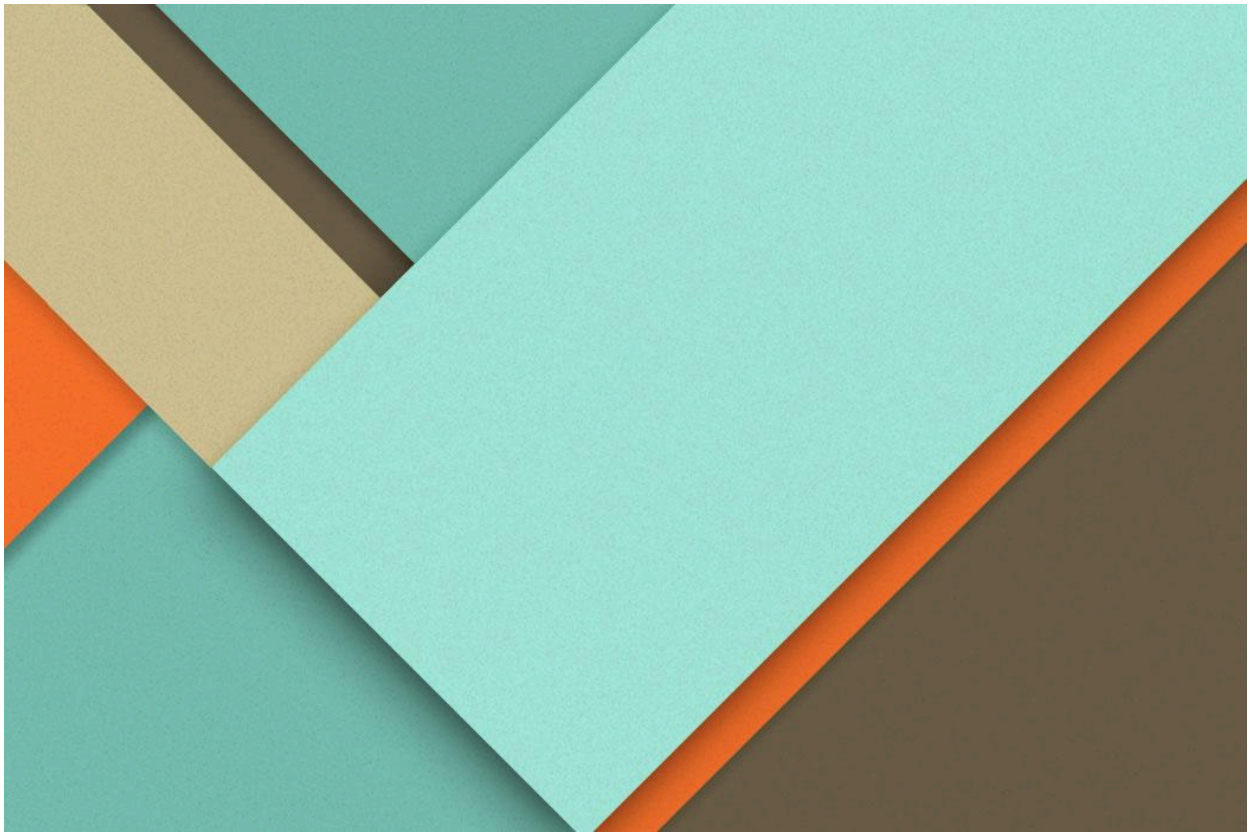


Pilot Program

11.25.2019

An app based shopping system that allows ease of purchasing and viewing all in one.

Max Fritzhand, Tor Vaz, Luke King

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Section 1.0 Topic, client selection and product concept statement

Section 2.0 Usage Research Data Elicitation & Usage Research Data Analysis

Section 3.0 Requirements & Modeling

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Overview

The Pilot Program we are developing for Sporty's is an additional layer to the existing application Sporty's currently offers. Their application involves in depth video tutorials teaching their users how to become well trained pilots. Our proposed modifications will allow users to view and order the specific products seen in these video tutorials, giving the pilots in training the appropriate tools and products necessary to feel like professionals. Not only will this supplement their knowledge of flying and the specific products are available to them, but it will also greatly improve the marketing effectiveness in Sportys' gearing them towards selling key products to the demographics of these pilots. Through our modifications to this app, users will be able to order things directly to their door using their already created sporty's account information.

https://padlet.com/fritzhma/lwnn0h9bkel0

Things we did to prepare for the interview.

- Grouped together days before interview to come up with specific questions to ask.
- Discussed possible ways to convey what we were trying to do.
- Did research on the company and talked about what we learned.

Who we interviewed

- J.C Mayerle, Director of Communications and User Experience

Questions we Prepared

Why do you use the Sporty's app?

How do you shop on Sporty's?

For you, what would be the reason to shop online instead of offline?

What does your typical weekday look like?

Tell me about your role at your company.

What are your daily responsibilities?

What are some of the functions in the app you use the most?

How do you currently go about ordering products seen in videos?

Tell me about the last time you tried to purchase a product?.

Have you tried any work-arounds to help you with this?

Have you tried any other products or tools?

What's the most frustrating part about the process of ordering products?

How often do you encounter a situation when you would like to order products in the video tutorials?

How long do you spend on ordering products?

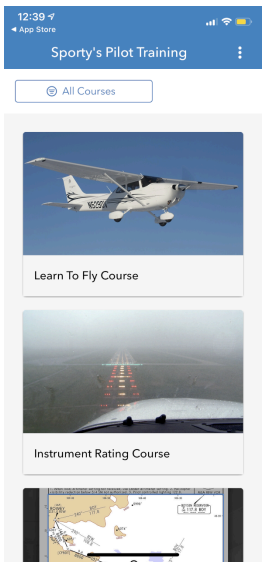
How the meeting went

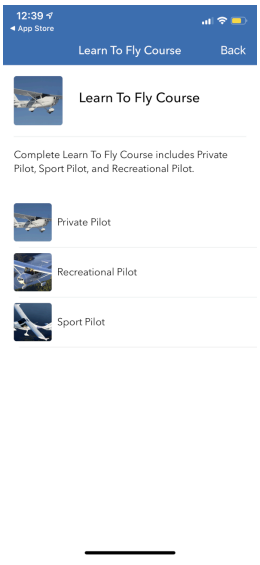
We all agree that the meeting went extremely well and he was very helpful in helping highlight what we needed to do and how it could be done.

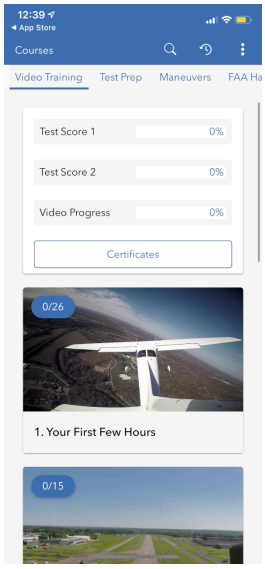
Raw Data

We collected raw data each separately through note taking and some on the computer note taking. We specifically took notes directly in responses to the questions that we asked him.

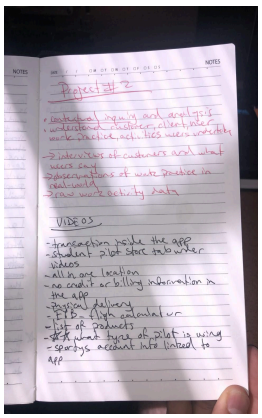
Raw Photos of Work Artifacts

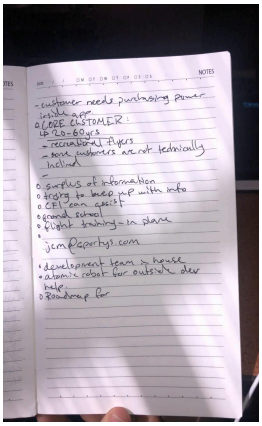


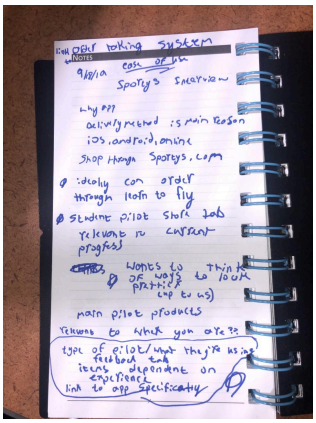




Raw Photos of Notes

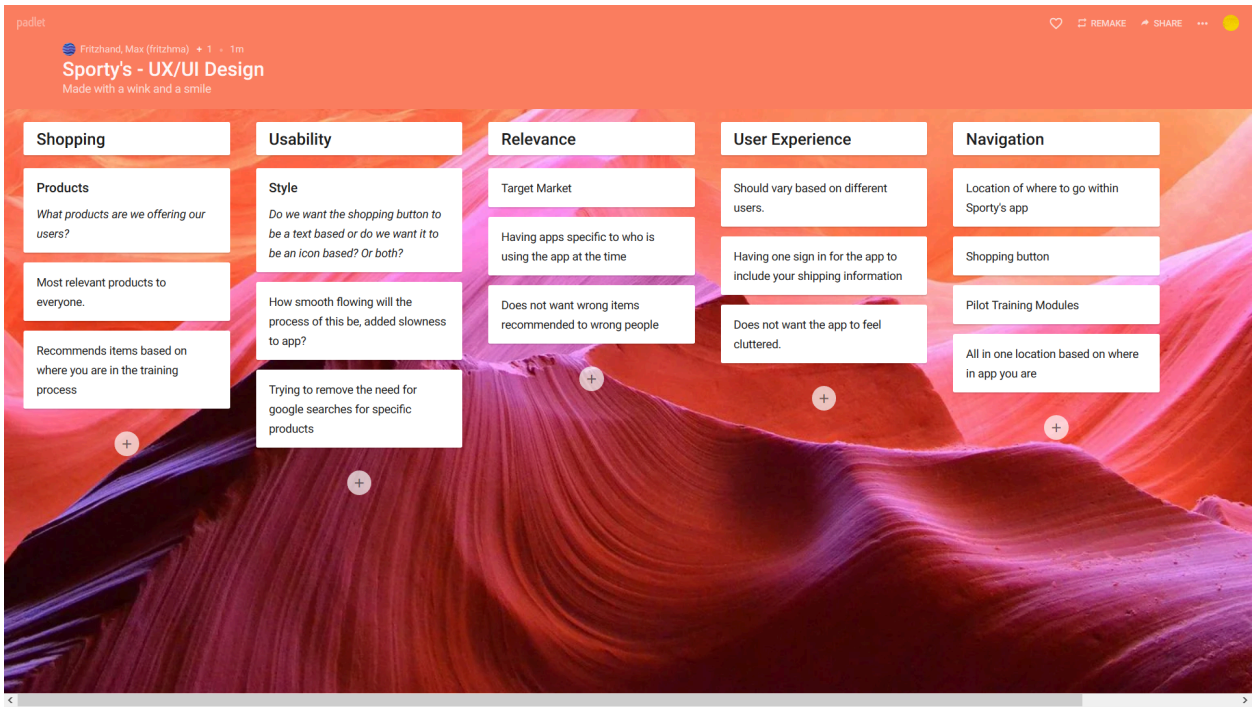






Thought Process for WAAD

Contextual inquiry and analysis of the app. Observations of users and how the app works and how what we are adding should look.



Requirements

Level 1: Usability
Level 2: From Instructor
Requirement: Instructor does not want to be bogged down with terribly hard to enter items wants it to be seamless
Note: Worried about the difficulty of inputting items

Level 1: Usability
Level 2: From Student
Requirement: Student does not want video experience to be interrupted often by pop ups
Note: Fear of using too much space

Level 1: Ease of Access
Level 2: App Deployment team
Requirement: Make this a very lightweight addon that is very easy to manage and easy to deploy in order to have seamless app updates.
Note: Concern over the size of this addon to the app that could make it a hassle to implement in the future.

Level 1: Ease of Access
Level 2: Student
Requirement: Make purchasing items very easy to do preferably one click so that you can either say that you want it or get rid of it.
Note: If they want an item they want it fast and they want it as soon after they click the purchase button as they can.

Level 1: Sales
Level 2: Profit
Requirement: Have this be a cost-effective implementation that will boost revenue generated by the app for a set amount of time.
Note: Cost effectiveness of this add on to the app

Level 1: Transaction flow
Level 2: Purchase of video product
Requirement: Product tag appears in tutorial videos serving as a direct link to be able to purchase
Note: This should be embedded only at specific times in the video and disappear within a few seconds

Level 1: Style/Design
Level 2: Tag appearance and location
Requirement: The product tag should be placed in an easy to access spot easily visible on the screen
Note: Generally, in YouTube videos these embedded product tags appear in the bottom right or top right with some kind of shaded background and highly visible text

Level 1: Transaction Flow
Level 2: On click of product tag
Requirement: The user should be able to click these product tags, be directed to new tab containing materials for purchase
Note: Ensure that the link directs to a new tab on the same window

Level 1: Product Purchase
Level 2: Autofill credentials for purchasing product
Requirement: The user information should autofill into input boxes at time of purchase using the credentials they used when creating their account.
Note:

Level 1: Style/Design
Level 2: Product tag label and thumbnail
Requirement: The embedded tag within the video tutorials should have a snippet about what it is as well as a little related thumbnail picture
Note: Keep it clean and precise, maybe having a thumbnail is not necessary

Level 1: Security
Level 2: Privacy of data transaction
Requirement: Shall contain all information and not publicize any confidential user information
Note:

Level 1: Notifications
Level 2: Be notified about the app
Requirement: Get reminders popup about completing the module as well as saying to “complete the checkout process” if you still have something in your cart
Note:

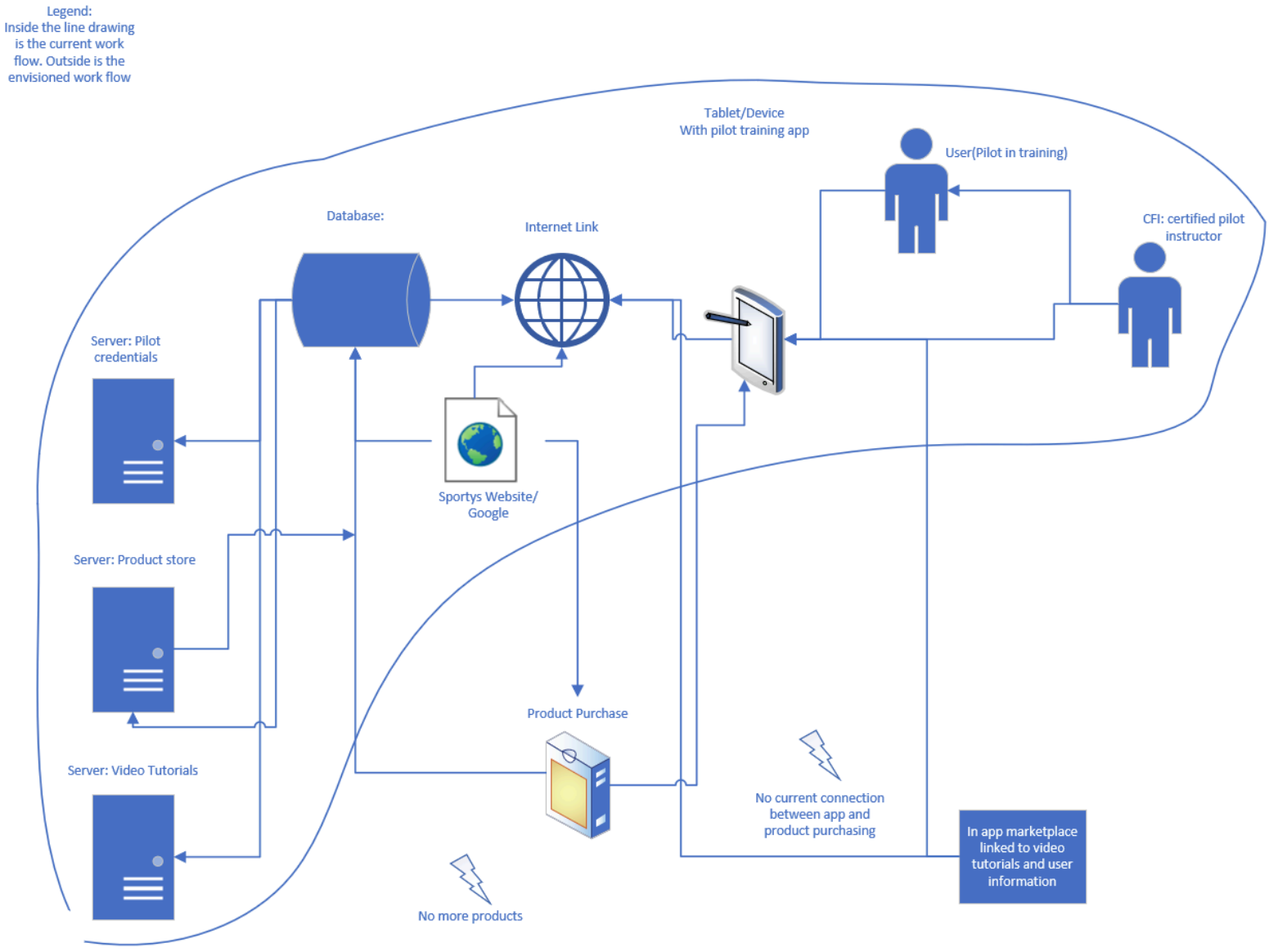
Level 1: Ease of use with navigation
Level 2: Allow users to be able to navigate from point A to point B
Requirement: Provide easy buttons for users from varying demographic to easily navigate across the platform
Note: Like instead of having just a"Shopping" icon, we change that to "Shopping Cart" in text form

Level 1: Product Suggestions
Level 2: Provide suggestions while in module
Requirement: While in a module be provided with product recommendations to enhance the user experience for the pilots. It should be seamless interactive way for them to just click on it to learn about it and to add it to their cart
Note: It should not be too distracting, but definitely catch the eye of the pilot when completing the module

Level 1: Help section
Level 2: Provide a way for pilots to send questions to pilot instructor
Requirement: A way for the pilots to send a question while within the modules
Note: Establishes better communication between the instructor and pilot

WORKFLOW MODELS

HCI SU18 HYBRID WORKFLOW MODEL: **ENVISIONED AND CURRENT**



HCI SU18 Essential Use Case Model:

1. **Pilot**: logs into Sporty's training application
2. **System**: Stores user credentials
3. **Pilot**: navigates to current video tutorial section
4. **Pilot**: notices embedded product tag within video
5. **Pilot**: clicks the product tag
6. **System**: internal app navigation to product purchase location
7. **Pilot**: clicks option to use stored user credentials
8. **System**: autofills name and address boxes
9. **System**: option to use stored card information
10. **Pilot**: clicks use previous card information
11. **System**: autofills card info for product purchase
12. **System**: click to confirm purchase?
13. **Pilot**: user confirms purchase
14. **System**: email confirmation

HCI SU18 Barrier Summary:

Trigger	Goal	Barrier
Not tech savvy or not comfortable using pilot training course	Ease of accessibility and purchase of products within training course	User is unable to navigate within the training course and struggles with purchase of products simply because of familiarity
In app store not running correctly	Flow between video and in app store	Embedded links do not direct user to in app store
Store works on iPad but not desktop PC	Cross platform compatibility	The product store and links may work on apple devices but not a laptop or android
User opts for autofill feature but nothing happens	When purchasing products user credentials should automatically by applied to form boxes	Server for the users information is not pulling correct or any data when purchasing products
User clicks links within video tutorial and nothing happens	Correct implementation of product links within video tutorials real-time	Embedded product links not functional
User tries to buy products that are out of stock	Notify users if selection of items may be out of stock	Product is out of stock and cannot be purchased through the embedded link
User clicks embedded link and is then navigated to an incorrect product	Embedded links navigate to products seen within video tutorials	The product tags get mixed up and direct users to incorrect products in store

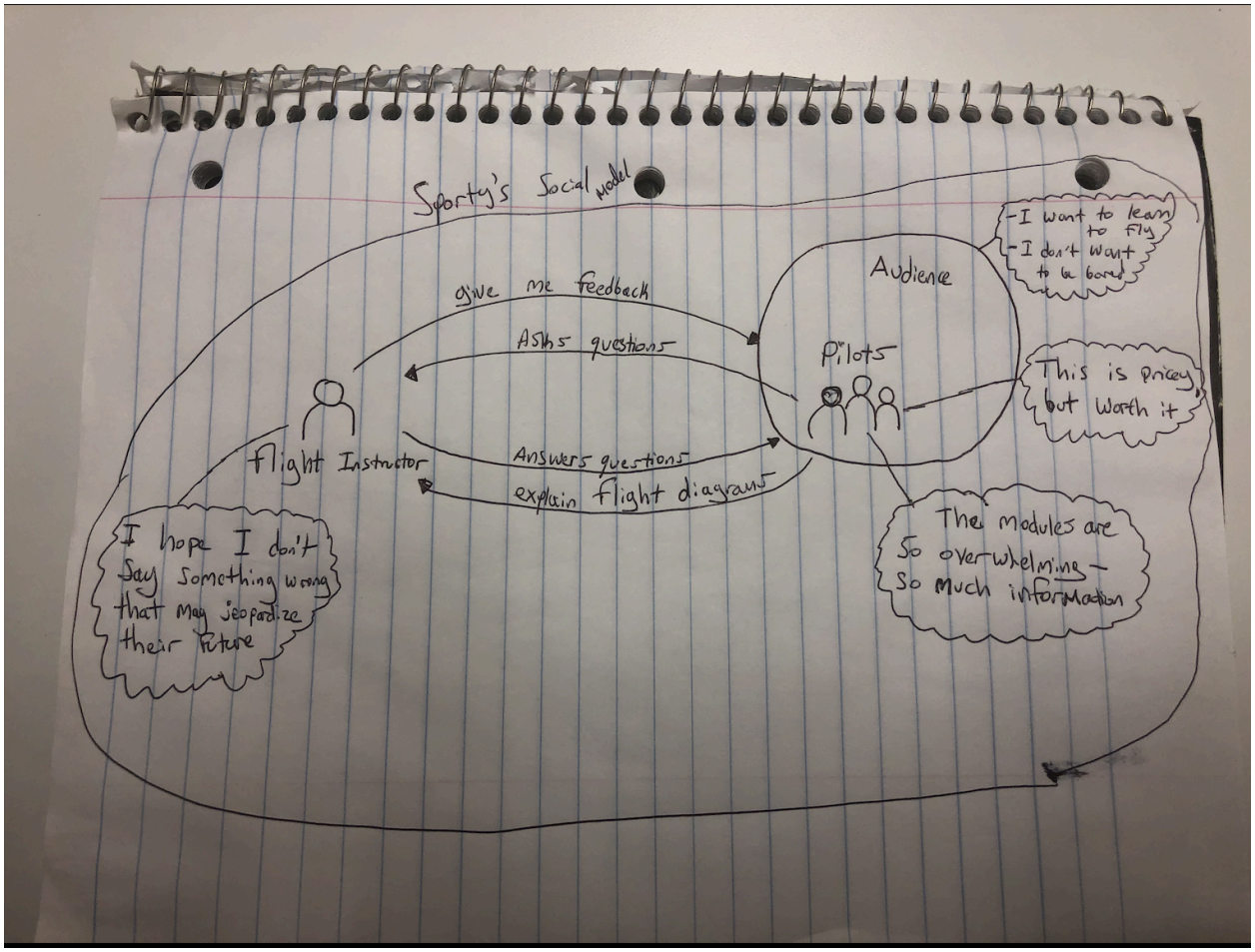
HCI SU18 Step-by-Step Instructions:

1. Pilot Trainee: Tells Sportys staff that he wants to learn more about flying
2. Staff: Provides insight in the Sporty's Platform
3. Pilot Trainee: Register user credentials
4. System: Stores user information
5. Pilot Trainee: Selects a flight module to go through
6. System: Provides additional suggestions within the content they are watching (ex. URL extensions and products that are relevant to what they are learning)
7. Pilot Trainee: Selects the product suggestion from the module
8. System: Adds to the shopping cart
9. Pilot Trainee: Continues to checkout
10. System: Provides checkout form for Pilot Trainee's credentials to fill out
11. Pilot Trainee: Fills out checkout form and pays
12. System: Selects the inventory item and notifies the staff member to create a label to ship item to Pilot Trainee
13. Staff: Creates label and ships it
14. Pilot Trainee: Continues along with the module
15. Pilot Trainee: Receives package (*few days later*)

HCI SU18 Usage Scenarios:

Dan and Jim are longtime best friends. Dan has 10 years of flight experience under his belt while Jim has only really just flown with Dan, but has been wanting to learn. Dan provides Jim's information to Sporty's educational team where they then get back to Jim in regards about their platform to learn about their online flight school. Jim obliges and long story short downloads and setups and account to start learning about flying so he can then get a proper license to fly a plane. As Jim is going through the modules he is writing down the key essentials to understand the proper procedures for flying. Jim sees some useful links as well as products that popup from time to time for recommendations. As Jim ascends to the navigation and elevation section of a module, a product displaying an Airplane GPS navigation system pops up and piques Jim's interest. So Jim decides to go through ordering experience and checks it out so he can learn about how to use the specialized navigation system.

HCI SU18 Social Model:



HCI SU18 Work Roles:

Role : Pilot

The role of pilots is simply to buy the items that they could possibly need.

Role : Student

The role of Students is to just focus on the learning and possibly bolster their knowledge with items that could be purchased to help them in their process.

Role : Developers

The role of the developers is to add things to the app to keep their customers and pilots constantly wanting as well as needing to use the app.

Role : Instructors

The role of the instructors is to make it possible for the students to garner their piloting skills in any ways possible

HCI SU18 User Class Model:

Class : Pilot

Wants to be able to get the items they need when they want.

Class : Instructor

Wants to be able to add content and review items specifically for what the pilots could need.

Class : Student

Wants to know what they would need to be successful in their endeavours to become a pilot.

Class : Developer

Wants it to be simple to add and drop things from the app making it easier to do this would be preferable.

HCI SU18 Information Object:

Pilots - Already knows what they need to do specific things have favorite items

Students - Has no idea what they need just need a helping hand

Developers - Wants specific items to be easy to implement

Instructors - Wants certain items to be easy to recommend to certain students

Pilots - Shopping

Want their favorite items to be able to be purchased whenever they want to they don't want to be bothered with having to deal with what the app recommends

Students - Shopping

Want their experience in the app to be tailored to them due to them being inexperienced with what they could possibly need to be successful in learning.

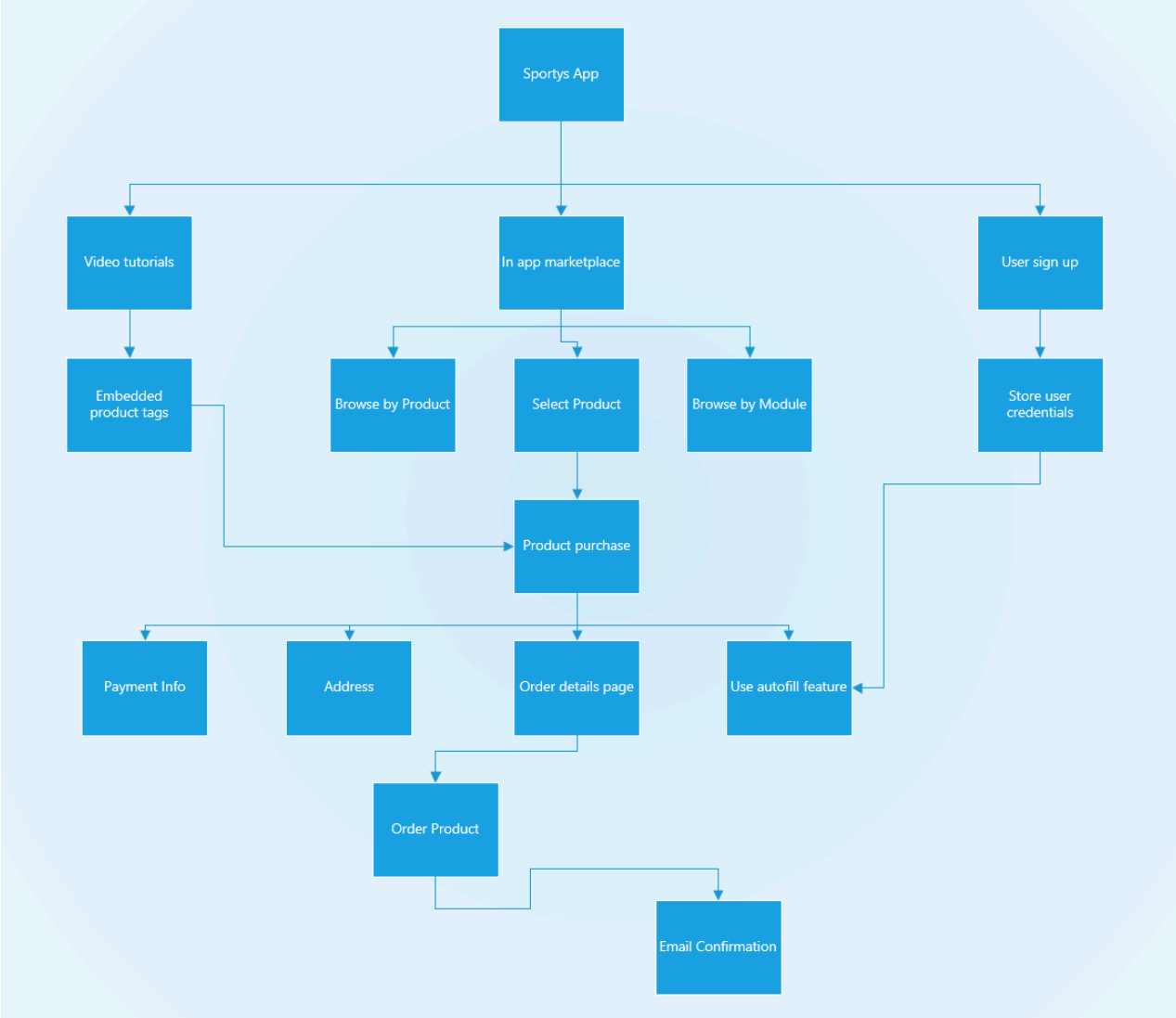
Developers - Shopping

Want to be able to easily implement each item and be able to custom tailor products for the users of this app

Instructors - Shopping

Already know their students needs and want to be able to make it special for each individual student that would need it

HCI SU18 Hierarchical Task Inventory:



Persona Statement

Name: John Snow

- TEAM system/design idea: The system we are offering to Sporty's is an additional layer to their training application. Involving the ability to shop, search, and purchase products directly within the training section they currently offer. Moreover, within each of the training videos we will design and place embedded product tags conveniently allowing users/pilots in training to purchase products as they are mentioned in the videos.
- User characteristics:
    - The user will be expected to use a tablet or other device comfortably
    - Follow along to online video tutorials
    - Reach out for help if issues arise
    - Communicate with certified pilots for assistance
    - Login to Sportys application
    - Provide credentials that can be used for purchase and shipment of Products
    - Range of age anywhere from 20-60
    - Users will most likely be in the pilot and flying scene
    - Likes planes and air transport
- Design persona:
    - John is a middle aged man, 45 years old
    - He is currently half way through the training course on the way to becoming a certified pilot
    - Has a full-time job as a mechanical engineer

- Is driven and aimed to flying planes and completing the course
- Flying is one of John's main passions apart from his career
- He normally spends his weekends around the hangars working on engines and parts of planes
- Generally does not have time during the week to get through training material, but manages to cover it on the weekends
- Is able to navigate comfortably within sporty's training course but sometimes is reluctant to reaching out to certified pilots for assistance
- Is an expert with the mechanics and assembly of planes but has very little experience in flying
- This helps him when he needs to order products he sees in the training videos

● To design the optimal persona for this project I kept the following key points in mind:

- Write short textual narratives about their work role, goals, main tasks, usage stories, problems encountered in work practice, concerns, the biggest barriers to their work, etc.
- Make personas rich, relevant, believable, specific, and precise
- Lots of details that all fit together
- Give persona a life surrounded with detailed artifacts
- Must be a believable person
- Frequent user without being an expert
- Think in terms of their needs and how they would use a given system

Persona statement:

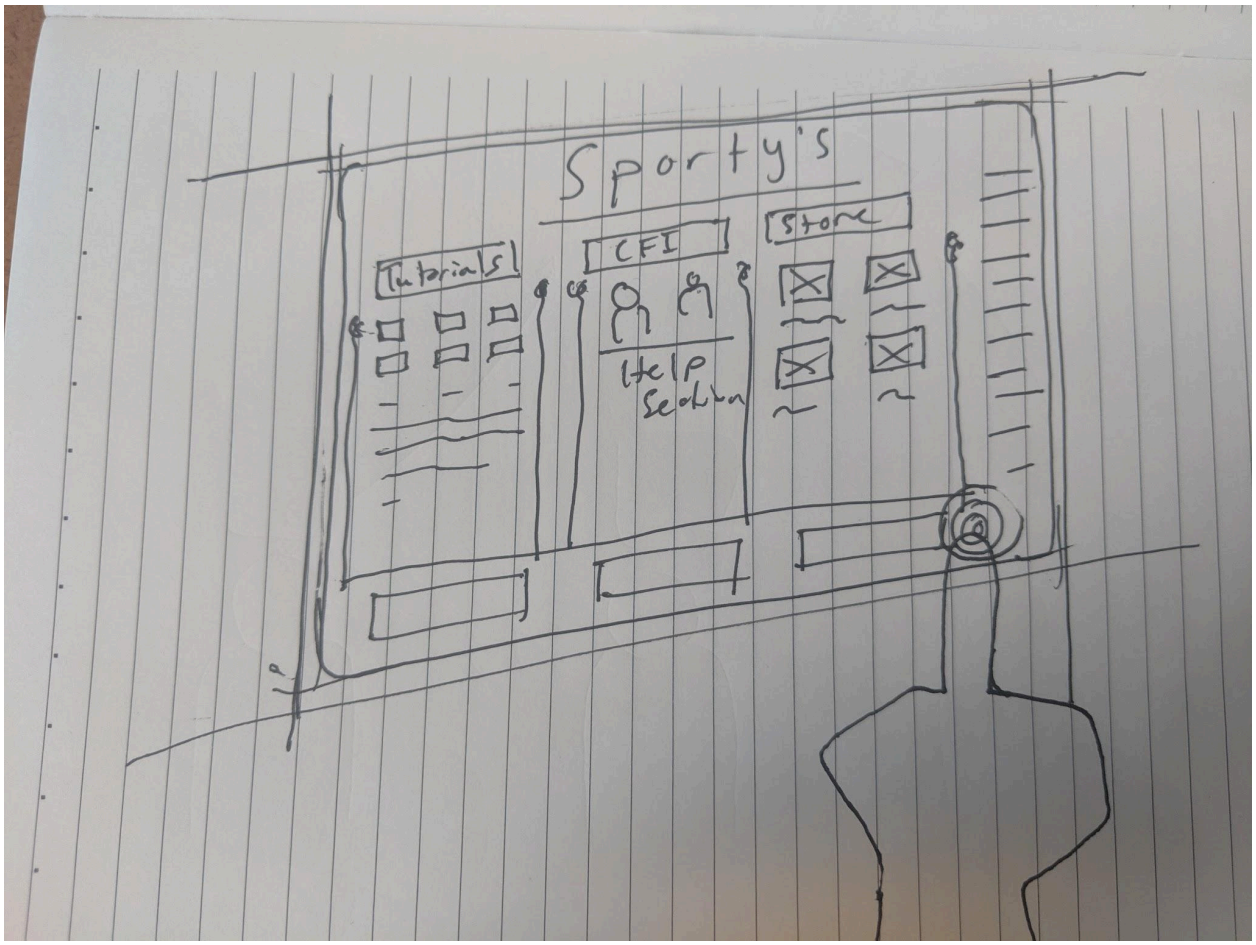
Our client, Sporty's, is a reputable aircraft business providing a multitude of aerial services like cargo holding, landing strip, fuel service, a shop, pilot training among other things. We are focusing on the pilot training aspect with adding value to their in house training mobile app by adding a shopping cart feature for their trainees – to better enhance their virtual learning experience. Our supplemental feature will provide such items available like a tire pressure gauge, an aerial navigation global position device, antifreeze jet fuel. Trainees or instructors are able to access the course as they normally do but with more features. When they are working on an online module they will be met with a popup icon of an item that is associated with the module. By doing this – this will enhance the customer into the app

The typical range of user characteristics we can see within our product app are demographically more male that range between the ages of 20 to as much as 60 years old with a wide range of education and cultural background. In terms of computing skills, some have never really interacted with a computer before, so there is a learning curve for quite some, believe it or not. Physical abilities definitely are individuals that have great vision, in terms of disabilities there is no paraplegic or handicapped individual. These users range from being educated students want to be able to fly planes as far as the stretches to retired office workers that have saved money to want to learn how to fly a plane; as a hobby or have always wanted to learn!

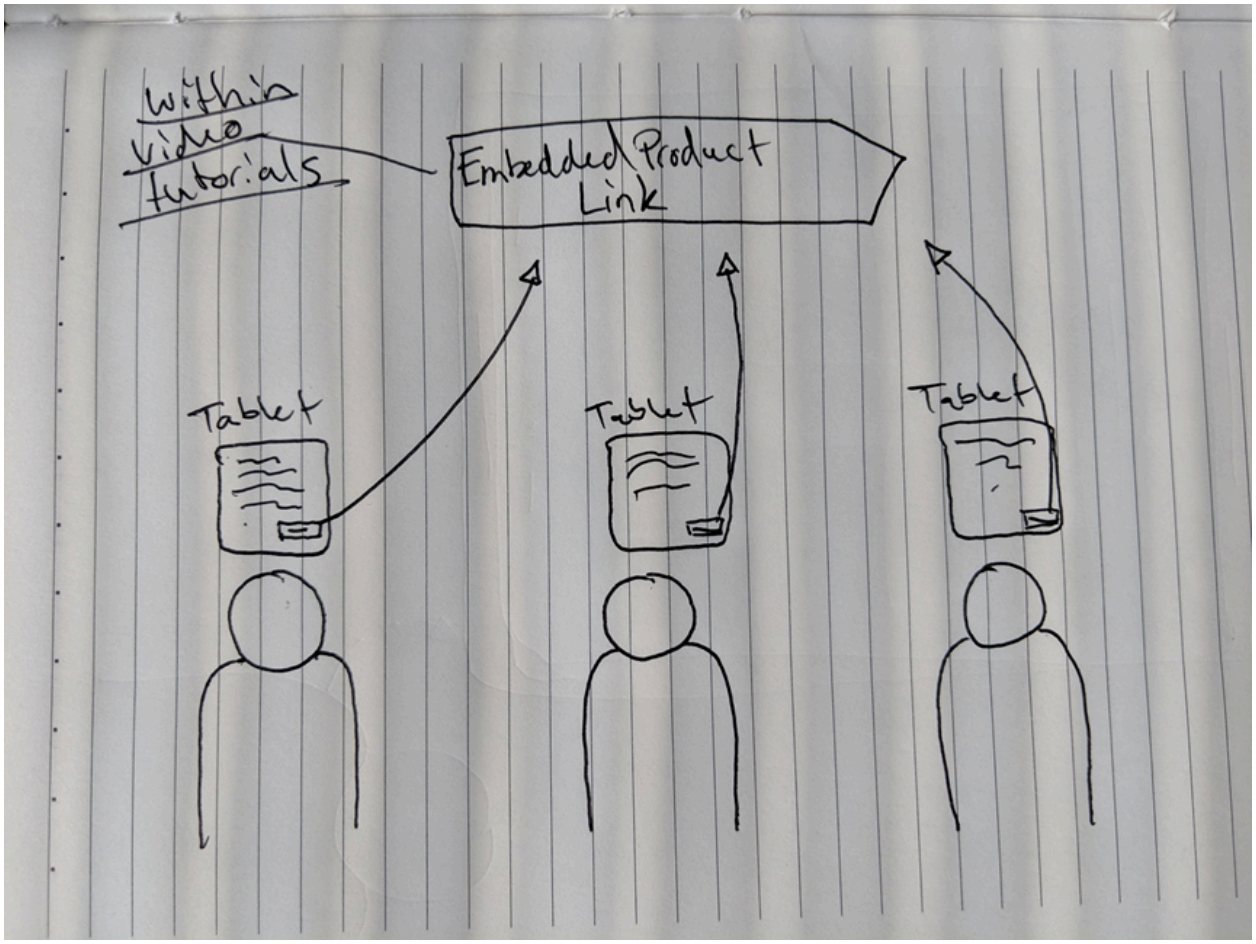
The design persona is quite simple, a user launches the application and gets right down to it with the learning modules. When going forth with the learning modules, the users can see items pop up from time to time that relevant with what they are learning at that singular moment in time.

So here is a story about how my persona interacts with my app. Here is a use case story right here. The subject user is about a student wanting to learn how to fly a plane. They download the app to their iPad and they follow the instructions provided within the learning modules. When they have a question they are able to get assistance with their on hand instructor for the course. On top of that to further enhance the overall experience of the app if they see something they like they are able to buy it. So for the student, a nice pair of sunglasses would be sufficient when flying high, due to the sunniness.

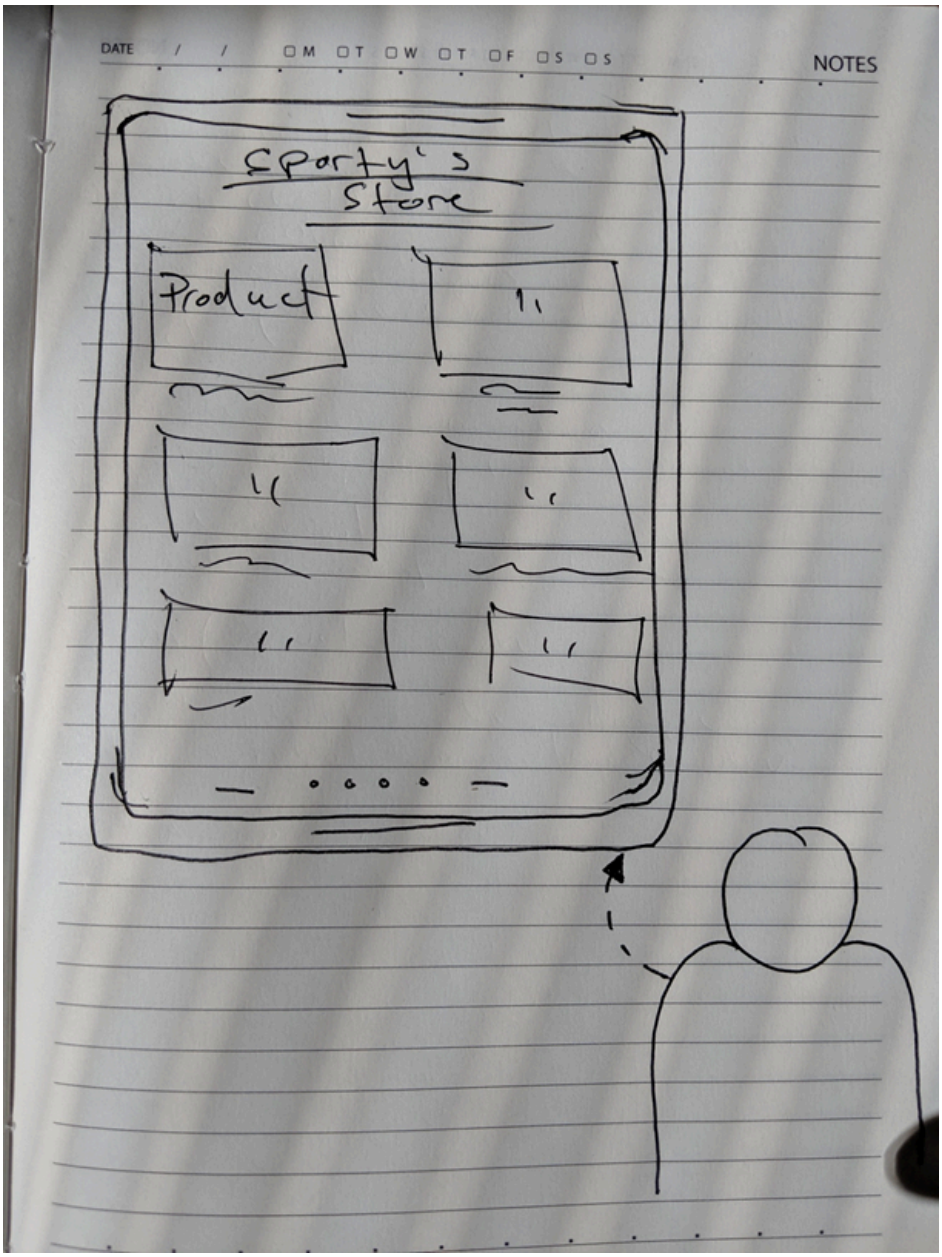
Interaction Model



Ecological Model

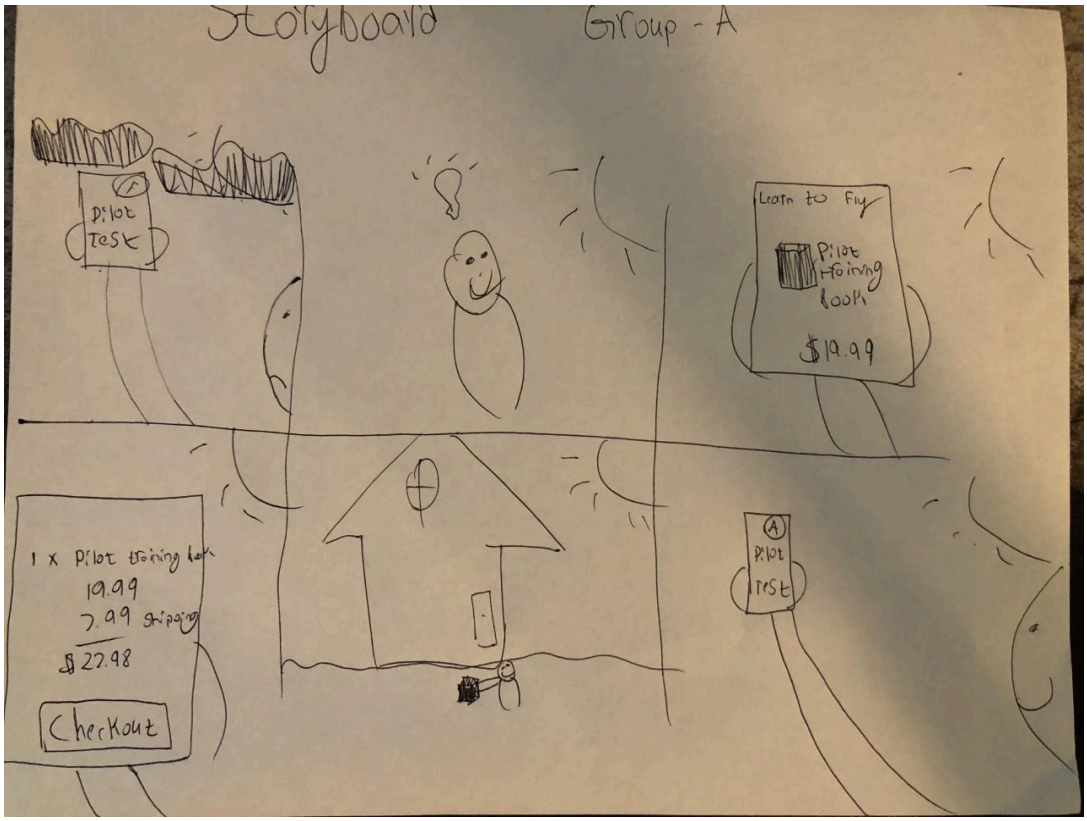


Emotional Model



Designer's mental model

Our system is at its essence a simple way for users to be able to purchase the products they need or think that would help them in their schooling on their way to becoming a pilot. It is organized in two seperate ways, the first way is through a shopping cart icon on individual learning courses. The second way that it is shown is through a main shopping course on the home page. These items will be dependent on the key demographics that you are shown to have based on the account that you make when you first make the account. It will work by accessing a set list of products that we have been recommended by the director of UX design at Sporty's. It will work by linking to the already established customer server that Sporty's has and will use these addresses to link the customers accounts to this server in order to have the ability to ship these products where they need to go to in a timely and easy to use manner.

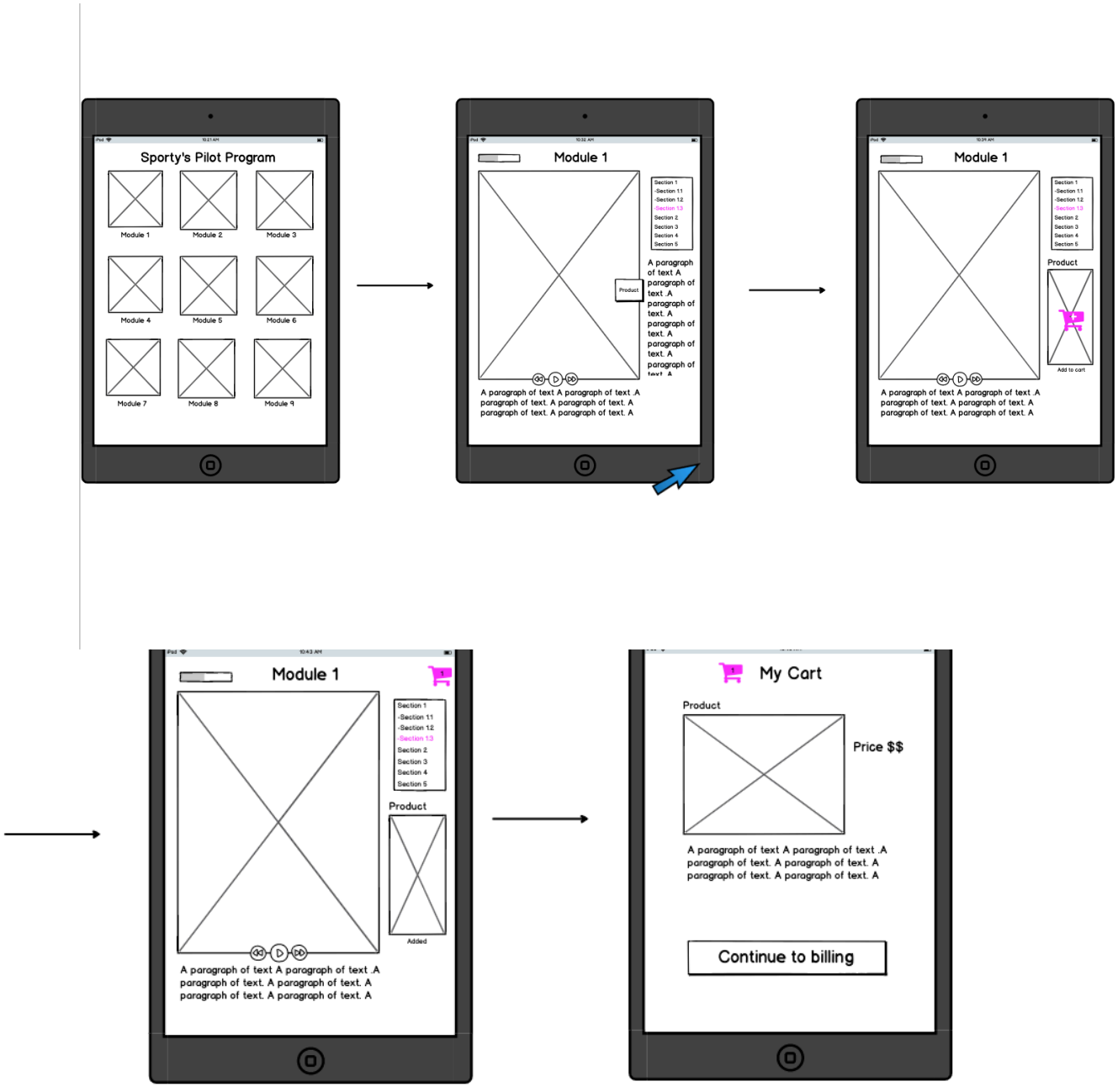


Metaphors / Storyboard

Our shopping feature is like Amazon's where a user has ease of access exactly like Amazon.

The learning modules will be easy to access like Youtube.

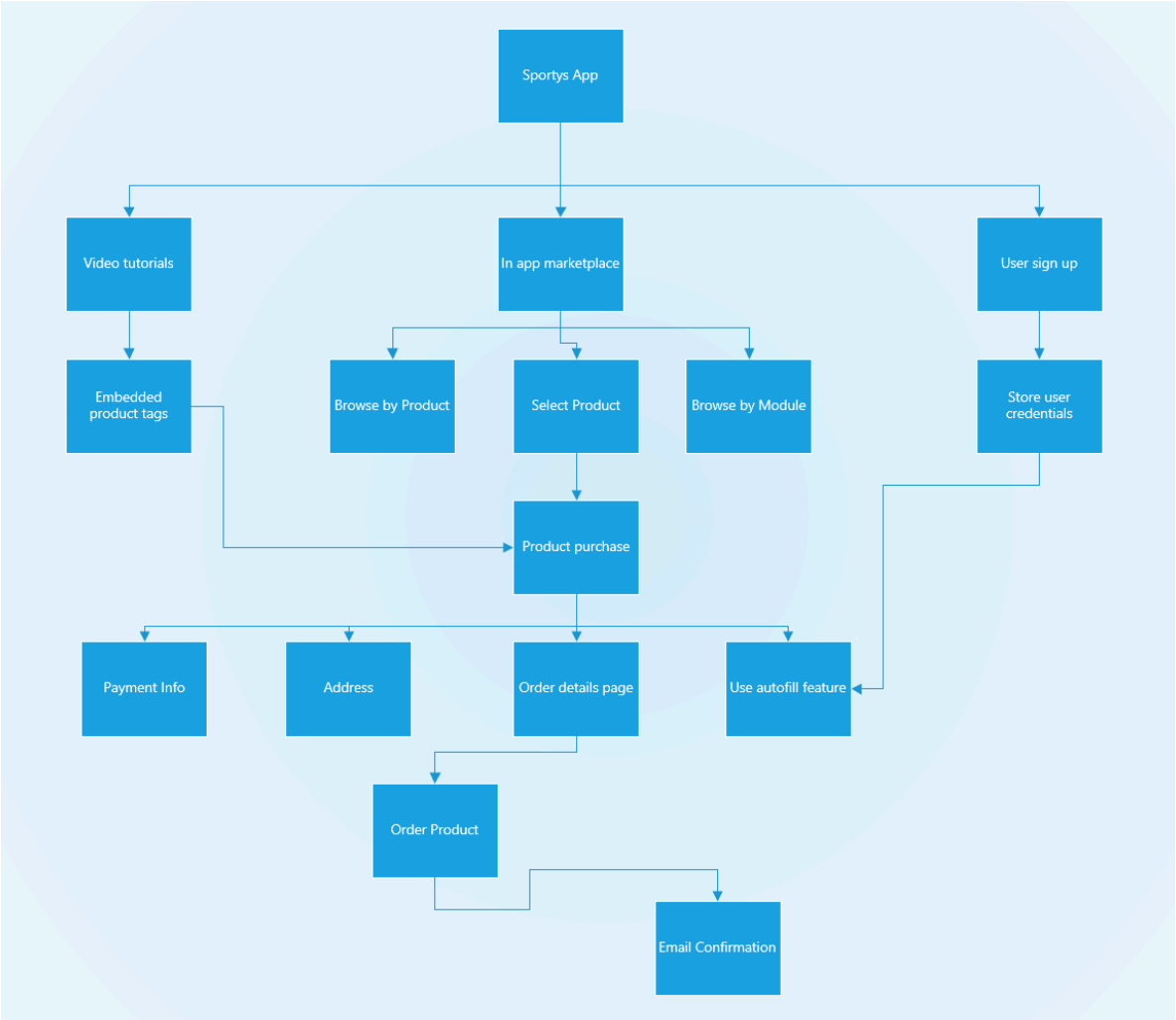
Wireframes


Sporty's Pilot Program
Module 1
Module 2
Module 3
Module 4
Module 5
Module 6
Module 7
Module 8
Module 9
Module 1
Section 1
-Section 1.1
-Section 1.2
-Section 1.3
Section 2
Section 3
Section 4
Section 5
Product
A paragraph of text A paragraph of text .A paragraph of text. A paragraph of text. A paragraph of text. A paragraph of text. A
Module 1
Section 1
-Section 1.1
-Section 1.2
-Section 1.3
Section 2
Section 3
Section 4
Section 5
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Module 1
Section 1
-Section 1.1
-Section 1.2
-Section 1.3
Section 2
Section 3
Section 4
Section 5
Product
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My Cart
Product
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Continue to billing

Team Project 5: High Fidelity Prototype

1. **Overview**: Our team decided to include high fidelity designs of what each page within the Sporty's app would look like. We narrowed it down to the process of 1. Seeing the product within a tutorial module and then ordering it. And then the second process 2. Navigating to the in app marketplace, searching for desired product, and then placing the order.

2. **HTI**: Copy of Hierarchical Task Inventory

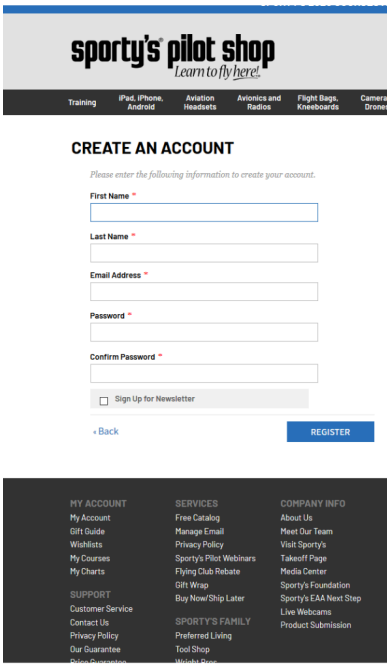


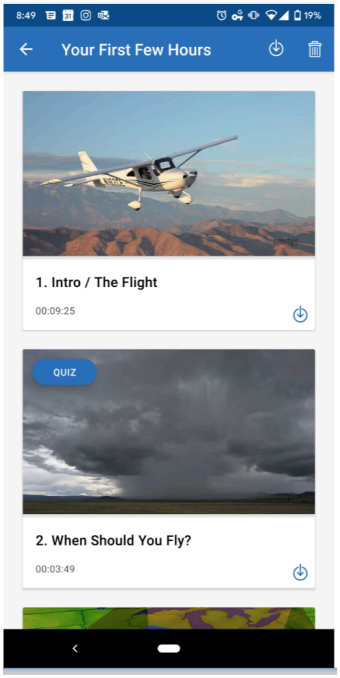
3. **Prototype Process**: Describe the process of building your prototype. Which prototype tool did you select to use? Paper, Software, HTML, Mobile App developer?

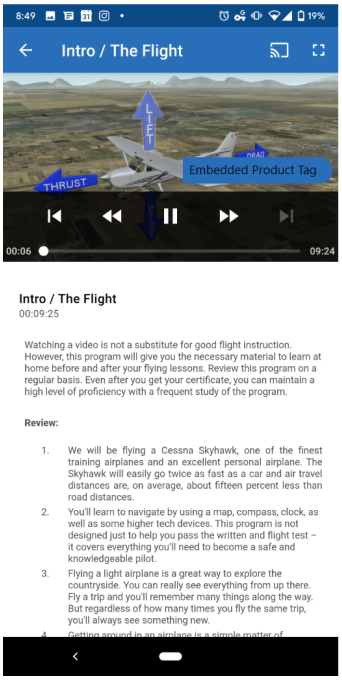
The process of building our prototype involved the use of Adobe XD. With this program we were able to effectively create and design the specific pages within our application. We used AdobeXD because we found this tool to be one of the best out there for app designs as well as it being highly recommended by our professor.

4. **The Wireframes**:

Task 1: Embedded Tag product purchase

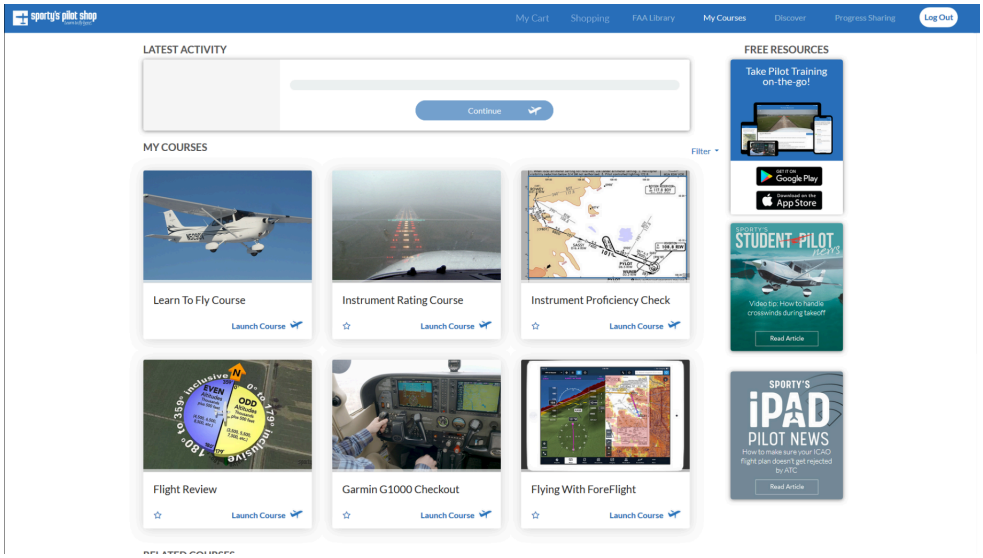




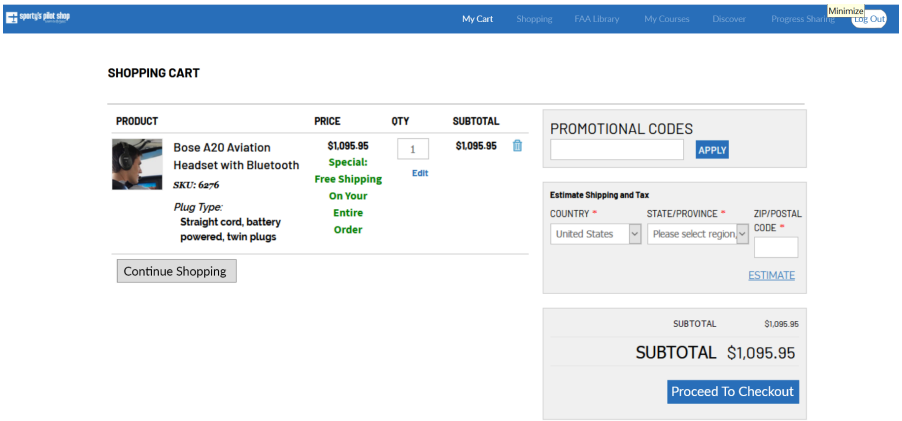


Create your user account	Navigate through video tutorials	Click embedded product tag to purchase product

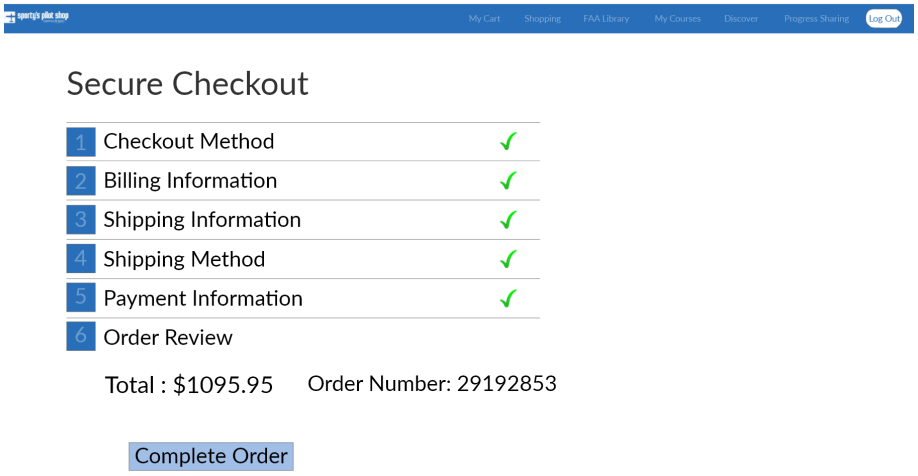
Task 2: Browse Marketplace for product purchase



Browse the sportys marketplace for relevant products.



Click on item to purchase and add to cart, from here you can then also proceed to checkout



Complete checkout, use autofill for billing information, shipping information, and payment information

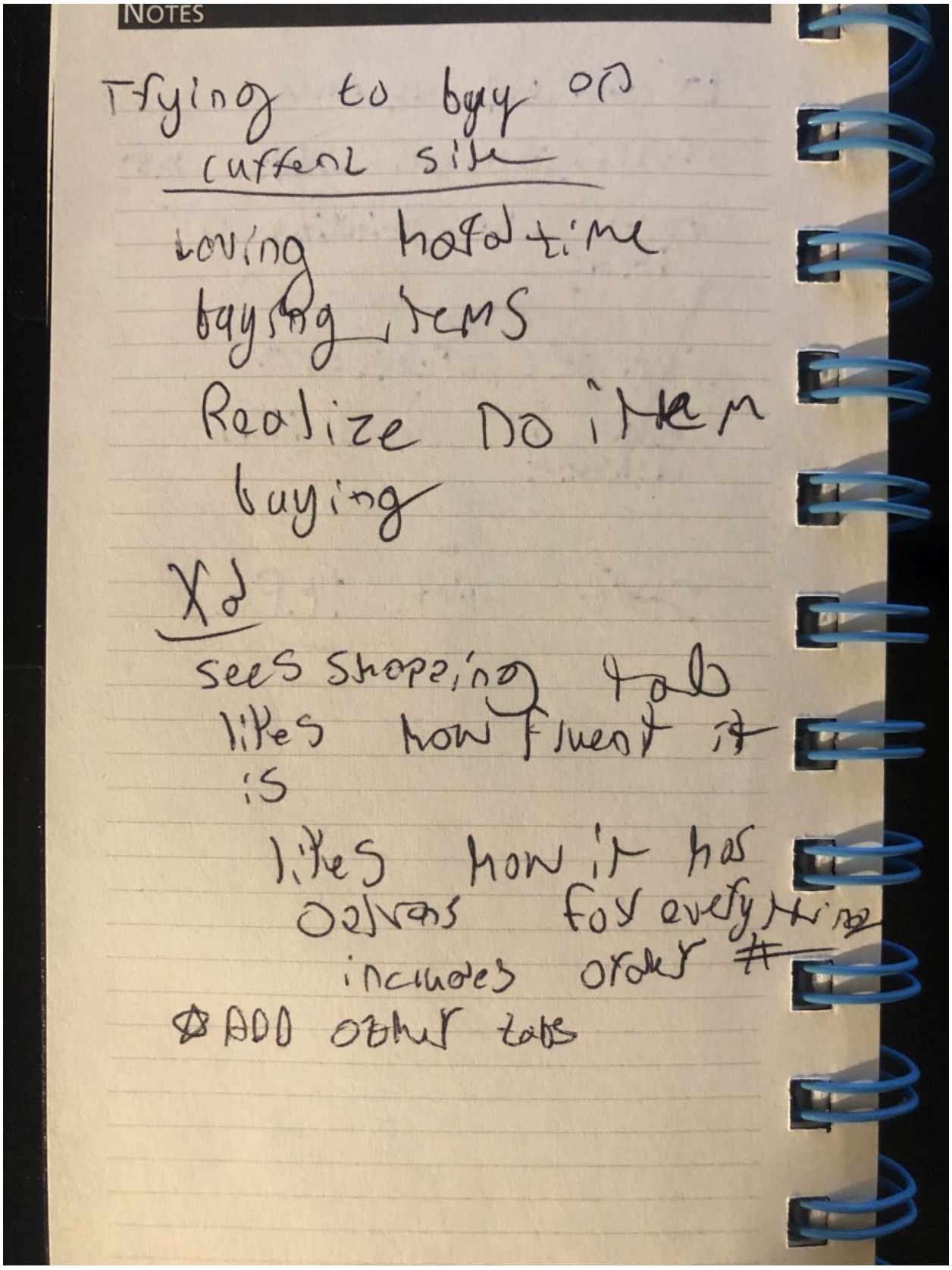
5. **The Pilot Test Walkthrough:** We stepped into the shoes of our persona in order to recreate the experience of purchasing a product from the above two tasks. Step by step, we were thinking about what the persona would need and want in order to have a satisfying experience. We did not really change the prototype once it was finished, instead we used an agile approach and molded it as we built it, this approach was very educational and efficient.

HCI EVALUATION

Description of the product Testing the shopping feature vs what is currently offered on the learn to fly course.
Goals of the testing To see how different users in various stages would interact with a shopping feature and streamlining the process to order products within the Sporty's application
Description of the number and types of participants Six participants One current pilot student 19 One older male 57 One younger female 18 One male 22 Two middle aged men 38, 45
Tasks used in evaluation Having the users show me how they might go about purchasing products not only on the current system, but also on the possible improvement. The user would open the current shopping feature in the current learn to fly course. And they would try to complete an ordering process in the new proposed system.
Experimental design of the test The factor of the test that was kept constant was the instructions given to the participant as well as the sites and mockups used. The users were asked to try and figure out any problems they had themselves but assistance was given if necessary.
Evaluation methods used Heuristic Evaluation was used. Took notes of everything that they thought of the original site as well as the new proposed sight as well as timed the amount of time that it took to "purchase an item" on both sites.
Usability measures and data collection methods employed Data collection method was simply the notes that were taken from my notebook and visual observation.
SCROLL DOWN

Numerical results Graphical methods of presentation

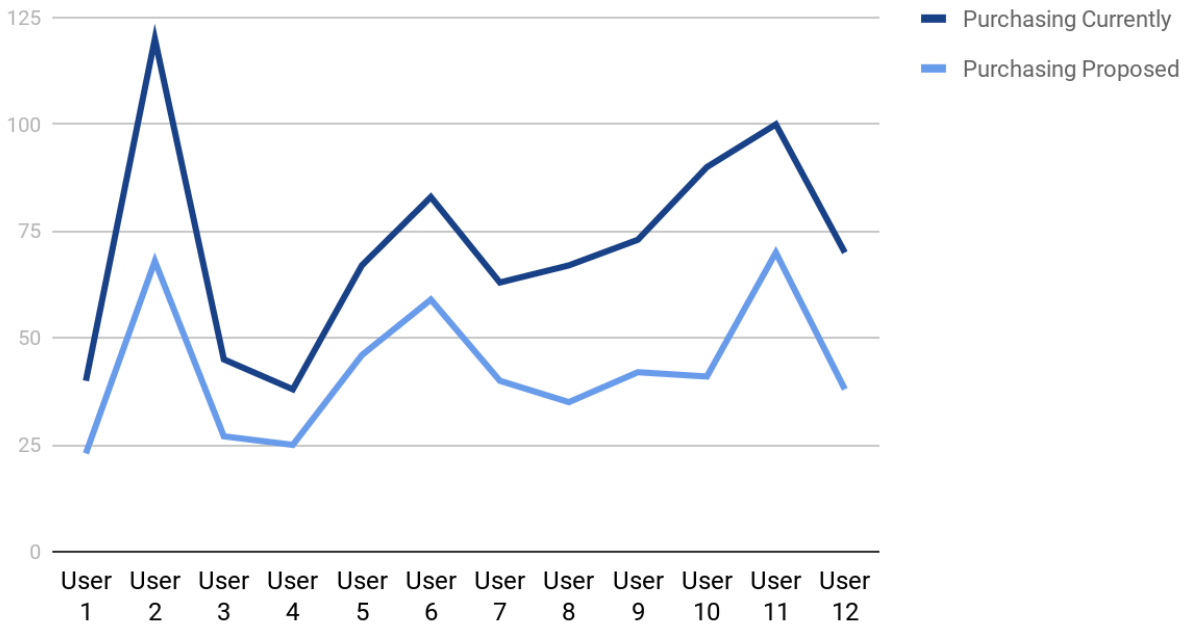
The way that it was presented to them was through a laptop that had both options pulled up. They were already signed in with our own credentials and then were able to access everything on the application. The average time it takes a user to complete this task was around a minute to give up on trying to order on the current system from start to finish. The average time to complete ordering on the proposed website was between 30 seconds and a minute. The only issues observed were the clear lack of options in ordering on the original site which frustrated some users. Provisions for this task include simplifying the checkout process.


NOTES
Trying to buy on current site
Loving hate time buying items
Realize DO item buying
XD
sees shopping tab likes how fluent it is
likes how it has colors for everything includes order #
ADD other tabs

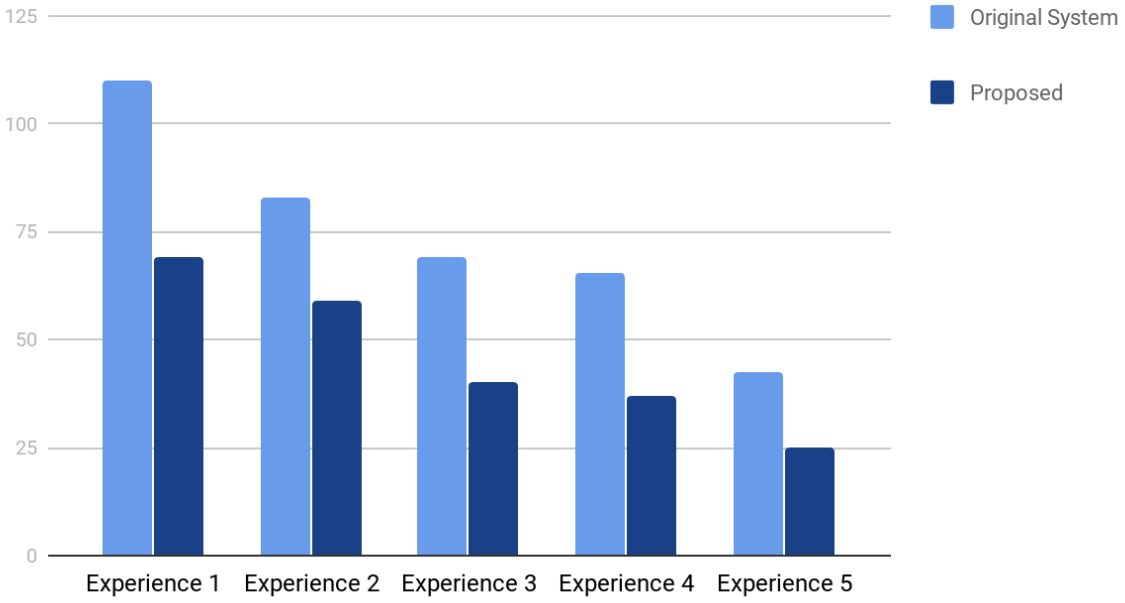
Description of the product Testing the ability to get around the proposed changes, and browse the in app marketplace for products
Goals of the testing To find any possible changes that need to be made to the proposed changes before we complete the product and to test the functionality of the in-app marketplace.
Description of the number and types of participants 6 Participants Two females. 23 & 21 Two males 40, 36 Two females 60, 32
Tasks used in evaluation Told to move around the app to do certain things and that we were looking for possible changes of how the app all stayed together. We wanted to see cross functionality between the newly built marketplace and the video tutorials. Browsing for products in-store, ordering, checking out, shipping information.
Experimental design of the test The experimental design of the test was not changed, the instructions they were given were to browse around, use the new features, and to add an item to the cart and checkout. They were timed and used the same systems as the previous task.
Evaluation methods used Took notes of how the users interacted with this in order to gauge any problems that they might have using the planned addition to the process. Took notes, asked users how they felt using the platform and visual observations were made as well. QUIS.
Usability measures and data collection methods employed Data collection methods used were interviewing them while performing the task and also while they were moving about the proposed application.
Numerical results Graphical methods of presentation They were instructed to use the application on a laptop and were not shown or directed how it works. We wanted to keep the instructions short in order to see how the users would navigate the platform from a more objective perspective. This way their actions were not influenced by us in any way.The time was very similar to above just slightly longer due to it being more open ended. Users found the in app marketplace very

convenient but again had similar issues as the previous task when checking out. Needed provisions include creating a more minimalistic design for the checkout process.

Current Buying vs Proposed Buying



Tech Experience vs Time to Purchase



Users	Self Described Technology Level	Time to give up on original	Time to order on proposed system
User 1	5	40	23
User 2	1	120	68
User 3	5	45	27
User 4	4	38	25
User 5	4	67	46
User 6	2	83	59
User 7	3	63	40
User 8	4	67	35
User 9	3	73	42
User 10	4	90	41
User 11	1	100	70
User 12	3	70	38
Averages	**3.25**	**71.33**	**45.75**

The first line graph shows the time it took for the users to give up on trying to order on the original site as well as the time it took them to complete the ordering process on this new site. For the bar graph we asked each user to rate their experience with technology on a 1-5 scale with 1 being the lowest and 5 being the highest. It should be noted the slow downturn of time spent vs the tech experience level. Overall the total average time to purchase on the proposed system is 45.75 seconds which is very low total time to order an item. The table above houses all of the data we combined into one area. The order of the users was in order from the six of the first evaluation then the six of the second evaluation in the order they appear in this document. This includes self described technology level and the

time it took to shop on the original and the timing on the proposed system. Also highlights the averages of all of the data.

Sporty's Powerpoint