A SYSTEMS ANALYSIS & DESIGN Reader

By: Shelyn Tiffany Chua



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Dedication:

I dedicate this book to my family. I dedicate this to my fellow classmates.

Preface:

In studying systems analysis, you will need to have broad minds in analyzing different situations. This compilation composed of doing case studies, book reviews, use cases, use case narratives, and activity diagram.

In the book reviews, the book I chose was Systems Analysis and Design for the small enterprise. It is all about the uses, techniques, and methods in dealing with systems analysis and design.

In the case studies, you will learn a lot from the different startups that they made. These are the cases we studied: PayPal, Hotmail, Apple Computer, Excite, Software Arts, Lotus Development, Groove Networks, Blogger, Yahoo, Research In Motion, Marimba, Gmail, WebTV, TiVo, Del.icio.us, ONElist Bloglines, Viaweb, Craigslist, Flickr, WAIS, Alexa internet, Internet Archive, Open systems, Adobe System, 37 signals, ArsDigita, Fog Creek Software, TripAdvisor, Hot or Not, Tickle, Firefox, Six Apart, Lycos, Alliant Computer System, Shareholder. This was helpful in studying the systems of their startup and analyzing the product.

The use case we analyze covers about E-purse in CSB Barangay Clearance Process Civil Service Eligibility Student's Permit Multiply Smart Money Tin number, LinkedIn.com, Emeraldinsight.com.It is important to learn this because it is the main thing those system analysts do.

Book: Systems Analysis and Design for the small enterprise
 Author: David Harris
 Reference: Harris, David. Systems Analysis and Design for the small enterprise. (Chapter 1) Canada: Thomson Learning Inc., 2003.

Quote: "An information system is a well-coordinated collection of resources that gather and transform data into information products and services that help the enterprise perform its designed function."

Review:

The Chapter one of System Analysis and Design for the small enterprise is about distinguishing the special characteristics and information needs of the small enterprise from those of other enterprise, outline the five phases of SDLC, Identify the six components of an information system, describe the nature of entrepreneurial system analysis and the purpose of case tools. Information system is gathering of data to transform it into information. It is about planning, design, development, implementation, maintenance, and monitoring. In a single enterprise there are three systems that exist. These are strategic system, management system, and operational system. The Internet is a dominating technology as of now it made the communication and job easier. In a small enterprise we should consider the owner participation, economic constraints, and competitive pressures. Information system introduces us to the system development life cycle (SDLC). It has five phases which is analysis, design, development, Implementation, maintenance, and review. Computer information system components have six elements. These are people, procedures, Software, Hardware, Networks, and data. In SDLC, CASE tools associates with them. Computer assisted systems engineering (CASE) is suggesting that a computer program can help analyst to create, a computer information system. One of the popular CASE tools is visible analyst. IT integrates several phases of the systems analysis and design process into a software product.

Book: Systems Analysis and Design for the small enterprise Author: David Harris Reference: Harris, David. Systems Analysis and Design for the small enterprise. (Chapter 2) Canada: Thomson Learning Inc., 2003.

Quote: "The first challenge to the analyst is to determine, in the most generals sense, whether they can offer a solution to the explicit or implicit problems the owner has identified."

Review:

The Chapter 2 of the book tells about project initiation. It is about describing the basic information processing requirements, Identifying the common problems associated with the information systems of small enterprise, Understand how to become familiar with the existing information system, prepare a feasibility report, use various resources for fact-finding and diagnosis to develop the project contract. The basic information-processing requirements are relevant, accurate, timely, usable, affordable, adaptable, and accessible. Fact finding and diagnosis have helpful suggestion the industry research like libraries, organizations, online research like yahoo or Google, personal contacts like personal interviews, documentation Review. Feasibility analysis is designed to protect from making unrealistic commitments of time and money. In developing project contract you will need to solve the problem, scope, and constraint, objective. With project contract and system project it will help you to be guided in the analysis phase of SDLC.

Book: Systems Analysis and Design for the small enterprise Author: David Harris Reference: Harris, David. Systems Analysis and Design for the small enterprise. (Chapter 3) Canada: Thomson Learning Inc., 2003.

Quote:"The analysis phase for the project is now well underway. The analyst must first understand the existing system before the new system can be designed. The process model is the first abstraction to develop."

Review:

The chapter 3 of this book covers about process modeling. Its objective is to describe why data flow diagram is called a process model, recognize and describe an abstraction, identify the four elements of a data flow diagram, construct a data flow diagram.

Data flow diagram also known as process model is showing us the important of relationships in data, process, information, procedures, and people. The data flow diagram has six components are people procedures data hardware networks and software.

Data flow diagram is a data that can accessed to process. The object model is more on enterprise objects than process or data. Enterprise object is the data characteristic and function it can perform. System Models is about hardware, network, or software components in a way the user can understand in a lighter way. The data flow diagram is what people and procedures do to turn data into information. It is illustrated in input-processoutput. They take raw materials and turn it to products.

Standard notation, there are four data flow diagram process. External entity is the originator of data or receiver of information. Process is collecting, summarizing, selecting, analyzing, and reporting in manipulating data. Process is always answering to the question of what than how it is to be performed. Data store is a place to keep data for reference. Data flow is where data and information transfers from one place to another. There are two distinct operations that work in a system. First is the one that evaluates requests and dispatches the errors. Second is being responsible for correcting requests errors and bringing it back to the data flow.

In constructing a data flow diagram it should have intervening process. Data stores should have entry data flow and exit data flow that connects to a process. There are some guidelines to start. These are developing a narrative of the system, underline the action words, developing sequential tasks list of action words, eliminating tasks that don't transfer data, identifying cohesive tasks, fit remaining task to cohesive task, and lastly develop an Input-process-output chart for cohesive task.

Context Diagram is the entire system in a single process connected to external entities. It should consider the presence of system boundaries, Internal and external entities,

identifying events in a process. A data flow also shows the passing through of data and information from one another.

In this chapter, we can learn more on data flow diagrams that presented as the first modeling too used in SDLC. The analyst will be developing context diagram that reflects to the system boundaries. Processing the model is focus more on answering the question what. It is discussing all about data flow diagram method.

Book: Systems Analysis and Design for the small enterprise Author: David Harris Reference: Harris, David. Systems Analysis and Design for the small enterprise. (Chapter 4) Canada: Thomson Learning Inc., 2003.

Quote: "The analysis of the current system continues with the development of the data model. This not only proves to be interesting but also provides some new insights into the projects."

Review:

The objective of the Chapter 4 of System Analysis Design for the small enterprise covers to identify data types and structures within a life, Distinguish between master and transaction files, define the relationship between two files, construct, and normalize an entity-relationship diagram.

Data is defined in three attribute name, size, and type. Data names are the one that is unique and descriptive. Data size determines the amount of space to hold data values. A data type is how the computer stores data. Data structure is a specific organizational strategy for associating individual data elements.

Data can appear in three ways in as an input as a file or as an output. Data stream is a series of characters that form a command. File is a collection of data in an organize format.

Master file is a collection of data that identify a person or thing. These are distinguishing in unique character and a special code or identification number. Transaction file is a collection of data in a particular activity.

A database is a collection of files. Data warehouse is the one containing data about past operations and information. Computer information system is the one that collect, categorize, summarize, locate, and retrieve data making it information.

Relational Database is a collection of files that are group together on their fields. It is used in everyday operation of an enterprise. Data that associates with activity is filed for easy access.

Entity-relationship diagram is to show data files. The files structure and relationships. It has five parts; these are entities, attributes, relationships, cardinality, and linkages.

Entity is a data file. Attributes of a data file is selected to represent on their fields. Relationship describes data files connections. Cardinality is to specify the type of relationship of the files. Linkage is the fields and attributes that the files have the same one.

Normalization describes the process where each file in a database is redesigned so that the attribute of the file are depended on the key field. It means that the non-key attribute depends by the value in the key field.

The chapter 4 discusses more on data. It is the different kinds of fields to be learned. It is about the data model. This is giving us tips on how to become better in doing data flow diagrams.

Book: Systems Analysis and Design for the small enterprise Author: David Harris Reference: Harris, David. Systems Analysis and Design for the small enterprise. (Chapter 5) Canada: Thomson Learning Inc., 2003.

Quote:"The analyst do not intend on using an object-oriented programming language to implement information system. Nevertheless, this does provide another opportunity to demonstrate how an analyst might make the transition from the data model to the object model."

Review:

The Chapter 5 of the book talks about differentiates between object-oriented and traditional methodologies, identify objects and construct an elementary object model, identify the elements in a use case model, identify the elements in four of the most common UML models, and define construct and maintain data dictionaries.

An object-oriented systems analysis and design is a methodology that evolved to accommodate developments. Object is defined by two components the attribute and the behavior. Attribute of the objects are the one who record in a data file. Behaviors are to manipulate data files.

Object model is to extract details from a complex information system. In object identification, a class embodies data attributes and performs methods. The class communicates with other classes through messages. Message contains service response. In object Relationships, Classes interact with one another. They share and exchange information to each other.

Inheritance is a class that defines as subsets to other class. Specialization "is a" relationship between the subsets. Aggregation is the "has a" relationship where a class is composed of many other class.

Use case modeling is to identify objects. Unified Modeling Language is modeling standard for object-oriented methodologies and techniques. It is where the analyst can have a set of simple diagram, charts, and narratives.

There are nine UML modeling diagram. These are Class Diagram, Object Diagram, Use case diagram, interactive (sequence) diagram, interactive (collaboration) diagram, statechart diagram, activity diagram, component diagram, deployment diagram.

Use case diagram uses the symbols actor which is the one who do the act, system boundary where you set the boundary of the system, use-case that is use to do the action, association which is the connector to the actors and use-case.

On UML statechart diagram the symbols use are the class state that is a capsule type where you put the action, event transition to connect the actions stated, initial state that is the start of the diagram, and the final state which states to end the activity.

I learned more about making use-case on what is the thing you should know in making use care diagrams. I also learned about making statechart diagram that represents the activity of the system.

 Book: Systems Analysis and Design for the small enterprise
 Author: David Harris
 Reference: Harris, David. Systems Analysis and Design for the small enterprise. (Chapter 6) Canada: Thomson Learning Inc., 2003.

Quote: "The formal analysis of the current system concludes with the development of system models, namely the user's system diagram. The transition from analysis of the existing system to design of the new system is gradual, as evidenced by an informal list of ideas for the new system."

Review:

The Chapter 6 of the book talks about create a user-friendly model of how the system works, create a user-friendly model of functions and services the system provides, create a system flowchart, develop several elementary project management tools.

A user's system diagram is a image-based that adapted the analyst need for a model in information system use. It is a data-flow diagram with user-friendly images, generalized, document-level data description. It helps for the communication device to help the needs by the situation in different audience and users.

A menu tree is a display of operational choices available to the user. It is to inform the users on operational available in a specific context. It uses variety of pull down, pop-up and button menus. It represents functional abstractioncreating flowch that is useful to the analyst and the user. It tells you how to operate the function of a system. It is also an effective tool for the communication or giving information of analyst to the user.

The system flowchart shows the relationship between software and data inputs and outputs used to implement system. It is useful to isolate the computer programs.

A case tool is for creating system flowcharts but it's not use-friendly. It provides modeling environment, data dictionaries, code generation, error detection, and others. The analyst must know the alternative model-building software to continue monitoring it.

The idea for a new system specifies four areas for improvement: Customer record keeping, product reordering, customer communications, and sales trend analysis. Project management is a collection of activities that include planning, supervision, and cost control.

I learned about how to create new system in better way. I also learned about creating flowcharts and diagrams. I knew how to develop and improve in project management.

Book: Systems Analysis and Design for the small enterprise

Author: David Harris

Reference: Harris, David. Systems Analysis and Design for the small enterprise. (Chapter 7) Canada: Thomson Learning Inc., 2003.

Quote:" As the analyst embarks on the design activities, their task is to develop a preliminary view of a new system design. The project contract and the analysis phase activities present a fairly clear picture of what a new system must provide."

Review:

The chapter 7 of the book talks about transform the project objectives into preliminary design model than the user can follow and understand, explains why the focus of design work begins with the user's perspective and ends with the hardware perspective, adapt the joint application design methodology to fit a small-enterprise system project, design a set of user-friendly screen forms.

User-driven design involves the user suggests that your strategy begins with the user, proceed to a definition of output, file, and input requirements and conclude with processing structure. Design is a circular process with repeated evaluation and revision.

The information system has three stage concepts. They are labeled Stage I II and III. Information system types are Transaction-processing system, Management information system, decision support system, local are networked information system, wide are networked information system, expert systems information network, and strategic information system.

Structured Design directs the analyst to create modular solutions to complex problems, dividing it into smaller manageable parts. Modular design viewing icon collection in a way that information system uses each of these products as interrelated subsystem.

Object-oriented design is refinement of the object model. It methodology is between analysis and design. It begins with process model to a data model and to the object model. Joint application design is an analysis design method where it brings user and analyst together. Evaluating Alternative design considers a criteria of end-user orientation, understandability, expandability, security, execution speed, expense to develop, time to develop and accessibility.

Design prototype is an expandable stand, prototype screen forms, source documents, and reports can be created. Preliminary presentation is used to formal report where it describes the objectives, design, and status of the project.

The analyst should know to make preliminary presentation on PowerPoint slides where you put the complete information report. Also, doing time and money, having budget illustration. Lastly, web site design.

I learned about doing user perspective. I also learned about different types of design in information system. I knew about the role of analyst in this track on which they must provide records to the activities made.

Book: Systems Analysis and Design for the small enterprise
 Author: David Harris
 Reference: Harris, David. Systems Analysis and Design for the small enterprise.
 (Chapter 8) Canada: Thomson Learning Inc., 2003.

Quote:" The user's initial concern about the multiple computer icons is satisfied after they explain that they represent menu options, not separate computers. The analyst explains that the new internet subsystem provides another means of communication to the customers."

Review:

The Chapter 8 of the book is about database design. It is about develop the new system process model from the preliminary USD, Develop new system data model and object model, develop estimates of the resource requirements associated with file-processing design, and design graphical user interface dialogues and screen forms to access system files and processes.

In creating new system models is first creating a complete set of new system models is to sketch the new system process model (DFD). Second is to sketch the new system data model (ERD). The third step is to sketch the object model (OM).

The traditional file types are Master File, Transaction File, Batch File, Online, History File, Backup File, Temporary File, and Table File. File organization describes the way records are physically stored on disk and the way in which those records are accessed.

4GL Files is any file known by its file extension. 4GL software produces 4GL files commonly distinguished by their file extension. 4GL Products are Database, Spreadsheet, and Word Processor.

Data integrity is a qualitative term describing the degree of accuracy of the data in a file. Internal control is a procedure designed to help maintain a high degree of data integrity.

The file design step is to inspect the preliminary new system design models to locate the files required, identify the file types, determine how to organize these files and accessed, define the data elements required to support the processing and output requirements, develop specific data element definitions, identify the common data element and define its relationship, build 4GL file data structures, estimate resource requirements, update the data dictionary to include the files and data elements.

I learned about developing new systems in process model, data model and object model. I also learned the file design process. I knew about the traditional file types and what are their uses.

Book: Systems Analysis and Design for the small enterprise
 Author: David Harris
 Reference: Harris, David. Systems Analysis and Design for the small enterprise.
 (Chapter 9) Canada: Thomson Learning Inc., 2003.

Quote:" Working session devoted to output design begin with a series of a standard outputs that are based on the data stores identified in the new system."

The chapter 9 of this book talks about Report and query design. It is about Match different users with appropriate output content and presentation frequency, Design multi-sourced outputs that rely on sophisticated file-sharing capabilities of 4GL application software, Distinguish between periodic and on-demand reports, provide a way for users to design and create their own extemporaneous output, develop resource requirement estimates associated with output design.

The person may need access to strategic enterprise wide reports and operational job specific screen images. The design must be able to select what the user want. The menu and icon-based graphical is an effective design solution.

Multimedia communications is one of the fastest growing segments of information technology. Image resolution is directly proportional to the number of pixels per inch, and bit depth determines the number available to reproduce the image.

A hierarchical password system should be used to allow users to supply a series of passwords to access all levels of information equal to or below their own. Periodic reports is reports that are produced in a regular fashion.

On-demand reports are produced on an irregular basis at specific direction of the user. Context switching the hardware is to be fast to make a quick transition from one program environment to another.

User inquiry provides a way for the users to respond to information needs that were not anticipated when the system was designed. Softcopy is any output displayed on a screen that includes all of the information products. Print queue is a software routine that temporarily stores print files until printer is free.

The partnership between the user and analyst strengthens through increased working sessions and activities. It enhances their capabilities and leanings in order to be better.

I learned about better partnership of users and analyst. I learned about the difference of on-demand reports and periodic. I knew about the output designs their steps and how to make it improved.

Book: Systems Analysis and Design for the small enterprise Author: David Harris Reference: Harris, David. Systems Analysis and Design for the small enterprise. (Chapter 10) Canada: Thomson Learning Inc., 2003.

Quote: "The analyst may find that the best design is one that incorporated some of each of the options."

Review:

The Chapter 10 of this book talks about process design. It is about determine which prewritten software products are appropriate to incorporate into the process design, Construct a system menu tree and system flowchart using the data flow diagram as a starting point, incorporate a variety of file sharing techniques into the process design, Read and understand subsystem structure charts and program flowcharts, evaluate the amount of programming expertise required to complete a 4Gl-based, small enterprise information system.

The evaluating vertical software is firsthand evaluations from existing users, hands-on demonstrations and workshops, magazine reviews, product advertising literature, sales personnel.

The integrated software combination of three processes to form one package with a common user interface. Software suite is the one assembles several horizontal software products that possess highly developed file-sharing capabilities and uniform user interfacing.

Efficient file sharing describes software products that a re capable of sharing files without a lot of user intervention data transformations and other inconveniences. It is essential component of process-design work.

Composite system flowchart reduces several DFD subsytems or menu options into one processing rectangle. Detailed system flowchart shows subsystem annotated with 4GL application and associated file types that analyst intends to use to implement the design.

Low-tech file sharing describes clipboard-baed and import export file sharing methods. File import export represents a more sophisticated and product-specific technique for sharing files.

Object linking and embedding a method in which a copy of the source data is placed into a destination file. Object embedded an linked file sharing methods is hig-tech file sharing.

File Transfer Protocol is sharing files between computers connected to the internet. Structure chart shows the relationship between the different dunctional components of a complex software product. Module is a collection of instructions that perform a specific function.

Book: Systems Analysis and Design for the small enterprise
 Author: David Harris
 Reference: Harris, David. Systems Analysis and Design for the small enterprise.
 (Chapter 11) Canada: Thomson Learning Inc., 2003.

Quote:"The analyst must prepare two estimates. Cost projections are based on the resource requirement specifications and the future operating costs of the new system. Benefit projection are based on the goals and objectives set forth in the project contract."

Review:

The chapter 11 of this book talks about prototyping, develop the resource requirements for all six components of a computer information system, develop a cost/ benefit analysis chart, prepare a design review document, identify the information system design elements that are good candidates for prototyping, develop a prototype for your project.

System resource requirements describe all the hardware, software, data handling, procedure handling, and personnel resource needs associated with the SDLC. There are three components that are important data, people, and procedure.

In making a decision making of a product you should prepare a request of bid document. Also, if you are preparing for general product specification you need a request for proposal document.

The intangible cost should be considered by the analyst. They are associated with a system risk, opportunity cost, employee resistance, and future commitment to technology. In intangible benefit, it is increased flexibility, improved product quality, and improved employee morale.

Prototype review session is where analyst conducts to provide opportunity for formal review and discussion of information system. Prototype is a model or pattern of a product.

There are types of prototyping. Reusable when it will be transformed into a final product. Throwaway prototype is discarded after it has served its purpose. Input / output prototype is limited to the user interface. Processing prototype include basic file maintenance and transaction processing in the prototype. System prototype completes working model of the system.

Relational database management system is the mainstay for small enterprise prototyping. It enables users to multiple files within database.

RAD is a process that combines the use of four elements already presented as part of SDLC. The four parts are Joint application design, analyst with 4GL product expertise, case tools, design-development prototyping.

Book: Systems Analysis and Design for the small enterprise
 Author: David Harris
 Reference: Harris, David. Systems Analysis and Design for the small enterprise.
 (Chapter 12) Canada: Thomson Learning Inc., 2003.

Quote:" An object-oriented future awaits every analyst, no matter whether the work is on small or medium or large enterprise projects. The challenge is to select one of the products and devote the time necessary to become a skilled user."

Review:

The chapter 12 of this book is about transform a prototype into an operational product, use 4GL coding tools in program development, develop graphical user interface dialogs, blend 4GL-generated code with analyst-programmer code segments, develop effective file sharing between applications.

In procedural programming it requires the programmer to specify how to achieve a particular goal. In nonprocedural programming it requires the programmer simply to specify goal. Fourth generation language programming embodies elements of both procedural and nonprocedural programming.

Object-oriented programming language is used to implement model and they require the programmer to apply a relatively new approach to data and the instructions that transform data into information.

An object has two parts the methods and attributes. Methods are a programming code segment it objects respond to messages. Attribute is the field names, type, and size.

Objectlike language is where the inheritance feature is diminished in objectlike product. Event driven application is where the program waits for the user or some other external object to initiate an event sequence.

Application builder is a software program that automates much of the design and development process. Application builder are also called rapid application development. It is to assist the analyst-programmer in bringing new application online quickly.

State transition diagram shows the dialog-depent actions of an information system. Macro language includes powerful control structure and functions and strict syntax. It is more dependable and flexible.

I learned about the transformation of a prototype into a product. I learned about the responsibilities of an analyst-programmer. I also learned about the 4GL development tools and correct programming methods.

Case Study 1 PayPal

The Case of PayPal who was started by Max Levchin and Peter Thiel was a great achievement on them. Building a company from their skills and ideas that became a success.

Starting a company was really not that easy. They build paypal investing some money to start it. The idea of Max Levchin started in doing cryptography software. He's idea is having cryptographic algorithms. It involves user-interface and math perspective. He wanted to implement his skills on having crypto on handheld devices. The stategy they used started by Max Levchin makes the crypto libraries. They did a wallet application to store private data on it. Then, they got the idea of storing money in the handheld device. Fortunately, after finishing the product it was a success. Many people had became a user on in and as they grew the Ebay became one of their users and many more companies so they decided to kill the handheld device and made a website version that it the PayPal. PayPal is a service of financial company that has security on it. The company had encounter obstacles as they grew. Some other people give problems to them like the fraud and other competitors but they didn't give up instead they fight for it. Building the startup was really unexpected and surprising to them especially to Levchin because he expects to have a small company but it turns out to be big one. Levchin gave an advice to the future startup programmers to not be alone because it is hard to build a company alone.

I've learned in starting a company you should have a team where you all help each other, share you ideas and skills so that you can build a better product. I've also learned that you can't be working under anyone for the rest of your life; someday you'll start your own. I knew that the important thing is that experimenting and exploring is not really a bad thing to practice because that's the time you will learn and improve what you have. Case Study 2 Hotmail

The Hotmail was made by Sabeer Bhatia and Jack Smith. Their idea was got in unexpected way. They encountered many struggles before achieving their success.

They were both an employee of apple but they decided to leave and join the startup, FirePower System. The idea they thought about is doing a web-based personal database which is the JavaSoft. The JavaSoft soon became hotmail when the FirePower System installed a firewall that prevents them to communicate by email. So, they thought of finding a way to solve their problem communicating in email. They became a part of a VC which is the DFJ. Somebody from the VC helped them to explore and meet new people that they can benefit. Being able to have a background on hardware helped them to be better designers whether in hardware or software because they were well trained. They became well known by having PR campaign so that they can be close to different press and helped them launched. They got many subscribers and had grown successfully. They made a tagline in every sent message that is "This message has been sent from Hotmail. Get your free email at hotmail.com" which is a good idea to do advertising. The biggest challenge they encounter is on funding. They got a problem on scalability because the users were not dependable. Also, they had problem on the reliability to restore things quickly. It took time to fix the problem. They had many competitions in their product but they still didn't give up. They negotiated with Microsoft and sooner became part of them that became more helpful to them. Hotmail became popular easily in a span of 20 months that was a hard thing to achieve. Bhatia shares what she learned from her experience is that you should own your customers because they are the one who you will be benefiting in the future. Her advices to the people who will plans to start a startup are to have a business plan because it is important to make a plan and solve the possible problem they may occur. Another thing is to know the users behavior because they are you customers. Last thing is to have partnership because it is one of the helpful things to advertise.

I've learned based on her experience is to be productive and creative in advertising to the people. Also, I learned to know the users part on making thing easier for them to understand. Case Study 3 Apple Computer

The case on Apple II which was made by Steve Wozniak was wonderful. It was not easy to build the apple computer but with hard work they made it.

Steve Wozniak is good in hardware design. He has a great background on putting up things together and designing it. He was first having a job on Hewlett-Packard, a company that was good in engineering. He was good in designing new things. Wozniak was contented with his job life but when he found out about a microprocessor that had been a part of a mini computers, he became more interested with it. Back then, he was able to make a computer on his own work but the lacking part is the microprocessor. With that background he thought about those computers not really that good enough so he did was to make it cheaper and faster. He design computers over and over and that's how he completed computer with less bugs and errors. He was really a intelligent for he make thing on his own ideas and work. The thing that made him really good at was being able to design thing on his own without having other people knowing how to do it. He was the one to develop apple computers. They became partner with Steve Job and started a company together. They became successful and many people order to them. He designed the Apple II which is more improved and has colors. They started designing hardware and software on Wozniak's apartment and then they place it to Job's garage to settle things up. They keep self-funding unto the time they can have their own company. Sometimes they have some arguments but they resolve it. Wozniak tells that to be an excellent engineer is to be diligent that you should check and be careful on the parts of it. He also gives generosity to their employees. For, they deserve it.

I learned to be diligent in doing things like being careful on doing things. I also learned to share what you have to other people. I also learned to keep your skills and improve it. Case Study 4 Excite

The Case of Excite was a creative startup that made by Joe Kraus. It was nothing at the beginning of their company but at the end they benefit a lot from their ideas and hard work on creating their startup product

Kraus started finding a good job and later on thought of inviting his friends to build a company. They set up their shop on Kraus garage. They decided to do a web search business which is the Excite. Kraus set an appointment and meet Bob Cringely who helped them to be part of IDG Company. They had VC that helps them in financing. They became a part of Netscape so that Excite will be more popular to users. Even though many people had given up doing startup they didn't. They strive hard to achieve for the best. They launched their product and became successful. He said that the lesson he learned is that people make all the difference in the world. He learned that you should be always ready and careful. It is important to know the dynamics of the business and being cheap and hiring well.

I learned to have trust on your team mate. They are the one who will help and support you until the end. I learned to negotiate with other company to be more productive in launching the product. I also learned to not give up easily. Case Study 5 Software Arts

The case of Software arts was founded by Dan Bricklin. He has brilliant ideas. He was really good when it comes to computer software.

Dan Bricklin started by having some background and experience in computer softwares. He became partners with Bob who was a friend and has good business background. He figures out something while he was studying in Harvard. He thought of having desktop computer so that it would be easier on writing the words and number and computing it. They made the product, VisiCalc. They were the first personal computer software business happened. Many of the media had been featuring them for their product. They negotiated with many other companies but some time later they are slowly losing their job. The lotus is the one who buy them and wants to save them on their financial problem. They may start good and end weak but in the end they still succeed by discovering the spreadsheet. It is an effective and useful to many people. They made a product which many people will be benefiting.

I learned that you should be ready in every problem you may encounter in the business world. I knew that you should be strong even your in your weakest. I learned to negotiate with others because it will truly help you in the business world. Case Study 6 Lotus Development

The Lotus development was founded by Mitch Kapor and Jonathan Sachs. It had been a long process to fufill their product. They are very creative and smart enough too had made it until the finish one.

They started become the users of Apple computer II which they call their group New England Apple Tree. At first, Eric Rosenfeld helped them in building the idea of making statistics and graphics product on the Apple II which they called tiny troll. Then they knew about Dan Bricklin and Bob Frankston making the VisiCalc and become a successful product to the personal computers. They decided that the tiny troll became a companion product of VisiCalc. Mitch Kapor decided to take a leave of absence to his school because he realizes that it would take a longer time to successfully finish the product. He became the product manager of Apple as he demanded to be from what he can produce on the product. Finally, a product was made and called VisiPlot. He had the job which he worked with software arts people. But something bothered him and made him thought that the product was not enough. So, he then take action and then Bob Frankson made a data interchange format that was the VisiCalc and VisiPlot but they got a hard time getting the data from the VisiCalc because it will cover a long process. Mitch Kapor wanted to be part and together with the VisiCalc but unfortunately the people in the VisiCalc is not interested. It was a huge difficulty on him. But then he didn't give up.

Mitch Kapor hired Jonathan Sachs who was good in architect. They had the idea of having spreadsheet and graphing program. Jon had already implemented spreadsheet their only problem is to how to make it to the market. It was a good timing when IBM PC was made. They did an idea of getting into IBM PC. It was bigger in memory space so, spreadsheets will be more productive there. They proposed about making the spreadsheets bigger and faster that can allow user customize and user programming. It was really better in one-button graphing and fast calculation. They made something useful which is the Lotus 1-2-3 then it was helpful to the market that is faster than before. They were more improved than the VisiCalc because of their natural order recalculation. The both of them made a great team, Mitch Kapor is the one who gave the idea, feature set and user interface while, Sachs which was really good in technical architecture and implementation. It was what made them a strong and intelligent team.

The problem they encounter is about money. He almost runs out of money. The good thing is that Ben Rosen decided to invest which is his VC. He never really had imagined being having a big company but as he discovers his talent he made it more than what he dreamt for. He has good relationship with his employees. The lack on him is not being able to hire the right people. He is poor in knowing and picking the right person to work on his company. He has already been on many job and business and he learned a lot from it. He got a problem on handling the people who are copying their look but he didn't give up on it. His advice was to find people who you can work with passion and committed to the job. They made the development of the Lotus 1-2-3 at their best and good practices. There were times he thought of quitting but he get up and didn't give up the fight.

I learned to be competitive in everything you do. It is being able to give and share what you know that is important because it will benefit it to the future. I also learned to be patient. Sometimes thing will just fall into its right place at the right timing. Lastly, I knew how to be strong even if there's nothing to count on. Anything is possible and everything has its solution just don't give up on it. Case Study 7 Groove Networks

The groove network is founded by Ray Ozzie. He was just a normal employee working and discovering things until he develop his idea. He has a broad and intelligent mind to think of such great ideas.

They started working on Ray Ozzie's house. Then, they decided to move in an office after few weeks. The first thing they coded was primitive version of their synchronization algorithm. The idea they took was from her teammate Ken Moore who is former Iris engineer and his idea on groove. He believes he can accomplish anything in software. He has this perspective of building a cool piece of technology and sees where it goes. He said that you should have technology and market roadmap in your mind. It will not be really easy to build such things in time.

The Notes was being created in the thinking of they can use it as a communication tool on computer desktops. This system was made based on the system called Plato. It was a large scale interactive system. In Groove, it was seen that the work place had been changing. They decided to have the idea of making a system that can work easily in an instant.

Groove was having a goal of fulfilling the collaborative workspaces piece. They we're thinking of making it in a virtual environment, share documents to make the work easily. They we're targeting the people who needed a highly mobile fashion in a secure way.

They started working in recruiting people they already know and trust. They started exchanging ideas and building algorithms. It took them months to finally decide what they wanted to do. They want to move architectures to web. They wanted masterless synchronization. They ended up using C++ because they will need to do several clicks on random PC's worldwide.

They had a hard time in financial case. They we're thinking of selling groove to a company but didn't worked out. They struggle releasing the product and repeat sales to the enterprise. Their focus is more on reducing the cost and making it increase in security. They also got problem in both Notes and Groove in the field of technology and market uncertainty. When they launch it to public things became more difficult so they focus on productivity realm. It took them to have a lot of changes on the company.

In building startup he said that you should hire people who believe on what your product will be. Even it is hard to hire people who have the talents to be used. They still worked together believing they can do the job. It is having faith on what your doing and giving your best work to accomplish it.

When he get started groove he was the one who invest money and also he ask helped to Mitch Kapor. He knew that in a business you really need to have connection with other people because having those networks will help you win. Microsoft is one of the invertors they got but Microsoft was also their prime competitor.

What made them in difficult time is when they are challenged to making it public because it is hard to change the habbit of the people. It is also hard to whom to trust because even if they are being on your team for so long you can't still give that trust.

Ozzie advices to the people who wants to join startup to be observant. It is to watch the people who talks and presents. Also, is to learn about leadership skills. He said to know what you want to implement when you have your own company. You should be appreciative in the skills of people. He learned that people do things at the right place and for the right reason. He also learned to not think of having the money but to think how you can change the world.

I learned that you can't really trust a person unless you can see how dedicated he is to you and to his work. I also learned to be competitive and don't give up on what your ideas reveals. I knew to share what you know to others not only thinking yourself and the money you can earn. Case Study 8 Blogger

The Blogger was founded by Evan Williams. He is co-founder of Pyra Labs. He is a strong person. He didn't give up on Blogger even though it has the huge possibility of failure.

Williams was a good entrepreneurial. He is doing internet things for a long time. He then has jobs with different companies that had built his web development skills. Pyra was good in web-based project management and it interest Williams. The ideas are building projects for people around the intranets and help them organize their information. It is a web application where you can put the things you wanted to. As, Williams had a contract job on HP it helped them start the company.

They started doing websites with homepages but it was just experiments until they came up with putting blog to it. They wanted to make things work faster. Having idea of automating process, morphed easily. They wanted to make communication in different one.

They made a so called Stuff where it was a blog. Then they decided to put it to the website. They are the one who first to put blog on web. They decided to make it a product. William always wanted to make this such thing. He has also a background on making this happen so it would be lesser difficult for them. They focus on putting the personal information of the people together. Then, they made the blogger. They launch it so that people will already know about it. They didn't expect mass would appreciate it. They thought that only web geeks will appreciate what they done. They didn't really wanted it to be a business but it did. The problem is that they are not raising money. So, they decided to make it more improved where people will really use and they will benefit to it. They had an investment by O-Reilly that started to raise their money.

At first it was not a big thing to the people so they don't have problems on other competitors copying it. But then, they started to focus on it to make it better and attractive to people. They think that it will impact to the web and people will find it interesting so they improved it. They redesigned the blogger and made the famous orange b that had many users every day.

Many companies want to buy them but Williams didn't trust them so eventually he didn't sell the Blogger. What he did was he wrote a note which says "we can't but hardware, but we have plans and we are not going to go away if we get past this hump, so sent us some money." And then it worked some of the users sent some money to save Blogger. All of he earned from the users payment was used in hardwares to make the blogger faster in processing. It leads to not paying the workers so, everybody there left Williams because there's no income. Dan Bricklin helped him to have some contracts to have some help. Williams decided to launch Blogger with some for pay features that helped him a bit to make some money. But then, It was not a big help for their company's financial problem. Google was the one who buy them. It wasn't easy for Williams to decide whether to sell it and be part of Google but he did for what he thinks was the best option and it was the right decision after all. Google had help Blogger a lot.

There were times Williams wants to quit but he didn't. People think he is crazy doing Blogger not earning on it. His employees and friends were writing negative things to him but at the end Williams is the winner. He did it. His advices that we should go on for what we know is for the best. Sometimes we should ignore the people who want to pull us down. You can never know what you may build until it's done. Having simplicity to your work is powerful.

I learned to have self confidence. We should be doing for our happiness. I also learned to stand up to the fight. Even everything seems to fail always think that there will be a solution to it. I knew to be a strong person. Never let anyone drag you down and kill the idea you have because you know better than anyone else could have known the fact. Case Study 9 Yahoo By: Tim Brady

The startup Yahoo was founded by Tim Brandy It was just a paper then it becomes a product. It was a small product turned into a big one. They didn't expect it to be that popular.

Tim Brady got involved on yahoo when he met Jerry Yang. They are dorm mate and became good friends. They have the same interest in electrical engineering. Then one day Jerry told Brady about their ideas. Brady agreed on being part of it. He thought of being part of a small company.

Jerry and Dave made web related electrical engineering. They were stating to do their thesis. They made this web were you can add categories to fill in the website. Sooner they were adding other websites on their list. They were doing these 8 hours a day. They were doing this for 8 months. Their list became huge. Brandy made their business plan.

They started doing this on Jerry's apartment. After it, they got funding and made them to have an office. The VC was supporting them. They got 1 million dollar money. It was really a lot of money for them.

They made a lot of advertising to get the people in internet. They also realized that they couldn't handle it when it goes too far. So, they decided to have a CEO for 6 months.

Netscape helped them to be on their link. Netscape needs people to use internet and they thought of Yahoo as the best thing to be part of. They made the yahoo graphic to be more useful in advertising.

They were worried about competitors. One of them is the Excite. It was one of the linked on the Netscape. Which Both Netscape and Excite was funded by Kleiner Perkins. It was really a though compete between them. Other competitors they have was Lycos, WebCrawler, AOL. AOL was good and faster in internet. It was hard to compete with all of them.

They made searchable directory. It was a great one. It enables you to search anything. They became to do it with Google. They are search engines that help you research.

The important thing for them is first to have currency. Then to be quicker they do public stock to pay for the people in the company. Then, the last thing is to raise money.

They got the idea of having email by hotmail. At first they didn't think that to become that big, until, Rocketmail did it better. And now, Yahoo is bigger than them.

Yahoo is not just giving or researching what they know for you. They also linked it to other competitors if they know they can't search for it. The good thing about them is that they are really good in searching so the people come back for them. It their job to find where you want to go.

Brandy advices to think more positive than think of the braking points. HE also wants to share to not to quit on what your doing. Think of the motivating things before getting started. It is not really bad to be partners with friends.

I learned to have determination on what I can do. I also learned to not be a quitter. Many people always give up easily. It is not really easy to do business successfully but giving up is not also a best way. I knew to have motivation on the things I do.

Research In Motion By: Mike Lasaridis

The Research In Motion is founded by Mike Lasaridis with his friend Doug Fregin. They were really good on making things in balance. Even though they are studying they can also do their job well.

It started in high school. They are classmates since grade school. Then, they become close at high school. Since then, they already have background on electronic art program and shop program.

Lasaridis and Dough learn on their own about computer. They started playing computer trainers that helped them to know how to build gates, how to build recent memory circuits, how to build registers, and how to wire them all together and run it with the clock. His electronic teacher had made them think of two things about computer. First is the ability to send information and second was allowing us to control process and make it efficient.

In the time of his study period, he was figuring out something. They are exploring things on internet and computer networks. Until they got their own research program that they called watlan. They made this project better and better until they thought of making a company out of it. So, they did and it became the RIM.

It was just a small company before. They were having hard time in sharing it to other companies. They did a lot of sales to make it advertise to the other companies and other people that they may help.

The both of them then applied to government programs. It was really helpful to them. They become realizing the wireless data technology. They become the one fixing s wireless data system called Mobitex. It was a deal that if they got it worked then they would get the contract. And they made it working so they got the contract and started writing software to make it work. It was then the start of producing their product.

He shares about his success that you should have faith on it. Think that it will going to happen someday, it has value, that you can make it in economic way and promote it so that it will develop and grow.

They were getting a hard time on sharing it to the mass. It was not easy to make it public in a short period of time. The public didn't adopt it easily. People don't have their own computers at home. They were very advanced in technology and people don't easily appreciated what their product can do and can help many people and companies.

In their success, they never think of being part of others. They are really busy making RIM work. They are really determined to make it happen. As a Canadian founder, Lazaridis was really proud that he had learned many things on his schools.

Lazaridis was very good in handling this job. Thinking about he was doing RIM as a part time job. He was sacrificing many of his time just to make RIM worked and successful.

I learned that we should keep on believing on what we discovered. Everything will be working on the right time and at the right place. I also learned to become good about sales. It is really hard to make your product advertise. I knew that we should keep our ideas on our faith.

Marimba By: Arthur van Hoff

The Marimba was founded by Arthur Van Hoff, Sami Shao, Jonathan Payne, and Kim Polese. They did a great job. Many of the press got their attention. They become popular. They may got difficulty but as long as they stay together and put up their ideas well they succeed in right time.

It all started when Jonathan left sun and decided to do a startup with van Hoff. The first thing they did is to find office. Then, they fund their company by investing to it.

They were starting a company with the four of them. They didn't really know what they would do. They just share their ideas and put up something to solve a problem and make it work. They have a background on java but it just has fewer tools. They were thinking of making a user interface builder.

They were having difficulty because Netscape was really popular that time. The good thing is that the press has their attention. They focused more on software distribution. They thought of doing subscription-based software where you subscribe to it and you can get updates.

The press was really a help to them. They could get to big company meeting because they are popular. The problem they had is that the press and media were focused more on Kim because she is a female. It comes to the point that the articles were more on Kim than the company product that should be on the article.

The company sooner became bigger and bigger. It grew wider and it needs a lot of good managing. You need to be experience when it comes to making the right decision.

Kim was sooner replaced by John Olsen. John is a great help to them. He was good in managing and making decision. You really need to have the skills when you are starting a company.

They got really a good funding. Many VC wants to invest to them because they have great ideas. They had really good bonding with the VCs. They can give you money and endorsement. They are good in giving connections and dealing with other. It was really good having close to the VCs they really can helped you a lot and you are like a team and a team don't leave each other they trust one another. He said that he really had a great time being with the VCs. Some people may misunderstand about the subscription-based software. It took a while when the people adapt the product. But now it is understood more of the people. Microsoft operating system updates it automatically so it is easier to understand.

Van Hoff advices that you need to have a team when you want to build a startup company. You need to have a direction when you are making an idea. You will need to have VC to help you sell it. He also said to join a startup that has already a funding. Doing a startup is not just earning to it but also having fun doing it.

I learned to have better skills before start something. I also learned to be observant and pick the people you will put on your team wisely. I knew that doing a startup is not easy but once you succeed it will be a great achievement.

Gmail By: Paul Buchheit

Gmail was made by Paul Buchheit. He was an employee of Google. He was the one who gave the idea of making a web-based email system on Google. It really had benefit Google a lot.

Buchheit started working on email software. He became interested making the email improved when he realize that email should be opened anywhere that it should be webbased email. He worked on Google in Google groups they thought about making email and it was being assigned to Buchheit. He started making Gmail by using Google code. Which he made the first version in 1 day but it was not really that effective. They made a search in email.

They made the final product and launch it to the people. The people didn't really appreciate it at first because it will take a lot of research and systems to make it keep running. The idea was receiving all the email and store the email. It should be instant and you can't lose any data that made the difference to web search. It will be harder to handle. It took a lot of learning to make the right strategies in which features are good one.

They made an autocomplete which make email so first and that you don't have to remember the addresses. They were the first to make it. They also have conversation view where messages are cards instead of separate emails.

They suddenly think of new ideas like making the email a chat perspective because people are waiting collecting and organizing their emails for a long conversation. They thought about making it easier to the users. As they launch, they had users internally. They use it inside Google and made it a code name caribou. But Buchheit made it Gmail. S they finalized they came back and called it Caribou.

It's not really easy to make everything work and have people to use it. It took time to the people to realize the effectiveness of the project. Gmail is different its content has their own creativeness. They want users to have easier conversation. Users can sign up on Gmail with a cellphone. They want users to get good services and they are really careful in email because it is not like web search where you can search again in email it should be more secure when it comes to the messages. They want to make different they want something new for the users to value.

It is by Buchheit that the motto "Don't be evil "came from. He suggested it thinking it would be different and catchy to from other motto. It was really good for them making it their motto.

Buchheit was advising in starting a startup or company it would really be at risk. There are more opportunities that are waiting. IT depends on the situation on how you

wanted it to work and handle the company. For him, making Gmail was really an adventure and exciting for him. It really interests him when he worked on Google.

I learned to see the world and explore new things that we can do. I also learned not to give up on what you think you can produce. I knew to become strong and challenge you to do better and make difference from others. There will always be new things you can possibly make.

WebTV By: Steve Perlman

Perlman started by being interested in doing television interactive. It is where it able to view whatever you want that access to content. It is doing editing. It was viewing images moving around, and animation. They needed a larger space to drive a system. He did many great things on apple then he went work on a PDA at General Magic he worked in videogames there.

He started doing his product with three other people which is Catapult Entertainment that made games for Sega and Nintendo video games. It involved building network infrastructure to connect people together. He did it in 6 months. They partnered with THQ video game companies who have a distribution channel that help them get their product out easily.

They made that video game online. It is where the second controller was connected to the other link. But that time it is too early for them to publish their online game it is good but it can't be a business. A good thing happen when Netscape comes in and the World Wide Web. It is the one who helped them be more public.

He studied more on liberal arts and engineering is his interest. He was working on software hardware networking and material science. He had designed softwarebased modem when he was in college.

They had an idea that if it became more public to people it will be more effective and they can benefit more. They develop it better and better. They want to make the images processing in a way it would not see the flicker. Then they find a way to make it more of computer look on TV. It looks like computer screens. It is when they realize to make they own company and that they called WebTV.

They convince many people to invest to their company. Marvin who is a wealthy financier helped them. Pac Bell a phone company helps them grow the company.

They incorporate with Sony and Philips which is good for them to advertise WebTV in the media and public. Those are good brands that will surely help them have a good publication.

WebTV was bought by Microsoft. They thought it would be better. Microsoft can give them more benefit. Microsoft also benefited to them. Maybe because they think that WebTV will be a threat to them so they bought it and benefited to them. WebTV now is called MSNTV.

Perlman advices on doing startup were to have a team who can get along well. IT is the attitude of the people and values that the company brings out the best or the worst. Employees should be open to each other and love their jobs. It is really important for the people who worked there has unity and good communication to the other people working there. It is important understand each other and work better.

I learned to have people with you who doesn't just do work but also make their environment a good one. I also learned to have peaceful work place where people learn to communicate well. I knew that we should explore to the things that we may done.

TiVo By: Mike Ramsay

Mike Ramsay and Jim Barton were the people who founded TiVo. They didn't expect to make it. They explored and do things that they know they can help and make other people enjoy.

Ramsay was first worked on HP. He was looking for opportunity and exploring on HP. It was really a hard thing to start because many popular people are coming out that time. It's hard to fail.

While he was working on HP. He met Jim and Tom who went on run @home they all become pals. They suddenly thought of joining and working on SGI because it is better there. They worked in different departments. They still keep in touch.

Ramsay became interested in doing entertainment on computers. Some other time they decided to quit SGI and have a company on their own. They shares their ideas and explored to other things.

The first idea they got is doing PVR personalized television or DVR. They want to do things in a cheaper way. They thought of having a good technology with networking in cheaper.

They use to start a program guide data and then it worked. I was reliable downloadable and good. It could drive the DVR just the way they wanted it to be. It was a brilliant idea that they made. So, they modem it and make it work.

They finally made the TiVo phone home. It is controlling satellites that are orbiting Mars. They have safe mode on TiVo. When it disconnects, they contact it and redownload the software and it will come alive again.

They had lauched it and even call it Blue Moon event. It is declared on their company to be holiday on that day. Their first product was shipped. They had some arrangements like Philips that help them shipped. People knew about TiVo. So, they easily had made it public. They had deal with Sony and they became to supply DirectTV with TiVos.

The thing that scares them is having replay on their past. They became part of HP and SGI which is good companies. They were new company and they have many competitons to deal with. There are more big companies that has been very competitive on their side but they are still strong enogh to handle it. They are good competitors. Now, they have more competitive side in cable companies and satellite companies that are entering the market. TiVo was a good competitor. They had become joined with other companies and

them able to deal with several cable and satellite companies which also they could have befitted from.

I learned that you really need to have a team in doing startup. I also learned to have good communication and connection to other groups or companies that maybe a competitor to your company. I knew that even there are so many competitions going out their just give your best and show them your product is good they will become a friend not a threat.

Del.icio.us By: Joshua Schachter

The del.icio.us was founded by Joshua Schachter. He was really good in handling the business at the same time making the product grew better and better. He knows how to make things on its right step.

At first he created a website called Memepool. They did was making post and editing it. They also put link on the bottom "send us email. Give us good links." It became helpful to them to find links on the web.

As it grew it became Muxway and GeoURL where it more better one. As they discovered things they started making del.icio.us which is the mix version of memepool and muxway which is a bookmarking service.

Schachter worked with Morgan Stanley but later on he decided to have the product on his own. He hired upto 8 employees and provided them their shares. He handled it well.

Creating del.icio.us was not really that hard for Schachter but making it public was the hard part. They had a hard time on collecting funds because the people don't trust to the possible outcome of the product. They didn't think it would succeed. But later on, VCs are the one who find them and give those funds.

The problem they encounter is about scaling requirements. It would take a lot of efforts to make. It is an important part so they can't miss it. Tagging was the main thing they do it was a hard part but also the good part when it's done. Sites are also their problem. Sometimes it gets slow and have bad service they are focusing and monitoring it a lot.

Schachter was able to be good at these things by learning from his mentors. The VC union square Fred Wilson who introduced him to many good people that can help and inspire him like Albert Wenger that has operations experience in tagging. His friends when he was working with Morgan who were smart people.

Being in the business world doesn't make you better in an instant you are to explore and learn from different person on different things that what made you grow and improve. Being on the outside world and connecting with other people that will help you in the future. Like him, He learned a lot of things from different people and make use of it as his resource and inspiration to make it work.

In starting a startup was not really easy as he advices, he said to do things as little as possible. Taking thing by doing less and understanding it easily and get it done. He

wants to tell us to do things simpler way where it would not become a big thing. It will be easier to use and people would appreciate it better.

I learned that you should know who to trust to. I also learned that it's not what your ideas that make you good it's about learning how to make those idea work. I knew to make things in easier and simpler way/

ONElist Bloglines By: Mark Fletcher

The founder of ONElist and Bloglines is Mark Fletcher. Being interested in making computer stuffs brought him to do creative things. He made ONElist and Bloglines for himself and for many other people that would benefit from it.

Fletcher was the one who made ONElist then, they sold it to Yahoo, and it became eGroups. Later on, he was experimenting on stuffs for his own and then turn it into product, which is the Bloglines. He didn't really expect it to be that big. He just wanted to try and make it to the market.

He started doing ONElist because he wanted to do a mailing list to his parents and soon it became a product. He was solving his problem and turn out helping other people who may have this problem too.

Fletcher was able to fund by himself and his co-workers. They don't really need a lot of money to get fund because the startup was cheap. They needed was only computers and hosting servers that can help them connect. It was the difference of what he did on ONElist. ONElist have VCs beause it was growing too far and it needed more money to be supported. While, Bloglines were not really that expensive to be needed a lot of money. It was a simple startup that made it better to manage.

The good thing about them is that the media likes them. They get the reporter easily because bloglines are being used by them to put their blogs. The reporters themselves are the one who was using bloglines and they are the most users of it. They are really fortunate to be able to promote their product easily. The problem is that other people don't know it. They don't use it. Users are lesser than it should be. Doing blog is not really a thing for the people today.

The thing that made the ONElist and Bloglines differ is that ONElist got more users than Bloglines has. But bloglines was easier to handle because ONElist was a startup that you should monitor from time to time unlike in bloglines it is milder.

Fletcher did connections to yahoo, google and Ask to help him to negotiate to other. Ask was more interested with them and it helped them to have a deal. With that they had investment banker that help them negotiate deals.

Being on acquisition process was not easy. Fletcher decided to sell Bloglines and ONElist because he thinks that it would be on the better hand. The Bloglines was being acquired by Ask and ONElist was acquired by Yahoo. You needed to be sure and happy to whom you will give your product. I learned to balance your time in doing work and social life. I also learned to have courage and trust on you. Everything else will start on your own strength. I knew that we should have many connections to negotiate and have deals easier.

Viaweb By: Paul Graham

The Viaweb was founded by Paul graham and Robert Morris. It is an online store builder. It can help small business make online stores. They are really brilliant in having this idea.

At first they build a startup called Artix. They pur art galleries online but they don't want it to be online so they thought of doing something that people would want and benefit from and it was Viaweb.

At first they had the idea of software that you can use on desktop. Then it turns out to be a web based application, which is the viaweb. It was Graham who pushed Robert Morris to continue and improve their idea. They are best friends and Graham thinks that Morris is really a good programmer. So, they hire other programmers and they started to build the product.

They worked together and made the product. They got customers and they made it effective so that other users will become their customers too. The monitor it like they are web consultant.

Their strategy is to get people in the net. They are doing e-commerce. They are doing graphic designs in better looking way so that it would be attracted to the people. It is one of the good strategy to advertise viaweb at the same time the business or company will be benefiting from the good outcome they could get.

The good thing is that even they have competitors like icat, shopsite and others they still beat them on their online site. So, they weren't really a serious competitor.

There are many acquirers that wanted to buy them but they are not selling their company. They have really grown and many people are becoming their users. They rather keep their site than sell it because they are very happy about the happenings of their company. Later on, they had to acquire it to yahoo and they are really happy about it. They wanted to sell it to yahoo too.

In doing startup was not that easy. It either you are the winner or the loser. It means that it either you will be successful to it or your will fail on it. Doing funds should be cheap as possible because it's the better way for you to raise money. We should be careful in deciding things.

I learned that in the business world you should know how to handle money or else you can lose it. I also learned to be careful on trusting on acquiring your product to others. I knew that you should be creative in everything you do so that people will easily appreciate it.

Craigslist Founder: Craig Newmark

Craigslist was founded by Craig NewMark. He was doing this stuff by just on his interest then he thought of making it a product where people might be interested to it also.

Newmark at first was working on computer security then it came to a point where he did some interesting events where his friends are invited to it and it was CC list. By then, many people started to be added on the list and they called it Craigslist.

They made Craigslist when he realizes a lot of his email was on his folders. So, he thought of email log into web pages. Then craigslist began as an email list and made it online.

They made the site where people have good conversation to them they communicate on what is for the best of the site. Many people are starting using it some are suggesting things like charging people in job ads or business ad but they just stuck with their ideas. He wanted to do customer service where they have their own non-profit.

The craigslist purpose is getting people in different areas. They wanted like billing, giving customers service and technology. He gave his full time and focus on craigslist.

He encounters some problems on lawsuits. There are some issues on personnel and lawyer. He also encounters issues on running service and having weak customers service.

Craigslist was non-profit. They didn't get funds with other people. Newmark just fund it all by himself. He did a liitle start of money and it became successful. He did his own company in his own time and energy. He really gave time and effort to make the product good.

Many investors offered money to them but he didn't give his trust to them. He still sticks to his work and make it better. He knows that it will be better for them like that.

They had been cooperating with eBay that had helped them and also benefit them in their company. It was good that they had the deal with ebay. They also had made many adverstisment so that many people know about them.

Newmark advices are to trust your instinct and your moral compass. People have different characteristic we should know how to handle it. We don't know who we can encounter we should be careful with them. I learned to do things with a team. I also learned that investing can came on your own. I knew that in life we can't trust all the people who are with us. Sometimes they are not showing who they really are.

Flickr Co-founder: Caterina Fake

Flickr was made by Caterine Fake, steward Butterfield and Jason Classon. At first they were just doing some computer games an online game then it became a product and eventually made a company through it.

Caterine and Steward started doing this stuff afterward ended up both of them being together and got married. The both of them have good partnership because they are both good in web design and development. Also, Jason who was good at it too.

They made a online game where you can instant message each other, form groups, and social network. The company's first product was named Game Neverending. It is more on having social interaction.

Steward was the one who did interaction design while Jason did the PHP for the prototype. Catherine was the one made the game design. The three of them was a good team mates to each other that they had come to their success.

They started funding by their friends family investment. They started getting employees who are living close to them because it is better to have people in the same place. It was quite hard for them to hire people.

The strategy they did was being able to make thing more independent. The money they handle is more less and they have fewer people but the more creative they become it was the one who made them motivate faster.

They did flickr by the concept of what they had already done on Game Neverending. They build messenger application and also they did features where you can share photos. They did this thing very quickly.

They were getting a hard time making it public because at that time Friendster, myspace and tribes are popular. The thing about them is just some photo sharing that people would not be interested to it.

The good thing about them is about tagging. It was effective wherein people share photographs of their latest events or news. You can easily see the updated picture of other people and tag it.

They had some issues on women's goodness in entrepreneur. Some people think that they are weaker than men. It was not a good issue to settle. Men and women should be treated equally.

I learned that we can do things easier when we have the goal to look forward. I learned to be optimistic in everything we do. I knew that in life we should not judge other people on what they are.

WAIS, Alexa internet, Internet Archive Founder: Brewster Kahle

Brewster was the founder of WAIS, Internet Archive, and Alexa Internet. This was the first internet search software. It was one of the earliest forms of it. IT was amazing on how they thought about doing the internet software.

Kahle was with Dany Hills and Sheryl Handler when they started to be first members of the Thinking machines team. The thinking machine team has many ideas and lessons to learn Kahle had knew many things when he was in there like thinking a startup differently.

The experience he encounters as he started startup was having money to pay the people in the future. Also, he shares about people doing a startup being able to make people happy and doing something different that we can benefit from.

WAIS was the one making network services. It was a remote publishing. It was the first internet publishing system that had been made before web. He made this by the help of Thinking machines. They wanted it to make money on the servers.

Kahle started his own company when he realizes that nobody is interested to improve the internet. He started the company and a contract to Perot campaign. It helped him advertise his product. Sooner they gave some client version for test. People are stating to make source of it. They made it for free version. Many people had become users and the server is high.

Even they sold the software others wanted some consultation service. So it became a web service business. They worked with the magazines or newspaper and what they want to publish on the net. They did many different strategies to publish their product.

They had grown further and became working with different companies that are their customers like encyclopedia britannica, the New York time and others. The problem about them is about money. They have financial problem.

They became working with different business people. He knew about them that they are straightforward people. Newspapers became their user that news became online now. He was really fortunate to be able to work with those people and companies.

WAIS was being bought by AOL eventually. It was difficult to mange with that situation. Alexa Internet was for profit and Internet Archive is for nonprofit. So far this two is to archive everything on the library. The idea of Alexa is guiding the people around the net. Eventually Alexa was bought by Amazon. Fortunately as his product was bought by other companies, his product grew more and improves to be better product. I learned that we can do things on our own ways and ideas. I also learned that we should have connections to other companies so that you can benefit from them and also learn many other things. I knew to become strong when it comes in facing difficulties. Everything has its own reason.

Open systems By: Ann Winblad

This case is about the founder of open system. She is Ann Wimbland a tough women who stands out to be different among the others. She made his own company with his own idea and creativity.

Wimbland was lucky to be part of experimental students in her college year with that he can pick subjects with her decision. By that she was able to graduate with math and entrepreneur majors. By the time she graduated, she easily find a job and it wasn't that easy to be part of her job in Federal Reserve Banking because mostly the people that we're hired were competitive and have good skills. She's really lucky and grateful to be part of it.

At the time she was on her job, she decided to do a startup with her 3 friends there. She realizes that if she did great on her job why not start a business on their own. That all started where they made their startup. They studied and keep their knowledge about accounting because it was the main thing that they will be depending on their company.

They started making language vendor because Microsoft basic can't program accounting system on it. They sold it to interpreters and it function well. At certain point, other people on fed were good at computing and they are the one who helped wimbland to be on the safe zone.

She was able to be successful on her company. She started selling the software they made in 10,000 was companies needing it. She made it successful on selling those open system. She finally had successfully improved her software company with a fast market.

They don't really have big competitors to worry about. They were the first and only company who thought of doing software company where have a market share that is available to everyone. They were really a great company and smart team on making their company work and being able to make the people adapt to their software company easily.

Doing this software company made him in real time budgeting. She maximizes her time to make things work. Doing things that in a way that you can teach them but you cannot tell them the main thing on it. It was very challenging for her to made this things work. She was able to make her job by being a leader to an investor. She said that your job is not to tell but to teach.

I learned that being a leader is doing your best for the whole company not just for yourself. I learned that it is not by the gender of the person that will matter in making a startup successful. I knew that doing a startup needs a good strategy and tactics before you can get into you goal.

Adobe System By: Charles Geschke

Abobe System was founded by chuck Geschke and John Warnock. They made a developed language called Interpress and made it more improved in Adobe where they did Postscript.

Geschke first came from a Xerox company in PARC. He knew a lot of things their about how computers was connected in both internal and external network to the Xerox corporation to the ARPANET.

He was given an opportunity to work in the field of graphics and printing technologies. Then, he decided give a job offer to John Warnock and by then they worked well in the problems of PARC.

They made Interpress which it allows the computer and printer to talk to one another. The PARC can't give them faster marketing process at that time so they decided to make it their own product which is the postscript.

They had connections to other companies and people to make market their product. One of it was Apple which gave them opportunity to improve their work on laser printer for apple.

Then, they finally launch their product on Apple. Apple markets their computers and laser writer which is the Macintosh Office. By that, desktop publishing was made Apple, Aldus and Adobe a marketing campaign. It made them popular at that time. It made them benefit from each other.

They learned not to be single product company and also not to restrict their product on single sales channel because it may lose the market share. The important thing is to make their relationship with their customer in a way that they would feel they were given a decent deal and they are trusted to lead the customers.

The good thing about their market process is that Microsoft where they wanted to sell their product incorporate with apple's TrueType for Windows. It was a good thing to make their product more manageable and out at market because both big companies where using their product. The only competitor they got is HP which has great product on Laserjet.

They were able to make their product successful even though they encounter many problems. They still strived hard and give their best strategy to make their product worked.

I learned that in business world you need to be good at connecting with other companies and great people. I learned that you need to be strategic in making plans and goals work. I knew that you also need to have social work even though you have your work life.

37 signals By: David Heinemeier Hansson

David Heinmeier Hanson was the one who helped 37 signals a consulting company to a product company. The product that they made was base camp and ruby on rails.

37 signals were founded by Jason Fried. It was a web design shop at that time. It became a consulting company and as they made Basecamp it turn into a product company.

They made Basecamp starting a blog project and made it a project management. They wanted to do Basecamp on step above email. They was starting to make things more simple. It was better to do simple model because its lss programming and that time Heinemeier Hannson was the only programmer developing it.

They made their model simple and constraint development model. It was better to be like that and people love being simple and easy to use. It was a good start for them.

The good thing about them is that they picked simple thing to develop. They made a project weblog, milestones tracking, file, and to-do list sharing. It were effective to them by just simple elements.

They get marketing their product by just spreading it to people. Their customers mostly are those who had heard their product or they had read blogs about it. They sign up for free version and use it.

The mistake they had made is on billing system they have sizable amount in development time. Also, they had some problems about dealing with their clients who wanted to have two firms. One more thing is about time zones that it was sometime late or earlier. They didn't focus on that part of their product.

He also made Ruby on Rails that had helped him to build Basecamp and made projects they wanted to. It was to made it easy to deliver stuffs. It was helpful to them as they want constraint to be kept. It was focused more on productivity and be able to deliver within constraints.

They were really good in making the both project worked. Even though they have less program on their software they had made it effective. People loved their worked and it was a success to their part.

I learned that we should be able to know how we can do things simpler yet effective. I learned that we should be productive and socially active to people so they would know your product. I knew that we can do things if we focused and strive hard to make it happen.

ArsDigita By: Philip Greenspun

ArsDigita was cofounded by Philip Greenspun. It was a great success for them. They made their product helped many other people. They also did it for their benefit and also user's benefit.

It started when Greenspun was building internet applications. He thought of making the people connect to each other in different places and time. It would be a best usage of a computer system.

When the web came it made for them easier to make their desired product. They thought that it would help the people. It is to make things easier than before and more approachable to the users.

Greenspun made a book called Travels with Samantha. Samantha was his old laptap computer. It was fun because people started replying to his work and it started to be an online community of photographers.

He began to write more software to make community easy to manage. He had a big toolkit of software like SAP a toolkit for building corporate accounting systems and that they called ArsDigita.

He had some competitors like Broadvision and Vignette who where not believing on their work. The good thing about them is that they develop and released their software from running real-world systems. Their strategy is to put their features on a site that was public like photo.net and ArsDigita.com.

They had a hard time finding the right person to be on the job. At that time it is hard to find people that are good and experience. It was hard to for them to find people that are talented.

Users liked their site. Mostly the people using are teenagers and usually they just use it for free. Some other is big companies that are interested on their product and has some suggestion to make it better.

It grew really fast that it came to a point that they had some problems on dealing and it conflicted to the investors and founders that made them fire the founder and made their product be bought.

I learned that in business you need to think first before you make your move. I also learned to believe on your work and others will also appreciate it. I knew that we should not give up what we do because it will benefit to ourselves and other people.

Fog Creek Software By: Joel Spolsky

Fog Creek Software was founded by Joel Spolsky and Michael Pryor. It was a theory that went into a disbelief and that became a product. They didn't expect to make one. It was a great start for them.

It started with the concept like in ArsDigita. They thought of soind software and have consultant. At first it was hard for them to have consulting clients. It was hard in consulting market.

They first discover FogBugz where internal product was a bug-tracking application they had that was first success on their products. Many people were buying the FogBugz product.

FogBugz sooner failed so they decided to make a product even better. They add more features to it. It was an email management system. It was a great new version that was launched.

It was a success to them because money was coming in to them. Their theory is to give up when they have no money to pay. They really strive hard and didn't give up what they have.

They were to become a big consulting company and then build a software company inside a consulting company. It was the mistake of the former companies like them that they failed because of problems in consulting that made them more careful in handling their company.

Their strategy is to start a consulting business and hire smart people and have clients to work on. And then they became a software company. It was a great start for them in making such decision.

Fog Creek was able to be successful in the field of their blog website. Many people are interested on that and people are responding to it. It was freedom of expression and learning new things.

Making FogBugz Fog Creek Copilot and Fog Creek Software was able to make them doubled their sales. They didn't even have investment from other people and have profit in their own way.

I learned that we should develop and improve things in order to make a great product. I learned to be sociable to people because they are the one who will help us. I knew to be strong and competitive in dealing the company problems.

TripAdvisor Co founder: Stephen Kaufer

The trip Advisor was founded by Steve Kaufer, Langley Steinert, Nick Shanny and Thomas Palka. This was just an idea of their own that became a lot more beneficial to many other people.

This startup was the idea of Stephen's wife. They were finding a place to have vacation and turn out they are having a hard time finding on the internet. Steve thought of making a site where people will be able to get recommendation and reviews about a particular place.

The problem is that people wanted more from them. They are giving feedback about other places that they could give reviews from. It also became traffic on their site when people knew their site. It was a hard time for them because they lack people to manage their site and the users. They use a tracking code to make the flow of their site better.

The launching of TripAdviros was great people like their product. Many are giving feedbacks from their sites. Big companies are noticing them already. Many people are interested on their site.

They were making this in reference with yahoo directories, Google, and Alta vista. They were trying to collect the consumer feedback on different sites. It was the one who helped them make TripAdvisor.

They don't really have big competitors. They are very strong in terms of their product. It able hotels, magazine companies, sites, users and many other big companies connected to them. It was the one who help them became strong and competitive company. They surely did a great job to make their product a success.

The startup was unique in a way that they are not just endorsing places and recommending it. They are making reviews about how the place where perfect trip for the people. It is beneficial to the users and people to know better a certain place and to know whether it was the one they wanted to go to.

The existing system before they got their product is the sites are advertising places to go to. It was different from them because they were collecting reviews from the users that will make more approachable and interesting to have a trip on such place.

I would do the same as the founder did. I think that giving this site helps many people wanted to have vacation or even people who just wanted to have information. It was helping people to get to know a certain place and know feedbacks from the people who already been there. I learned to have many connections to people so that they will help you pull up in terms of hard times. I didn't know that they won the largest online travel community in the world. They truly became popular. I learned that even in the smallest things you can do great things.

Hot or Not Cofounder: James Hong

The HOT or NOT was founded by James Hong and his friend Jim Young. They made their site just for fun and many people were able to become their users. They really got their success.

They did XMethods first before they made HOT or NOT. It was a directory of publicly available web services. It was their product at that time and they ere working on that website.

They made HOT or NOT in the idea of when they were talking about how hot a girl was on the party he went to. Then, they thought of making a service where people could post their pictures into the system and then other people could rate them from one to ten on how hot they are.

The problem they got is about images having bandwidth driven to it. The problem was solved when they incorporated with yahoo who helped to make their site go smooth. But they also got problems in the site because it is slow. So, they build a moderation system that helped them on their site.

People liked their sites. At first he just sends it to a person and it spread out quickly. It was just for fun at the beginning and later on they decided to make it a product and launched it. People were interested on their sites. It became bigger and bigger and it is spreading out. Many feedbacks were telling good points on their product.

The startup was impacted to many people. It was for fun and people like those kind of things. It was a service where any ages can cooperate. Rating pictures was unique because they were first to make such kind of site where people can put their pictures and get rated and made people meeting each other and avoids porn people to get in their sites.

The existing system is having database of the people and have website server. The proposed system is making it worked with having connections to people and putting their pictures and rates it to the people.

I think the founders were very creative when they thought of making their product. I think I would do it too. Even it's just for fun the important thing is that it's legal and people love using it.

I didn't know that they were able o do this kind of stuff by just a fun thing and that turn into a business and product. It was a great accomplish to them and also good for them that they can make people have fun.

I learned that making a startup is better in doing in simple way. I learned that we should be careful in making a product we should know the users. I learned that in just a fun thing you can make a startup.

Tickle Founder: James Currier

Tickle was founded by James Currier. He was a creative and smart person. He made this startup with discovering things back in his college years. He has many experiences that had helped him to build a startup.

James Currier was good in digital media and social science. With that he used it to make an online media. He thought of making media experience about the people connections. So, he made an online media that has personality test to connect with other people and know about them.

The problem of their startup is that at first no one could understand the proposal of the product. They were having a hard time collecting and organizing. They were trying to make it to public. As they struggle to it, sooner VCs are adopting their product and worked with them.

The startup was being used by the people by the time they made this dog test. It was fun that people loved it. With that people started entering their site and people are cheking out their personality test.

People usually wanted something to know about themselves and other people. With their idea of making test about relationships, self test and other test helped the people wanting more about them. People love talking about themselves. It helps them to know more about themselves. I think it was a great idea of tickle to make this kind of online media.

The startup was first very weak in terms of public. The startup before that were really good in public that time were Broadcast.com, women.com, and iVillage. People love visiting their sites.

The startup was unique in a way that they were the first to be able to make such online media like that. People are taking the test that was in Tickle.com and they answer it honestly to know the results. It interests them a lot because it is like a psychology test that they will know more about themselves.

Tickle.com has their existing system of making only personality tests. Their proposed system is to make it connected to the people and know about other people's personality test as well.

I think if I was the cofounder I would done the same. It was very approachable to the public and people really enjoyed using and visiting their site. It was a helpful thing to the people who wanted to know about their selves.

I didn't know that the startup tickle.com had a hard time making their product on public. I learned that we should not give up creative and intelligent things to be able to make such product. I learned to be able to know what the people wanted to be able to make it public.

Firefox Creator: Blake Ross

Blake Ross was the creator of Firefox. Firefox was really a big hit to the public. It was a startup that was improved and easy to use. It was made by their wanting of improvement.

The firefox was first made in initial version called Phoenix. Then, they made firefox which was because of their concerned of reviving Netscape that was having constraints.

They build firefox with a quick response from the people. It was better to use than Netscape and internet explorer. It was more reliable, fast, and simple to use. People adopt it easily.

Netscape was the one who inspires them to make firefox. Netscape back then was not in good terms. Blake into the job of fixing Netscape that he thought of making a startup that will be more reliable than Netscape.

The unique about the startup is that they were having tab that made it easier to clicka and add another thing to search unlike before others don't have it. It was the first thing that people wanted. It was also simple and user-friendly to use.

The mozilla was the one who helped them to be on public. Netscape were off the mozilla and that made mozilla think of getting firefox. The public wanted firefox and it was really going great. He didn't really have many problems making it to the public.

The existing system of the startup is making a browser that will have fewer bugs. The proposed system they made is a browser with tabs and user-friendly browser. It was more accepted and adopted by the public.

I think I would do the same as the creator. It was a browser that not only improved; it was also a browser that helps a lot of people to be able to have easier life in surfing and using browser.

I didn't know that the creator was that young to be able to make a startup that was very effective and successful He didn't even have such big problem in his product. The product was very unique and improved. I think he really did a very good job in making his product public.

It was a startup that creates a more helpful thing to the people. It was a browser that will be used by all of the people. It was a startup that was really important to all of us. I learned that you should have many connections in order to make it to the public. I learn

Six Apart Cofounder: Mena Trott

The founder of Six Apart is Mena and Ben Trott. They are husband and wife who develop and improve Six Apart. They made it for their own benefit and also for the benefit of others.

They wanted to make a blog that has connection with people online. Her purpose at first was for her to make more friends because she didn't have the time to make new friends. She then thought of making a blog site with connection of people on it. They decided to make a movable people and also made a new version typepad.

The problem they had is that it take them a long time to be able to made the product. They are having a hard time deciding whether to continue it by them or they would hire people but they will have the risk of paying them.

Movable Type is download software that can be install to your own server. It was not a user-friendly to anyone so they decided to make a service that people can use. They develop typepad.

Companies are using movable type. Also, many people are using it to charge user money. So, they decided to make it license. They wanted to target the people who where using it.

The competitor they encounter is blogger because they are strong competitor that time. But they are also a big company that others can't compete. They were a good site that people wanted to blog.

They knew that they should get more connections than it should be before making it to the market. It is more important to have more people because they are the one who will be using your site.

The proposed system is six apart where you can make personal blog and also advertising programs and personalize services. the existing system is a typepad where it was a blogging service.

I think I would done the same as the founder. He made six apart that was very helpful to the people whether in social life or in business world. It is a flexible blog site where you can advertise and also have own personalize service.

I learned that in making a startup we should know how to handle people around. I also learned to be able to have many connections before making it to the market. I knew that we should know what the users or people wanted before making it public. ed that in business world you should be competitive and really have good stuff

Lycos Founder: Bob Davis

The founder of the Lycos was Bob Davis. It was with the helped of Michael Mauldin that had bought a search engine and he was the one to be the CEO. It was in CMGI's investment group.

. They are having hard time thinking about how to make technology and media at the same time. They decided to make it all media company that will serve much better.

The problems they encounter is about handling the people. They are having a hard time hiring, firing people. They are concern about getting customers, servicing customers, and scaling the company.

Their audience was advertisers. It is a good way to advertise on Lycos site. The employees are also their customers. Many users are their customers. Without the users they will not improve.

The competitors they encounter are Yahoo, Infoseek, Excite. Those sites are almost the same as Lycos. But the diffenece of it is that Lycos is more on advertisement. They are focused on the custmers and branding. It was what made them more on companies and users connection.

The startup was unique in a way that they are holding their customers in a good way. They are a service for big companies and also the users that makes them flexible. They are more on advertising brands that users wanted. It is beneficial on both sides of the customers.

The proposed system Lycos provides web search, homepage building and web hosting services, e-mail, online games and video sharing, social network. The existing system is software engine that only used for searching or browsing.

I didn't know that Lycos founder Bob Davis became CEO before he had made his product. It was very lucky for him to be able to get the position in accordance of having new product to produce.

If I were on the founder's place I would do the same thing. It was beneficial to all of the people. The companies can use it as their advertisement. The users can do many things on Lycos including more information to know. The Lycos was a good thing to the internet world.

I learned that we should know how to be flexible in making a startup. I learned that we should know how to manage your company. I knew that having that great spirit of being able to do things work.

Alliant Computer System, Shareholder founder: Ron Gruner

The founders of Alliant Computer System were Ron Gruner, Craig Mundie, and Rich McAndrew. The founder of Share holder is Ron Gruner. They were brilliant to be able to make such product. It was not that easy to make it

The reason why they made this Alliant Computer system is to build a machine that used multiprocessing to achieve better performance than the CPU-machine. They made this product in 3 years.

It was really an experience to them to be able to ship the hardware and sold it to many,. It was a great achievement for them. But sooner when new generation computers was sold out they were slowly being caught up by their competitors and didn't able to continue their hardware product.

Ron Gruner then, made a web-based service business. He thought of making a service where using a technology to reach out and communicate and that what made them the product Shareholder.

People use and want this site because it was beneficial for them to be able to have compilation and serve as stockholder. It was beneficial for the companies who want to database their stocks.

Their competitors were CCBN. It was a company in a lot of aspects of corporate services, financial services. IT was a serious competitor for them. They still didn't give up because they know they have their own competitive use.

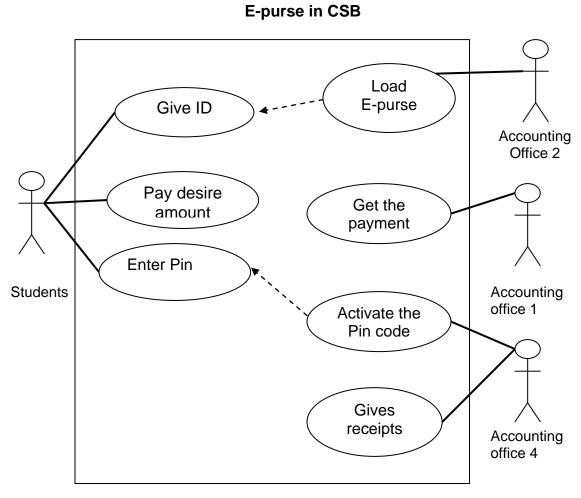
They are unique because they are more secure than other competitors. They have more flexible and faster server. They have their site that many companies can use this on managing.

The proposed system is share holder which serves as their stockholder and secures their data. The existing system is making a stockholder through own processing. This Shareholder was more useful because it will help you organizes and secure data.

I think I will do the same as the founder because it is helpful thing to the companies who has a lot of data to compile. This shareholder will ensure the security and safeguard of the data.

I learned how to maximize my view in terms of making a startup. I also learned to make it simple but helpful to the public. I knew that we should know how to take in charge of your company.

Use Case 1



Title: E-purse in CSB

Summary: This use-case allows the students to know how load their E-purse in CSB.

Actors: Students, Accounting Office 1, Accounting office 2, Accounting Office 4Creation Date: June 17, 2008Date of Update: June 18, 2008Version: 1.0Person in-charge: Shelyn Chua

Flow of Events:

Preconditions:

- 1. The students should bring their ID.
- 2. The students should prepare their payment.

Main Success Scenario:

- 1. The students load their E-purse in their desire amount.
- 2. The students pay the accounting office 1.
- 3. The students activate their pin.
- 4. The accounting office 4 gives the receipt.

Alternative Sequence:

- A1. Pin code Activation
 - 1. The computer informs that the pin is incorrect for the 1st or 2nd time.
- A2. Loading E-purse

1

Error Sequence:

- E1. ID damage
 - 1. The Accounting office requires the students to get new ID.

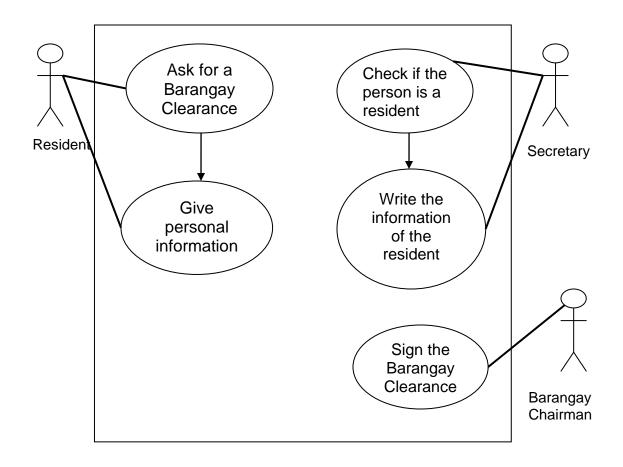
Post Condition:

1. The paper used for the receipts will become fewer.

UI Requirements:

- The student should be enrolled before they can use E-purse.
- The students should prepare their payment in minimum of 50 pesos and maximum of 2500 pesos.

Use Case 2



Barangay Clearance Process

Title: Barangay Clearance Process

Summary: This use-case allows the residents to know how to get a Barangay Clearance.

Actors: Resident, Secretary, Barangay Chairman

Creation Date: June 11, 2008Date of Update: June 11, 2008Version: 1.0Person in-charge: Shelyn Chua

Flow of Events:

Preconditions:

- 3. The resident must know where their barangay hall is.
- 4. The resident must give the reason why they are claiming the Barangay Clearance.

Main Success Scenario:

- 5. The resident goes to their Barangay hall.
- 6. The resident asks the Barangay Clearance to the secretary.
- 7. The resident gives his or her personal information to the secretary.
- 8. The secretary check if the person is a resident or not.
- 9. The secretary gets the information of the resident.
- 10. The Barangay Chairman signs the Barangay Clearance.

Alternative Sequence:

A1. Resident

The resident informs that the reason of claiming the barangay clearance was not acceptable.

Error Sequence:

E1. Resident disapproval

1. The secretary disapproved that they are a resident on their barangay.

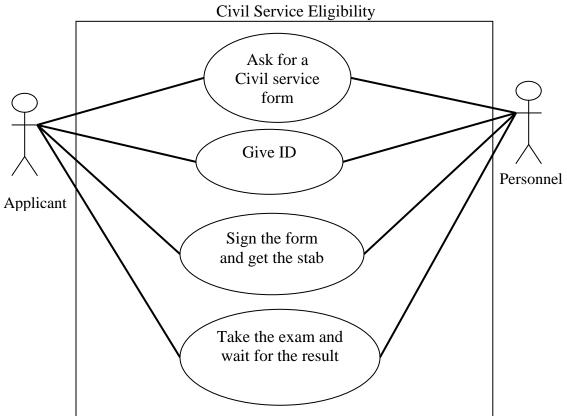
Post Condition:

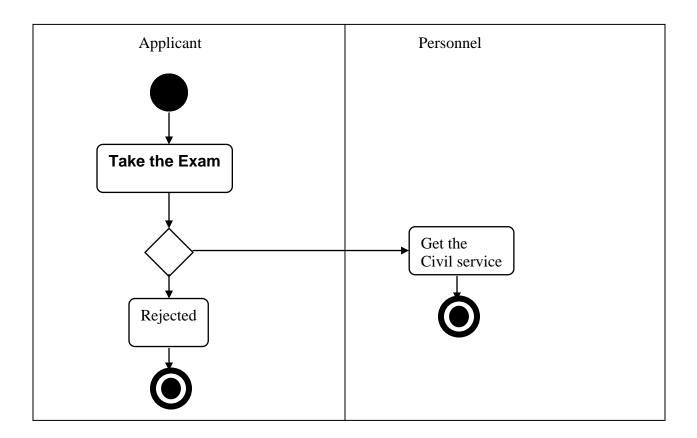
- 1. The paper used for the Barangay clearance form is lesser.
- 2. The ink of the typewriter is lesser.

UI Requirements:

• The students need to give the reason on claiming the Barangay Clearance.







Title: Civil Service Eligibility

Summary: This use-case allows the applicant to know how the Civil Service Eligibility process is.

Actors: Applicant, Personnel Creation Date: June 24, 2008 Version: 1.0

Date of Update: June 25, 2008 **Person in-charge:** Shelyn Chua

Flow of Events:

Preconditions:

- 5. The applicant must bring their ID with them.
- 6. The applicant must inform if he or she is a non-pro or pro.

Main Success Scenario:

- 11. The applicant asks for a civil service form.
- 12. The applicant gives his or her ID.
- 13. The applicant signs the form.
- 14. The personnel get the form and give the stab.
- 15. The applicant takes the exam and waits for the results.

Alternative Sequence:

A1. ID transaction

The applicant will need to have his or her ID to present to the personnel before he or she can get a form.

Error Sequence:

E1. Exam

The personnel will inform the applicant that he or she failed the exam.

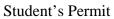
Post Condition:

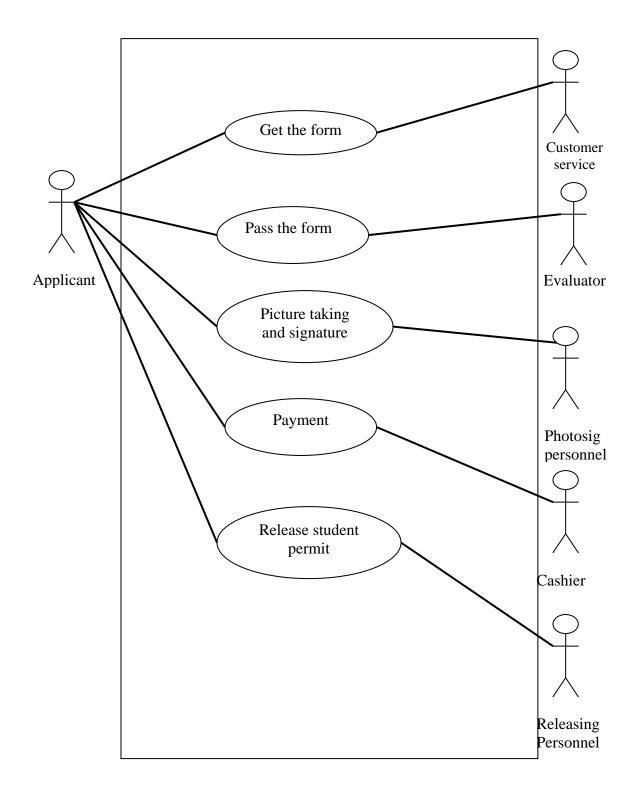
- 1. The paper used for the Civil Service form is lesser.
- 2. The stabs are lesser.

UI Requirements:

• The applicant needs to be a resident on the country.







Title: Student's Permit

Summary: This use-case allows the applicant to know hot to get a student permit. **Actors:** Applicant, Customers Service, Photosig Personnel, Cashier, Releasing Personnel

Creation Date: July 2, 2008 Version: 1.0

Date of Update: July 2, 2008 Person in-charge: Shelyn Chua

Flow of Events:

Preconditions:

- 7. The applicant should bring their copy of birth certificate.
- 8. The applicant should prepare their payment.
- 9. The applicant should have parents consent.
- 10. The applicant should 16 years old and above.

Main Success Scenario:

- 16. The applicant will get the form on the Customers Service.
- 17. The applicant will fill up and pass it to the evaluator.
- 18. The applicant will take a picture and signature on the Photosig.
- 19. The applicant will pay the fee on the Cashier.
- 20. The applicant will get the student permit on the releasing section.

Alternative Sequence:

- A1. Payment
 - 2. The applicant doesn't have the right amount of money to pay.
 - 3. The applicant goes back to Cashier to pay.
- A2. Requirements
 - 1. The Customer service informs that the applicant lacks the requirements.

Error Sequence:

E1. LTO office

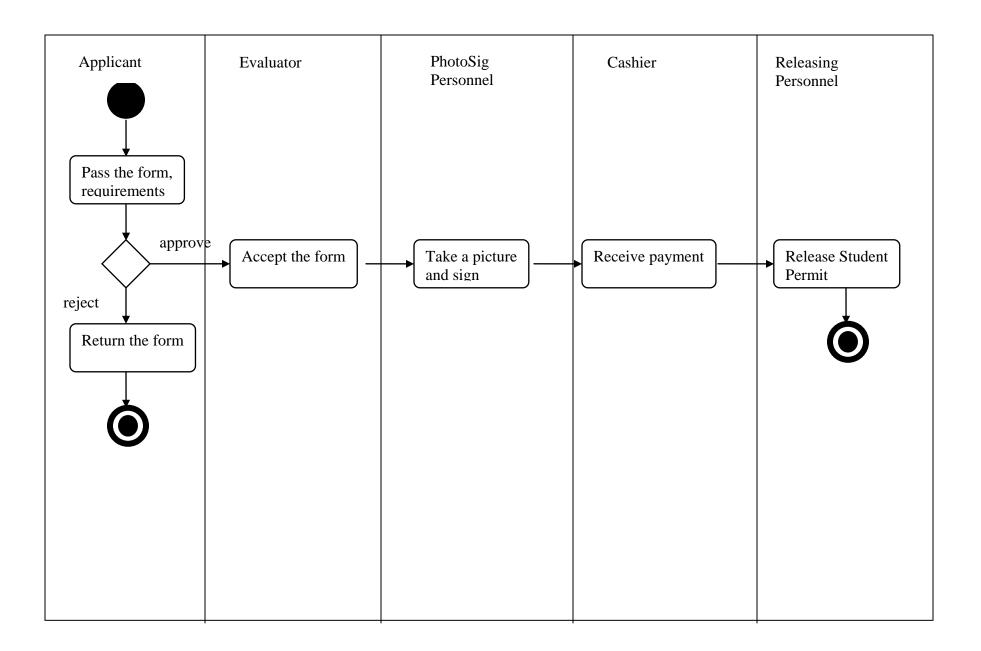
1. The office is closed.

Post Condition:

- 1. The paper used for the form, student's permit and receipts will become fewer.
- 2. The applicant has the students permit.

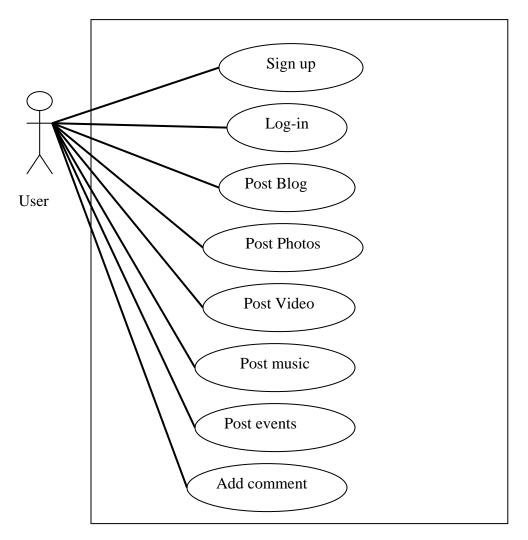
UI Requirements:

- The applicant should have letter of consent.
- The applicant should have birth certificate,
- The applicant should bring enough money to pay.









Title: Post a BlogSummary: This use-case allows the user to know how to post a blog on multiply.Actors: UserCreation Date: July 21, 2008Version: 1.0Date of Update: July 21, 2008Person in-charge: Shelyn Chua

Flow of Events:

Preconditions:

- 11. The user should know his/ her username and password
- 12. The user should be signed up on Multiply.

Main Success Scenario:

- 21. The user will log-in to his/her Multiply account.
- 22. The user will select add post.
- 23. The user will select post to blog
- 24. The user will write the title and blog.
- 25. The user will save and publish.

Alternative Sequence:

A1. Incorrect Password

From # 0

2a. The system informs the user that he or she has incorrect password. 5a.Goes back to # 1

A2. Edit Title

From # 3 4a. The user edit blog's title. 5a. Back to # 4

Error Sequence:

- E1. From 3
 - 4. The system inform that the multiply system is under maintainance.
 - 5. back to 4.

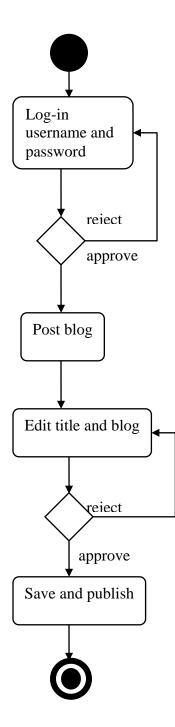
Post Condition:

1. The multiply site of the user will be updated after he post his or her blog.

UI Requirements:

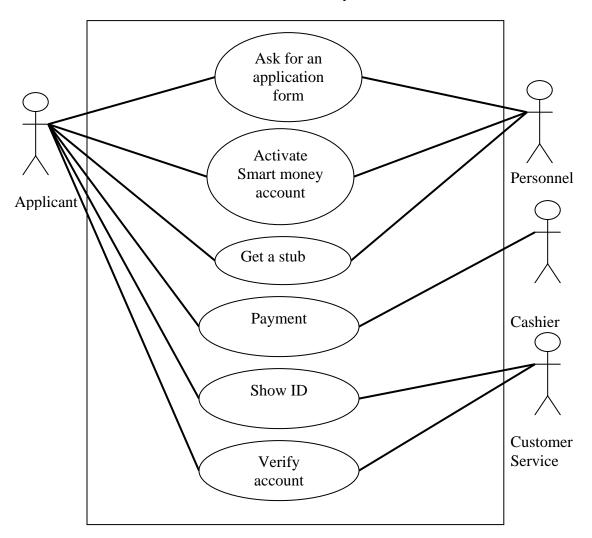
• The user should know their user name and password.

Multiply





Smart Money



Title: Smart Money

Summary: This use-case allows the applicant to know hot to get a smart money.Actors: Applicant, Customers Service, Personnel, Cashier, Customers ServiceCreation Date: July 16, 2008Version: 1.0Date of Update: July 16, 2008Person in-charge: Shelyn Chua

Flow of Events:

Preconditions:

- 13. The applicant should bring their ID.
- 14. The applicant should prepare their payment.
- 15. The applicant should be a Smart user.

Main Success Scenario:

- 26. The applicant will get the form from the personnel.
- 27. The applicant will activate their smart money account.
- 28. The applicant will get a stub and waits for their turn.
- 29. The applicant will pay the fee on the Cashier.
- 30. The cashier will give the receipt to the applicant.
- 31. The applicant will pass the form and show his or her ID to the customer's service personnel.
- 32. The customer's service personnel will verify the applicant's account.

Alternative Sequence:

- A1. Payment
 - From #3

4a. The applicant doesn't have the right amount of money to pay. 5a.Goes back to #4

- A2. Requirements
 - From # 5

6a. The Customer service informs that the applicant lacks the requirements. 7a. Back to # 6

Error Sequence:

- E1. From 0
 - 2. The Smart Wireless Center is closed.

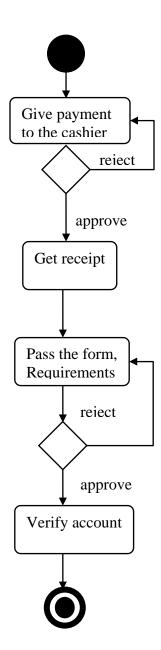
Post Condition:

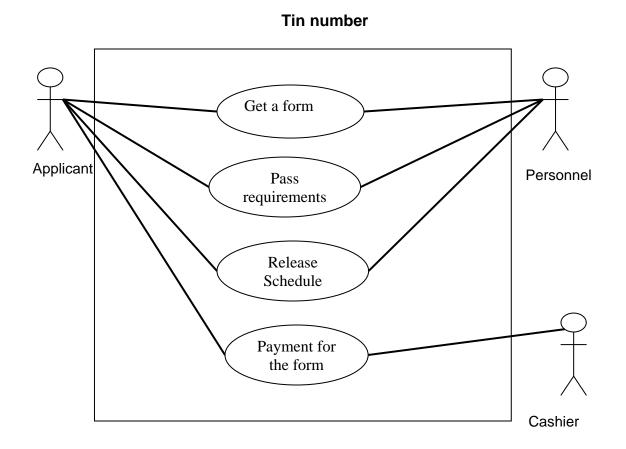
- 1. The paper used for the form, student's permit and receipts will become fewer.
- 2. The applicant has the students permit.

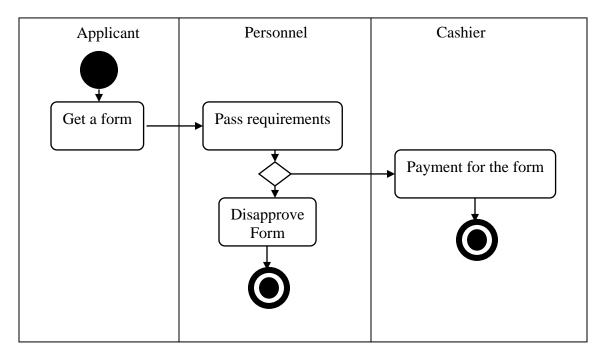
UI Requirements:

- Applicant's ID
- Applicant brings enough money to pay

Smart Money







Title: Tin NumberSummary: This use-case allows Applicant to know how to get their tin number.Actors: Applicant, Personnel, CashierCreation Date: July 9, 2008Version: 1.0Date of Update: July 9, 2008Person in-charge: Shelyn Chua

Flow of Events:

Preconditions:

16. The applicant must bring the requirements.

Main Success Scenario:

33. The applicant asks for the form.

34. The applicant passes the form and requirements.

35. The applicant pays for the form.

36. The applicant gets the schedule of getting the tin number.

Alternative Sequence:

A1. Incomplete requirement

The personnel inform the applicant that his or her requirements are incomplete.

Error Sequence:

E1. Do not have ID or License for unemployed

1. The personnel inform the applicant the he or she cannot get a tin number unless there is a proof of license or id.

Post Condition:

1. The paper used for the form is lesser

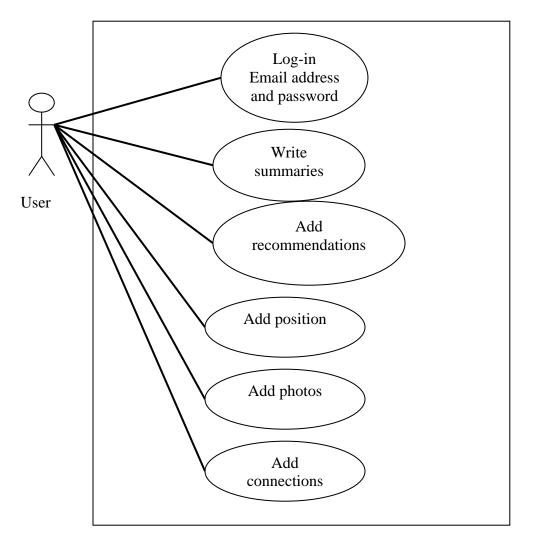
2. The money is lesser.

UI Requirements:

• The applicant should bring the requirements.



LinkedIn.com



Title: LinkedIn **Summary:** This use-case allows the users to know about LinkedIn. Actors: Users Creation Date: July 28, 2008 Date of Update: July 28, 2008 Version: 1.0 Person in-charge: Shelyn Chua

Flow of Events: Preconditions:

- The user should know their email address and password.
- The user should be signed-up

Main Success Scenario:

- 1. The user will enter his or her email address and password.
- 2. The user will go to profile.
- 3. The user will update his or her photos.
- 4. The user will add recommendations, positions, connections
- 5. The user will get 100 percent profile completeness.

Alternative Sequence:

A1.

From # 0

4a. The systems informs that he or she has incorrect password. 5a.Goes back to #1

A2.

From # 1

6a. the system informs that he or she hasn't updating their profile. 7a. Back to # 2

Error Sequence:

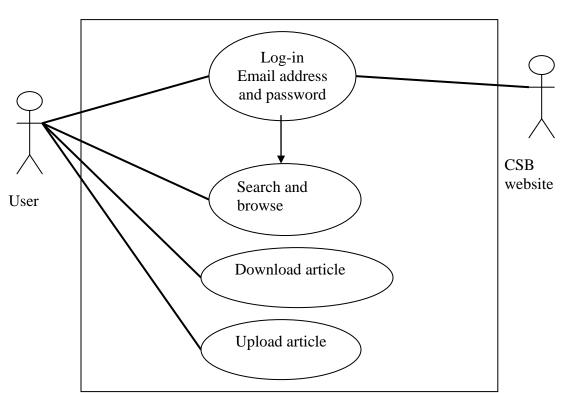
E1. From 0

3. The LinkedIn..com is under maintenance

Post Condition:

- 1. The system prints his or her profile completeness.
- 2. The user will be able to have updated his or her profile





Emeraldinsight.com

Title: Emerald insight

Summary: This use-case allows the users to know about downloading article on Emerald insight.

Actors: Users Creation Date: Aug 15, 2008 Version: 1.0

Date of Update: Aug. 15, 2008 Person in-charge: Shelyn Chua

Flow of Events: Preconditions:

- The user should know their email address and password.
- The user should be signed-up on CSB website

Main Success Scenario:

- 6. The user will enter his or her email address and password CSB website.
- 7. The user will click search on CSB website.
- 8. The user will click emeraldinsight.com
- 9. The user will search for desired article.
- 10. The user will click desired article.
- 11. The user will download article.

Alternative Sequence:

A1.

From # 0

4a. The systems informs that he or she has incorrect password. 5a.Goes back to #1

A2.

From #4

6a. The system informs that the article is locked. 7a. Back to #5

Error Sequence:

E1. From 0

4. The Emeraldinsigh.com t is under maintenance

Post Condition:

1. The user will have downloaded his or her desired article.

2. The user will be able to have updated his or her profile.

Appendix 1

Alexis Matic Marie Angelie Alcoriza Shelyn Chua

Interrogative Question:

Lotus, Groove Network, Blogger

- 1. Which computer has greater memory capacity that can be used as database storage? IBM or Apple?
- 2. What sets Lotus 1-2-3 apart from Visi-Calc?
- 3. Who is Mitchell Kapor before he founded the Lotus.
- 4. How does lotus 1-2-3 work? How can you save the data?
- 5. Who is Ray Ozzie?
- 6. Who are the end-users of Groove?
- 7. What are the functions of Groove?
- 8. How did they make their ideas come to life?
- 9. What are the difference of Geocites and Blogger when it comes to blog?
- 10. What are the requirements before you can start blogging during their time?
- 11. Who are the majority of end-users during their time?
- 12. Did blog ever become a pay to use website? Is it profitable to make a blogging website?

Appendix 2

A Systems Analysis Study on the Payroll System on Express Link Of Bank of The Philippine Islands

Presented to the Information System Program School of Management and Information Technology De La Salle – College of Saint Benilde

> In Partial fulfillment of the Requirements of the subject Systems Analysis

Submitted By: GPhone Alcoriza, Marie Angelie Chua, Shelyn Tiffany Matic, Alexis Joyce Voluntarioso, Marla Rae SysAnal O0C

> Submitted To: *Mr. Paul Pajo*

> > E-Phone Page 101 of 119

Company Background: Statement of the Problem

Express link is an online managing system that allows users to credit employees' salary, allowances, or reimbursements. The problem we have seen on Express Link was unsuccessful payroll. This happens when employees didn't receive their salary on the given date.

Problems concerning companies registered at Express Link:

- The system express link, cannot detect if the employee has closed account or there
 was an unsuccessful payroll. They will know it when the bank calls them the other
 day or two days after.
- If the signatories changed or mini keys were lost, they have to pay for the replacement of mini keys.

This process is important to the company, for it gives both the company and BPI loyalty and trust to each other. Express link is vital to companies, for it helps them to manage their accounts.

Objectives of the System

To solve these problems, we proposed a system which is called the E-Phone (Express Phone) which can lessen unsuccessful payroll. It will be more convenient for the authorizer or mini key holders, because they can access it anywhere. Authorizer will also be able to receive alerts, whether their employees received their salary or there is an unsuccessful payroll. They can take action easily and fix the problems. We will replace the mini key with cellphone instead. This will serve as the electronic mini key for express link. The user will also be able to manage their accounts and have transactions via phone.

The proposed system is an online mobile service, meaning by the use of mobile phones you can now have access anywhere you may please. BPI will give a user name and password so that you can log in to Express Link.com. A software will also be given to the authorizer so that it can be installed to their cellphones. The authorizer will be able to access Express Link via cell phone. The authorizer uploads the database of employees' info to the cellphone. The authorizer will now be able to do payroll transactions via Express Link.

The new process of the system let the authorizer of a certain company would have a mobile phone that has an access to internet and software would be installed in that phone that will serve as the holder's minikey. Then by that he can use his mobile phone as a medium on going online, and the use the account effectively.

With this proposed system, BPI will have the following benefits:

Tangible Benefits:

• Cost reduction and avoidance

We can have avoidance of cost in paying lost mini keys.

• Increased Flexibility

It is much easier to use than having mini keys and also flexible in doing payroll transaction anywhere.

Increased speed of activity

The transaction will be faster in a way that the company head will just check the employee's account and submit it from via phone.

• Increased speed of reports

E-phone can immediately let the company head know if there is closed account on the payroll by receiving alerts via phone.

• Improvement of management planning and control

It is more convenient to the corporations as well as it will be easier for BPI to communicate with the corporations in their concern.

Intangible Benefits

• Increased organizational flexibility

The system that we proposed which is the e-phone will increase organizational flexibility in the sense that there will be another way of accessing express link which is through cellphone. Before, they only use the net to access their banking, but now cellphone can also be used to access the express link.

• Increased accuracy in clerical operation

e-phone can detect whether the employee has closed account or there is an unsuccessful payroll through the alert system, wherein, a message will be sent of the changes happening coming from the mainframe.

Information processing efficiency
 Information can be easily accessed everywhere, that is the reason why it is efficient.

The BPI ExpressLink requires a password and mini key in order to do the payroll transaction. In this case, if the password and mini key was lost by the in charge person they will pay for replacement. Our objective is to change the mini key to E-phone where you will just upload certain software to the cellphone of the required person and use it in dealing with payroll transaction for the employees.

Significance of the study:

This study shows the company the different and common problems a client have. It also shows the different ups and downs of the system might have and how and why the system should be updated. This will also help when some of the problems the user might have occurs like: unsuccessful payroll, when the mini key is lost and others. By understanding the different kinds of problems the system might have, the department that specializes in that field can now find a better way to make the system more effective and fix it gradually.

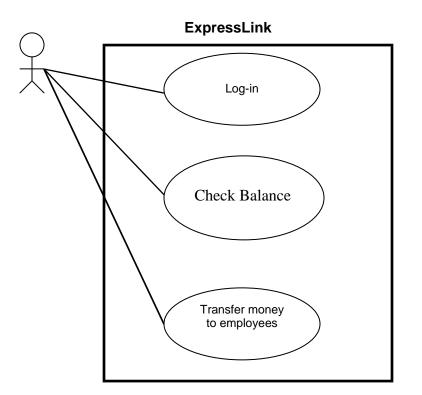
In addition, by the use of this study, the company would be aware of what the clients might like as an improvement in using the system. In that way when the improvements and changes can be done the user and the company can now have better communications and arguments can be avoided.

Scope and Limitation

The study only deals with doing the payroll via Express Link Payroll Managing System. Actual paying of the payroll is not included. Application of express link is also not included in the study. As well as other services of Bank of the Philippine Islands and other services of Express Link beyond payroll was not part of this study.

E-phone (Express Phone) - the proposed system for the Express Link.

Use Case Diagram (Existing System)



Identification Summary:

Title: Logging in Express Link

Summary: This use case allows the user to connect on the express link of BPI Express.

Actors: Authorizer

Creation Date: August 11, 2008

Date of Update: August 12, 2008

Version: 1.0

Person in-charge: Marla Voluntarioso

Flow of Events:

Preconditions:

- 17. The authorizer must have User ID and password.
- 18. The authorizer must have internet connection.

Main Success Scenario:

- 37. The authorizer enters User ID and password.
- 38. Express link verifies if it is a valid User ID and password.
- 39. Authorizer enters on their account's main page.

Alternative Sequence:

A1. Incorrect password

From 1

- 1.1 The computer informs that the pin is incorrect for the 1^{st} or 2^{nd} time.
- 1.2 Input correct password

Go back to 1

Error Sequence:

E1. Password error reached up to three tries

- 1.1 The Banking office requires the user to get a username and password.
- 1.2 Use case fails

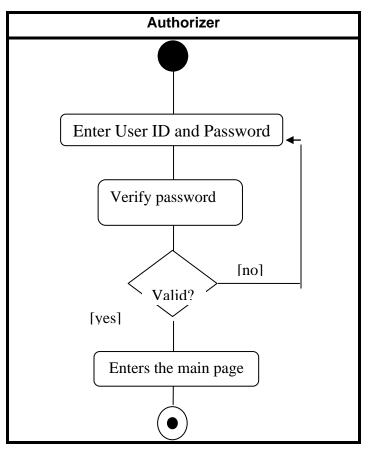
Post Condition:

- a. Authorizer will be logged in.
- b. Records of the transaction will be recorded

UI Requirements:

• Computer

Activity Diagram – Log in



Title: Transfer money to employees

Summary: This use case shows how the user can transfer money or do payroll via Express Link.

Actors: authorizer Version: version 1.0

Creation Date: August 11, 2008 Person-in-charge: Marie Angelie Alcoriza

Preconditions

- 1. The person must have an account in Express Link.
- 2. The authorizer must have a mini key.
- 3. The authorizer must have the software for mini key.
- 4. The authorizer must be logged in.

Flow of Events

Main Success Scenario

- 1. Authorizer views the files uploaded.
- 2. Authorizer clicks on the employees who will receive the payroll.
- 3. Authorizer inserts mini key before proceeding with the transaction.
- 4. Authorizer clicks submit.

Error Sequence

From 3

The user lost the mini key

Use Case Fails

Post conditions

- 1. The money on the account will lessen
- 2. The employees receive their salary.

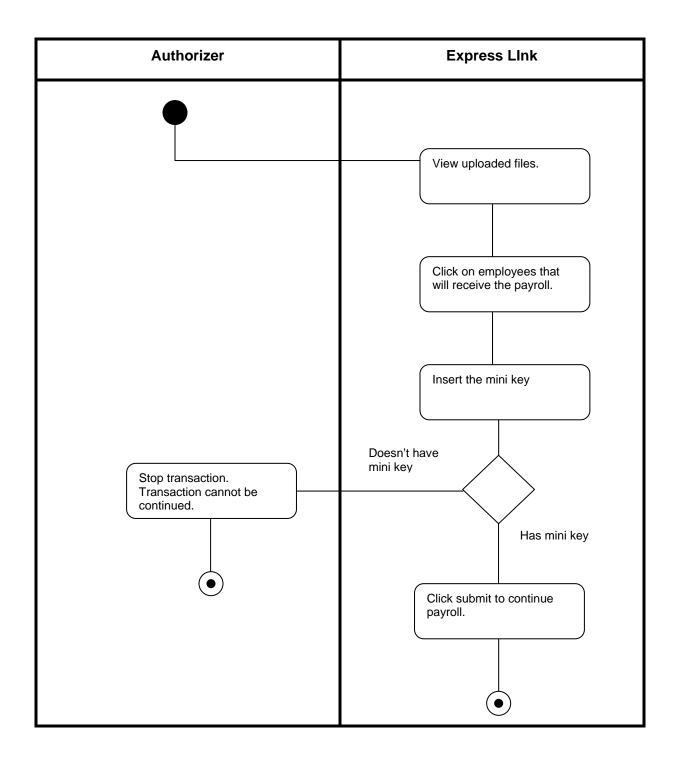
User Interface Requirements

- a. minikey (input)
- b. software for the minikey (input)

Non Functional Requirements

Integrity: The encoding of employees' account number must be accurate

Activity Diagram – Transfer money to Employees



Title: Checking Balance on a BPI Express link account.

Summary: This use case allows a BPI express link user to check their account balance.

Actors: Authorizer

Creation date: August 12, 2008

Version: 1

Flow of events:

Preconditions:

- 1. Authorizer must have an Express Link account
- 2. Authorizer must be logged-in

Main Success Scenario:

- 1. The user must click 'check balance'
- 2. The user chooses if 'Today's Transaction' or 'Account History'.
- 3. User Select one transaction.
- 4. User Clicks submit.
- 5. Website shows the transactions.

Alternative Sequences:

- A1. Browser logged-out the user's account.
 - 2. The system informs you to log-in again.

Error Sequences:

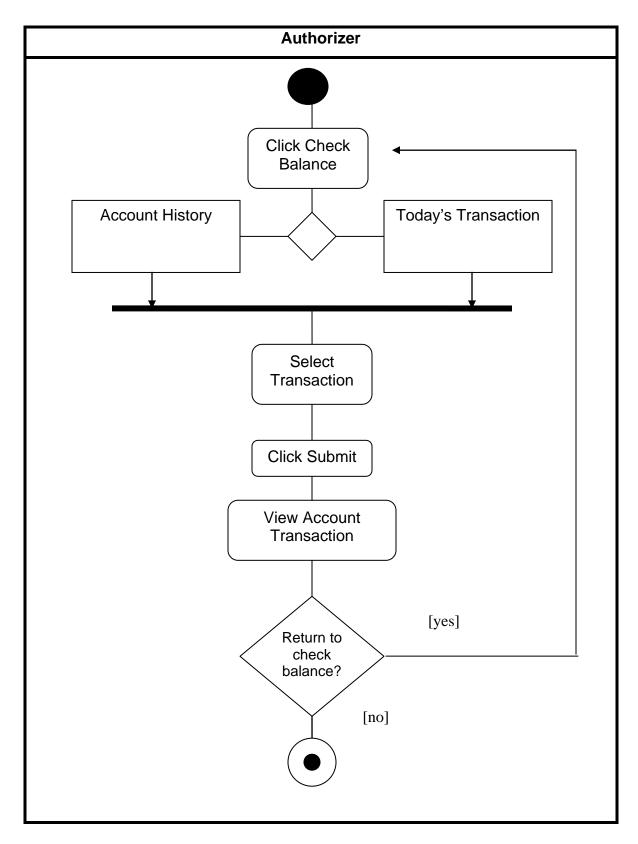
- E1. No internet connection
 - 1. The desired page cannot be displayed.

Use case fails.

Post Conditions:

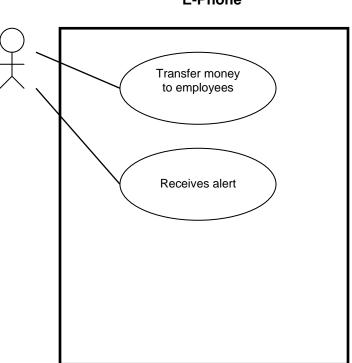
-the user updates his account.

Activity Diagram - Checking Balance



E-Phone Page 110 of 119

Use Case Diagram (Proposed System)



E-Phone

Identification Summary:

Title: Transfer money to employee

Summary: This use-case allows authorizer to know how to transfer money to

employees ATM account.

Actors: Authorizer

Creation Date: Aug. 10, 2008

Date of Update: Aug.11,2008

Version: 1.0

Person in-charge: Shelyn Chua

Flow of Events:

Preconditions:

- 19. The authorizer should have e-phone software on their cellphone.
- 20. The authorizer should have his or her e-phone pin number.

Main Success Scenario:

- 40. The authorizer will access his or her e-phone software on their cellphone.
- 41. The authorizer will now access through internet to get connected.
- 42. The authorizer will input his or her e-phone pin number.

- 43. The authorizer will check the database of payroll.
- 44. The authorizer will send payroll to employee's ATM accounts.

Alternative Sequence:

. A1. Access internet failed

From 0

- 1a. The e-phone can't access through internet.
- A2. Incorrect pin number

From # 2

2a. The e-phone will inform the authorizer that he or she has incorrect password.

3a.Goes back to #3

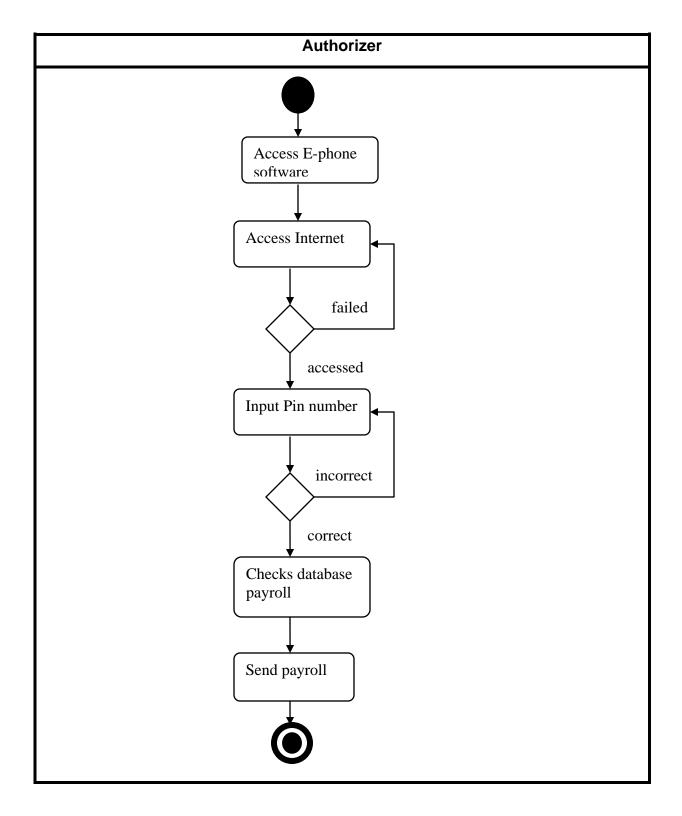
Error Sequence:

- E1. From 0
 - 1. The system of the BPI are down.

Post Condition:

- 1. The authorizer will finish payroll.
- 2. The employees can get their salaries on their ATM account.

Activity Diagram – Proposed System Transfer money to ATM account



Title: Receives Alerts

Summary: This use case shows how the user can receive alert on their e-phone when changes occur in their account.

Actors: authorizer, mainframe Version: version 1.0

Creation Date: August 11, 2008 Person-in-charge: Marie Angelie Alcoriza

Preconditions

- 1. The person must have an account in Express Link.
- 2. The authorizer must have a cell phone.

Flow of Events

Main Success Scenario

- 1. Mainframe verifies if there are changes that happened today.
- 2. Mainframe sends changes to authorizer's phone.

Error Sequence

From 1

- 1.1 There are no changes in the authorizer's account
- 1.2 Use Case Fails

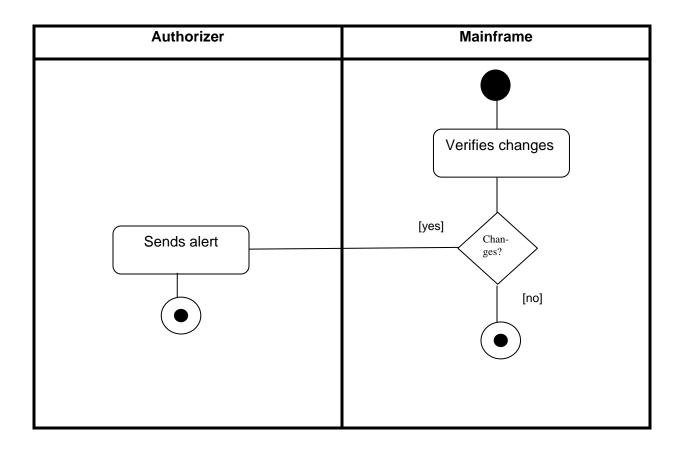
Post conditions

1. The account will be updated.

User Interface Requirements

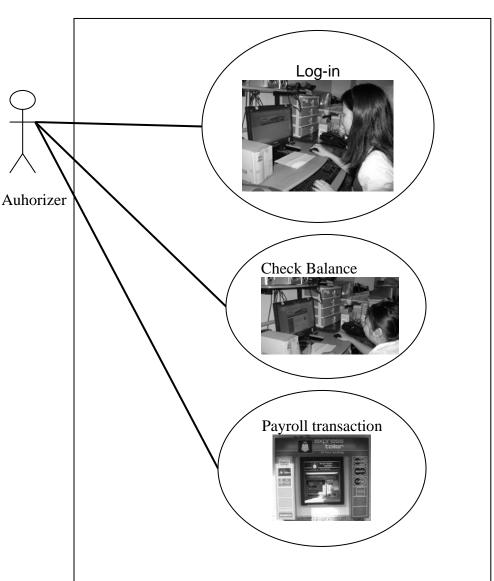
1. cellphone

Activity Diagram Receive alerts



Process walkthrough:

Process walkthrough:



ExpressLink

Process walkthrough:

- 1. Log-in username and password on ExpressLink
- 2. Check Balance
- 3. Transfer money to employee's ATM

Processing Time vs. Cycle Time

Existing System

Activities	Processing Time	Cycle Time
1. Log-in to Express link	20 sec.	1 min.
2. Check Balance	5 min.	10 min.
3. payroll transaction	10 mins.	20 mins.
Total:	15mins. and 20 secs	32 mins.

Proposed System

Activities	Processing Time	Cycle Time
1. Log-in to Express link	20 sec.	1 min.
2. Check Balance	5 min.	10 min.
3. payroll transaction through	3 mins.	5 mins.
E-phone		
Total:	8 mins. and 20 secs	16 mins.

Geographic Flowchart

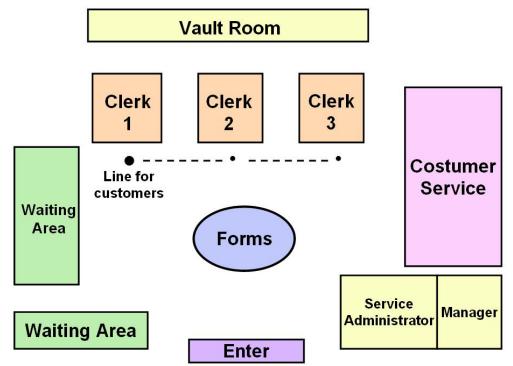


Table of Recommendation

Problem addressed	Recommended Changes	Activities affected by change
Cannot detect if an employee has closed account or there is an unsuccessful payroll.	the authorizer will receive a message that there are changes on his account	Transferring money to employees account. Uploading employees' file
Signatories changed or mini keys were lost	Instead of using mini keys, cellphones will be used. They will just need to connect their phone to their computers. They can also use the cellphone to do transactions on express link.	Transferring money to employees account

Appendix 3

Bibliographies:

Book: Systems Analysis and Design for the small enterprise Author: David Harris Reference: Harris, David. Systems Analysis and Design for the small enterprise. Canada: Thomson Learning Inc., 2003. Link: http://www.amazon.com/Systems-Analysis-Design-Small-Enterprise/dp/0030349036

Book: Founders at Work. Author: Jessica Livingston Link:<u>http://www.amazon.ca/Founders-Work-Stories-Startups-Early/dp/1590597141</u>