

# Integrated Tutor Matching Based on Student Preference

## Group No. 13

- Jedwiwat Santandecha (Noom) ID: 55070503458  
Email: jedwiwat@gmail.com
- Poonyanuch Sitthikornworakul (Ching) ID: 55070503464  
Email: poonyanuch-s@hotmail.com

Advisor: Asst. Prof. Dr. Santitham Prom-on

Co-advisor: Assoc. Prof. Dr. Tiranee Achalakul

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I have read this report and approve its content.

## **Abstract**

From information that our team have been gathered by doing research on taking an extra course, we have discovered problem that students use website to find a tutor, but they can't find from their satisfied qualification.

The objectives of this project was to help students to find a satisfied tutor such as experience, distance of studying location, cost per hour, and tutor's feedback. Our team have been added the way to find a tutor that make users have more comfortable by creating an application which available on android platforms.

This project category belongs to benefit society. Student and tutor will get those benefits. Tutor can use this application to announce their promotion, so student might interest to study with tutor. Students don't have to waste their time when they found tutor on website and also decrease expense of transportation.

## บทคัดย่อ

จากที่ทางคณะผู้จัดทำได้ทำการสำรวจข้อมูลเรื่องการเรียนพิเศษกับติวเตอร์มานั้นพบว่าในปัจจุบันมีเวปไซต์สำหรับค้นหาติวเตอร์แต่ยังไม่สามารถค้นหาติวเตอร์จากคุณสมบัติที่นักเรียนต้องการได้

โครงการนี้มีจุดประสงค์คือช่วยนักเรียนค้นหาติวเตอร์ที่ตรงตามคุณสมบัติที่ต้องการ เช่น ประสบการณ์ ระยะเวลาของสถานที่เรียน ราคาต่อชั่วโมง ผลตอบรับจากนักเรียนของติวเตอร์ โดยทางคณะผู้จัดทำได้ทำการเพิ่มช่องทางใน การค้นหาติวเตอร์ที่ทำให้ผู้ใช้งานมีความสะดวกสบายมากขึ้น โดยท่านทางออกแบบโดยเครื่องที่สามารถใช้ได้ในระบบปฏิบัติการแอนดรอยด์

โครงการนี้เป็นงานที่เป็นประโยชน์แก่สังคมโดยที่ได้รับประโยชน์คือนักเรียนและติวเตอร์ ติวเตอร์สามารถใช้แอปพลิเคชันนี้โฆษณาไปร่วมชั้นต่างๆ เพื่อให้นักเรียนเกิดความสนใจที่จะเรียนกับตน นักเรียนสามารถหาติวเตอร์ ที่ดูน่าสนใจจะเรียนด้วยได้ โดยไม่ต้องเสียเวลาไปค้นหาตามเวปไซต์ อีกทั้งยังช่วยนักเรียนลดค่าใช้จ่ายในการเดินทางอีกด้วย

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## **Chapter 1**

### **Introduction**

#### **1.1 Keywords**

1. Tutor Matching
2. Mobile Application
3. Tutor Application

#### **1.2 Problem Statement and Approach**

Education is always competitive. A lot of students try to gain more knowledge from many sources, such as reading a book and taking an extra course by tutor. Student can find tutors from website, poster, and being suggested from their friends but sometimes the place to study is too far from their home. Because of this problem student may have more expense in transportation. So far as we know, there are some websites that collect information of tutors. Student can visit those websites and contact to tutors if they are interested. Those websites allow student to type keyword about the subject that they want to study but they cannot find tutor that live around them. So, it is the main problem that we are going to solve.

This project aims to create an application that allowed students to search for a tutor by just choosing relevant keywords. There are some filters that is using when it is searching. Experience, distance of studying location, cost per hour, and tutor's feedback are filters that student can choose when they search for a tutor. For tutor's feedback, we gather feedback from students who finished the extra course. The way we solve transportation problem is creating distance filter. This application will rank a tutor depends on percentage of all filters that are adjusted by student. After that, student can contact directly to tutor by our chat system.

This project category belongs to benefit society. Student and tutor will get those benefits. Tutor can use this application to announce their promotion, so student might interest to study with tutor. Students don't have to waste their time when they find tutor on the website and also decrease expense of transportation.

#### **1.3 Objectives**

1. To implement our knowledge to create an application
2. To decrease the problem that student isn't pleased with tutor
3. To make more comfortable for users because this application available on android platform
4. To make student gain more knowledge
5. To save time to find a tutor
6. To save student's time and money from transportation
7. To make student get satisfied tutor

## **1.4 Scope**

Tutor Matching is an application which allows student to find their satisfied tutor. Tutor Matching can use with Android platform. Tutor Matching separates into 9 systems.

- 1. Log in and sign up system**

It allows user to sign up by filling in the application form and logging into application.

- 2. News feed**

It shows status and photo which are updated by tutor.

- 3. Post system**

Tutor can update their status and photo. It also show the old posts.

- 4. Profile**

Tutor can create and edit their basic information.

- 5. Searching system**

It allows student to search for tutor by typing keyword into searching box. The result will be ranked depends on student's preference.

- 6. Booking system**

This system uses for managing time schedule of student and tutor. Tutor can set available time and student can reserve those time.

- 7. Feedback system**

It allows student to evaluate tutor after finished the course.

- 8. Chat system**

Student and tutor can communicate with each other by this application.

- 9. Notification**

After student reserved time schedule, this system will notify to both student and tutor.

## 1.5 Tasks and Schedule

*Figure 1 Task and time division*

## 1.6 Project schedule

1. Kick off meeting
  2. Survey and analysis result
  3. Design database
  4. Design user interface
  5. Implement login and sign up
  6. Implement profile
  7. Implement Searching system
  8. Implement post system
  9. Implement news feed
  10. Implement chat system
  11. Implement booking system
  12. Implement notification
  13. Implement feedback system
  14. Unit test and feedback
  15. Improve project from feed back

## **1.7 Equipment that is used to accomplish project**

Hardware	Descriptions/Usages
Android phone	We will use smartphone for installing and testing our application for making sure that our application will not have any errors occur when users use this application

## Chapter 2

### Background, Theory and Related Research

#### 2.1 Related Theory

##### 2.1.1 jQuery Mobile



*Figure 2* *jQuery mobile*

jQuery is JavaScript Library which contains a lot of functions. Developer can easily use it. jQuery can be used in front-end and backend coding. For example, designing user interface for front-end and check the form input for backend. jQuery can help developers to code easily and save their times.

###### 2.1.1.1 jQuery can do

- Ajax call
- Creating an animation or transition of page
- Adjust CSS (style sheet) of element.

###### 2.1.1.2 Browser Support

- Firefox
- Google Chrome
- IE6 or higher
- Opera

### **2.1.2 PhoneGap**



*Figure 3 PhoneGap*

PhoneGap is mobile application development framework that helps us to develop Mobile Application more easily by using HTML5, JavaScript, and CSS. PhoneGap supports multiple mobile platforms such as iOS, Android, Symbian, WebOS, Bada and Windows Phone. Hardware specific features which support by PhoneGap are geolocation, vibration, accelerometer, and sound.

### **2.1.3 HTML5**



*Figure 4 HTML5*

HTML5 is the newest version which have more features than old version. It supports on many devices such as PC, Mac, iPhone, iPad, Android Phone, and Tablet. New features which includes in HTML5 are worked with map system, graphics, audio, video, and interactive documents. HTML5 always uses with CSS and JavaScript.

The most interesting new API's are:

- HTML Geolocation
- HTML Drag and Drop
- HTML Local Storage
- HTML Application Cache
- HTML Web Workers
- HTML SSE

## 2.1.4 JavaScript



Figure 5 JavaScript

JavaScript is a scripting language that can be combined with HTML. JavaScript can be used to create user interface and make the content more interesting.

### 2.1.4.1 JavaScript can do

- Put text in an HTML page on-the-fly
- Make your web pages responsive
- Validate web form data

## 2.1.5 PHP and MySQL



Figure 6 PHP and MySQL

PHP is a scripting language used to develop Web Applications and work as server side. PHP is cross-platform to create dynamic webpage.

MySQL is a relational database management system that can store data and can integrate with web application.

When combined together, talented PHP and MySQL developers can build very powerful and scalable Web / Internet / Intranet Applications.

## 2.1.6 Google Maps API



Figure 7 Google Map APIs

Google Map APIs allows you to display Google Maps on website for identified location.

### 2.1.6.1 Support

Google Maps APIs are available for

- Android
- iOS
- web browsers
- HTTP web services

### 2.1.6.2 Function

- Maps
- Imagery
- Directions

## 2.1.7 Ajax



Figure 8 Ajax

Ajax is a client-side script that communicates to and from a server/database without reloading the entire page. Ajax allows webpages to be updated by exchanging data with the server.

## 2.2 Relevant projects

### **2.2.1 Dek-d tutor center**

คุณวิชา ระดับ ม.ปลาย

คณิตศาสตร์, วิทยาศาสตร์, ลัทธิศึกษา, ภาษาไทย, ภาษาอังกฤษ

ผลงานครัวเรือน คณิตศาสตร์ วิทยาศาสตร์ สังคมศึกษา ภาษาไทย ภาษาอังกฤษ

ดิจิทัลเดอร์แนนด์ วิทยาศาสตร์ (หันซ้ายหน้า)

■ ปีกับนุด ดิจิทัลเดอร์แนนด์ (สนใจลงโฆษณาปีกับนุด คลิก!!)

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ผู้ร่วม : วิทยาศาสตร์ ม.ปลาย  
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ผู้ร่วม : วิทยาศาสตร์ ม.ปลาย  
จำนวน : ไม่จำกัดจำนวน  
สถานที่ : กรุงเทพฯ  
วันที่รับสิ่งของ : ■■■

ชุดน้ำ สารธรรมเนียม  
ผู้ร่วม : วิทยาศาสตร์ ม.ปลาย  
จำนวน : ไม่จำกัดจำนวน  
สถานที่ : กรุงเทพฯ  
วันที่รับสิ่งของ : ■■■

ชุดน้ำ สารธรรมเนียม  
ผู้ร่วม : วิทยาศาสตร์ ม.ปลาย  
จำนวน : ไม่จำกัดจำนวน  
สถานที่ : กรุงเทพฯ  
วันที่รับสิ่งของ : ■■■

ชุดน้ำ PU (พีดีเคอร์)  
ผู้ร่วม : ภาษาอังกฤษ ม.ปลาย  
จำนวน : ไม่จำกัดจำนวน  
สถานที่ : กรุงเทพฯ  
วันที่รับสิ่งของ : ■■■

ชุดน้ำ พอกความพอใจ  
ผู้ร่วม : วิทยาศาสตร์ ม.ปลาย  
จำนวน : ไม่จำกัดจำนวน  
สถานที่ : กรุงเทพฯ  
วันที่รับสิ่งของ : ■■■

No.56491 อินทร์พง ลดาเวช (โอดี้)

คุณแม่ผู้สอน : นางสาวกานดา สมบูรณ์  
สถานที่ติดต่อ : สมบูรณ์

แนะนำเพื่อนร่วมชั้น!  
แนะนำเพื่อนร่วมชั้น!  
แนะนำเพื่อนร่วมชั้น!  
แนะนำเพื่อนร่วมชั้น!

วิชาที่รับสิ่งของ

วิชาที่รับสิ่งของ : วิทยาศาสตร์ ม.ปลาย  
จำนวน : Chemistry physics  
จำนวน : ๕๖๔๙๑  
สถานที่ : กรุง ๒-๔ คน

วิชาที่รับสิ่งของ : ภาษาอังกฤษ ม.ปลาย  
จำนวน : Grammar vocabulary reading  
จำนวน : ๕๖๔๙๑  
สถานที่ : กรุง ๒-๔ คน

วิชาที่รับสิ่งของ : ภาษาอังกฤษ ม.ปลาย  
จำนวน : -  
จำนวน : ๕๖๔๙๑  
สถานที่ : กรุง ๒-๔ คน

การติดต่อ

Website : <http://Line:chocoladoh ig: chocoladoh>

โทรศัพท์ : 0948526820

Email : Chocolad.doh@gmail.com

สถานที่ติดต่อ : -  
แผนที่ : -

*Figure 9 Dek-d tutor center*

Dek-d tutor center is a website that collect information of tutors. It has following characteristics:

- Website
  - Login and sign up
  - Create tutor profile for free
  - Separate subjects into group of degree (Secondary education, High school education, and etc.)
  - Tutor's profile includes basic information, extra information, education, subjects, date, number of people, and contact information.

## 2.2.2 DD Tutor

The screenshot shows the DDTutor website interface. At the top, there is a red header with the text "DDTUTOR". Below the header, there is a search bar and a list of search results. The search results are titled "มัธยมต้น" (Primary School) and include five entries, each with a profile picture, name, subject, location, and price. To the right of the search results, there is a detailed profile for a tutor named "เกศิกนก สวนครามดี". The profile includes a photo of the tutor, basic information like name, age, gender, and location, and a rating section with a large "0.0" rating.

ชื่อผู้สอน	ชื่อครุภัณฑ์	สถานที่	ค่าต่อชั่วโมง (พัสดุ)
เกศิกนก สวนครามดี	วิทยาศาสตร์ (ชีววิทยา) ม.ต้น (มัธยมต้น / ชีววิทยา)	นครปฐม	฿ 250
เกศิกนก สวนครามดี	เคมี ม.ต้น (มัธยมต้น / เคมี)	นครปฐม	฿ 250
เมเม้า ลาร์กไวท์บลูธ์	ภาษาอังกฤษ (มัธยมต้น / ภาษาอังกฤษ)	กรุงเทพมหานคร	฿ 250
ร้านดูรา ภาษาติ่ง	ฟิลิกฟิล์ฟิล์ (มัธยมต้น / ฟิลิกฟิล์)	นครปฐม	฿ 150
โนนล้อ ขันฑ์ชัยธรรม	เขียนสอบเข้ม 4 วิชาพหุภาษาศาสตร์ (มัธยมต้น / เขียนสอบเข้ม 4)	ปทุมธานี	฿ 250

*Figure 10 DDTutor*

DD Tutor is a website that collect information of tutors and allow user to find a tutor. It has following characteristics:

- Website
- Login and sign up
- Create tutor profile for free
- Separate subjects into group of degree (Secondary education, High school education, University, and etc.)
- Tutor's profile includes basic information, extra information, education, subjects, courses, and contact information
- Allow student to search by keyword
- Contact to tutor by filling in the form of website
- Have feedback system which are rating and review
- Tutor shows cost per hour and location

### 2.2.3 Comparing between TutorMatching application and relevant projects

Feature	TutorMatching App	Dek-d Tutor Center	DD Tutor
Website	✗	✓	✓
Mobile application	✓	✗	✗
Android platform	✓	✗	✗
Login and sign up	✓	✓	✓
Profile	✓	✓	✓
News feed	✓	✗	✗
Post system	✓	✗	✗
Searching system	✓	✗	✓
Searching by nearest location filter	✓	✗	✗
Booking system	✓	✗	✗
Feedback system	✓	✗	✓
Chat system	✓	✗	✗
Notification	✓	✗	✗

## Chapter 3

### Design and Methodology

#### **3.1 Software Requirement List**

- Internet connection - This application requires internet while we are using it
- Android platform - This application is available on android platform
- Permission of android location - Location is used to identify the current location of user

#### **3.2 Feature lists**

- Log in and sign up system

User who doesn't have any account have to sign up by fill in the application form. The application form is allowed user to choose whether they are tutor or student. User can log in to the application. If user log in once, it will continue using that account until user log out. If user forget their password, they can request the application to send their password to their e-mail. User have to verify their authentication by clicking the link sent to user's e-mail.
- News feed

It is the home page of student. It shows tutor's updates which are status and photo. Student can post or delete comment in tutor's updates.
- Post system

It is home page of tutor. Tutors allow to post some course promotions in their updates which are status and photo. This page will show old posts of tutor.
- Profile

In profile will have information of tutor such as profile picture, name, gender, experience, university or school, and courses. Each account can be both student and tutor because student can be tutor and tutor can also be student. Tutors is able to edit their profile.
- Searching system

This function allow student to search for tutor by typing keyword of that subject and adjusting percentage of filters. There are many filters such as experience, distance of studying location, cost per hour, and tutor's feedback. The list of tutor will be shown in an order according to filters which student adjusted.

- Booking system

This feature separate into 2 parts; creating time slot and booking time slot. Creating time slot is used by tutor for managing date and time that they are available to teach, select number of people that tutor can accept, set cost per hour, and subject. Tutor have to set subject name and description before adding subject in creating time slot. Booking time slot is used by student. It will show a list of date and time of tutor who student interested to study with and show available seats that tutor can accept. Student allows to book date and time that they want to study from the list of date and time that tutor available.

- Feedback system

This system will record tutor evaluation. Those result will be used as a filter in searching system. Student have to rate by giving a score and reviewing for tutor after the course is done.

- Chat system

It allows user to send message to each other.

- Notification

The application will notify the user when there are some activities happened. The possible activities are time slot verification and booking. The application will notify user when there are student request to study with tutor and booking process is done. Tutor have to confirm or cancel student's request. Student can also cancel their requests before tutor accepts the request.

### 3.3 Architecture diagram

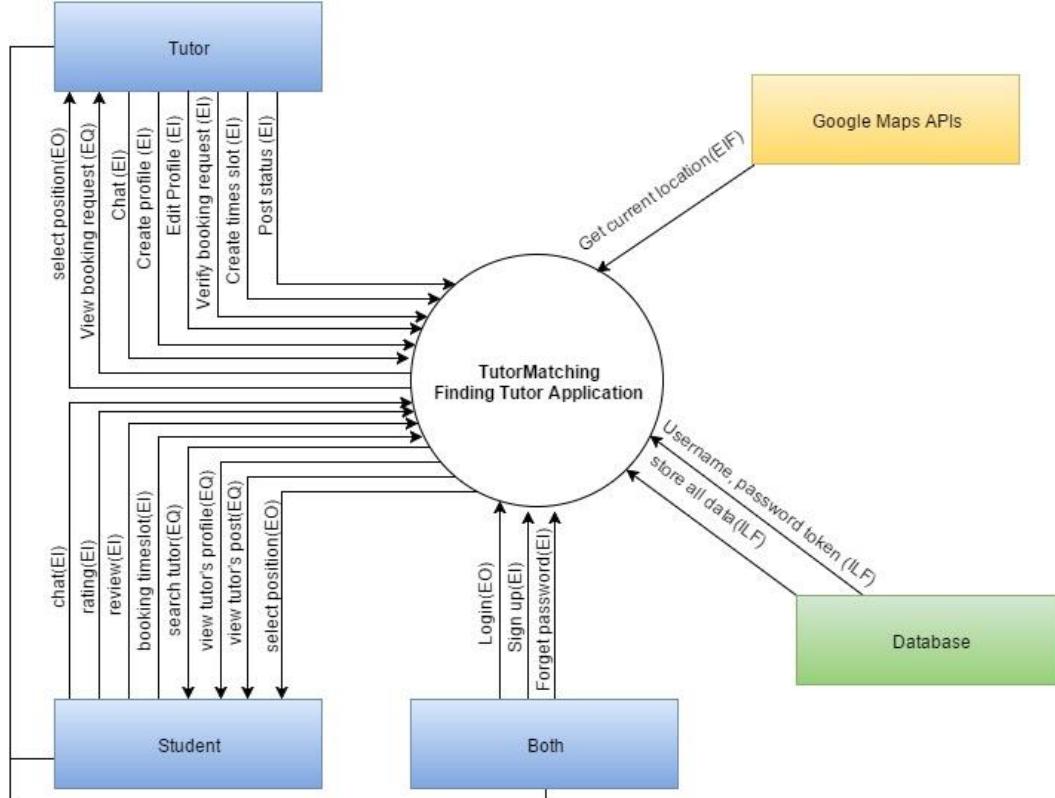


Figure 11 Diagram shows component that related to application

Create profile, edit profile, post status, create time slot, verify booking request, view booking request, select position, and chat are used by tutor. View tutor's post, view tutor's profile, search tutor, booking time slot, rating, review, select position and chat are used by student. Login, sign up and forget password can be used by both student and tutor. TutorMatching also connects with Google Maps API to get the location and MySQL database is used to store data.

### 3.4 Design

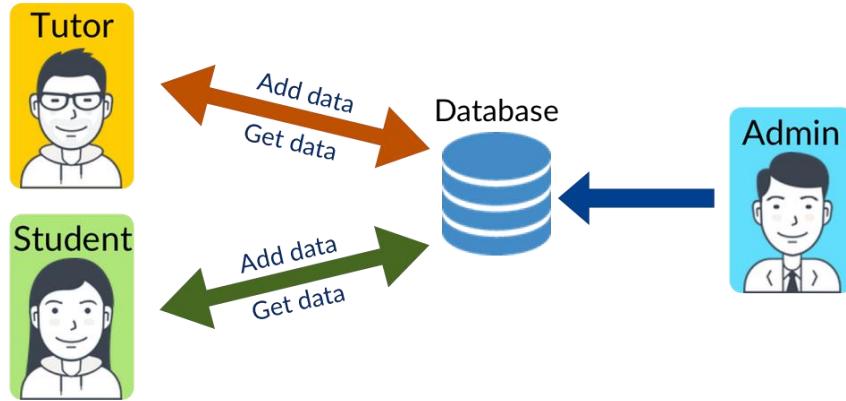


Figure 12 Design application's system

We design application's system into 3 systems. 3 systems are consist of

1. Tutor system: This system is used by tutors. They can use this application by following actions

- Tutor can read/delete old posts and post new status or status with picture
- Tutor can post/delete comment in posts.
- Tutor can edit their general information and profile picture in their profile
- Tutor can add/delete new subject
- Tutor can make/delete new time slot.
- Tutor can read their feedback from student
- Tutor can chat with students
- Tutor can confirm/cancel request from student
- Tutor can switch role to be a student

2. Student system: This system is used by students. They can use this application by following actions

- Student can read news feed which are posts from tutors
- Student can post/delete comment in posts.
- Student can book time slot
- Student can give a rate and review in tutor's feedback
- Student can chat with tutors
- Student can cancel request to tutor
- Student can switch role to be a tutor
- Student can search for tutors
- Student can adjust filters in searching
- Student can view tutor's profiles

3. Database system: This system store data which are user information, subject information, time slot, booking, feedback, and chat message

### 3.5 Use case diagram

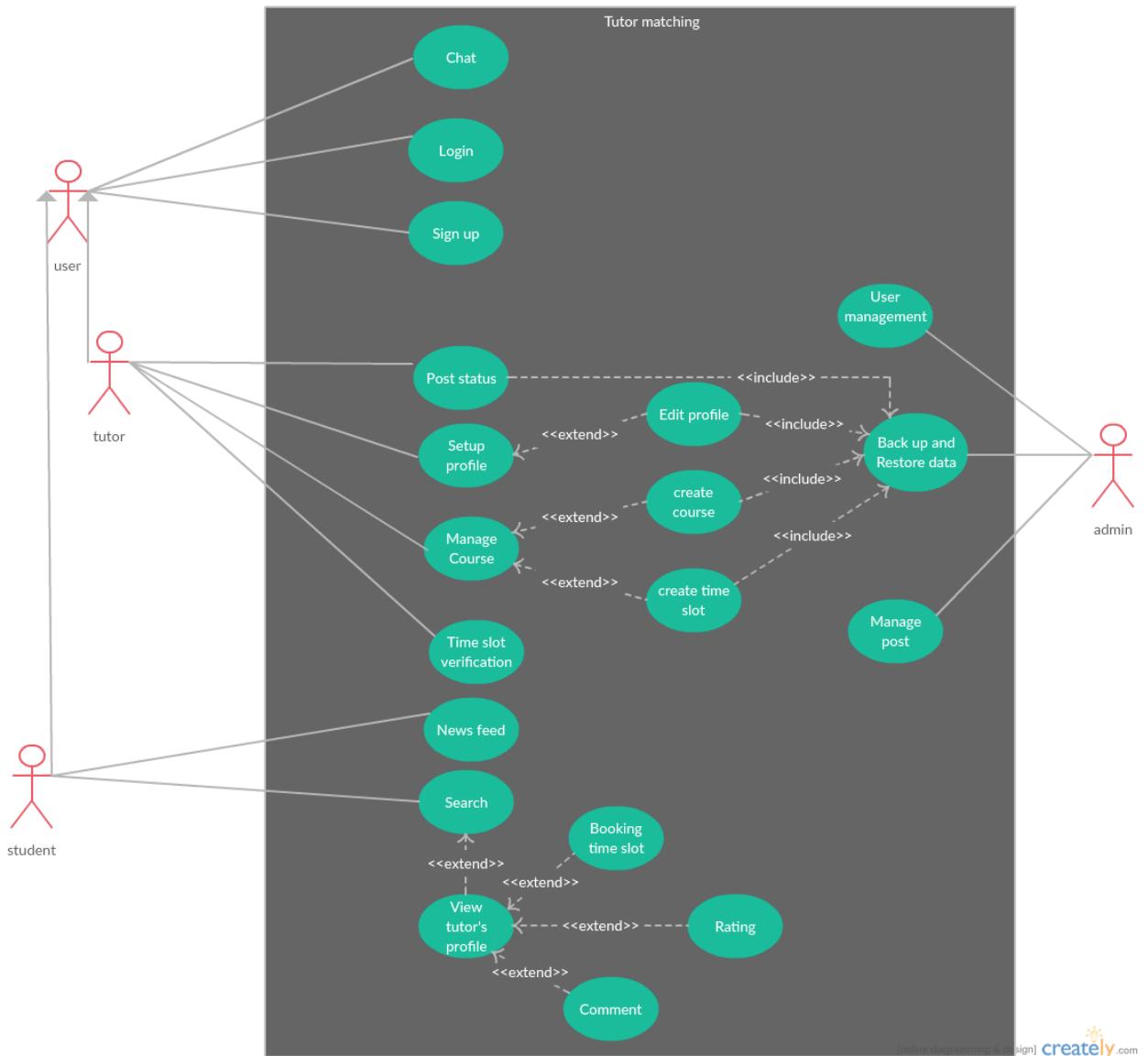


Figure 13 Use case diagram

Log in and sign up can be used by both tutor and student. Tutor can post status such as promotion of a course and photos. Tutor can set up and edit profile. Tutor can manage the course such as creating course and time slot for student to book the course. Tutor also has to verify booking request from student. Student can book the course and time slot. Student can search for the course and view tutor's profile. Student allows to book, rate, comment, and send message to tutor.

### 3.6 Sequence Diagram

- Tutor

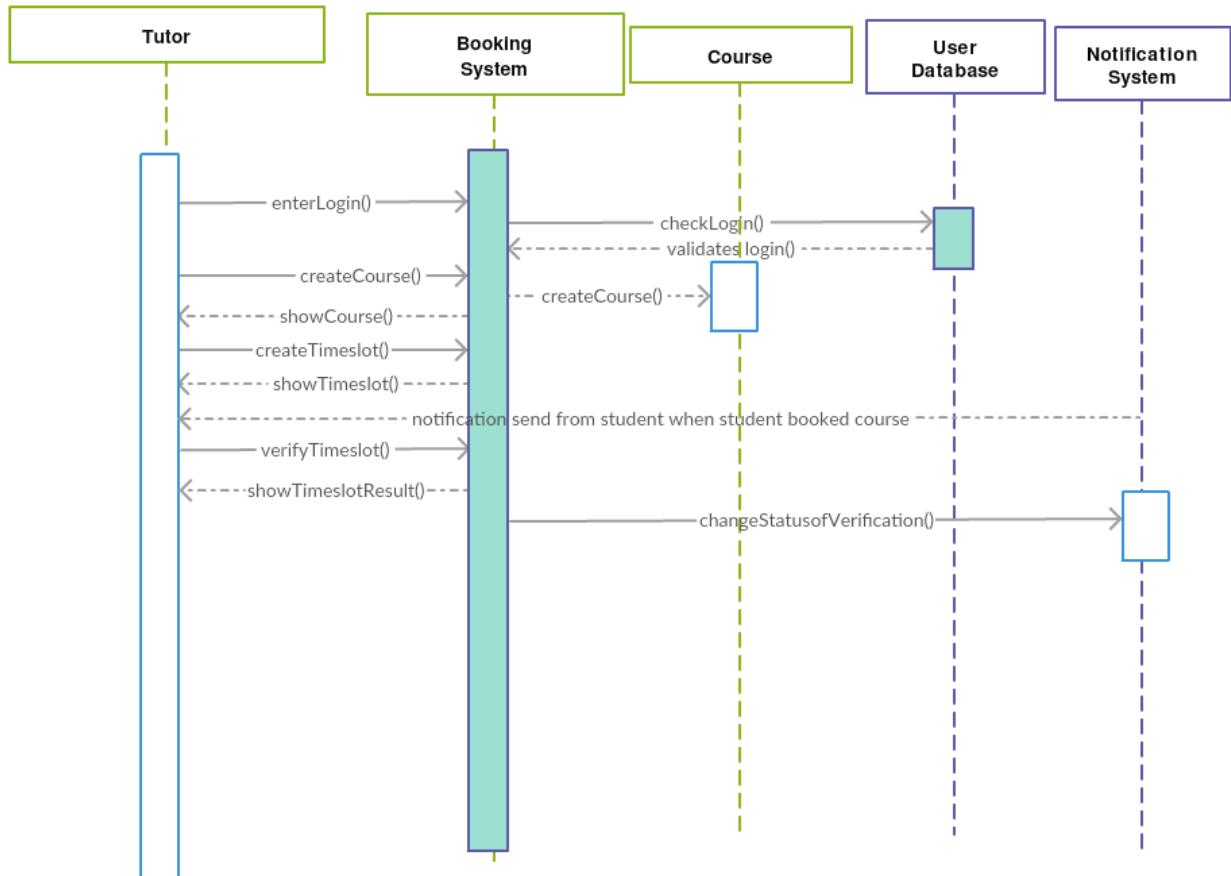


Figure 14 Sequence diagram of tutor

Tutor is login to the application. The system checks and validates login. Tutor can create the course and time slot for student to choose. When student finished to book the course, the application will notify tutor. Tutor has to verify the booking request of each student. Booking status of both tutor and student are changed when tutor accepted.

- Student

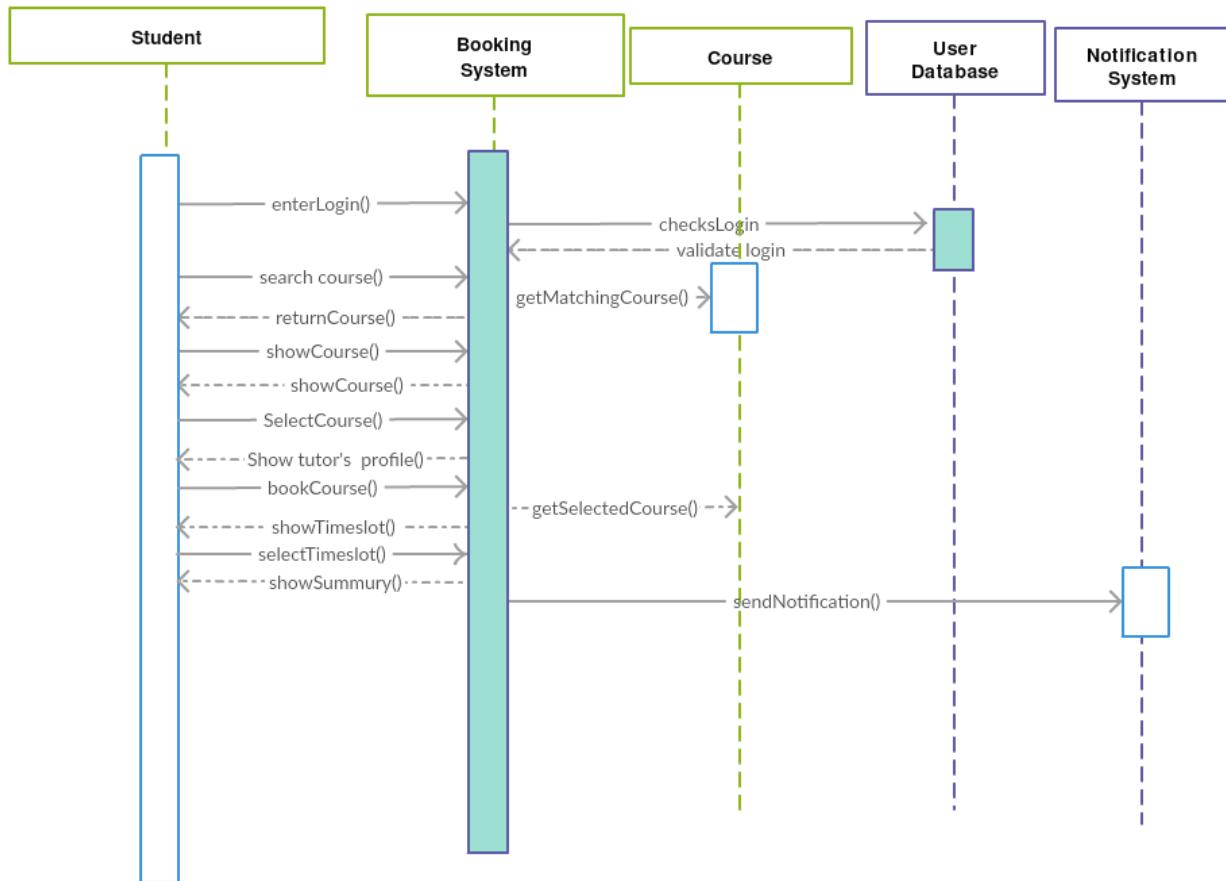


Figure 15 Sequence diagram of student

Student is login to the application. The system checks and validates login. Student can search for the course. The result will be shown if those tutors match with the student requirements. Student can choose the course and book time slot. When student finished to book the course, the notification will be sent to tutor. If tutor verifies the booking. Booking status of both student and tutor will be changed.

### 3.7 Site Map

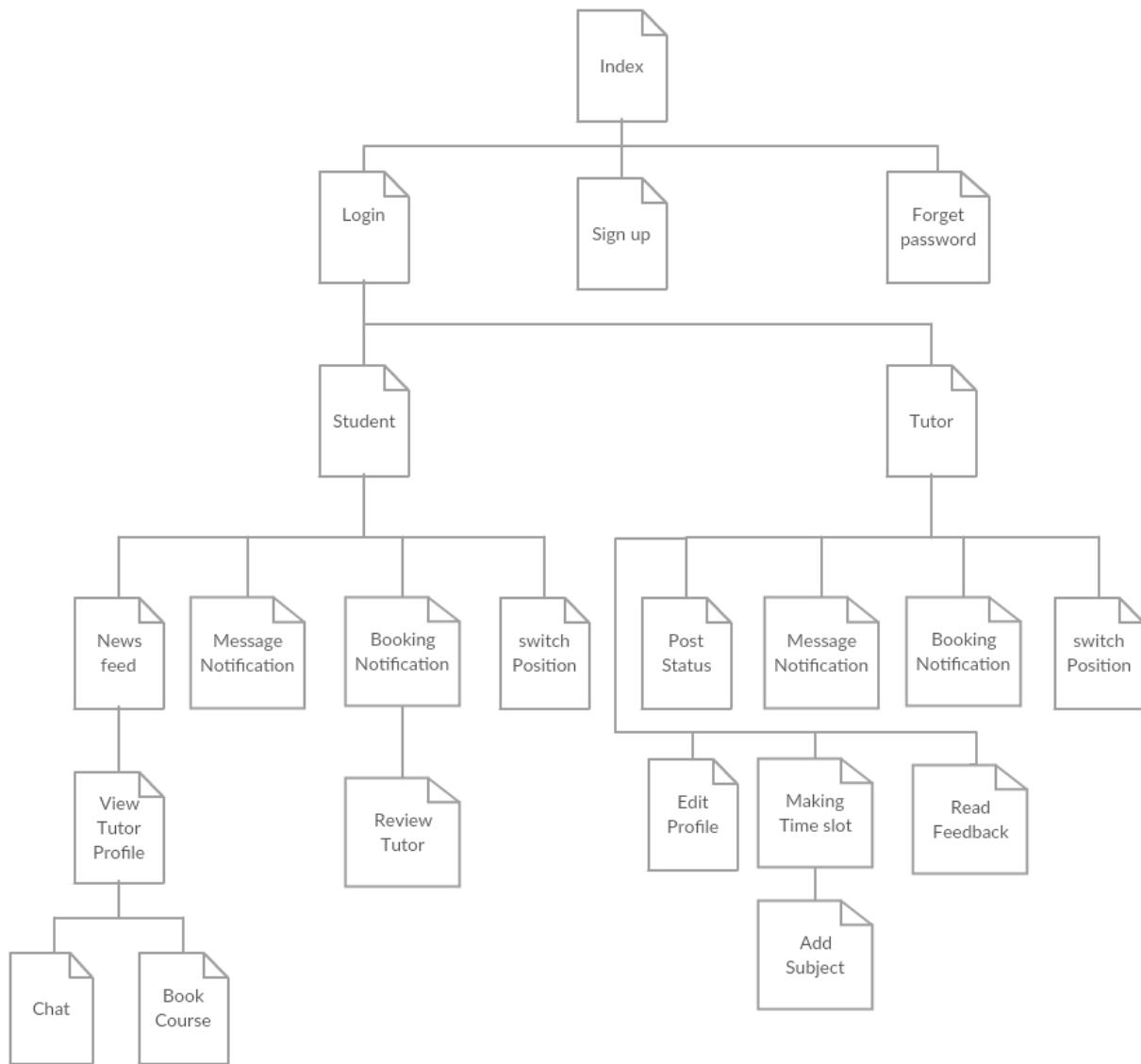


Figure 16 Site map of the application

### 3.8 Database schema with all tables explained

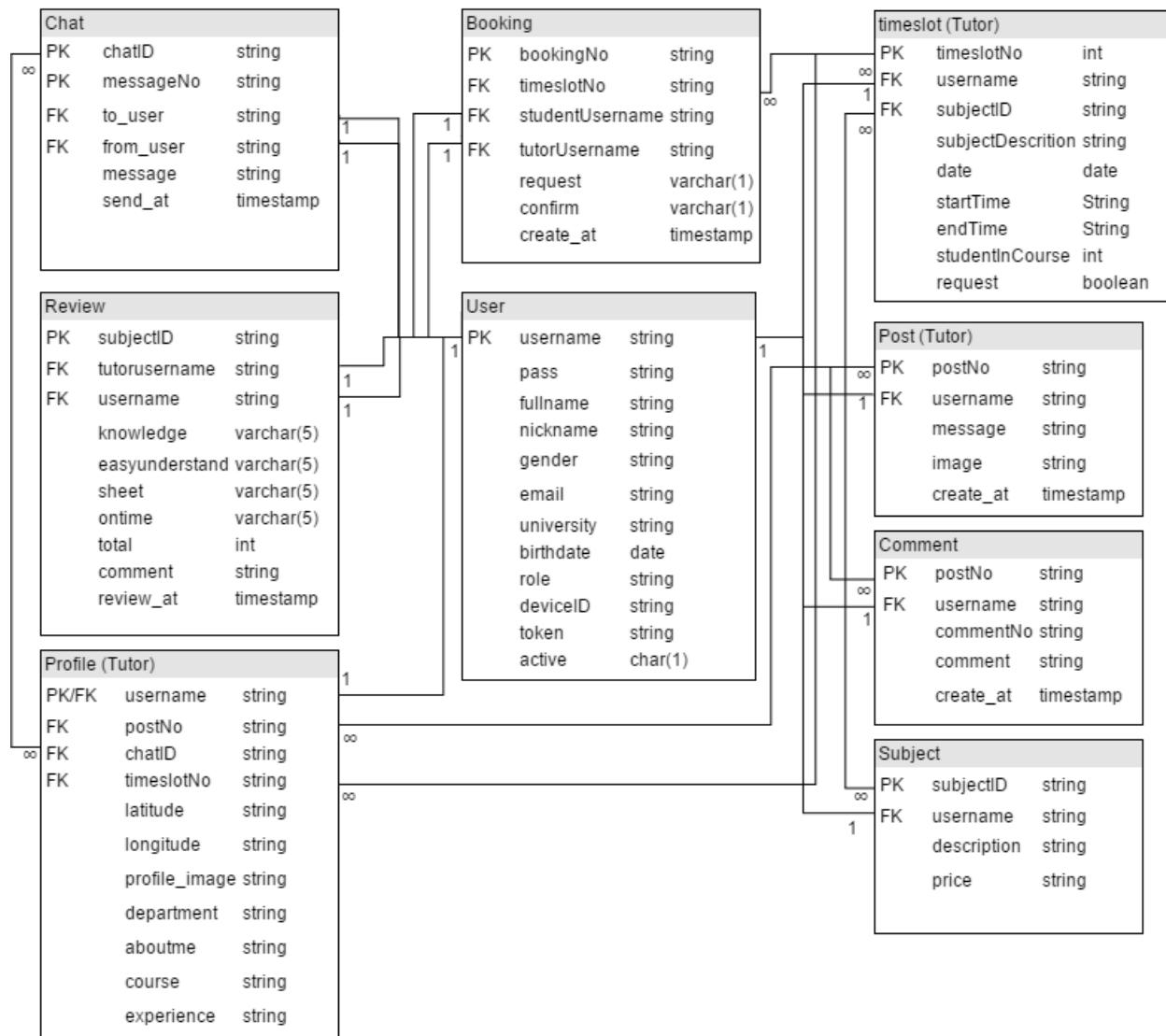
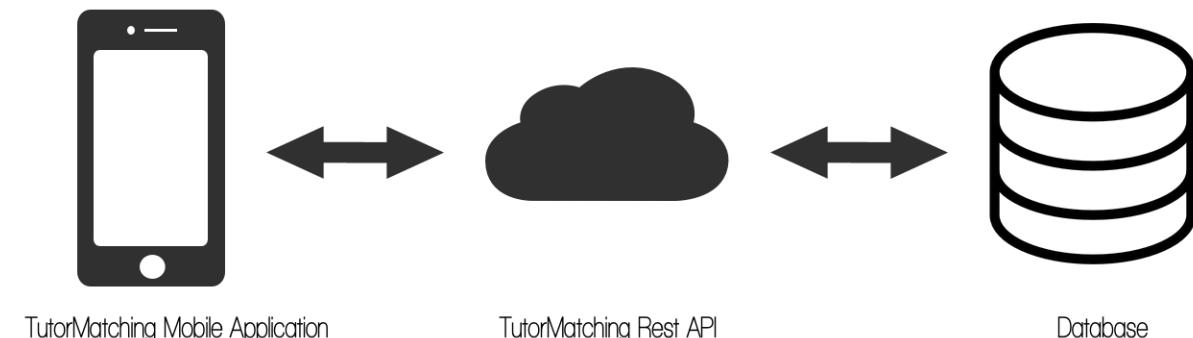


Figure 17 Database schema

There are 9 tables in database which are information of user, chat message, review from student, booking time slot, information in tutor's profile, making time slot, old posts, comment in posts, and information of subject.

### 3.9 Protocol Design Description



*Figure 18 Protocol design*

This project uses REST API to communicate between front-end and backend. The application uses HTTP Request Method such as POST and GET via Ajax.

### 3.10 Methodology

From relevant projects in Chapter 2. This project is designed to use current location to match with the tutor and to create the mobile application which is never happened before. This project is called “Integrated Tutor Matching Based on Student Preference” which used PhoneGap, Google Maps APIs, PHP, MySQL, Ajax, and jQuery Mobile. PhoneGap (HTML, CSS and JavaScript) and jQuery Mobile are used to design user interface of the application. JavaScript, Ajax, and PHP are used to code backend and to create REST API services. For example, querying and storing data to database, and connecting with Google Map API to pull the data from current location of the user. MySQL is used to store data. This project is designed to match tutors who is matched with student preferences.

## Chapter 4

### Results and Discussion

#### 4.1 Login system and signup system

##### 4.1.1 Login system



Matching

Username

Password

Login

Don't have an account? Sign up!  
Forgot your password?

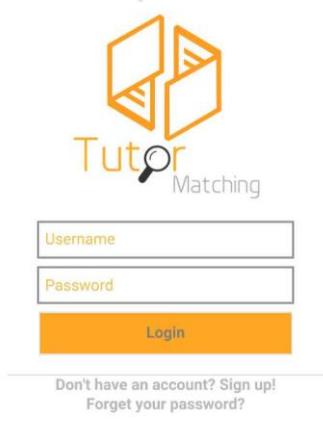


Figure 19 Login screen



Matching

Username

Password

Please fill all fields.

Login

Don't have an account? Sign up!  
Forgot your password?

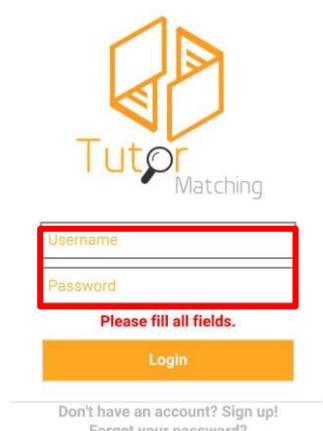


Figure 20 Login screen with empty username and password



Matching

chingching

Password

Please fill all fields.

Login

Don't have an account? Sign up!  
Forgot your password?

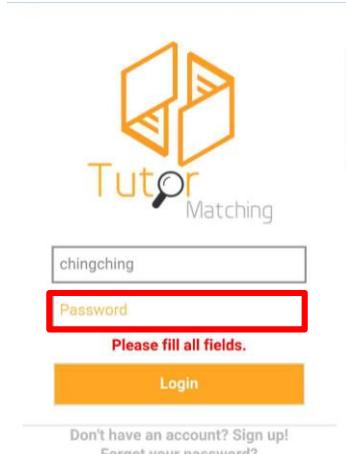


Figure 21 Login screen with empty password



Matching

Username

\*\*\*\*\*

Please fill all fields.

Login

Don't have an account? Sign up!  
Forgot your password?

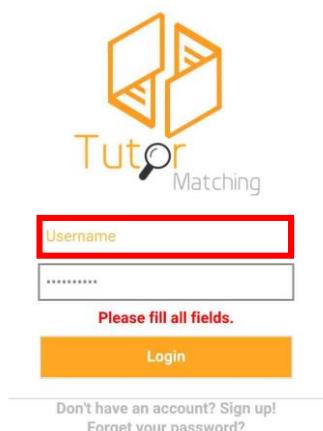


Figure 22 Login screen with empty username



Matching

chingchingg

\*\*\*\*\*

Invalid username or password.

Login

Don't have an account? Sign up!  
Forgot your password?



Figure 23 Login screen with invalid username or password

Login and signup are the first page of the application. User have to input all required fields. It requires username and password for people that already have an account. If user doesn't completely input all required fields, the application will make an alert which is "Please fill all fields". If username and password of user are incorrect or invalid, the application will make an alert which is "Invalid username or password".

#### 4.1.2 Signup system

Registration

Tutor Matching

Username 8-12 character

Password 8-12 character

Add photo

Email

Fullname

Nickname

Birthdate

University / School

Gender

Student    Tutor

Create Account

Figure 24 Account registration screen

Tutor Matching

Add photo

Username 8-12 character

.....

ponsathorn@hotmail.com

ponsathorn chaichanasiri

pure

01/22/1960

Chulalongkorn university

Male

Student    Tutor

Username must be 8-12 characters.

Create Account

Figure 25 Account registration with no username

Tutor Matching

Add photo

ponsathorn

Password 8-12 character

ponsathorn@hotmail.com

ponsathorn chaichanasiri

pure

01/22/1960

Chulalongkorn university

Male

Student    Tutor

Password must be at least 8 characters.

Create Account

Figure 26 Account registration with no password

The screenshot shows the 'Tutor Matching' app interface. A profile picture of two people is displayed. The 'Email' field is empty and highlighted with a red border. Below it, the 'Fullname' field contains 'pongsathorn chaichanasiri'. The 'Birthdate' field shows '01/22/1960', 'University / School' is 'Chulalongkorn university', and 'Gender' is 'Male'. At the bottom, there are 'Student' and 'Tutor' buttons, and a yellow 'Create Account' button.

Figure 27 Account registration with no e-mail

The screenshot shows the 'Tutor Matching' app interface. The 'Email' field contains 'pongsathorn@hotmail.com'. The 'Fullname' field is empty and highlighted with a red border. Below it, the 'Birthdate' field shows 'pure', 'University / School' is '01/22/1960', and 'Gender' is 'Chulalongkorn university'. Male'. At the bottom, there are 'Student' and 'Tutor' buttons, and a yellow 'Create Account' button.

Figure 28 Account registration with no full name

The screenshot shows the 'Tutor Matching' app interface. The 'Email' field contains 'pongsathorn@hotmail.com'. The 'Fullname' field contains 'pongsathorn chaichanasiri'. The 'Nickname' field is empty and highlighted with a red border. Below it, the 'Birthdate' field shows '01/22/1960', 'University / School' is 'Chulalongkorn university', and 'Gender' is 'Male'. At the bottom, there are 'Student' and 'Tutor' buttons, and a yellow 'Create Account' button.

Figure 29 Account registration with no nickname

The screenshot shows the 'Tutor Matching' app interface. A profile picture of two people is displayed. The 'Email' field contains 'pongsathorn@hotmail.com'. The 'Fullname' field contains 'pongsathorn chaichanasiri'. The 'Birthdate' field is empty and highlighted with a red border. Below it, the 'University / School' field shows 'pure', 'Birthdate' is '01/22/1960', and 'Gender' is 'Chulalongkorn university'. Male'. At the bottom, there are 'Student' and 'Tutor' buttons, and a yellow 'Create Account' button.

Figure 30 Account registration with no birthdate

The screenshot shows the 'Tutor Matching' app interface. The 'Email' field contains 'pongsathorn@hotmail.com'. The 'Fullname' field contains 'pongsathorn chaichanasiri'. The 'University / School' field is empty and highlighted with a red border. Below it, the 'Birthdate' field shows 'pure', 'University / School' is '01/22/1960', and 'Gender' is 'Chulalongkorn university'. Male'. At the bottom, there are 'Student' and 'Tutor' buttons, and a yellow 'Create Account' button.

Figure 31 Account registration with no university/school

The screenshot shows the 'Tutor Matching' app interface. The 'Email' field contains 'pongsathorn@hotmail.com'. The 'Fullname' field contains 'pongsathorn chaichanasiri'. The 'Nickname' field contains 'pure'. The 'Birthdate' field shows '01/22/1960', 'University / School' is 'Chulalongkorn university', and the 'Gender' field is empty and highlighted with a red border. At the bottom, there are 'Student' and 'Tutor' buttons, and a yellow 'Create Account' button.

Figure 32 Account registration with not select gender

The screenshot shows the 'Tutor Matching' app interface. A profile picture placeholder is shown above a text input field containing 'pong'. Below the input fields are several other form elements: 'Add photo', '\*\*\*\*\*', 'pongsathorn@hotmail.com', 'pongsathorn chaichanasiri', 'pure', '01/22/1960', 'Chulalongkorn university', and a gender dropdown set to 'Male'. At the bottom are 'Student' and 'Tutor' buttons, and a large orange 'Create Account' button. A red box highlights the 'pong' input field. Error message: 'Username must be 8-12 characters.'

Figure 33 Account registration with incorrect username length

The screenshot shows the 'Tutor Matching' app interface. A profile picture placeholder is shown above a text input field containing 'pongsathorn'. Below the input fields are several other form elements: 'Add photo', '\*\*\*\*\*', 'pongsathorn@hotmail.com', 'pongsathorn chaichanasiri', 'pure', '01/22/1960', 'Chulalongkorn university', and a gender dropdown set to 'Male'. At the bottom are 'Student' and 'Tutor' buttons, and a large orange 'Create Account' button. A red box highlights the 'pongsathorn' input field. Error message: 'Password must be at least 8 characters.'

Figure 34 Account registration with incorrect password length

The screenshot shows the 'Tutor Matching' app interface. A profile picture placeholder is shown above a text input field containing 'pongsathorn\_c'. Below the input fields are several other form elements: 'pongsathorn@hotmail.com', 'pongsathorn chaichanasiri', 'pure', and a numeric keypad. At the bottom is a virtual keyboard. A red box highlights the 'pongsathorn\_c' input field. An error message box displays: 'Please match the requested format. Allow only a-z, A-Z, 0-9.'

Figure 35 Account registration with incorrect username format

User who doesn't have an account can create an account by click "Sign up!". User have to fill in the application form which have username, password, e-mail, full name, nickname, date of birth, university, gender, choose the position, and add profile picture. The same username and e-mail are not allowed. If user doesn't complete input any fields, the application will show a message. For example, if you forget to type an e-mail, the application will show a message which is "Please fill your e-mail". Username and password must be more than 8 characters. If "Username less than 8 characters, the application will show a message which is "Username must be 8-12 characters". Username must match with the requested format which are a-z, A-Z, and 0-9.

#### 4.1.3 Forget password



Figure 36 Reset password screen

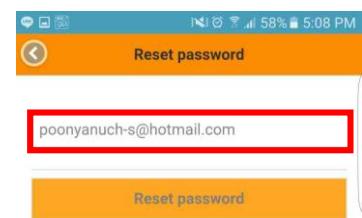


Figure 37 Reset password screen with user's e-mail

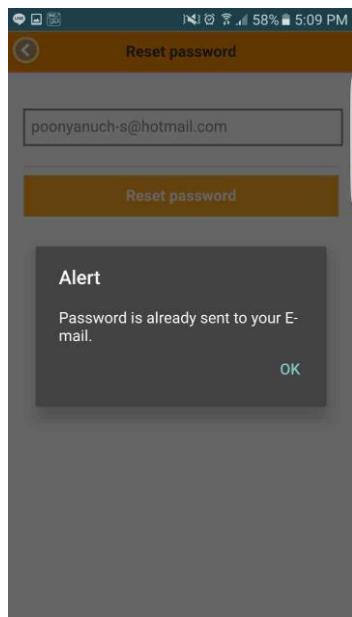


Figure 38 Alert message after click "Reset password"

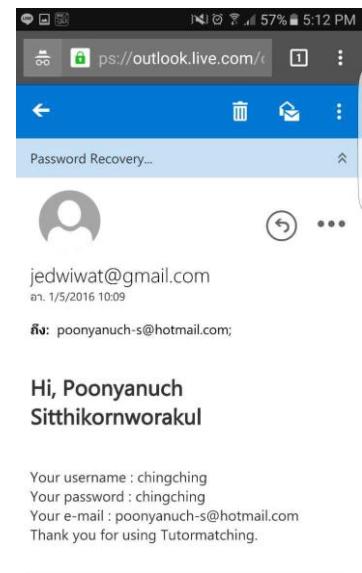


Figure 39 Application send password to user's e-mail

If user forget password, user can reset password by inputting an e-mail. The application will make an alert message which is “Password is already sent to your E-mail” and send the password to user’s e-mail after they clicked “OK”.

#### 4.1.4 Account verification

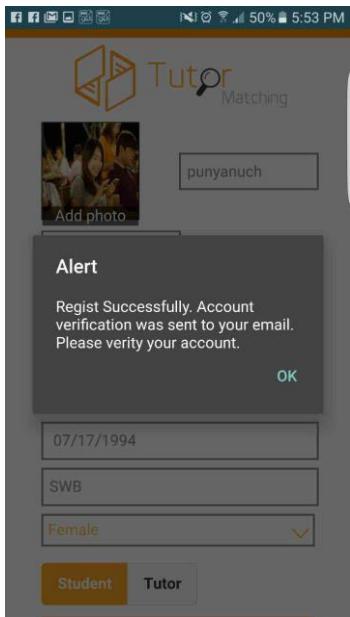


Figure 40 Alert after user finished registration



Figure 41 Log into application before verify account

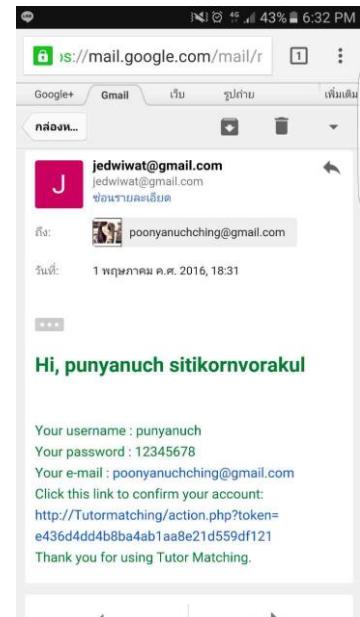


Figure 42 Application send verification link to user's

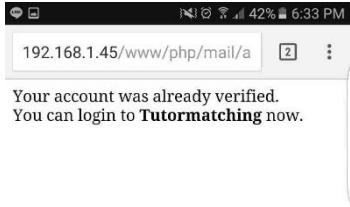


Figure 43 After clicked verification link



Figure 44 Completely log into an account

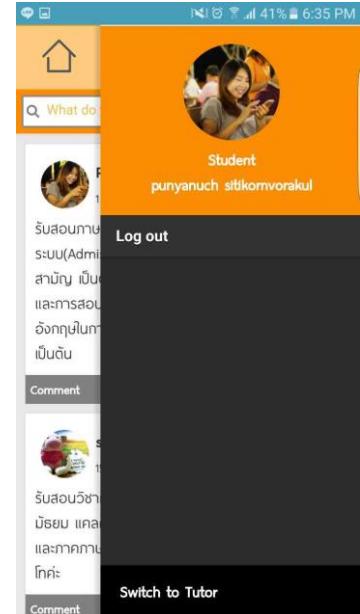


Figure 45 Log in as a student

After user finished registration, the application will send a link to user's e-mail to verify their authentication. User can login to the application without any problems after verified an account.

## 4.2 Tutor Settings

### 4.2.1 Profile

#### 4.2.1.1 Edit general information



Figure 46 Edit general information



Figure 47 After edited general information

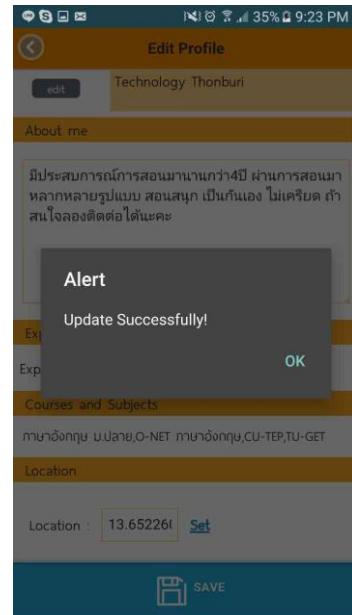


Figure 48 Alert message after user save updated information

Tutor can edit their general information such as about me which is for describing about themselves, experience, and location of tutor. Courses and subjects will show to profile depended on subject that tutor added in making timeslot system. After click save button, the application will send an alert message which is "Update successfully!".

#### 4.2.1.2 Edit profile picture



Figure 49 Edit profile picture



Figure 50 Choose picture in an album



Figure 51 After edited profile picture

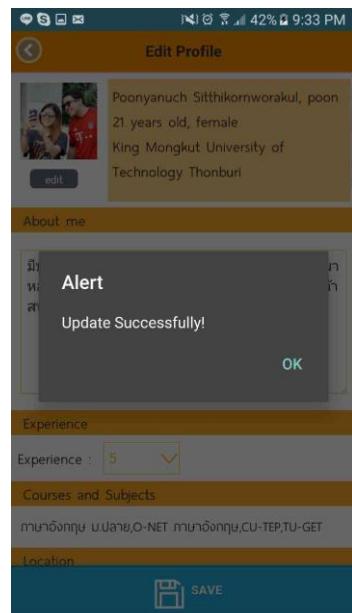


Figure 52 Alert after user save updated profile picture

Tutor can change their profile picture by choosing picture from an album or taking a new picture from camera. After click save button, the application will send an alert message which is “Update successfully!”.

## 4.2.2 Making time slot

### 4.2.2.1 Making time slot

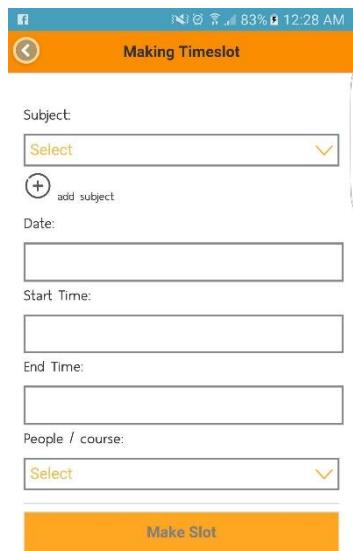


Figure 53 Making time slot screen

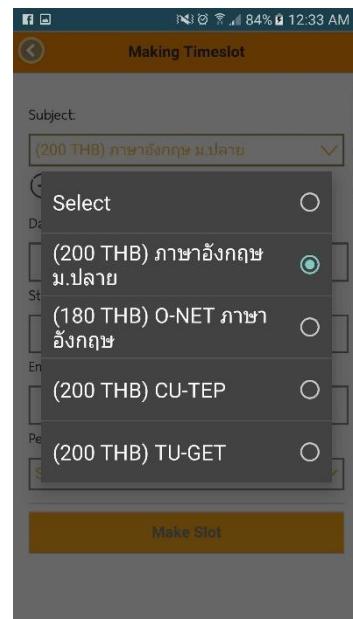


Figure 54 Select subject

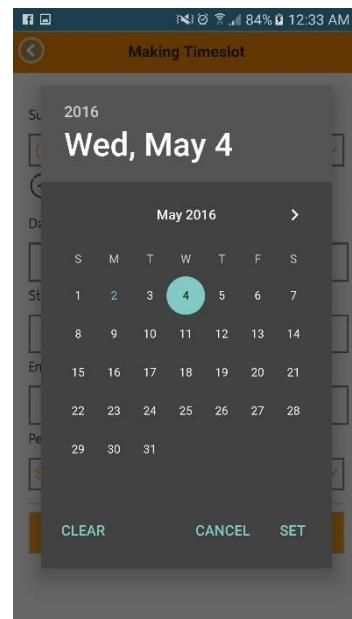


Figure 55 Select date

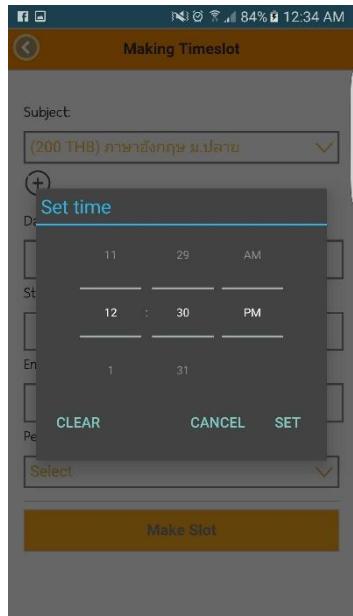


Figure 56 Set start time

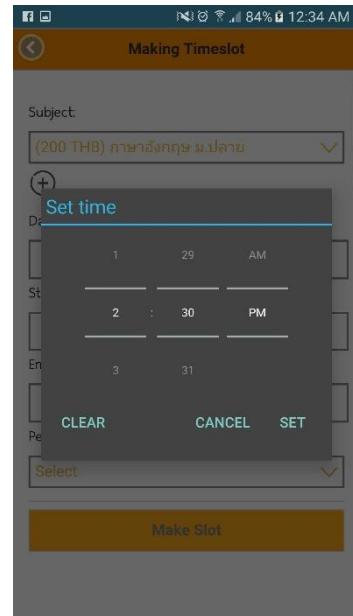


Figure 57 Set end time

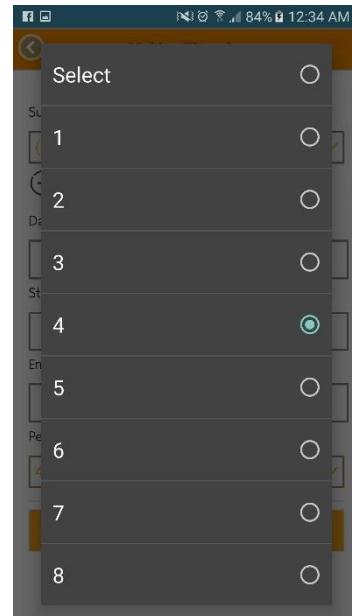


Figure 58 Select number of student

The screenshot shows a mobile application interface titled "Making Timeslot". The fields are as follows:

- Subject:** (200 THB) ภาษาอังกฤษ ม.ปลาย
- Date:** 05/04/2016
- Start Time:** 12:30 PM
- End Time:** 2:30 PM
- People / course:** 4

At the bottom is a large orange "Make Slot" button.

Figure 59 All fields are filled

The screenshot shows the same mobile application interface after the "Make Slot" button was clicked. The table at the bottom has been updated with one row:

Subject	Date	Time	#People
ภาษาอังกฤษ	2016-05-04	12:30 to 14:30	4

Figure 60 After tutor clicked "Make slot", table is updated

Tutor have to fill in all fields when make time slot such as subject, date, start time, end time, and number of student per course. After tutor clicked “Make Slot” button, the time slot table will be updated.

#### 4.2.2.2 Delete time slot



Figure 61 Time slot before delete

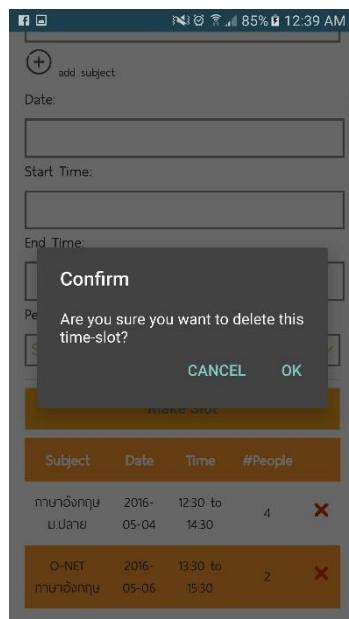


Figure 62 Alert message after clicked delete time slot



Figure 63 Time slot after deleted

If tutor want to delete the time slot, the application will send alert message “Are you sure you want to delete this time slot” to tutor to make sure that tutor really want to delete. If tutor click “OK” button, that time slot will be deleted.

#### 4.2.2.3 Making timeslot with the same period of time

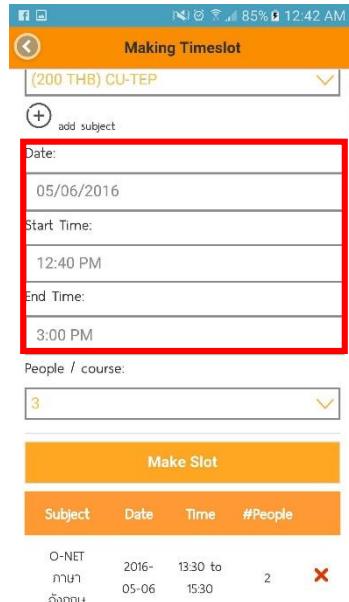


Figure 64 Making time slot with unavailable time

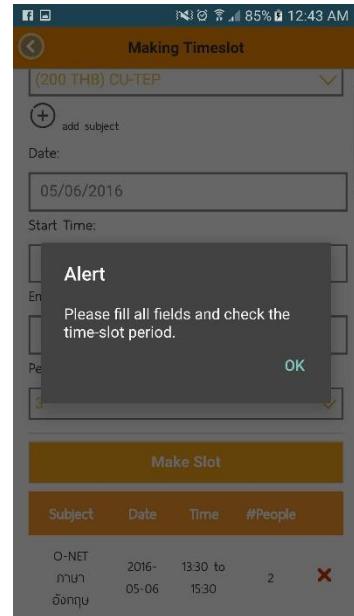


Figure 65 Alert message to reject that time slot

As the time slot table show that the date of 06/05/2016 and time from 13.30 to 15.30 pm is already created, so tutor can't create any time slot within that date and time. The application send an alert message to reject that time slot which is "Please fill all fields and check the time-slot period".

#### 4.2.2.4 Making timeslot with invalid date

Subject: (200 THB) CU-TEP  
+ add subject

Date: 05/01/2016

Start Time: 12:40 PM

End Time: 3:00 PM

People / course: 3

**Make Slot**

Figure 66 Making time slot with unavailable date

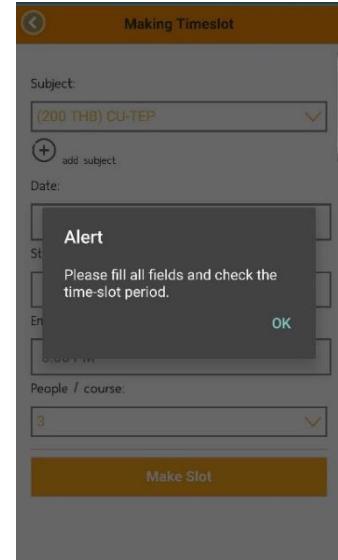


Figure 67 Alert message to reject that time slot

The date of 01/05/2016 is overdue, so tutor can't make that time slot. The application will send alert message to tutor which is "Please fill all fields and check the time-slot period".

#### 4.2.2.5 Making timeslot with required fields not fill out

Subject: (200 THB) ភាគាស់ក្នុងមេដារា  
+ add subject

Date:

Start Time: 12:00 PM

End Time: 2:00 PM

People / course: 3

**Make Slot**

Figure 68 Making time slot with no date

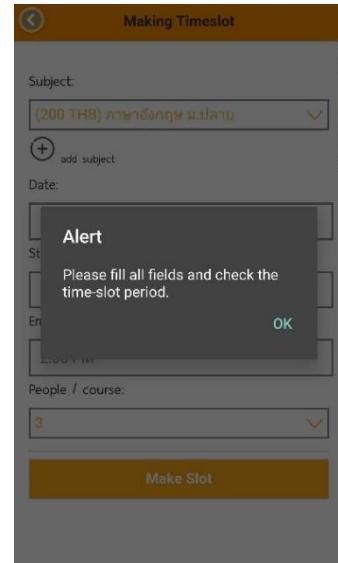


Figure 69 Alert message to reject that time slot

Tutor doesn't set the date, so the application can't make time slot. The application will send an alert message which is "Please fill all fields and check the time-slot period" to remind tutor to fill all fields.

#### 4.2.2.6 Create new subject

Making Timeslot

Subject:

**(+ add subject)**

Date:

Start Time:

End Time:

People / course:

**Make Slot**

**Subject Date Time #People**

Figure 70 Add subject button

Add Subject

Subject	Description	Price	
คณิตศาสตร์ ม.ปลาย	PATI 7วิชาสามัญ O-Net Smart 1 สอนต่อ กึ่งปี	140	X
วิทยาศาสตร์ ม.ปลาย	พิสิตร เกมี โภภาระการ เผลี่ยนเปลี่ยน ตารางสอน	120	X

Figure 71 Add subject screen

Add Subject

Subject: ภาษาอังกฤษ

Description:

Price: 250

**Add Subject**

**Subject Description Price**

คณิตศาสตร์ ม.ปลาย PATI 7วิชาสามัญ O-Net Smart 1 สอนต่อ กึ่งปี 140 X

Figure 72 Subject's information

Add Subject

Subject	Description	Price	
คณิตศาสตร์ ม.ปลาย	PATI 7วิชาสามัญ O-Net Smart 1 สอนต่อ กึ่งปี	140	X
วิทยาศาสตร์ ม.ปลาย	พิสิตร เกมี โภภาระการ เผลี่ยนเปลี่ยน ตารางสอน	120	X
พิสิตร	PATI 7วิชาสามัญ O-Net สอนต่อ กึ่งปี	120	X
ภาษา อังกฤษ	เตรียมความพร้อมเด็กเล็ก / ประชุม-มีรับยม / มหาวิทยาลัย / บุคคล กึ่งปี / หน่วยงานรัฐและเอกชน	250	X

Figure 73 After clicked add subject

Add new subject button is located under subject's drop down in making time slot page. Tutor can create new subject by typing subject name, description, and cost per hour. After clicked add new subject, it will be updated in table.

#### 4.2.2.7 Create new subject with duplicated name

The screenshot shows the 'Add Subject' screen with three input fields: 'Subject' (科目), 'Description' (描述), and 'Price' (价格). Below the input fields is a table titled 'Add Subject' with columns 'Subject', 'Description', and 'Price'. It contains two rows of data:

Subject	Description	Price	
คณิตศาสตร์ บ.ปลาย	PAT1 7วิชาภาษาอังกฤษ 0-Net Smart 1 สอนสด รีวิวไป	140	X
วิทยาศาสตร์ บ.ปลาย	พิสิตร์ เทพี โภคภัณฑ์ เมล็ดแบบปลูก ตารางสอน	120	X

Figure 74 Show subjects were added

The screenshot shows the 'Add Subject' screen with three input fields: 'Subject' (科目), 'Description' (描述), and 'Price' (价格). The 'Subject' field contains the text 'คณิตศาสตร์ ม.ปลาย' which is highlighted with a red rectangle. To the right of the field is a red 'X' symbol. Below the input fields is a table titled 'Add Subject' with columns 'Subject', 'Description', and 'Price'. It contains two rows of data:

Subject	Description	Price	
คณิตศาสตร์ บ.ปลาย	PAT1 7วิชาภาษาอังกฤษ 0-Net Smart 1 สอนสด รีวิวไป	140	X
วิทยาศาสตร์ บ.ปลาย	พิสิตร์ เทพี โภคภัณฑ์ เมล็ดแบบปลูก ตารางสอน	120	X

Figure 75 Reject to add the same subject

Each tutor can't add the same subject name. If tutor add “คณิตศาสตร์ ม.ปลาย”, the application will show “x” symbol because “คณิตศาสตร์ ม.ปลาย” subject was added.

#### 4.2.2.8 Delete subject

Add Subject			
Subject	Description	Price	
คณิตศาสตร์ บปถย	PAT1 7วิชาสามัญ O-Net Smart 1 สอนต่อ ก็วไป	140	X
วิทยาศาสตร์ บปถย	พืชัก เกม โลกและภาร แม่เรียนแปลง ตารางศาสตร์	120	X
พัสดุ	PAT2/3 7วิชาสามัญ O-Net สอนต่อ ก็วไป	120	X
ภาษา อังกฤษ	เตรียมความพร้อมเด็ก เล็ก / ประถน-บีชอน / บกพวกลีล / บุน พ ก็วไป / หน่วยงานธุรกิจและ เอกชน	250	X

Figure 76 Show subjects before delete

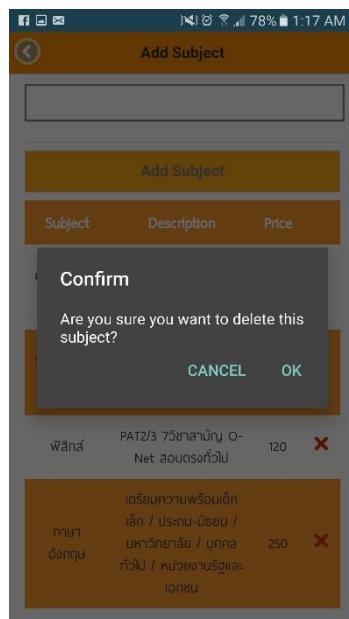


Figure 77 Alert message after clicked delete subject

Add Subject			
Subject	Description	Price	
คณิตศาสตร์ บปถย	PAT1 7วิชาสามัญ O-Net Smart 1 สอนต่อ ก็วไป	140	X
วิทยาศาสตร์ บปถย	พืชัก เกม โลกและภาร แม่เรียนแปลง ตารางศาสตร์	120	X
พัสดุ	PAT2/3 7วิชาสามัญ O-Net สอนต่อ ก็วไป	120	X

Figure 78 Show subjects after deleted

If tutor want to delete the subject, the application will send alert message “Are you sure you want to delete this subject” to tutor to make sure that tutor really want to delete. If tutor click “OK” button, that subject will be deleted.

### 4.2.3 Read feedback

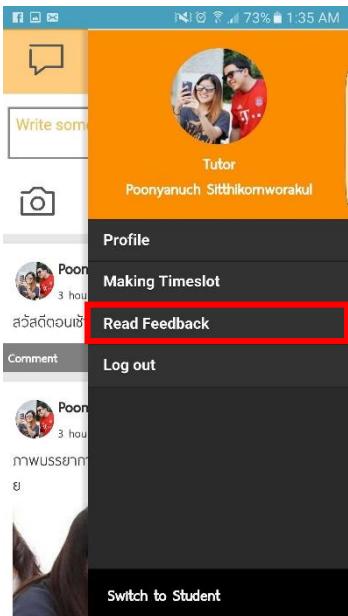


Figure 79 Read Feedback button



Subject : Choose subject



Subject : (200 THB) TU-GET

ประสีห์ จันมุดรกุล  
2016-05-02 01:30:27

สอนดีครับ แต่เอกสารประกอบการสอนเนื้อหาไปหน่อย

Figure 80 Read review screen

Figure 81 Show a review of TU-GET subject

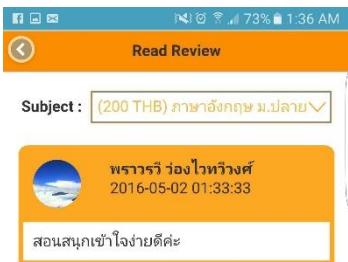


Figure 82 Show a review of ภาษาอังกฤษ ม.ปลาย subject

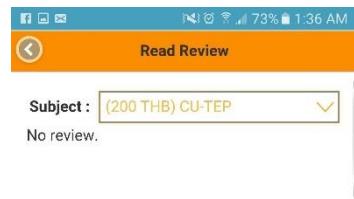


Figure 83 Show no review of CU-TEP subject

Tutor can read all reviews from student who finished courses. In read review screen, it has all subjects that tutor created. Tutor can select subject and read all reviews in each subject. If there is not any review in that subject, the application will show message “No review”.

#### 4.2.4 Log out



Figure 84 Home page screen and settings button

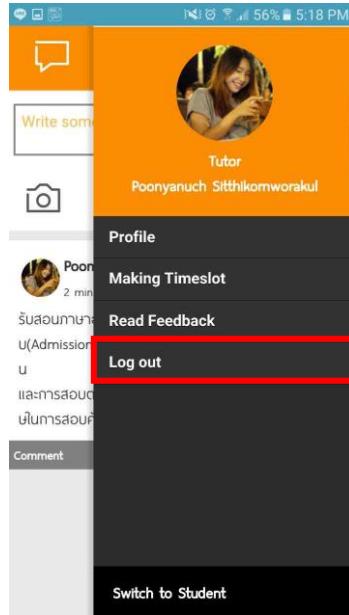
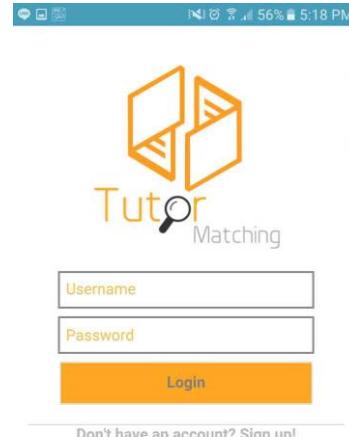


Figure 85 Click “Log out” in settings page



Don't have an account? Sign up!

Forget your password?

Figure 86 After log out

There is settings button in home page of tutor page. After clicked “Log out” the application will show login screen.

#### 4.2.5 Tutor change role to be student



Figure 87 Home page screen and settings button

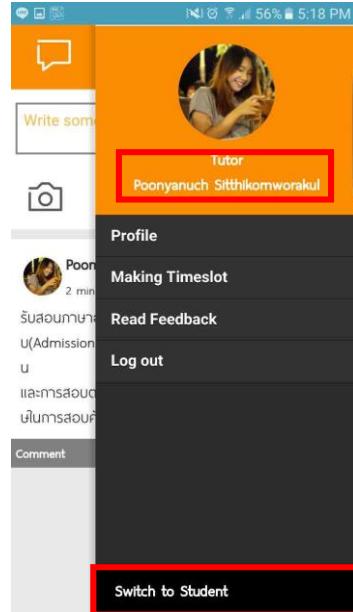


Figure 88 Click “Switch to Student” in settings page



Figure 89 News feed of student

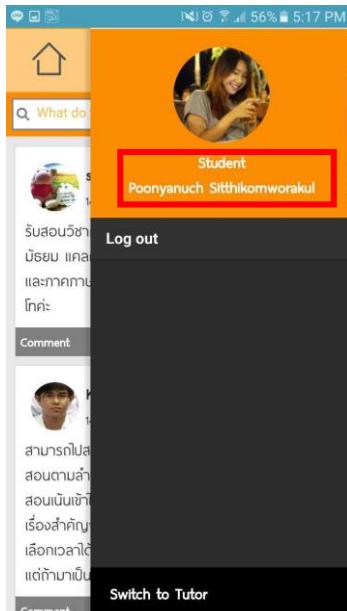


Figure 90 Changed the role to be student

There is settings button in home page of tutor page. After clicked “Switch to Student” the application will be changed to student’s news feed.

## 4.3 Student settings

### 4.3.1 Log out



Figure 91 News feed screen and settings button

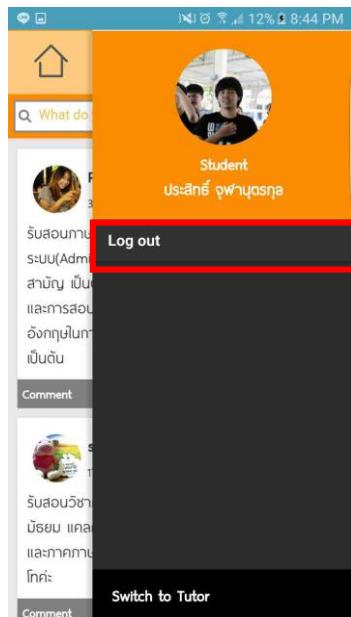


Figure 92 Click “Log out“ in settings page

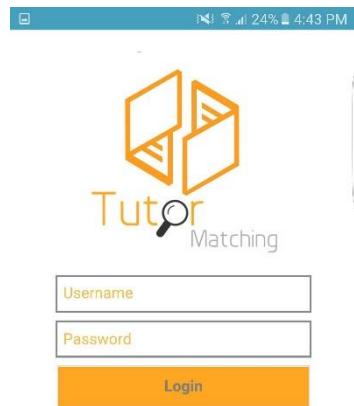


Figure 93 After log out

There is settings button in news feed of student page. After clicked “Log out” the application will show login screen.

### 4.3.2 Student change role to be tutor



Figure 94 News feed screen and settings button

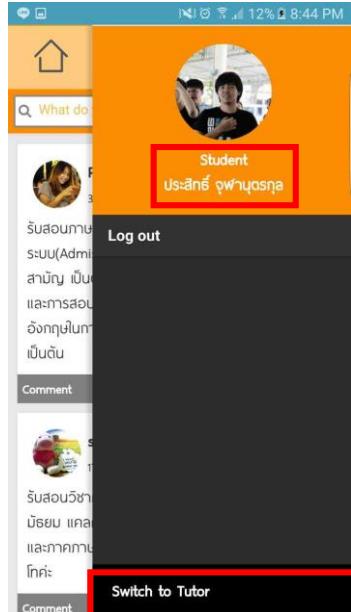


Figure 95 Click “Switch to Tutor” in settings page



Figure 96 Home page of tutor

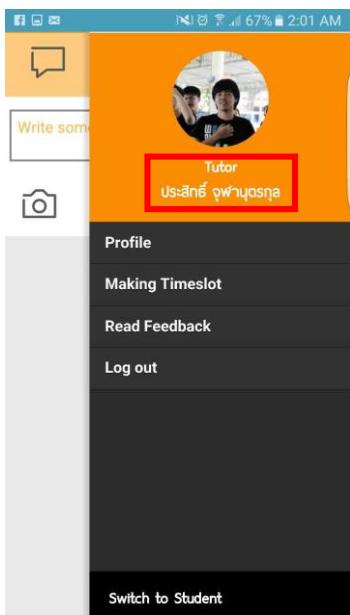


Figure 97 Changed the role to be tutor

There is settings button in news feed of student page. After clicked “Switch to Tutor” the application will be changed to tutor’s homepage.

## 4.4 Post system

### 4.4.1 Post system



Figure 98 Home page of tutor



Figure 99 Old posts from tutor

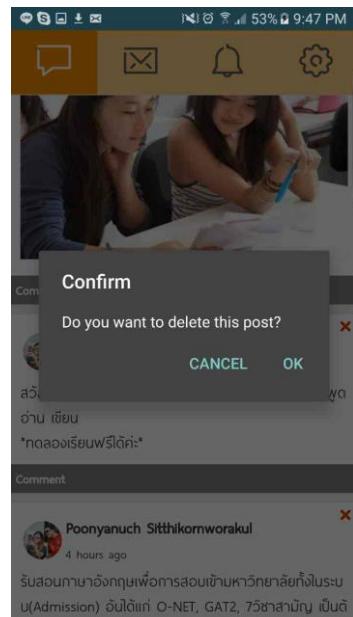


Figure 100 Alert after clicked delete post



Figure 101 Home page after deleted post

Post system is the feature for tutors to promote the courses. They can post status and photo. In this page will show old posts which tutor updated. Tutor can delete old post by clicking delete post then the application will ask tutor “Do you want to delete this post?”. If tutor clicks “OK”, that post will be disappeared.

#### 4.4.2 Post status



Figure 102 Typing a status



Figure 103 Result of typing a status

Tutors can type anything into textbox for promoting their courses. After click post the result will be shown on their news feed.

#### 4.4.3 Post image



Figure 104 Uploading a picture



Figure 105 Result of uploading a picture

Tutor can upload picture. After uploading is completed, the picture will be shown within small box first. After click post the result will be shown on their news feed.

## 4.5 News feed

### 4.5.1 News feed



Figure 106 Home page of student

News feed is the feature of student. It shows tutor's post such as status and photo. Student can click tutor's name for seeing tutor's profile.

## 4.5.2 Comment

### 4.5.2.1 Add comment



Figure 107 News feed before user comment

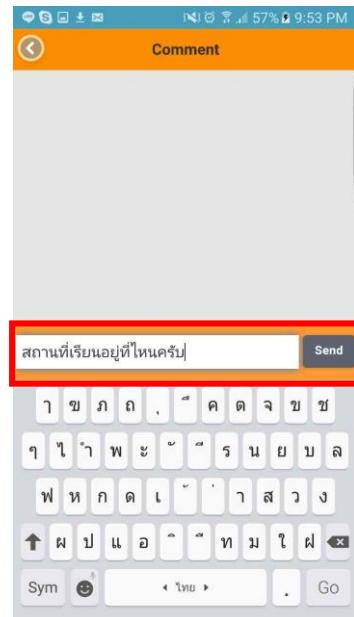


Figure 108 Typing comment

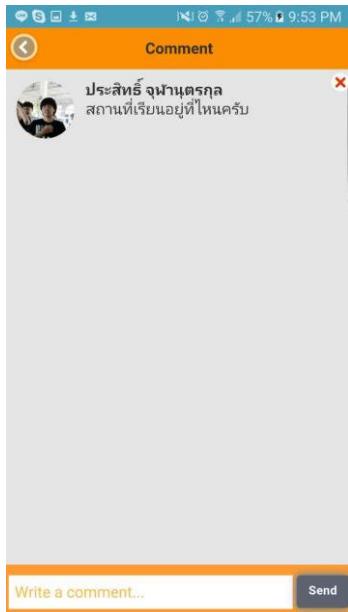


Figure 109 Result of comment



Figure 110 News feed after user commented

Student can comment in each post. After student comment in the post, the amount of comment in that post will be updated.

#### 4.5.2.2 Delete comment



Figure 111 News feed before comment

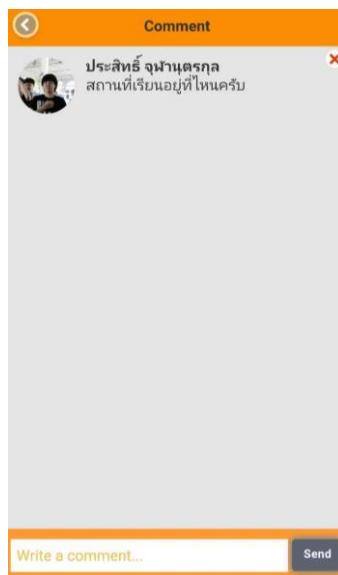


Figure 112 Comment will be deleted

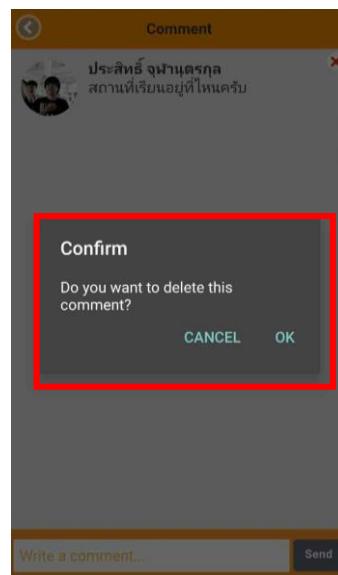


Figure 113 Alert after clicked delete comment

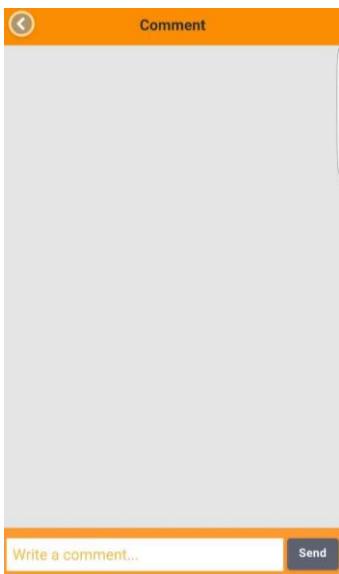


Figure 114 Comment page with nothing



Figure 115 News feed after deleted comment

Student can delete comment in each post. After student delete comment in the post, the amount of comment in that post will be updated.

## 4.6 Chat system

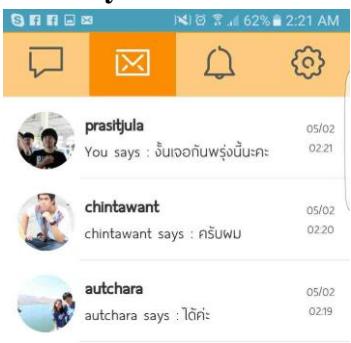


Figure 116 Chat history



Figure 117 Student's chat screen



Figure 118 Tutor's chat screen

There is chat history of students or tutors. Tutor and student can chat to each other without any problem by typing a message into textbox and clicking a send button.

## 4.7 Notification

### 4.7.1 Notification of student

#### 4.7.1.1 Notification

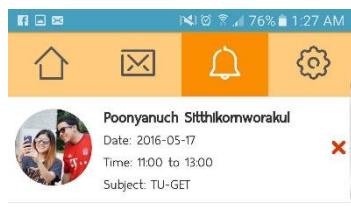


Figure 119 Notification of student

After student booked time-slot, the application will send notification to student. Student have to wait for tutor confirmation or student can cancel this time-slot.

#### 4.7.1.2 Delete request

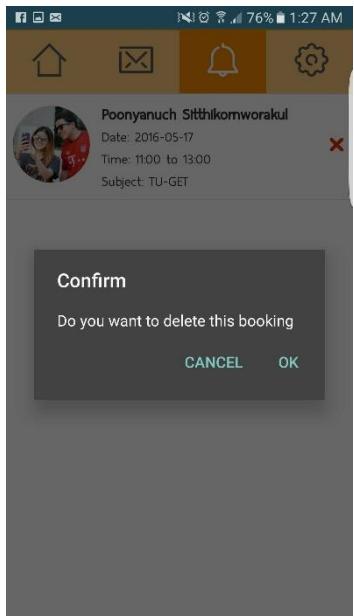


Figure 120 Delete confirmation

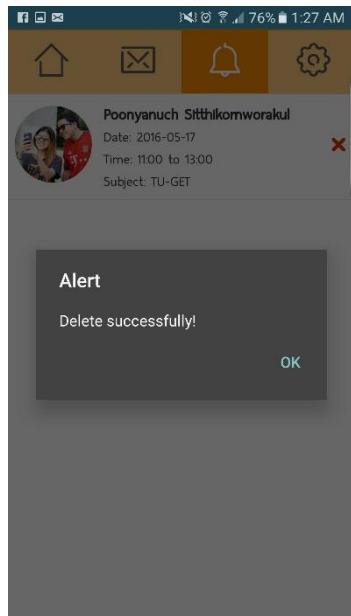


Figure 121 Alert message

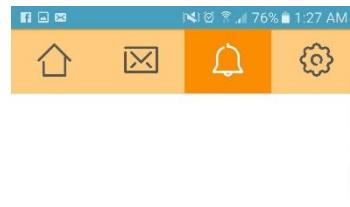


Figure 122 Notification after deleted

If student cancel the time slot, the application will ask student “Do you want to delete this booking”. If student click “OK”, the application will make an alert message which is “Delete successfully!”.

#### 4.7.1.3 Be confirmed from tutor



Figure 123 Request is approved

Student have to wait for tutor confirmation. If tutor confirmed the request, the notification of that course will have a review button.

#### 4.7.2 Notification of tutor

##### 4.7.2.1 Notification

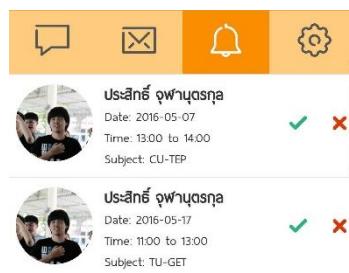


Figure 124 Notification of tutor

Tutor will be notified if student booked a course with tutor. Tutor can confirm or cancel the student's request.

#### 4.7.2.2 Delete request

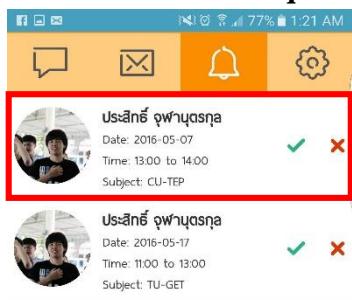


Figure 125 “CU-TEP” Time slot will be deleted

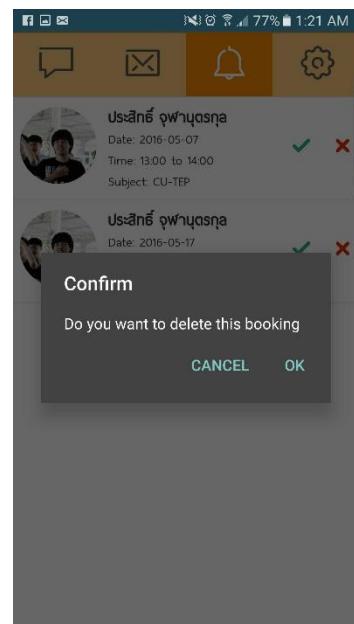


Figure 126 Delete confirmation

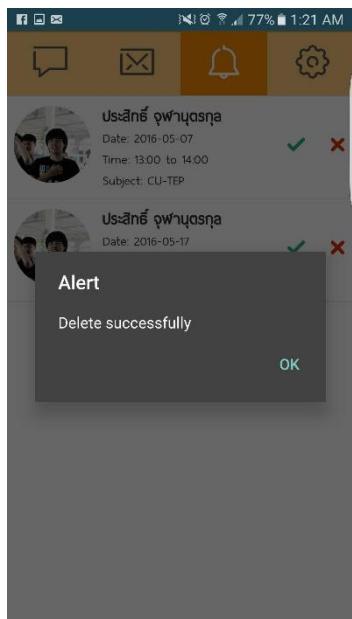


Figure 127 Alert message

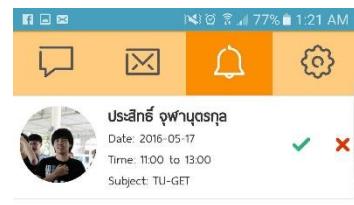


Figure 128 “CU-TEP” time slot was deleted

If tutor cancel the requested time slot, the application will ask tutor “Do you want to delete this booking”. If tutor click “OK”, the application will make an alert message which is “Delete successfully!”.

#### 4.7.2.3 Confirm request

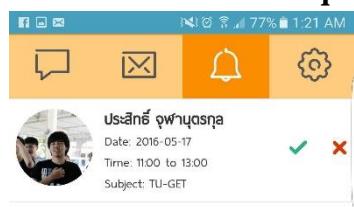


Figure 129 “TU-GET” will be confirmed

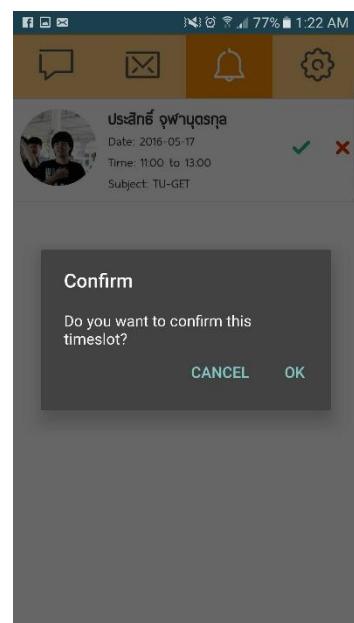


Figure 130 Time slot confirmation

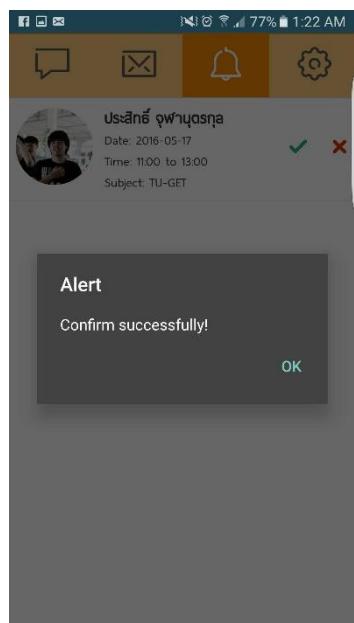


Figure 131 Alert message after confirmed

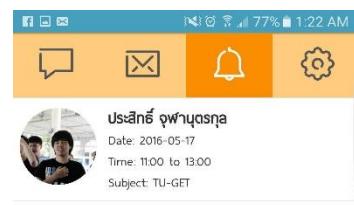


Figure 132 Confirmation is completed

If tutor confirm the request, the application will ask tutor that “Do you want to confirm this time slot?” to make sure that tutor really want to confirm the request. After tutor confirmed the request, the application will send an alert message which is “Confirm successfully”. This time slot will be collected in database.

## 4.8 Booking system

### 4.8.1 Booking system

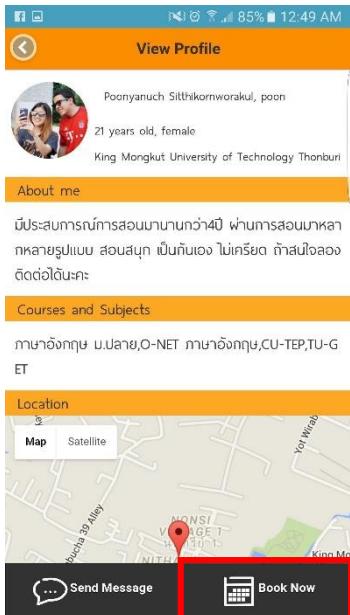


Figure 133 Booking button

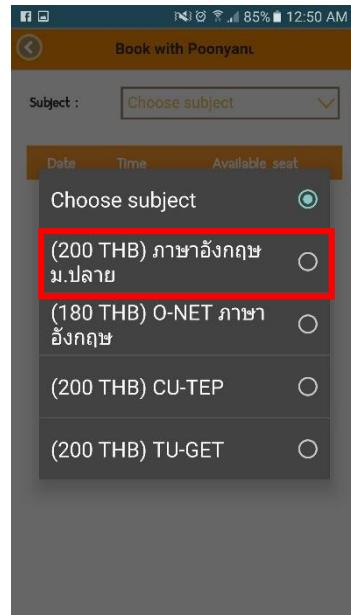


Figure 134 Choose subject to view time slot and available seat



Figure 135 Show time slot and available seat

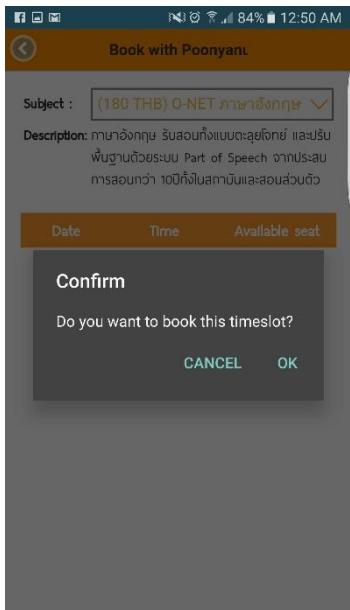


Figure 136 Booking confirmation

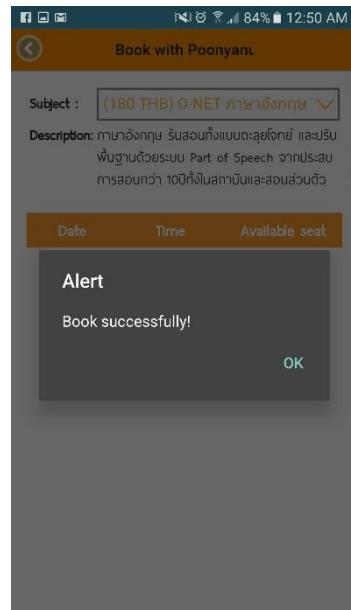


Figure 137 Alert message after booked



Figure 138 Available seat was decreased

In view tutor's profile page, there is a book button. After student clicked it, student can choose preferred subject. Application will show date, time, and available seat of each course. After student clicked preferred time slot, the application will ask tutor that "Do you want to book this time slot?" to make sure that tutor really want to book this time slot. After student booked time slot, the application will send an alert message which is "Book successfully". Available seat in that subject will be decreased.

#### 4.8.2 Book in the same course



Figure 139 Show time slot and available seat

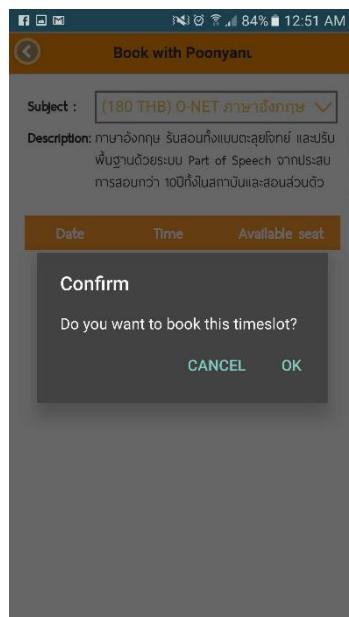


Figure 140 Booking confirmation

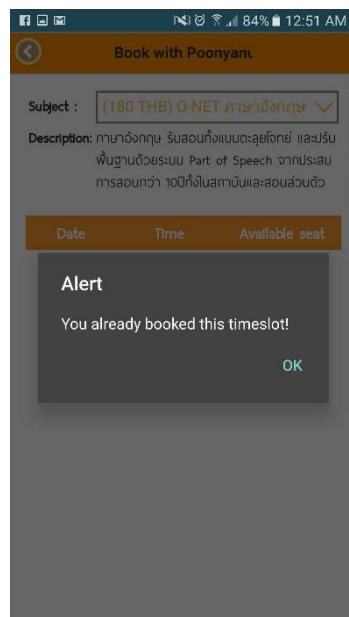


Figure 141 Alert message after booked

Student already booked this subject in the same time slot, so student can't book it again. The application will send an alert message which is "You already booked this time slot!".

#### 4.8.3 Book in the same period of time



Figure 142 Booked time slot

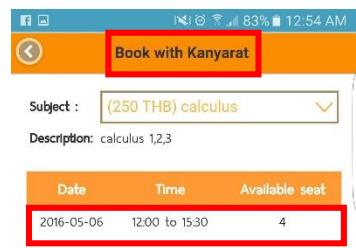


Figure 143 Booking time slot

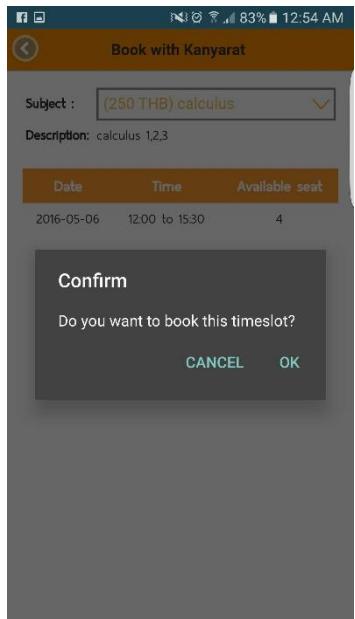


Figure 144 Booking confirmation

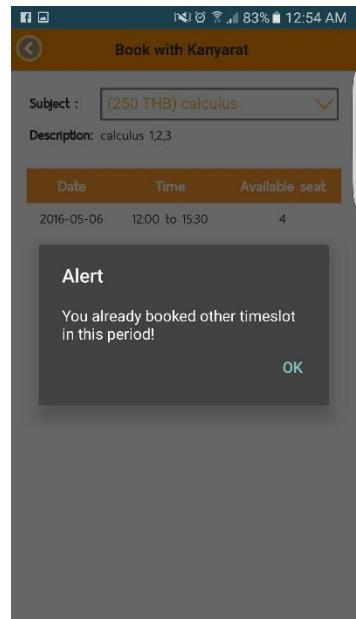


Figure 145 Alert message after booked

Student already booked “O-NET ภาษาอังกฤษ” course in 06/05/16 from 13.30 to 15.30.

Student also want to book “calculus” course in 06/05/16 from 12.00 to 15.30 with another tutor, but student can't book because the time overlap. The application will send an alert message which is “You already booked other time slot in this period!”.

#### 4.8.4 Book in the last available seat

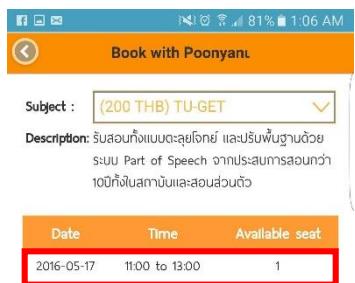


Figure 146 Show time slot and available seat

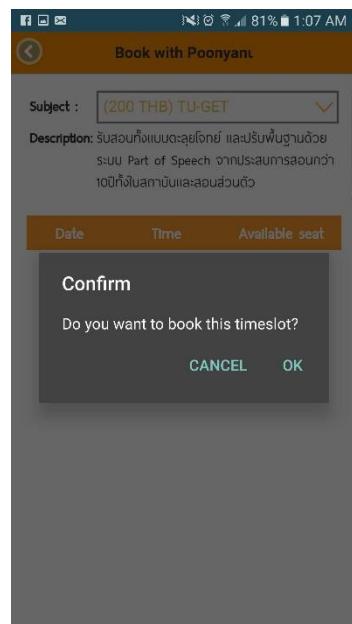


Figure 147 Booking confirmation

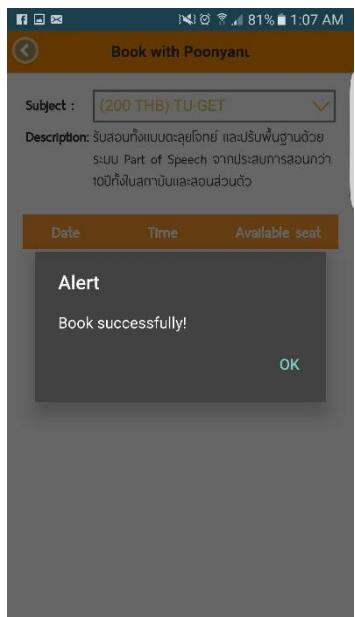


Figure 148 Alert message after booked



Figure 149 No available seat

There is the last available seat in this course. After student booked, the number “1” will change to be “full”. No one can book this time slot because it is no available seat.

## 4.9 Feedback system

### 4.9.1 Rating and reviewing

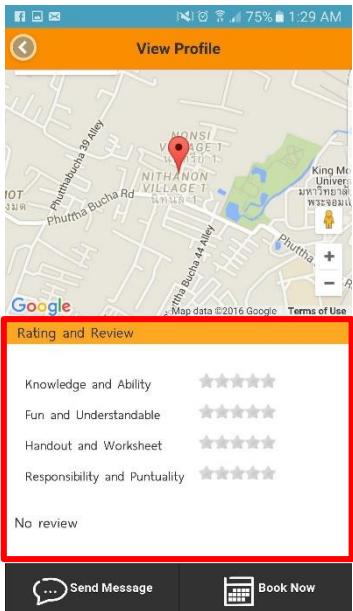


Figure 150 Tutor's feedback before student evaluate tutor

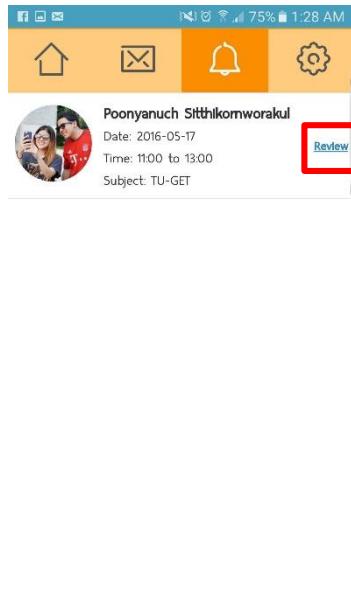


Figure 151 Click "review" after finished the course



Figure 152 Feedback page of tutor which include rating and review



Figure 153 Give a score on rating and a comment in feedback

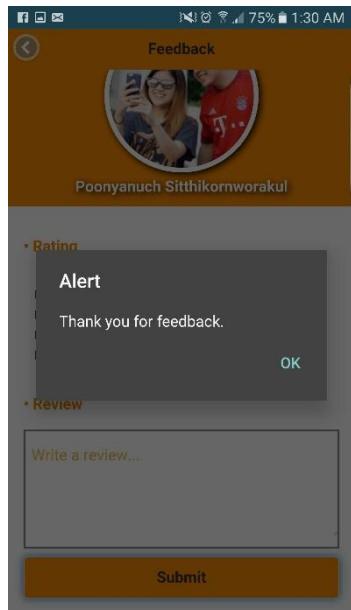


Figure 154 Alert after clicked "Submit" button



Figure 155 Another student give a score on rating and a comment in feedback

After student finished that course, student can give a feedback to tutor by clicking “Review”. The feedback page will be shown. Student have to give a score on rating and a comment in review. After student clicked “Submit”, the application will send alert message which is “Thank you for reviewing”.

#### 4.9.2 View feedback on tutor's profile



Figure 156 Tutor's feedback after student evaluated tutor



Figure 157 Tutor's feedback after student evaluated tutor



Figure 158 View all button



Figure 159 Show all reviews

Student can see feedback of each tutor by going to view profile page. After student give a feedback, amount of review is increased and rating score will be changed depending on students. Student can click view all button to read all reviews of each tutor.

## 4.10 Searching system

### 4.10.1 Formula for ranking score

$$score = \frac{\left[ \left( \frac{experience}{maxExperience} \times percent \right) + \left( \frac{maxPrice - price}{maxPrice} \times percent \right) + \left( \frac{reviewPoint}{maxReviewPoint} \times percent \right) + \left( \frac{maxDistance - distance}{maxDistance} \times percent \right) \right]}{4}$$

experience               =     The experience of tutor (years)

maxExperience           =     Maximum experience of tutor ( 40 years)

price                   =     Course price (baht/hour)

maxPrice               =     Maximum price (1000 baht/hour)

reviewPoint           =     Tutor review point which gave by student (points)

maxReviewPoint       =     Maximum review point of all factors (20 points)

distance               =     Distance between two points using latitude and longitude (miles)

maxDistance           =     Maximum distance (50 miles)

The formula is used to calculate ranking score which all factors is in range of 0 to 1 and the highest score will be shown first.

#### 4.10.2 Searching for tutor with keyword of subject



Figure 160 Searching box in news feed

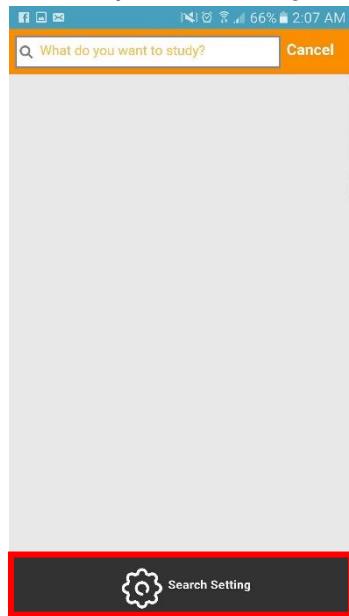


Figure 161 Searching screen with search settings button

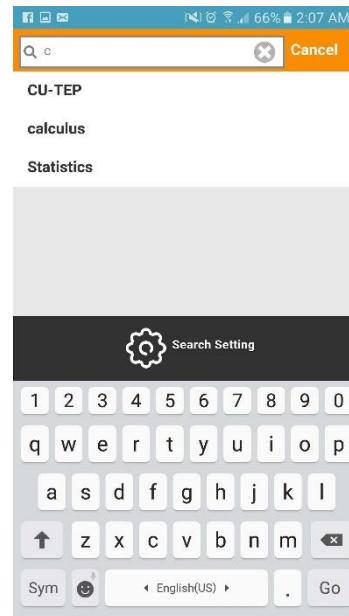


Figure 162 Search with English character

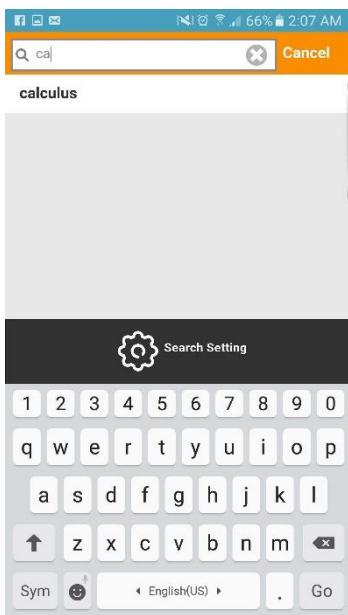


Figure 163 List of subject is shown



Figure 164 Search with Thai character



Figure 165 List of subject is shown

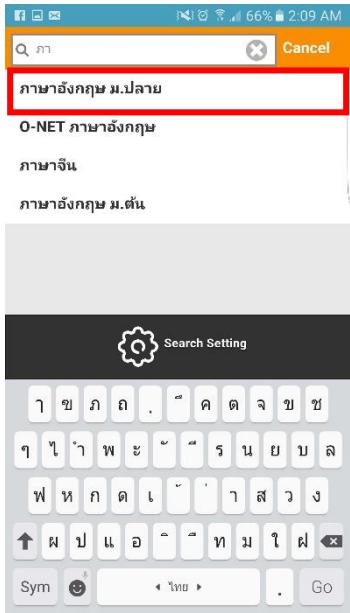


Figure 166 Search with “ກ” keyword



Figure 167 List of tutor who teach “ภาษาอังกฤษ ม.ปลาย”

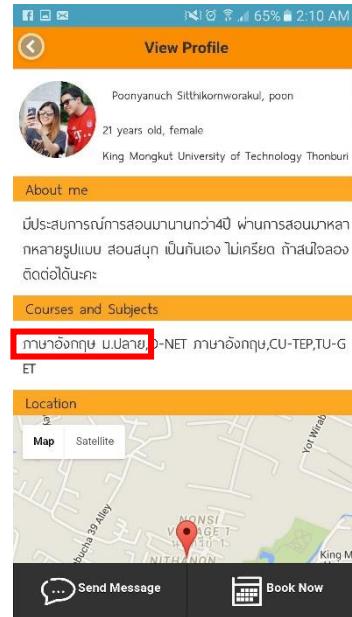


Figure 168 Profile of tutor who teach “ภาษาอังกฤษ ม.ปลาย”

Searching box is located on news feed page. After student clicked into searching box, searching page will be shown. Student can type keyword in English and Thai languages. If student type “C”, “CU-TEP, calculus, and Statistics” are shown because all of them include “C” character. If student type “ca”, “CU-TEP, Statistics” are not shown because all of them do not have character “C” followed by “A”. If student type “ກ”, “ภาษาอังกฤษ ม.ปลาย, O-NET ภาษาอังกฤษ, ภาษาอื่นๆ, and ภาษาอังกฤษ ม.ต้น” are shown because all of them include “ກ” characters. If student select “ภาษาอังกฤษ ม.ปลาย”, the list of tutor who teach this subject will be shown. We can see in Poonyanuch Sitthikornworakul profile that she teaches “ภาษาอังกฤษ ม.ปลาย”.

#### 4.10.3 Edit filters to rank the result of tutors

Figure 169 Location service is off



Figure 170 Location service is on

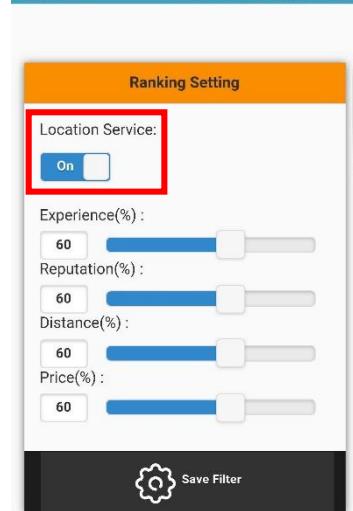


Figure 171 Adjust percentage of filters, total is 100%

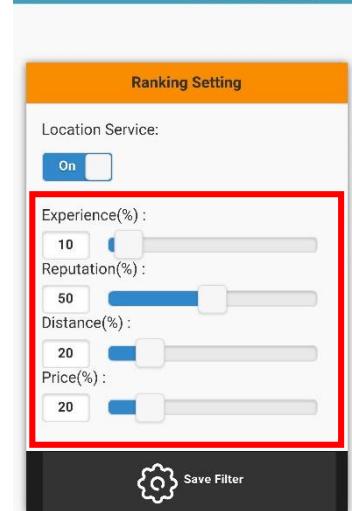


Figure 172 List of tutor was ranked



Figure 173 Cost/hour of “ภาษาอังกฤษ ม.ปลาย” is 200 THB

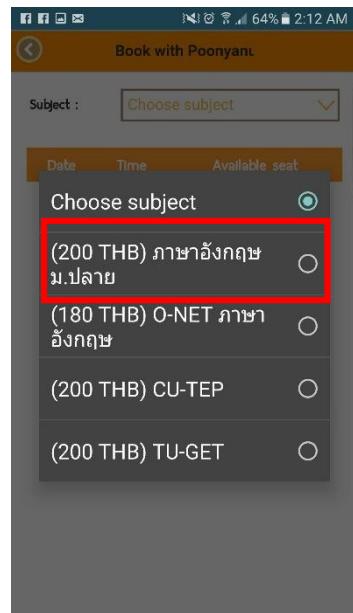
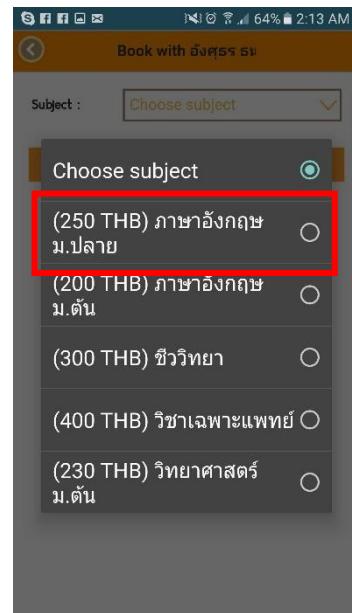


Figure 174 Cost/hour of “ภาษาอังกฤษ ม.ปลาย” is 250 THB



If student clicked “Search Settings” button, there will be a list of filters to let student adjust. Filters include experience, reputation, distance, and price. We have to open location

service when we want to use distance as a filter. Adjusted filters will be calculated and descended the rank. As we can see cost/hour of ភាសាខ្មែរ ន.បតាយ of Poonyanuch is cheaper than ខេងក្រូច, so it shows in the first rank.

#### **4.11 Performance data for this project**

- Post status  $\approx 0.6s$
- Post status with picture (407 KB)  $\approx 0.6s$
- Delete old posts  $\approx 0.5s$
- Post comment in post  $\approx 0.2s$
- Delete comment in post  $\approx 0.116s$
- Edit their general information  $\approx 0.15s$
- Edit profile picture  $\approx 0.26s$
- Add new subject  $\approx 0.16s$
- Delete new subject  $\approx 0.14s$
- Make new time slot  $\approx 0.11s$
- Delete time slot  $\approx 0.008s$
- Read feedback from students  $\approx 0.01s$
- Chat to other users  $\approx 0.02s$
- Confirm booking request  $\approx 0.8s$
- Cancel booking request  $\approx 0.5s$
- Switch role  $\approx 0.1s$
- Book time slot  $\approx 0.26s$
- Give a rate and review in tutor's feedback  $\approx 0.1s$
- Cancel request to tutor  $\approx 0.5s$
- Search for tutors  $\approx 0.15s$
- Adjust filters in searching  $\approx 0.15s$
- View tutor's profiles  $\approx 0.03s$

## **Chapter 5**

### **Conclusion**

#### **5.1 Conclusion**

Tutor matching based on student preferences application is separated into 2 parts

- In tutor part, tutor can read or delete old posts and post new status or status with picture. Tutor can post or delete comment in posts. Tutor can edit their profile
- Tutor can add or delete new subject. Tutor can make or delete new time slot.
- Tutor can read their feedback from student. Tutor can chat with students. Tutor can get notifications from students. Tutor can switch role to be a student.
- In student part, student can read news feed which are posts from tutors. Student can post or delete comment in posts. Student can book time slot. Student can give a feedback to tutor. Student can chat with tutors. Student can cancel request to tutor. Student can switch role to be a tutor. Student can search for tutors. Student can adjust filters in searching. Student can view tutor's profiles.

This application can use with android phone, it makes users feel comfortable and easy when use it. This application have many useful features which meet the needs of all users.

#### **5.2 Problem and how to resolve**

##### **5.2.1 Problem**

- 5.2.1.1 When user type too long string, it will be shown exceeding textbox
- 5.2.1.2 When we change profile picture, it doesn't change
- 5.2.1.3 User can add new input which is already have in database
- 5.2.1.4 We can't change any CSS which is originally from jQuery mobile
- 5.2.1.5 The application can't send data from one page to another page

##### **5.2.2 How to resolve**

- 5.2.2.1 We use CSS to break string when it is too long
- 5.2.2.2 We use image cache to help change the profile picture into the latest one
- 5.2.2.3 We use JavaScript to check input of user
- 5.2.2.4 We have to use class "data-wrapper-class='custom-class'" to make it usable
- 5.2.2.5 We use LocalStorage of HTML5 to send data to another page

### **5.3 What we learned from the project**

- 5.3.1 We share the work and do it until finish
- 5.3.2 We learn to work as a team
- 5.3.3 Increasing our logic skill in computer programming
- 5.3.4 We know more computer languages, tools, and new technologies to integrate in our project
- 5.3.5 We learn to be on time and can finish each task within a specified time
- 5.3.6 We have more searching skill
- 5.3.7 We have more self learning skill

### **5.4 How our project could be extended in the future**

- 5.4.1 Enhance the efficiency and effectiveness of application
- 5.4.2 Develop application to be available on iOS platform and web application
- 5.4.3 Add payment feature into the application
- 5.4.4 Create an account by using information from facebook account

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