

# INITIAL DESIGN REPORT

## Studynet

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# 1. Introduction

## 1.1 Project Overview

Studynet is an online system aimed to help students record study and communicate academic problems with others. It can record users' time and tasks, analyze users' study patterns, and help them know their study process and study habits. Besides, it also provides a communication system to help you communicate academic problems with your friends. Studynet is a powerful website that helps students manage study and communicate with others.

## 1.2 Objective

The project is designed as an integrated platform which consists of two main systems, one for personal study, one for communication. Personal study system allows students to manage their own study well, students can master their daily routines, plan their work, and see their study report through personal study system. Communication system provide an efficient way for students to communicate with each other, students can find groups and friends on the platform to solve problems and share study experience with them.

## 1.3 System Features

Studynet is made up of three main functions: record study, study analyzation, communication with others. Students can record study time, see the completeness of tasks, the system will analyze and generate a real-time study report to users. Communication system allows users to communicate academic problems with partners. Users can build a study group with friends to study together. Moreover, they can see what friends focus on, see their task progress on friend page.

# 2. Background

In the university, manage own study and communication with others about study are important. However, during the COVID-19 pandemic, it is difficult for students to have offline learning communications. It's necessary for students to master their study online and communicate problems with friends or study groups.

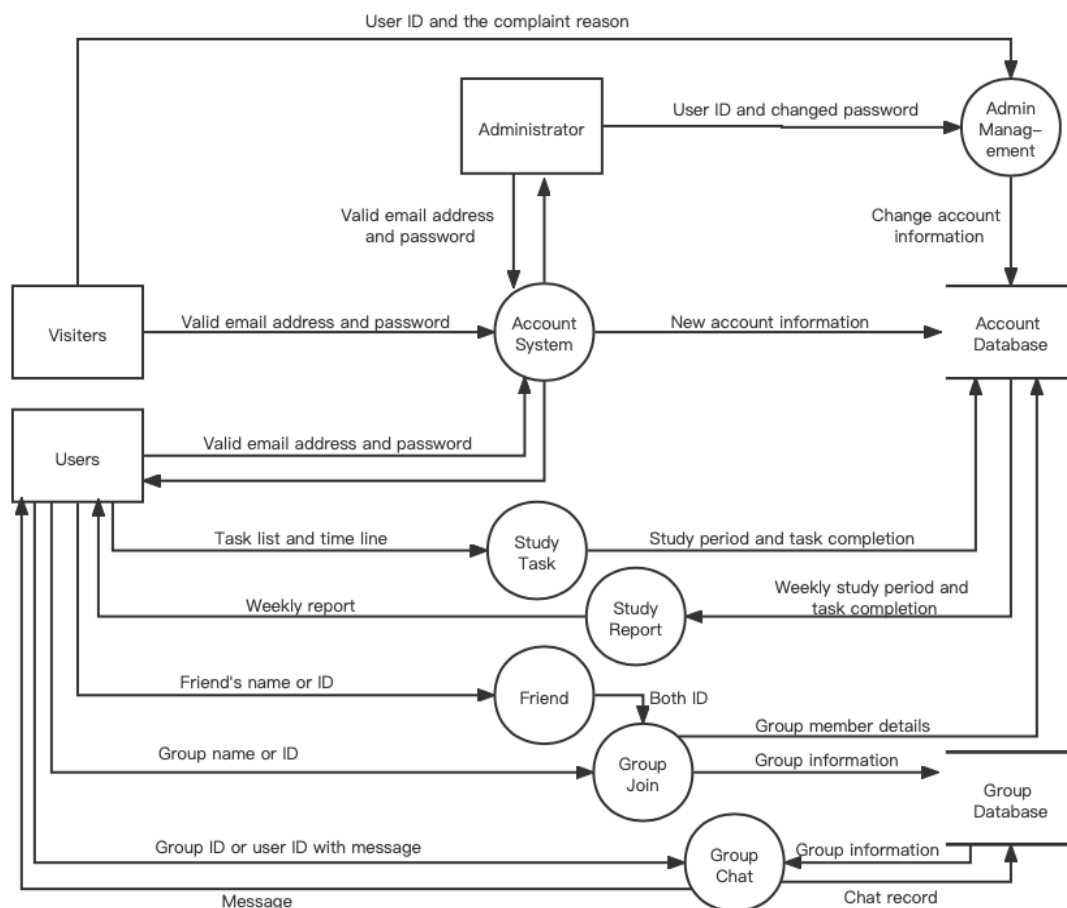
Existing online study platforms like Forest or To-do can only fulfill single functions like record time or tasks, students need to switch platforms often when they study. The functions of Existing online chat platforms like WeChat or Facebook are too fancy, it is easy for students to focus on something else instead of communicating problems with others.

It would be efficient and convenient for students if they can manage their study and communicate with no disturbing on a single platform. Therefore, we decide to develop Studynet which can fulfill these functions. The integrated system will also help student clearer about their study by analyzing their study and sending reports to them. Its most attractive functionality is communicating with groups and friends about study.

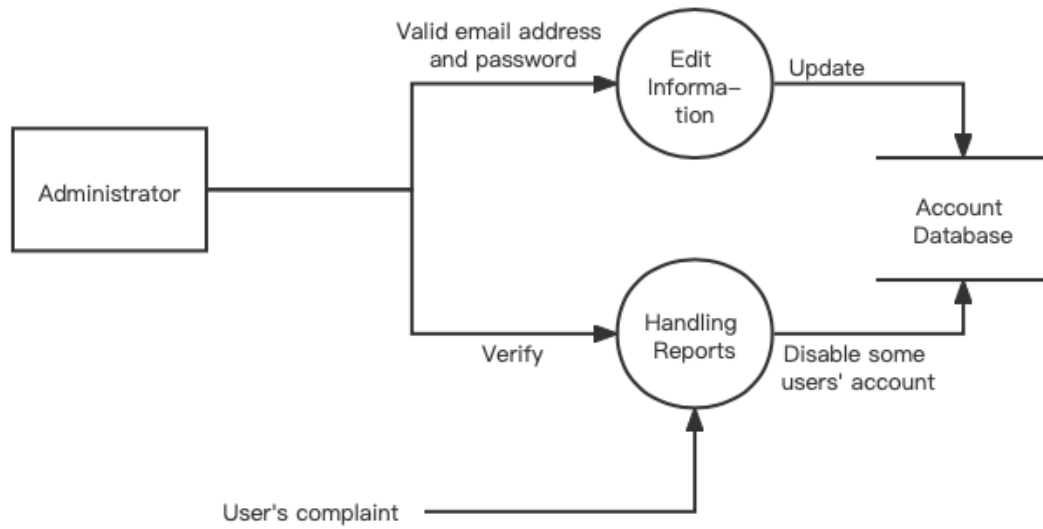
In general, the goal of our project is to offer students a more better way to manage their study and communicate problems with others.

## 3. Specification

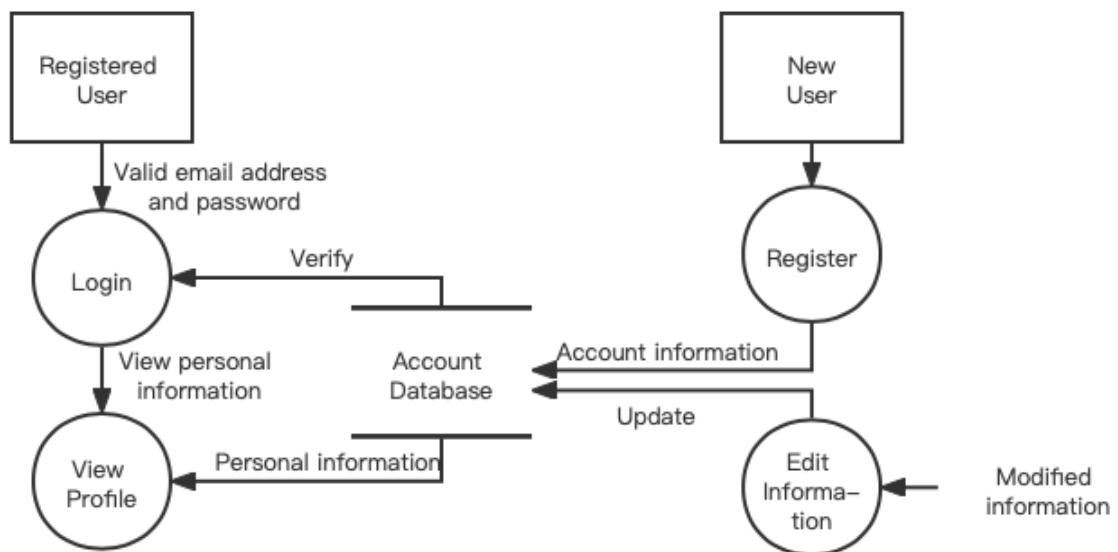
### 3.1 Data Flow Diagram



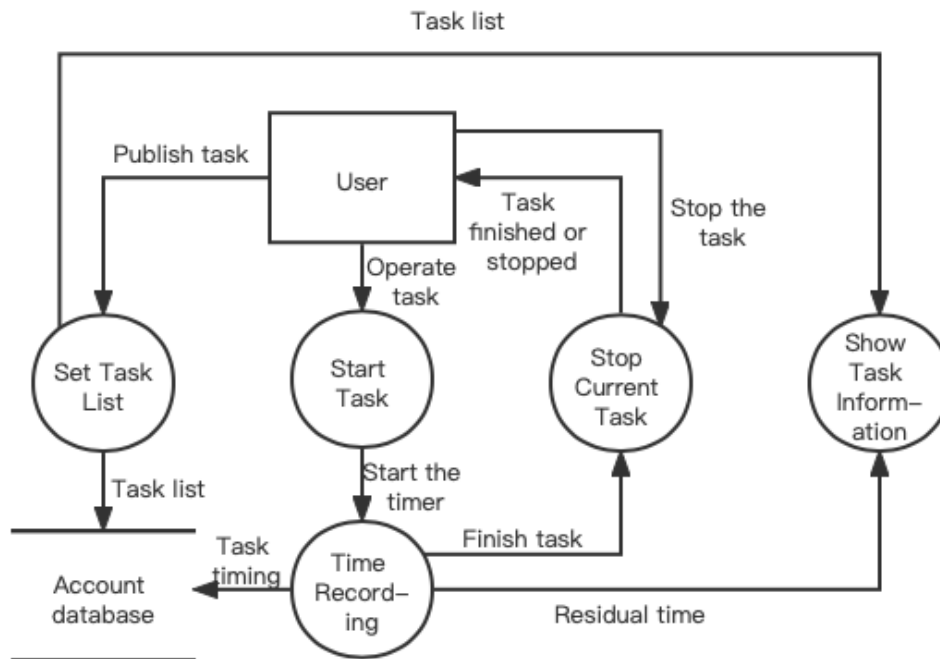
### 3.1.1 Admin management



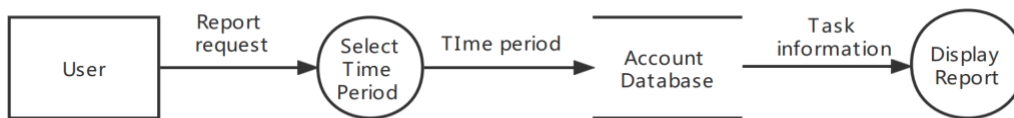
### 3.1.2 Accounting Management



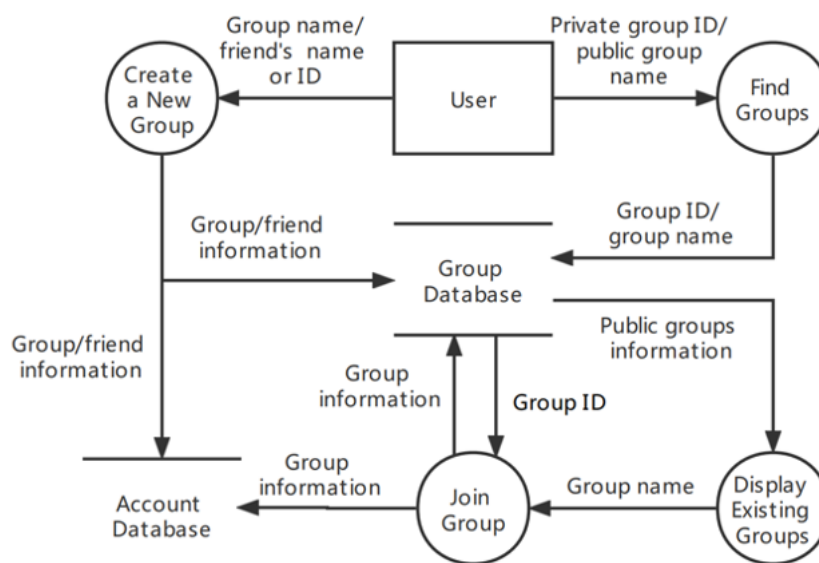
### 3.1.3 Study\_task



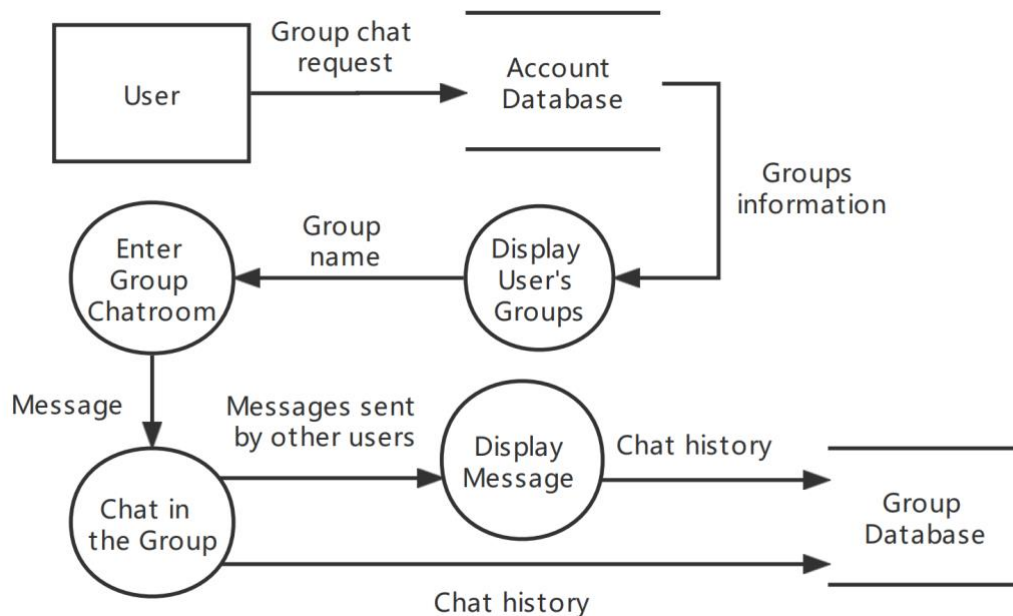
### 3.1.4 Study\_report



### 3.1.5 Group\_join / friend\_add



### 3.1.6 Group\_chat / friend\_chat



## 3.2 Complete Features in Detail

### 3.2.1 Admin Management

Users can send the complaint about some users' behavior which will be justified by administrator. Then the administrator can choose whether to disable some users' accounts or not. Administrator can also change any user's personal information without their permission.

### 3.2.2 Accounting Management

By providing their own email addresses and password, new users can sign up their accounts. Or as a registered user, he/she can login their own accounts after verified by account information database synchronically. Then they can view and edit their personal information in their profile. Meanwhile, some modified information from other function will also be updated in database through edit information function.

### 3.2.3 Study\_task

Users can publish a task list with timeline and then choose a task which will be performed. If users click the start button, there is a time recording to record the time consuming in this task. After that, user can see the task completion information. When time is over, or users click the stop button, the task will be stopped and transport the time information to the database.

### **3.2.4 Study\_report**

Users who want to review his/her study record can in his/her account interface. Upon the request, the system will show a calendar for users to select a time period, and then generate a histogram presenting the time users spend on each task during the specified period.

### **3.2.5 Group\_join / friend\_add**

Users can create a study group with name and set it to be public or private, and the system will generate a group ID which is only visible to group members. Other users can search for a public group by names and join the group freely. Users can join a private group only by searching its group ID. To add a friend, users can enter his/her target friend's name or ID.

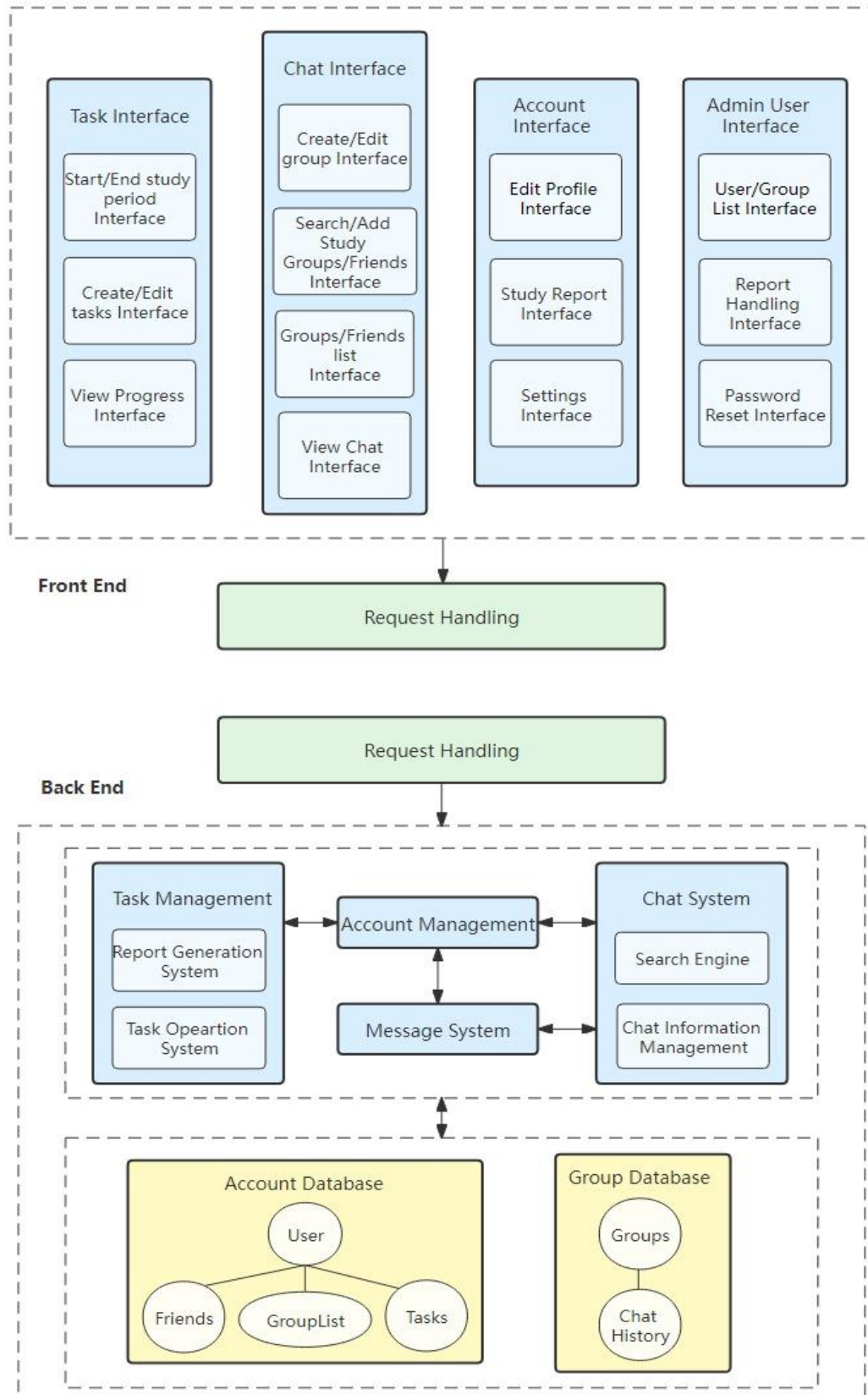
### **3.2.6 Group\_chat / friend\_chat**

By selecting a group/friend from the group/friend list, the corresponding chat interface will pop up. All the messages will be stored in the group database and the chat history will be presented when users enter the chat interface next time.



## 4. Architecture

### 4.1 Architecture Diagram



## **4.2 System component**

### **4.2.1 Task System**

Users can create and edit their tasks on the task interface. Apart from the checkbox indicating the status of the task, users can also select their tasks in the study period.

### **4.2.2 Study period**

Users can start and end a study period. In a study period, a timer will record the duration. Tasks will be selected or created when user starts a study period. At the end of each period, users can fill in the progress of each task (e.g. 80%, completed).

### **4.2.3 Report generation**

The data of study periods and tasks will be stored in user's profile. Users can select a time interval and generate a study report about that period, which will give users complete information of their study. The report will include the total time of study, study time distribution, the tag analysis of completed tasks, etc..

### **4.2.4 Add friends**

Each user has a unique user ID. Users can search and add their friends using their user ID. When two users become friends, their private chat box will be created automatically. Friends can see each other's study status if they choose it to be visible by friends.

### **4.2.5 Create/Join groups**

Each group has a unique group ID. Users can create study group and invite their friends to join the group. Users can search and join public groups by group name or group ID, and search private groups by group ID. Moreover, group members can set the group to be public or private, edit group description, edit group name, etc..

### **4.2.6 Chat**

The communication method between users will be chat box. The group invitation link of will also be sent using chat box. Users can discuss about their tasks and studies using the chat function.

### **4.2.7 Admin user**

The admin user can log in as admin. Admin user can reset the password of any normal users, access the user profile of all normal users, and kick out group members once violation is reported and confirmed.