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## Introduction

In this report, I will outline the techniques and procedures that apply to Tune Source. To better understand the requirements of Tune Source, some schemes such as ERD, DFD will be applied to the project. Next based on the background and available knowledge I will methodically describe the software behavior, reliability and effectiveness of the software.

## REQUIREMENTS DETERMINATION

### What Is a Requirement?

A basic requirement is a statement of what the system has to do or what features are required. In a system development project, requirements will be created to describe what the business needs. In order for the project to develop, a number of requirements are required, (Alan Dennis, 2012) for example:

- Business requirements: what businesses need to do
- User requirements: what users need to do
- Functional requirements: The essential features in the system • Non-functional requirements: System features should be available
- System requirements: how to build the system.

The above-mentioned requirements are in order to understand the necessary information to best test the system

### 2. Types of requirement

Functional requirements: in software and system engineering, for the system to function requires a function that describes the features and functions necessary for the system. The International Business Analytics (IIBA) defines Functional requirements are capabilities of a product, or things that a product must do for its users. Functional requirements begin to determine how the system will assist users to complete a task. Functional requirements are very important, it is directly related to a user support system, helping to complete tasks and provide information to users while performing a task. Therefore, when addressing functional requirements, we need to identify the issue and its stakeholders. (Alan Dennis, John Wiley & Sons, 2012)

A function request:

- In order to make a project successful, software development is indispensable to the process orientation, the process must be properly and clearly implemented to create the product.

- Information orientation: For developers or users, the request for information

is essential because customer, management, buyer and seller information must always be kept confidential and secure, for example, the system Shoppe online shopping keeps customer information in the next purchase.

Nonfunctional requirements: The IIBA defines this group of requirements as “the quality attributes, design, and implementation constraints, and external interfaces which a product must have.” The type of request has its attributes that the system must have such as performance, security, etc.

Operational

The physical and technical environments in which the system will operate

Performance

The speed, capacity, and reliability of the system

Security

Who has authorized access to the system under what circumstances

Cultural and Political

Cultural and political factors and legal requirements that affect the system

### Requirements elicitation techniques

- First, the analyst should realize that side effects are important of the requirements definition process including building political support for the project and establishing trust and relationships between the project team and users.
- Second, the analyst needs to determine clearly and carefully who is included in the request identification process.
- Finally, do everything possible to respect the commitment of the time you are asking the participants to make. The best way to do this is to fully prepare and make good use of all the types of evocation techniques required.

### Requirements

By using these techniques and customer survey skills I can collect information about customer requirements for the application:

Functional requirements:

- Users request the search feature by song title or artist name in the app
- Users require a function for applications that divide music into themes to help them listen to different types of music more easily

- Users can purchase individual downloads for a fixed fee per download or set up a customer registration account on the app that allows unlimited downloads for a certain fee for a fixed period of time. Specified - Users can buy and download music with monthly offers or give music to friends.

#### Non-Functional requirements:

- Websites and applications can be customized so they can be used on electronic devices such as computers, phones, and web browsers.
- The interface of the site is simple to utilize and user-friendly but still must be completely utilitarian.
- The dialect of the site must be changed must be customized to suit the user, at slightest from English to Vietnamese.

#### Interview

- Interviews are the most commonly used evocation technique. Can understand for example, when you go to an interview at a company and get a job at that company, but when you are assigned to an internship, you do not know how to do or have no experience, the easiest and effective way especially ask colleagues or do your own research online. Generally, interviews are conducted one by one (one interviewer and one interviewee), but sometimes, due to time constraints, it is possible to interview 2 to 3 people at a time.

The interview consists of 5 processes:

- Select interviewees: Selecting Interviewees An interview schedule should be created, listing who will be interviewed, the purpose of the interview, and where and when it will take place. The people who appear in the interview list are important factors in the choice based on the developer's requirements. Project sponsors, business users, and project members can meet analyst requirements. To get the best results on an issue, the interview list includes project managers and staff.
- Design interview questions: There are three types of interview questions: closed-ended questions, openended questions, and probing questions.
  - Closed-ended questions empower investigators to control the meet and get the data they require. In any case, these sorts of questions don't reveal why the reply is the way it is, nor do they reveal data that the questioner does not think to inquire ahead of time.
  - Open-ended questions: The interviewees can reply based on their understanding. Open-ended questions are planned to accumulate wealthy data and grant the interviewee more control over the data that's uncovered amid the meet

- The third type of question is the probing question. and they frequently are utilized when the questioner is hazy approximately an interviewee's reply.

- Prepare for the interview: The interview needs to be well prepared, so you should have a general interview arranged in which to record the questions to be prepared, considering the order of questions is appropriate for the developer.
- Conducting interviews: Conducting the Interview Once you begin the meet, the primary objective is to construct compatibility with the interviewee so that he or she trusts you and is willing to tell you the total truth, not fair provides the answers that he or she considers you need. You ought to show up to be proficient and an fair, free searcher of information. The meet ought, to begin with, an explanation of why you're there and why you have got chosen to meet the individual, and then move into your planned interview questions. It is basic to carefully record all the data that the interviewee gives. (ALAN, DENNIS; BARBARA, HALEY WIXOM; ROBERTA, M. ROTH;, 2012, p. 117)
- Post-interview Follow-up: After the interview is over, the investigator has to plan an meet report that depicts the data from the interview. The report contains meet notes, data that was collected over the course of the meet and is summarized in a valuable arrange. In common, the meet report ought to be composed inside 48 hours of the meet, since the longer you wait, the more likely you're to disregard data

### **Document Analysis**

Project teams often use document analysis to understand the as-is system. The extended group that created the existing system will have created documentation, which was at that point overhauled by all consequent ventures. most systems are not well recorded In any case, there are numerous supportive records that do exist within the organization: paper reports, notices, arrangement manuals, client preparing manuals, organization charts, and shapes.

### **Joint application development (JAD)**

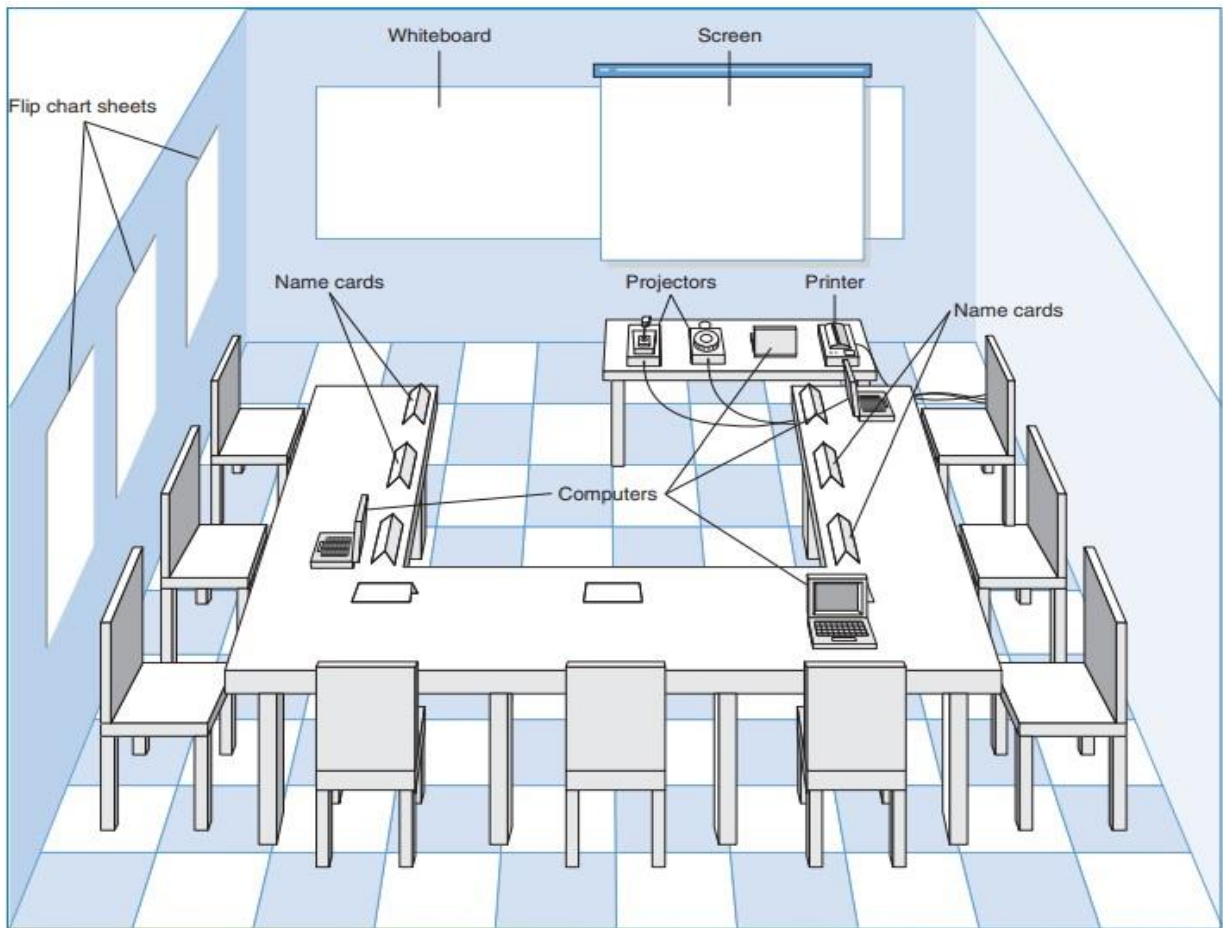
Joint application development (or JAD as it is more commonly known) is an information-gathering technique that allows the project team, users, and management to work together to identify requirements for the system. It is regularly the foremost valuable strategy for collecting data from users.

JAD is a structured process and the following will be elements of JAD:

- A facilitator is a person who sets the meeting agenda and guides the discussion but does not join in the discussion as a member.

- One or two scribes assist the facilitator by recording notes, making copies, and so on.

- The JAD bunch meets for a few hours, a few days, or a few weeks until all of the issues have been talked about and the required data is collected. The assembly room is as a rule organized in a U shape.



- There are 5 steps in the JAD technique:
  - Selecting Participants: Selecting JAD participants is similar to choosing interview participants
  - Designing the JAD Session: Session JAD sessions can run from as small as a half-day to a few weeks, depending upon the estimate and scope of the project. In our encounter, most JAD sessions tend to final 5 to 10 days spread over a 3-week period.
  - Preparing for the JAD Session: Planning for the JAD Session As with the meeting, it is critical to get ready for the analysts and members for the JAD session. Since the sessions can go past the profundity of a normal meet and as a rule are conducted off-site, members can be more concerned almost how to plan.
  - Conducting the JAD Session: Most JAD sessions attempt to take after a formal motivation, and most have formal ground rules that characterize suitable behavior. Common ground rules incorporate taking after the plan,

regarding others' conclusions, tolerating contradiction, and guaranteeing that as it were one individual talks at a time

- Post-JAD Follow-up: As with interviews, a JAD post-session report is ready and circulated among session participants. The post-session report is basically the same as the meet report. Since the JAD sessions are longer and give more data, it ordinarily takes a week or two after the JAD session finish.

#### **Select a requirements elicitation for our project**

With all the technical data as well as the process that appeared over, I think you ought to select JAD. It is appropriate for Tune Source to extend and below is the reason why JAD should be selected:

- An advantage JAD project group, clients and supervisors to work together to decide the necessities for the system. This way increments the trade between clients and the venture group, the condition given will to be uniform.
- the implementation of the JAD project allows you to solve simple difficulties and produce software better, without errors. Therefore, system application after being developed will reduce errors significantly
- Tune Source is an average project suitable for JAD because JAD reduces the cost and time required for project development.

### **Technical solutions**

In this section, we discuss how to choose a strategy to deploy the system. There are 3 ways to implement the system: Custom Development, Packaged Software, and Outsourcing

#### **Custom development**

Many project teams think that custom development or building a new system from scratch is the best way to create a new system. For one, teams have full control over how the system and functions. Let's consider the purchasing process for Tune Source. If the company wants a Web-based feature closely linked to the existing CD sales system, the project may include a complex, highly specialized program. In addition, Tune Source may have a professional technical environment in which all information systems are built from standard technology and interface design to be more suitable and easier to update and support. . In both cases, it can be very effective to create a new system from scratch that meets these highly specialized requirements. When developers don't find an outdated solution or solution, custom development is a good choice. Custom development allows developers more flexibility and innovative solutions. In addition, developing custom applications requires hard work

#### **Packaged Software**


Currently, many software buying organizations have been developed, instead of developing their own custom solutions. This is also considered a rapid and effective development step for system development.



With the need that Tune Source will add to the project, it is easy, fast and flexible to provide digital music purchased over the Internet to buyers. Some problems that may be encountered when using the bundled software: The company may have to accept that the bundled software may be similar to other companies.

### Out – sourcing

Another option would be to hire an external provider, developer or service provider to create or provide the system. Outsourcing companies called application service providers (ASPs) provide software applications and Internet-related services. With this solution, the company will save the cost of hiring employees to implement the project. The solution also has some disadvantages such as security and data theft through sourcing, managing this risk by carefully examining contracts, not hiring untrusted contracts.



	When to Use Custom Development	When to Use a Packaged System	When to Use Outsourcing
Business need	The business need is unique.	The business need is common.	The business need is not core to the business.
In-house experience	In-house functional and technical experience exists.	In-house functional experience exists.	In-house functional or technical experience does not exist.
Project skills	There is a desire to build in-house skills.	The skills are not strategic.	The decision to outsource is a strategic decision.
Project management	The project has a highly skilled project manager and a proven methodology.	The project has a project manager who can coordinate vendor's efforts.	The project has a highly skilled project manager at the level of the organization that matches the scope of the outsourcing deal.
Time frame	The time frame is flexible.	The time frame is short.	The time frame is short or flexible.

### Evaluate 3 solutions

We have a rating board

Evaluation Criteria	Relative Importance (Weight)	Custom Development	Score (1-5)	Weighted Score	Purchase Packaged software	Score (1-5)	Weighted Score
Technical Issues							
Familiaritywitha plications	20		5	90		3	60
Familiaritywitht echnology	20		5	100		5	100
Compatibility	10		3	30		3	30
Project size	10		3	30		4	40
Total				585			545



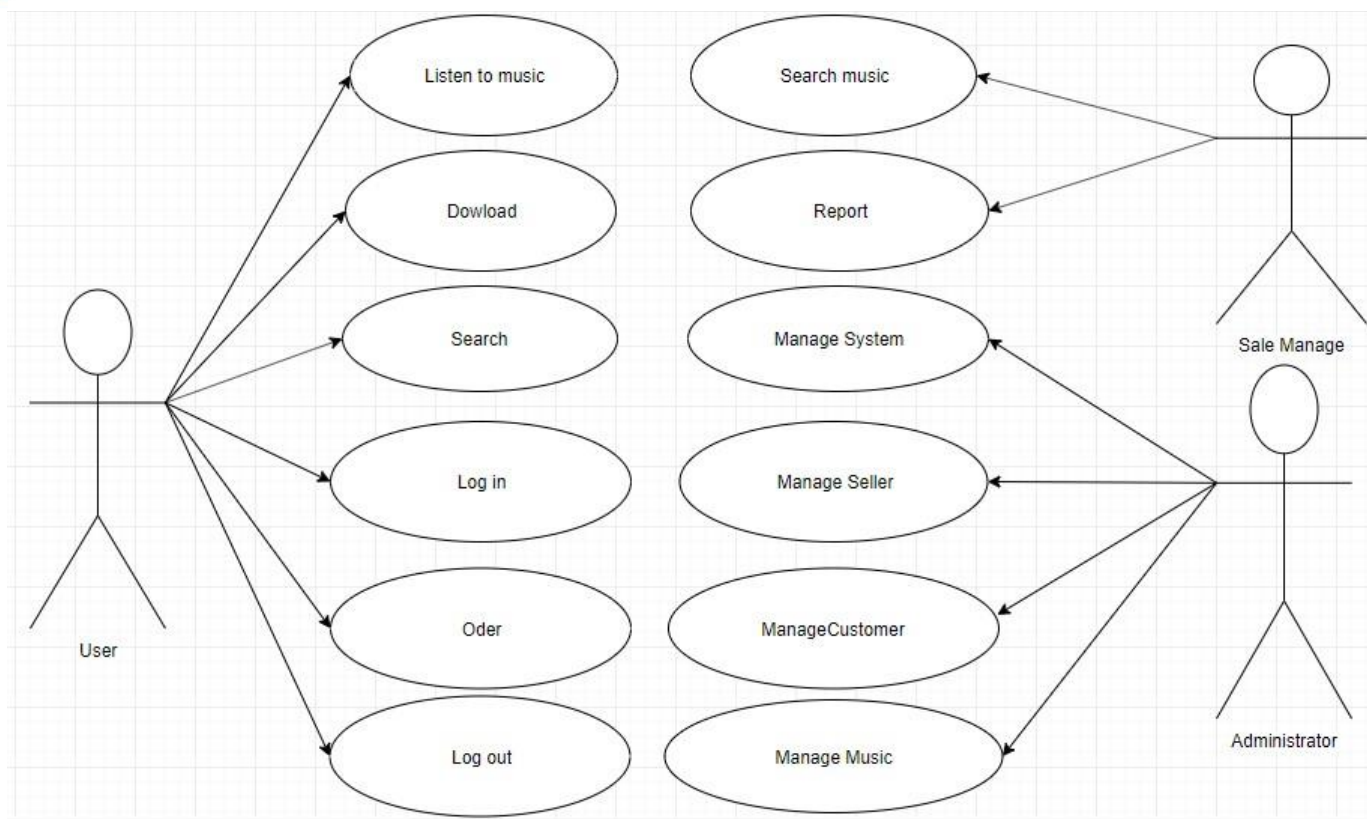
Evaluation Criteria	Relative Importance (Weight)	Out – sourcing	Score (1-5)	Weighted Score
Technical Issues				
Familiaritywitha plications	20		4	70
Familiaritywitht echnology	20		4	100
Compatibility	10		2	30
Project size	10		4	30
Total				460

After evaluating the solutions, it can be seen that the development of new systems in the direction of Custom development is most effective and reasonable.

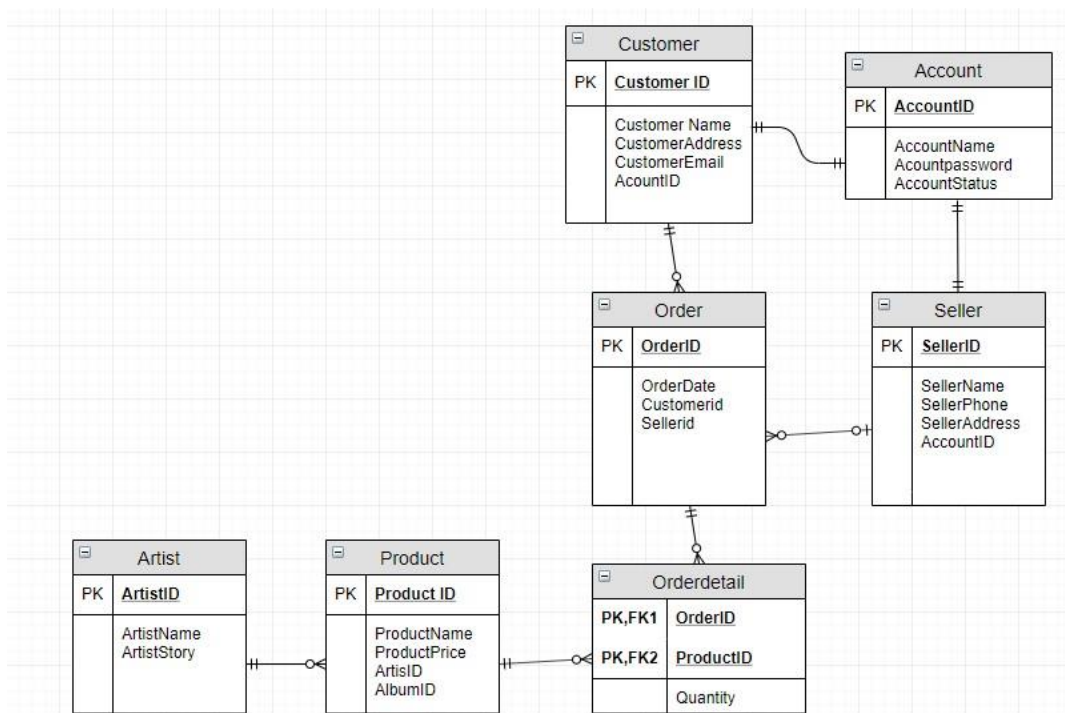
### Diagram

#### Use case diagram

Underneath is the chart I set upon them request :

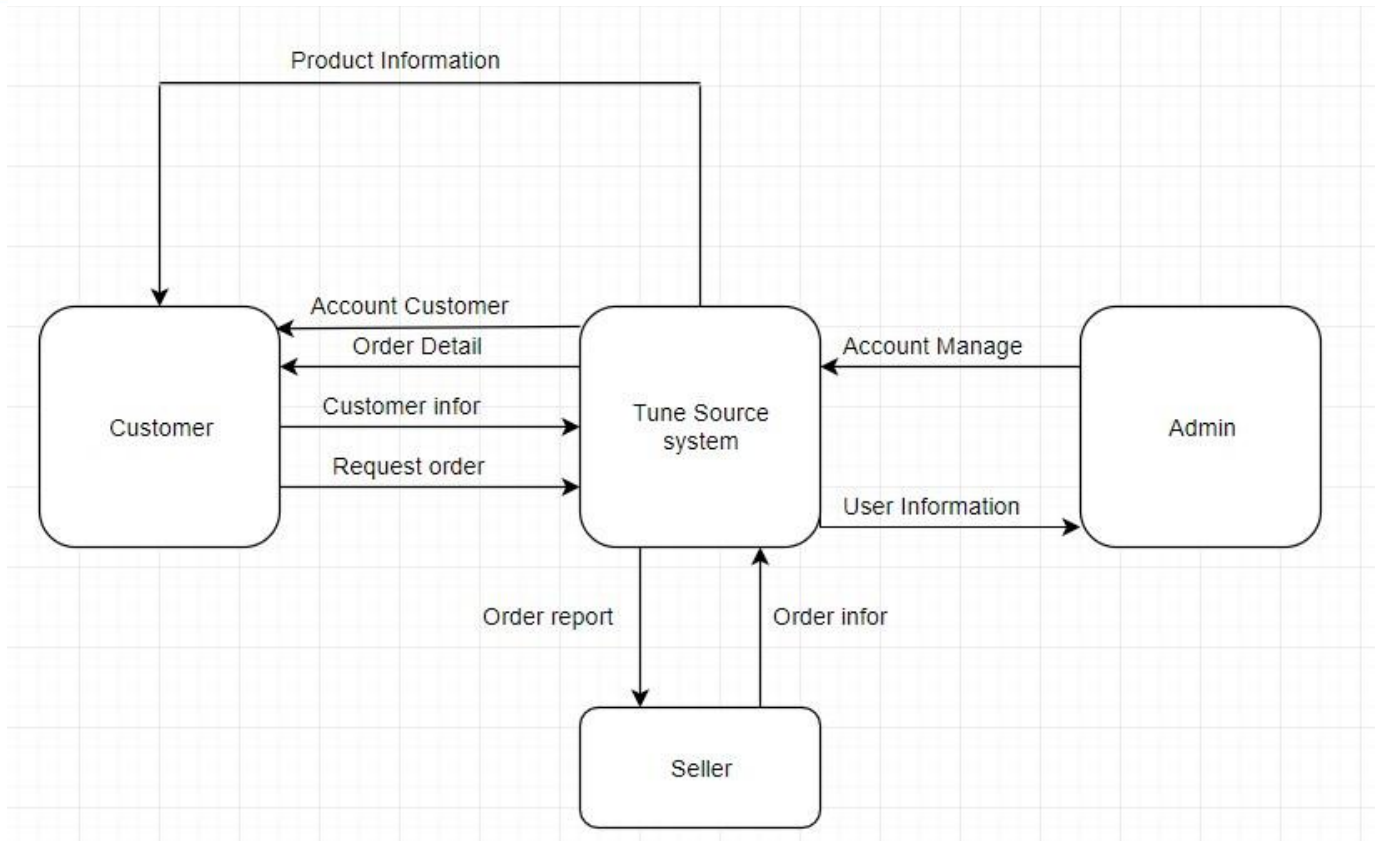


## 1. Use ERD diagram



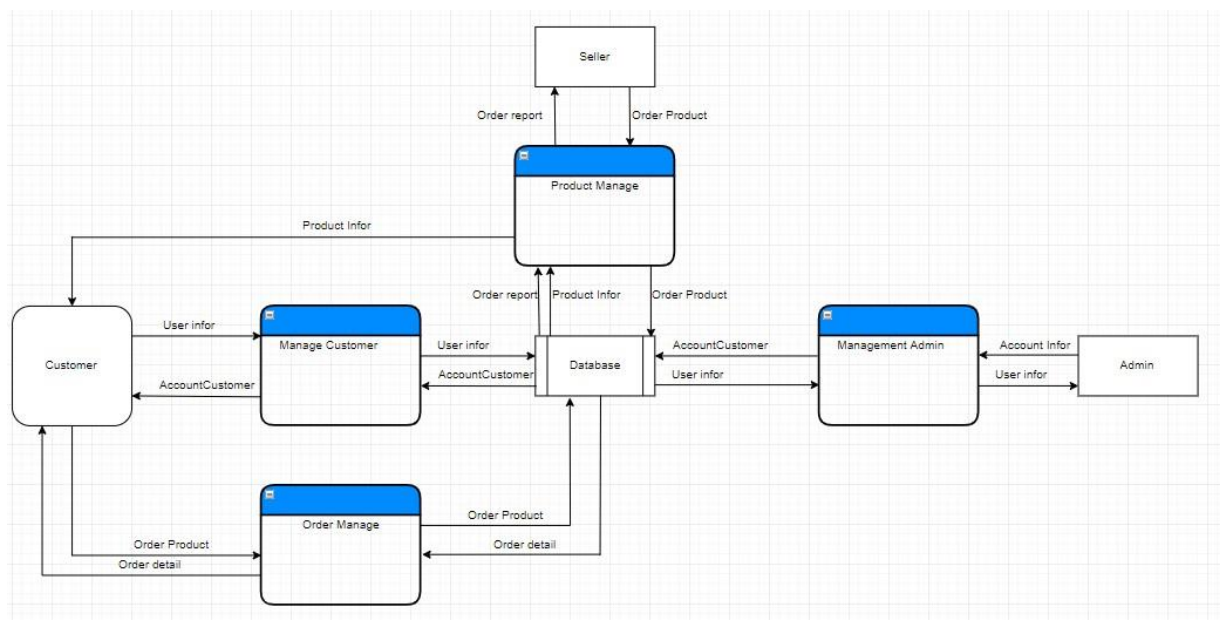
## DFD Level 0

At the request of Tune Source, I created a DFD diagram of level 0

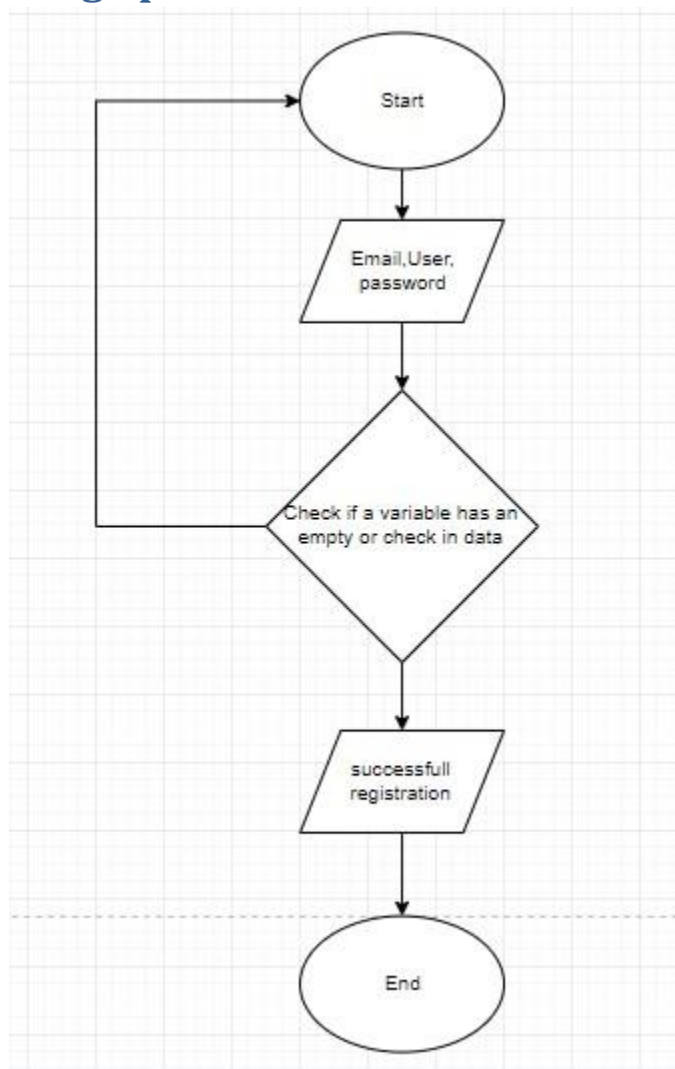


## DFD Level 1

After I have a Level 0 DFD graph, I will at that point make an improvement Level 1 DFD graph from the Level 0 DFD chart.



## Flow Chart for Sig up



### Registration page

Login page, clients can Sign up to make an unused account by filling out the data on the enrollment page and clicking on the button.

Sign Up

Name

Do The Vinh

Password

\*\*\*\*\*

Email

Customer@gmail.com

Sign Up

Insert into Account(AccountID,AccountName,AccountPassword,Accountemail) values

('1' , 'do the vinh' , '12345679' , 'Customer@gmail.com')

## Test Case

Case	Test	Type Test	Test Steps	Expected Result	Status
1	Check login	Normal case	Step 1: Fill In enough requirement, nam = "Do The Vinh", email =" Customer@gmail.com ", password ="12345679" Step 2 click button Sign u	Data has been added to the database. Display	Passed

				"successful registration	
2	Check login	Abnormal Case	Step 1: Fill In enough requirement, name = " Do The Vinh ", password ="12345679", email ="Customer@gmail" Step 2 click button Sign up	Display " Sign up Fail Error: invalid email	Passed
3	Check login	Abnormal Case	Step 1: Fill in the information, name = " Do The Vinh ", password =" " , email =" Customer@gmail.com " Step 2 click button Sign up	Display " Sign up Fail Error: Name not null "	Passed
4	Check login	Abnormal Case	Step 1: Fill in the information, name = "", password ="12345679 " , email =" Customer@gmail.com " Step 2 click button Sign up	Display " Sign up Fail Error: Name not null "	Passed

## References

Alan Dennis, John Wiley & Sons, 2012. *Systems Analysis and Design, 5th Edition*. s.l.:s.n.

Alan Dennis, J. W. & S., 2012. *Systems Analysis and Design, 5th Edition*. s.l.:s.n.