of the information technology department and the people who work there.

The reader, after finishing this chapter, will be able to discuss the impact of information technology on business operations, define an information system and describe its components, and characteristics, identify common types of information systems and explain who uses them, distinguish between structured analysis and object-oriented methodology, explain systems development techniques and tools, including modeling, prototyping, and CASE tools, describe the systems development life cycle, and

discuss the role of the information technology department and the systems analysts who work there.

## Chapter 2

Chapter 2 of this book is on Preliminary Investigation. This book discusses Systems planning. Systems planning is the first of five phases in the systems development life cycle. In this chapter, you will learn about business and IT planning, and how systems projects get started and are reviewed initially.

Chapter 2 begins the study of the systems development life cycle (SDLC). Systems planning is the first phase in the SDLC. In this chapter; you will learn why it is important to understand business operations and requirements, how IT projects support a company's overall strategic plan, and how systems projects get started and are reviewed initially.

The readers will be able to describe the strategic planning process, and why it is important to IT managers; explain the purpose of a mission statement; explain the SDLC as a framework for systems development and business modeling; explain the reasons for information systems projects and the factors that affect such projects.



## Chapter 3

Chapter 3 deals with Requirements Modeling. This chapter discusses systems analysis as the second phase in the systems development life cycle. Chapter 3 describes the process of gathering facts about a systems project and creating models and documentation that will be used to design and develop the system.

After finishing this chapter, the reader will be able to explain systems analysis phase activities and the end product of the systems analysis phase; describe the Unified Modeling Language (UML) and explain use case diagrams and sequence diagrams; explain how functional decomposition diagrams (FDD) are used during systems development; list and describe system requirements, including outputs, inputs, processes, performance, and controls; explain the importance of scalability in design; define total cost of ownership and explain the concept.

After an overview of the systems analysis phase, this chapter describes requirements modeling techniques and team-based methods that systems analysts use to visualize and document new systems.

## Chapter 4

Chapter 4 deals with Data and Process Modeling. This chapter will help the readers to: describe data and process modeling concepts and tools; explain how structured analysis describes an information system; describe the symbols used in data flow diagrams and explain the rules for their use; explain the sequence of data flow diagrams, from general to specific; explain how to level and balance a set of data flow diagrams.

This chapter examines data and process modeling, which is a structured analysis technique. Data and process modeling has three main components: DFDs, the data dictionary, and process descriptions.

Further, this chapter examines the DFDs which graphically show the movement and transformation of data in the information system. DFDs use four symbols: the process symbol transforms data; the data flow symbol shows data movement; the data store symbol shows data at rest.

The chapter describes structured analysis and names the three main data and process modeling techniques. It also defines and draws Gane and Sarson symbols used for processes, data flows, data stores, and entities.

## Chapter 5

Chapter 5 is Systems Analysis Phase 2. It deals about Object Modeling. Chapter 5 will help the readers learn about object-oriented methods to document, analyze, and model the information system.

After reading the chapter, the reader will be able to explain how object-oriented analysis can be used to describe an information system; define object-modeling terms and concepts, including objects, attributes, methods, messages, classes, and instances; explain relationships among objects, including dependency, association, aggregation, and inheritance; draw an object relationship diagram; explain the advantages of using CASE tools in developing the object model; explain how to organize the object model.

This chapter discusses the following: object-oriented analysis, definition of object and an attribute. The following terms were also further defined: encapsulation, polymorphism, and black box.

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TIM BRADY

First non – founding employee;

YAHOO

In 1994 as a collection of links to research papers maintained by two Stanford students Jerry yang and David filo. The added gradually links in new types of information, and the site grew rapidly in popularity.

During the 8 years of yahoo was VP of production that was the responsibility of Tim Brady as he puts it as a “product”. It was an effective editor of yahoo’s site.

We all know that yahoo was a very popular site today. We do all researches in the net using yahoo. It is important to us and all that does reporting and researches. We only just type the words or phrases that we have to know and the yahoo site will find out what is the meaning or the details about it.

Brady also said that “never go into business with friends.” But with his 20 hires every one knew each other. Consequently there was a high level of trust.

I’ve learned to have a trust in each every one who will be in our business.

That in each work that we do we will be needing trust in each everyone in us.

They are in the middle of everything. But they knew that they are going through it while it was happening, which added a sense of enjoyment to it. And they are responsible with it.

They are optimistic. That's why their business exploded in the industry. Having three positive things to do with they have a good feedback in the people.

All those things personally motivated them first before you get things started.

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MIKE LAZARDIS

Cofounder, research in MOTION

In 1984 while still an undergraduate in university of Waterloo, Mike started a first project that was a local area network that ran industrial displays. They landed a 600,000 dollars in contract to build a similar network for General Motors.

It was one of the first wireless local area networks in the industry.

The cofounder said that., "it was just a matter of breaking out of your shell and going and talking to them- looking in the newspapers. Looking in local message boards, talking to different companies, asking if they needed any work done. And it is basically a little bit of sales."

It is helpful in the community, communicating easily in other people. It gives the people minimal time to communicate.

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ARTHUR VAN HOFF

Cofounder, Marimba

It was a part of java development team at sun Microsystems. Marimba, it was a software distribution company.

Arthur realized that to do a startup in marimba than doing it to sun.

They started the company in such having a small of money. They got there connections to build there startup.

They have an idea, and having a second of it and it poof it became coco crunch.

I've realized that if you will think an idea, startup, doing things, do not just think it in only one time but think it many times as a good solution goes into your minds.

Having a company being by Arthur was a different thing around, because he saw a kind of people not having a good people in your company. But having an own talents in every task or work in it.

I've learned that in example, if you have an advice to others whether you like it or not you'll just take your decision because someday you will find out whether it is right or wrong if it is right you will pursue doing it. But, if it is wrong you will learn in your faults and you will make it right the second time around.

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July 1, 2008

PAUL GRAHAM  
Cofounder, Viaweb

Viaweb in 1995 to make a software for building online stores. It was one of the first companies to deliver on the web's promise of creating a level playing field.

I've learned that in dealing with hacking, you must trust on your customers. We must not be afraid to the customers. In how they deal in us, to the conversations and pleasing personality we must be perfect. It was a good idea that in dealing with customers, we should be patient and considerable.

They think about was more about control than money. They weren't trying to rob them as much over the companies. They were offering them quite a lot of opinions. Their point was they have to do what they said from then on, or lose them.

I think that in doing things we must know how to win or lose. In the game of industry we must have trust on our works, not only in our ideas but also in our co-workers.

In your projects, ideas and works, you must stick to the idea of your belief. In work, if someone asks you an offering, fine, but don't change your plans based on that. Just pursue what you want.

In judging a work or in your co-workers, sometimes you want to tell a lie. But, in some things you will encounter you must tell the truth. Another advantage of telling the truth is that you don't have remembered what you've said or thinks. You don't have to keep any state in your head. It's a purely functional business strategy.

If you make something users want, they will be happy, and you can translate that happiness into money. As Paul said, that is the basis of a startup. A startup is a company that builds some kind of technology that people want.

Farin, Joseph Ezekiel V.

July 1, 2008

JOSHUA SCHATER  
Founder, del.icio.us

It was started to collaborate all files and in book marking site del.icio.us. The way to organize bookmarks and files, we need to have like this program.

As the work of Joshua Schater, it was a program that made for years. It was a slow startup it made years to run as perfect organizer of files. In every detail and ideas that was work for this was specialized or being worked properly.

In doing works, we must be sure of what we will be putting in it. As well as in or words and dialect for us to be understand. For us to be understand, we must be user-friendly in how we say the works and idea. Explaining how the system works and how it is done.

Making things surely as well as perfect, we are glade to have a successful work. We will be having major and minor problems in our project, so we can fix it and analyze it in many days. In time consuming our works, we must be detailed in our small to the biggest things that we will have to put in our program.

In our journey in life we must be creative enough to survive in this cruel world. Being creative in works will give us a good background or opportunity in the industry. Showing our personal thought and feelings we will have a good future. Like in writing a poem or a song we must imagine how to be creative for us to pursue our goal.



In time of peace and chaos, we must know how to consume our important in our time. Time is gold. We must do what ever is right and improve what is wrong. As young man one said, life is too short. So we need to perform our works in a creative way and love as you love yourself.

Farin, Joseph Ezekiel V.

July 1, 2008

MARK FLECTHER  
Founder, ONElist, Bloglines.

It is a sun Microsystems when they started ONElist, a free Internet email list service in1997. Bloglines that was as web based news aggregation service.

In fletcher's idea it was different, making a startup in his own must to release early. In other way it must use by mostly close friends so that they can tell to you the truth. Its hard to do a startup programming but you must know the failures you encountered.

The best thing I learned is for a company is just release early, release often. Because then you will start a dialog with your users, because they are going to send you a feedback in your project.

You have to make a software to solve that problem and surely you will have users that will be delighted in what you did. To make a program that was a good to see by people who needs your program.

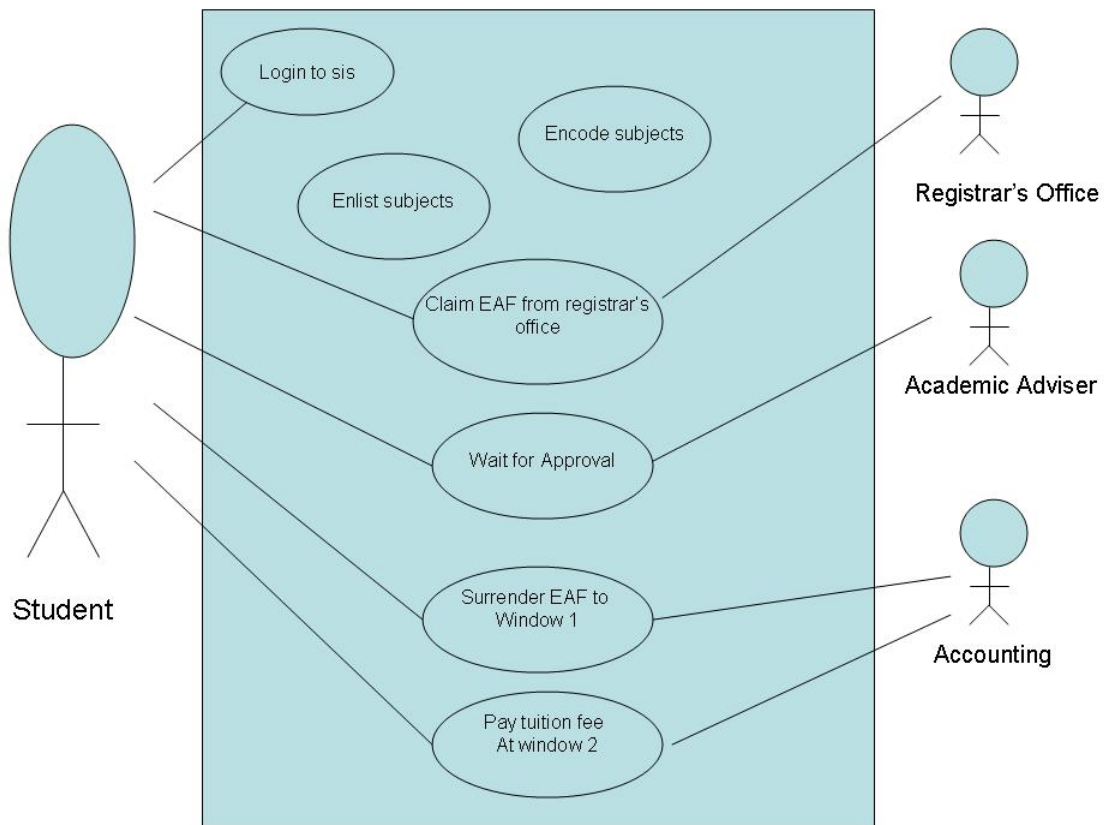
Base on the article, it was a good opportunity to give your proposal early to learn what was the problem or the good thing in it. Having experience the embarrassment or the good thing will you have to learn in it.

Users are very important in making your software successful because they tell you what is wrong, what they don't want, what they need, and what is not helpful in your program. They will help you improve your works and based on that experience you will not be having that problem again.

Farin, Joseph Ezekiel  
SYSANAL

June 5, 2008

### CSB ENROLLMENT



**Title : CSB ENROLLMENT SYSTEM**

**Summary:**

**Actors:** Student, Accounting, Academic Adviser, Accounting

**Creation Date:** June 5, 2008

**Date Update:**

**Version:** 1.0

**Person in Charge:** Joseph Farin

**Flow of Events****Preconditions :**

- Student must login to Student Information System(SIS)
- Student must be enrolled on the previous term
- Student must enlist
- Student must pre-enrollment
- Student must get the EAF from the registrar
- Student must pay their tuition fee

**Main Success Scenario:**

- Student paid his/her tuition fee in the Accounting Office

**Alternative Scenario:**

- Student failed certain subject(s)
- Student failed to pay his/her balance
- Student failed to adjust before the start of term

**Error Sequences:**

- Student wont be able to enlist if he/she has outstanding balance
- Student wont be able to get pre-requisite subjects if he/she failed
- Student wont be able to pre-enroll if he/she has outstanding balance

**Post Conditions:**

- Student can attend his/her classes.
- School earns money
- School gain another student
- Student is allowed to use the school facilities.
- Student is allowed to enter all buildings of the college.

**User- Interface:**

- Accounting System
- SIS
- Registrar's System

**Non- Functional Requirements:**

- Maximum processing time 20 minutes

**Availability:**

- Sometimes the system is not working, specifically the Student Information System.

**Confidentiality**

- The enrollment process is only between the student and the school

## **SYSANAL Final Project (1st term, SY 2008-2009)**

TITLE:

### **“An Analysis on the Research, Learning, and Training Materials Inventory of TeaM Energy’s Strategic Planning Department”**

## **I. CHAPTER 1 :: ORGANIZING FOR IMPROVEMENT**

### **❖ COMPANY BACKGROUND**



**TeaM Energy Corporation, CTC Building 2232 Roxas Boulevard, Pasay City 1300**

“ We are TeaM Energy, the Nation’s growth partner.

We generate and supply reliable and affordable energy to uplift lives and promote the sustainable development of the country while creating value for our stakeholders.

We are committed and empowered to achieve cost effective, safe and environmentally-sound operations, using superior technology.” *(Mission-Vision Statement)*

TeaM Energy Corporation, a partnership between the Japanese firms Tokyo Electric Power Company and Marubeni Corporation, is one of the largest independent power producers in the Philippines, with over 2000 megawatts of installed generating capacity nationwide. It owns and operates power plants in Pagbilao, Quezon and Sual, Pangasinan, and owns a 20% stake in the natural gas-fired plant in Ilijan, Batangas.

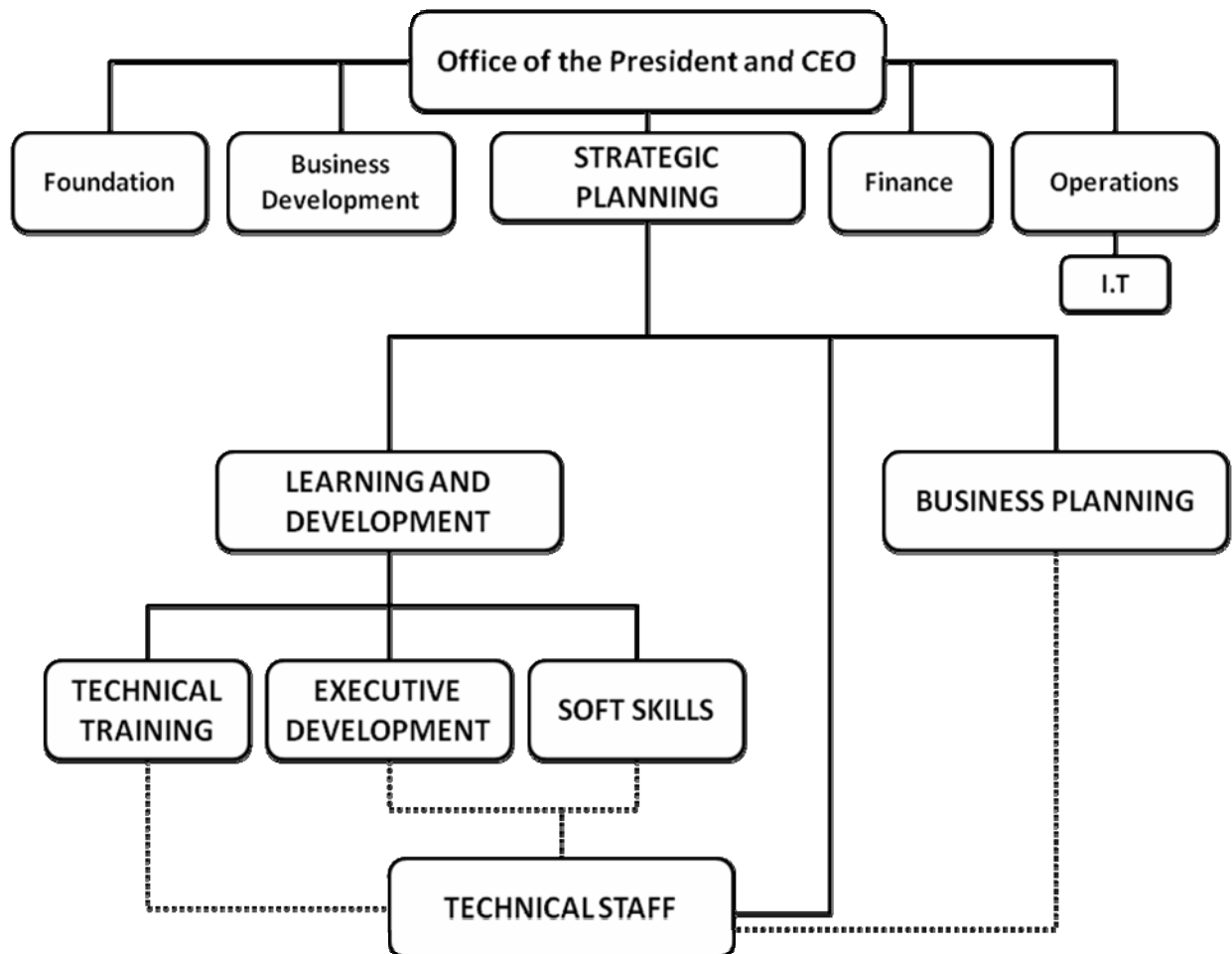
TeaM Energy has achieved ISO 14001 Certification in Environmental Management System for Pagbilao and Sual, and has received numerous awards for its exemplary

environmental, health and safety performance. It also sets the standards in the industry for operational excellence, with its world-class EFOR (Equivalent Forced Outage Rate) and EAF (Equivalent Availability Factor).

They consider themselves as partners in the country's growth and remain committed to promoting sustainable development. They care deeply about the people they serve and support their local communities in terms of education, health and economic development.

Their mission is to generate and to supply reliable, affordable and environment friendly energy to the Philippines. By establishing an indispensable linkage with the state-owned company NAPOCOR (National Power Corporation), their foremost client in the locale, they synergize in a mutual endeavor of serving as providers and generators of electricity in the Philippines.

(Organizational Chart)



## ❖ STATEMENT OF THE PROBLEM

The Strategic Planning Department of TeaM Energy Corporation has the twofold function of formulating the business plans, strategies, and project studies of the organization, and facilitating the learning and development of all units and levels inside the organization.

They are presently coping with the challenge of developing an accessible, expedient, and regimented research, learning, and training resource inventory to settle the affairs of:

- File integration
- Information access and retrieval
- Maintenance of inventory

At this point in time, they are utilizing a so-called computerized system by using Microsoft Excel. To access the system, every departmental function must approach the Technical Clerk's office at the Corporate Office (CTC) for inquiry on a prospective learning material to be borrowed. The department head then accesses the spreadsheet application wherein information on a specific identifiable material is stored on record. He supplies the key datum, the office location of the material, since individual office's data box filers and cabinets are employed as immediate storage for the materials, in the variety of books, journals, modules, manuals, binders, and departmental forms. The employee then mobilizes to the office situation to borrow from its owner (the office occupier) the preferred material. This manual business process is attested to be time-consuming and ineffective, and unable to cater the need for access on the materials stored at the Sual and Pagbilao company offices. More-over, the department reports of the existing system being incapable of monitoring material status and, as well, unable to sustain the physical conditions of the inventory.

With a department unit that has the integral obligation of composing the directional course of action towards organizational achievement of objectives, a system that doesn't meet

the modern trends on computing will lag behind in research and proficiency. And with the parallel unit duty to facilitate personnel learning and development, an outdated catalog methodology will not influence, towards excellence, the unit's shared target expectations.

#### ❖ OBJECTIVES OF THE SYSTEM

By successfully devising and executing our proposed computer-based library system, we are looking forward to optimally upgrade the business process on corporate and developmental research. Our proposed system is comprised of a dual package deal of a computerized online library catalog system assimilated in an eDocument-based information storage system. With our proposed system named as COILS (Centralized Online Integrated Library System), we intend to:

- Boost information access and retrieval by progressing to a computer-based information system from the current manual search and sorting system
- Integrate the library system to all sections and locations of Sual and Pagbilao corporate offices in order to widen user accessibility

Our vision for our proposed system, COILS, is to design a computer-based application that will highlight:

- instant accessibility by the usage of the desktop computer of the personnel's office
- instant display of organized search results
- instant retrieval of material information

Through these features, we hope to bring about:

(Tangible benefits)

- shorter time consumption inventorying, searching, and borrowing processes
- conservation of space and time
- reduced process inaccuracy



(Intangible Benefits)

- increased organizational coordination
- increased performance and quality delivery of departmental functions
- increased information reliability and availability
- enhanced departmental information security

#### ❖ **SIGNIFICANCE OF THE STUDY**

We opted for this business process as the area of study due to the perceived prospects for successfully building an effectual computer-based information system as the existent system's replacement. There is a seemingly critical opportunity, out of the ongoing challenge, that our group would like to capitalize in. Designing a computer-based system will, in fruition, alleviate the organizational hassles of manual inventory processing, one that poses the challenges to all departmental functions. This will improve, to a great extent, the usage and accessibility of research resources, thus, accelerating work performance and output delivery on project implementation, particularly of the Learning and Development Department.

With this study, the Strategic Planning Unit of the organization will be thoroughly reinforced in the facets of research, consultation and leisure as well. There shall be a perceptible improvement in how user-personnel of the department will access and recommend learning materials, thus, heightening department unit operation in terms of specialization and task liabilities. Due to the features propounded by our proposed system, TeaM Energy will benefit from the headway of knowledge and skill foundation granted by the Learning and Development, and Business Planning Departments.

#### ❖ **SCOPE AND LIMITATION**

This system is exclusive for an integrated library system solely for the Strategic Planning Department, therefore it encompasses:

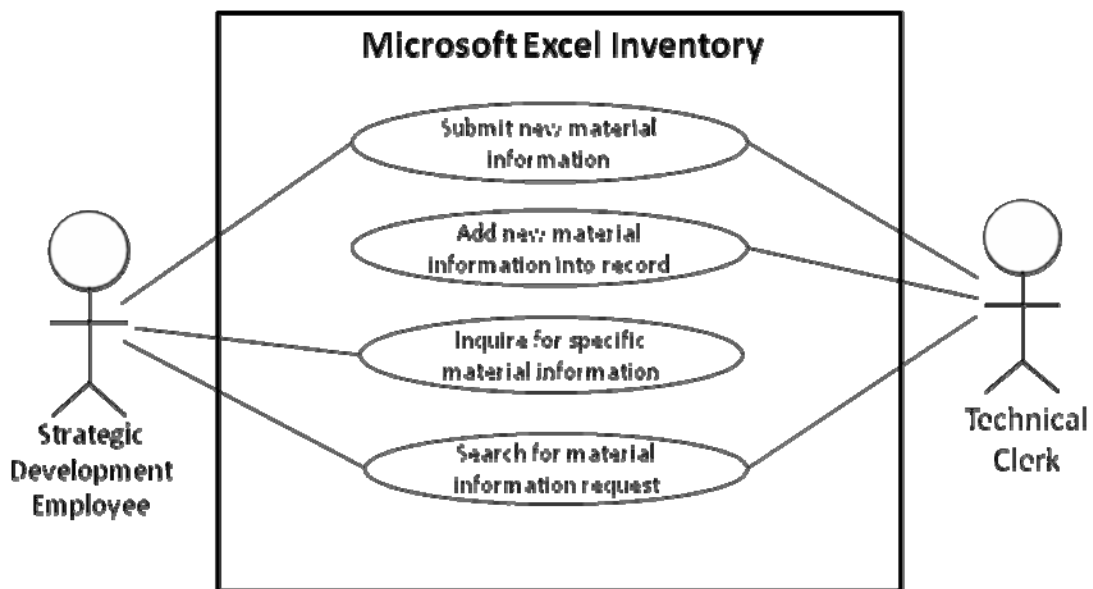
- Design and implementation of the software application and database system
- System integration and maintenance

Because the proposed system needs a systematic inventory, every research and learning material must possess a corresponding account identification code, hence, designation of the record information is still incorporated within our scope. Our proposed system has no concern to any further extent beyond these projected affairs, namely:

- Organization and physical safe-keeping of all inventories
- Library system suitable for the classification and organization of the materials
- Conversion of the research, learning, and training materials into electronic documents

## II. CHAPTER 2 :: SYSTEMS ANALYSIS

### ❖ USE-CASE DIAGRAM OF EXISTING SYSTEM



**IDENTIFICATION SUMMARY:**

**Title:** Submit the new material information

**Summary:** This use case allows an employee to submit new material information to Technical Clerk

**Actors:** Employee, Technical Clerk

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008 **Version:**

1.0

**Person in Charge:** Camz Maddela

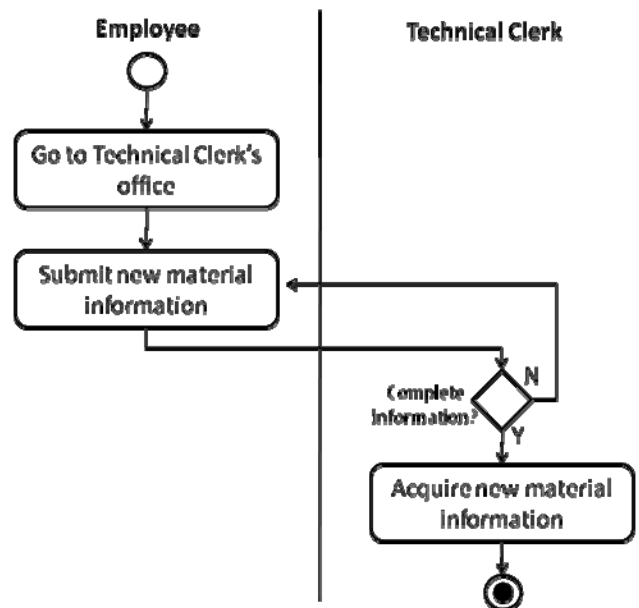
**FLOW OF EVENTS:**

**Preconditions:**

- Employee should be under the Strategic Planning Department
- New material information must not be an existing record in the Excel inventory

**Main Success Scenario:**

1. Employee goes to office of Technical Clerk
2. Employee submits the necessary information about the new material
3. Technical Clerk acquires new material information



**Alternative Sequences**

**A1** – *Incomplete new material information*; From 2

**3:** Technical clerk requests missing information

**Back to 2**

**Error Sequences:**

**E1** – *The employee is not part of the Strategic Planning Department*; From 1

**2:** UC fails

**Post Conditions:**

- ❖ New material information to be inputted into inventory

**IDENTIFICATION SUMMARY:**

**Title:** Add new material information into record

**Summary:** This use case allows the Technical Clerk to add new material information into record.

**Actors:** Technical clerk

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Camz Maddela

**FLOW OF EVENTS:**

**Preconditions:**

- Microsoft Excel is functioning.

**Main Success Scenario:**

1. Technical Clerk opens the Excel file.
2. Technical Clerk categorizes material information submitted.
3. Technical Clerk adds information of new material.
4. Technical Clerk saves record.

**Alternative Sequences**

**A1** – *Incomplete material information;*

From 2

**3:** Technical Clerk supplies information submitted by employee

**Go to 3**

**Error Sequences:**

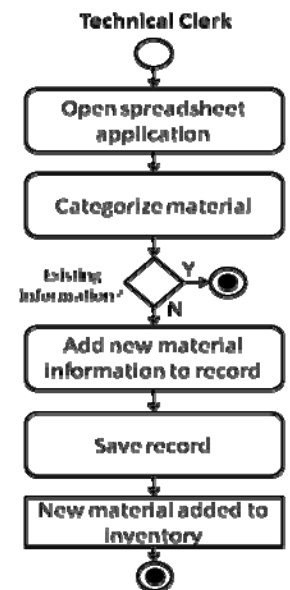
**E1** – *Existing material information;* From 2

**3:** UC fails

**Post Conditions:**

❖ New material added in the inventory

**Employee**



**IDENTIFICATION SUMMARY:**

**Title:** Inquire for specific material information

**Summary:** This use case allows an employee to inquire for specific material information stored in the Excel inventory.

**Actors:** Employee, Technical Clerk

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008 **Version:**

1.0

**Person in Charge:** Camz Maddela

**FLOW OF EVENTS:**

**Preconditions:**

- Employee must be under the Strategic Planning Department

**Main Success Scenario:**

1. Employee goes to the Technical Clerk's office.
2. Employee inquires for needed material.
3. Technical Clerk obtains request information.

**Alternative Sequences**

**A1 – Incomplete material information;**

From 2

**3:** Employee supplies needed material information

**Back to 2**

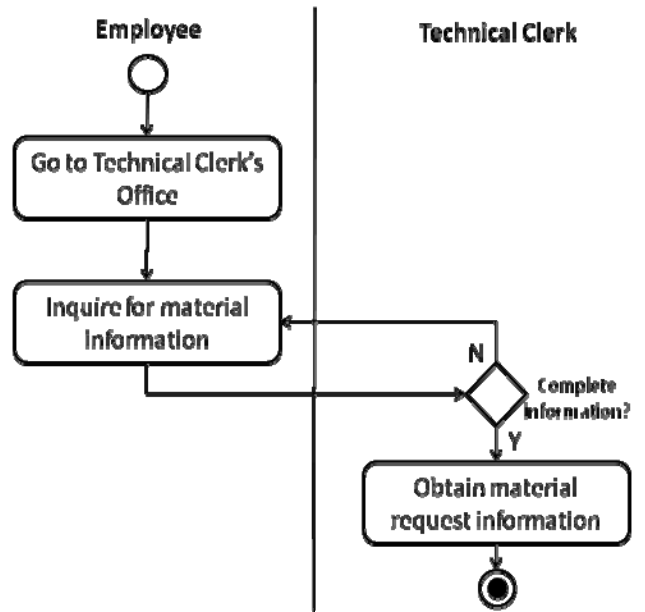
**Error Sequences:**

**E2- Employee not under Strategic Planning Department;** From 1

**2:** UC fails

**Post Conditions:**

❖ New search inquiry for Technical Clerk.



**IDENTIFICATION SUMMARY:**

**Title:** Search for material information request

**Summary:** This use case allows the Technical Clerk to search for the employee's material information request.

**Actors:** Technical Clerk, Employee

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008 **Version:**

1.0

**Person in Charge:** Camz Maddela

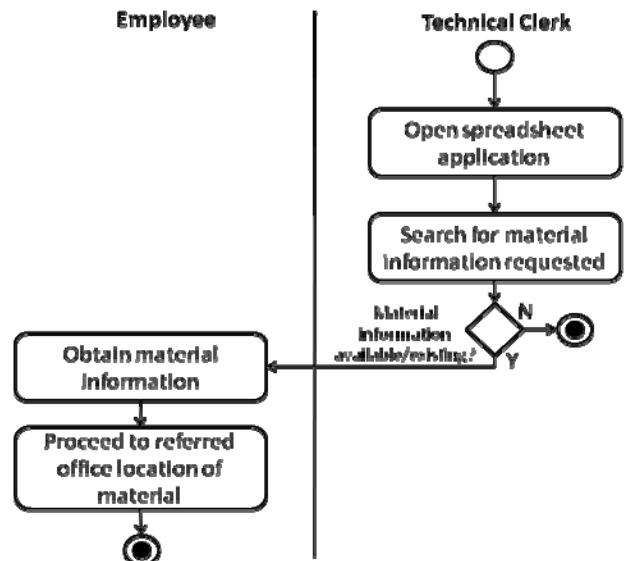
**FLOW OF EVENTS:**

**Preconditions:**

- Microsoft Excel is functioning.

**Main Success Scenario:**

1. Technical opens the spreadsheet application.
2. Technical Clerk searches for material information requested.
3. Employee obtains material information.
4. Employee proceeds to office location of material.



**Alternative Sequences**

**A1** – *Microsoft Excel is bugged down*; From 1

**2:** Reboot computer

**Go to 2**

**Error Sequences:**

**E1** – *Requested material information not found*; From 2

**3:** UC fails

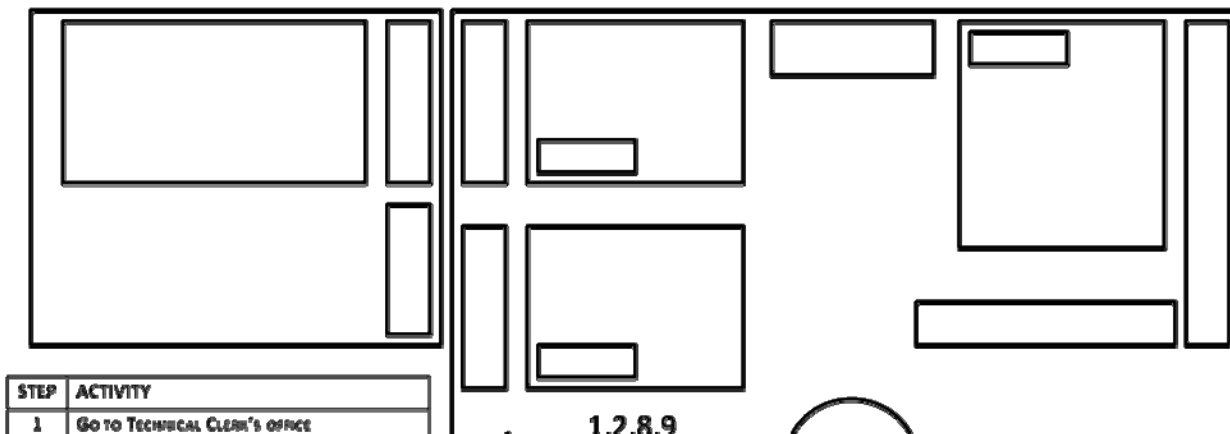
**Post Conditions:**

- ❖ Material information requested is/are obtained by employee

| STEP | ACTIVITY  |
|------|---|
| 1    | GO TO TECHNICAL CLERK'S OFFICE                  |
| 2    | SUBMIT NEW MATERIAL INFORMATION                 |
| 3    | ACQUIRE NEW MATERIAL INFORMATION                |
| 4    | OPEN SPREADSHEET APPLICATION                    |
| 5    | CATEGORIZE MATERIAL                             |
| 6    | ADD NEW MATERIAL INFORMATION TO RECORD          |
| 7    | SAVE RECORD                                     |
| 8    | GO TO TECHNICAL CLERK'S OFFICE                  |
| 9    | INQUIRE FOR MATERIAL INFORMATION                |
| 10   | OBTAIN MATERIAL REQUEST INFORMATION             |
| 11   | OPEN SPREADSHEET APPLICATION                    |
| 12   | SEARCH FOR MATERIAL INFORMATION REQUESTED       |
| 13   | OBTAIN MATERIAL INFORMATION                     |
| 14   | PROCEED TO REFERRED OFFICE LOCATION OF MATERIAL |

❖ PROCESS WALKTHROUGH

❖ GEOGRAPHIC FLOWCHART



❖ **PROCESS TIME VS. CYCLE TIME**

| <b>ACTION</b>                          | <b>PROCESS TIME</b> | <b>CYCLE TIME</b> | <b>DELAY CAUSE</b>                       |
|--|---------------------|-------------------|--|
| <b>SUBMIT NEW MATERIAL INFORMATION</b> | 2-3 minutes         | 5 minutes         | Incomplete information; invalid material |

| <b>PROBLEMS TO BE ADDRESSED:</b> | <b>RECOMMENDED CHANGE NEEDED TO IMPROVE:</b> | <b>ACTIVITIES AFFECTED BY THE CHANGE:</b> |
|----------------------------------|--|---|
|----------------------------------|--|---|

|  |                      |                   |   |
|--|----------------------|-------------------|---|
| <b>ADD NEW MATERIAL INFORMATION INTO RECORD</b>  | 5-8 minutes          | 10 minutes        | Bugged-down CPU load speed                        |
| <b>INQUIRE FOR SPECIFIC MATERIAL</b>             | 2-3 minutes          | 5 minutes         | Miscommunication; unauthorized request            |
| <b>SEARCH FOR MATERIAL INFORMATION REQUESTED</b> | 3-5 minutes          | 8 minutes         | Sizeable record; slow index; unavailable material |
|  | <b>12-19 minutes</b> | <b>28 minutes</b> |   |

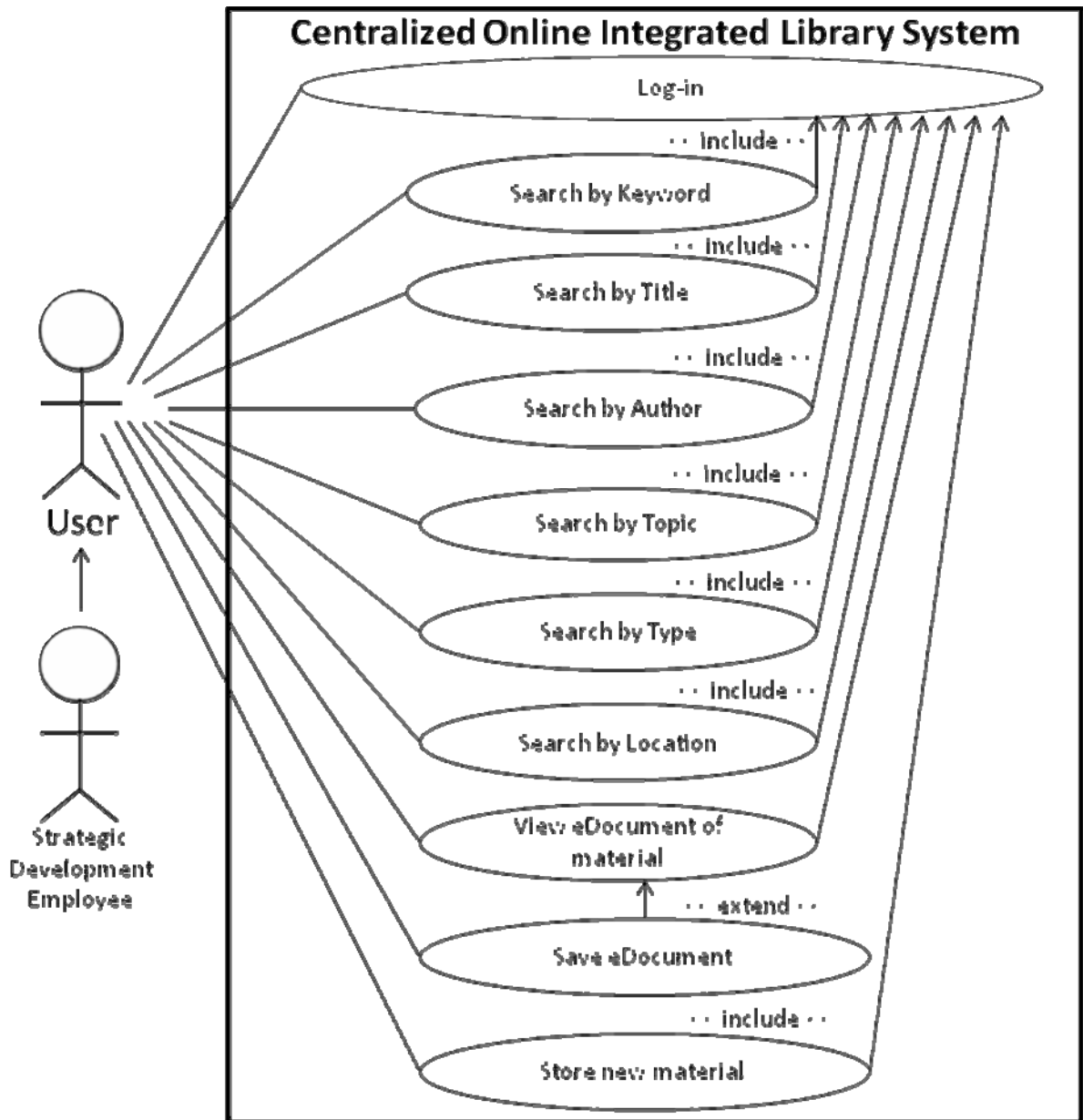


|   |  |  |
|---|--|--|
| <b>FILE INTEGRATION</b>                 | » From scattered materials inventory to a centralized online library database  | » Proceed to Technical Clerk Office  |
| <b>INFORMATION ACCESS AND RETRIEVAL</b> | » From physical information to electronic information<br>» From a single employee access to a multi-accessible application for all offices | » Open spreadsheet application<br>» Manually search record<br>» Proceed to specified office location |
| <b>MAINTENANCE OF INVENTORY</b>         | » From the Technical Clerk of the Strategic Planning to the IT Department  | » Submit material information to Technical clerk   |

### **III. CHAPTER 3 :: SYSTEM DESIGN**

#### **❖ TABLE OF RECOMMENDATIONS**

❖ USE-CASE DIAGRAM OF PROPOSED SYSTEM



## IDENTIFICATION SUMMARY:

**Title:** Log-in

**Summary:** This use case allows a user to log-in in COILS

**Actors:** User

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Luigi Dollosa

## FLOW OF EVENTS:

### Preconditions:

- User must have a COILS user account.
- COILS is fully functional and not under maintenance.

### Main Success Scenario:

1. User inputs Username.
2. User inputs Password.
3. COILS verifies inputted user account data.
4. User successfully log-in in COILS.

### Alternative Sequences

**A1** – *Not matching account data*; From 3  
**4:** COILS does not accept user log-in

**Back to 1**

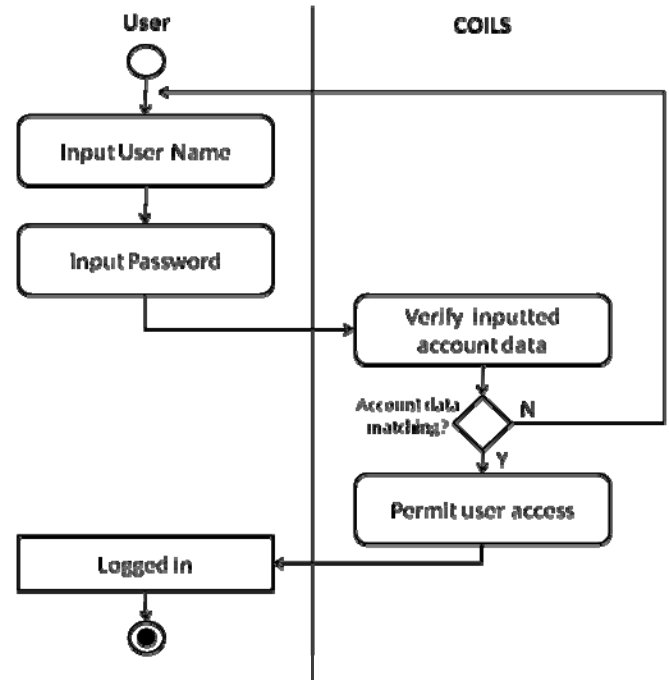
### Error Sequences:

**E1** – *Network connection abruptly disabled*; From 1  
**2:** UC fails

**E2** – *No existing user account*; From 3  
**4:** UC fails

### Post Conditions:

- ❖ User is logged-in into the system



## IDENTIFICATION SUMMARY:

**Title:** Search by Keyword

**Summary:** This use case allows an applicant to search the database by inputting the keyword

**Actors:** User

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Luigi Dollosa

## FLOW OF EVENTS:

### Preconditions:

- User must have a COILS user account.
- COILS is fully functional and not under maintenance.

### Main Success Scenario:

1. User chooses Search by Keyword.
2. User inputs search inquiry.
3. COILS indexes from database.
4. COILS displays relevant search results.

### Alternative Sequences

**A1** – Non-existence of relevant data;  
From 3

4: COILS displays retry search message to user

**Back to 2**

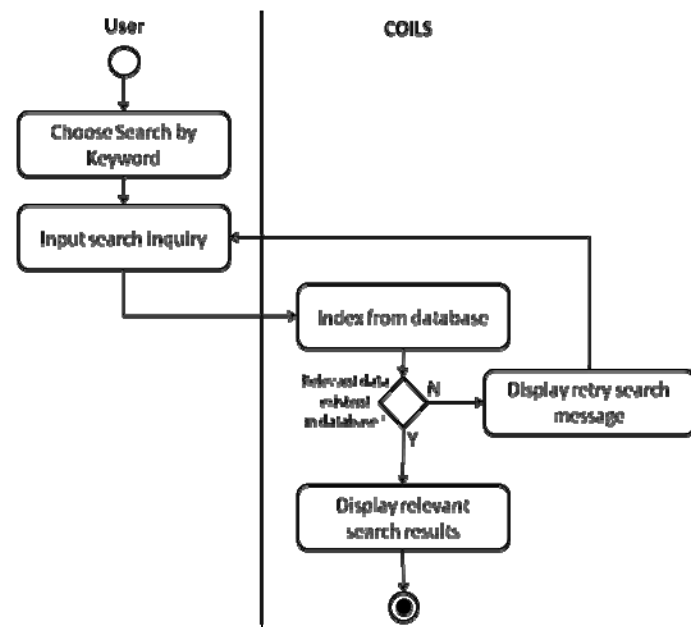
### Error Sequences:

**E1** – Network connection abruptly disabled; From 1

2: UC fails

### Post Conditions:

- ❖ Display of search results according to relevance



## IDENTIFICATION SUMMARY:

**Title:** Search by Title

**Summary:** This use case allows an applicant to search the database by inputting the title

**Actors:** User

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Luigi Dollosa

## FLOW OF EVENTS:

### Preconditions:

- User must have a COILS user account.
- COILS is fully functional and not under maintenance.

### Main Success Scenario:

5. User chooses Search by Title.
6. User inputs search inquiry.
7. COILS indexes from database.
8. COILS displays relevant search results.

### Alternative Sequences

**A1** – *Non-existence of relevant data;*

From 3

**4:** COILS displays retry search message to user

**Back to 2**

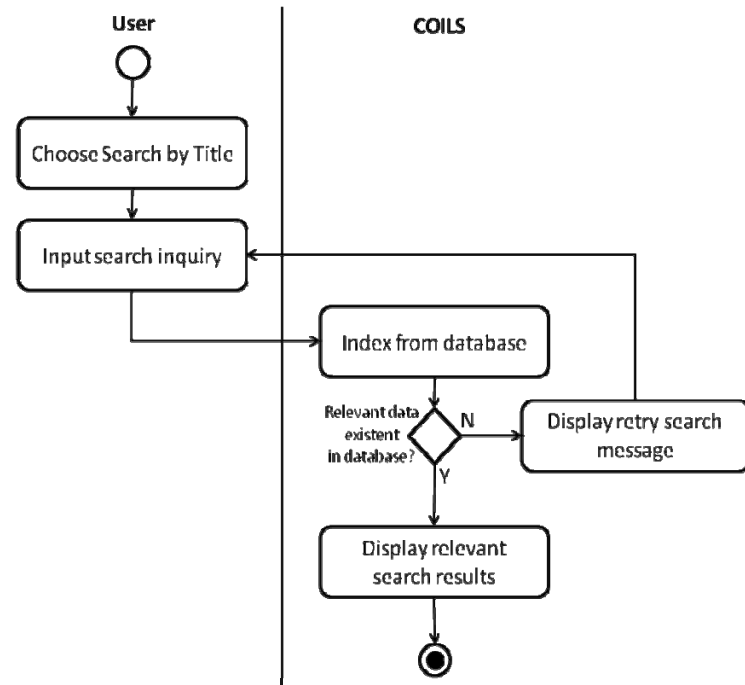
### Error Sequences:

**E1** – *Network connection abruptly disabled;* From 1

**2:** UC fails

### Post Conditions:

- ❖ Display of search results according to relevance



## IDENTIFICATION SUMMARY:

**Title:** Search by Author

**Summary:** This use case allows an applicant to search the database by inputting the author

**Actors:** User

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Luigi Dollosa

## FLOW OF EVENTS:

### Preconditions:

- User must have a COILS user account.
- COILS is fully functional and not under maintenance.

### Main Success Scenario:

9. User chooses Search by Author.
10. User inputs search inquiry.
11. COILS indexes from database.
12. COILS displays relevant search results.

### Alternative Sequences

**A1 – Non-existence of relevant data;**  
From 3

**4:** COILS displays retry search message to user

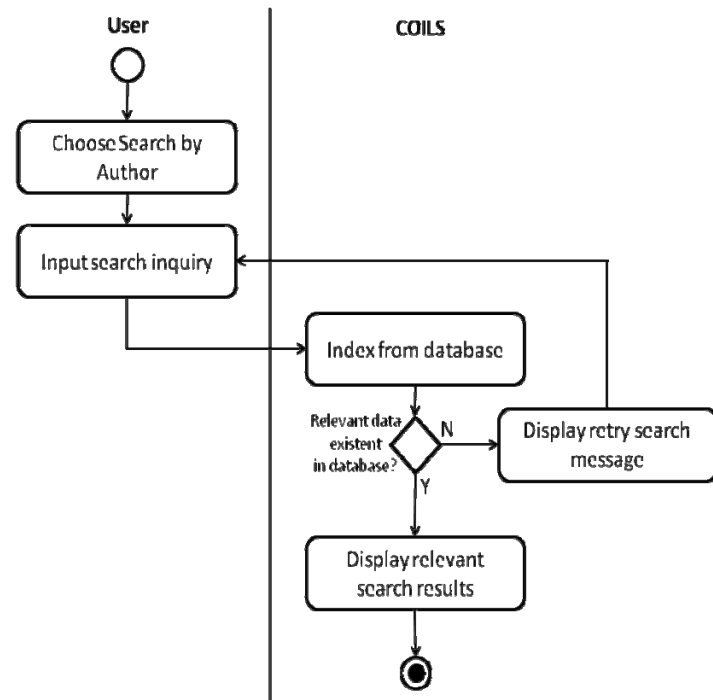
**Back to 2**

### Error Sequences:

**E1 – Network connection abruptly disabled;** From 1  
**2:** UC fails

### Post Conditions:

- ❖ Display of search results according to relevance



**IDENTIFICATION SUMMARY:**

**Title:** Search by Topic

**Summary:** This use case allows an applicant to search the database by inputting the topic

**Actors:** User

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Luigi Dollosa

**FLOW OF EVENTS:**

**Preconditions:**

- User must have a COILS user account.
- COILS is fully functional and not under maintenance.

**Main Success Scenario:**

13. User chooses Search by Topic.
14. User inputs search inquiry.
15. COILS indexes from database.
16. COILS displays relevant search results.

**Alternative Sequences**

**A1 – Non-existence of relevant data;**  
From 3

**4:** COILS displays retry search message to user

**Back to 2**

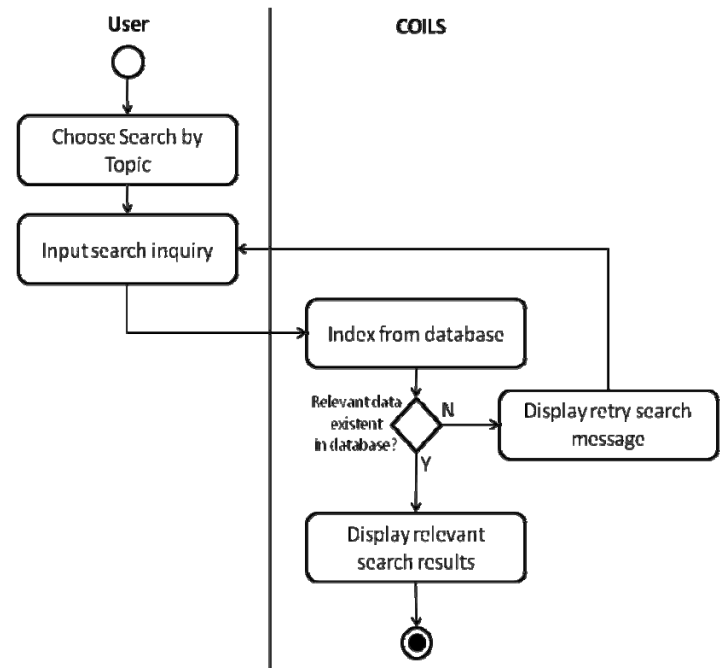
**Error Sequences:**

**E1 – Network connection abruptly disabled;** From 1

**2:** UC fails

**Post Conditions:**

- ❖ Display of search results according to relevance



**IDENTIFICATION SUMMARY:**

**Title:** Search by Type

**Summary:** This use case allows an applicant to search the database by inputting the type

**Actors:** User

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Luigi Dollosa

**FLOW OF EVENTS:**

**Preconditions:**

- User must have a COILS user account.
- COILS is fully functional and not under maintenance.

**Main Success Scenario:**

17. User chooses Search by Type.
18. User inputs search inquiry.
19. COILS indexes from database.
20. COILS displays relevant search results.

**Alternative Sequences**

**A1 – Non-existence of relevant data;**  
From 3

**4:** COILS displays retry search message to user

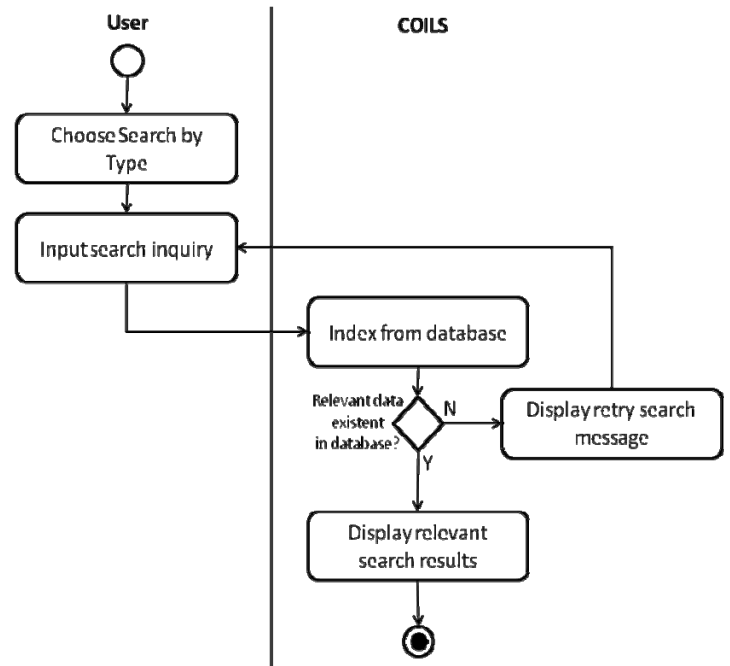
**Back to 2**

**Error Sequences:**

**E1 – Network connection abruptly disabled;** From 1  
**2:** UC fails

**Post Conditions:**

- ❖ Display of search results according to relevance





## IDENTIFICATION SUMMARY:

**Title:** Search by Location

**Summary:** This use case allows an applicant to search the database by inputting the location

**Actors:** User

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Luigi Dollosa

## FLOW OF EVENTS:

### Preconditions:

- User must have a COILS user account.
- COILS is fully functional and not under maintenance.

### Main Success Scenario:

21. User chooses Search by Location.
22. User inputs search inquiry.
23. COILS indexes from database.
24. COILS displays relevant search results.

### Alternative Sequences

**A1** – *Non-existence of relevant data*;  
From 3

**4:** COILS displays retry search message to user

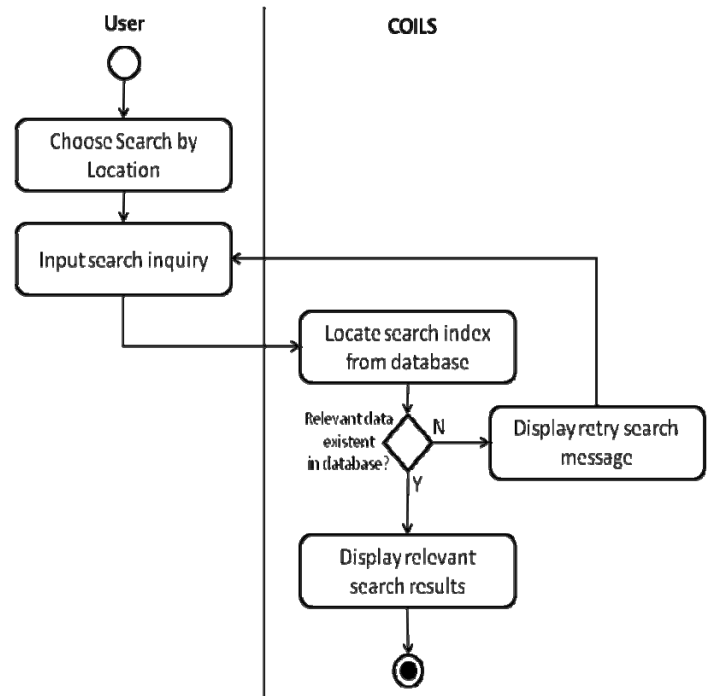
**Back to 2**

### Error Sequences:

**E1** – *Network connection abruptly disabled*; From 1  
**2:** UC fails

### Post Conditions:

- ❖ Display of search results according to relevance



## IDENTIFICATION SUMMARY:

**Title:** View eDocument of material

**Summary:** This use case allows a user to view the eDocument of a selected material.

**Actors:** User

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Luigi Dollosa

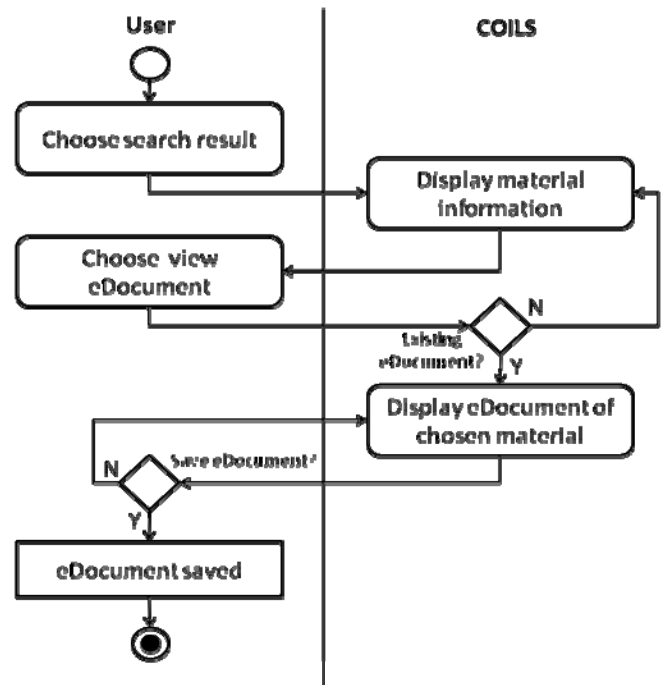
## FLOW OF EVENTS:

### Preconditions:

- User must have a COILS user account.
- COILS is fully functional and not under maintenance.
- Material has an existing eDocument in COILS.

### Main Success Scenario:

1. User chooses a particular search result.
2. COILS displays material information.
3. User chooses to view eDocument of selected material.
4. COILS displays eDocument.
5. User successfully saves eDocument.



### Alternative Sequences

**A1** – *No existing eDocument of material*; From 3  
4: COILS displays no eDocument message

**Back to 2**

**A2** – *User chooses to save eDocument*; From 4  
5: eDocument is saved to user's computer

**Go to 5**

### Error Sequences:

**E1** – *Network connection abruptly disabled*; From 1  
2: UC fails

**Post Conditions:**

- ❖ New eDocument is stored in user's computer.

**IDENTIFICATION SUMMARY:**

**Title:** Store new material

**Summary:** This use case allows a user to store a new material in COILS

**Actors:** User

**Creation Date:** August 8, 2008

**Date of Update:** August 8, 2008

**Version:** 1.0

**Person in Charge:** Luigi Dollosa

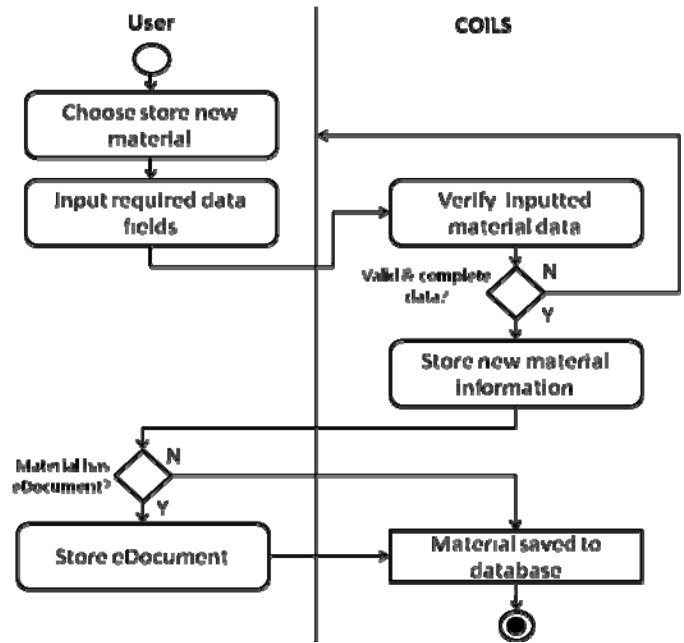
**FLOW OF EVENTS:**

**Preconditions:**

- User must have a COILS user account.
- COILS is fully functional and not under maintenance.

**Main Success Scenario:**

1. User chooses Store new material.
2. User inputs required data fields.
3. COILS verifies inputted material data.
4. COILS stores new material information.
5. User stores eDocument of material.
6. COILS saves new material record to database.



**Alternative Sequences**

**A1** – *Invalid/incomplete inputted data*; From 3

- 4: COILS displays message to answer required data fields

**Back to 2**

**A2** – *No eDocument of material*; From 5

- 6: COILS just saves data the user inputted

**Go to 6**

**Error Sequences:**

**E1** – *Network connection abruptly disabled*; From 1

- 2: UC fails

**Post Conditions:**

- ❖ New material record is stored in COILS.



❖ **BENCHMARKING**

| <b>METRIC</b>                        | <b>DLS-CSB LRC OPAC</b>          | <b>COILS</b>   |
|--------------------------------------|----------------------------------|--|
| <b>NUMBER OF CUSTOMERS</b>           | 1                                | 1  |
| <b>AVERAGE TRANSACTIONS PER DAY</b>  | 30                               | 10   |
| <b>NUMBER OF BRANCHES</b>            | 1                                | 1  |
| <b>TYPE OF INFORMATION SYSTEMS</b>   | CBIS                             | CBIS   |
| <b>INDEX SPEED</b>                   | 0.3 seconds                      | 0.3 seconds  |
| <b>ACCESSIBILITY</b>                 | Each computer of each LRC branch | Each computer in each office in the CTC (Corporate Office), Sual and PAgbilao Powerplant Offices |
| <b>RESULT DISPLAY</b>                | Infinite (Scroll-down window)    | 15 per page  |
| <b>RESOURCE MATERIAL INFORMATION</b> | Title, Author, Category,         | Title, Author, Type, Topic Office Location, eDocument  |

❖ **STREAMLINING**

| <b>TOOL</b>                         | <b>REASON   ADVANTAGE</b>  |
|-------------------------------------|--|
| <b>BUREAUCRACY ELIMINATION</b>      | Instead of going to the Technical Clerk's office for material request and proceeding to a specified office location for material borrowing, COILS does only a single interfacing through the office desktop computer, thereby eliminating over-all process cycle time. |
| <b>SIMPLIFICATION</b>               | The over-all process is simplified in COILS by having COILS possess a search engine together with eDocument user accessibility, and giving users the immediate freedom to add new material in storage.   |
| <b>PROCESS CYCLE-TIME REDUCTION</b> | By eliminating unwanted office interfacing through the implementation of a centralized information system, cycle-time is enormously reduced in the over-all process.   |
| <b>ERROR PROOFING</b>               | The manual process eminent in the department is prone to human flaw because it is maintained by a non-I.T practitioner and the Spreadsheet application can be misused without appropriate user accessing.  |
| <b>UPGRADING</b>                    | Since COILS is a CSIS, the I.T department is accountable to the evaluation, maintenance, and enhancement of the system, making it suitable to the changing needs of the departmental employees in the Corporate and Power Plant offices as well.                       |
| <b>SIMPLE LANGUAGE</b>              | COILS graphical user interface is constructed in a manner that there will be reduced effort in accessing the application. COILS also make data organized and it's features ensures the employees of efficient and productive research and reference.                   |

|                                |   |
|--------------------------------|---|
| <b>STANDARDIZATION</b>         | The features of our proposed system are subject to instinctive interpretation. Alongside with the user-friendly interface, employees will be able to comprehend the processes involved in COILS even at first glance.     |
| <b>SUPPLIER PARTNERSHIP</b>    | COILS is guaranteed to be 100% functional at initial purchase. We, as developers of the system, ensure that our clients in TeaM Energy will be supplied with authenticated, functional, and long-lasting product quality. |
| <b>BIG PICTURE IMPROVEMENT</b> | With COILS, there is a sure-fire improvement in research efficiency, training proficiency, and personnel competence- 3 key goals the Strategic Planning Department give great emphasis on.                                |