

Group 3
Final Report: Lesson Load

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1. Concept Statement and Description

1.1 Concept Statement

Lesson Load will be a mobile application that provides on-demand tutoring services for UT Austin students. Currently, the primary tutoring services on campus are provided by the Sanger Learning Center (SLC), but the hours, location, and subject offerings are limited. Lesson Load expands upon SLC tutoring services by allowing students to pay a tutor through the app to meet at any public UT location immediately, based on preferences such as course subject and student classification. The app will also include a scheduling feature, allowing the option to plan sessions in advance. UT students can go through an application process to become tutors and be compensated for tutoring courses they've taken and received a grade of "A" or above.

1.2 Description

The goal of the Lesson Load application is to expand upon the current method of on-campus tutoring for our client, the Sanger Learning Center (SLC), by adding an on-demand service that is as convenient as possible for the user. Lesson Load is designed to help students achieve the highest marks possible, while allowing tutors to be compensated for their time. Tutoring sessions take place at any UT facility's building during operating hours, which greatly expands the time slots and locations students can access tutoring services. For instance, the PCL is open 24/7 most days. Lesson Load will have two main components to its tutoring service: on-demand and scheduled. Students can request a tutor immediately with on-demand tutoring. The planning function will allow scheduling sessions in advance. Any UT student currently enrolled in a UT course with an active UTEid is eligible to sign up and take advantage of the Lesson Load app.

Prospective tutors must have attended UT Austin for at least one year, and be currently enrolled in classes on UT Austin's campus. The prospective tutor registers with their UTEid and submits a copy of their unofficial transcript as well as their resume. To be approved to tutor a particular course, the prospective tutor must have received a "A" or above in that course. All courses are eligible for tutoring, undergraduate and graduate alike. Once the application is submitted, the staff at the SLC reviews applications and notifies potential tutors of the results.

Tutors can be clocked in to help tutees immediately with the option to set distance of availability. An internal algorithm will ensure both tutors and tutees receive the requested services in a timely manner. A session begins once both parties are present and the tutee verifies within the app. Tutee will also have the option to extend the current session, provided that the current tutor is available for more time. If the tutee has a great interaction with their requested tutor, they can "favorite" the tutor and establish a consistent schedule if they wish.

Scheduled tutoring allows tutees and tutors to indicate their available times and auto-generate matches based on time preference and subject. Tutees can then select a specific tutor to request a session. If the tutor accepts the request, chat options are presented to allow the tutor and tutee to set an agreed upon location. The tutee and tutor both receive a notification about the scheduled session. Lesson Load enables students to take control of their education by connecting them to a network of fellow students that are eager to help day or night, while compensating them for their time.

2. Contextual Inquiry and Analysis

2.1 Scope

Our goal is to create an application that will be utilized by tutors and students. As a result, we planned to conduct our interviews to gather information about how the tutoring system on UT Austin's campus currently operates. We wanted to interview current tutors, students who currently receive tutoring, and students who haven't received tutoring. We included students who do not receive tutoring in order to understand their perception of tutoring and why they choose to opt out. We also wanted to interview graduate students as well, as they have the opportunity to register for the application.

We also thought about the current locations of the tutoring services on campus, and how we intended to increase available tutoring location option through the application. We felt it would be beneficial to interview students who currently receive tutoring in the Sanger Learning Center (SLC), as well as interview students studying at various UT locations, such as the Perry-Castaneda Library and the School of Information.

2.2 Contextual Inquiry Preparation

To prepare for the contextual inquiry, we created a google document to notate all questions we initially felt would be relevant to uncovering information related to study habits and the tutoring process. We then reviewed and edited our interview questions to ensure they fit within our scope and allowed for unbiased answers from the interviewees. We also created groups of questions related to different topics that we felt were essential, such as current study habits, preferences, and tutoring logistics.

Next, we decided to use Qualtrics to create a survey version of our interview questions. One of our group members is a TA, and had the ability to send the survey to a wide number of undergraduate students.

Finally, we created a schedule of when and where we could conduct in-person interviews at public UT Austin locations. We reached out to the SLC to request permission to interview students and tutors on their tutoring site and developed a relationship with Ed Fernandez, the Program Coordinator. He granted us permission to conduct interviews on site as long as we did not disrupt any tutoring sessions.

2.3 User Information

In total, we gathered data from 24 participants, all of whom were students, 3 of which either were or had been tutors at UT Austin. Additionally, 23 of our participants were undergraduate students, and 1 was currently in graduate school. We conducted 7 in-person interviews, and received 17 survey responses.

For in-person interviews, we interviewed participants with one to two interviewers present to maximize the number of conducted interviews between the three of us. Additionally, we made sure to interview all participants individually to prevent the masking of individual thoughts.

ID	SCHOOL	GRADE	MAJOR	BEEN TUTORED
S01	Undergraduate	So.	Neuro	N
S02	Undergraduate	So.	Comp Sci	Y
S03	Undergraduate	So.	Bio	N
S04	Undergraduate	So	Undeclared	N
S05	Undergraduate	Jr.	Geology	Y
S06	Undergraduate	So.	Health & Society	N
S07	Undergraduate	So.	Bio	Y
S08	Undergraduate	So.	Environmental Science	N
S09	Undergraduate	So.	BioChem	N
S10	Undergraduate	So.	Business/Pre Med	Y
S11	Undergraduate	So.	Biology	Y
S12	Undergraduate	Sr.	Textiles & Apparel	Y
S13	Undergraduate	Sr.	Environmental Science	Y
S14	Undergraduate	So.	Environmental Science	N
S15	Undergraduate	So.	Chemical Engineering	N
S16	Undergraduate	So.	Biology	Y
S17	Undergraduate	So.	Biology	N
I01	Undergraduate	Fr.	Computer Sci	Y
I02	Undergraduate	Fr.	Math	N
I03	Undergraduate	Jr.	Business	Y

			Marketing	
I04	Undergraduate	So.	Biology	N
I05	Graduate	1st	Business	N
I06	Undergraduate	Sr.	Mechanical Engineering	Y
I07	Undergraduate	So.	Physics	Y

Table 1: Information of all users interviewed and surveyed

2.4 Interview Questions

Below are questions that were asked to participants, either through our Qualtrics survey, or in-person interviews. In some cases, additional questions arose through the organic flow of conversation.

Demographic Data:

Name

Classification (Freshman, Sophomore, etc.)

Major

Hometown

Study Habits:

Where do you most frequently study?

How often do you study at home? Or do you avoid it? Why?

Do you usually work on homework problems in group sessions or individually? Why?

What time do you usually study/work on assignments?

Scenario: Say you're working on a homework problem and you come across a question that you just can't figure out. What steps do you take to get the answer?

Do you reach out for tutoring help with your school work?

If yes:

Where do you usually meet for sessions? (home, coffee house, UT facilities, etc.)

What time of day do you typically need help from a tutor?

How much does tutoring cost for you? (hourly rate? Session rate? free?)

How long are the sessions usually? Does the amount of time vary drastically or is usually consistent?

Which classes/subjects do you need the most help in?

Do you find that tutoring is always helpful? Why or why not?

How much does it matter to you which tutor you get? Are they all usually helpful enough to answer your questions? Are some tutors much better than others?

How do you communicate with your tutors? (phone, text, email, walk-in etc.)

How far in advance do you reach out to a tutor for help?

Do tutors charge close to the same amount or does it vary largely from tutor to tutor?

How much are you comfortable with paying for tutoring services?
Would you expect to pay more for more difficult subjects or classes where tutors may be scarce?
Would you expect to pay more for a more experienced tutor? Similarly would you expect to pay less for a not as experienced tutor?
Have you ever paid more for a tutor to meet up with you on very short notice (within the hour?)
Have you ever paid more for a tutor to meet up late at night (past 10pm or so)?

If no:

What are the barriers to reaching out for tutoring? Why? (advertising, finance, availability, convenience)
Would you be interested if tutors were available 24/7?
How much are you comfortable with paying for tutoring services?
How do you currently get help on assignments if needed?
What do you do when you are studying and you come across a problem you are unable to solve?

Are you currently, or have you ever been, a tutor for UT students?:

Did you tutor independently or for a UT department?
Can you walk me through an example of a tutoring session?
Where do you usually meet for tutoring sessions?
What time of day are you usually available for tutoring?
How much do you charge for tutoring services? (hourly rate? Session rate? Does the University pay you?)
How long are the sessions usually?
Does the amount of time vary drastically or is usually consistent?
Which classes/subjects do you provide tutoring services for?
Do you charge more for certain subjects or classes?
Do you find that you are able to help most students? If not, why do you think your effort is not helpful?
How do you communicate with your tutees? (phone, text, email, walk-in etc.)
How far in advance do you prefer to be contacted before scheduling a tutoring session?
Do you charge more for a session that was requested with very short notice (within the hour?)
Do you charge more for a session that is scheduled to meet late at night (past 10pm or so)?

Academic App Preference:

Rather than using the problem solving techniques discussed earlier (such as Google), would the ability to have a student who has already taken the course immediately come help you with a problem be beneficial? Why or why not?
Do you use any current apps to manage things related to your academic career at UT?
What's good about this particular app? What do you dislike about it?
How often do you use it?

2.5 Initial Contact

Interviews with the students in UT Austin's public campus locations were simple, and ranged from 10-20 minutes. We approached each student and explained we were graduate students

conducting interviews for a project and needed data on study habits and tutoring preferences. We then asked if they had about 15 to 20 minutes of free time, and gave them the option to decline if they were unable to interview.

For interviews in the Sanger Learning Center, we requested ahead of time to interview their tutors and tutees to ensure they knew the work we planned on conducting. After the interviews, we also gave students the choice of starbursts, or chocolate candy for participating.

2.6 Data Collection Process

All raw contextual data consisted of answers participants provided during their interviews. Other data, such as operation times, tutoring options, and logistic operations of the Sanger Learning Center were provided through onsite materials, such as pamphlets and handouts, and online queries.

2.7 Artifacts

These items were physical documents present at the interview sites of our users. They provided information about the operation schedule of the tutoring center and gave us an idea of what materials were offered to tutees.

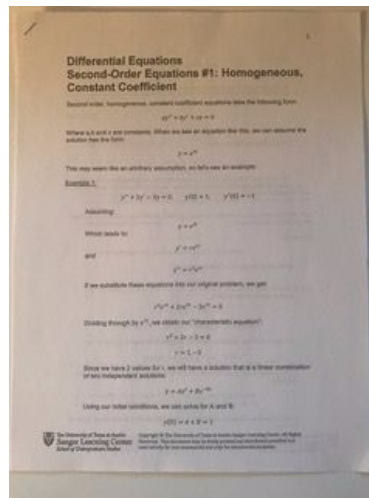


Figure 1: Differential Equations worksheet offered at the Sanger Learning Center

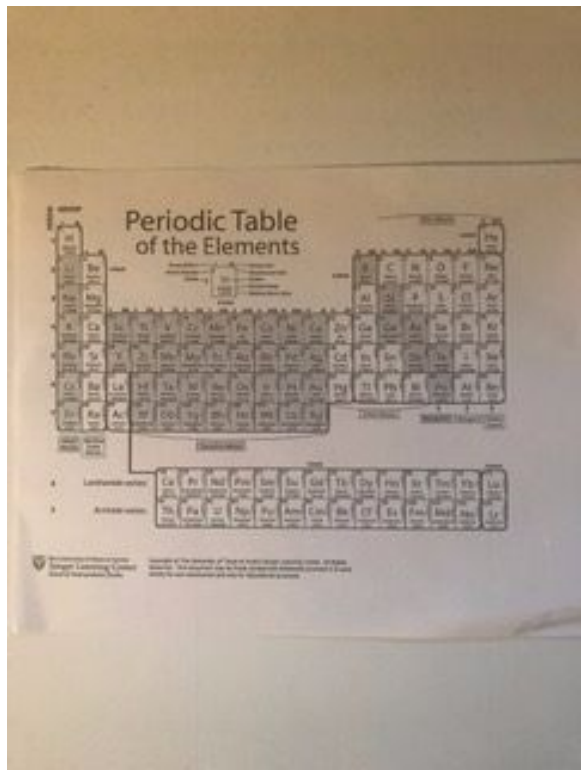


Figure2 : Periodic table handout offered at the Sanger Learning Center



Figure 3: A card showing academic statistics of the learning center

2.8 Task Data/Interview Data

Q1	Q2	Q3	Q4	Q5_1	Q5_2	Q5_3	Q5_4	Q5_5	Q6	Q8
NAME	CLASSIFICA	MAJOR	HOME TOWN	Where do you most frequ	Where do you most frequ	Where do you most frequ	Where do you most frequ	Where do you most frequ	If Other location please specify the	What time do you usually study or w
Alex Guerrero	Sophomore	Neuroscience	Laredo, Tx	Never	Never	Never	Never	Always	NWB	Evening,Night
Joshua	Sophomore	Computer Science	El Paso	About 1-2 days a week	More than 4 days a week	Never	Never	About 1-2 days a week	About half the time	Dell Gates Comp Sci building
Farah salem	Sophomore	Biology	Karachi, Paki	More than 4 days a week	Never	Never	Never	Never	NA	Evening,Night
Mario Zadra	Sophomore	Undeclared (Pre-Phi	San Antonio	About 1-2 days a week	Always	Never	Never	Never	NA	Afternoon,Evening,Night
Ryan Herring	Junior	Geology	Houston	Never	Never	Never	Never	Always	My office in JGB or the SAC	Evening
Miranda	Sophomore	Health & Society	Lampasas, TX	About 1-2 days a week	More than 4 days a week	Never	Never	About 1-2 days a week	NA	Evening
Thomas Hamne	Sophomore	Biology	Houston	About half the time	About half the time	Never	Never	More than 4 days a week	Norman Hackerman Building (lab)	Morning, Afternoon,Evening
Jenna Wadman	Sophomore	Environmental scier	Houston	Never	More than 4 days a week	Never	Never	About half the time	Coffee shops	Afternoon,Evening,Night
Christina Su	Sophomore	Biochemistry	Round rock,	More than 4 days a week	Never	About half the time	Never	About 1-2 days a week	SAC	Morning, Afternoon,Evening,Night
Aishwarya Gatj	Sophomore	Business/premed	Houston	About 1-2 days a week	More than 4 days a week	Never	Never	About 1-2 days a week	Starbucks, other coffee shops	Afternoon,Evening,Night
Sandra Oh	Sophomore	Biology	Houston	About 1-2 days a week	About half the time	Never	Never	More than 4 days a week	UT Tower Library	Afternoon
Romeila Herren	Senior	Textiles & Apparel	Houston	Always	Always	Never	Never	Never	NA	Evening
Aiya Larasati	Senior	Environmental Scier	Houston	About 1-2 days a week	More than 4 days a week	Never	Never	About 1-2 days a week	More than 4 days a week	Cafes
Mark	Sophomore	Environmental Scier	Beijing	Always	Always	About 1-2 days a week	Never	Never	NA	Evening,Night
Omar	Sophomore	Chemical Engineer	Arlington, VA	Never	Always	Never	Never	Never	NA	Afternoon, Night
Kassa Kassahun	Sophomore	Biology	Dallas	More than 4 days a week	Never	Never	Never	Never	NA	Night
Gabriela Sepulv	Sophomore	Biology	El Paso	About 1-2 days a week	Never	Never	Never	About half the time	About half the time	Gregory Gymnasium

Figure 4: A selection of our survey data in Microsoft Excel

2.9 Raw Data and Work Activity Notes

Format:

“Raw data in quotations”

Work Activity Note in bold

“Other apps are normally a lot of keep up, doesn’t allow to set reminders for each week. I like Google Calendar that you can set up repetitions for alerts. I also like the clean and simple look of the application as well.”

Simplicity and hands-off functionality are a priority

“Normally [the student] will make a session. They’ll say what they’re having trouble with usually. If not, I’ll look at the class to see if I’m familiar with the material. Then, I’ll ask the student what they’re you good at and what they need help with. I’ll also ask them for homework, test problems, and what they would like to go over. I’ll also wrap up by asking if they remember everything they went over.”

Tutors are usually notified of what the student needs help with ahead of time

“Sessions are usually as long as it takes to do a problem, which is usually around 30 min. If it’s right before hwk is due, sessions are usually a few hours.”

Students session length depends on the timing of assignments due

“Tutoring is too costly and not affordable”

“The tutoring center is very far”

Location and cost are barriers to receiving tutoring

“Usually through the message board and face to face. Student’s can walk in too and talk to tutors, but we usually communicate through the message board.”

An official method of communication for tutoring important for tutoring

“I prefer to work on homework individually because I like reading the book. I don’t always believe what peers are saying either. I’d rather get my information from the book which is a reliable source. If I can’t get my answer from the book, then I’ll go to another student.”

Having a reliable source of information is important to the student

“When I have to ask my mom for help on the questions it takes her along time to get the answer back. She won't readily know the answer to the problem because she hasn't seen it before. Someone who's already been through the course and had it fresh on their mind, that would be helpful”

Tutors who have prior knowledge of the course are valuable

“A more flexible schedule, students can move around, for Sanger you have to go there and might be waiting for an hour and you have to be able to get there between the times they are open.”

Student likes the idea of tutors meeting with them anywhere on campus because it's more convenient

“I would reach out a couple days in advance. I would also FaceTime real quick for help and send pictures of the work I did on a problem over the phone and ask what I did wrong.”

The convenience & ability to talk to the tutor on short notice was important

2.10 WAAD Process

We met at the IT Lab in the iSchool and found an open table with plenty of room. We sifted through all our interviews and survey results spreadsheet to process and convert the raw data into work activity notes for our diagram. We elected to change locations to a classroom to have ample wall space. Rather than starting with predetermined groups, we first went through each of the notes, and began sticking them on the wall in categories that seemed related.

Once all our notes were on the wall, we started re-sorting and developing groups. We named each category, then proceeded to subdivide categories which still had a large amount of notes in them. The final WAAD had 8 categories, and 11 subcategories.

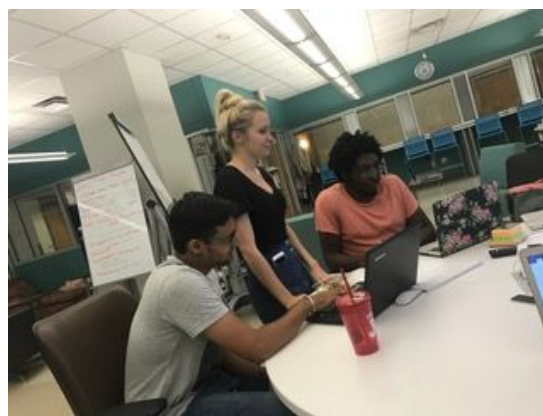


Figure 5: Brainstorming user roles

2.11 WAAD Process Pictures



Figure 6: Initial grouping of work activity notes on the WAAD



Figure 7: Final WAAD with groups and subcategories

2.12 Work Roles, Sub Roles, and Machine Roles

- **Work Roles:**

- Students

- Scheduled - Students who wish to meet with a tutor and schedule an appointment ahead of time
- On-Demand - Students who wish to meet with a tutor and receive an appointment immediately

- Tutors

- Scheduled - Tutors who are available to meet with a student on an appointment basis
- On-Demand - Tutors who are available to meet with students who request immediate assistance.

- Sanger Learning Center Staff
 - Members who are tasked with reviewing applications, and able to answer any customer service questions both tutors and students may have.
- UT Austin Controllers
 - Members who handle the students payments and direct it to UT's payroll office.
- UT Austin Payroll
 - Members who ensure the tutors of Lesson Load receive their payment for rendered services
- **Machine & System Roles:**
 - Phone GPS
 - Geolocation data is relayed from the the Lesson Load app to both students and tutors.
 - Lesson Load Database
 - Keeps track of tutor/student data, and is used to coordinate scheduling for sessions
 - UT Course Database
 - Contains list of available courses offered at UT for a given semester
 - UT Student Database
 - Contains the list of students currently enrolled and available to receive tutoring

2.13 Initial Flow Model Diagram



Figure 8: Brainstorming and discussing work roles

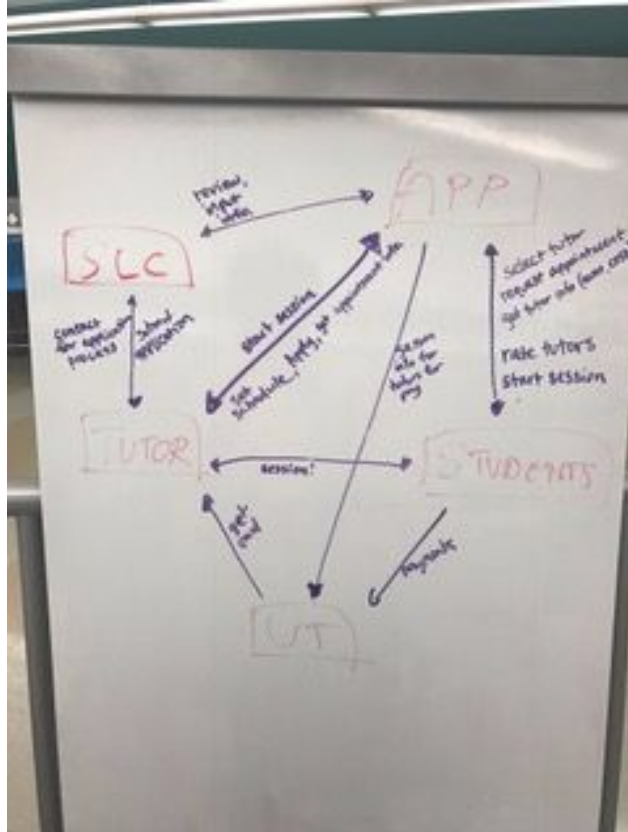


Figure 9: Initial diagram detailing the work roles for our system

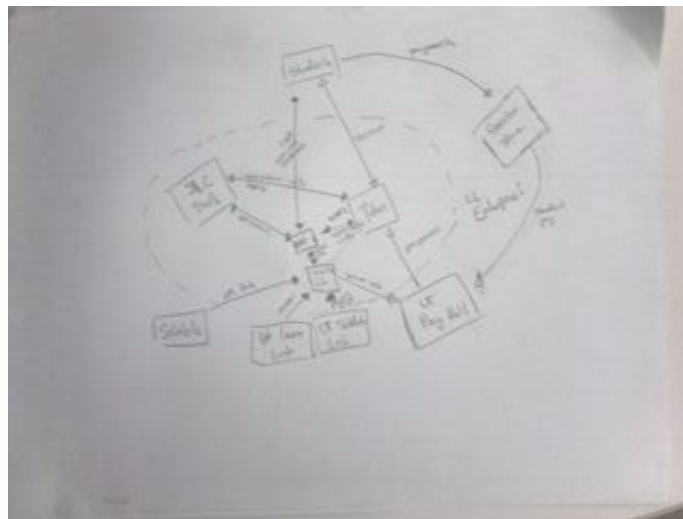


Figure 10: Final sketch detailing work roles for our system

Communication

Picture messaging through Lesson Load

Allow for tutees to send pictures of assignments through messaging app so tutor knows what they need to teach. [I03]

Note: Security may be something that we'd have to watch for with picture messaging.

Communication

Choosing a Venue

Allow for students and tutors to coordinate location of session [I03]

Reasoning: Many students mentioned location of the Learning Center as a barrier to tutoring

Venue

Convenience for tutees

Provide an option for the tutee to select the location for tutoring.[S01][S14]

Note: The locations provided here should be UT facilities convenient for tutoring.

Tutor Sign-Up

Tutor Proficiency

Tutor must have taken the class they want to tutor, and earned an "A" or above.

Scheduling

Scheduling deadline

For Scheduled sessions, the session should be scheduled at least 1 day before. [S15][I03]

Convenient for tutors to know their schedule and prepare for it before the session.

Scheduling

Choosing a time

Allow students to schedule a session at their convenient time.

Reasoning: Many students mentioned inflexibility at the Sanger Learning Center as a barrier. [S04][S14]

Scheduling

On-Demand tutoring

Allow for student to request tutoring from available tutors 24/7 [I03][S04][I02]

Reasoning: Students liked the benefit of meeting up with a tutor immediately, and preferred hours of study varied.

Note: Restrict tutoring locations to campus because of potential safety issues

Feedback

Rating System

Allow for students to rate session and tutor after each meeting. [I07]

Reasoning: Student mentioned that sessions aren't always helpful because the tutor isn't always familiar with the subject.

Feedback

Favoriting Tutor

Allow for students to favorite tutors and schedule with them specifically [S15]

Reasoning: Student mentioned that they didn't always go to tutoring because a specific tutor they like might not be there

Organization

Integrated Calendar

Allow for sessions to be exported into Google and Apple Calendar [I02]

Reasoning: Students mentioned they often used a singular app to maintain their academic schedule

Cost

Free Trial

Offer up to 3 free sessions for new students who sign up for Lesson Load. [S03][S05][S02]

Reasoning: Students prefer tutoring to be free

Cost

Preview Session Costs

Allow for the students to see the cost of a potential session before they pay [I01][S01]

Reasoning: Students mentioned the cost of tutoring as a barrier to tutoring

Cost

Variability in Cost

Increase the cost of tutoring during hours that the learning center is closed [S12][S01]

3.3 Requirements Extraction Process

For this process, we sat down as a group and began re-reading our WAAD. We went through each WAAD node and read through the sticky notes one by one to determine which work activity notes express user needs. The resulting discussions helped us convert user needs into requirements. Following the structure of a requirement statement illustrated in *The UX Book*, we began developing and organizing feature statements. We also consulted our existing Flow Model Diagram in order to envision where the proposed requirements would fit in the system.

4. Modeling

4.1 List of Models

User Model

Usage Model (Flow Model)

Hierarchical Flow Model

Task Interaction Model

4.2 Justification of Models

We included a usage model in our assessment because we had multiple types of users based on our contextual inquiries and analysis. We felt both a user model and a usage model would be best

to show the separate user types, and how these user types interact within the Lesson Load system. Usage models show all the interactions that happen within the environment of the app involving the different nodes identified in the WAAD and the initial flow diagram. A hierarchical flow model was included because Lesson Load allows for a variety of tasks to be completed through the app. A hierarchical model is able to encapsulate the step-by-step process of completing a task through Lesson Load. A Task Interaction Model was used to highlight the various ways in which a student or tutor can interact with the application. A task interaction model can also highlight the contrast in actions a user can take to complete different goals. Additionally, it can showcase how current barriers are addressed through app usage.

An environment model was not considered because it would not be able to capture the diversity of all the possible locations users of Lesson Load can meet. We chose not to use a social model to describe our app because we felt it couldn't encapsulate the variety of session options and content available to students. The social aspect of our model only occurs outside of the app when the session is taking place, and rarely while the app is being used. Additionally, we chose not to include a physical model because the majority of interaction between the student, tutor, and SLC is done through the application.

4.3 User Model

Work Roles:

- Students
 - Scheduled - Students who wish to meet with a tutor and schedule an appointment ahead of time
 - On-Demand - Students who wish to meet with a tutor and receive an appointment immediately
- Tutors
 - Scheduled - Tutors who are available to meet with a student on an appointment basis
 - On-Demand - Tutors who are available to meet with students who request immediate assistance.
- Sanger Learning Center Staff
 - Members who are tasked with reviewing applications, and able to answer any customer service questions both tutors and students may have.
- UT Austin Controllers
 - Members who handle the students payments and direct it to UT's payroll office.
- UT Austin Payroll
 - Members who ensure the tutors of Lesson Load receive their payment for rendered services

Machine & System Roles:

- Phone GPS
 - Geolocation data is relayed from the the Lesson Load app to both students and tutors.
- Lesson Load Database

- Keeps track of tutor/student data, and is used to coordinate scheduling for sessions
- UT Course Database
 - Contains list of available courses offered at UT for a given semester
- UT Student Database
 - Contains the list of students currently enrolled and available to receive tutoring

Mediated Work Roles:

- Programmer: In charge of developing the application and keeping it updated
- Database Administrator : In charge of maintaining the database.

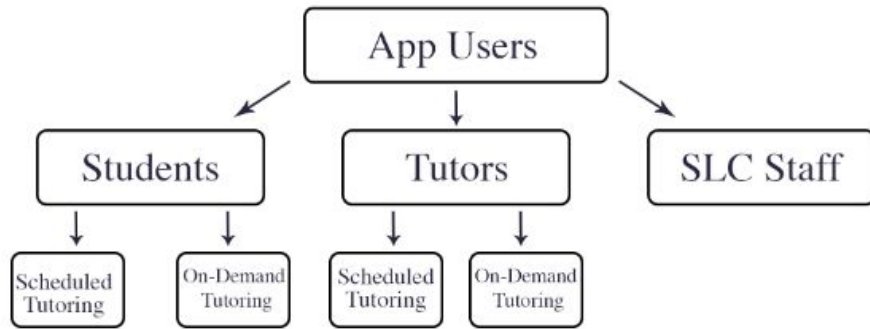
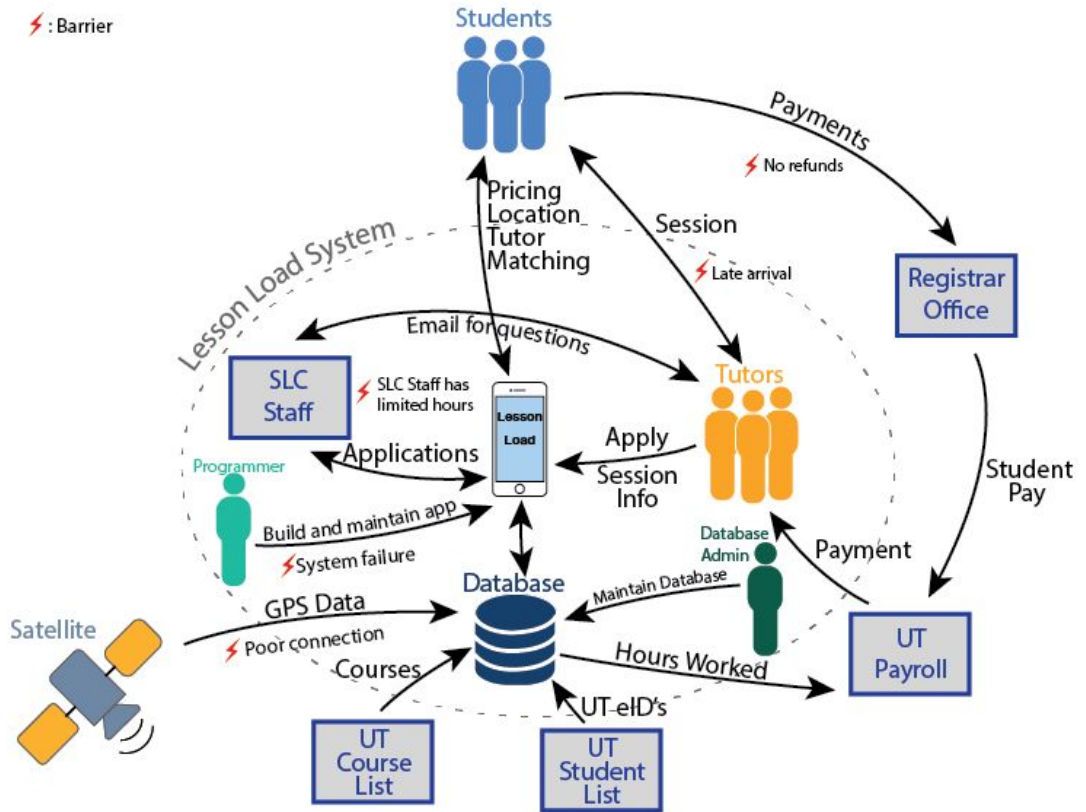


Figure 1: User model to highlight the work roles and subroles of pp users

4.4 Usage Model

This model is updated to include potential barriers. We also added the mediated work roles of “Programmer” and “Database Administrator”.



4.5 Hierarchical Task Model

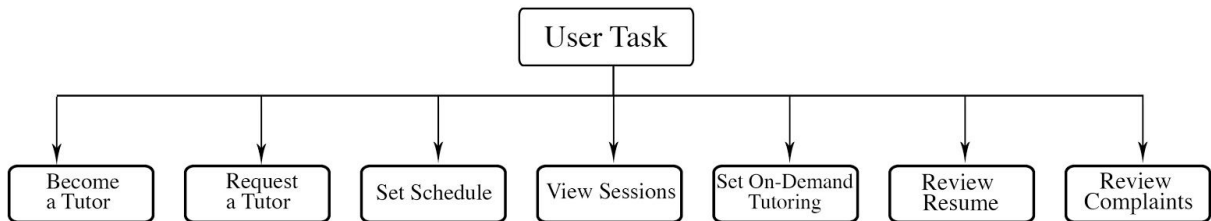


Figure 1: Tree of potential tasks a user can conduct through lesson load

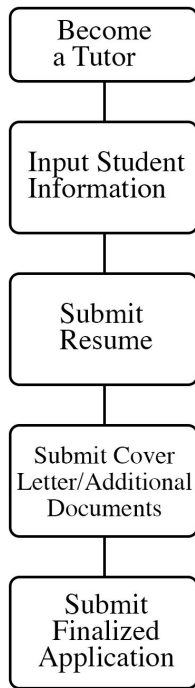


Figure 2: Task model if the user wishes to become a tutor

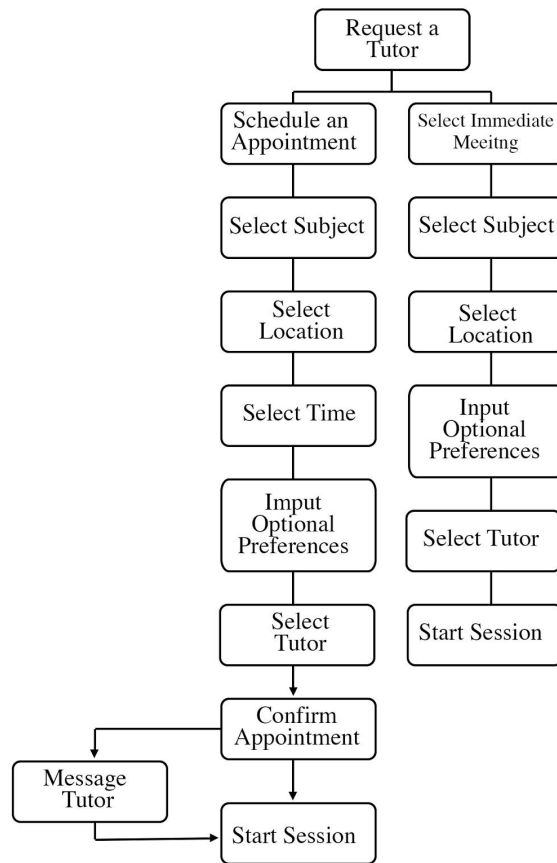


Figure 3: Task model if the user wishes to request a tutor

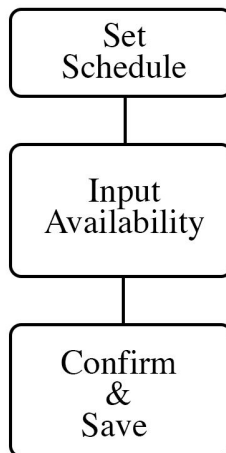


Figure 4: Relevant task model if the user wishes to set a tutoring availability schedule

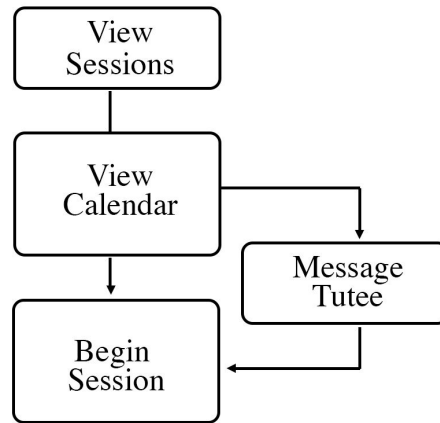


Figure 5: Task model if the user wishes to check their scheduled sessions

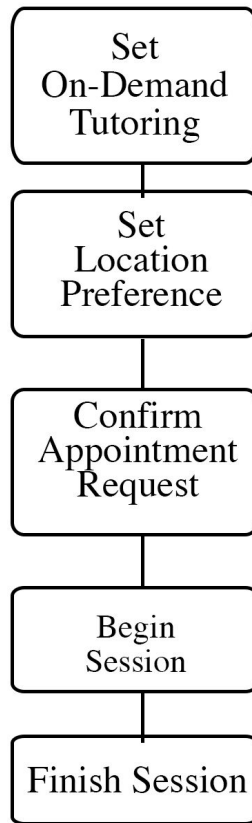


Figure 6: Task model to set up On-Demand tutoring through Lesson Load

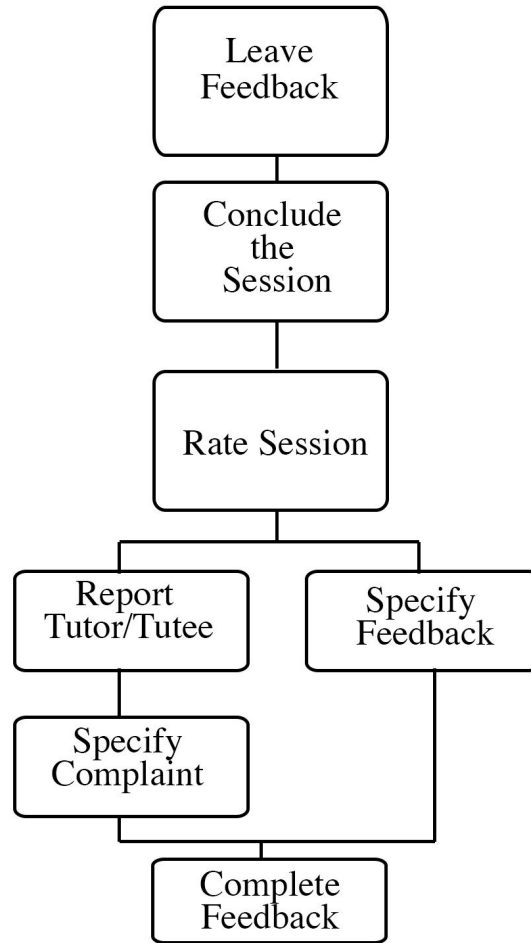


Figure 7: Task model for a tutor or tutee to leave feedback of their session

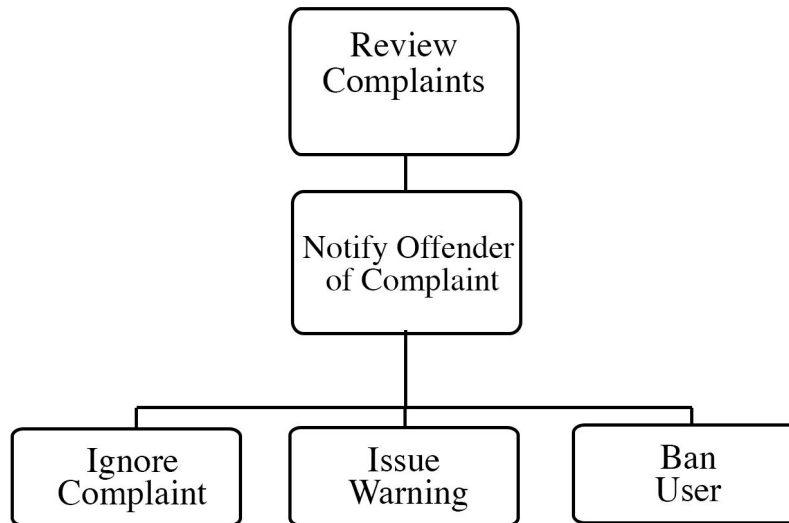


Figure 8: Task model for the SLC to review negative feedback received from Lesson Load users

4.6 Task Interaction Model

Scenario One: Landon is a student who wishes to earn some extra cash on the side during his downtime. He's often studying in PCL late at night because it's close to his dorm. He excels in his physics classes, as he's a major, and wishes to tutor the students in the lower level classes. However, because the hours of the Sanger Learning Center don't match his availability, he's unable to apply to tutor there. He wishes to be able to tutor at his own convenience and at a time that fits his schedule.

Scenario Two: Dwayne is a math student working on an assignment for his Presenting Information course. It's two days before his assignment is due, and he desperately needs assistance. Although he often simply searches for his answers on Google, this particular problem yielded few helpful results online. Dwayne wishes to request a tutor who has taken this class before so he can get reliable assistance on his assignment.

Scenario Three: Alex is a UT soccer player with a very busy schedule. If she's not at practice, she's either studying or in class. To keep track of everything, she notes all her events and programs in the calendar on her phone. She needs help in some of her core classes, but because she's a nursing major, she doesn't have time to walk 15 to 20 minutes to central campus for every appointment. Alex wishes to schedule appointments in the nursing building during her available hours to avoid the need to travel. She also wishes to keep her schedule organized and put these appointments in her calendar easily.

Scenario 1

Task Name: Tutoring at night

Task Goal: Register to tutor and tutor on-demand

Task Trigger: Wishes to tutor

Barriers Addressed: Limited hours of the Sanger Learning Center

Step Goal: Register to tutor

User	System
Open App	
	Show login screen
Enter login information	
	Show main screen
Select tutoring	
	Show tutoring sign-up page
Input information	
	Show confirmation page

Step Goal: Tutor on-demand

User	System
Open App	
	Show login screen
Enter login information	
	Show main screen
Select tutoring	
	Show tutoring options
Select on-demand tutoring	
	Ask for tutoring preferences
Input tutoring preferences	
	Show Confirmation

Scenario 2:

Task Name: Immediate Assistance

Task Goal: Request a tutor instantly

Task Trigger: Needs immediate assistance an assignment

Barriers Addressed: Limited accessibility of the Sanger Learning Center

Step Goal: Request a tutor instantly

User	System
Open App	
	Present login screen
Input login information	
	Show main screen
Select student	
	Present student options
Select on-demand tutoring	
	Request tutor

	preferences/specifications
Input preferences	
	Show available tutors
Select a tutor	
	Ask for verification of request details & cost
Verify request	
	Show request confirmation

Scenario 3:

Task Name: Request tutor

Task Goal: Schedule a session with a tutor and add it to her schedule

Task Trigger: Needs a tutor who can meet at a convenient location

Barriers Addressed: Limited accessibility of the Sanger Learning Center

Step Goal: Schedule a session with a tutor

User	System
Open App	
	Present login screen
Input login information	
	Show main screen
Select student	
	Present student options
Select schedule tutoring	
	Request student preferences/specifications
Input preferences	
	Show available tutors
Select a tutor	

	Ask for verification of request details & cost
Verify request	
	Show request confirmation

Step Goal: Add session to calendar

User	System
Open app	
	Present login information
Input login information	
	Show main screen
Select student	
	Show student options
Select view sessions	
	Show sessions
Select session(s)	
	Present options
Select export	
	Present list of export options
Select desired app to export to	
	Export selected session(s) to app

5. Design

5.1 Scope

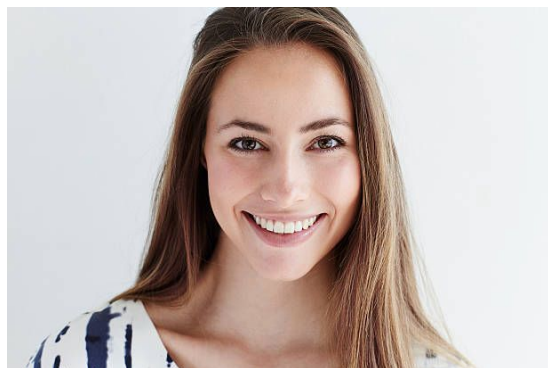
Creating the designer and user mental models was a huge focus of our sketching and ideation process. More specifically, we focused on mental models for both tutors and student, the two main user groups of our app. By taking into account how their perceptions of the current tutoring system work, and incorporating these perceptions into our application, we hoped to create a

smooth transition for those using the current system to switch to the app. We also focused on incorporating the fact that users are students, and included features to integrate the app into students current workflow.

5.2 Process of Creating Personas

To create our personas, we first congregated the major concepts derived from our W.A.A.D. We then created 3 personas that both represented the concepts, and the user roles from our user model. The 3 personas discussed were as follows: persona of a student who wanted to be tutored, a student who wanted to become a tutor, and a student who wanted to do both. From there, we chose to focus on the persona of a student who wanted to use the application for both roles, as we felt it would embrace most of the primary tasks and actions possible through Lesson Load.

5.3 Persona



Amanda is a 21 year old UT Austin student from Houston, Texas. She's majoring in Physics, with a double minor in Mathematics and Sociology. Math has always been an interest of hers since she was in elementary school, so pursuing a major in a stem field was no surprise.

However, when she arrived at UT, she decided to venture out of her comfort zone and began taking humanities courses along with her science courses. The lower level sociology classes interested her, so she decided to pursue a minor and take upper level courses. This is not an easy challenge, as the readings are dense and the discussion questions are often very complex. Though she's normally avoided tutoring because of cost, she's decided that her grades, and overall GPA, can't suffer because of this class. She's decided to get tutoring for SOC 379M, Sociological Theory, this semester.

Amanda also excels in her STEM courses constantly. She has yet to earn below an A in her upper level Mathematics and Physics courses, and often earns praise from her professors. To offset the cost of tutoring, she's also considering signing up to be a tutor for students in Physics and Math courses. Rather than getting a part time job where she's obligated to work a set schedule, she'd prefer to have the flexibility of setting her own schedule, and working when she becomes available.

When it comes to extracurricular activities on campus, Amanda is one of the most active students. She is a part of student organizations like the Society for Physics Students, Math Club,

Women in Physics, and hosts a bi-monthly STEM trivia night in Jester. Her extracurricular activities coupled with her busy class schedule means that she must keep an organized schedule of all her appointments in one place. She's previously tried a few apps to manage her academic and work life like Google Calendar, Do.List, and Evernote. Currently, she uses Apple Calendar and Google Keep, and prefers to schedule everything within these two apps. She also uses a lot of lifestyle applications such as Venmo, Uber, Amazon, and Yelp.

5.4 Sketching & Ideation

Flow 1- Student requesting on-demand tutoring

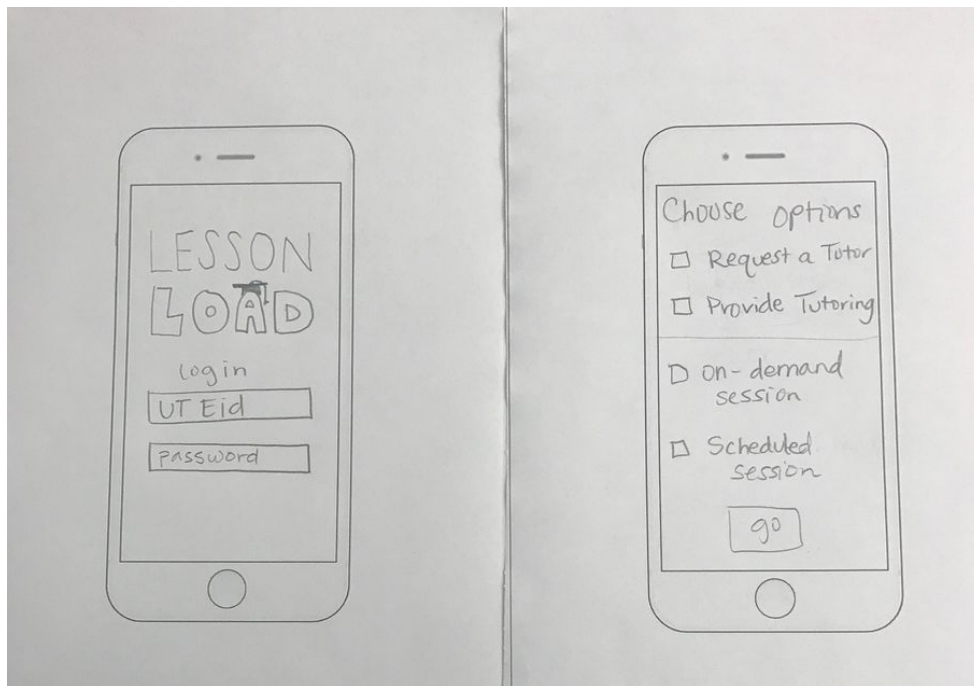


Figure 1: User opens the application, signs in, and is presented with the tutoring options on the second screen

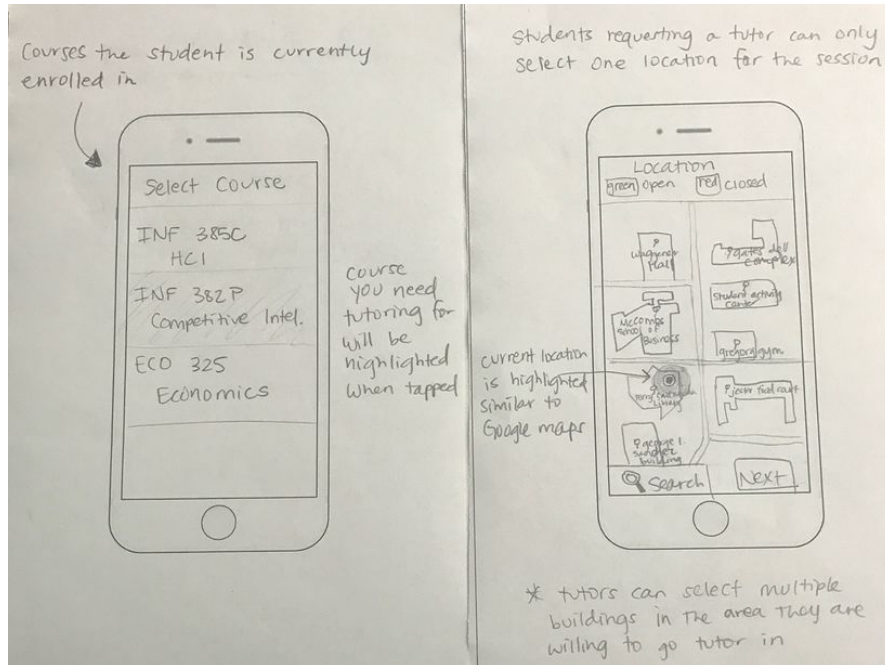


Figure 2: The user then selects the class they need help with, and the preferred meeting location

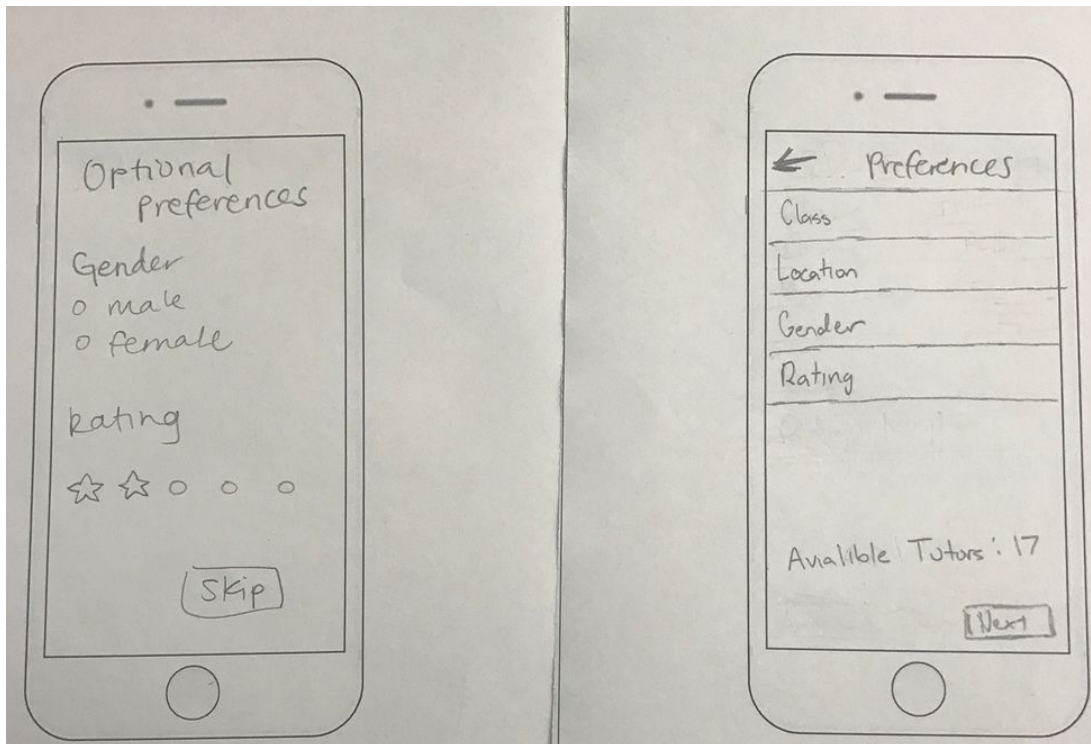


Figure 3: The user has the option to add additional filters to their query, and is taken to a screen showing all preferences and number of available tutors

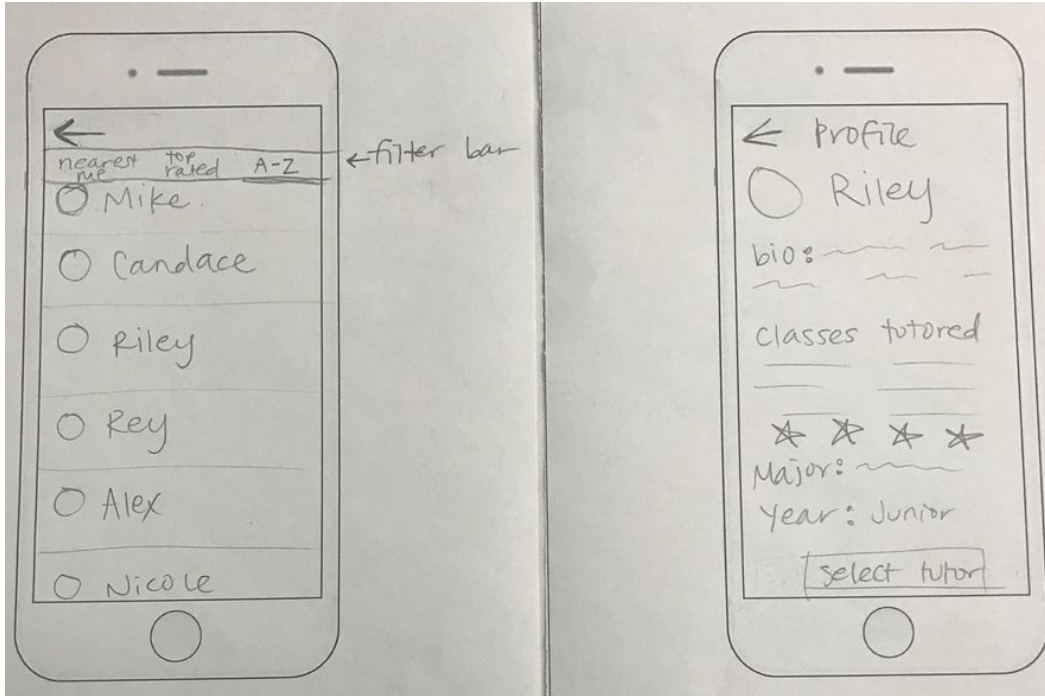


Figure 4: The user can then view the list of available tutors and can also click on each tutor to check their bio.

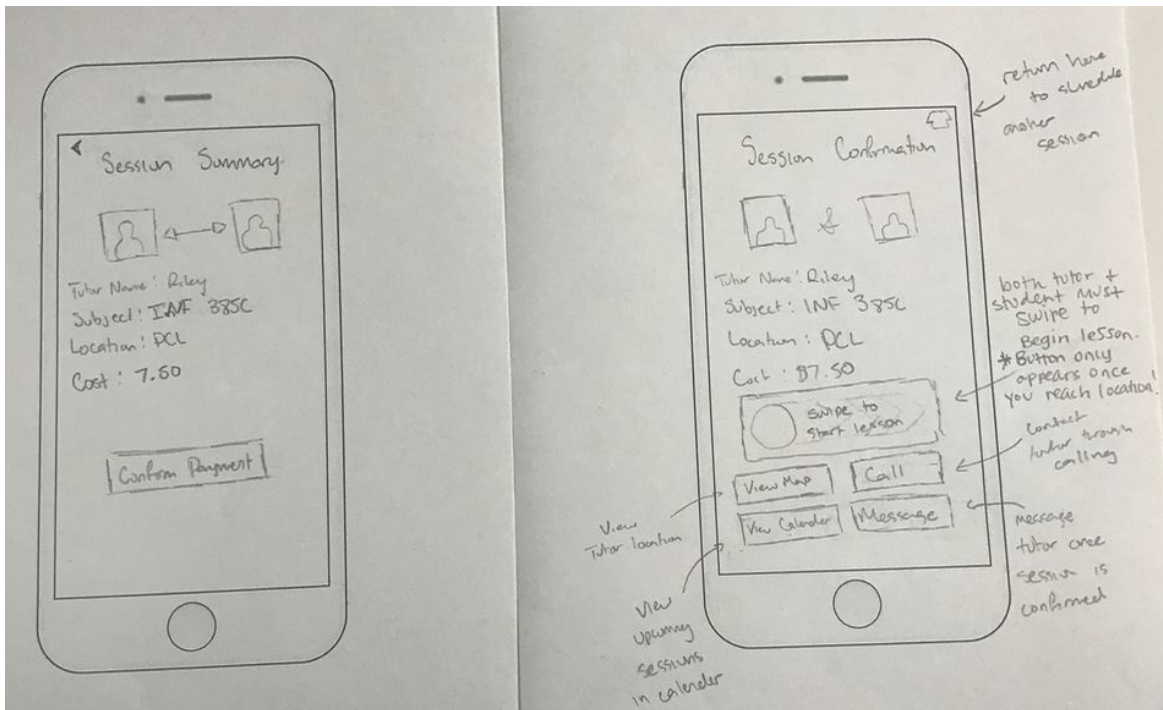


Figure 5: Once a tutor has been selected, the user views a summary of their session, and can then confirm payment. The next screen lets the user complete tasks to contact their tutor, view calendar, and start session.

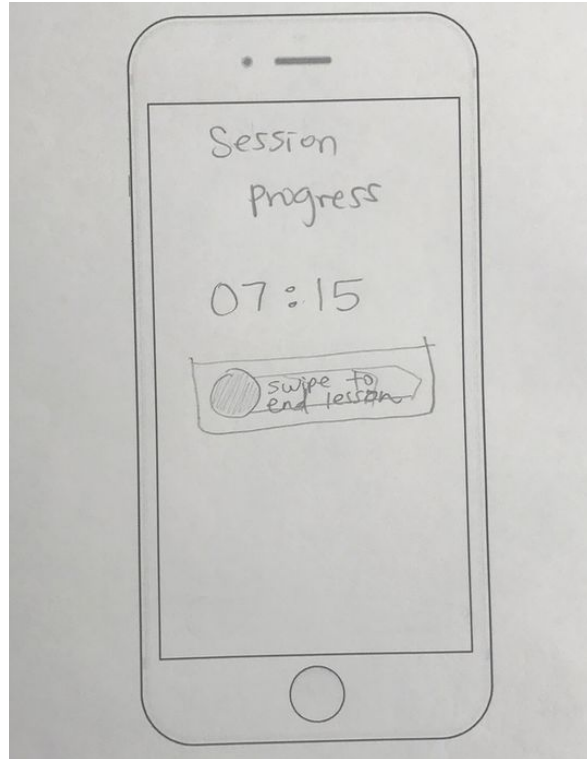


Figure 6 : While the tutoring session is happening, the user can view the length of the session and has an option to end the session

Flow 2 - Applying to be a tutor

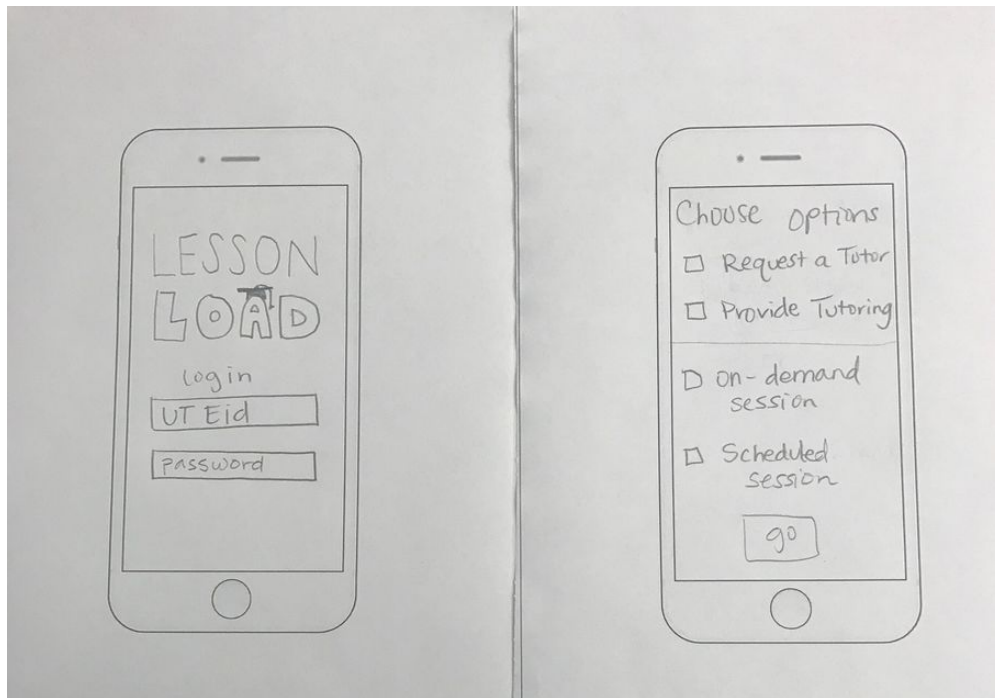


Figure 7: The user is shown the log-in screen where they can log-in using their UT eID. They are then taken to the list of tutoring options.

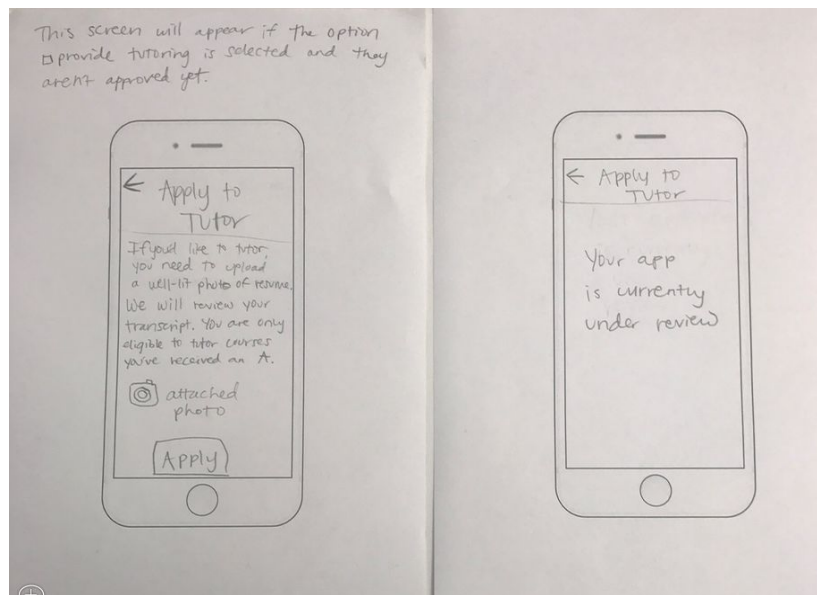


Figure 8: After selecting the tutor option, if the user is not signed up to tutor, they're given the option to do so. They have to submit a picture of their resume on the first screen, then press apply. The second screen shows the progress of the application.



Figure 9: Peace and Ali working on the sketching and iteration of Lesson Load

5.5 Mental Models

Designer Mental Model

Ecological - Lesson Load fits in the large system of students and their academic schedule. It works by pairing students who are struggling in a subject with students who have excelled in the same subject. Students are often walking all around campus to different locations for classes, meetings, and extracurricular activities. Lesson Load provides location convenience, allowing users to choose any UT building for a session, cutting down the need for travel to a specific location. The payment system on the application is integrated with the payment systems that students frequently interact with during their time at UT.

Interactive - Lesson Load will have an interaction system that's aimed at improving communication between students, and allowing for easy coordination of tutoring sessions. Features like GPS visualization can let tutees know the distance and ETA of their tutor. Students who wish to become tutors can apply easily through the Lesson Load application, without having to leave the app. During sessions, tutors and students can take pictures of notes and homework questions to upload to the application for future reference. Students can also provide feedback through the built-in rating system for each session. Lastly, users of the application have the option to integrate scheduled sessions within their personal calendar to keep all their appointments in a singular location. Overall, Lesson Load affords interactions that make the process of scheduling and meeting tutors convenient. The payment can also be done by just one click in the app. Additionally, the students have an option to pay with Bevo Bucks.

Emotional - Our goal while designing the interface of Lesson Load is to ease the burden on the user as they set up a session. This is done in a few manners. One goal is to create an aesthetically pleasing design that's easy for both students and tutors to navigate. Additionally, we want to promote convenience with the application, and allow students to easily sign up whenever and wherever they are on campus. There are also togglable automated features, like session reminders and location suggestions, to make the process smoother. Additionally, tutors will get notified of their ratings to promote user satisfaction during sessions.

User Mental Model

With respect to the concept of tutoring, the user's mental model is influenced heavily by how other tutoring services work. Information from the contextual inquiry showed many students didn't take advantage of the current tutoring services due to financial barriers, location inconvenience, and unavailable time preference. Those who did use tutoring services were accustomed to meeting at a singular location for all of their sessions despite inconvenience. Additionally, students who consulted online services, like Chegg, were used to searching for the exact answer to questions, rather than having it taught to them. Our app hopes to focus on a method of making tutoring accessible at any public building on campus during operating hours. It's important for our design to emphasize these aspects of Lesson Load in a way that's easy to

understand. We hope to draw upon users previous experience with applications like Uber and Paypal, by making the process of paying for sessions simple and familiar to the user.

Conceptual Design Model

To create our conceptual design, we analyzed core values present in the designer’s mental model and compared them to the values held in the user’s mental model. The points of congruence were the areas shown priority in the sketching process. Part of the user’s mental model is the fact tutoring is held at a singular location, which is detrimental to accessibility. To emphasize how Lesson Load increases accessibility, we chose to represent the user on a map as a pin, and highlight the available tutoring locations close by. Additionally, students talked about their use of third party applications like Google Calendar, so the ability to integrate third-party apps with lesson load was included in this conceptual design. Lastly, we wanted to incorporate the user’s mental model of existing payment features into our conceptual design to reduce the learning curve of using the application.

5.6 Storyboards

Storyboard 1



Figure 10: Student sitting in his dorm wants to make money by providing on-demand tutoring to students

Frame 1: The student, who has already signed up to tutor through lesson load is bored sitting in his dorm and watching TV at night.

Frame 2: He sees this as an opportunity to make some money by tutoring peers in the subjects for which he already received an “A” letter grade.

Frame 3: He takes out his phone and opens the lesson load app.

Frame 4: He realizes that it’s late and he’s feeling pretty lazy, so he doesn’t want to walk too far to tutor a student.

Frame 5: He decides to set preferences in the app to only include nearby locations he’s willing to tutor, like PCL.

Frame 6: Once he sets his preferences, he waits and continues watching TV.

Frame 7: He receives a notification that he thought was from domino's, but was really from Lesson Load.

Frame 8: He opens his phone to see that a student has requested his tutoring services at the PCL. He accepts.

Frame 9: He walks over to PLC to meet the student he’s meant to tutor.

Frame 10: Through the messaging system in the app he locates the student, and they introduce themselves before they promptly begin the lesson.

Frame 11: The lesson lasts an hour.

Frame 12: Once the lesson is over, both the student and the tutor are satisfied with the session, and they end the session on the application.

Frame 13: The tutor leaves the PLC, and walks back home.

Frame 14: Happy he made some money, the tutor heads back to his room and continues watching TV, as he waits for the next notification on his phone.

Storyboard 2

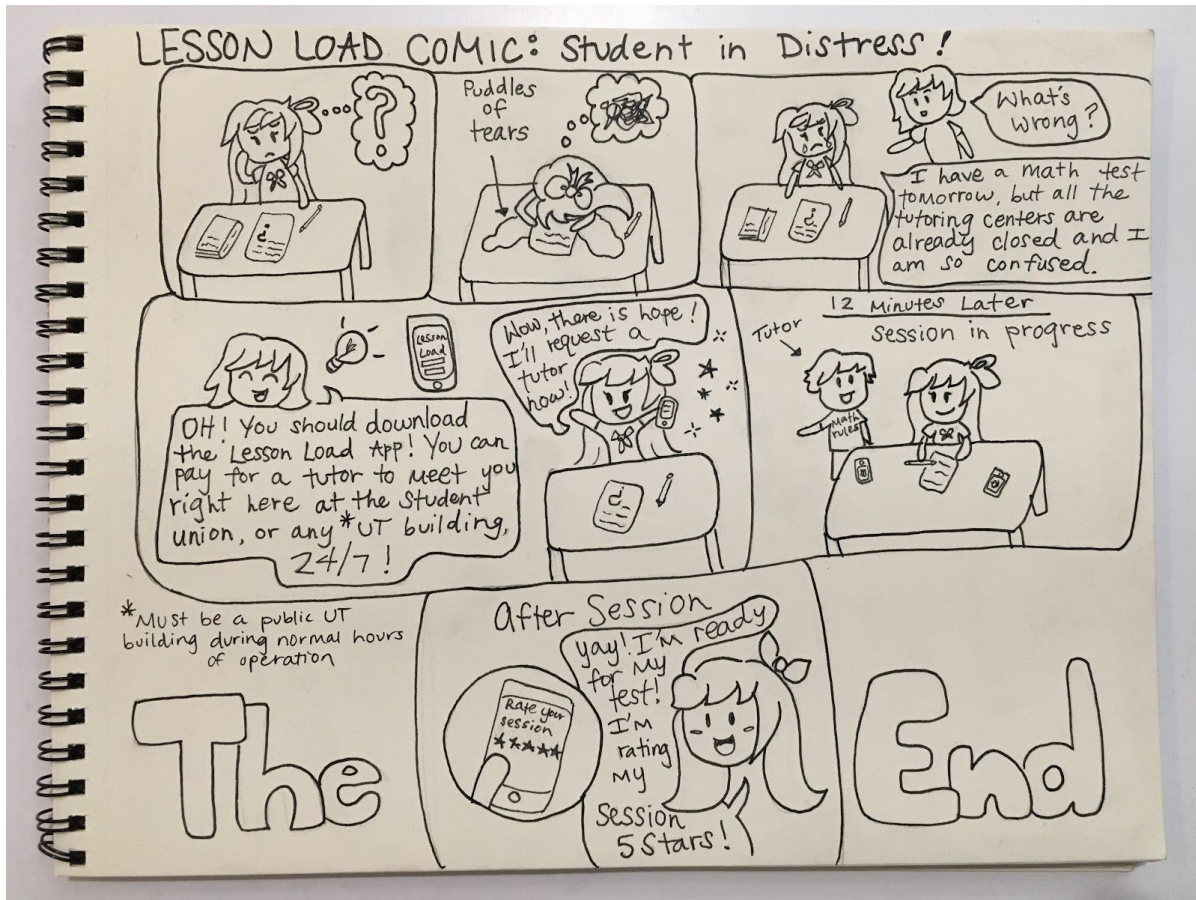


Figure 11: Storyboard about a student who needs immediate help from a tutor

Frame 1: A student named Nicole is sitting at a table in the Student Union building one Sunday studying for a math test she has tomorrow.

Frame 2: Nicole becomes upset and cries because she is overwhelmed and doesn't understand the test material.

Frame 3: A concerned fellow student approaches and asks what's wrong. Nicole explains that all the tutoring centers are closed, but she needs help before tomorrow.

Frame 4: The other student exclaims that Nicole should download the Lesson Load app to put in a request to have a tutor come meet her at the Student Union. Nicole becomes excited and downloads the app and immediately requests a tutor for her math course.

Frame 5: 12 minutes later, a tutor who received an "A" in the math course meets Nicole.

Frame 6: After the tutoring lesson, Nicole feels much better about tomorrow's math test. She uses the app to give her tutor a 5-star rating.

6. Prototype

6.1 Scope Decisions

First, we referenced the low-fi wireframe sketches we created in the flow/ideation stage. We discussed which 4 key user workflows we wanted to highlight in our prototype. There are 2 types of user for our app: students requesting sessions, and tutors providing sessions. Therefore, we wanted to ensure that the prototype covered 2 workflows for students, and 2 workflows for tutors. We decided on the following major tasks:

1. Applying to be a tutor
 - A UT student with an eID can log in and apply to become a tutor
2. Student logging in to get on-demand tutoring
 - Student requesting to have a tutor meet them for a session immediately
3. Student logging in to get scheduled tutoring
 - Student setting up a tutoring session to occur at a later date/time
4. Tutor setting up scheduled preferences
 - Tutor inputting the subjects they wish to tutor and time slots they are available to tutor at a later date

Given the time restraint, we decided not to include functions such as setting up payment information. Also, our map and calendar functions are simplified for the purposes of the prototype.

6.2 Prototyping Process

Our low-fi wireframe sketches were done on iPhone outlines. This helped us transition our concept ideas into actual icons and buttons. It was important to us to select a prototyping tool that would allow us to simultaneously work, with updates saved in real-time (similar to Google docs). Thus, we chose Balsamiq - icloud version. With icloud accounts we could all edit screens, live, at the same time.

We met in person, as a group, to do the bulk of the prototyping. This way, we could discuss the overall flow of the app and make sure we all agreed before proceeding. We created 4 wireframe “documents” in Balsamiq icloud, one for each major user task. Before building, we decided on a standard navigation bar to be included on every screen. It includes 4 icons: Home, Messages, Profile Page, and Calendar. We divided up the tasks equally and began building the screens. It was helpful to work side by side because we were able to converse with each other about icon placement and the wording to use in the app. In Illustrator, we designed an official logo for Lesson Load, which can be seen on the Login screen.

After building out the screens, we chose to use InVision to implement interaction into our prototype. Adding the interaction helped us realize areas where we needed to go back to Balsamiq and add additional screens. We went through a few rounds of iteration during this process to ensure all the necessary screens were present in order to represent functionality.

6.3 Prototype Screenshots

This section will showcase the prototypes that were created for our application. Overall, there were four main task flows included. A student booking a scheduled session, a student booking an on-demand session, a student signing up to become a tutor, and a tutor amending their schedule.

A link to the Prototype is provided here: <https://invis.io/GCE8XGA6W> and screenshots can be viewed on the next page.

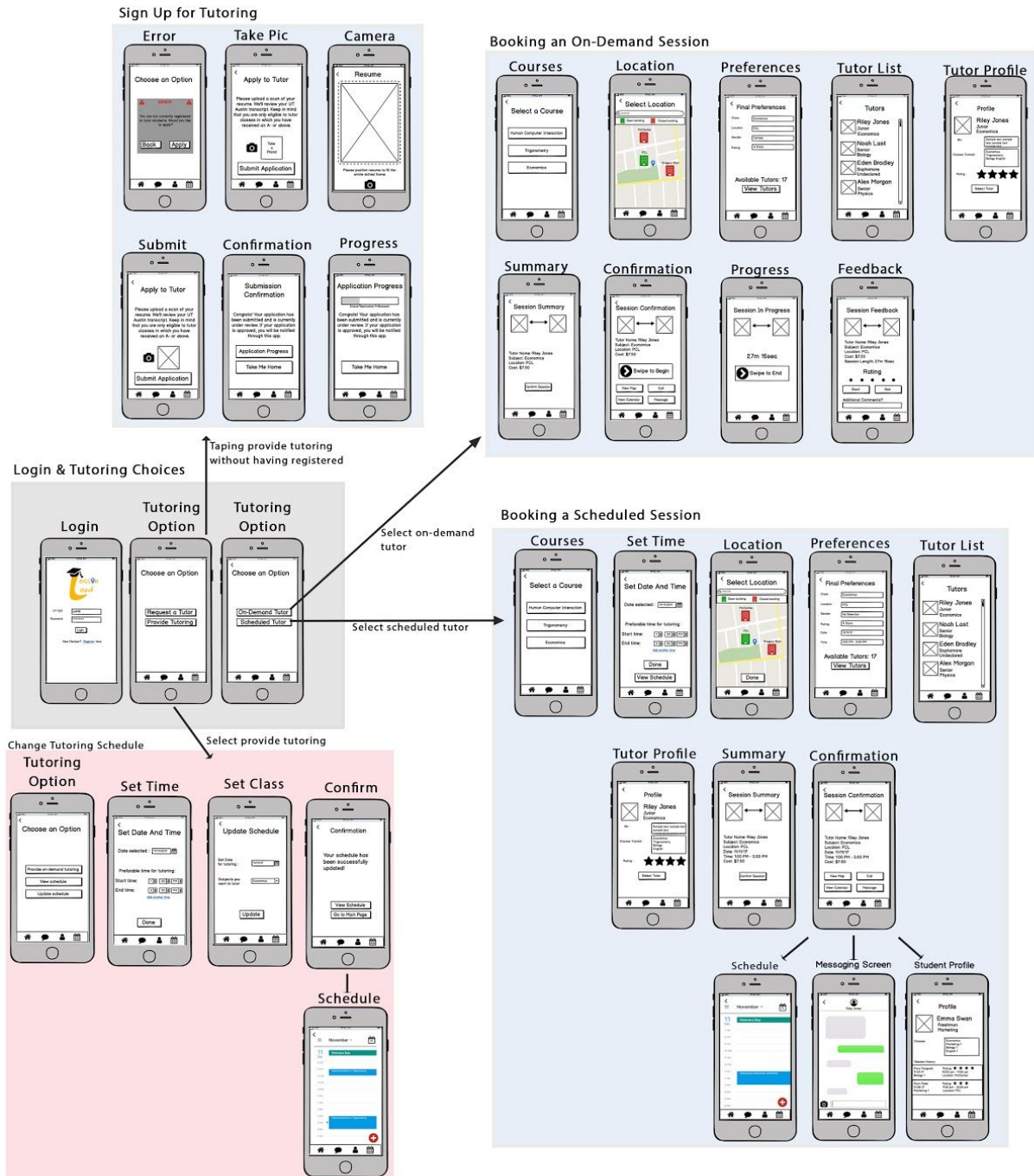


Figure 1: Wireframes for the four workflows

Note: All screens flow from top left to bottom right unless indicated otherwise by arrows

6.4 Prototype Description

All flows begin with the login screen. After signing in, the user is taken to a page where they have the option to either request tutoring, or provide tutoring. From here is where the four workflows split.

The first user flow describes what a user goes through when they register to tutor. If a user selects “provide tutoring” without having registered to do so, an error message will pop up and ask the user if they wish to apply. Next they are presented the option of submitting a picture of their resume for their application. By tapping the camera icon, the user can take a picture and save it. Afterwards, they simply press “submit application” to finish. Then they are taken to a screen where they may either go back to the home screen, or view their application progress.

The second flow occurs when a user wishes to book an on-demand tutoring session. From the “request a tutor” option in the second screen, they then select the “on-demand” tutor button to begin this flow. The users are prompted to select a course, and then a location. On the location screen, the green buildings signify areas on campus that are open, and the red buildings aren’t available for selection. Users also have an option to search for an area of campus they may wish to meet. From there, they are prompted to finalize preferences like gender and rating, and they can go back and change location and subject as well. The number of available tutors based on their preferences will be displayed at the bottom. After selecting “view tutors”, a list of available tutors will be presented, and the user must select one. The selected tutors profile is presented on another screen. If adequate, the user can select the tutor to view the session summary. From there, confirming the session will present contact options to the user. Once the tutor and tutee are in the same location, the users must swipe to begin the session. A session progress screen will be displayed, along with a slider to end the session. Lastly, once the session is ended, the tutee can rate the tutor and provide feedback about the lesson.

The next flow is similar to the previous one, but pertains to students wishing to schedule a session in advance. A user must select “request tutoring” on the second screen, and then select “scheduled tutor” on the third screen to begin this workflow. A user first must select the class they would like assistance with, and then pick a time they would like to schedule their session. Next they select their preferred location, and choose optional, extra preferences. The number at the bottom of the screen represents the number of available tutors based on their selections. Users “view tutors” to see the the available selection, and click on a tutor to view a more complete profile. Pressing select tutor will take the user to a summary page, where they can view the details of the session. If satisfied, the user must confirm the session, which will present a confirmation page. They can view their schedule, which will present a calendar with their appointment, contact their tutor through in-app messaging, or view their own profile within the application by pressing the person icon in the navigation bar.

The last user flow occurs from the perspective of a tutor using the application. In this case, a tutor wishes to amend their tutoring schedule. After logging in, a tutor must select “provide tutoring”, and then select “scheduled tutoring” to begin this flow. From here, selecting “update schedule” will take them to a screen where they must select a time and date. Afterwards, they are prompted to set the class they want to offer to tutor. Once they are certain of their of their

choice(s), they can select “update” to amend their schedule. From there, they can view their schedule, which will take the user to a calendar page showing their available time, or they can select “Go to Main Page”, which will take them back home.

6.5 Pilot Test

Once the prototype was created, we conducted a pilot test. For the test, the instructions given to the participant were minimal. The user was presented with the home screen and read a short description of what the application was intended to do. They were informed that they would be instructed to complete a series of tasks within the prototype. Because every workflow could lead back to the homepage, each task started and ended with the same screen. To begin, the participant was told to login, and then from the second screen they were given one of the four tasks to complete.

Overall, our participant was able to complete each of the workflows in a timely manner with minimal errors. The one flow that caused difficulty was the workflow where a user is submitting an application. Specifically, they were unsure how to continue the workflow once they click the camera to go to the camera screen. Initially, the picture box included a message which stated “TAP TO FOCUS”, in hopes to show the user they must tap the picture box to continue the workflow. This was not the case in our pilot test, and the user clicked on the camera icon right away, before they realized their action didn’t result in any changes. We hypothesized the process of taking a picture isn’t as intuitive within a point and click environment, compared to a touch screen environment. To fix this, we added a timer within Invision to give the illusion of a resume appearing in the camera box as the user looks at the screen. This way, the user simply clicks the camera button at the bottom of the screen once the placeholder image appears, and an affordance is presented to notify the user that the image is captured.

7. Evaluations & Recommendations

During the evaluation phase, our prototype was evaluated by three members of another team. We identified four tasks that cover the main functionalities of our application. We explained the tasks to the other team who conducted the evaluation of our prototype using cognitive walkthroughs and Heuristic evaluation methods.

We then extracted all the problems mentioned during the evaluation process and determined possible solutions. The summary of the findings and recommendations for future redesign are included below. Additionally, lessons learned throughout the entire course of the project are listed.

7.1 Summary of Findings from Evaluation

Finding 1: “Give users a way to cancel a scheduled session”. The session confirmation page did not include the option to cancel a session.

Solution: Including a cancel button on the confirmation screen underneath the “begin session” button will give the user the freedom to abandon the session if needed. We can also include the option to cancel on the session after the “begin session” button has already been clicked, in case something comes up unexpectedly and either the student or tutor will not be able to make it.

Finding 2: “Explain and make more visible the hourly rates(in-depth) on tutor’s profile”. The session summary and session confirmation pages displayed the cost of the session, but it did not indicate the duration of the tutoring session for this cost.

Solution: This problem can be solved by including the “per hour” label next to the cost in the session summary and session confirmation pages, so that the user understands these are hourly rates.

Finding 3: “Global navigation should have indicators of current place in the task structure”. Our prototype did not include any feedback to show which screens connected to the global navigation bar icons. The icons did not change when clicked on.

Solution: The global navigation bar icon will change to yellow when clicked (the color theme of the Lesson Load logo), and the other icons will be greyed out. This will signal to the user where they are navigationally in the app.

Finding 4: “Each page should show previously entered data, up to the final page in a process”. The Update Schedule page for the tutor did not display the times or dates which the tutor has already added to his schedule. The tutor is only able to view the most recently updated schedule.

Solution: We designed this flow with the assumption that the tutor is updating his schedule for the first time. The solution for this would be to display the date and timings of the sessions for which the tutor has already registered for below the date or time field.

Finding 5: “New terms need to be explained”. Our application includes the distinction between “on-demand” tutoring and “scheduled” tutoring. These terms need to be defined for first time users.

Solution: A brief tutorial could be presented to first time users that includes an explanation of the app’s functions as well as defines terms used. There could also be a “Help Center” Screen where basic FAQ are available for the user to read.

Finding 6: “Add comments to the tutor’s profile”. Currently the profile screen for tutor’s does not support comments.

Solution: A section to add comments could be added to tutor’s profile pages. Students who have given a 1-5 star rating to a tutor could also be prompted to leave a comment describing how the session went. Other students would then have specific feedback to reference when deciding on a tutor to select.

Finding 7: “Fix the inconsistency in the name practices (like transcript vs. resume)”. When signing up to become a tutor for the first time, one is required to submit a “resume”, but in a later screen it is referred to as a “transcript”. This problem comes up again when the user is setting up a session and is about to be charged. There is a screen that says final, but there is still another step to go through before payment is made.

Solution: Decide on terms and stick with them for consistency. This will avoid confusing the user. Also, the titles of the screens when going through the session set-up need to be adjusted towards the end, it should only say “final” one time when the process is complete.

7.2 Recommendations for Future Redesign

Based on the design recommendations and our deliberation as a group, we created four concrete design changes for the future redesign of this application.

First, we recognize that there needs to be a way for tutors to cancel a session both while they’re inputting the session information, and after the session is confirmed. We were initially wary to include a cancel button because it would inconvenience the tutor if their appointments were canceled after it had been booked. We did agree that there should be a grace period for students who wanted to cancel their session soon after it had been booked. Therefore, we will add an option to cancel a session after confirming.

Second, we decided it was important to make the system status known to the user as they are filling out a form, as suggested by the heuristic analysis. To do this, the future redesign will include a progress bar to keep the user updated while they are booking a session. On the session summary screen, there is text on the screen that highlights the cost of the session. Our feedback helped us realize that users might not know how cost is calculated. We fixed this two ways. First, we made it clear that the cost is 7.50 per hour, instead of simply listing 7.50. Additionally, we recommend a small “i” icon be added next to the cost if the user wants more information about how cost is calculated.

Our last design recommendation deals with explaining new terms. During the heuristic analysis and cognitive walkthrough, it was noted that new users might not know what “on-demand” tutoring meant. The phrase is commonly used when describing movies on cable, so users of the application might be unfamiliar with what the option does. To fix this issue, we recommend that a short tutorial be added for users when they first log into the system. This would explain the major functions and features of the app, and make sure the terminology isn’t confusing. More so, the tutorial will be optional, and accessible for users who prefer to skip it and review it later.

8. Appendix A: Evaluations from Group 4

Cognitive Walkthrough 1

What is being evaluated: Design team 3

Project title: Lesson Load

Task Name: Sign up to be a tutor			
Step #	Will the correct action be sufficiently evident to the user? Will the user know what to do?	Will the user notice (visibility) that the correct action is available? Will the user see how to do it? (e.g. see the button and recognize its effect)	After the action is taken, will the user understand the feedback from the action correctly?
1	Not immediately, but it's obvious that one is only able to log in initially but logging in is easy	Yes, familiar & clear login	No, no feedback except next screen. If logging in takes a while, have loading screen?
2	"Provide Tutoring" is vague, maybe if first time it should say "become a tutor"	Yes, one of two main options	Yes, next screen reinforces chosen task, but not an error. It shouldn't be, anyway. Since this is an intended use case for new tutors.
3	Yes, I know i must apply to become a tutor	Yes	"Apply to tutor" is good feedback

4	Yes, I know that I now must upload a resume, but “resume” vs “transcript” is not consistent, so pick one	Not sure if I should select camera icon or “take a photo” text	Yes, camera pops up
5	Yes	Not obvious camera icon is a button it should tell you or be more similar to other camera apps (inside frame)	Yes, “captured” is good
6	Yes	Yes	Yes but maybe this page should merge w/ “application progress” page & show progress bar there
Task 2: Request Tutoring Right Now			
1	Yes	Yes, easily noticed, but on-demand is probably not the best way to refer to this, maybe “scheduled” vs “I need a tutor NOW” or something like that	No, aside from menu Items changing, the title remains constant
2	Yes, see 1B	If I know on-demand signifies right now, then yes	No, aside from above, there should be page titles & previous selections visible

3	Yes, I select the course for tutoring, but maybe it could be clearer that I'm in the "Request a Tutor" section rather than "Provide Tutoring" section	Yes, although I'm curious where those courses come from as a tut-ee	No, it should show what course I've selected & previous selections
4	No, I need to select a location, is it where I am, where the tutor is, or what? Should say "select location you're at" or "where you want to meet"	Can see some buildings are open and some closed, but the selectability isn't clear	Not sure if correct building has been selected or where in the building we will meet
5	Yes, but not sure what "Rating" here means. Seems like I'm the one providing a rating, also why would someone request anything other than a 5 star tutor?	Select items, then click done, but checkboxes for male, female, other might help if there was "no preference" button selected by default	Yes, but title "Final Preferences" isn't a great name, the feedback should be provided sooner, I think
6	Yes, I select a tutor	Yes, maybe separate tutor names somewhat with horizontal lines or something	yes
7	Yes	Yes	Yes, cost should be more explicitly stated though

8	Yes	Yes	No “confirm” should be reserved for the FINAL step, when you are being charged
9	No, do I swipe to begin when the tutor arrives? Etc. This should be automated when the two phones approach or maybe the tutor should have control over this	Unsure what map & calendar will show if I could click them	Yes, maybe show accrued cost on this page
10	Yes, end session	yes	Yes, maybe show session complete and “you have been charged” when they have been charged
11	Yes	No, why is there a good and bad button AND star rating? How do I submit additional comments?	Unsure about feedback with star & good/bad
Task 3: Schedule tutoring			
1/2	See task 2		

3	Yes, fill out schedule	Yes, easy to do, calendar makes sense, but does blue circle indicate current day? "Preferred Time..." is odd & wordy, should be "done" or "next" or something	Yes, selected times are shown
4-8	See task 2		Feedback shows selected time & date well, but should be explicit about when you will be charged and when selections are final
Task 4: Update tutoring Schedule			
1	No, I want to change my schedule, so I should probably do that from my account page, not "provide tutoring" which should be reserved for setting up individual sessions	No see 1A	Yes, now I can see where I need to go next
2	Yes, I need to update schedule	Yes	Yes, good page title
3	Select date & time & finish	Yes, could be clearer that days are selectable on calendar	Yes, date & time show up when filled in, can add addtl. Times, maybe change time to timeS

4	Yes, select subject	No, what if I am available to tutor multiple subjects at a given time? Drop down doesn't work for this	Yes, selected subject is shown, but date & time should still be on this screen
5	Yes, finish or check schedule	Yes	Yes, both screens work well, but + button on schedule is unclear, is this another place to add new sessions?

Cognitive Walkthrough 2

Task #: 1 Task Name: Sign up to be a tutor			
Step #	Will the correct action be sufficiently evident to the user? Will the user know what to do?	Will the user notice (visibility) that the correct action is available? Will the user see how to do it? (e.g. see the button and recognize its effect)	After the action is taken, will the user understand the feedback from the action correctly?
1 login	Yes/No (and why) Yes	Yes/No (and why) Yes	Yes/No (and why) Yes
2 provide tutoring	Yes	Yes	Yes
3 apply for a tutor	yes	Yes. But the error box is a bit confusing.	No. After finishing application, two labels show up: Application progress and Take me home. I think the second is a little bit confusing and should be Start your tutoring instead to show that people have registered successfully.

Task #: 2 Task Name: Request an on-demand tutor			
Step #	Will the correct action be sufficiently evident to the user? Will the user know what to do?	Will the user notice (visibility) that the correct action is available? Will the user see how to do it? (e.g. see the button and recognize its effect)	After the action is taken, will the user understand the feedback from the action correctly?
1 select a course	Yes/No (and why) yes	Yes/No (and why) yes	Yes/No (and why) yes
2 select location	yes	Yes. But could do a little improvement on the color of the buildings.	yes
3 optional preferences	yes	yes	yes
4 final preferences	yes	yes	yes
5 view tutors	yes	yes	yes
6 select tutor	NO, no sure what the images at the top mean. Do they represent a student-tutor match?	yes	yes

7 session summary	NO, Don't know how to count the cost.	yes	yes
8 session confirmation	No, Repeated content of the summary page. Better use Begin the tutoring instead of saying Swipe to Begin.	yes	yes
9 session in progress	Yes Better use another wording than Swipe to End.	yes	yes
10 session feedback	yes	yes	No. Why do we need Good or Bad when we can rate on scales?

Task #: 3 Task Name: Schedule a tutor			
Step #	Will the correct action be sufficiently evident to the user? Will the user know what to do?	Will the user notice (visibility) that the correct action is available? Will the user see how to do it? (e.g. see the button and recognize its effect)	After the action is taken, will the user understand the feedback from the action correctly?
1 select a course	Yes/No (and why) Yes	Yes/No (and why) Yes	Yes/No (and why) Yes

2 set date and time	Yes But why take use to a calendar when put a drop down menu to select date is easier?	Yes	Yes
3 Select Location	Yes	Yes	Yes
4 optional preferences	Yes	Yes	Yes
5 final preferences	Yes	Yes	Yes
6 view tutor	Yes	Yes	Yes
7 session summary and confirmation	No, don't know what to do next coz no instructions. Maybe enlarge the labels of next step?	Yes	Yes
8 message	Yes	Yes	Yes

Task #: 4 Task Name: Set up availability			
Step #	Will the correct action be sufficiently evident to the user? Will the user know what to do?	Will the user notice (visibility) that the correct action is available? Will the user see how to do it? (e.g. see the button and recognize its effect)	After the action is taken, will the user understand the feedback from the action correctly?

1 set time and date	Yes/No (and why) Yes. Same problem with the calendar	Yes/No (and why) Yes. Probably better to set an available time range instead of set start time and end time for each tutoring session	Yes/No (and why) Yes
2 update schedule	Yes.	Yes	Yes
3 Confirmation	Yes	No, a little bit confused with the label Go to main page	Yes

Cognitive Walkthrough 3

Task #: __1__ Task Name: _sign up to be a tutor			
Step #	Will the correct action be sufficiently evident to the user? Will the user know what to do?	Will the user notice (visibility) that the correct action is available? Will the user see how to do it? (e.g. see the button and recognize its effect)	After the action is taken, will the user understand the feedback from the action correctly?
1 sign in	Yes/No (and why) Yes, it's clear that you just need to fill in the user id and password	Yes/No (and why) Yes	Yes/No (and why) Yes, it automatically log in

2 sign up to be a tutor	Yes, it remind me to apply to be a tutor	Yes, however, maybe this notification should not be marked as 'error'	yes
3 apply to tutor	yes	yes	yes
4 successfully submit the application	yes	Yes, good to have the application progress page and a take me home action	Kind of confused about the page, not sure whether this is the homepage. (no indicator in the global navigation bar)

Task #: <u> 2 </u> Task Name: <u> </u> request a tutor on-demand tutor <u> </u>			
Step #	Will the correct action be sufficiently evident to the user? Will the user know what to do?	Will the user notice (visibility) that the correct action is available? Will the user see how to do it? (e.g. see the button and recognize its effect)	After the action is taken, will the user understand the feedback from the action correctly?
1 request a tutor	Yes/No (and why) yes	Yes/No (and why) yes	Yes/No (and why) yes
2 select a type	Not really, I may want more explanation on each type	yes	yes
3 select a course	yes	yes	yes
4 select location	Yes, it's nice to have the open and closed building listed and it is easy to find the right place in campus	yes	No. I am looking forward to fill in the room number or floor number next

5. optional preference	Yes, it's nice to have these filters.	yes	The rating part may need more explanation, like change the title to 'rating above'
6. final preference	The name is a little confusing. This page is a summarization and check page, but the title feels like it is another step of preference selection.	yes	yes
7. select a tutor	Yes, but I may want to see the price in this page	yes	yes
8. confirm the session	yes	yes	Yes Although an advice will be, let the tutor to choose whether he wants to accept or not. And the tutor can also attach a message with his decision.
9 end session	yes	yes	Yes May be more flexible cost. What if the session last 1.5 hours?
10. session feedback	No There are two ways to rate the tutor: the "5 star" one and the "good and bad one". This is kind of confusing to me. Also there is a comment part but I didn't see comments in the profile of the tutor	No,	No, Don't have place to confirm the feedback

Task #: <u> 3 </u> Task Name: <u> scheduled tutor </u>			
Step #	Will the correct action be sufficiently evident to the user? Will the user know what to do?	Will the user notice (visibility) that the correct action is available? Will the user see how to do it? (e.g. see the button and recognize its effect)	After the action is taken, will the user understand the feedback from the action correctly?
1 request a tutor	Yes/No (and why) yes	Yes/No (and why) yes	Yes/No (and why) yes
2select a type	Not really, I may want more explanation on each type	yes	yes
3 select a course	yes	yes	yes
4. set date and time	Not really I am not sure what does the 'add another time' mean	Yes It's nice to have a 'view schedule' option. However, maybe the 'done' button and 'view schedule' button could change place	yes
4 select location	Yes, it's nice to have the open and closed building lists and it is easy to find the right place in campus	yes	No. I am looking forward to fill in the room number or floor number next

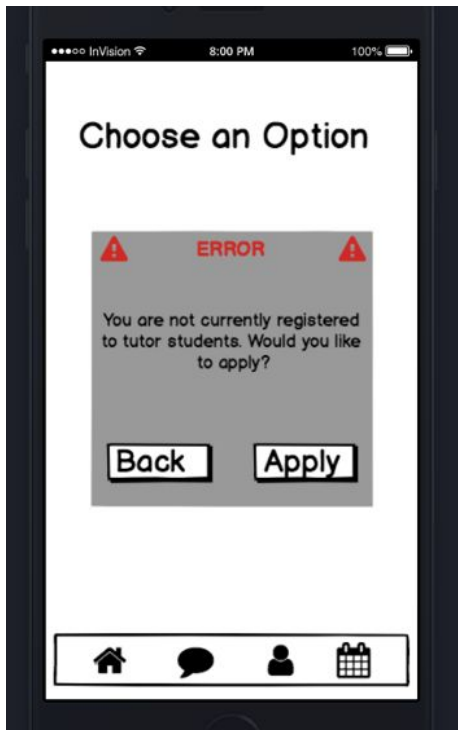
5. optional preference	Yes, it's nice to have these filters.	yes	The rating part may need more explanation, like change the title to 'rating above'
6. final preference	The name is a little confusing. This page is a summarization and check page, but the title feels like it is another step of preference selection.	yes	yes
7. select a tutor	Yes, but I may want to see the price in this page	yes	yes
8. confirm the session	No The session will last 2 hours so the cost should be \$15?	yes	Yes Although an advice will be, let the tutor to choose whether he wants to accept or not. And the tutor can also attach a message with his decision.

Task #: <u> 4 </u> Task Name: <u> </u> the tutor setting up their availability			
Step #	Will the correct action be sufficiently evident to the user? Will the user know what to do?	Will the user notice (visibility) that the correct action is available? Will the user see how to do it? (e.g. see the button and recognize its effect)	After the action is taken, will the user understand the feedback from the action correctly?

1 select provide tutoring	Yes/No (and why) No I kind of wanted to go to the calendar page via global navigation bar.	Yes/No (and why) yes	Yes/No (and why) yes
2 select update schedule	yes one advice will be: I may want to view my schedule and edit it in the same page	yes	yes
3 update schedule	yes	yes	Yes One advice: the subjects I want to tutor may be multiple, so better use a checkbox instead of a dropdown menu.
4 view schedule	Yes Seems like I can add events in this page	yes	yes

Heuristic Evaluation 1

Problem 1:



Heuristic: Standards

Reason for reporting as negative or positive: Not registered to tutor shouldn't be an error

Scope of problem: One screen

Severity of problem (high/medium/low): low

Justification for severity rating: won't affect user's too much, except by making them think they have made an error

Suggestions to fix: remove the icons and word "error"

Possible trade-offs: need to come up with a different word

Problem 2:



Heuristic: System Status

Reason for reporting as negative or positive: Should be able to see time registered for in this screen, below "select date"

Scope of problem: one or two screens, when tutor is changing schedules

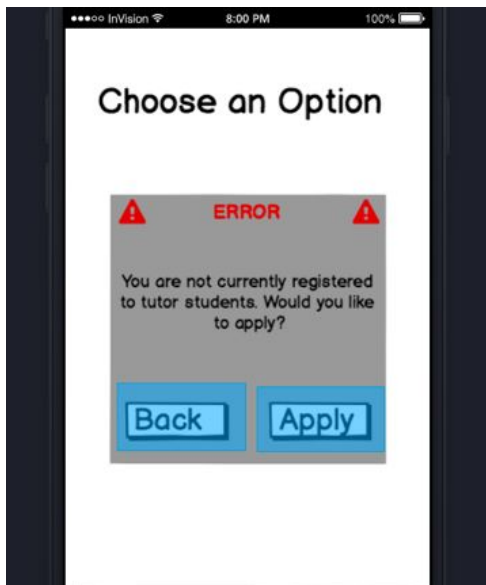
Severity of problem (high/medium/low): medium

Justification for severity rating: tutors should be able to quickly check their time without having to go back and losing time

Suggestions to fix: add time(s) below date

Heuristic Evaluation 2

Problem 1



Heuristic: Error prevention

Reason for reporting: Negative, The Error box seems too serious

Scope of problem: One screen

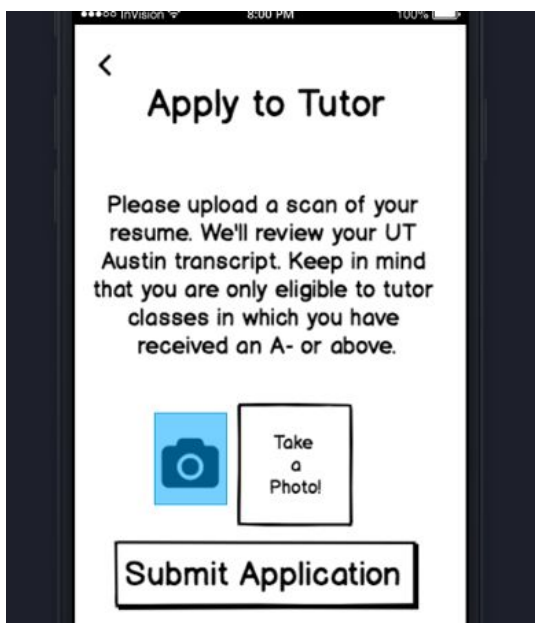
Severity of problem (high/medium/low): low

Justification for severity rating: May confuse users but not a big problem for using the app

Suggestions to fix: Guide users to register as tutor at first and use constraint

Possible trade-offs: Reconsider the instruction

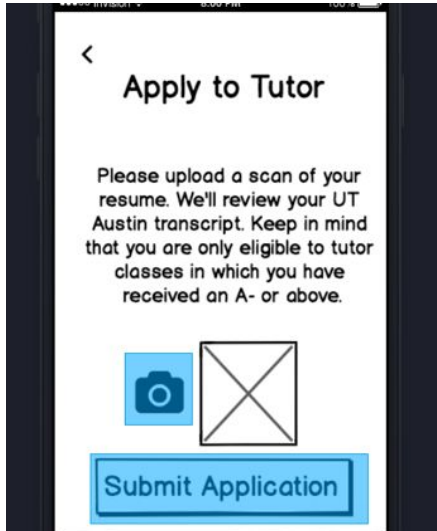
Problem 2



Heuristic: Error prevention

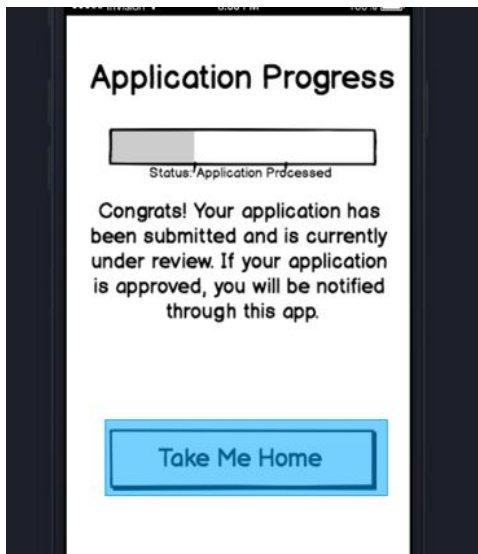
Reason for reporting: Negative, the box beside the camera indicate an action of “click here”, which is not.
Scope of problem: One screen
Severity of problem (high/medium/low): low
Justification for severity rating: Minor problem, users may hit the wrong place at first
Suggestions to fix: Remove the box

Problem 3



Heuristic: Aesthetic and minimalist design
Reason for reporting: Negative, too much text
Scope of problem: One screen
Severity of problem (high/medium/low): low
Justification for severity rating: Minor problem, cost time to read the text
Suggestions to fix: Give brief instruction with points
Possible trade-offs: Re-organize the paragraph

Problem 4



Heuristic: Visibility of system status

Reason for reporting: Negative, why the progress is still not completed after user hit submit application

Scope of problem: One screen

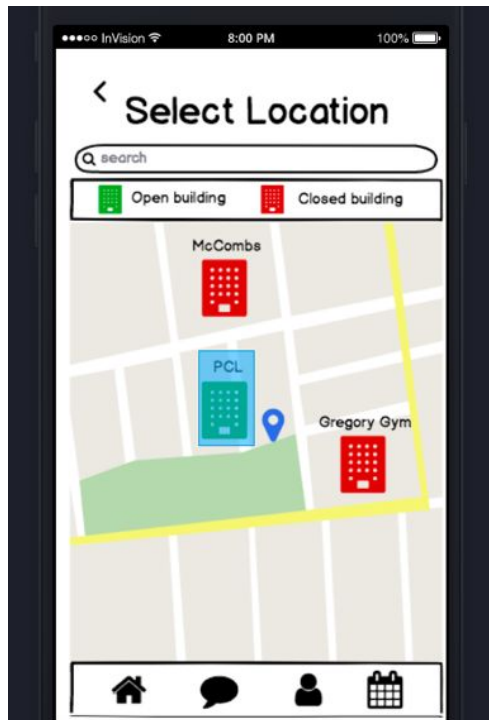
Severity of problem (high/medium/low): medium

Justification for severity rating: Confuse users and make them think

Suggestions to fix: Include a progress

Possible trade-offs: Re-design the application pages

Problem 5



Heuristic: Error prevention

Reason for reporting: Negative, Closed buildings pop up in the screen instead of the open ones

Scope of problem: All screens that include location selection

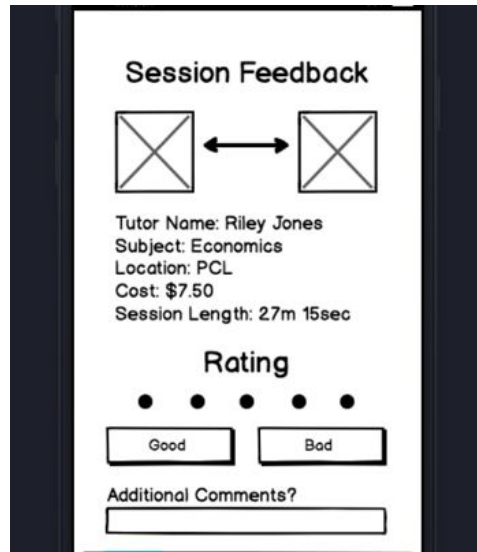
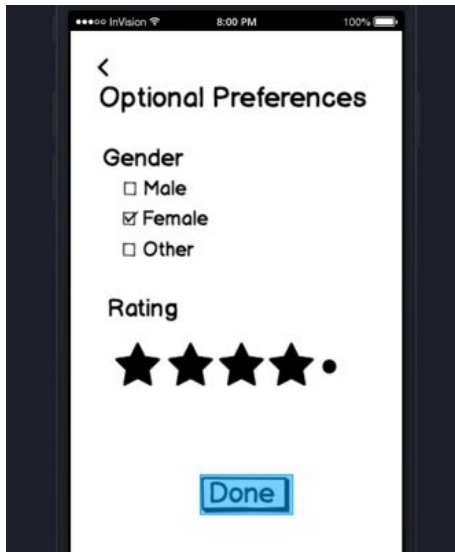
Severity of problem (high/medium/low): medium

Justification for severity rating: Consume user's attention

Suggestions to fix: Use greyed color to represent the inactivity of closed buildings

Possible trade-offs: Find an appropriate color

Problem 6



Heuristic: Consistency and standards

Reason for reporting: Negative, rating icons are not consistent

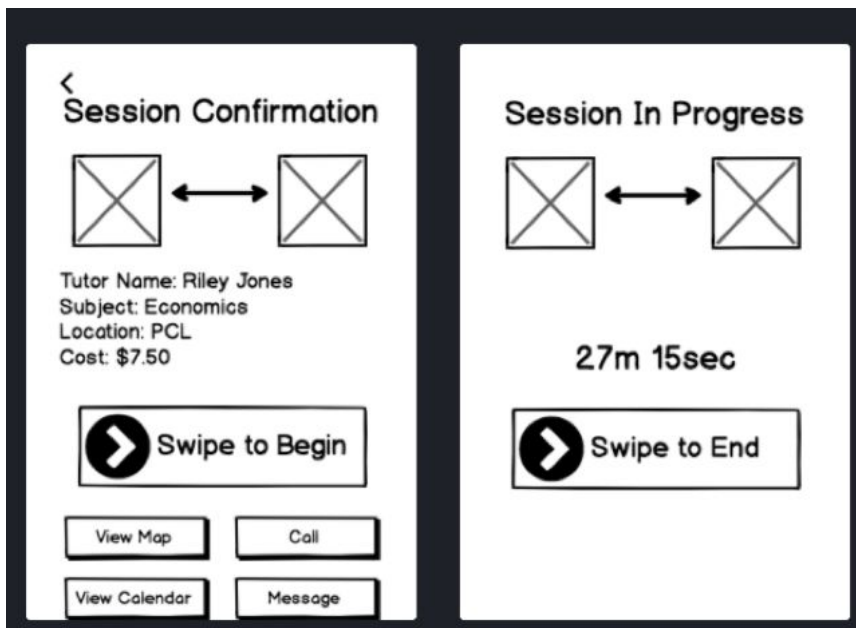
Scope of problem: All screens that include a rating

Severity of problem (high/medium/low): low

Justification for severity rating: Minor problem

Suggestions to fix: Uses the same icons but different greying to represent the rating points

Problem 7



Heuristic: Match between system and the real world

Reason for reporting: Negative, why include the word of an action

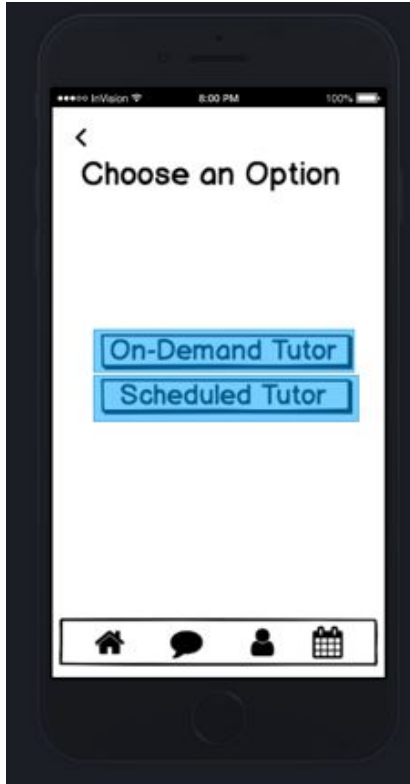
Scope of problem: multiple screens

Severity of problem (high/medium/low): low

Justification for severity rating: Minor problem

Suggestions to fix: Come up with a new wording (like “Begin tutoring”)

Heuristic Evaluation 3



Heuristic: visibility of system status

Reason for reporting: the global navigation bar doesn't indicate the status of the user.

Scope of problem: multiple screens

Severity of problem (high/medium/low): high

Justification for severity rating: it is kind of important for user to know their status

Suggestions to fix: indicate the user's status in the navigation bar



Heuristic: match between the system and the real world

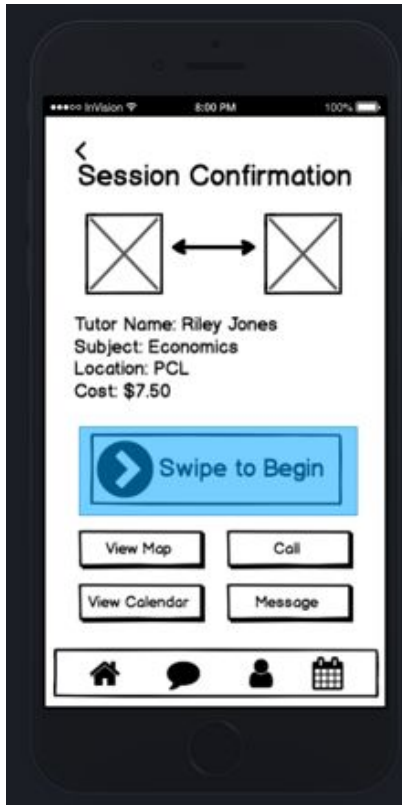
Reason for reporting: When user uses the on-demand tutor option, I feel like the tutor should also have the option to accept or decline a request. However, it is just my thought.

Scope of problem: multiple screens

Severity of problem (high/medium/low): low

Justification for severity rating: this is a way to prevent error, too

Suggestions to fix: put another screen showing that the tutor has confirmed this session, too



Heuristic: user control

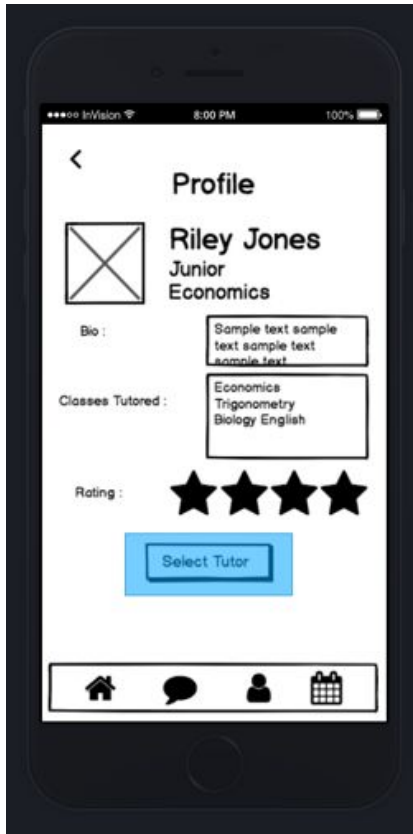
Reason for reporting: Didn't give the user an option to cancel the session.

Scope of problem: multiple screens

Severity of problem (high/medium/low): medium

Justification for severity rating: this is a way to prevent error, too

Suggestions to fix: give them an option to cancel



Heuristic: consistency and standards

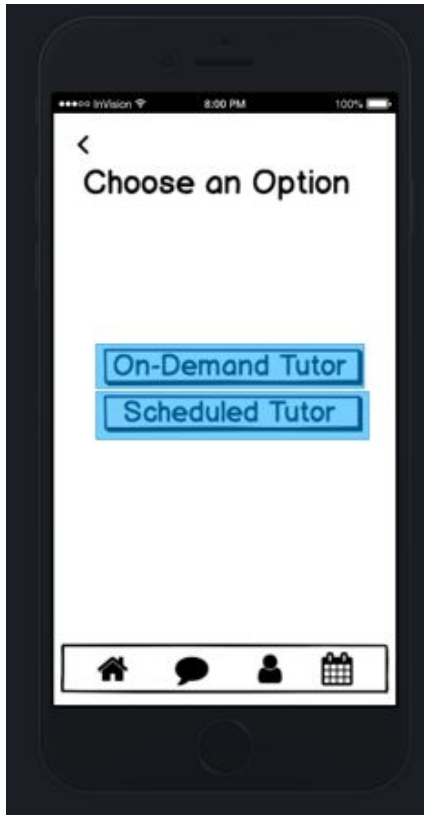
Reason for reporting: The user could leave a comment in the feedback part but the comments don't show on the tutor's profile. That is not consistent.

Scope of problem: multiple screens

Severity of problem (high/medium/low): medium

Justification for severity rating: the comment could be important for the user to choose tutor

Suggestions to fix: add comments on the tutor's profile



Heuristic: help and documentation

Reason for reporting: I think this idea is great, may need to add more explanation to some terms though since it is kind of a new idea to the user.

Scope of problem: multiple screens

Severity of problem (high/medium/low): low

Justification for severity rating: the user may figure them out by themselves but it could not hurt to give more explanations and indicator about what is going to happen next

Suggestions to fix: add some explanations to some new terms