Final Project Report

CPE123: User Experience/User Interface

"LEARNINGMATE"

Submit to

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Abstract

The coronavirus epidemic causes disruption in education which makes education from on-site to online. Therefore, we developed *LearningMate* to increase the efficiency of online study to be equivalent to an on-site study by focusing on making instructors get more communication with the learner including creating a platform that gives students access to educational content and the requirements for the assignment to make it easier to work. In this project, we use content from UX/UI class. For example, UX/UI design to create user-friendly interfaces that enable users to understand how to use the complex technical app, the 7 factors that influence user experience for creating an application that is convenient and easy to use, envision to make a wireframe from Figma and Photoshop, and usability testing is focused with PACT analysis, whereas acceptability is concerned with ensuring that designs are acceptable for the contexts in which they will be used. We separated the tasks of the group members into two groups once we established the aims and objectives:

1. Create a project draft of a user interface design.
2. In Figma, develop a wireframe app, *LearningMate*.
   2.1 Systems design for teachers.
   2.2 Systems design for students.

Following the launch of the wireframe, we constructed a questionnaire to assess the degree of satisfaction and receive feedback from our target. The feedback we have got from our goals has been complimented and suggested to us in many ways, such as when people click on chat, they are unclear how to return to the previous page. Our team has read the recommendations and will utilize them to develop our projects in the future in order to provide the best application to help students and teachers manage their time.

Acknowledgement

This project has been completed. We sincerely thank the organizing committee for helping to cooperate in the work. Thank you, AJ. Priyakorn Pusawiro for providing knowledge related to the project assembly. I would like to thank the assistant teachers for giving advice on the project and suggesting ways to correct mistakes in the project.

Thank you to all friends who helped to try the application and give feedback to the makers so that we can fix and improve the application for us better.

Thanks to the developers of Figma, Adobe Photoshop, and Procreate for creating great applications, we can develop our applications faster and more efficiently.

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Section I (Introduction)

Background and introduction

From the current situation, the coronavirus has spread all over the world. As a result, it has a wide-ranging impact, making it impossible for groups to do activities both in the country and abroad. As a result, education must change from onsite to online because studying in private places will reduce the risk of spreading the coronavirus. Therefore, for more effective online learning our team is developing an application that can help students and faculty in education and planning education to be more efficient.

Objective

Make students understand the content of the course clearly, more convenient to contact the professor. And easier to understand the purpose of the tasks and the deadline of the assignment, all of this makes online education as effective as onsite education.

Scope of Project

1. Learner
2. Instructor
3. Working period 16 weeks (16 September 2021 to 16 January 2022)

Expected Outcomes

1. Help learner to get the grades they deserve.
2. Learners are more interact with instructor.
3. Learners get knowledge that can be applied in the future.

Section II (Related Theories)

LearningMate is an educational application project. By we have studied, researched, and collect information from related documents according to the following topics

1.Double Diamond

The double Diamond design model has four stages: Discovery, Definition, Development, and Delivery. Together, these stages work as a map designer can use to organize their thoughts to improve the creative process. It's important to bear in mind that this model isn't linear in any way. In fact, creative people are encouraged to go back and forth between these stages to fully understand what the problem is and how they can either solve it or improve on an existing solution.

2.Figma

Figma is a web-based graphics editing and user interface design app. You can use it to do all kinds of graphic design work from wireframing websites, designing mobile app interfaces, prototyping designs, crafting social media posts, and everything in between.

Figma is different from other graphics editing tools. Mainly because it works directly on your browser. This means you get to access your projects and start designing from any computer or platform without having to buy multiple licenses or install software.

3.Photoshop

Adobe Photoshop is the predominant photo editing and manipulation software on the market. Its uses range from the full-featured editing of large batches of photos to creating intricate digital paintings and drawings that mimic those done by hand.

4.PACT Analysis

A PACT analysis is a useful framework for thinking about human-centered design. The acronym PACT stands for People, Activities, Contexts, and Technologies. In this analysis, we consider our app idea in the context of each category and summarize our intentions of what the app will do.

Section III (Procedure)

3.1 System requirements

The beginning of the development of the system. For many reasons like people in the organization found any problem which has affected the work process, or the information of system use as before. It's unable to respond to complete work. Therefore, we need to create a new information system or improve an existing system to have a new system to help and solve the problem according to the process.

Process of the system requires that the system is in step of development. The system analyst will research the problem and learn to understand the issue. The facts arising from working in the original system by having to fully understand the problem and thinking of ways to solve the problem. After that, study the possibility of solving the problem. Compile what you need and summarize the terms must be agreement mutual with define planning to carry out activities.

3.1.1 Users

Those who will primarily benefit from the new system and those who will be affected by the new system include. Such as the Customers, when implementation of the new system, customers will find site navigation, product identification and product ordering easier. Sales agents, the new system will provide sales agents with more detailed, accurate and up-to-date product information. Marketing department, understanding how a customer uses the web site to make a purchase will result in improvement in getting and keeping customers. Shipping department, purchase information will be sent directly to Shipping for inventory control and order processing. Information technology department, this department will be responsible for implementing the new database, hosting the website, and maintaining the system.

3.1.2 Responsibilities

The primary responsibilities of the new system:

- Administrators must define registration for new users to use, including steps for termination of licenses.
- Administrators have to prescribe licenses of information system important i.e., Application system, E-mail, Wireless LAN and internet.
- Administrators must manage system usage and passwords of users as 3 things.
    1. Define differentiation and cancellation of passwords when the user deactivated.
    2. Prescribing a name or ID of a user must be not available with another user.
    3. In case of a special user, that user must be approved by the head management team by defining the duration of usability and then will suspend use immediately if that user has done so.

3.1.3 Need

This system is needed to service the expected increase in demand for alternative energy products. Replacement of the current application will eliminate the shortcomings of those things

3.1.4 Feasibility study

In conclusion of the system, when deciding to develop. The analysis system will get the feasibility study. So, that is the step of the system analyst that must be learned to develop the system.

1. Technical feasibility is about the possibility of a technical purpose for understanding the new development of an application and evaluating a technical system to solve the problem.

2. Operational feasibility is evaluating the new system when it is used to see how well it can fix problems with the old system, including the feeling of the user's system to the functioning of the system.

3. Schedule feasibility is evaluating the duration of project new development. Is it appropriate? When considering that use more time, the system analyst must be completed on time that has been specified in the plan.

3.2) Tools

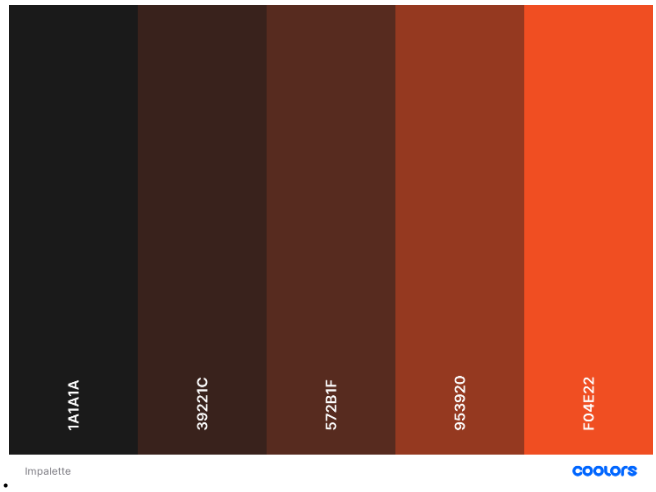
3.2.1) Procreate

We use the program Procreate in our project, *LearningMate*, which is a raster graphics editing app for digital painting created and marketed by Savage Interactive for iOS and iPadOS. It was released on the App Store (iOS) in 2011 in response to the artistic capabilities of the iPad. We apply it to develop a wireframe of the user interface design that takes PACT analysis and seven factors that influence user experience. The purpose that using Procreate makes it simple to develop a wireframe since it provides a choice of brushes to choose from when sketching a user interface design.

3.2.2) Photoshop

1.What is Photoshop

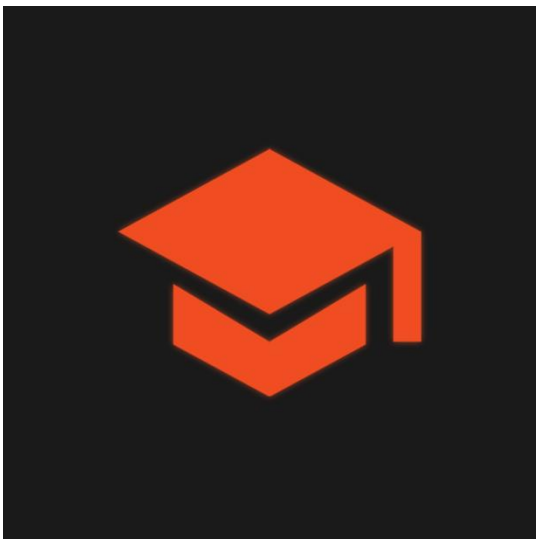
Adobe Photoshop is the predominant photo editing and manipulation software on the market. Its uses range from the full-featured editing of large batches of photos to creating intricate digital paintings and drawings that mimic those done by hand. We use a lot of tools in Photoshop to design most of our icons in application.



Color palette

2.Designing application icon with Photoshop

We decided to create two versions of application, one is dark tone and another one is bright tone. We firstly focused on dark tone, so we used color palette from coolors.co. Because *LearningMate* is an educational application, so we use a graduation hat as the icon of the application.



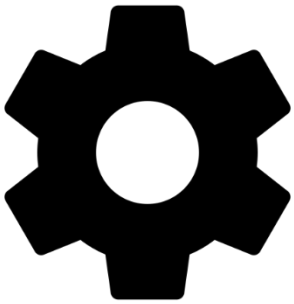
Then we add created text into the application icon to make it more unique and easier to remember. We use *LearningMate* as the main text and use the pencil icon to represent the letter "i" to make it more relate to educational.

After we got text and icon, we combined those two things together to make the final *LearningMate* application icon. We decided to put the hat icon on top of the text to make it easier to notice.

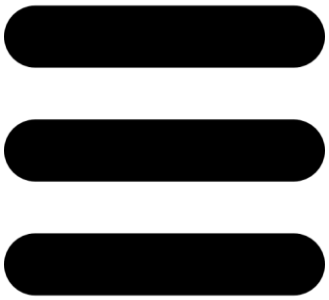
3.More about the use of Photoshop

We also use Photoshop to change the color of free-use icon on the internet that we use in the application.

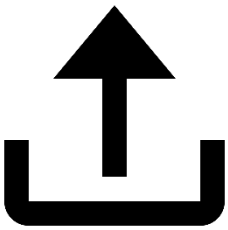
Notification icon



Setting icon



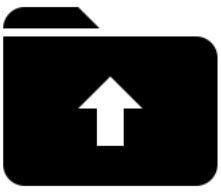
Side menu icon



Upload file icon

Pencil icon

Watch video icon



Upload file icon

Graduation Hat icon

3.2.3) Figma

1.What is Figma

Figma is a vector graphics editor and prototyping tool which is primarily web-based, with additional offline features enabled by desktop applications for macOS and Windows. The Figma Mirror companion apps for Android and iOS allow viewing Figma prototypes in real-time on mobile devices. The feature set of Figma focuses on use in user interface and user experience design, with an emphasis on real-time collaboration.

2.Making a prototype with Figma.

We use Figma to make a prototype of our application. It works directly on your browser. This means you get to access your projects and start designing from any computer or platform without having to buy multiple licenses or install the software. And it allows real-time collaboration on the same file. So, it is easier to do the work together.

3.3) Equipment and system design

3.3.1) Overall components

For teachers:

In terms of the components of the teacher's side system and equipment, we have a different interface home and account design for effective use and understanding of the system and other components. The account page features a number of students submitted, which will be updated in real-time when a student submits an assignment. The homepage has a chat icon that can be used to navigate to the chat room and receive messages from students and respond to their messages. Moreover, it features a section for alerting the user of the next schedule and an extension to show a file after the user uploads a file, whether it's a pdf file or a video. The section that users upload files for students to download contains a two-part selection for uploading video and other types of files. The component that characterizes a specific only teacher's side system is the notification page which is a notification of a time that has a student submitting their assignment. In all the design of the teacher side, according to the idea of the seven variables that influence user experience, we consider the useful from which the user may gain the most advantages and the usable from which the user can effectively and efficiently. Furthermore, we brainstormed to create an interface and system that adheres to user interface design standards for the greatest level of quality.

The summary of the teacher's side system and equipment, which we designed to enable users manage time and easily submit files to students. For successful use, teachers have a distinct interface home and account design than students. The account page displays several students who have submitted their information, which is updated in real time. The site has a chat icon that may be used to access the chat room. Other parts of the system that have a repeating student's system will have the same system work.

For students:

The student side will be started from the home welcome page in order to introduce every user with our app logo "*LearningMate*" along with sign in and sign-up icons which you can press them for either to log in, if you already have an account, or you can sign up if you are a newcomer and still don't have any account yet. You can also choose to log in with other accounts for example, google account as well, right after you finished register. Next page is the main account page. All the features, and other interface design are mostly similar as the teachers' side. However, for the students' side will display each class schedule, time and the due date for the assignments that you haven't submitted. Moreover, there is a triple-bar icon on the top right corner of the account page which will lead you to the setting and sign out features. The next section is the home page section, this is also one of the main pages of this app. Inside this page, there are several useful features that you can use or play with it. There is a chat icon which can be interacted and navigated to the chat room. In the chat room, you are able to communicate and reply with other students, your classmates or any teachers. If you have any problems, you can ask TAs or professors for help. Also, there are a planner, which can be used for marking or setting the notification for the events you don't want to miss, the next class notification, which will alarm you when the next class soon begins, the assignments submission, you can turn in your works here, and the learning zone, which you can explore every class and subject documents that you missed, or you want to search. We considered the useful methods and designed this app comprehensively and simply for the users' convenience and satisfaction. Furthermore, we brainstormed some ideas to create an interface and system that adheres to user interface design standards for the greatest level of quality.

The summary of the student's side system and equipment, which we designed to let the users enable to manage their time and decrease the chance that could miss classes. For successful use, students have almost the same interfaces as teacher's side. There are slightly differences between students and teachers' app UX. For example, for teachers, it is mainly consisted of the number of students' assignments submission. On the other hand, for students, will focuses on the classes schedule and the due date for assignments.

3.3.2) System Design

Student Part

Register

Chat

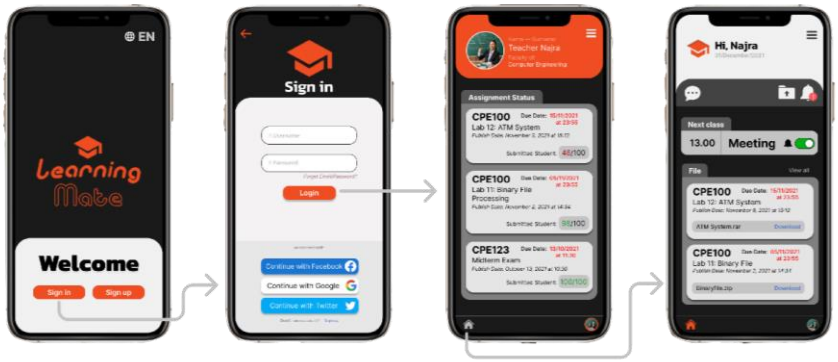
Login

Learning zone

Planner

Teacher Part

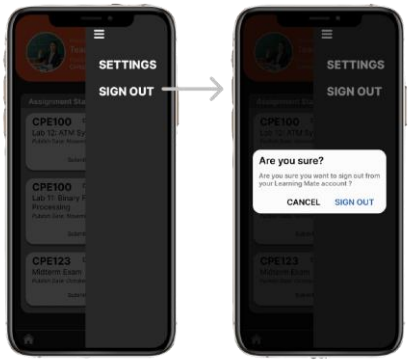
Login



Upload files

Submit notification

Sign out



3.4 Experimental Design

3.4.1 Indicator

In our group project we decide to survey how people feel after they use our program. Indicator that we use are

1. Does function that we have solve your problem
2. Is program easy to navigate
3. Composition of the color
4. How our app satisfied you
5. Do you think this app will help you manage your time

These will be our main indicator to the program to get answer for all these indicators we decide to create “Google Form” to receive feedback from user

3.4.2 Data collecting

We decided to collect the data from our friends first because our program is made for students and teachers. Once the program launches successfully, we will make the feedback form to the non-university students because we are going to scope the feedback in our university first then we will distribute our program to other universities. We decided to collect the data on the internet via Google Form. Because the Google Form platform allows us to have unlimited data and it’s hard to lose the data because it is kept on the cloud and the data from the users, we will get in excel format.

Section IV (Implementation results)

The implementation result is according to the goals and objectives of the project set. The development of the application is making the new thing very useful for students and teachers, especially in the new normal because currently we must study or work from home.

4.1 Planning steps

1. Learning and research
    - Members in the group will brainstorm what we should do to develop and decide agreement.

2. Present the topic of the project
    - Find the ways to solve the problem. We are making this project for helpful students because when we have any homework. Sometimes we cannot remember all my homework, but this application will notify us.

3. Prototype project
    - Think about how difficult the application is to make and how useful it is to students and teachers. Then, agreement on what functionality should be in the application. Thus, was born into this project.

4.2 Preparation steps

1. Gathering the information and studying UI design
    - To follow the correct UI design criteria, we gather the information from reliable sources and adapt them in our project.
    - We furthermore study what we learned in the university lecture.

2. Determine the topic we want to produce our app
    - As we are first-year university students, we encountered many problems in terms of education. So, we created an application that can reduce the problems. That is the reason why we came up with the name "*LearningMate*".

3. Choose the platform to design our project
    - We chose Figma to develop our design prototype.

4. Allocate tasks for each person.
    - Allocating each work can improve the sufficiency of the work.

Problems

- As we have never used Figma before, we don't know how to work on it. We were unclear and did not understand some concepts of the program.
- Members of our group won't have any idea what part of this project they must do.

Solution

- We learned all the concepts after we watched the tutorial video.
- We separate the roles and designate tasks for every member.

4.3 Procedure steps

1. Begin to create and develop a user interface design.
    - We divide our team into groups to create a draft user interface design and a wireframe in Figma.
    - Before launching our product, we tested it and improved it to make it the best.

2. Launching the app, *LearningMate*, and creating a form to get user feedback.
    - We have a question in the form to ask the user after using our app if it is beneficial, usable, and how much it helps them manage their time. To investigate user satisfaction, we use the Likert scale as a scoring criterion.

3. Create a report writing
    - In the report, we construct and develop our app using related content from a class such as UX/UI design, envisionment, usability testing, and report writing format. Furthermore, we have included everything connected to the project, such as the app utilized, the purpose, the goals, the processes taken to create it, and user comments.

Problems

- The users commented to recommend putting an online class link in each subject and, when clicking on chat, they feel a little bit confused how to go back to the previous page.
- Theme color of our app is a dark tone, and we have one feedback that it isn’t appropriate for the name project, *LearningMate*, something friendly and kind.
- For both students and professors, after logging in or signing in, go to the main page rather than the class or assignment list.

Solution

- We take all user comments to improve our project in the future and make it the greatest application to assist students and instructors manage their time.

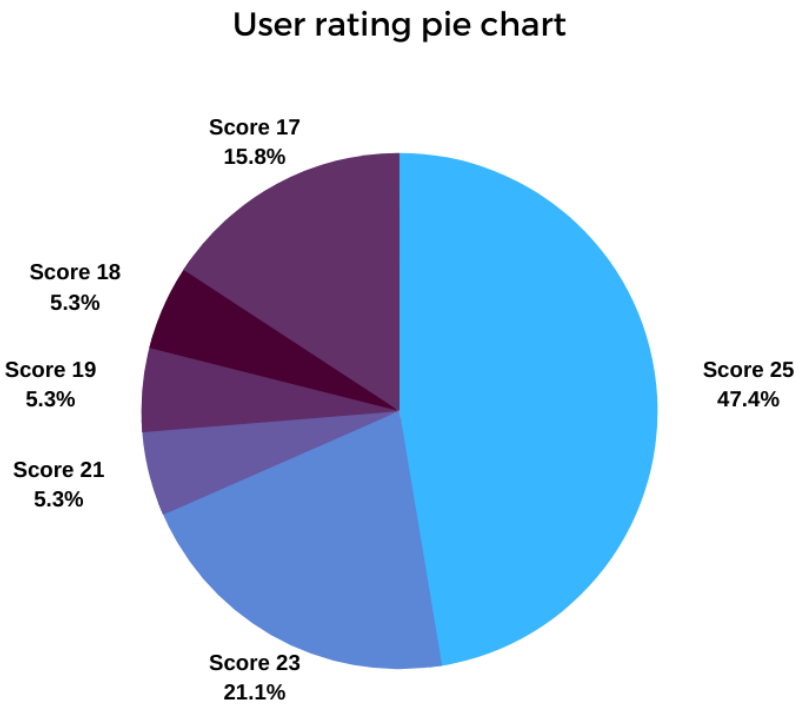
4.4 Evaluate steps

1. Record of result

We have gathered the user rating by creating a google docs survey for our *LearningMate* project. The survey will give the information about *LearningMate* and access to see our project prototype. There are about 1-5 scale ratings for each question. There are about 5 questions in the survey. Thus, the score is maxed at 25.

There are 19 people participating in our survey. 16 of them were labeled as students, one labeled as Teacher Assistant (TA) and two labeled as others.

The result came out positive. For about 9 users give the rating score of 25. Which is calculated as 47.4% (9 persons). The lowest score is 17, for about 15.8%. (3 persons).
Meaning most of the users enjoy using our product.



2. Present project

- In the presentation of the project, we have to divide the work of each member for the presentation and our duty has 1. Background 2. Problems 3. Objective 4. Gathering Idea & Logo Design 5. Overall Design & Road map & Application Wireframe 6. Application Preview 7. Performance Summary 8. Feedback.

Section V (Conclusion)

5.1) Summary of the project

From the user rating score, we concluded that our project has succeeded. The main objective of it is to help learners get more knowledge, help them to manage their time better, solve problems that sometimes assignments are not clear, and help learners get more communication with their instructor.

5.2) Problem and solving

1. On the first day of doing this project, we still didn't know each other very well and had no idea what should have done this project but Then, we talked more and started to brainstorm, help to comment on what we thought, and result with it "*LearningMate*".

2. In this work, we are not good at managing the time to do this project and we are solving this problem by appointing the meeting and providing the time and duty perfectly.

3. We decided to use Figma, but we have the issue with doing this prototype application that we do not ever use the Figma application. Also, we are solving this problem by studying how this application is used on YouTube and then, we must test it.

5.3) Recommendations

Most of the comments are positive. Most of the users said that the application UI is nice and beautiful, and they want to use our application.

However, some users suggested changing the color to be more friendly and kind because black and orange colors may feel too dark. They also told us that after the user login into our application, it should navigate them to the homepage first, not the assignment page. It would be complex for new users.