

Empower Educated Unemployment to Support Learning Process Using Website Development

Debby Cyntia Ganesha Putri¹, Wahyu Sri Handayani², and V.N. Sulistyawan³
^{1,2,3}Industrial Engineering Faculty – Telkom University
debbycintiaganeshaputri@gmail.com¹, wahyusrihandayani4@gmail.com², veraraera@gmail.com³

Corresponding author: debbycintiaganeshaputri@gmail.com

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Abstract—There are so many graduated people from university, and it affects the number of unemployment who are educated and have specific knowledge in some field. In the other side, in our new education curriculum, students have to learn much by their self. The teacher only needs to monitor them. They do not teach at all. Students usually search the review their courses from the internet which are not valid at all because it is usually opinion from the author. Therefore, the educated person is essential to support education in informal learning. In this paper, authors made an innovation of website which can be used to confront educated unemployment with students to share and learn a specific knowledge. By using a website (such as a common website for marketplace), both of unemployment and student can get the benefit, such as knowledge and skill for students, and also profit/income for unemployment. This informal learning process would be held either online or offline, which unemployment as a teacher and students meet to do learning process. This website would provide benefits for all entities which involved in business processes, such as salary from the student for the teacher and profit from sharing with the teacher, promotion on the website, and sponsor of the website for the service provider.

Keywords—Education, students, unemployment, website.

I. INTRODUCTION

1.1. Background

Education is used to increase the quality of human being whether for individual or a group of people [1], said that Education gives extraordinary power to build many aspects in an environment and provide the most valuable information regarding the future life in the world.

Based on the data from Ministry of Education and Culture [2], there are 1.142 million new entrance students to public and private college in 2011/2012. The number is increased into 1.145 million new entrance students in 2012/2013. It means that there are more people want to get an education to make their future life better.

As well, there are many students graduated from the college each year. There are 738.260 of college students graduated in 2011/2012 and the number increase in 2012/2013 into 807.319 students. Unfortunately, there are around 600.000 of them do not get any review the job after their graduation. They become an unemployment whereas they have studied in the college and spent a few years to learn many things, many skills, and many reviews their knowledge to prepare for their future life. The reason is the limit number of job vacancy offered. On the other side, many college students need the skills and knowledge and learn more things to pass the college's obligations in every course. Especially, in the new curriculum, students are required to learn the courses independently.

Usually, students find the subject matter of their courses on the internet. Based on our survey, 78% of respondents usually use the internet to help them to study and learn something.

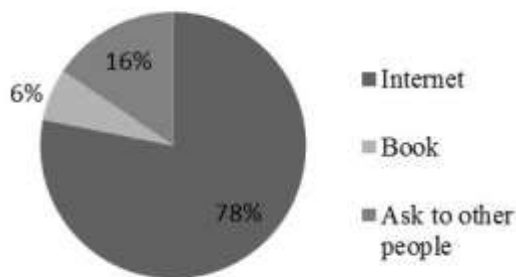


Fig. 1 Students study resource

However, the subject matters on the internet are not exactly correct at all. Almost 50% of them said that it is not valid. It can be an opinion of the author, especially for personal blog/website. While the educated unemployment have that skill and knowledge, but they do not have any chance to implement it. Therefore, they can share it with other students and support Indonesian education in informal learning.

Furthermore, nowadays, the number of internet users in Indonesia is significantly increasing. In 2016, there are 88.1 million internet users. The number is significantly increasing into 132.7 million users. It is a big number that could be utilized and empowered to increase Indonesian economic condition [3]. The internet services can be utilized to sell the product to the internet [4]. The seller can sell their product to the entire area without any space limitation. The product can meet the buyer, who is the person that needs the product. It can benefit both of buyer and seller.

To support education process, the educated unemployment would be managed and grouped by using website named StudyConnect.com which concern about how educated unemployment meets the students and doing learning process, sharing knowledge and skills as the way for educated unemployment to get profit.

1.2. Problems Formulation

Based on the problems, the conducted research regarding:

1. How to design the architectural design of StudyConnect.com?
2. How is the architectural design of StudyConnect.com visible?

1.3. Reseach Objectives

Based on the problems formulation, our objectives:

1. Develop architecture application of StudyConnect.com
2. Develop a website interface of StudyConnect.com

1.4. Research Advantages

Our research would be useful for people who are educated unemployment and students. StudyConnect.com would support them to perform learning process which would give profit for the unemployment and knowledge for the students.

1.5. Problem Constraints

Because of the broad scope of unemployment and education, there are some constraints for this research.

1. A solution for educated unemployment and students is provided in the form of the website interface.
2. The realization of e-commerce would not be done because of time limitation.

The problems are focussed on unemployment problems which cause the low economic condition, students who need knowledge, and the way how to meet them up.

II. LITERATURE REVIEW

2.1. Previous Research

This part is about explanation and comparison from previous research to this research in the same method or same topic. Risqon presented a research on Mobile Application Design for Marketing Products and Services to a variety of E-commerce in Indonesia using IterativeIncremental Method. The use of the concept of crowdsourcing application is the development of outsourcing in which the crowd that is needed as a solution [4]. Implementation of crowdsourcing to provide the opportunity for unemployed to promote themselves and their skill in kind of science field that can easily access and find the information about suitable the online teachers.

2.2. Learning Planner

In the interaction and communication in social community is crucial. According to the expert understanding, cognitive psychology of both students and unemployment utilize cognitive field since the correct functioning of the motor and sensory capacities. In this context, the learning process online through StudyConnect.com can help as a solution that becomes a problem for students in difficulty to find the right teacher and unemployment to share knowledge with a revenue.

2.3. E-commerce

Electronic Commerce (E-commerce) is the deployment, purchasing, sales, and marketing of goods and services through electronic systems via the Internet www (World Wide Web) or computer network, E-commerce can involve electronic data interchange, automated inventory management systems, electronic funds transfer, and automated data collection systems [5]. As the revenue stream in StudyConnect.com, the site manager can promote any activities, faculty, information about the science that can be taken and more like a period of online learning anywhere and anytime. Can provide advertising opportunities with additional costs as a promotion for teachers and other institutions.

2.4. Development Method

System development method used is iterative and incremental [6], iterative development strategy is rescheduling the time to revise and improve the system, while the incremental development is gradual and scheduling strategy in which the various parts of the system developed at the time or with a different level and integrated when it has finished. The incremental development provides an opportunity to improve development processes and also match the needs. Iterative development helps in improving the quality of products [7]. Iterative and incremental model technique is one of the techniques recommended for all the construction applications ranging from small applications to large applications.

Iterative and incremental development is a discipline for developing systems based on any producing deliverables. In incremental

development, the different parts of the system are developed at various times or rates and are integrated based on their completion. In iterative development, teams plan to revisit parts of the system in order to review and improve them. User feedback is consulted to modify the targets for successive deliverables.

Iterative and incremental software development came about in response to flaws in the waterfall model, a sequential design process in which progress flows continuously downwards. It differs from the waterfall model because it is cyclical rather than unidirectional, offering a greater ability to incorporate changes into the application during the development cycle.

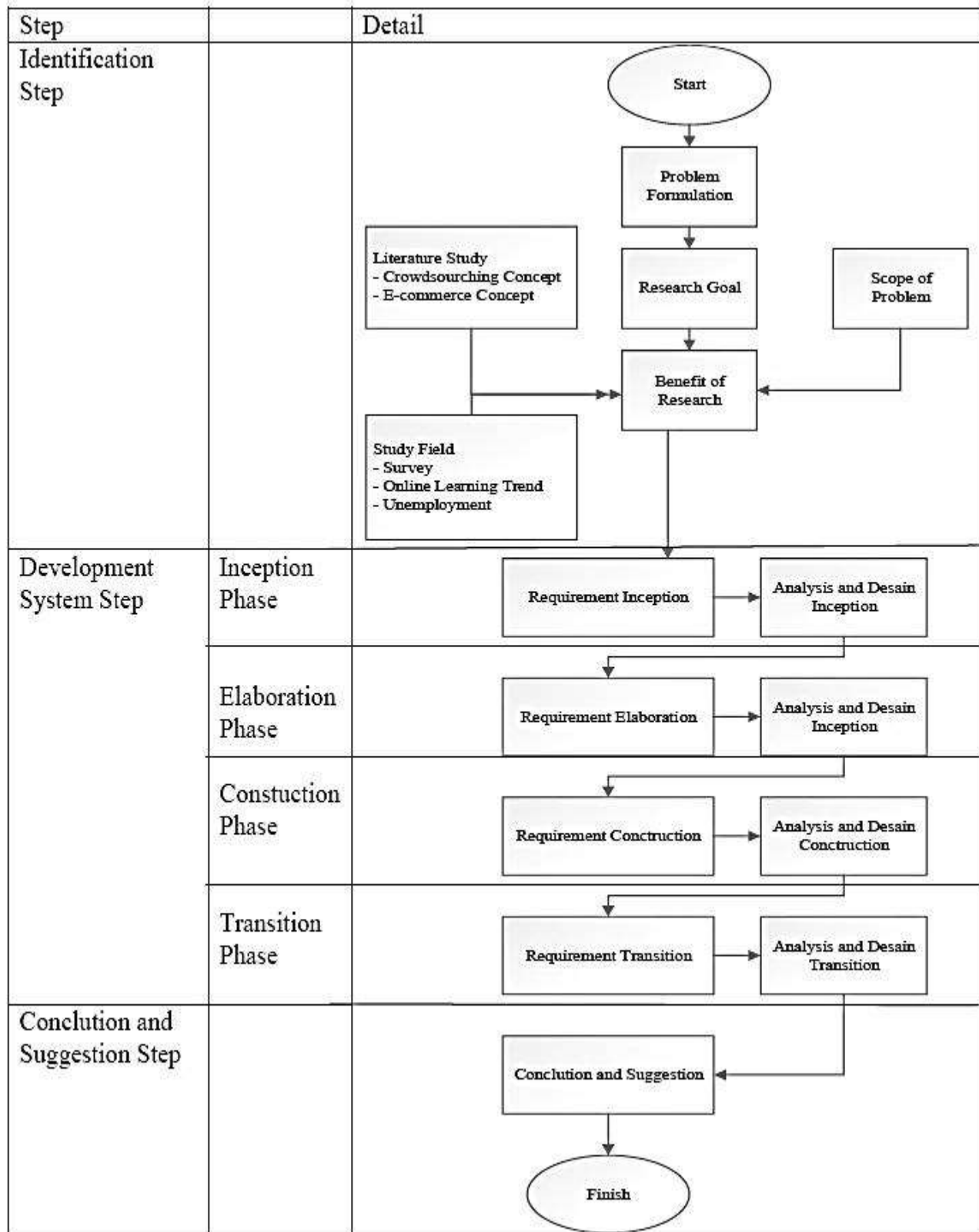
Iterative and incremental development can be grouped into the following phases:

1. Inception Phase: Deals with the scope of the project, requirements, and risks at higher levels
2. Elaboration Phase: Delivers working architecture that moderates risks identified in the inception phase and satisfies nonfunctional requirements
3. Construction Phase: Fills in architecture components incrementally with production-ready code, which is produced through the analysis, implementation, design, and testing of functional requirements
4. Transition Phase: Delivers the system to the production operating environment.

III. METHODOLOGY

3.1. Warterfall Model

TABLE 1
RESEARCH METHODOLOGY



The Waterfall Model was first Process Model to be introduced. The waterfall model is a sequential (non-iterative) design process, used in software development processes, in which progress is seen as flowing steadily downwards. In a waterfall macro process, just one pass is made through the disciplines the requirements for the entire system are defined, followed by the analysis and design of the StudyConnect.com system.

In an iterative and incremental macro process, there are multiple passes through the disciplines, and the scope of the work performed in each discipline during each pass depends on the overall development process. It is also referred to as a linear-system development life cycle model. System Development Life Cycle (SDLC) is a development process in which the entire system development process is done through a process of multi-rare.

3.2. Waterfall Method

There are some stages in waterfall method, as follows :

1. Requirements: Establish and maintain an agreement with the customers and other stakeholders on what the system should do. Define the boundaries of (delimit) the system.
2. Analysis and design: Transform the requirements into a design of the system, which serves as a specification of the implementation in the selected implementation environment. This includes evolving an intense architecture for the system and establishing the common mechanisms that must be used by different elements of the system.
 - a. Analysis, this step is an analysis of the system requirements. Collecting the data in this stage can do a research, interview or literature. Systems analysts would extract as much information from the user that would create a computer system that can perform tasks desired by the user. This stage would produce a document requirement user or can be regarded as data relating to the wishes of the user in the system.
 - b. System Design is stages where do the casting of mind and system design of the solution of the existing problems by using system modeling tools such as data flow diagrams (data flow diagrams), mock-up a picture display system design applications as well as the structure and discussion of data.

IV. EXPLANATION

In this research, used the iterative and incremental methodology to support our research in building correct website design. Here is the process flow that has been done to achieve the objective.

4.1. Requirement

System development need to be designed to fulfilling the user requirements in order to solve the problems. The user requirements are explained bellow.

1. Be provided that the system can solve the problem regarding courses needed by students, especially collage students, and also deliver the course precisely by using website.
2. Be provided that the system can be a channel for educated unemployment to get earning for them selves.
3. Be provided that the system can help students to study even they have limited time and less cost. This system can be use everywhere, every time, and can adjust the schedule based on both agreements (teacher and student).
4. Be provided that the system can reduce low economic condition which is caused by many numbers of unemployment and support education system in cheaper cost.

4.2. Analysis and Design

This analysis is used to build a system which is required by user. Application design is built based on the business benefit which has get from survey to the user, directly.

1. Application Target

The analysis of process and development system requirement give application highlight which have features which give benefit for the user. The feature of menu would meet the user's requirement toward the system. The

requirements by doing the interview to the user (students collage).

2. Proposed Application Design Based on Business Function

Application needs are formulated based on business function of each menu features by the user of StudyConnect.com. In solving the problem, the conducted interview to the users also used the iterative and incremental method. It would has a good impact on the improvement of the proposed website system.

Based on our research, 98% of our respondents said that our web, StudyConnect.com is really useful. It can help both of students and teachers by utilizing the developed communication technology.



Fig. 2 The useful of StudyConnect.com from respondents

TABLE 2
FIRST PROPOSED DESIGN OF STUDYCONNECT.COM

Features Menu	Sub Menu
"Account" Menu	Student's Account
	Teacher's Account
"Search" Menu	Search button
"Data Information" Menu	Teacher's ID
	Teacher's Identity
	Teacher's Background
	Skill Specification
	Available Schedules

"Choose Teacher" Menu	Input : ID Teacher
	Output : Bank Account ID to pay
"Payment" Menu	Input : Bank Account ID
	Output : Trasaction ID
"Communication" Menu	Text
	Voice Call
	Video Calll
	Course
	Schedule

Explanation :

- Finding for the category of specific knowledge/skill which is needed by the students.
- System would contact the students by using Teacher's Account
- Using information of students requirements, which consist of the hours, courses, and student's data, also the transaction ID.

TABLE 3
SECOND PROPOSED DESIGN OF STUDYCONNECT.COM

Fitur Menu	Sub Menu
"Account" Menu	Student's Account
	Teacher's Account
"Search" Menu	Search button
"Data Information" Menu	Teacher's ID
	Teacher's Identity
	Teacher's Background
	Skill Specification
	Available Schedules
"Choose Teacher" Menu	Input : ID Teacher
	Output : Bank Account ID to pay
"Payment" Menu	Input : Bank Account ID
	Output : Trasaction ID
"Communication" Menu	Text
	Voice Call
	Video Calll
	Course
	Schedule
"Report" Menu	User Feedback

Explanation :

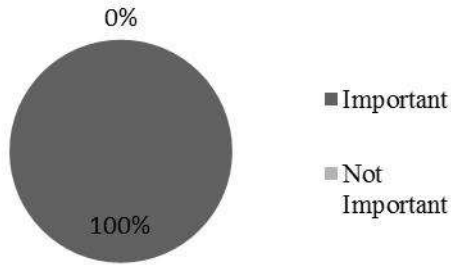
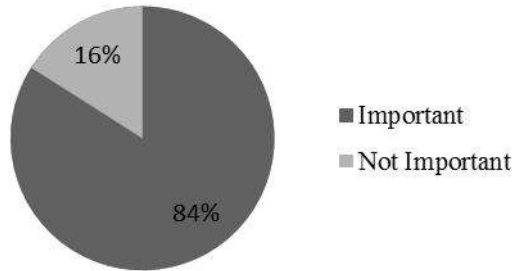


Fig. 3 User feedback from respondents

An additional feature in this second iteration is user feedback. It is used to give a suggestion for the system owner to build a better system.

the user, which is 100% of them said that it is really important to support the system.

respondents, which is 84% of respondents support to build this application menu.



respondents

TABLE 4

THIRD PROPOSED DESIGN OF STUDYCONNECT.COM

Fitur Menu	Sub Menu
"Account" Menu	Student's Account
	Teacher's Account
"Search" Menu	Search button
"Data Information" Menu	Teacher's ID
	Teacher's Identity
	Teacher's Background
	Skill Specification
	Available Schedules
"Choose Teacher" Menu	Input : ID Teacher
	Output : Bank Account ID to pay

TABLE 5

THIRD PROPOSED DESIGN OF STUDYCONNECT.COM

"Payment" Menu	Input : Bank Account ID
	Output : Trasaction ID
"Communication" Menu	Text
	Voice Call
	Video Calll
	Course
	Schedule
"Reporting" Menu	User Feedback
"Location" Menu	Teacher's Area
"Rating" Menu	Teacher's Rating

Explanation :

- Teacher's Location is used to help students identify the area easily. Most of the

- Teacher's Rating is used to help students to look whether the teacher is excellent or not.

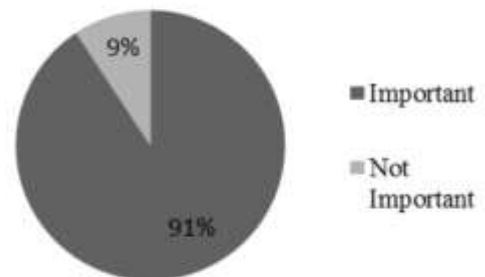


Fig. 5 The usability of teacher's rating from respondents

Applications on each feature that support business functions derived from the external field by the user. Menu feature on the website designed are Account Menu, Search Menu, Data Information Menu, Choose Teacher Menu, Payment Menu, Communication Menu, Reporting Menu, Area Menu, and Rating Menu.

3. Design of Architectural Design

The suggestions for the application are grouped into 4 layer, which are explained as follows.

a. Analytical Layer

Application in this layer gives user analysis. It is a direct observation through an interview regarding user requirements.

Application in this layer serves to integrate the features in the user menu of a transactional

layer into analytical layer. Architecture design of SOA (Service Oriented Architecture) is located in this layer which integrate BPM. The services of information would be shown in website services.

c. Transactional Layer

In this layer, the used applications with menu and submenu features are the applications which are accordance to business functions and related to user requirements.

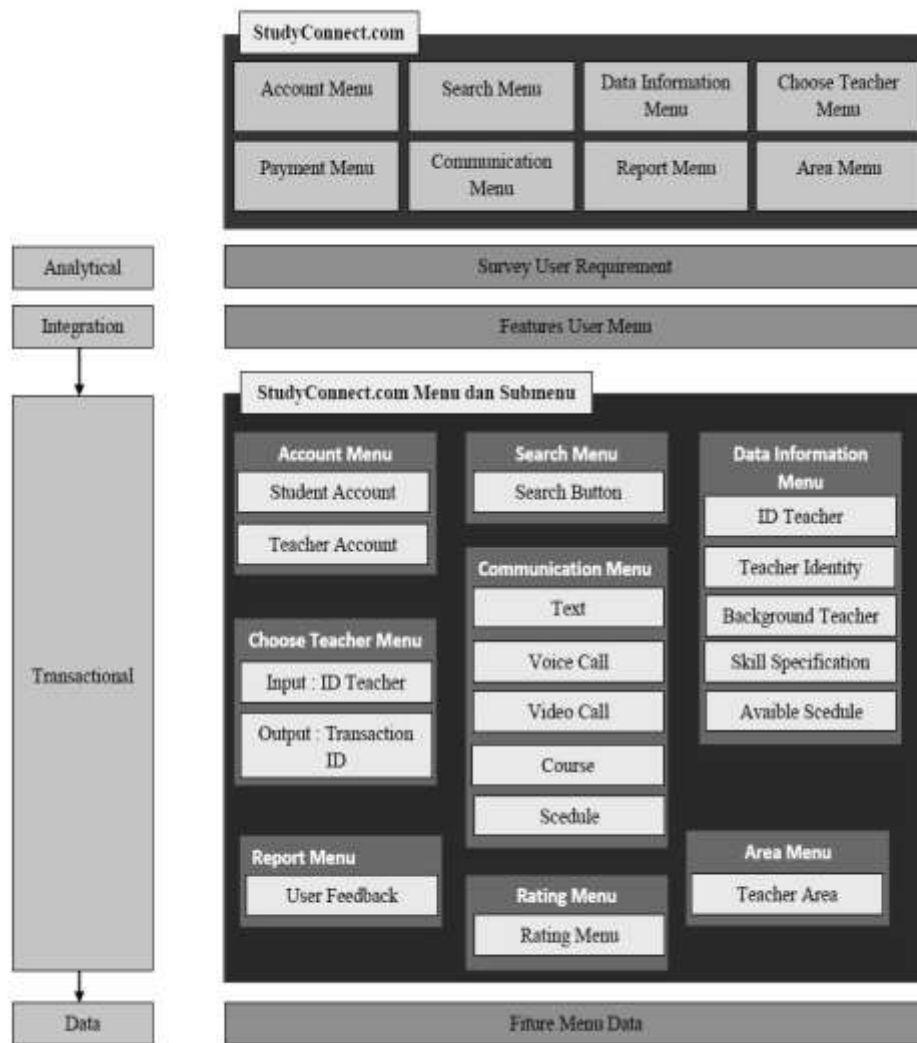


Fig. 6 Suggested Architecture

d. Data Layer

The data layer is a layer that is used to store all the used data in the StudyConnect.com starting from menus in transactional menu.

4. Application Flow

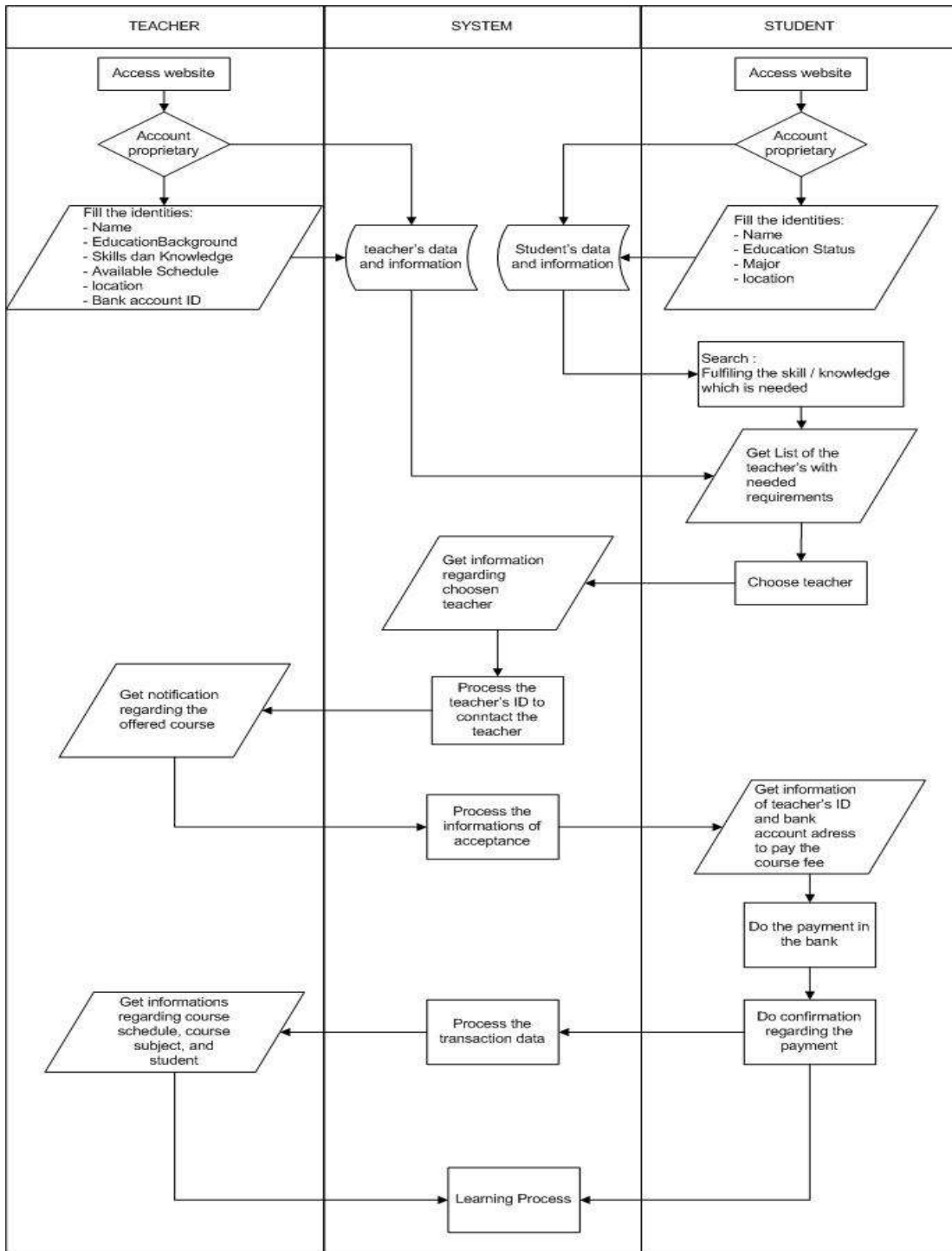


Fig. 7 Application Flow

5. Use Case Diagram

Use case diagram is a diagram in UML that serves to model the dynamic aspects of the system. Use case diagrams are central to modeling system behavior, sub systems, or

classes. Each shows a set of use cases, actor as a use case model and the relationship between the two [8].

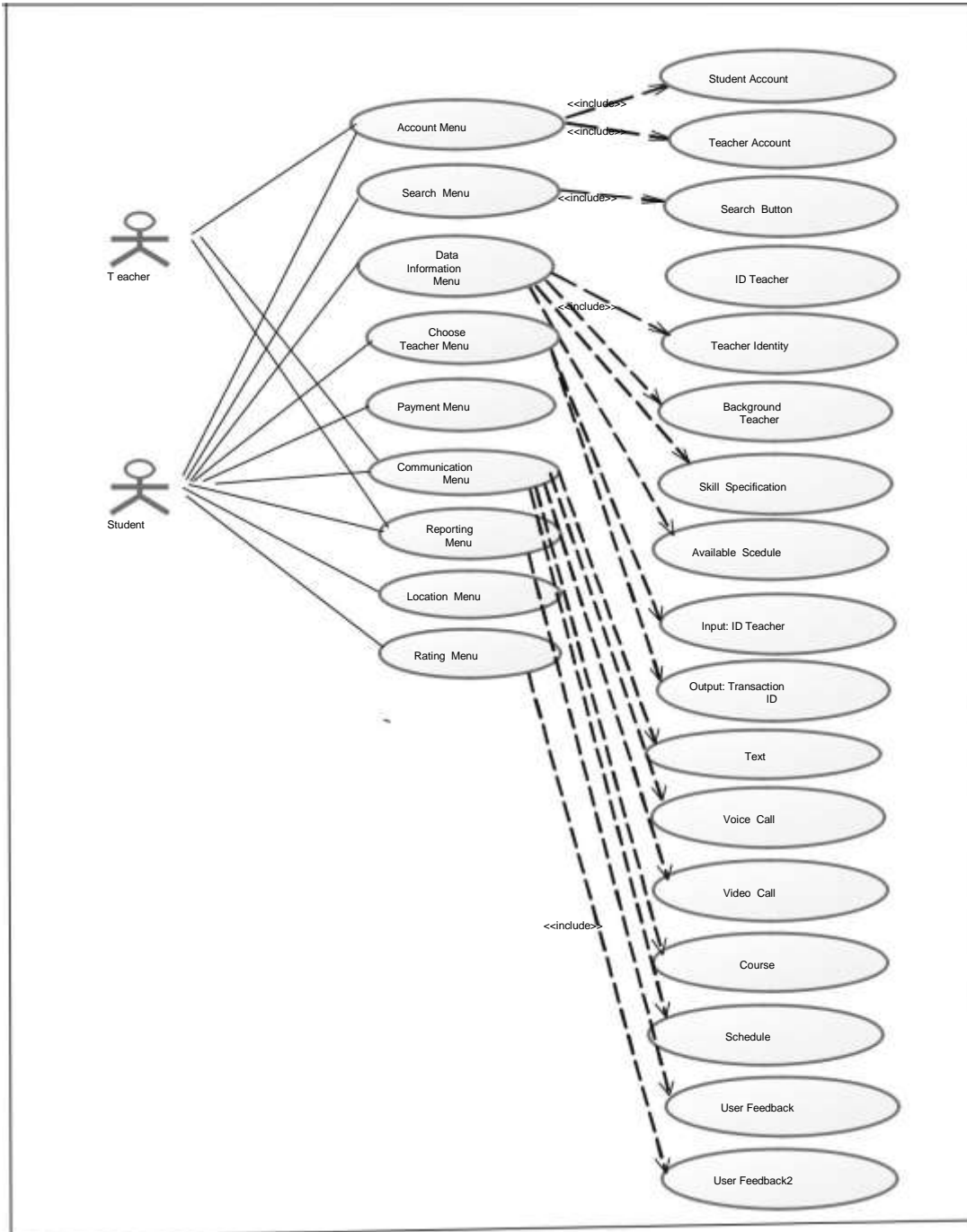


Fig. 8 Use Case Diagram

6. Interface Design



Fig. 9 Home Interface



Fig. 10 Student's account interface



Fig. 11 Teacher's account interface



Fig.12 Searching page interface



Fig. 13Data information page interface



Fig. 14 Choose teacher interface



Fig. 15 Payment page interface



Fig. 16 Chat and call interface



Fig. 17 Course interface



Fig. 18 Schedule interface

V. CONCLUSIONS

StudiConnect.com is an integrated application architecture based on SOA to integrate the entities inside the system. The system architecture is made in accordance with the business functions of entities and according to user requirement. System is useful for people who can help educated unemployment to meet a job and help the student that would support them to perform the learning process which would give profit for the unemployment and knowledge for the students. Website interface meet user's requirements and can be implemented to support education or learning process.

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