



**FPT UNIVERSITY**

# FPT UNIVERSITY

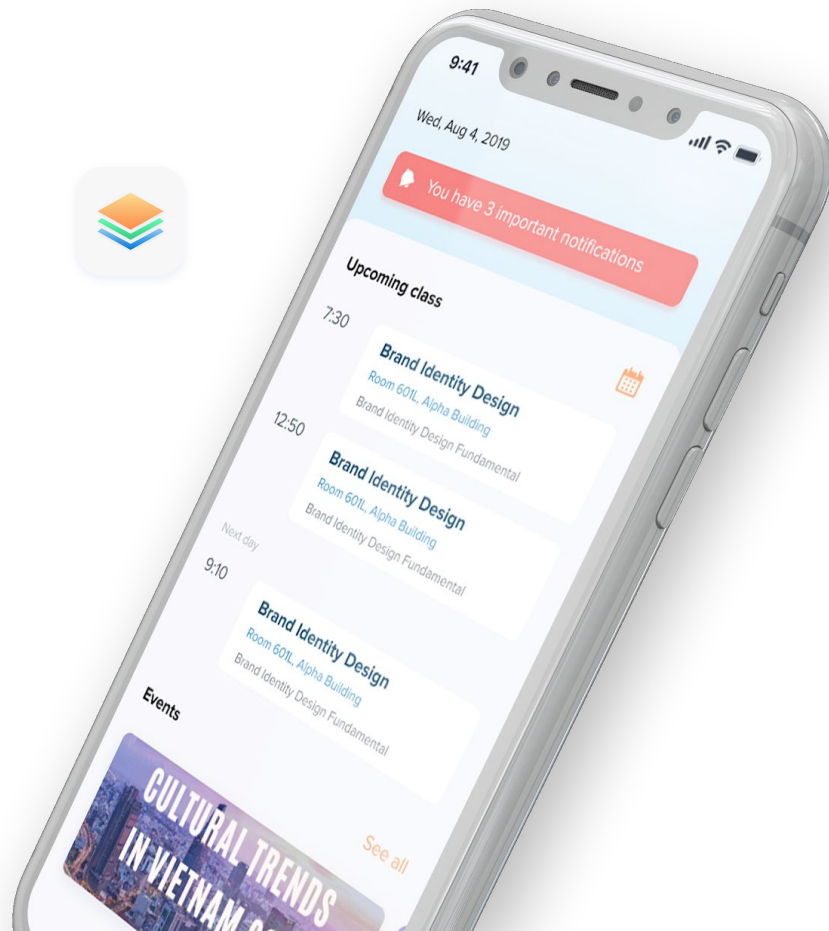
## Capstone Project Document

### Student Academic Portal

**Student:** Pham Tuan Anh  
Vu Duc Anh Quan

**Advisor:** Bui Van Phat

Hanoi, December 30 2019



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**REPORT NO.1**

# **CAPSTONE PROJECT PROPOSAL**

1.1

# Problem Definition





# 1.1.2 Problem Abstraction

There is a problem which every single student from FPT university is struggling with - the difficult when using the FAP on mobile devices. Nowadays, everything can be done in one touch on smartphone screen, acknowledge the struggle, we decided to bring our ideas up and design a student portal app for FPT student on mobile



1.2

# Project Overview



### 1.2.1 Problem Define

# Current Site Problems

FAP - FPT University student portal is a very powerful information management tool, but when using FAP we were not really satisfied because the user experience design of the site was not quite good, to be able to improve it, the first thing we do is brainstorm the current problems when students use FAP for everyday tasks at university. We assumed that the problems come from two main sources, that is, the current website itself and students daily activities

**The first thing** we noticed when accessing FAP on mobile devices was this site just simply a scaled-up version of the website on desktop browser, everything was not well organized and it felt really uncomfortable to use. We have to swipe around to find what we need.

**The second thing** is that the website has too many words and everything is not organized neatly, it is difficult for users to determine where they are and what they are doing every time they use the website on their phone. This is a big minus point.

### 1.2.1 Problem Define

# Student Problems

Students' problems often come from daily activities, we have collected and brought them into 3 main groups, which are academic issues, student life issues and issues on making application at school

#### **Education**

- Learning resources are hard to approach
- It's difficult to get update with lesson when they are absent
- Lack of communicate environment between students and lecturer

#### **Student's Life**

- Payment method for student life services is not flexible
- Lack of communicate environment between students and dorm manager department

#### **Application & Registration**

- Lack of description, students still have to make applications offline
- Tracking feature is unclear, doesn't have notification, students have to check manually

## 1.2.2. Research

# Survey

After assuming the problems, we made an online survey for students attending FPT University to confirm the problems were assumed are correct and learn more about the students' ideas about how to solve them

### Investigation time

*From 7.10.2019 to 12.10.2019*

### Survey form

*Online Form (Made with Google form)*

### Target user

*Students attending FPT University*

### Purpose on survey

*Confirm the accurate of assumed problems*

### Type of question we used

*Question about student experience on current site*

*Question about student struggles*

*Features they want add and improve when it comes to mobile*

## 1.2.2. Research

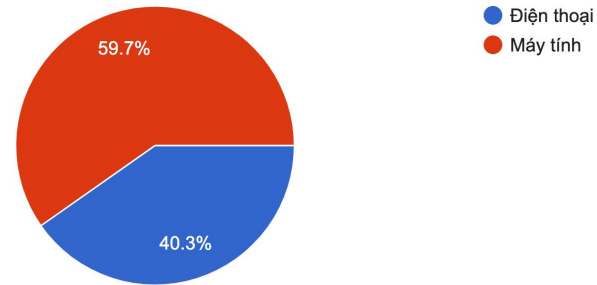
# Survey

60% of the students who took the survey said they **prefer to use FAP on personal computers rather than on mobile devices** because of the better visibility of the website on their computers and because of the time they themselves visit FAP when go to class.

The remaining 40% said they felt it was more convenient to access the site on mobile device because every student had their own phone and they always carried it with them.

## 2. Bạn thường truy cập FAP bằng điện thoại hay máy tính ?

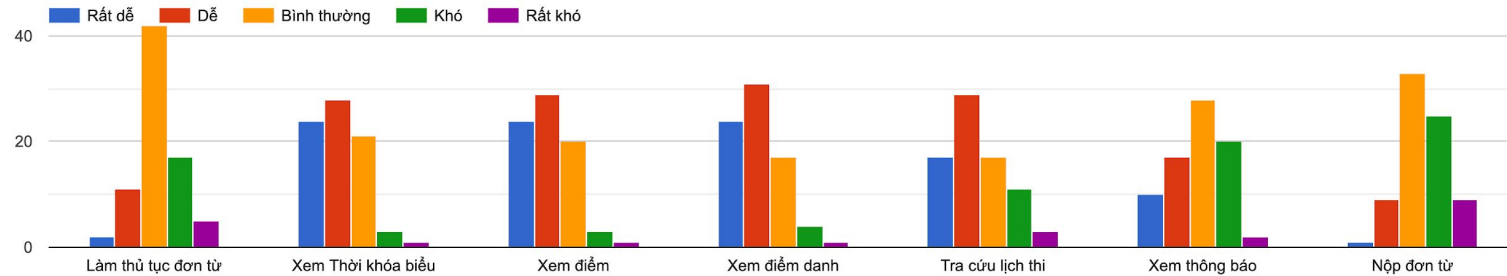
77 responses





# Survey

### 4. Đánh giá mức độ khó khăn khi sử dụng các tính năng trên trang FAP



The function of FAP is not difficult to use but it takes time for students to get used to it because the website does not have specific instructions for each function. Students who conducted the survey said the features of the Application & Registration function made them confused the most

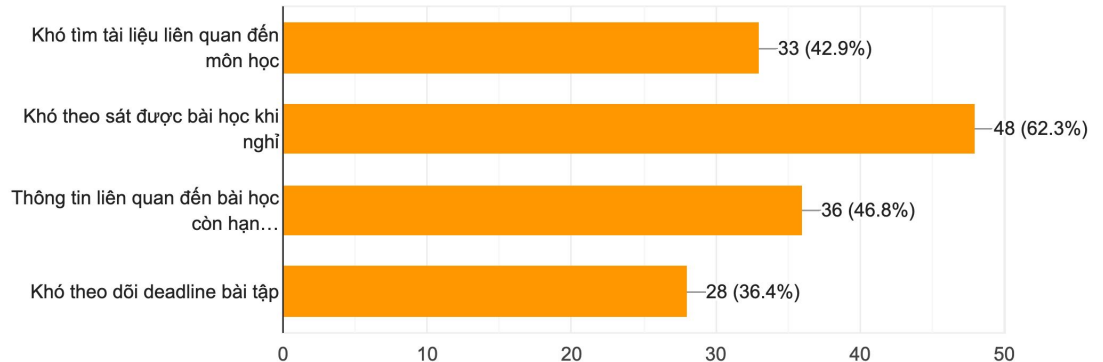
## 1.2.2. Research

# Survey

Student's biggest problem when studying in class is that it is difficult for them to follow the lessons whenever they have to take an unexpected break. Lack of information and materials related to the subject is also a problem many people are dealing with

### 6. Bạn gặp khó khăn gì khi đi học trên lớp ?

77 responses



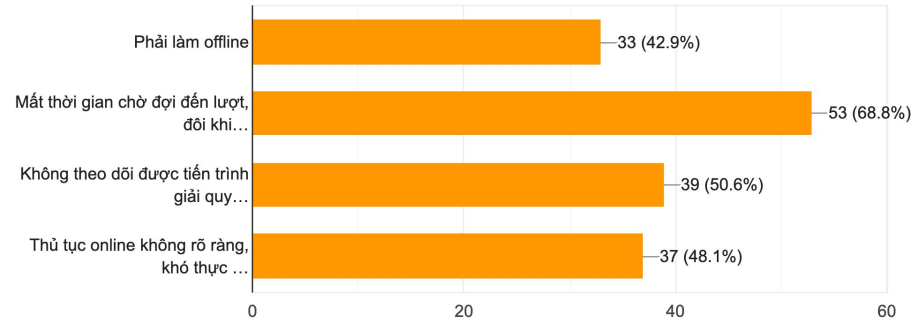
## 1.2.2. Research

# Survey

Application processing procedures is not really effective, leading to many difficulties such as having to queue for offline procedures, wasting time and difficult to follow the processing process.

### 10. Bạn gặp khó khăn gì khi làm thủ tục đơn từ tại trường ?

77 responses



### 1.2.2. Research

# Interview

After completing the online survey, we want to better understand the problems students are struggling with when using FAP as well as in daily life so we can know what they are doing to stay away from them. We choose 3 random students studying at FPT University and ask them some question

- What do they think about current student portal site
- What are they struggling with when using the site
- What are the methods they are using to stay away from problems
- What is missing in those method
- What do they need in an app that can help them get rid of those problems
- What do they think about features we have offer

## 1.2.2. Research

# Interview



**Vu Thanh Nam**  
Graphic Design Student

Problems/Feel	Method	Wants
Current timetable bring little information about upcoming class	<ul style="list-style-type: none"><li>- Ask lecturer and take note</li></ul>	<ul style="list-style-type: none"><li>- Include information about what students will do in specific classes</li></ul>
Have no intel about learning resources	<ul style="list-style-type: none"><li>- Search on the internet</li><li>- Use third party app to save/bookmark</li></ul>	<ul style="list-style-type: none"><li>- Learning space</li></ul>
Shatter information when communicate with friends to ask about subject via social media	<ul style="list-style-type: none"><li>- Take note while chatting/commenting</li></ul>	<ul style="list-style-type: none"><li>- Place where students can communicate more efficiently</li></ul>
Spent too much time making application	<ul style="list-style-type: none"><li>- Can't do anything</li></ul>	<ul style="list-style-type: none"><li>- Clear instruction for online application</li><li>- Rearrange category</li></ul>

## 1.2.2. Research

# Interview



**Tran Trong Tung**  
Graphic Design Student

Problems/Feel	Method	Wants
Ugly UI	<ul style="list-style-type: none"><li>- Only use site to view mark and timetable</li></ul>	<ul style="list-style-type: none"><li>- Save password</li></ul>
There are 2 mark report section with difference content	<ul style="list-style-type: none"><li>- Get use to it</li></ul>	<ul style="list-style-type: none"><li>- Change the way it called</li></ul>
Lack of learning resources	<ul style="list-style-type: none"><li>- Find himself</li><li>- Take note</li><li>- Bookmark link</li></ul>	<ul style="list-style-type: none"><li>- Learning space</li></ul>
Can't follow application progress	<ul style="list-style-type: none"><li>- Ask academic department staff directly</li></ul>	<ul style="list-style-type: none"><li>- Application tracking more useful</li></ul>



## 1.2.2. Research

# Interview



**Nguyen Thanh Trung**  
Graphic Design Student

Problems/Feel	Method	Wants
Annoy everytime he has login to site	- Use default Google account	- Save password
Classroom and class time change announce via email, miss sometimes	- Ask friends	- Push notification
Current application tracking is useless	- Ask people in 102L	- More specific tracking feature
Always get distracted when communicate with friend via social media for learning info	- Always take note - Meet friends directly	- Learning space

### 1.2.2. Research

## Survey & Interview Summary

Problems	Ideas to solve
Students have to login everytime they enter portal site	Remember users credentials
Miss notification about class time and class room change	Create learning space provide class notification, discussion, file sharing features
Hard to reach learning resources	
Always get distracted when communicate with friend via social media for learning info	
Get confused when making application online	Create categories for applications, redesign tracking features to bring more info

## 1.2.2. Research

# User Personas

We made 2 user personas to better understand 2 specific user type of the application

We tell users' stories, their behaviors, set their goals when doing certain tasks, point out pain points and how they solve their problems.



### Trần Trọng Tùng

Graphic design student of FPT University.  
Always work hard, be active in learning.  
expect to know details about learning so that  
I can be more active in arranging time for my  
activities

Age	22
Profession	Graphic design student
Location	Ha Noi
Gender	Male

### Story

Tung is a student majoring in graphic design at FPT University. Tung is quite educated but often has to quit school due to poor physical condition, every time he leaves school, Tung often finds a way to catch up with the content of class lectures but has no tools to do this in a way, effective

### Goals

- Desire to have an environment for exchanging learning information in a focused, undisturbed way
- Desiring an environment to discuss directly with teachers and friends about a specific subject in a lesson
- Desire to understand the content of the lecture even after school

### Pain Points

- Missed lectures often miss school
- Exchange of learning information through FB groups should be easily distracted
- Messages are often lost, hard to find

### Current solution

- Often take notes during an online communication to avoid losing information
- Call teachers directly

### Behavior

#### Devices



#### Communicate with friends, lecturer



#### Self study time



#### Make application



#### Announcement, Notification miss



## 1.2.2. Research

# User Personas



### Nguyễn Thành Trung

A student of graphic design at FPT University. Not often paying attention to the notices of the school so often skip make up classes, must send an application to the training room. We hope the application process will be improved and informed about the activities of the school as well as changes in classrooms and lessons to be more proactive.

Age	22
Profession	Graphic design student
Location	Ha Noi
Gender	Male

#### Story

Students at FPT University, often using the university's mail for personal purposes, the mailbox is always full, often having problems with the school, must be resolved by a simple application procedure.

#### Goals

- Desire to receive clear instructions when checking in online to avoid wasting travel time to settle and wait in line
- Desire to follow the process of resolving single procedures in a complete and clear manner

#### Pain Points

- Difficult to update important announcement, sometimes miss notifications
- There is no guide for application & registration
- When encountering new problems, it is unclear what to do and where to apply
- The processing time is long, it's not clear which procedure has been resolved
- Sometimes I have to go to school to solve offline even when I'm far away

#### Current solution

- Ask friends and teachers about the application form to submit
- Settle directly in the student work room

#### Behavior

##### Devices



##### Communicate with friends, lecturer



##### Self study time



##### Make application



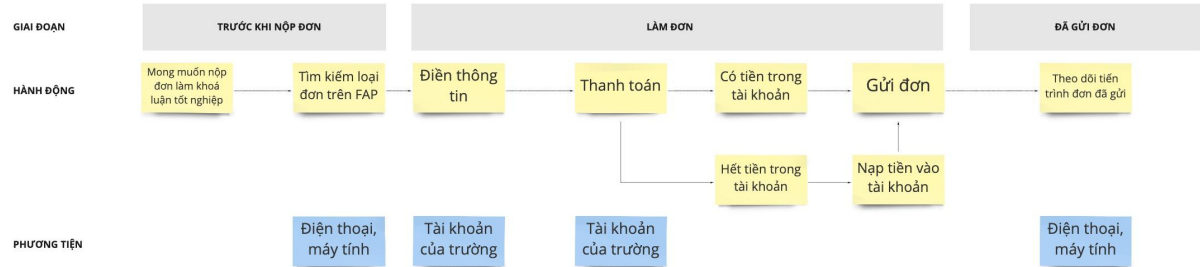
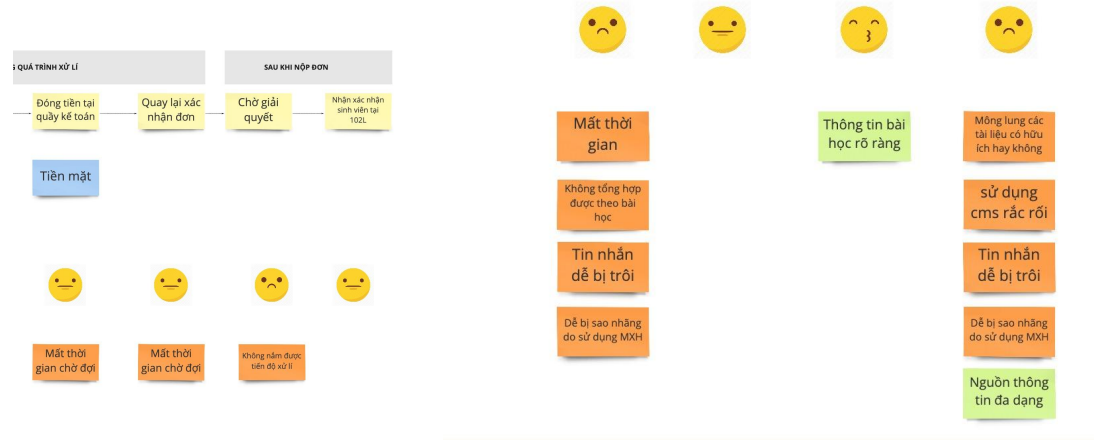
##### Announcement, Notification miss



## 1.2.2. Research

# User Journeys

We made 3 user journeys to describe the student's journey in each action, thereby pointing out the gain and pain points, students emotions through each step, drawing opportunities to develop application



## 1.2.2. Research

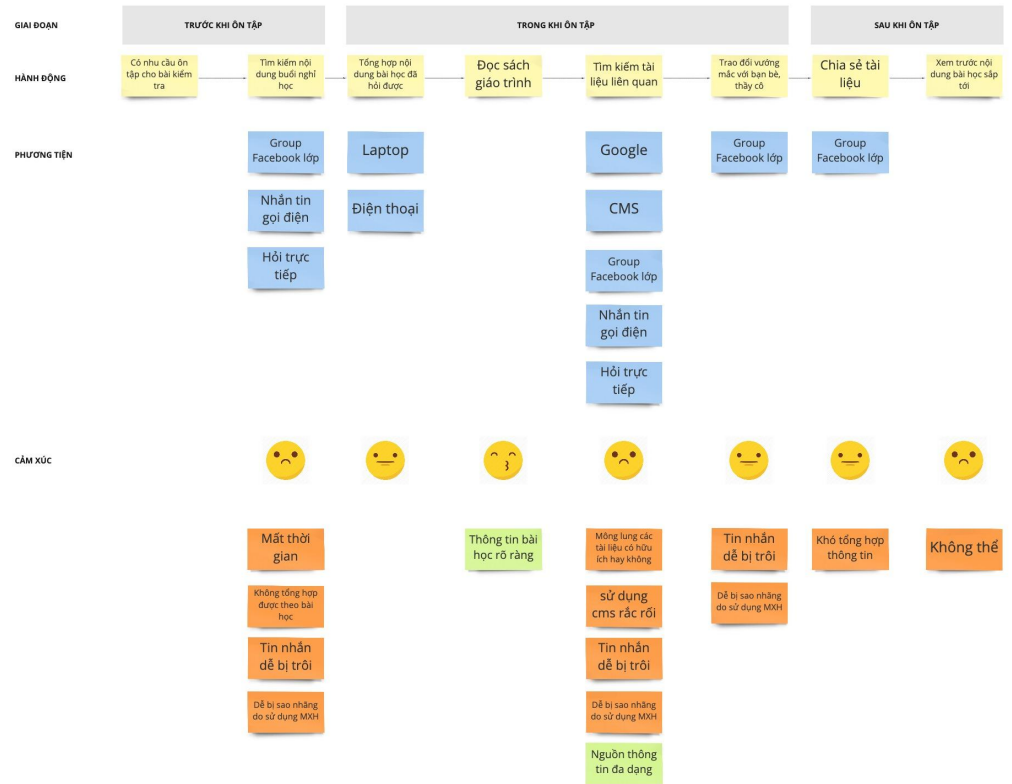
# User Journeys

### Scenario:

Tung have to absent from class for a few days but final exam is coming, these last lesson are really important, Tung doesn't want to miss it, he tried his best to collect information about what is going on in class.

### Expectation:

- Get full content of lessons in days he has to absent from class
- Find recommend and related learning resources
- Communicate with classmates and lecturer about what he doesn't understand





## 1.2.2. Research

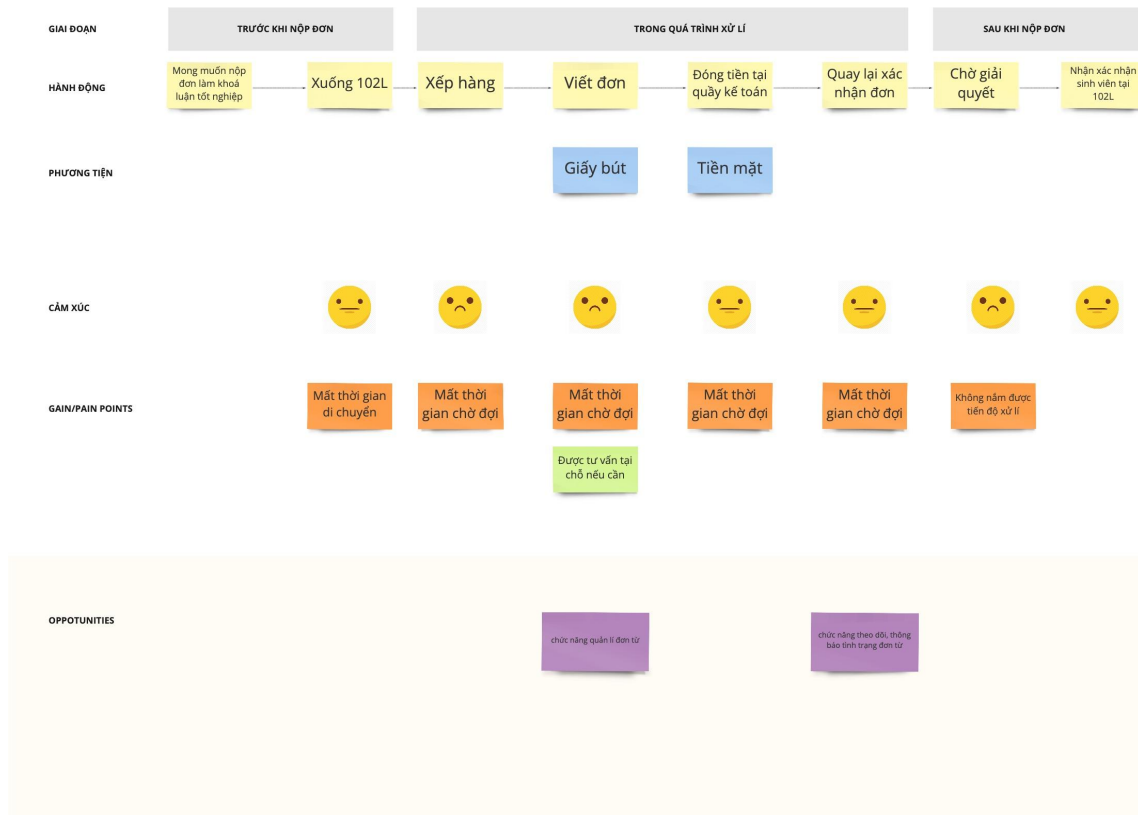
# User Journeys

### Scenario:

Trung want to get student verification form to send to local authority

### Expectation:

- Get the application accepted
- Track the application progress



## 1.2.2. Research

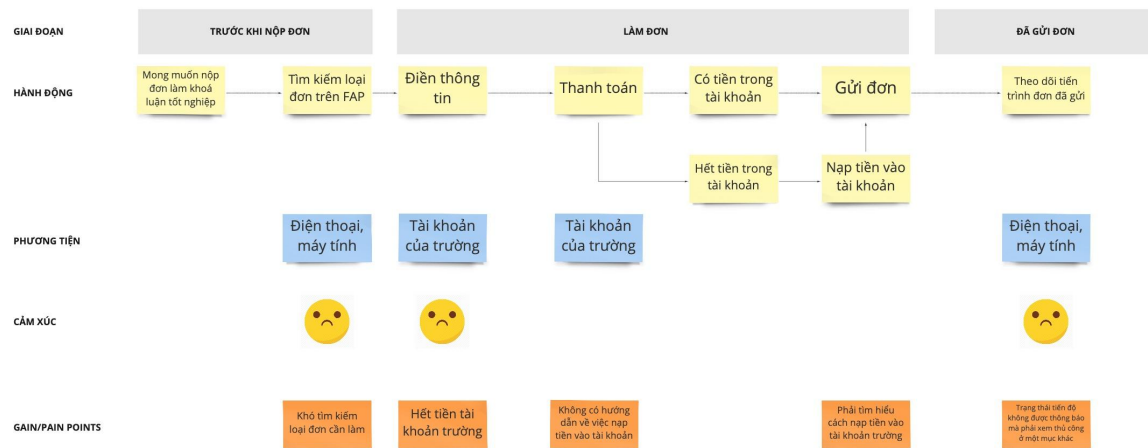
# User Journeys

### Scenario:

Nam wants to register for final capstone project

### Expectation:

- Get application accept
- Track application progress



### OPPORTUNITIES

Sắp xếp danh mục đơn từ rõ ràng, dễ tìm hơn

Cải thiện chức năng theo dõi, thông báo tình trạng đơn từ

Thêm chức năng thanh toán online qua thẻ tín dụng cho các thủ tục đơn từ

### 1.2.2. Research

# Similar Application Analyze

Because the app is not for commercial purpose, we do not study competitors, instead we research student portal applications from other universities so that we can grasp the key features that a Student portal application should have

We study 4 applications:

- Falmouth University Student Portal
- Canvas
- Edmodo
- Tôn Đức Thắng University Student Portal

Each application has its own strengths and weaknesses, we have summarized the results in the following table

### 1.2.2. Research

## Similar Application Research

Applications	Pros	Cons
Falmouth Student Portal	<ul style="list-style-type: none"><li>- Rich feature</li><li>- Learning space helps student reach learning resources and communicate with other students</li><li>- Finance feature let students choose their favor payment method</li><li>- FAQ page guide students through some common problems</li></ul>	<ul style="list-style-type: none"><li>- Static dashboard</li><li>- Too many feature lead to a complex app</li><li>- Some of the features are actually webview</li></ul>
Edmodo	<ul style="list-style-type: none"><li>- Work like a forum with permission granted account</li><li>- Student can communicate with each other in class by creating post</li><li>- File sharing feature</li><li>- Clean UI</li></ul>	<ul style="list-style-type: none"><li>- Just a place to get update with news and announcement from academic department</li><li>- Some feature students can't use without granted permission from admin account</li></ul>
Canvas	<ul style="list-style-type: none"><li>- Course management app</li><li>- There is reminder feature which remind students about upcoming task</li><li>- High useability</li></ul>	<ul style="list-style-type: none"><li>- Static dashboard, no update to user when something new</li></ul>
Ton Duc Thang Student Portal	<ul style="list-style-type: none"><li>- Student can take quiz in app</li></ul>	<ul style="list-style-type: none"><li>- Ugly UI</li><li>- Low useability</li></ul>

### 1.2.3. Specify Requirement

After researching, we have synthesized the results and proposed the following application ideas

Problems	Ideas
User have to login everytime access portal site	Remember user credential
Bad organized features	Reorganize categories, design for main features
Difficulties in gather lessons content	Create a learning space where students can communicate and share their learning resources
Difficulties in tracking application progress	Design tracking feature to bring more information

REPORT NO.2

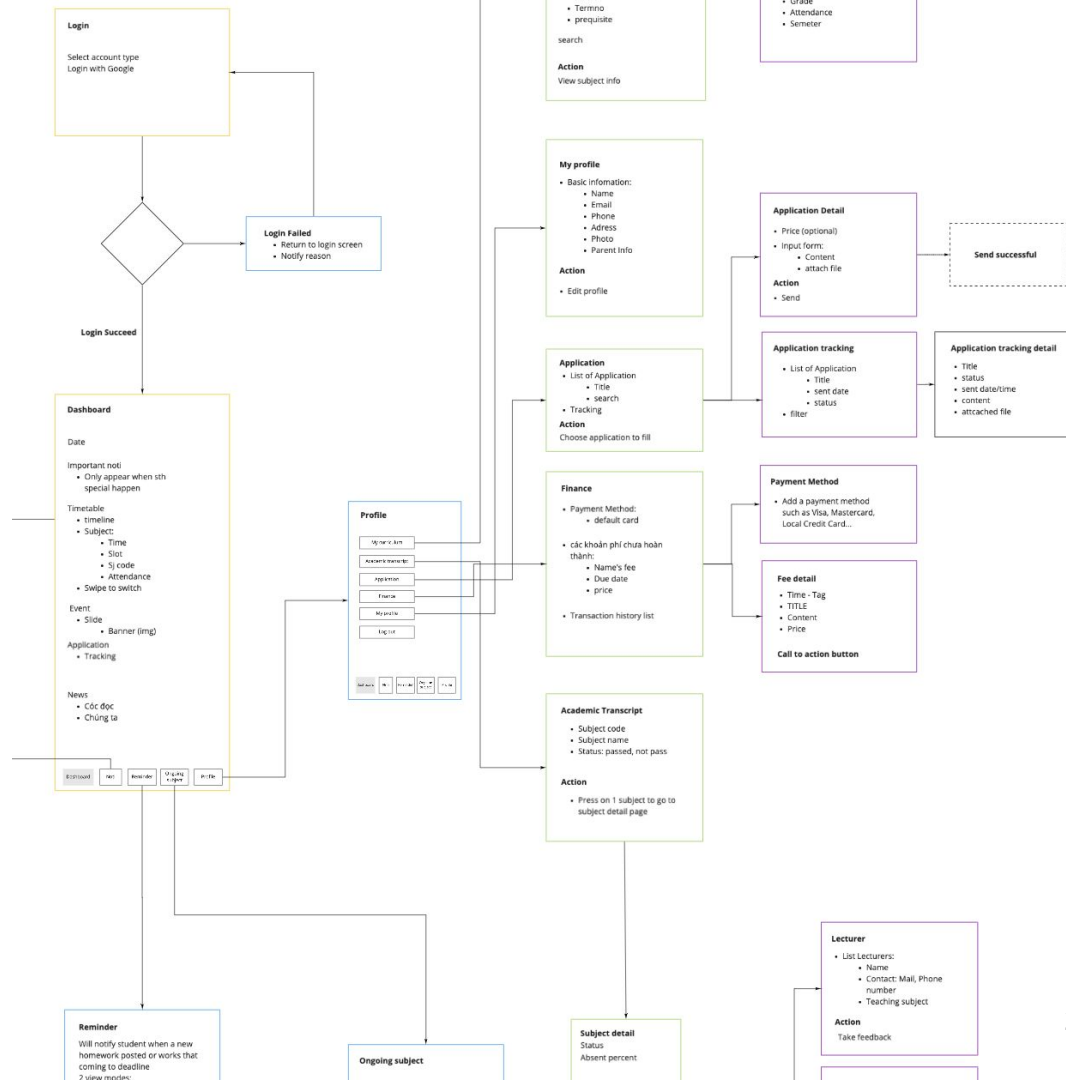
# DESIGN PROPOSAL



## 2.1

# Building First Screens map

Click to see full screens map



## 2.2

# User Requirement Specification

After researching and selecting, we provide a list of functions that will be included in the application

### DASHBOARD

Active dashboard get update every day with daily timetable, events, application tracking and news from FPT digital newspaper

### TIMETABLE

With timeline view, student can easily check their everyday classes, they can also view info about lesson in every slot, classes information such as room and what time will it begins

### SUBJECT DETAIL

Here student can view everything related to specific subject such as student list, lecturer information, attendance and mark report  
We also include feature to share file between student and lecturer in class and discussion feature  
Notification about classroom change, time change will be display here, everything in one place

### NOTIFICATION

Provide students with school announcement from school and changes in class time, classroom

### APPLICATION & REGISTRATION

Rearrange applications into 3 large categories. Add online payment method via credit card. Tracking features is designed to be intuitive, providing accurate information for students about the process

### FINANCE

Provide transaction history list, upcoming fees and add new payment card to current account

## 2.3

# Wireframe

Dashboard

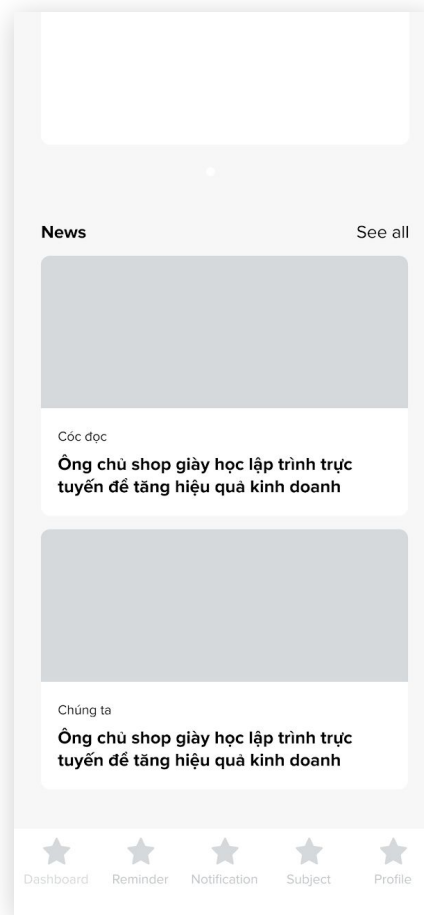
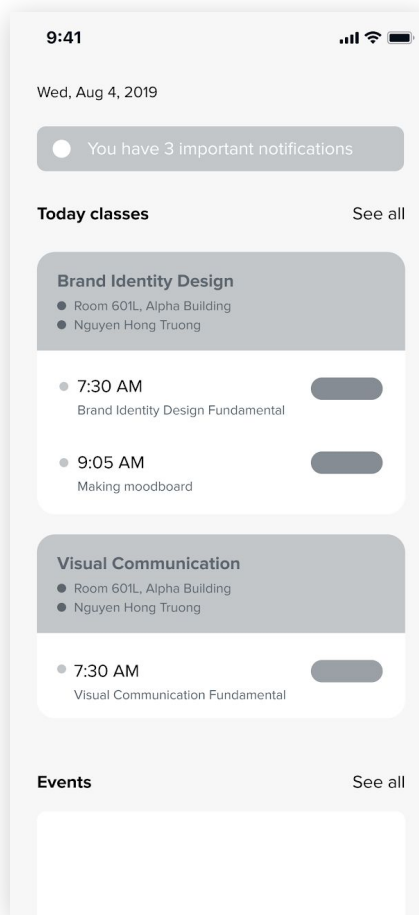
Timetable

Subject Detail

Discussion

Application

Finance



2.3

# Wireframe

Dashboard

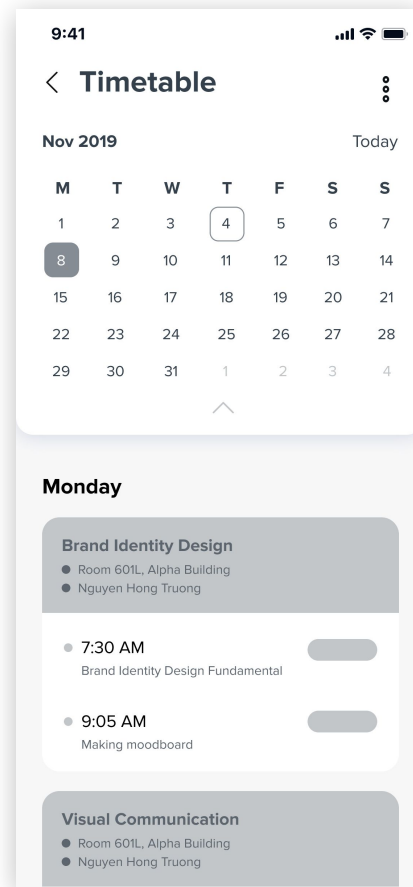
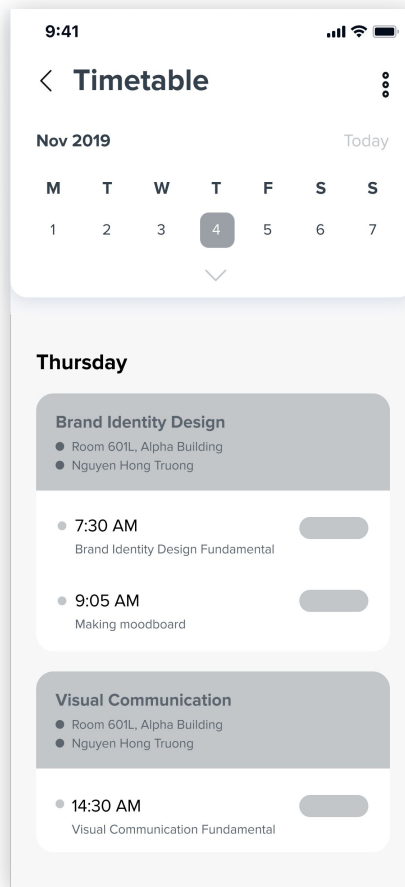
Timetable

Subject Detail

Discussion

Application

Finance



2.3

# Wireframe

Dashboard

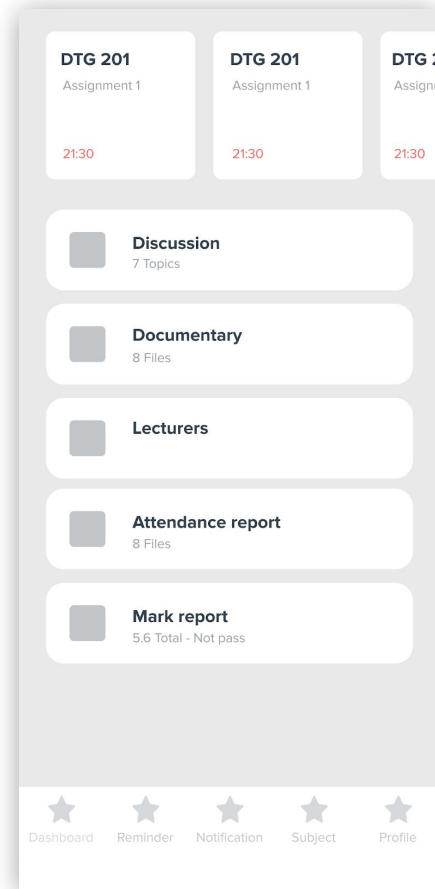
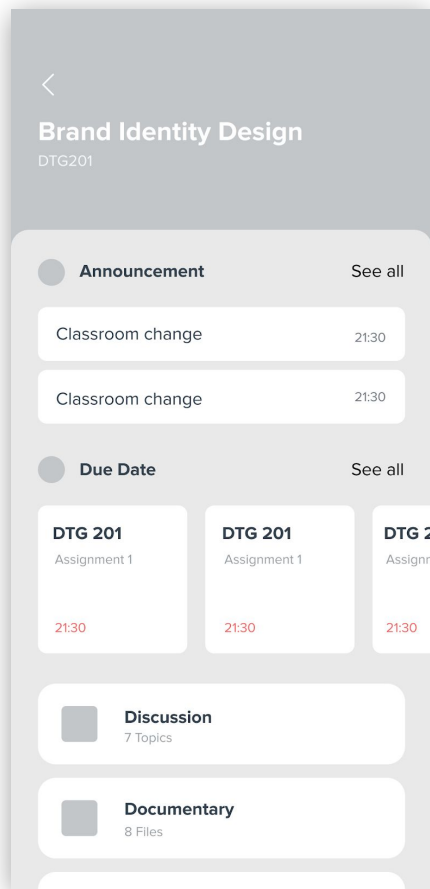
Timetable

Subject Detail

Discussion

Application

Finance



## 2.3

# Wireframe

Dashboard

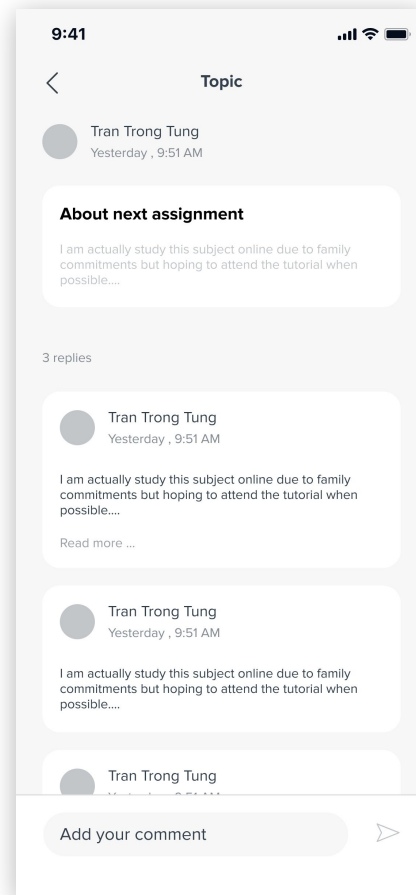
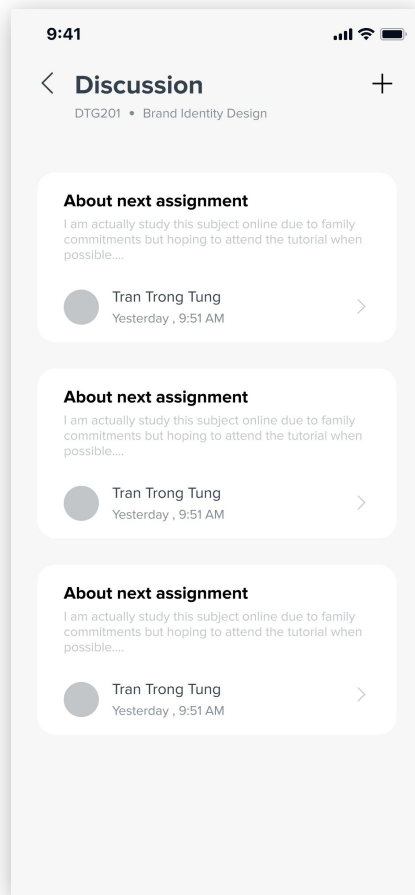
Timetable

Subject Detail

Discussion

Application

Finance



2.3

# Wireframe

Dashboard

Timetable

Subject Detail

Discussion

Application

Finance

9:41

< Application

Hoãn nghĩa vụ quân sự  
10/11/2019

Xin xác nhận sinh viên  
10/11/2019

Đề nghị thôi học  
10/11/2019

GỬI ĐƠN

9:41

<

Hoãn nghĩa vụ quân sự

Title  
Application purpose

Application template  
↓

File attachment  
+

Payment Method  
Application processing fee:  
20,000 VNĐ

GỬI ĐƠN

2.3

# Wireframe

Dashboard

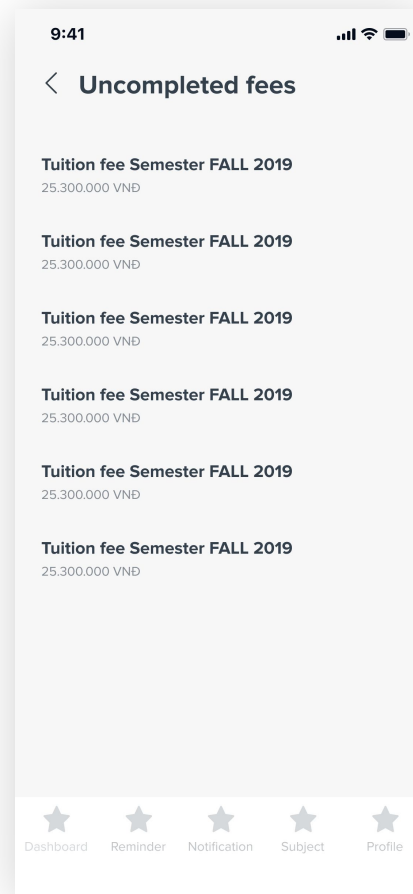
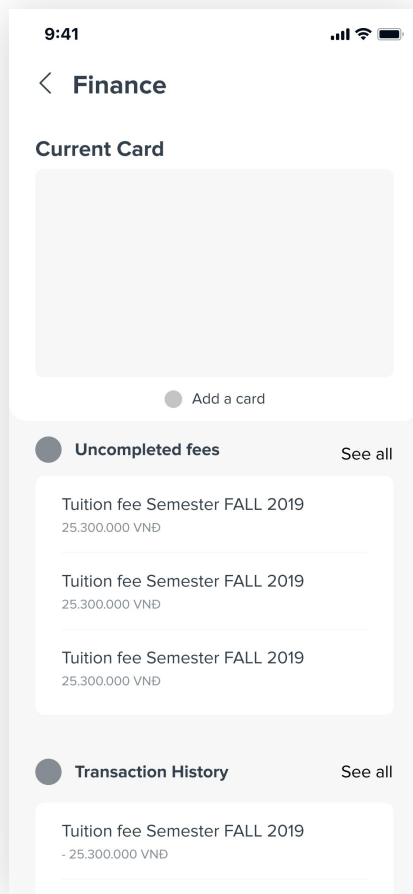
Timetable

Subject Detail

Discussion

Application

Finance





**REPORT NO.3**

# **PRE - DESIGN**

2.3

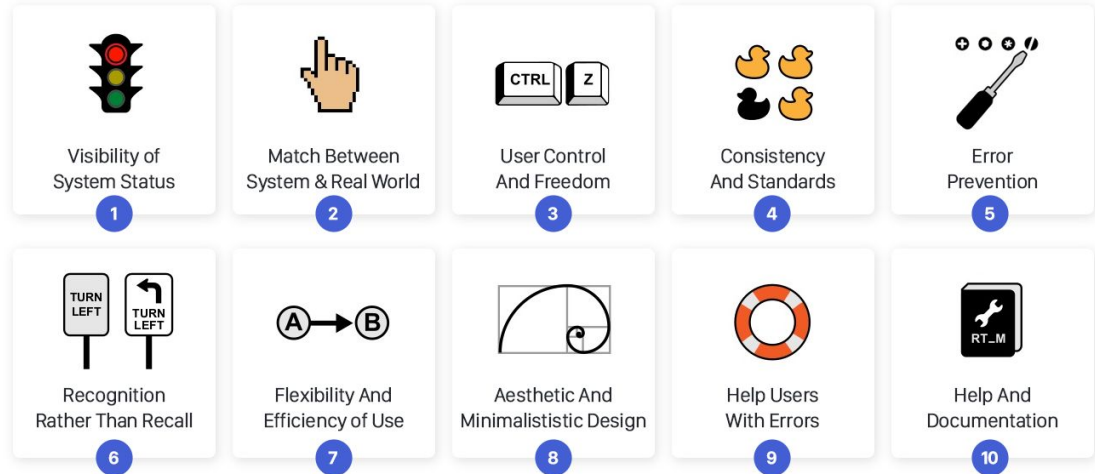
## Usability Testing



## 2.3 Usability Testing

# How we Test it

We use two methods to test the user's ability to use the application. The first method is **Heuristic Inspection Usability Testing**, we use the wireframe version of the application and evaluate it on the available scale. The second method, we test directly with users and record their opinions to further improve the user experience for the application.



## 2.3 Usability Testing

# Heuristic Evaluation and Usability Inspection

Usability inspection (Nielsen and Mack, 1994) is the generic name for a set of methods based on having evaluators inspect or examine usability-related aspects of a user interface. Some evaluators can be usability specialists, but they can also be software development consultants with special expertise (e.g., knowledge of a particular interface style for graphical user interfaces), end users with content or task knowledge, or other types of professionals. The different inspection methods have slightly different goals, but normally usability inspection is intended as a way of evaluating user interface designs to find usability problems. In usability inspection, the evaluation of the user interface is based on the considered judgment of the inspector(s). The individual inspection methods vary as to how this judgment is derived and on what evaluative criteria inspectors are expected to base their judgments. In general, the defining characteristic of usability inspection is the reliance on judgment as a source of evaluative feedback on specific elements of a user interface. See the appendix for a short summary of the individual usability inspection methods discussed in this paper.

### How we do it ?

- We assumed users goal in doing certain tasks
- Put ourselves into user's position and try to complete the task
- We took note during using phase
- We compared our note with 10 heuristic checklist

[Click to see full script](#)

## 2.3 Usability Testing

# Usability Testing with Users

After Heuristic Usability Testing phase, we continued to Usability Testing phase with real users to record their opinions on how our app is functioning and ways we can do to improve it

**Target participant** - Students studying at FPT university

**Number of participant** - 6

**How we do it ?**

We create several scenarios with series of main function tasks and participants were asked to complete tasks, recognize buttons, the way screens are linked together, while our team observed and took notes. By watching users navigate the product, listening to their praises and concerns about it, we can see whether the participants enjoyed the user flow or being confused at any step

Click to see full script

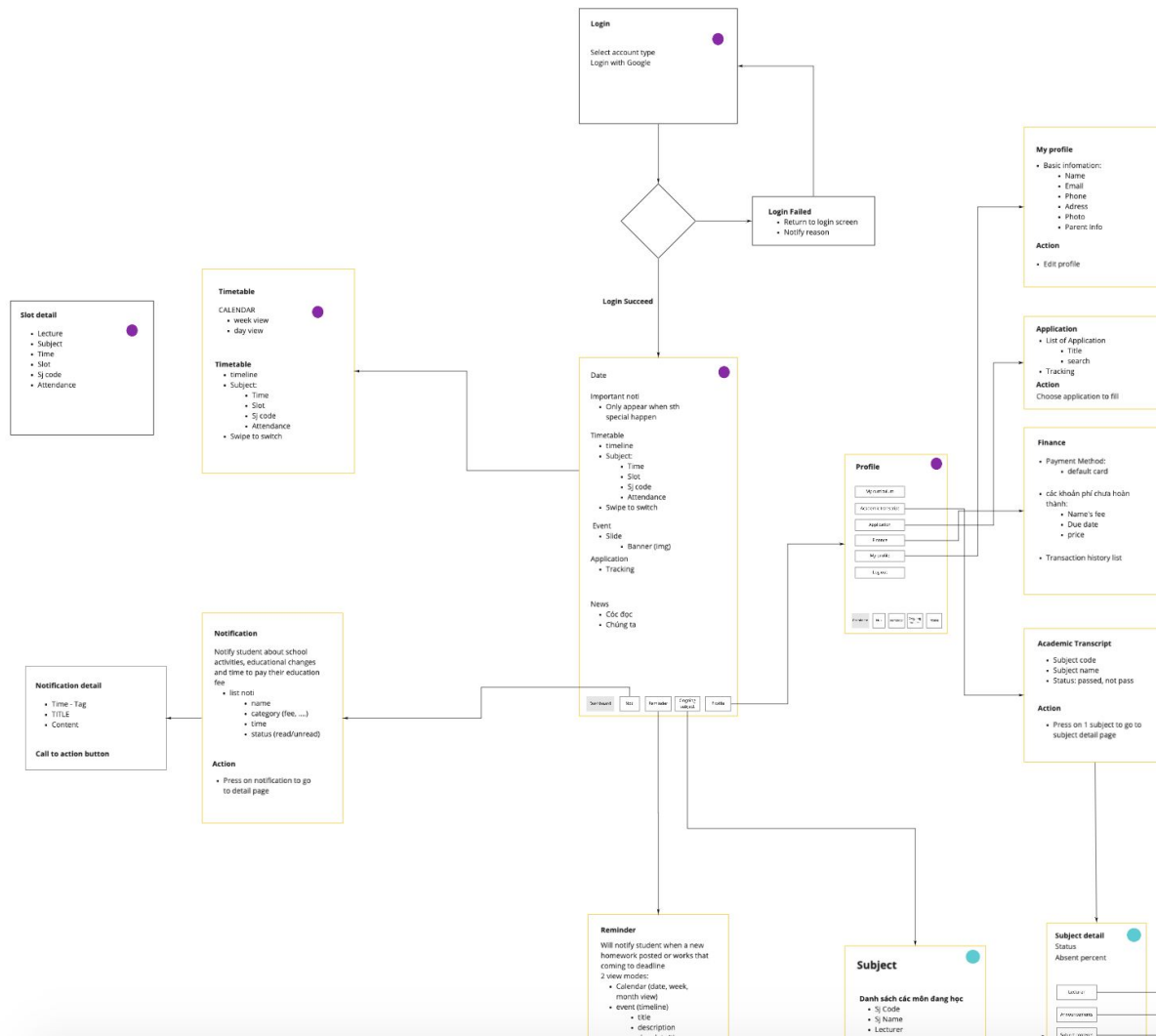
Click to see testing result





Click to see full screens map

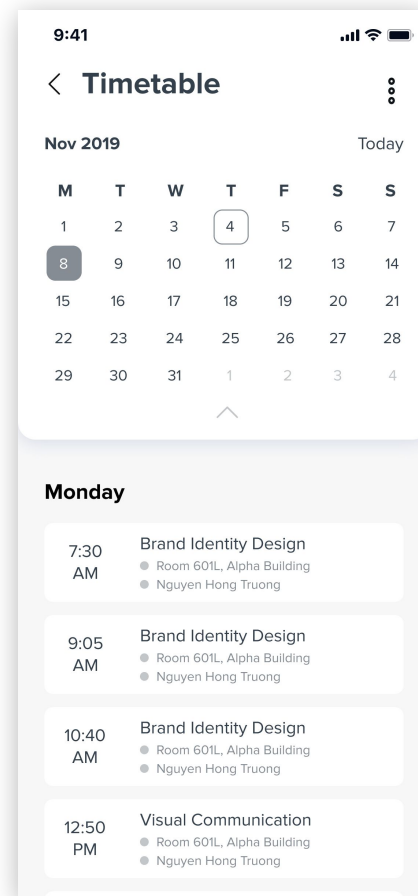
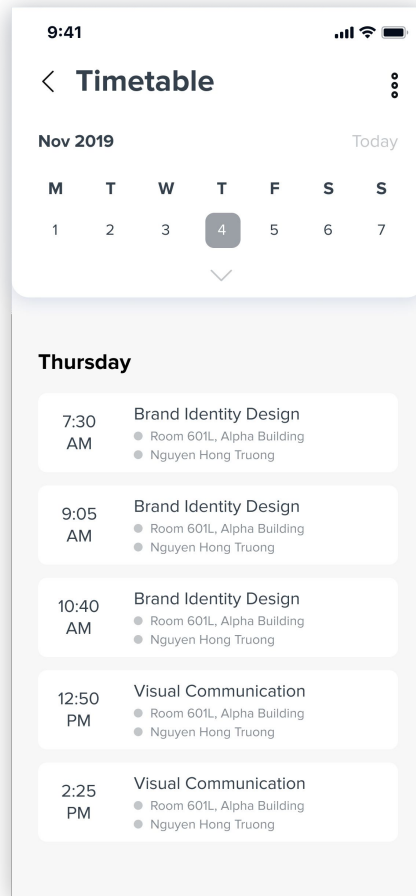
[Click to see full screens map](#)



3.3

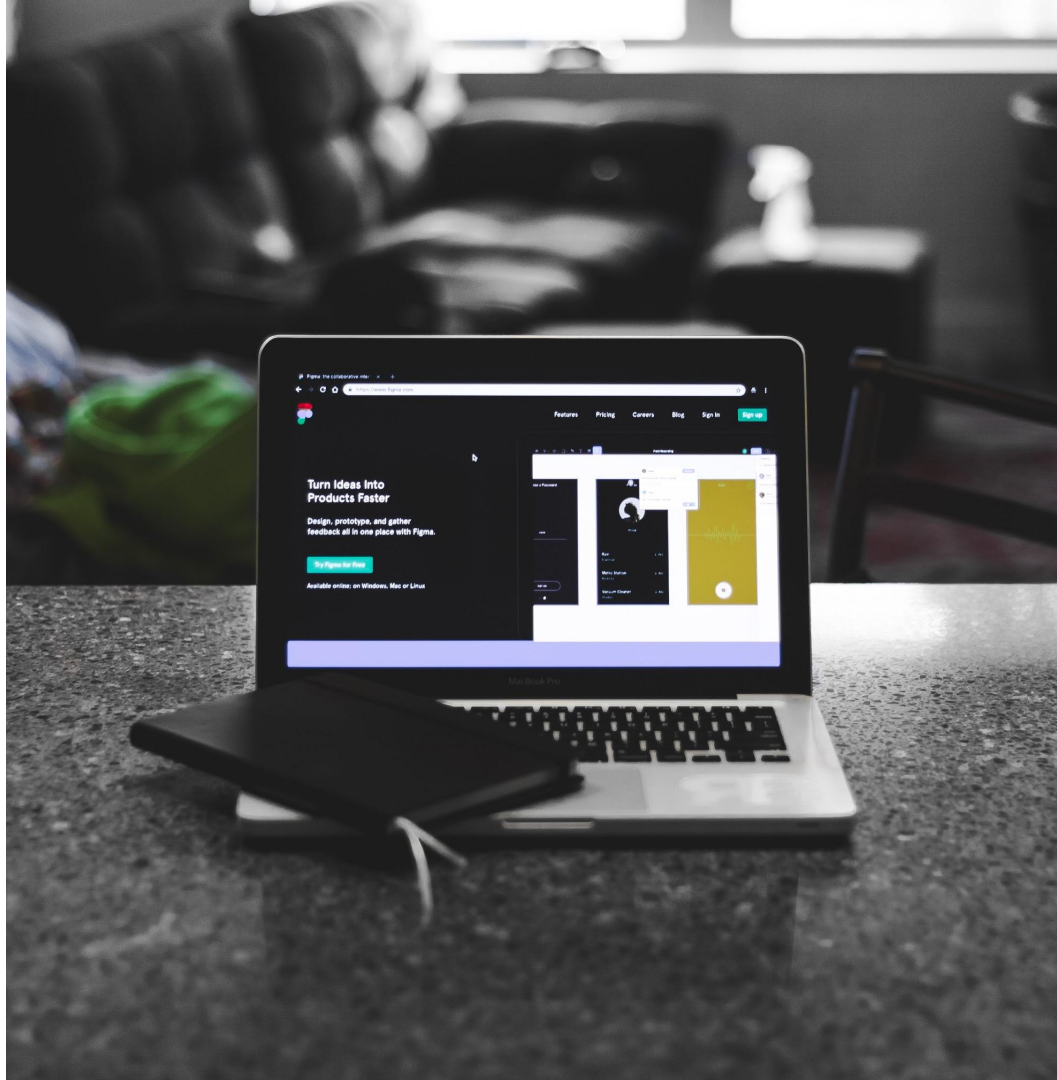
# Building second wireframe

Timetable



3.4

# User Interface Design





## 3.4 User Interface Design

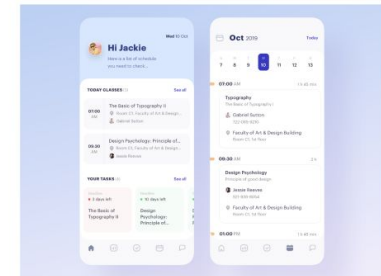
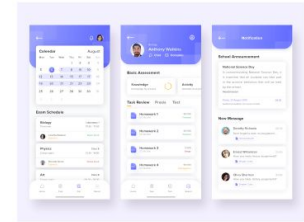
# Moodboard

Inspired by 3 main colors of FPT Corporation, combined with the shape of bachelor hat and books, we designed the logo for Student Hub application.

### 1 Images



### 2 Graphic Design

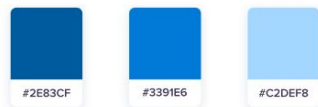


### 3.4 User Interface Design

# Color System

## Primary Color

The most used color in the application, used for background



## Accent Color

The highlight color, used for the button, the content should stand out, and is also the brand color of fpt



## Neutral Color

User for text, disabled states



## Semantic Color

Is the color for system

### Success



### Progress



### Error



### Warning



### 3.4 User Interface Design

# Typography System

Pr oxima Nova

aA aA aA aA aA

Proxima Nova gives users the comfort of reading because of its simple and no-frills design, but it also feels strong and reliable in addition to being easy to read.

#### Heading

### Heading 1

Proxima Nova Bold  
Font size: 36px  
Line height: 48px  
Use for: Oversized screen titles, use in moderation

### Heading 2

Proxima Nova Bold  
Font size: 28px  
Line height: 32px  
Use for: Feature introductions, top level headers.

### Heading 3

Proxima Nova Bold  
Font size: 24px  
Line height: 28px  
Use for: Main titles, use only once per page.

### Heading 4

Proxima Nova Bold  
Font size: 20px  
Line height: 24px  
Use for: Headings that identify key functionality.

### Heading 5

Proxima Nova Bold  
Font size: 16px  
Line height: 20px  
Use for: Sub-section and field group headings.

#### Subtitle

##### Subtitle Large

Proxima Nova Regular  
Font size: 14px  
Line height: 16px  
Use for: Sub heading normal

##### Subtitle Small

Proxima Nova Regular  
Font size: 12px  
Line height: 14px  
Use for: Sub heading small

#### Body

##### Body Regular

Proxima Nova Regular  
Font size: 16px  
Line height: 20px  
Use for: content, main typeface for App

##### Body Bold

Proxima Nova Bold  
Font size: 16px  
Line height: 20px  
Use for: Highlight content, main typeface

#### Paragraph

##### Paragraph Regular

Proxima Nova Regular  
Font size: 16px  
Line height: 24px  
Use for: paragraph content

#### Button

##### BUTTON LARGE UPPERCASE

Proxima Nova Bold  
Font size: 16px  
Line height: 16px  
Use for: Text button

##### Button Large Lowercase

Proxima Nova Bold  
Font size: 16px  
Line height: 16px

##### BUTTON SMALL UPPERCASE

Proxima Nova Bold  
Font size: 12px  
Line height: 16px

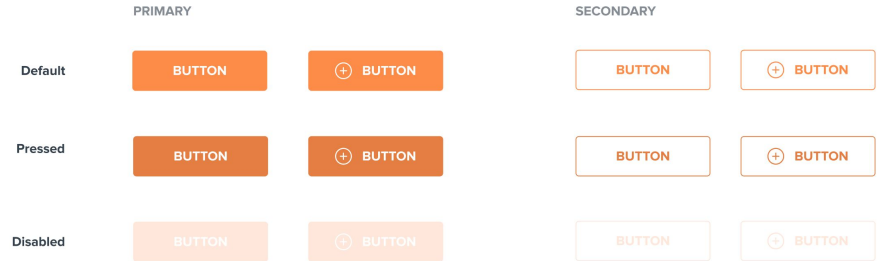
##### Button Small Lowercase

Proxima Nova Bold  
Font size: 12px  
Line height: 16px

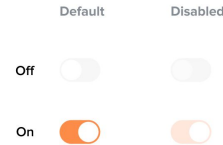
### 3.4 User Interface Design

# UI Components

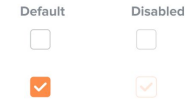
## BUTTON



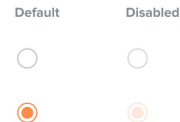
## TOGGLE BUTTON



## CHECK BOX



## RADIO BUTTON



## SEGMENT CONTROL



### 3.4 User Interface Design

# UI Components

## TEXT FORM

### NORMAL

Label

Placeholder

Label

Focused

Label

Active



Label

Disable

Label

Error



Error message

Label

Successed



### HAVE LEFT ICON

Label

Placeholder

Label

Focused

Label

Active



Label

Disable

Label

Error



Error message

Label

Successed



### SEARCH BAR

Q Search

Q Focused

Q Active



### 3.4 User Interface Design

# Application Logo

Inspired by 3 main colors of FPT Corporation, combined with the shape of bachelor hat and books, we designed the logo for Student Hub application.

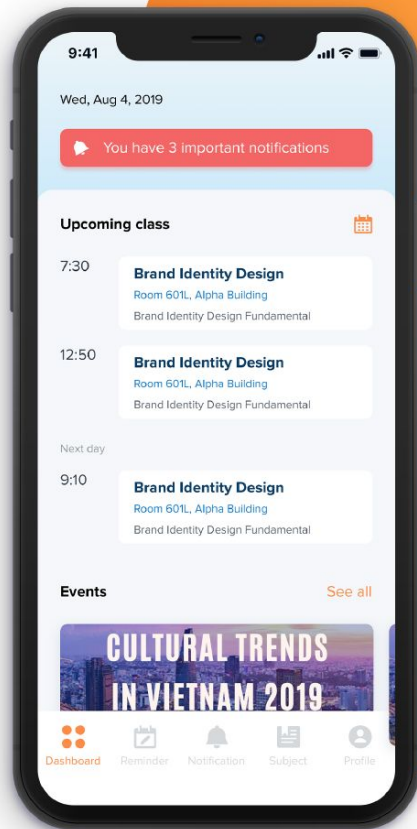


**REPORT NO.4**

# **DESIGN FINALIZATION**

4.1

## Design Overview



# Student HUB



## 4.2

# Design Finalization

Dashboard

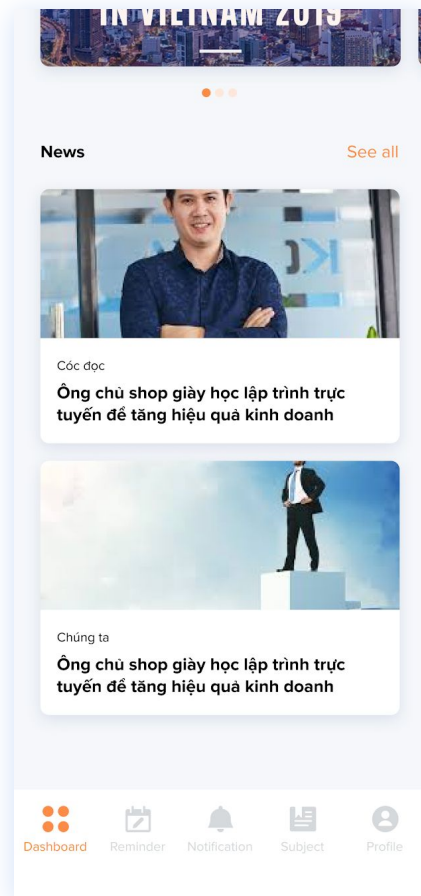
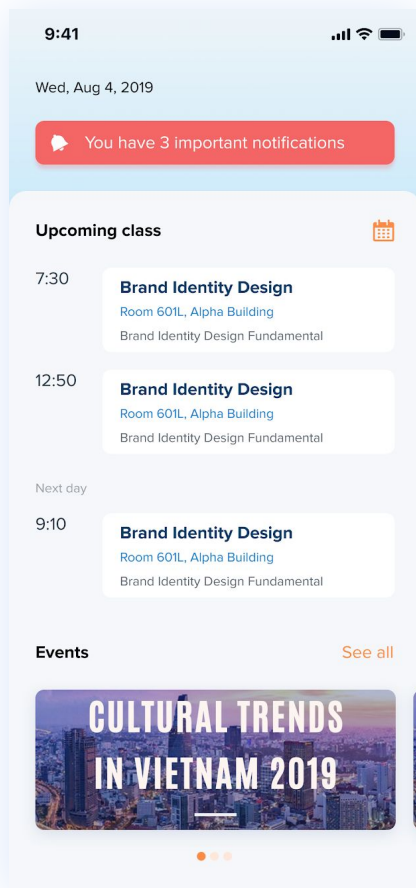
Timetable

Subject Detail

Discussion

Application

Finance



## 4.2

# Design Finalization

Dashboard

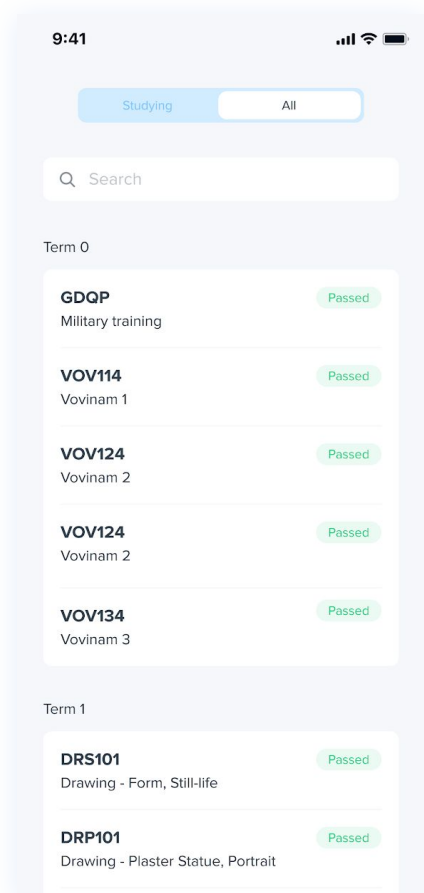
Subject

Subject Detail

Discussion

Application

Finance



4.2

# Design Finalization

Dashboard

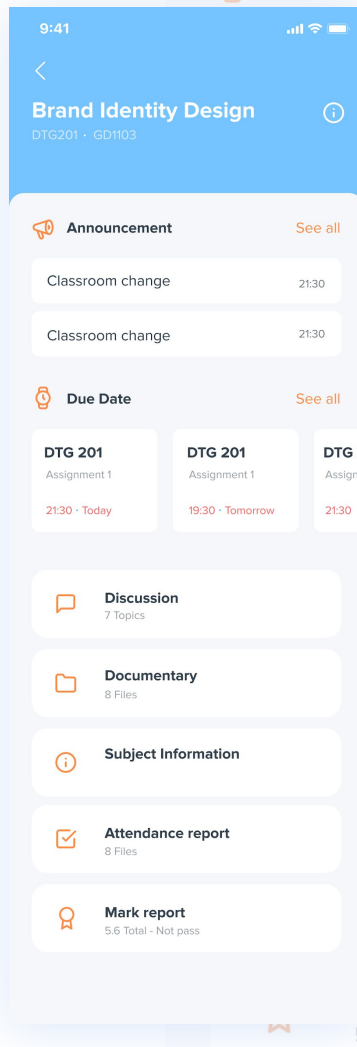
Timetable

Subject Detail

Discussion

Application

Finance



## 4.2

# Design Finalization

Dashboard

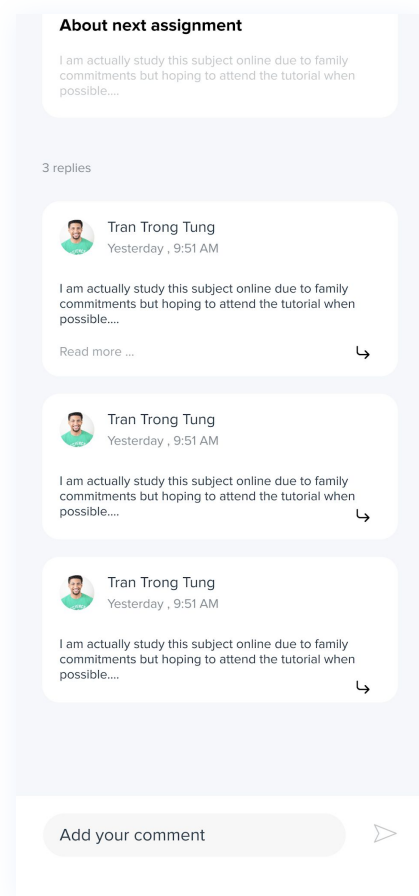
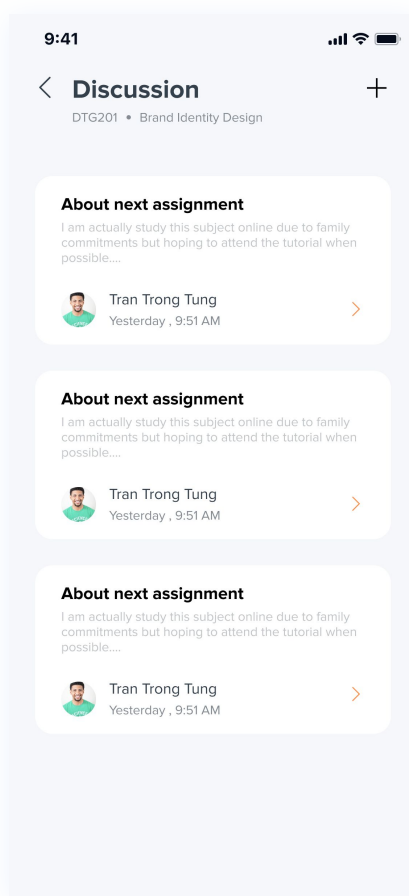
Timetable

Subject Detail

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Application

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## 4.2

# Design Finalization

Dashboard

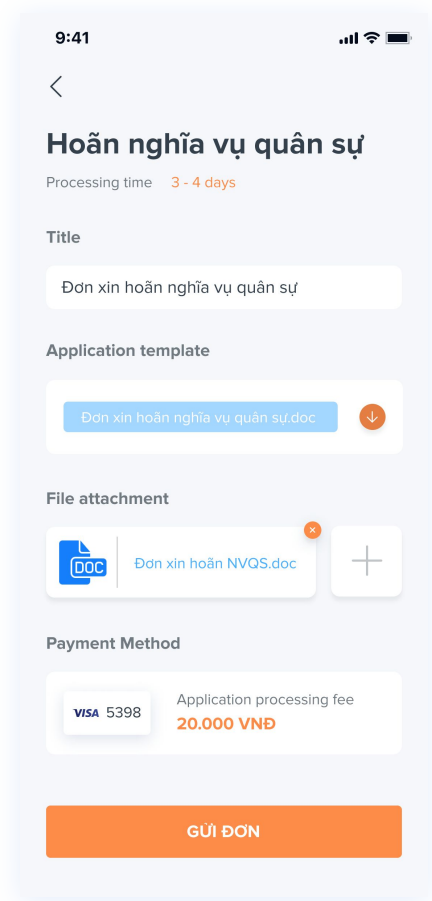
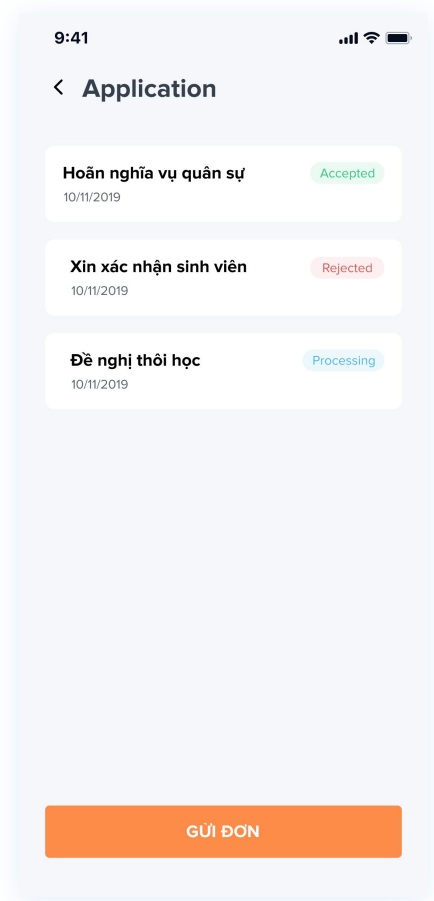
Timetable

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## 4.2

# Design Finalization

Dashboard

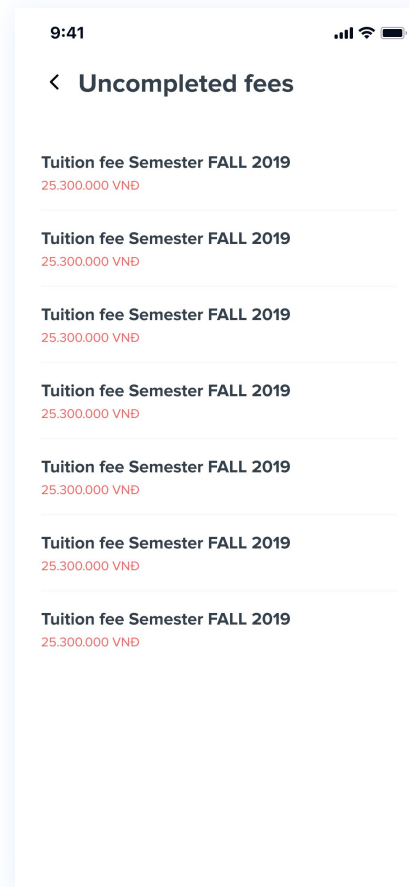
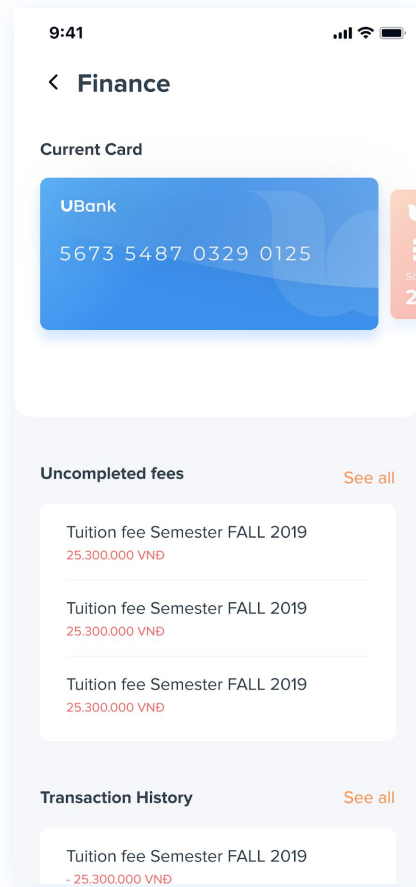
Timetable

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## 4.1 Design Overview

# Usability Testing

After changing the application from the test results in phase 1, we continue the second phase of testing to perfect our application.

Click to see inspection

Click to see full script

Click to see testing result



**REPORT NO.5**

# **SIMULATION FUNCTION**