CSD3125
Group Project

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Requirement Analysis

User Analysis

User Classes & Characteristics

Dragons (DigiPen Students):
Characteristics:

- **Tech-savvy**: Being generally young and accustomed to digital environments, students expect intuitive, user-friendly, and mobile-responsive platforms.
- **Diverse Backgrounds**: Students may come from various disciplines, each with unique skills and knowledge bases, contributing to a wide range of capabilities and interests.
- **Varied Judo Skill Levels**: Their proficiency in certain skills can range from beginner to advanced, requiring a system that can accurately capture and reflect this diversity.

Needs:

- Ability to easily view and sign up/cancel for group and private training sessions
- A way to purchase judo equipment
- Apply for a belt test and rank up to the next level

Gray Dragons (Staff and Faculty):
Characteristics:

- **Tech-savvy**: As a staff working for a school university based on computer science, the staff should be accustomed to digital environments. They will expect intuitive, user-friendly, and mobile-responsive platforms.
- **Diverse Backgrounds**: The staff comes from different departments and have different professional experience in their fields.
- **Varied Judo Skill Levels**: Their proficiency in certain skills can range from beginner to advanced, requiring a system that can accurately capture and reflect this diversity.

Needs:

- Ability to create group and private training sessions
- Ability to create/cancel for an event schedule
- A way to purchase judo equipment
- A way to control the user interface of their children's interaction with the app

Masters
Characteristics:

- **Tech-savvy**: Their experience will differ based on their age. But it is generally expected they are familiar enough with mobile or web based applications.
- **Professional Backgrounds**: The staff is an expert in Judo and is qualified to teach Judo at all levels and able to promote students to a different rank

Needs:

- Ability to create/cancel group and private training sessions
- Ability to create/cancel for an event schedule
- A way to purchase judo equipment
- A way to accept and assign and cancel belt tests
- A way to control the user interface of their children's interaction with the app

Little Dragons (Kids of Staff or Faculty):

Characteristics:

- **Tech-savvy**: They may not be as tech savvy due to their young age.
- **Judo Skill Levels**: The staff is an expert in Judo and is qualified to teach Judo at all levels and able to promote students to a different rank

Needs:

- Ability to easily view and sign up/cancel for group and private training sessions
- A way to purchase judo equipment
- Apply for a belt test and rank up to the next level

Personas

Dragon Persona: Jiang Aoyun
Background:

- Age: 21
- Occupation: Undergraduate student at DigiPen
- Background: Aoyun, a dynamic 21-year-old undergraduate at DigiPen, is embarking on her journey to master Judo alongside her academic pursuits. Aoyun has chosen to start her Judo training as a means to maintain fitness and gain self-discipline. As a beginner, her enthusiasm for learning and integrating into the Judo community is palpable.

  As a computer science student, Aoyun is proficient and comfortable navigating various platforms and applications, a skill that aligns well with her generational traits. Her familiarity with digital tools is expected to enhance her interaction with the DigiJudo app, allowing her to leverage its functionalities to the fullest.However, Aoyun faces the challenge of balancing her rigorous academic schedule with her newfound interest in Judo.

  She is in search of a solution that can seamlessly integrate into her busy life, enabling her to manage her time effectively while pursuing her passion for martial arts.

Goals:

- To seamlessly integrate Judo training into her busy academic schedule without compromising either responsibility.
- To efficiently navigate the DigiJudo app for class bookings, gear purchases, and progress tracking.
- To connect with the Judo community within DigiPen, fostering a sense of belonging and shared learning experience.

Challenges:

- Finding an optimal balance between her academic responsibilities and Judo training sessions.
- Navigating the initial learning curve of Judo while managing her course load.
- Utilizing the DigiJudo app to its full potential, ensuring she can access all necessary features without technological hiccups.

Motivators:

- The desire to maintain physical fitness and learn new self-defense skills through Judo.
- The opportunity to be part of a community with shared interests, enhancing her social experience at DigiPen.
- The convenience and efficiency provided by the DigiJudo app, which aligns with her tech-savvy nature and preference for digital solutions.

Gray Dragon Persona - Professor Amadeus:

- Age: 45
- Occupation: Faculty member at DigiPen, teaching Game Design
- Background: Professor Amadeus is a seasoned game design educator at DigiPen, deeply invested in his teaching and the well-being of his students. Outside his academic responsibilities, he plays an equally important role as a father to a Little Dragon, his child who is about to embark on the journey of learning Judo. Although Professor Amadeus himself has no background in Judo, he recognizes its value in teaching discipline, fitness, and self-defense, and is enthusiastic about supporting his child's new interest.

  Balancing his professional duties and parental responsibilities, Professor Amadeus seeks to integrate his child's Judo activities into their family life without compromising his work commitments. He is particularly keen on using technology to streamline this balance, looking for intuitive solutions that accommodate his moderate tech proficiency while ensuring his child's engagement and safety in the Judo club.

Goals:

- To support his child in joining and thriving in Judo classes suitable for beginners, fostering his child's physical and mental development.
- To efficiently manage and oversee his child's Judo schedules and related activities using digital solutions, aligning them with the family's routine.
- To ensure a safe and productive learning environment for his child, staying informed and involved in his progress and experiences.

Challenges:

- Finding a balance between his demanding academic schedule and being actively involved in his child's extracurricular learning.
- Navigating a new domain of Judo, understanding its practices and values to better support his child's journey.

Frustrations:

- Potential overwhelm due to juggling professional responsibilities, personal learning about Judo, and managing his child's activities.
- Concerns about effectively using an app designed for Judo enthusiasts, given his lack of experience in the martial art.

Motivators:

- The desire to see his child develop confidence, discipline, and physical fitness through Judo.
- The opportunity to engage with his child through a new shared interest, enhancing their bond and mutual understanding.

Little Dragon Persona - Seow Kai Jun:

- Age: 8
- Occupation: Primary school student, child of a DigiPen staff member
- Background: Kai Jun is a lively and curious 8-year-old attending primary school, whose parents are part of the DigiPen community. Eager to explore new activities and keen on making friends, he views Judo not just as a sport but as an adventure. His parents, understanding the value of martial arts in character and discipline development, are enthusiastic for him to start learning Judo. They believe it will not only teach him self-defense but also instill qualities like respect, patience, and persistence.

  Despite his young age, Kai Jun is excited about learning Judo, drawn to the idea of mastering a new skill and the prospect of wearing a Judo belt. His tech proficiency is typical of a child his age, primarily using devices for games or educational apps, hence requiring assistance from his parents to interact with more complex applications.

Goals:

- To engage in Judo classes that are tailored to young beginners, providing a foundation in the sport while being fun and interactive.
- To form new friendships within the Judo class, enhancing his social circle and team spirit.
- To learn the basics of Judo, focusing on fundamental techniques and the discipline's core values.

Challenges:

- Interfacing with an app that isn't designed with young children in mind, necessitating an intuitive and straightforward user experience.
- Depending on his parents to manage and oversee his Judo activity schedules, equipment purchases, and class bookings.

Frustrations:

- Potential confusion or frustration with complex app navigation or content that isn't age-appropriate.
- Feeling out of place or anxious if the Judo classes don't align with his beginner skill level or if they lack peer interaction.

Motivators:

- The excitement of participating in a new sport, earning belts, and achieving milestones in Judo.
- The opportunity to meet other children his age with similar interests, fostering new friendships and teamwork experiences.

Master Persona - Sensei Yin:

- Age: 52
- Occupation: Judo instructor and DigiPen staff member
- Background: Sensei Yin, with his profound expertise and over three decades of experience in Judo, holds a revered position at DigiPen. His journey in martial arts is marked by dedication, discipline, and a deep commitment to the art of Judo, earning him multiple black belts and a wealth of respect within the martial arts community. At DigiPen, he's not just a staff member but a mentor and a guide, instrumental in shaping the judo skills and characters of his students.

  With a moderate level of tech proficiency, Sensei Yin appreciates technology solutions that enhance functionality without unnecessary complexity. His role requires the adept coordination of class schedules, monitoring of student progression, and the judicious approval of belt test registrations, all of which demand a streamlined and efficient approach.

Goals:

- To efficiently manage and update Judo class schedules, ensuring they cater to the diverse needs of the students.
- To meticulously track and oversee the progress of each student, providing guidance and support to help them reach their potential.
- To handle belt test registrations with integrity and fairness, ensuring each student is evaluated on their true merit.

Challenges:

- Navigating the balance between traditional Judo teaching methods and the incorporation of modern technology to manage class logistics and student records.
- Ensuring that the tech solutions used are intuitive and serve to simplify rather than complicate his administrative duties.

Frustrations:

- Potential technology-related obstacles that could detract from the focus on teaching and mentoring students.
- The administrative burden of managing a large and diverse group of students, each at different stages of their Judo journey.

Motivators:

- The success and development of his students, witnessing their growth in skill, discipline, and character.
- The efficient integration of technology to enhance the teaching and learning experience, allowing more time and focus to be dedicated to the actual practice and teaching of Judo.

Task Analysis

Class Scheduling Analysis

DigiJudo App Task Analysis for Class Scheduling:

- **Accessing the Schedule**: Users log in and navigate to the event calendar section of the app.The interface presents a calendar view or a list of available classes.

- **Finding a Class**: Users can select each date to see the class listings to find a specific class. The slot and instructor will be listed on each class.

- **Booking a Class**: Upon selecting a class, users can view more details and proceed to book their slot. Confirmation is required, and users receive instant feedback on their booking status.

- **Managing Bookings**: Users can view their upcoming classes, make changes, or cancel their bookings. Notifications remind users of their upcoming classes and any changes in the schedule.

Mindbody Task Analysis for Class Scheduling:

- **Accessing the Schedule**: Users log in and navigate to the class schedule section, often accessible directly from the dashboard or main menu. Mindbody presents a comprehensive schedule view, often allowing customization of the calendar display.

- **Searching for Classes**: Mindbody offers robust search and filter options, enabling users to find classes by date, type, instructor, or time. Classes include detailed descriptions, with additional information available upon clicking or tapping the class entry.

- **Booking a Class**: Users select the desired class from the schedule and are typically taken to a booking screen for confirmation.

Key Takeaways:
User Interface: Mindbody offers intuitive navigation to access and manage class schedules. DigiJudo's interface would need to be just as polished in order to match Mindbody.

Class Scheduling: Mindbody's class scheduling is robust, supporting a wide range of businesses and class types. DigiJudo would only need to ensure that its scheduling functionality applies to events, private and group sessions

Notifications: Mindbody provides effective notifications and reminders to help users manage their schedules. DigiJudo should implement something similar in order to notify students of their class timings or have a way to view upcoming schedules.

Booking Confirmation: Mindbody’s ease of booking and receiving clear confirmation allows users to feel confident that their class reservations are successfully made and easy to modify if necessary. DigiJudo should follow suit and implement confirmation pages after booking has been completed.

Buying an Item Analysis

DigiJudo App Task Analysis for Buying an Item:

- **Browsing Store:**
  Users can only buy Judo related equipment in the store

- **Item Selection:**
  Users can view detailed descriptions, focusing on judo relevance, like material suitability, size charts specific to judo gear

- **Adding to Cart**:
  After selecting an item, users choose variations and quantities, then add them to their cart. The cart shows the total costs and quantity bought

Shopee Task Analysis for Buying an Item:

- **Browsing Store:** Shopee offers a vast array of products across multiple categories. Users can utilize search and filter functions to narrow down to specific items. Each product provides extensive descriptions, customer reviews, and ratings to help inform the buyer's decision.

- **Item Selection:** Users can see detailed images, read reviews and check seller ratings.

- **Adding to Cart**: Items are added to a shopping cart where users can adjust quantities or remove items. Shopee often suggests related products to the user to entice them to buy more goods. Users can also apply vouchers or coupons to get discounts before proceeding to checkout.

Key Takeaways:

Store Page: While Shopee offers a broader range of products, DigiJudo provides a curated selection, which makes it easier and more straightforward for judo enthusiasts to find judo items without needing to search for it.

Item Description: Shopee provides users with useful information so that users can make an informed decision during a purchase. DigiJudo should aim to do the same by giving the users all the details that could help solidify their choices,

Shopping Cart: Shopee entices users to buy more related products in order to generate more sales however DigiJudo do not need to follow it as the purpose of the store is more of ordering equipment than purchasing goods.

Helicopter Mode Analysis

DigiJudo App Helicopter Mode:

- **Functionality Control:** Parents can specifically enable or disable the child's ability to access the shop, book or cancel sessions within the DigiJudo app, directly overseeing which app functionalities their child can use.

- **Safety and Engagement**: The primary goal is to ensure the child's safety and appropriate engagement with the app's content, aligning with the educational and physical benefits of judo.

Netflix Parental Controls:

Content Filtering: The Kids profile on Netflix automatically filters out content that is not suitable for children, offering a curated viewing experience based on age-appropriateness.

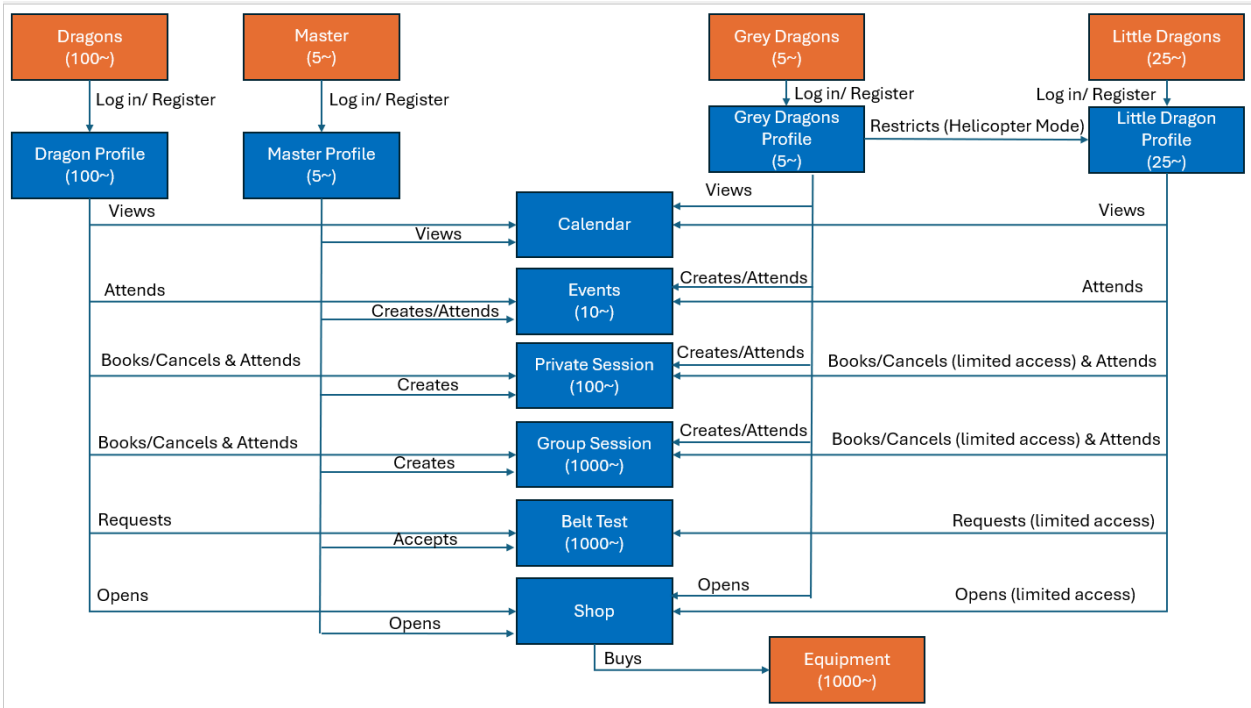
Focus on Safe Viewing: Netflix's Kids profile is designed to ensure a safe, suitable viewing environment

Key Takeaways:

- **Control and Flexibility**: DigiJudo allows parents to set specific restrictions on actionable features, mirroring the way Netflix restricts content not suitable for children. However, DigiJudo focuses more on app-specific actions while Netflix focus more on preventing shows from appearing.

- **Purpose and Customization**: Both Helicopter Mode and Netflix Parental Control aim to create a safe and engaging environment tailored to young users

Domain Analysis



Prototype

Prototype Methods

In the development of our project, we employed a two-tiered approach to prototyping, leveraging both low-fidelity and high-fidelity techniques to iteratively design and refine our application interface. This structured approach enabled us to validate our design concepts, gather valuable user feedback, and enhance the overall user experience.

Low Fidelity Prototyping:
We created our low fidelity prototype with paper prototyping which allowed us to quickly visualize and iterate on design ideas. We chose Google Slides as our tool to create these prototype elements due to its versatility, ease of use and the ability to allow multiple people to work on it at the same time. Within Google Slides, we designed the basic layout and interface elements. This was instrumental in quickly planning out and defining the user journey and interaction model.

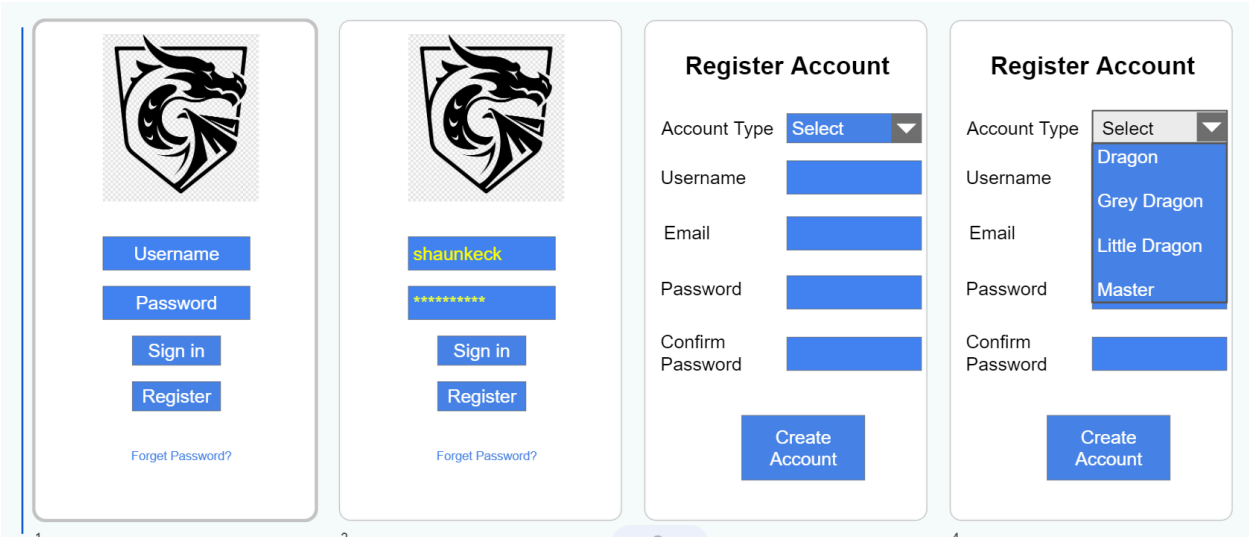
After designing the initial interface in Google Slides, we printed the screens to create a user interface that could be manipulated and tested. This paper-based version of our app enabled us to conduct heuristic evaluation sessions, where we could have our evaluators evaluate and identify usability issues. The simplicity of paper prototyping facilitated rapid modifications and fostered a collaborative design atmosphere, allowing team members to sketch out and discuss changes on the spot.

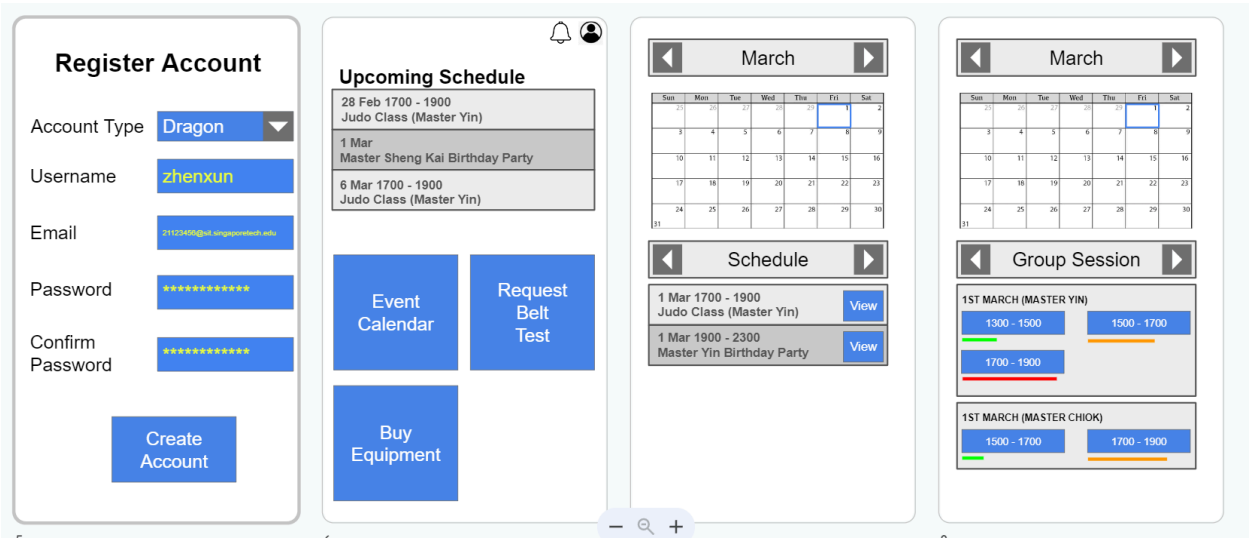
High-Fidelity Prototyping:
Transitioning from paper to high-fidelity prototyping, we utilized Figma, a powerful design tool known for its collaborative features and comprehensive design capabilities. Figma allowed us to create detailed, interactive, and visually representative prototypes that closely mimicked the final product. By leveraging Figma's functionalities, we were able to develop a clickable prototype that users could interact with, providing a more authentic and engaging user experience during testing sessions.

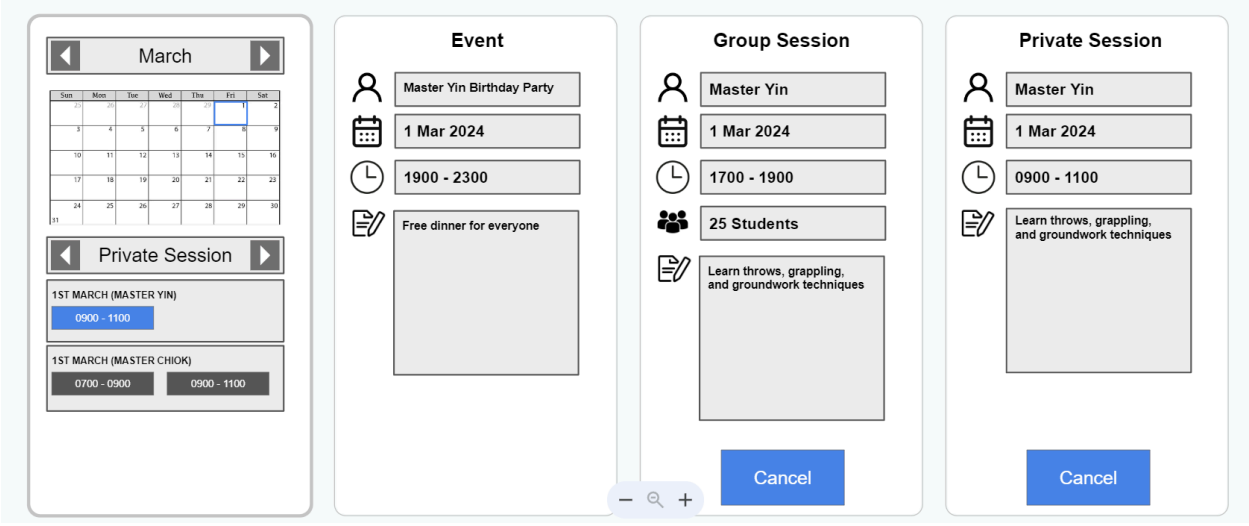
The high-fidelity prototype in Figma incorporated refined visuals and interactions which offer a more accurate depiction of the app's look and feel. This level of detail is crucial for validating the visual design, assessing the intuitiveness of the interface, and testing specific interaction patterns.

Through the combined use of low fidelity and high-fidelity prototyping, we were able to quickly validate concepts through iterative testing and refine our user interface to better meet the needs of the project. This approach ensured that our design decisions were grounded with feedback from the evaluations and helped the transition from concept to development.

Low Fidelity Final Version Prototype







Cancel booking?

No

Yes

Session Canceled!

Home

March

Sun Mon Tue Wed Thu Fri Sat

Schedule

1 Mar 1900 - 2300
Master Yin Birthday Party

View

Group Session

Master Yin

1 Mar 2024

1700 - 1900

40 Vacancy Left

Learn throws, grappling, and groundwork techniques

Book Session

Private Session

Master Yin

1 Mar 2024

0900 - 1100

Learn throws, grappling, and groundwork techniques

Book Session

Confirm booking?

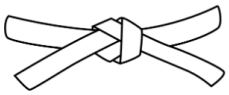
No

Yes

Session Booked!

Home

Belt Test

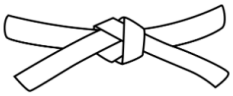


White Belt Test

You are not eligible for the White Belt Test. Please train some more before trying again.

Home

Belt Test



White Belt Test

You are eligible for the White Belt Test.

Request

Confirm request?

No

Yes

Test Requested!

Home

Order Equipment

Uniform $300.00

Jo $70.00

Tanto $25.00

Bokken $70.00

Kenju $53.00

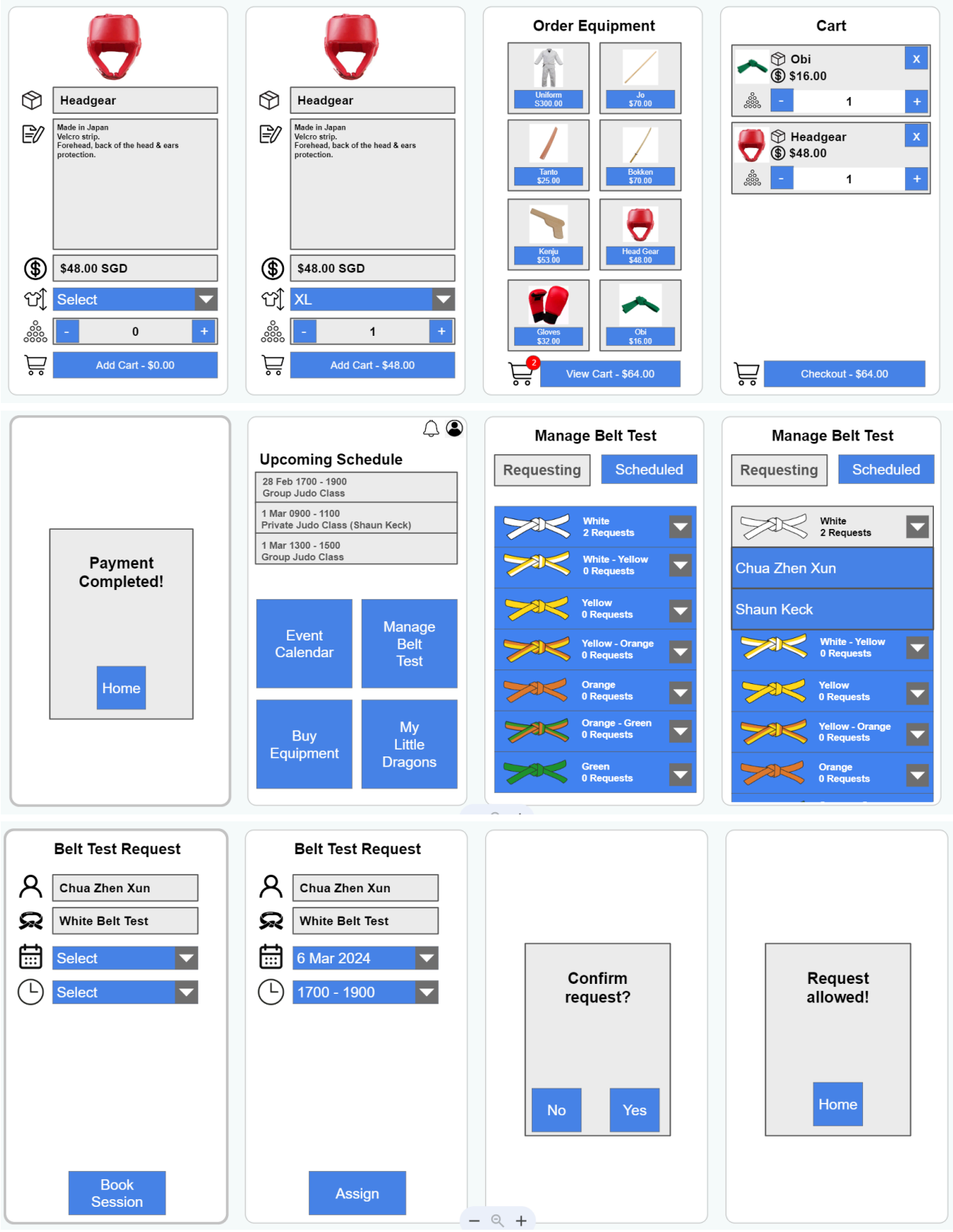
Head Gear $48.00

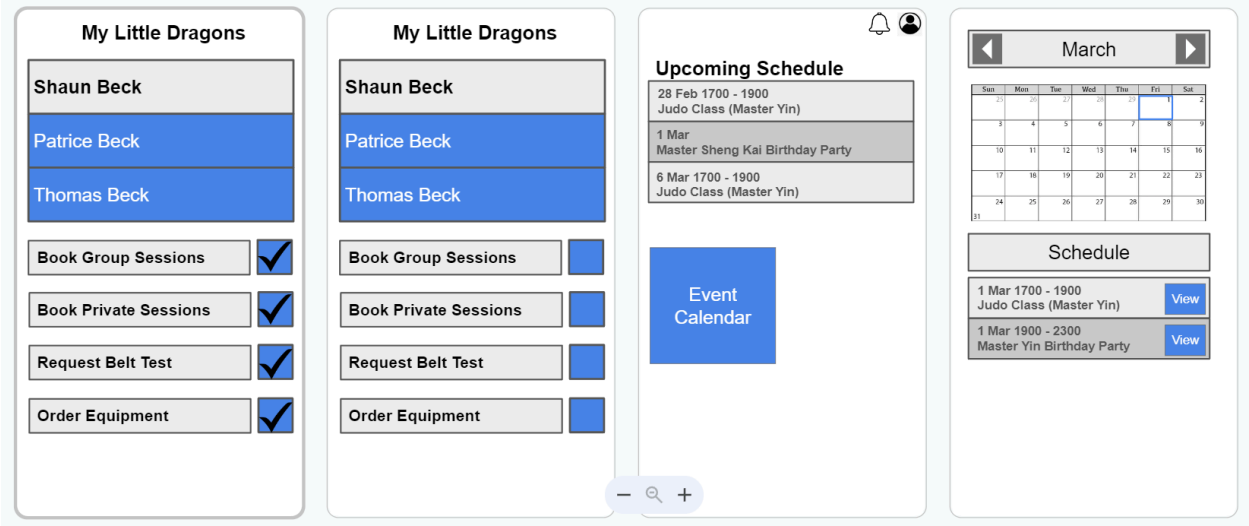
Gloves $32.00

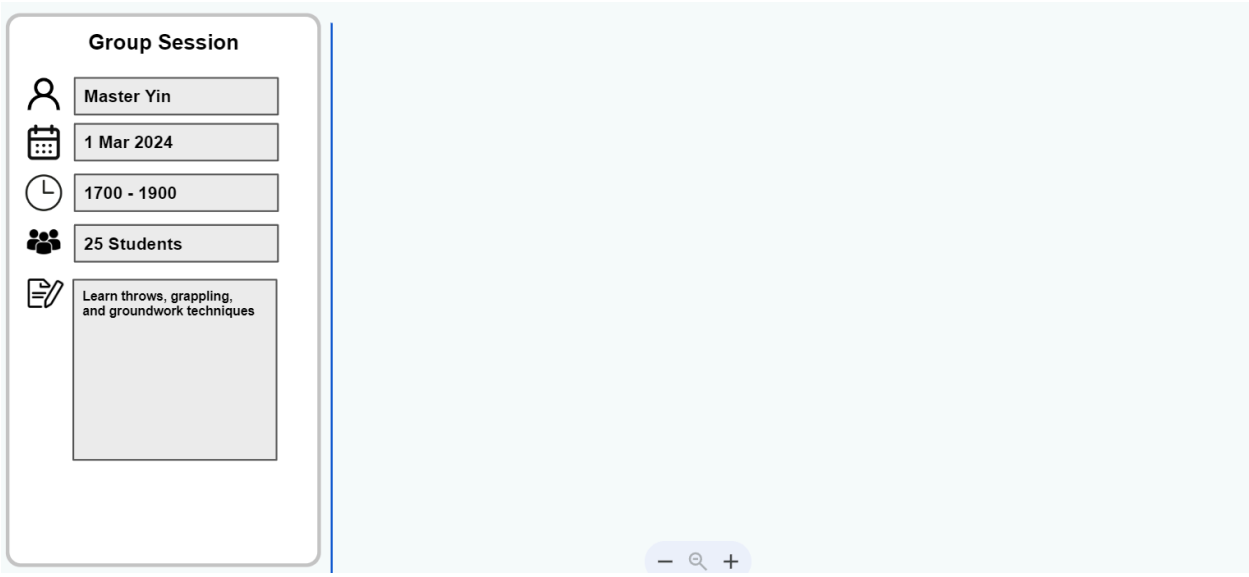
Obi $16.00

1

View Cart - $16.00

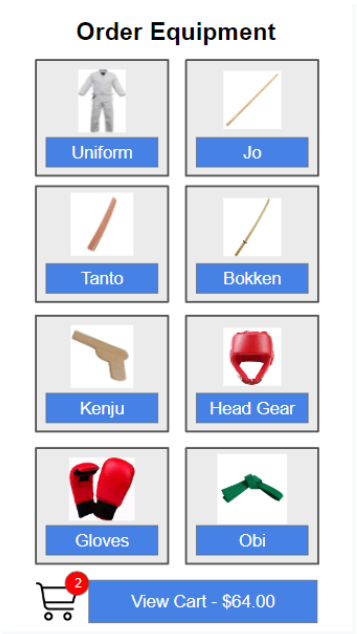

Headgear
Made in Japan
Velcro strip.
Forehead, back of the head & ears protection.
$48.00 SGD
Select
0
Add Cart - $0.00
Headgear
Made in Japan
Velcro strip.
Forehead, back of the head & ears protection.
$48.00 SGD
XL
1
Add Cart - $48.00
Order Equipment
Uniform $300.00
Jo $70.00
Tanto $25.00
Bokken $70.00
Kenju $53.00
Head Gear $48.00
Gloves $32.00
Obi $16.00
View Cart - $64.00
Cart
Obi
$16.00
1
Headgear
$48.00
1
Checkout - $64.00
Payment Completed!
Home
Upcoming Schedule
28 Feb 1700 - 1900
Group Judo Class
1 Mar 0900 - 1100
Private Judo Class (Shaun Keck)
1 Mar 1300 - 1500
Group Judo Class
Event Calendar
Manage Belt Test
Buy Equipment
My Little Dragons
Manage Belt Test
Requesting
Scheduled
White
2 Requests
White - Yellow
0 Requests
Yellow
0 Requests
Yellow - Orange
0 Requests
Orange
0 Requests
Orange - Green
0 Requests
Green
0 Requests
Manage Belt Test
Requesting
Scheduled
White
2 Requests
Chua Zhen Xun
Shaun Keck
White - Yellow
0 Requests
Yellow
0 Requests
Yellow - Orange
0 Requests
Orange
0 Requests
Belt Test Request
Chua Zhen Xun
White Belt Test
Select
Select
Book Session
Belt Test Request
Chua Zhen Xun
White Belt Test
6 Mar 2024
1700 - 1900
Assign
Confirm request?
No
Yes
Request allowed!
Home

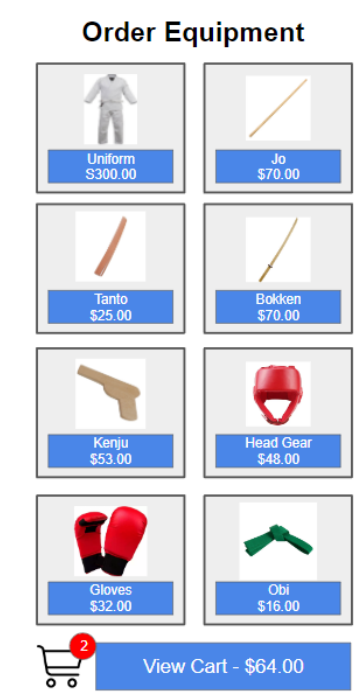

My Little Dragons
Shaun Beck
Patrice Beck
Thomas Beck
Book Group Sessions
Book Private Sessions
Request Belt Test
Order Equipment
My Little Dragons
Shaun Beck
Patrice Beck
Thomas Beck
Book Group Sessions
Book Private Sessions
Request Belt Test
Order Equipment
Upcoming Schedule
28 Feb 1700 - 1900
Judo Class (Master Yin)
1 Mar
Master Sheng Kai Birthday Party
6 Mar 1700 - 1900
Judo Class (Master Yin)
Event Calendar
March
Schedule
1 Mar 1700 - 1900
Judo Class (Master Yin)
View
1 Mar 1900 - 2300
Master Yin Birthday Party
View


Group Session
Master Yin
1 Mar 2024
1700 - 1900
25 Students
Learn throws, grappling, and groundwork techniques

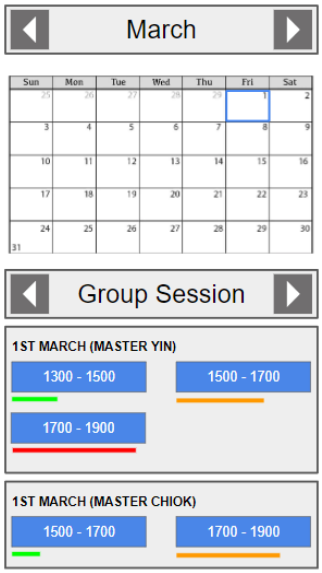
Version 1 Prototype Comparison with Final Prototype

Adding the Price to the Buttons in the Shop

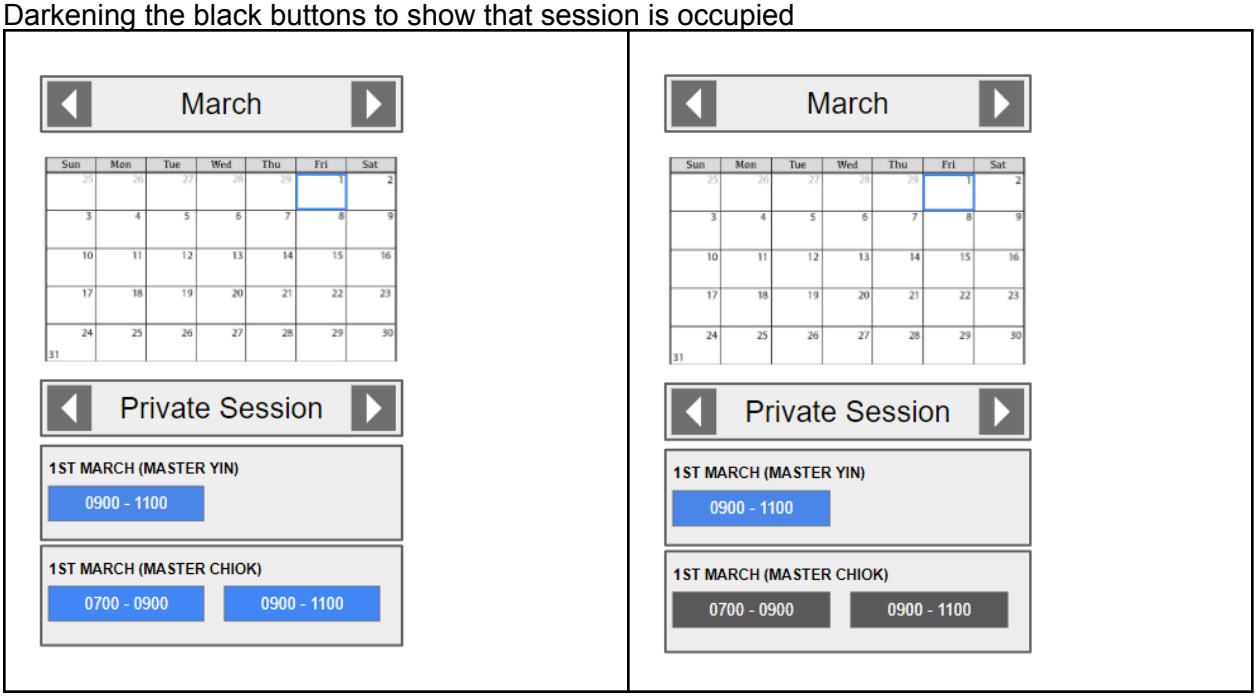




Adding the slot bar indicator when looking at group session



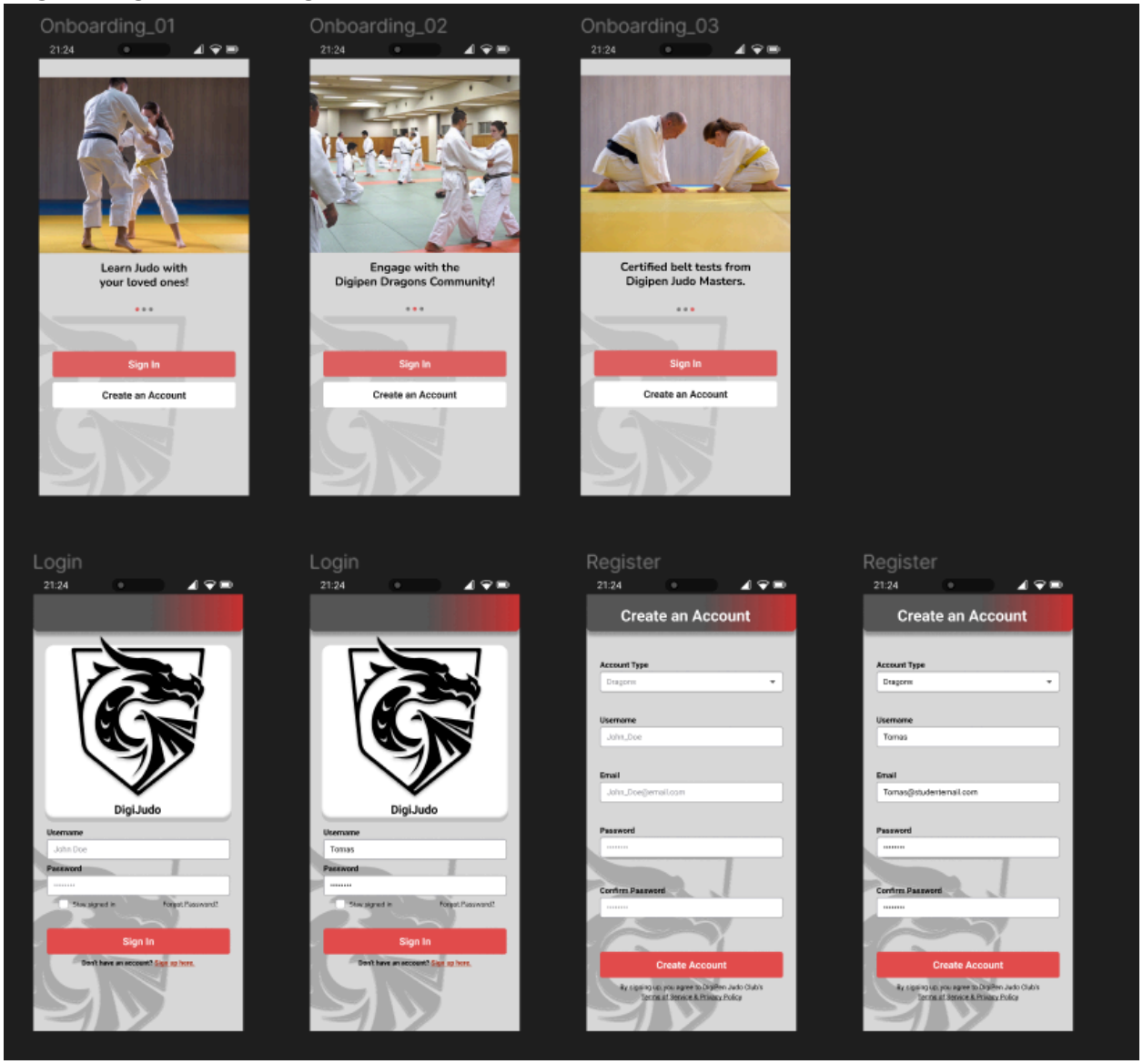
Darkening the black buttons to show that session is occupied



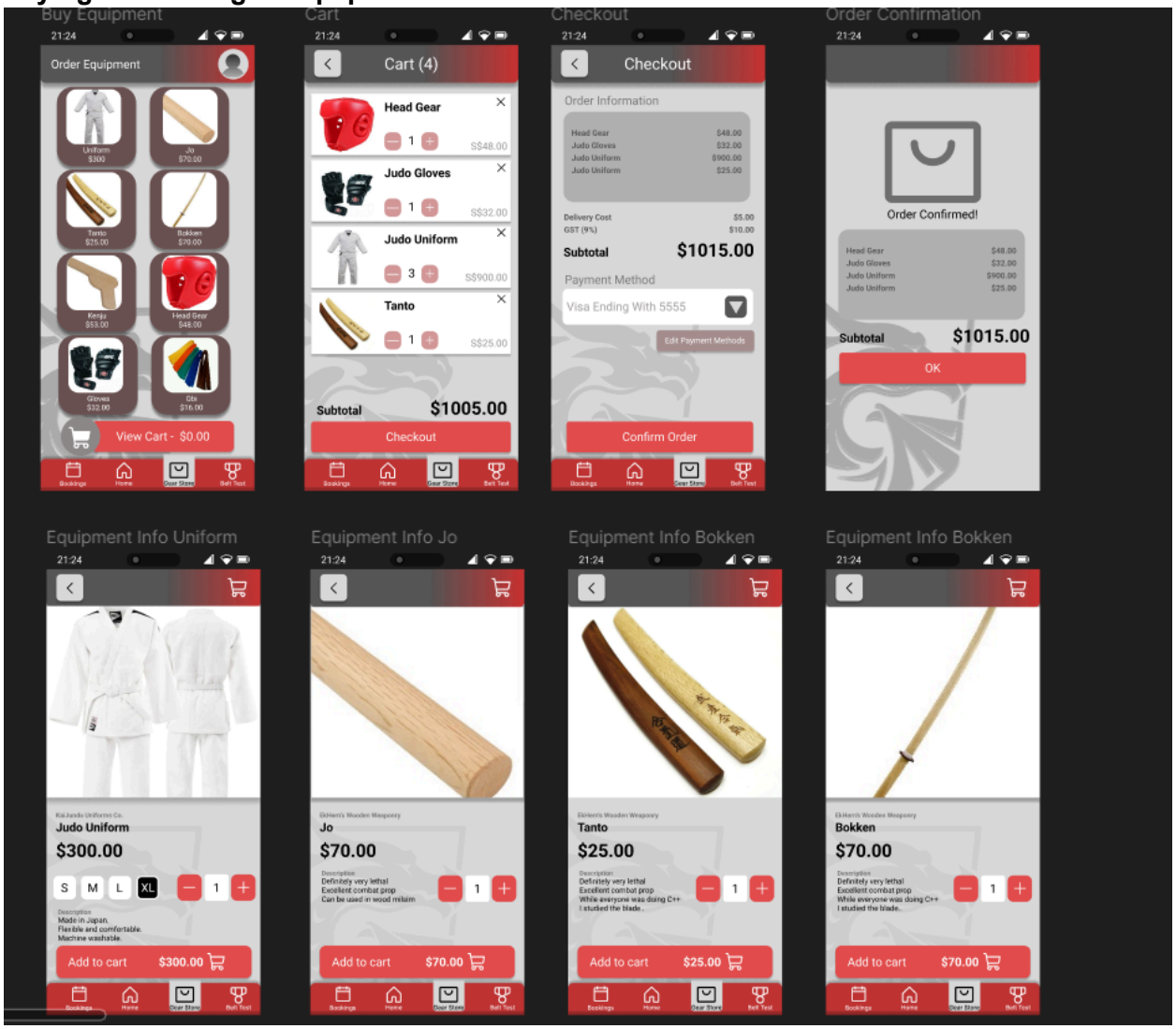
High Fidelity Prototype

The images below represent only a fraction of the high fidelity prototype.

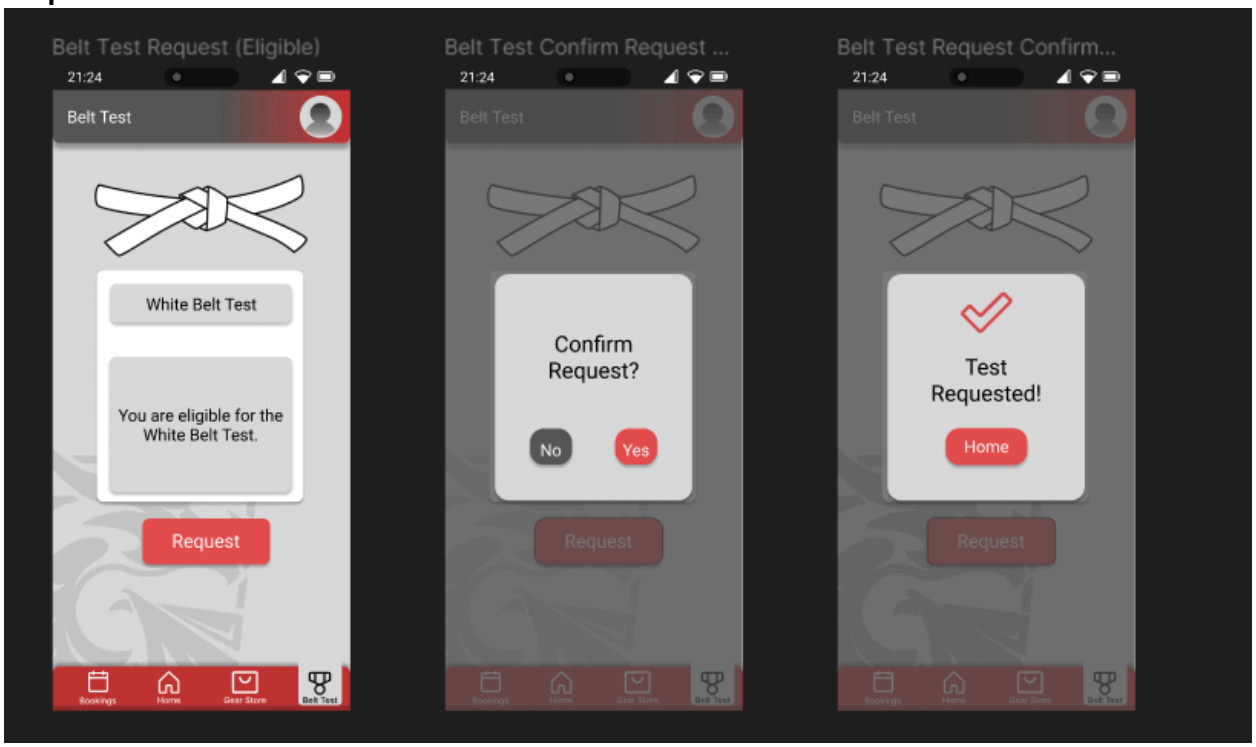
Registering and Creating Account



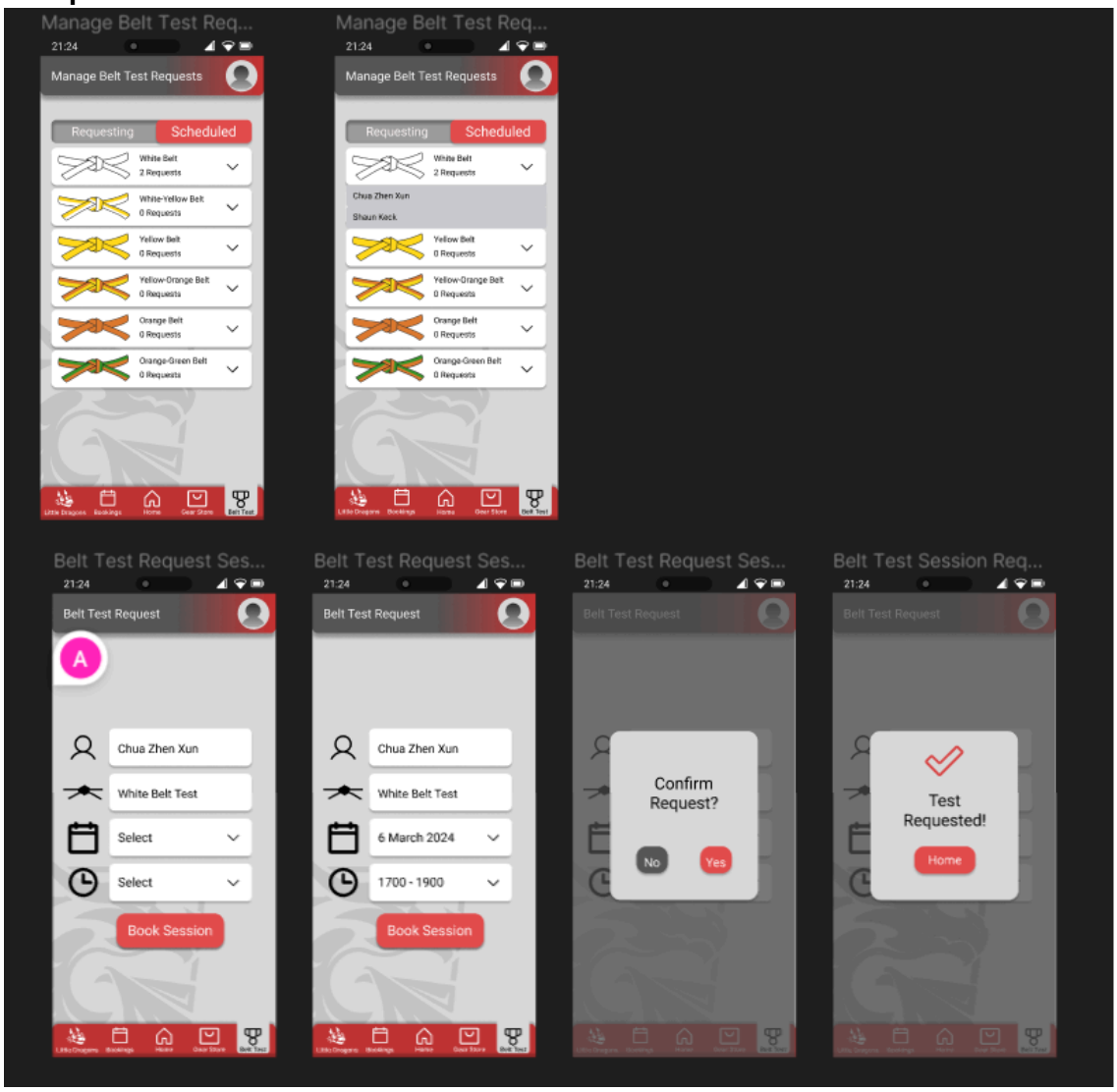
Buying and Selling of Equipment



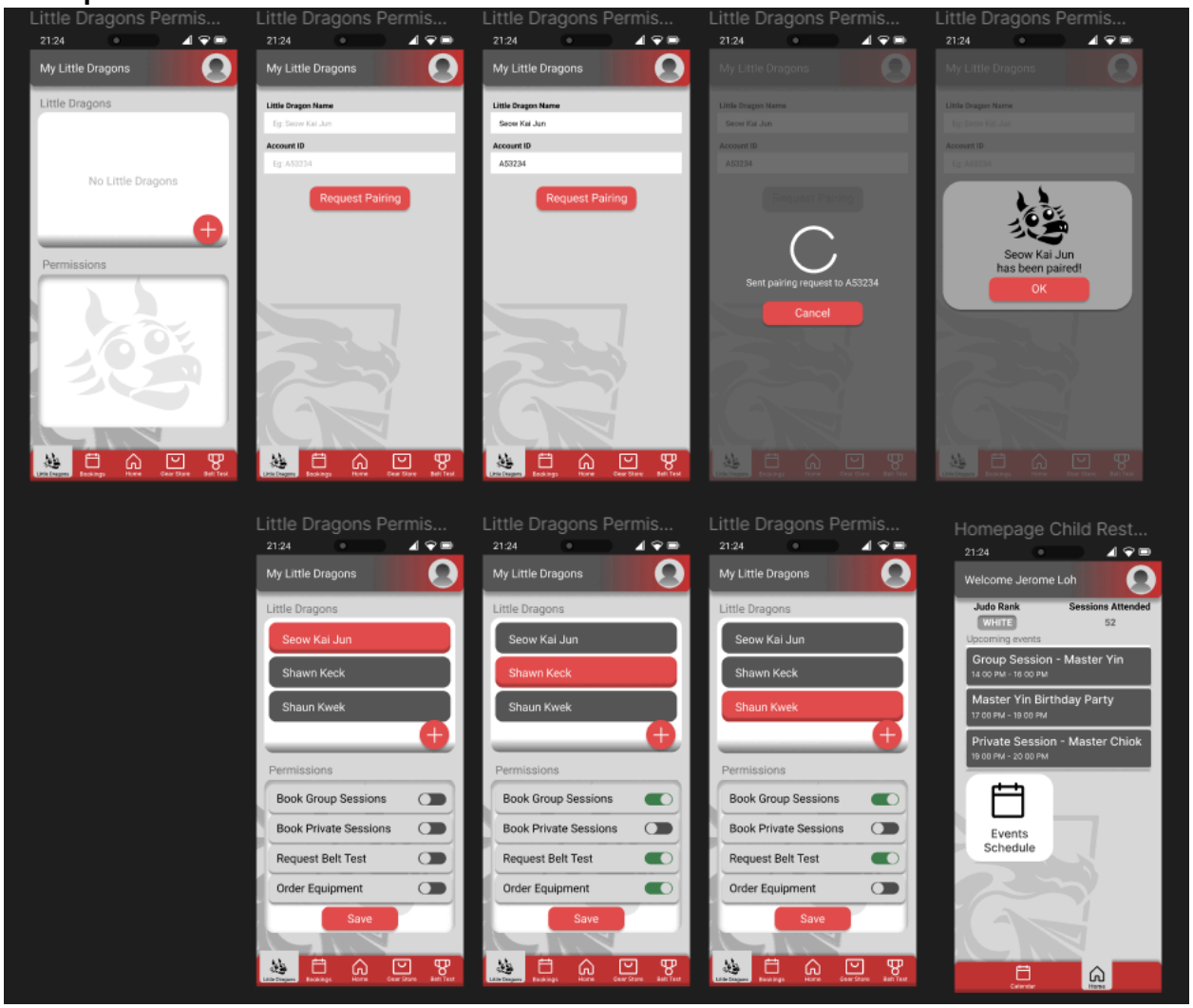
Request Belt Test



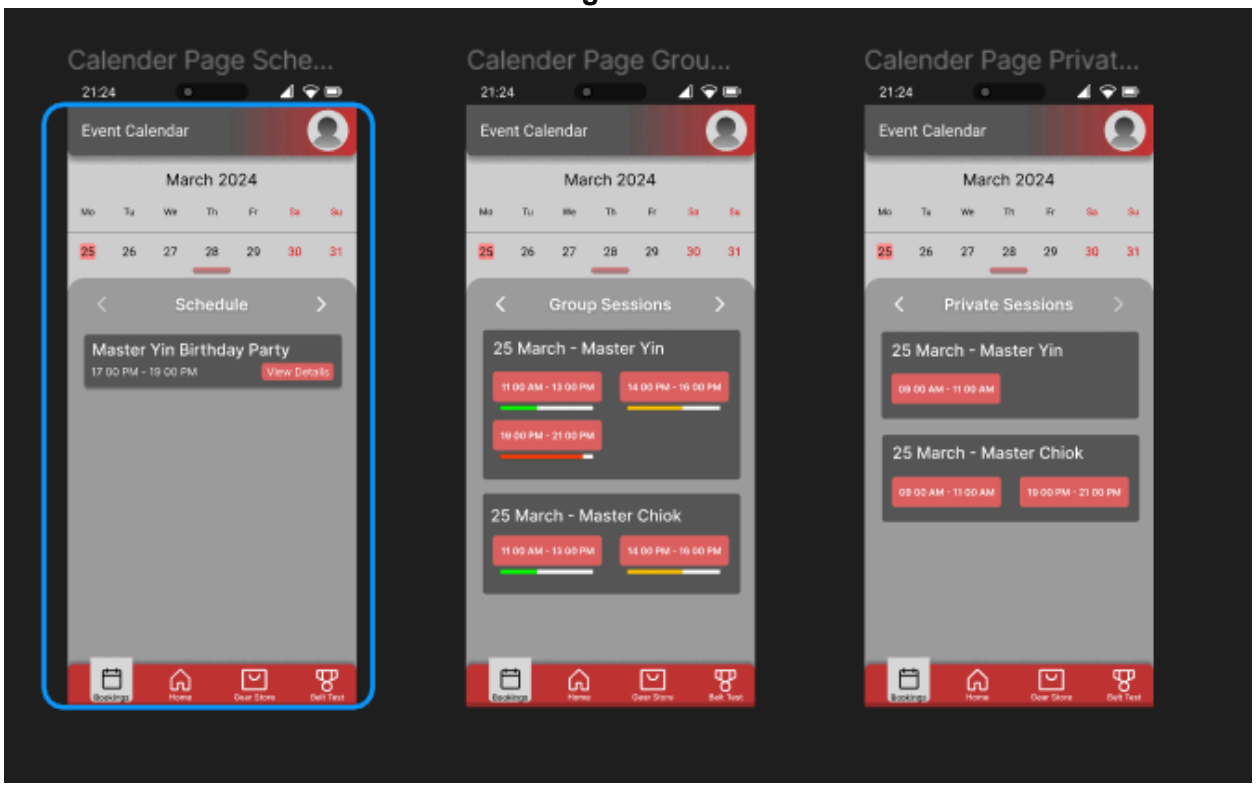
Accept Belt Test



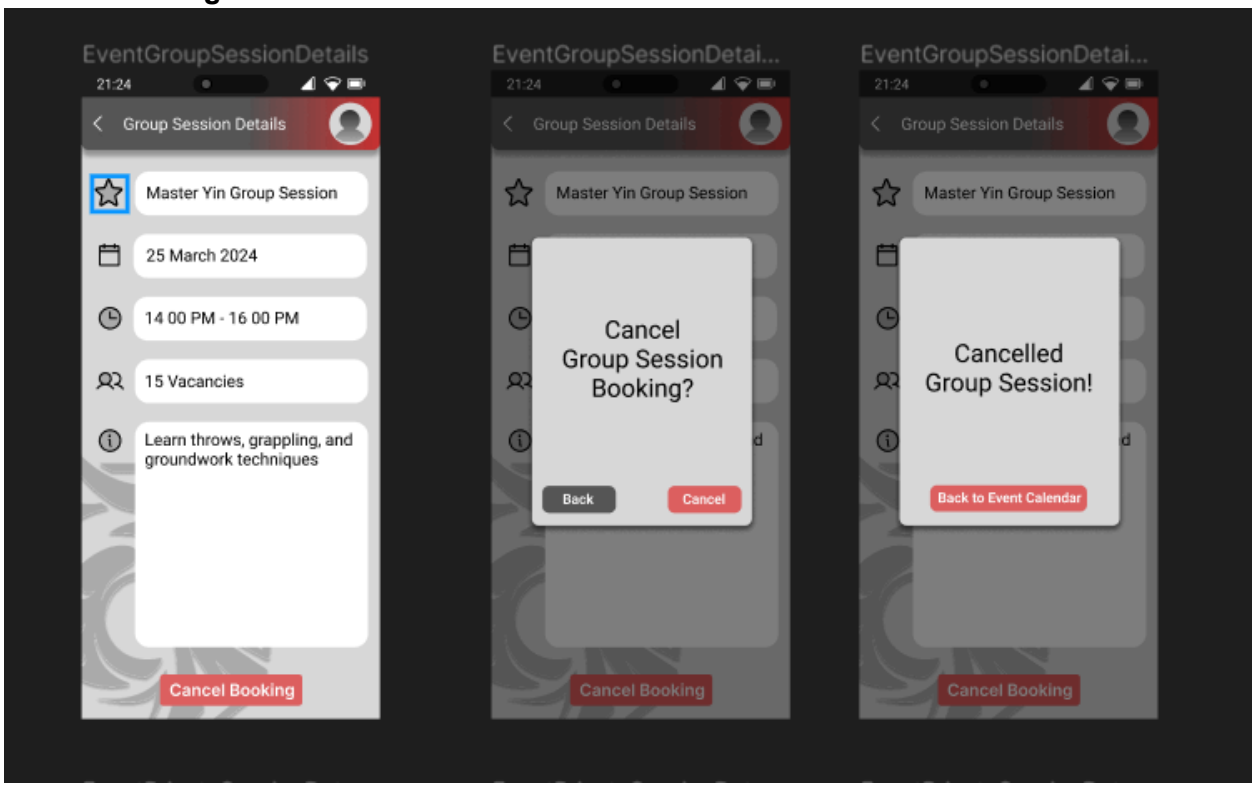
Helicopter Mode



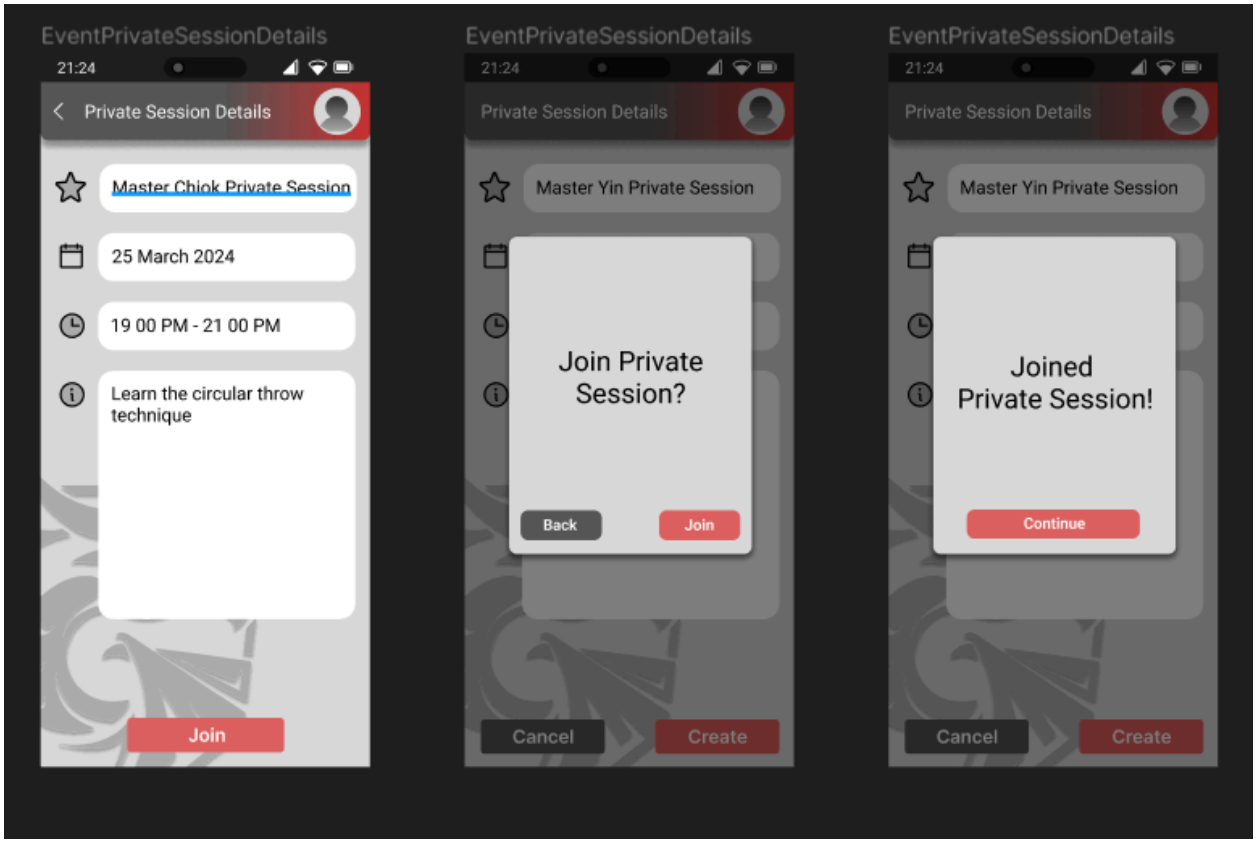
View Schedules and See Available Training Slots



Cancel Booking



Join A Session



Steps on how to use High Fidelity Prototype
In the submission folder, there will be a folder containing the images of each of this screen. This would allow you to view all the screens individually.

If you would like to test the prototype, you may access it in the link here: https://www.figma.com/proto/6gQERJiAv4JOK9enh5UK7F/CSD3125-UI%2FUX-HiRes-Prototype?type=design&node-id=29-2106&t=PFJ0KSmqkgxxzxle-1&scaling=scale-down&page-id=0%3A1&starting-point-node-id=29%3A2106&show-proto-sidebar=1&mode=design

You do not need a Figma account to interact with the prototype. To interact with the prototype, just click on the prototype as how you would interact with any mobile apps

If you have a Figma account and would like to see the Figma page, you can access it here https://www.figma.com/team_invite/redeem/RamuKvPgK1tBNtf7kudrcG

Evaluation

Evaluation Procedure

We used **heuristic evaluation** to evaluate our prototypes. We performed this on our low fidelity prototype and then refined our application based on the evaluation. We used this style of evaluation because it provides a structured method to quickly identify usability issues based on established principles, without the need for extensive user testing resources.

Participants:
We had 2 different evaluators evaluating our low fidelity prototypes through heuristic evaluation based on Nielsen's 10 rules.

Apparatus
During testing, the evaluators interacted with paper prototypes for the low-fidelity version. Their actions were recorded using another smartphone. They are also given a heuristic evaluation form with the link to the form here:
https://www.megkurdziolek.com/wp-content/uploads/2016/04/UX-Heuristic-Evaluation-Worksheet.pdf

Procedure
The method of testing is as follows

1. **Pre- Evaluation Briefing:** The tester is briefed on the purpose of the app and roughly what features the current prototype has. The tester is also reminded on how to perform a heuristic evaluation and how to complete the form.
2. **Evaluation**:The tester will go through the app and try out different features and spot any potential flaws with the prototype. They will fill up the form while they are testing the app and noting which violations does a problem violate.
3. **Severity Rating:** After the evaluation, the heuristic evaluation form is collected and the video footage of the testing is reviewed carefully. Afterwards,each problem is given a severity rating.
4. **Debriefing:** The team members go through each of the problems and discuss solutions to address them.

Severity Rating and Solutions

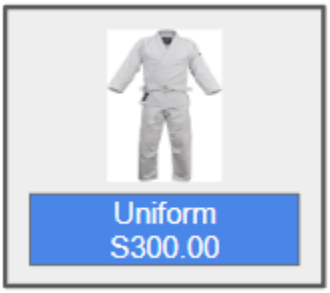
The section below contains the list of problems that the evaluators have found during their heuristic evaluation. The solutions are combined with the severity rating for a clearer image of how each problem has been addressed. The rating is from a scale of 1-5, 1 being not that severe and 5 being very severe.

Severity	5
Problem	A dragon is able to request a belt test without any confirmation page. This means that the user can accidentally request for a belt test if they do not want to
Heuristic	Error Prevention
Recommendation	Add a confirmation page to confirm the users request for a belt test. This will allow users who accidentally click on the request button to immediately have a chance to cancel.  This is the image of what the confirm request page will look like.

Severity	1
Problem	A dragon is unable to tell immediately if he is able to join a group session. The user has to keep clicking on each slot to see if the class is fully booked or not
Heuristic	Visibility of system status
Recommendation	Add a horizontal bar that will move towards the right every time more people join the slot. The color of the bar will change from green to yellow to red to indicate whether the class is somewhat empty, half or nearly full of students.  The image above shows the implemented change.

Severity	1
Problem	A dragon is unable to tell immediately if he is able to join a private session. The user has to keep clicking each slot to see if the class is fully booked or not
Heuristic	Visibility of system status
Recommendation	Grey out the slot button so that through color, the user is able to tell immediately whether the slot has been taken or not. We do not remove the slot from the available slots because this helps to provide information to others that there is a private training session going on. No information on who booked it will be provided.

	 Blue buttons represent that there is a slot. Meanwhile the darker buttons represent that the slot has already been taken.

Severity	1
Problem	A user is unable to tell what is the price of the equipment they are trying to buy until they click on it
Heuristic	Visibility of system status
Recommendation	Add the price of the item below the name of the item.This will allow users to immediately gauge what is the price of the equipment they want to buy and make informed decisions without needing to select for more information.  The price of the item has been added to the button accordingly.

Reflection

Prototype Techniques
The initial use of paper prototypes proved invaluable, offering a quick, cost-effective method to explore various design ideas and receive immediate feedback. This early-stage, tangible representation of the app allowed for rapid experimentation and iteration, preventing costly and time-consuming revisions in later stages. In the future, we will continue to initiate design with this method. We could also incorporate more systematic testing and feedback collection to further enhance the effectiveness of the paper prototyping stage

The high fidelity prototypes created using Figma provided a closer representation of the final product, enabling detailed user interaction testing. However due to a lack of time, no user testing on the high fidelity prototype can be done. In the future, we would like to integrate more iterative feedback even at this stage. Future strategies could involve more frequent user testing sessions and a continuous feedback loop throughout the high fidelity prototyping phase.

Heuristic Evaluation
After using heuristic evaluation, we were able to observe the benefits of heuristic evaluation. It's evident that this expert-driven approach offers a different spectrum of insights compared to user testing. We were unable to get any true experts for heuristic evaluation but we got trained UIUX students who were able to act as evaluators and identify many usability issues that might not be immediately evident to normal users.

However, while heuristic evaluation is powerful for identifying a broad range of usability issues, actual user interactions from user testing are still just as important. User testing brings to light the subjective experiences and unforeseen challenges users face, offering a more detailed and user-centric perspective that heuristic evaluations might overlook. Ideally, a combination of both methods should be employed: heuristic evaluation to refine the design against best practices and user testing to ensure the design resonates well with the target audience, meets their needs, and is intuitive to use.

Adapting to Technological Constraints and Opportunities:
Understanding and adapting to the technological constraints and opportunities can significantly influence the effectiveness and feasibility of the design. During the iterative design process, we spent a long time conducting the requirements analysis, planning the design of the app interface and iterating based on that. We severely underestimated the time it takes to develop a high fidelity prototype when compared to the low fidelity prototype. We did not fully consider the time it takes to develop the app or how the experience of making the paper prototype is completely different on a computer prototype. If this was a real world project and not a school project, this oversight could lead to designs that are challenging or impractical to implement, potentially causing delays or necessitating compromises that could impact the user experience.

For future projects, an approach that not only aligns design decisions with technological realities is crucial. Early planning on not just the design but also on the technology specifications can help identify potential constraints that could influence the design.

Contributions by Team Members

Chiok Wei Wen Gabriel	● Planning out app layout and interface on Google Slides ● Refinement of Low Fidelity Prototype on Google Slides ● Conducting heuristic evaluation with heuristic testers ● Writing the Report
Jed Goh Yujie	● Planning out app layout and interface on Google Slides ● Creation of High Fidelity Prototype on Figma ● Writing the Report
Anderson Phua Tai Dah	● Planning out app layout and interface on Google Slides ● Creation of High Fidelity Prototype on Figma ● Writing the Report
Tay Khai Tjong Dennys	● Planning out app layout and interface on Google Slides ● Creation of High Fidelity Prototype on Figma ● Writing the Report
Tan Ek Hern	● Planning out app layout and interface on Google Slides ● Creation of High Fidelity Prototype on Figma ● Writing the Report