DECO2014 ASSIGNMENT 4

Appendix

SOLI3202
EFER0647
SKEL0496

A Note on Terminology

We would like to acknowledge our usage of terminology.

Whilst we acknowledge that the term “blind” is often seen as a subset of “visually impaired”, throughout our work we have chosen to use both terms interchangeably when referring to the spectrum of vision impairments.

During our process we attempted to consolidate sources on inclusive language, although there is no universal agreement on the usage of these terms.

Our choice has been influenced by the literature we read as well as the kind assistance of visually impaired individuals who engaged with us throughout the project.

Design Brief Two: Sensing the body in motion

Brief Two invites you to explore into the realm of bodily experiences, perceptions and interactions within sports and recreational activities. This exploration aims to amplify, diversify, or transform participant's sensory and cognitive experiences of the moving body. This could be achieved through the integration with digital and physical design elements, such as interactive installations, wearables, or signal systems.

The Problem Space

Initial Research Problem Statement:
"To investigate the experience of the visually impaired in engaging with sporting and physical activities."

Our investigation was conducted through **interviews, surveys, and qualitative research methods:**
Initially, our focus was on identifying a specific sport or piece of equipment that could be developed to enable visually impaired individuals (VIIs) to participate in sports typically played by sighted individuals. However, our research revealed that most sports have already been effectively adapted for the blind community. The gaps we intended to explore in sport and rule adaptations were found to be well addressed. Instead, our findings highlighted critical issues such as insufficient public awareness, inadequate funding, limited access to facilities, and lack of support.

Based on these insights, our research led us to create the following design problem statement:

Inclusive sport requires careful considerations to strike a balance between individualistic and sport-wide adaptation or assistance, catering to the specific emotional and physical needs of each individual.

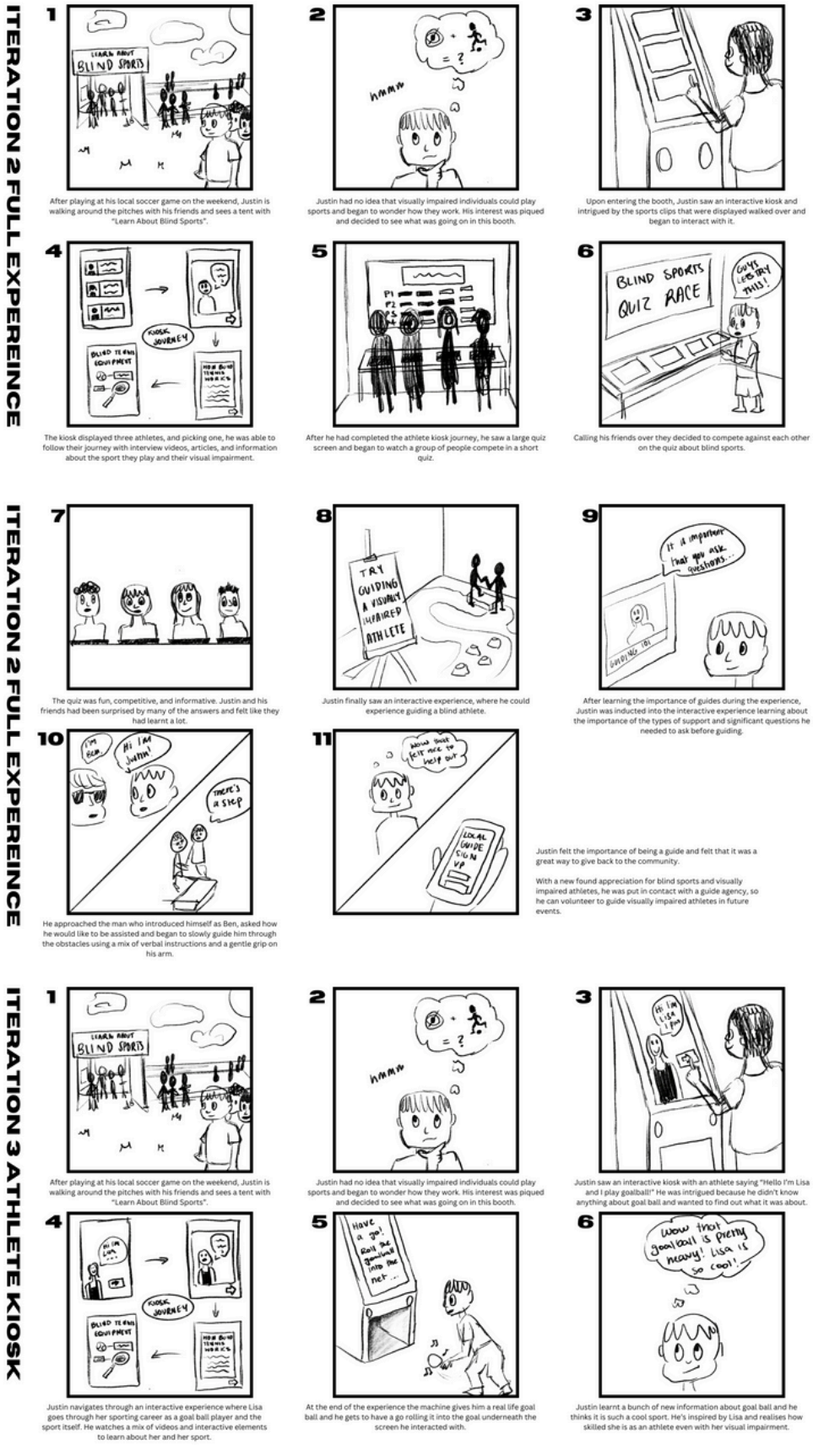
Understanding these requirements to facilitate accessible sport is furthermore challenged by current infrastructure and assumptions resulting from a lack of public education. Hence making it difficult for blind individuals to access inclusive sports.

Our Solution

Our solution is to have an educative pop up that would appear at local sports games, educating individuals on blind sports and the physical capabilities of the visually impaired...

Iteration & Testing...

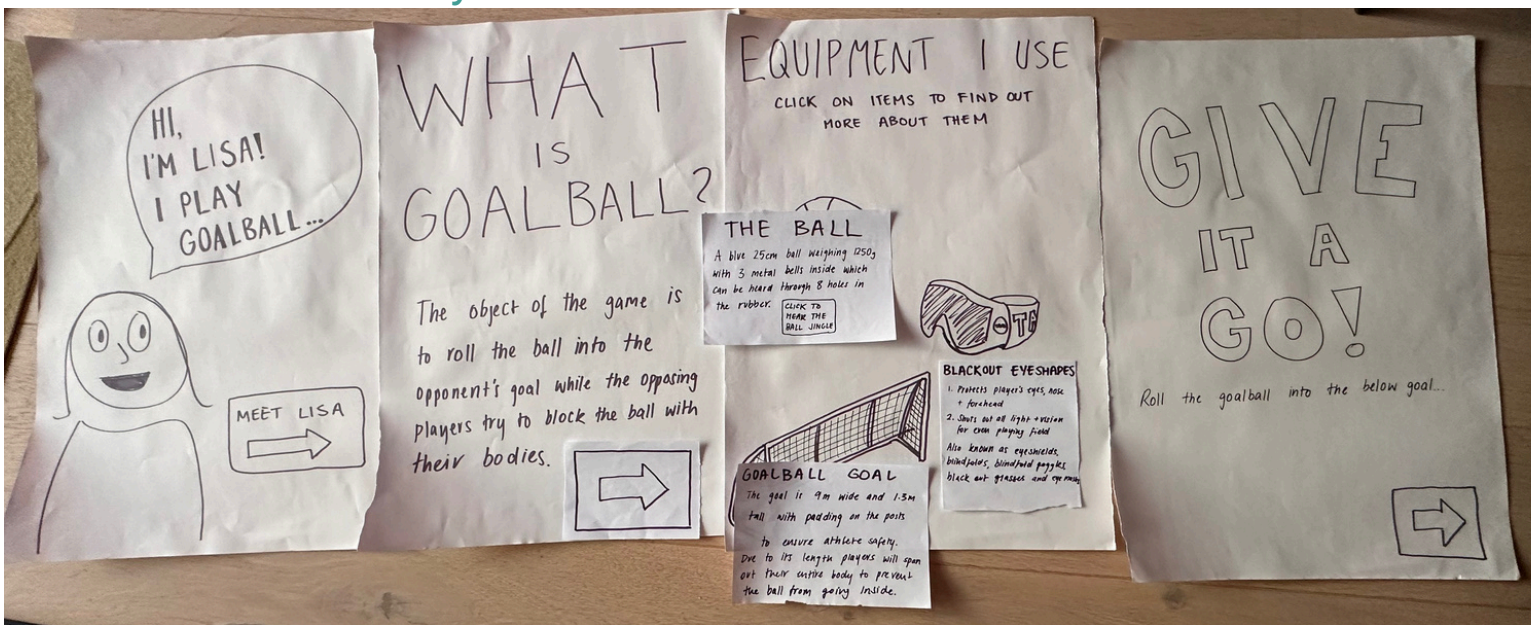
Mid-Fidelity Storyboard



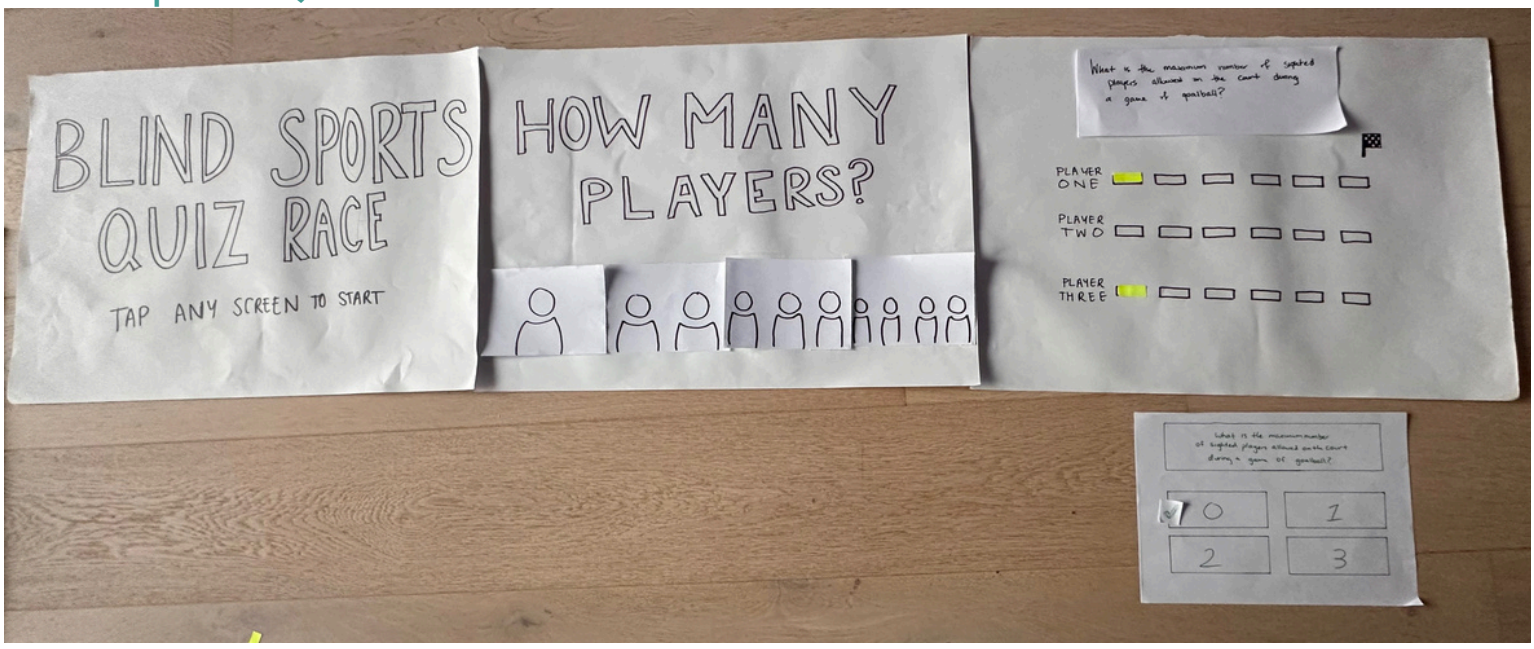
Iteration & Testing...

Mid-Fidelity Prototype

Lisa's Athlete Journey Kiosk

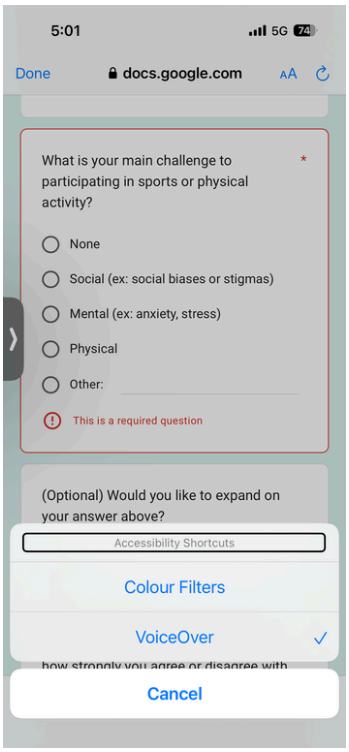


Blind Sports Quiz



Accessibility Considerations

Initial Ideation

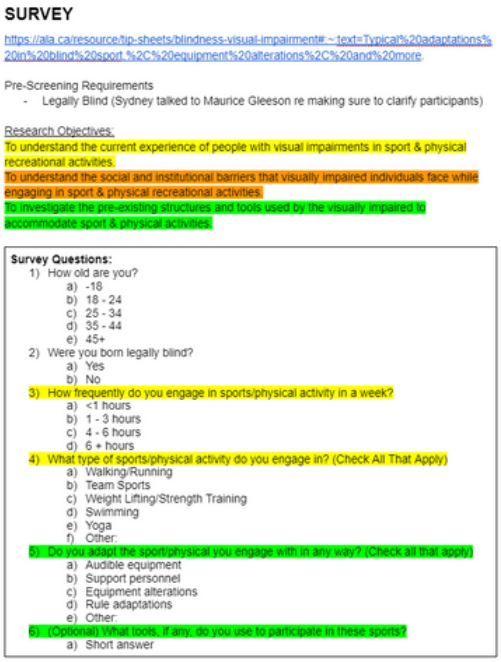


Adaptations made after testing survey with screen reader:

Changed “18-24” to “18 to 24”

Changed “ex” to “example:”

Changed Likert scale to multiple choice questions cascading down.



SURVEY

https://ala.ca/resource/tip-sheets/blindness-visual-impairment#:~:text=Typical%20adaptations%20in%20blind%20sport,%2C%20equipment%20alterations%2C%20and%20more

Pre-Screening Requirements
- Legally Blind (Sydney talked to Maurice Gleeson re making sure to clarify participants)

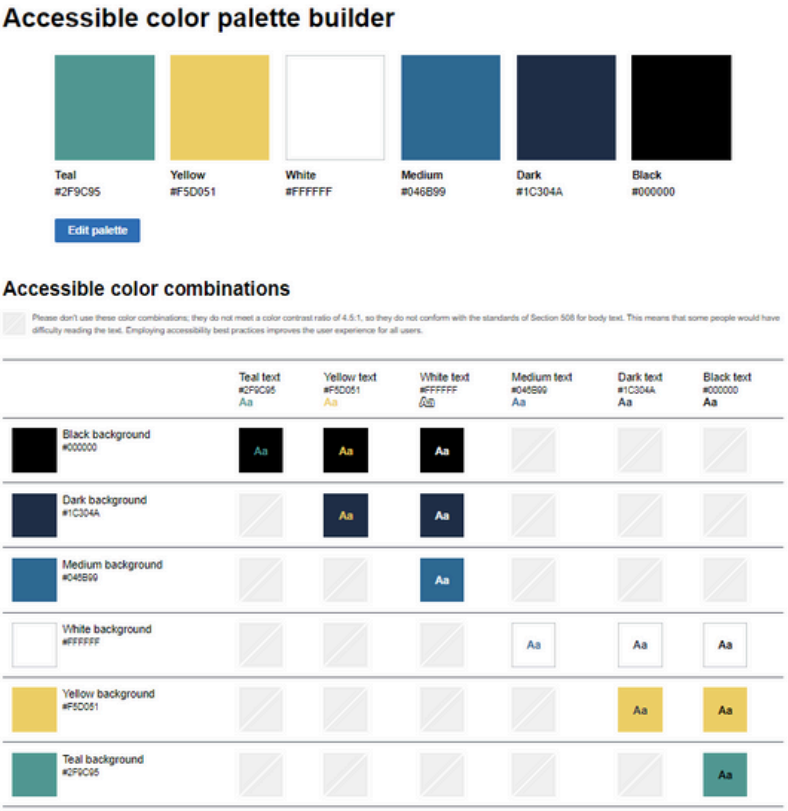
Research Objectives:
To understand the current experience of people with visual impairments in sport & physical recreational activities.
To understand the social and institutional barriers that visually impaired individuals face while engaging in sport & physical recreational activities.
To investigate the pre-existing structures and tools used by the visually impaired to accommodate sport & physical activities.

Survey Questions:

1) How old are you?
   a) -18
   b) 18 - 24
   c) 25 - 34
   d) 35 - 44
   e) 45+
2) Were you born legally blind?
   a) Yes
   b) No
3) How frequently do you engage in sports/physical activity in a week?
   a) <1 hours
   b) 1 - 3 hours
   c) 4 - 6 hours
   d) 6 + hours
4) What type of sports/physical activity do you engage in? (Check All That Apply)
   a) Walking/Running
   b) Team Sports
   c) Weight Lifting/Strength Training
   d) Swimming
   e) Yoga
   f) Other:
5) Do you adapt the sport/physical you engage with in any way? (Check all that apply)
   a) Audible equipment
   b) Support personnel
   c) Equipment alterations
   d) Rule adaptations
   e) Other:
6) (Optional) What tools, if any, do you use to participate in these sports?
   a) Short answer

WCAG Guidelines

We completed research on our color palette to ensure our booth would be accessible to those with visual impairments



https://toolness.github.io/accessible-color-matrix/?n=teal&n=yellow&n=white&n=medium&n=dark&n=black&v=2F9C95&v=FFCD29&v=FFFFFF&v=046B99&v=1C304A&v=000000

Final Hi-Fidelity Prototype

Sketches of Final Prototype (Kiosk #1 and #2):

Initial ideation of our kiosks based on the athlete profiled and their sport

Final Hi-Fidelity Prototype

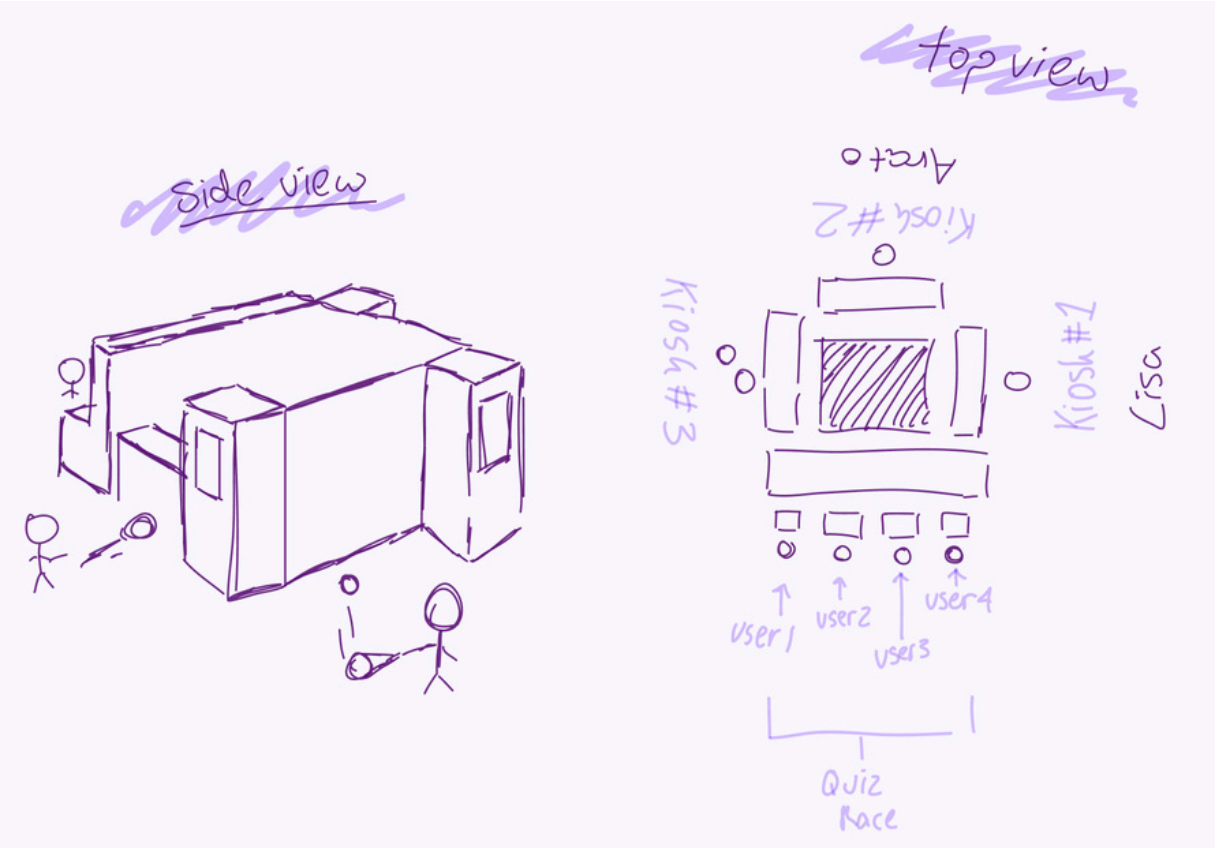
Sketch of Final Prototype (Kiosk #3)

Sketch of Final Prototype (Blind Sports Quiz Race):

Initial ideation of the quiz booth and how it would be interacted with by 1-4 users

Final Hi-Fidelity Prototype

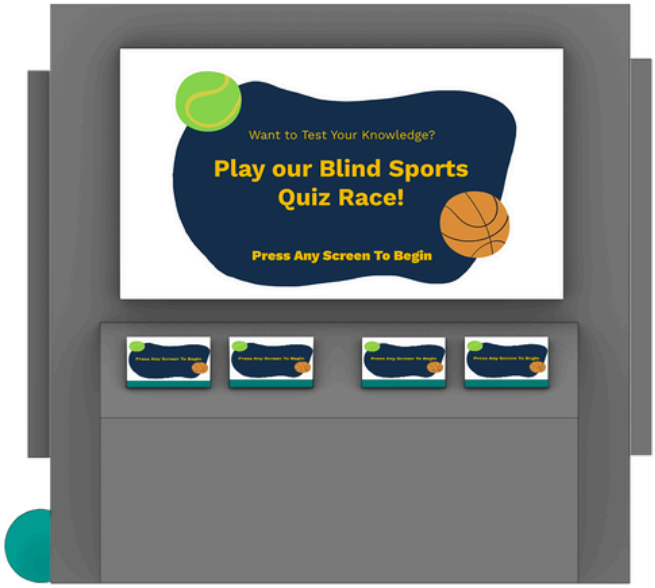
Sketch of Final Prototype (Exterior/Full Booth/Stall):
We decided on a hollow cube in which users could access and interact with features from all sides.



Final Hi-Fidelity Prototype

Booth 2D Mockups

From the sketches we made 2D renderings and turned the booth into a solid cube to give it a more sturdy, less wishy-washy feel



Quiz Booth

Lisa Kiosk

Arato Kiosk

Steffan Kiosk

Final Hi-Fidelity Prototype

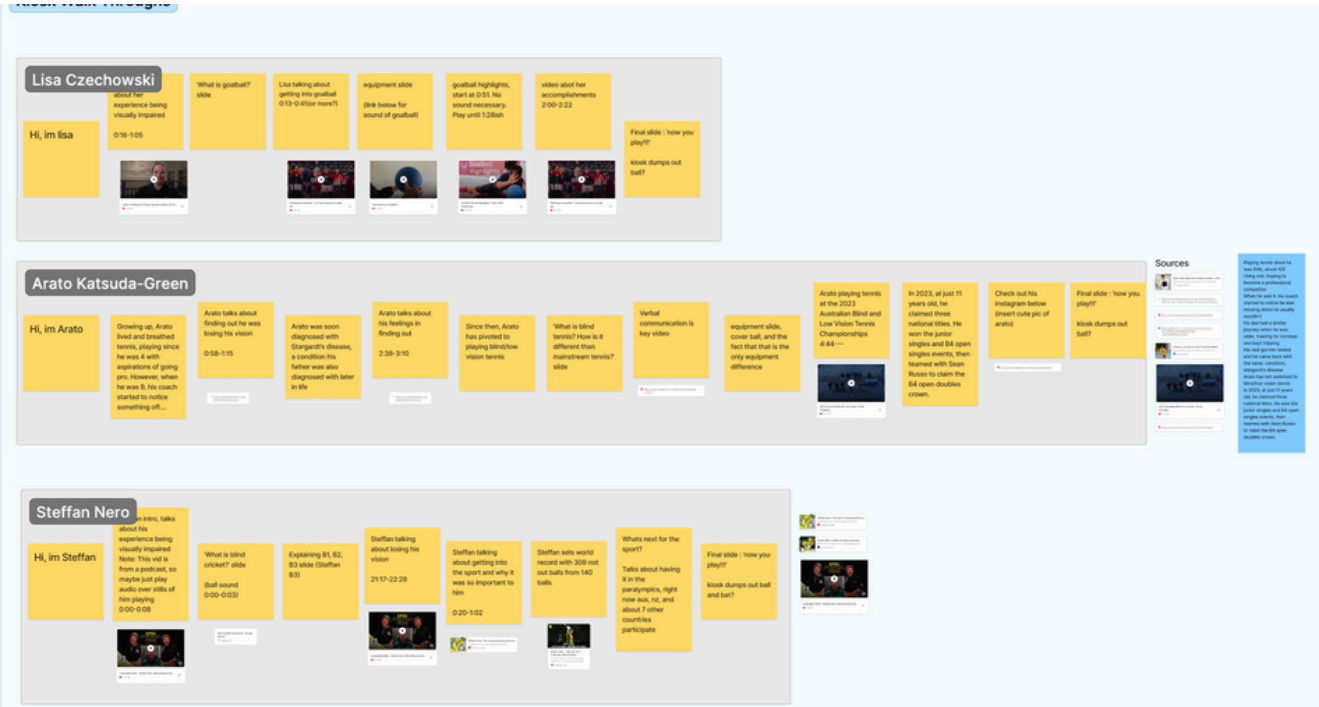
Booth Final Mockups

When rendering in 3D we decided to make the booth more interesting by adding some color and placing it in context with a background

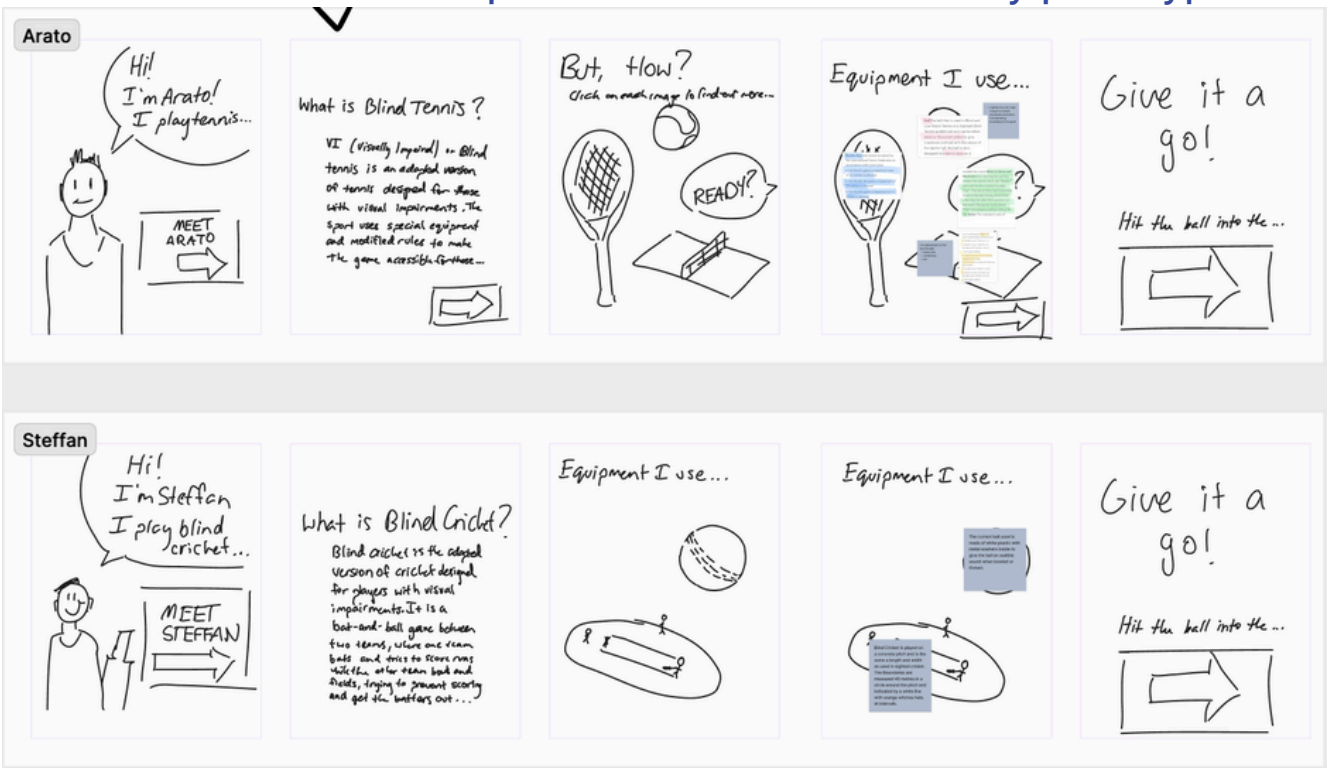
Final Hi-Fidelity Prototype

Outline of Kiosk Walk Throughs

After doing research and compiling video clips, we outlined the story we wanted to tell about the athlete and their sport using sticky notes in Figma. We then sketched out the screens.



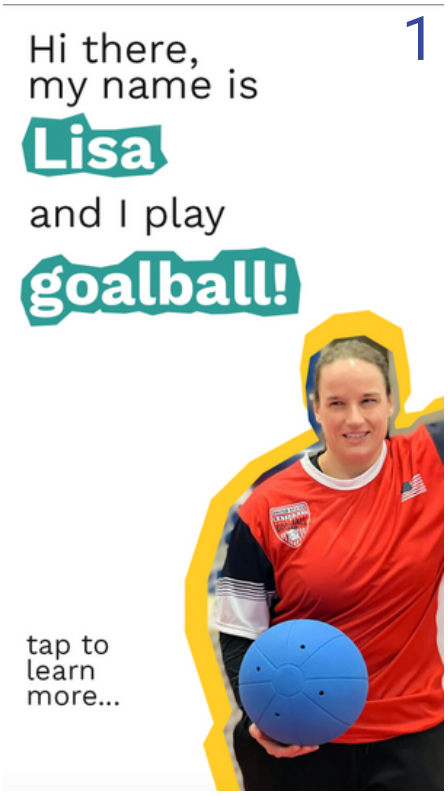
Note: Lisa's outline completed in earlier mid-fidelity prototype

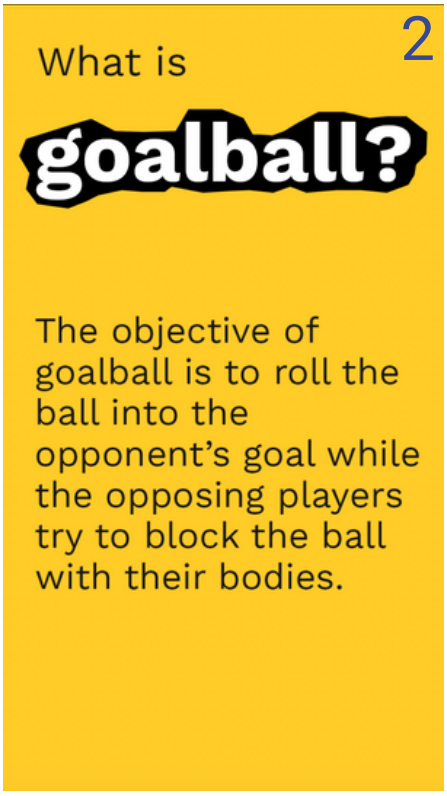


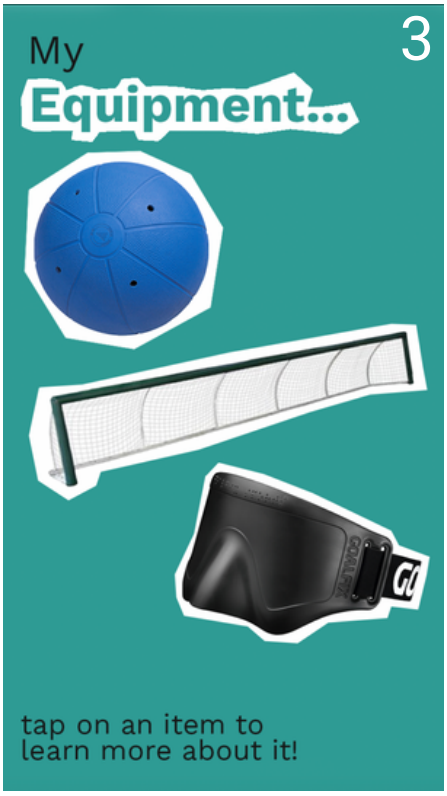
Final Hi-Fidelity Prototype

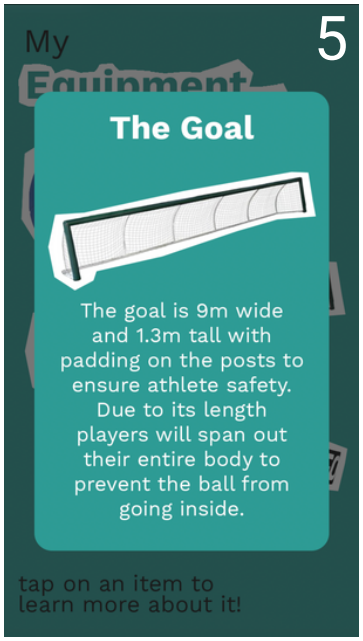
Lisa's Kiosk Photoshop Stills

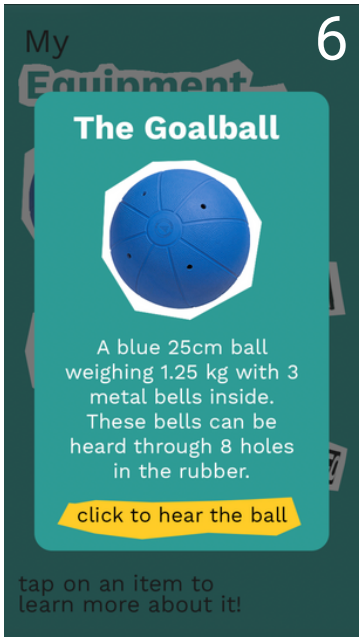
Next, we made our high-fidelity prototypes of each athletes kiosk journey. We added in animations and video clips later as can be seen in our submitted video.











Final Hi-Fidelity Prototype

Arato's Kiosk Photoshop Stills (1/2)

1

Hi! I'm

Arato!

I play

tennis...

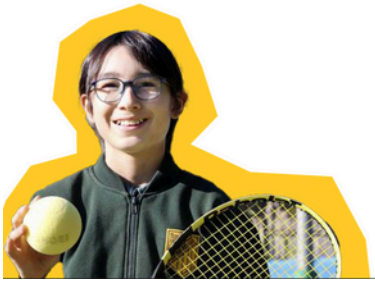
2

What is

Blind Tennis?

VI (visually impaired) or Blind Tennis is an adapted version of tennis for those with visual impairments.

The sport uses special equipment and modified rules to make the game accessible.



3

But, how?

Click on each image to find out more about rules and equipment...

4

But, how?

Click on each image to find out m...

The Racket

Racket Size: Any racket accepted by the International Tennis Federation in accordance with court sizes will do!
- For the B1 game (players who are totally blind), a max size of 23" is allowed
- For B2, B3 games a max size of 25" is allowed
- For the B4 game a max size of

5

But, how?

Click on each image to find out m...

The Ball

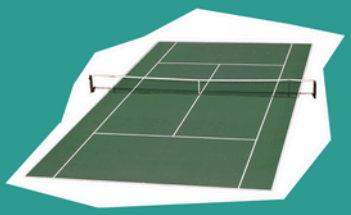
This ball is used in Blind and Low Vision Tennis. It is only manufactured in Japan and holds a small washer inside, making the ball audibly jingle as it is hit back and forth. It comes in florescent yellow and black to give

6

But, how?

Click on each image to find out m...

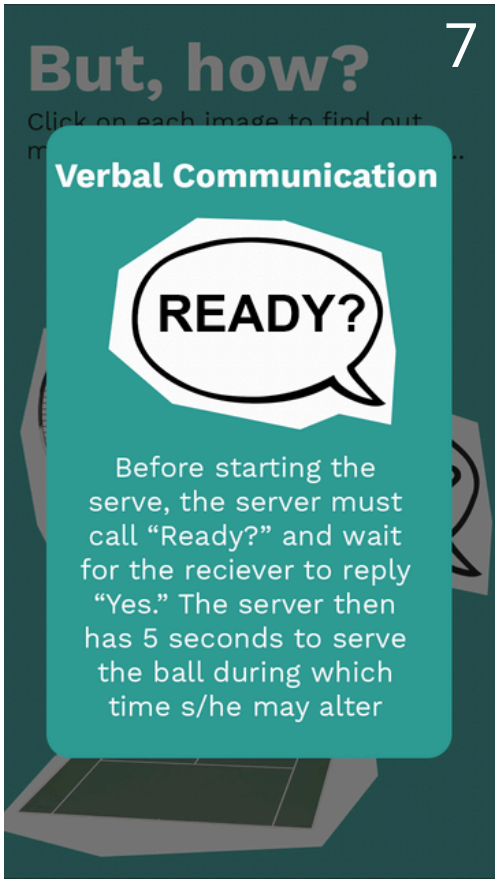
The Court

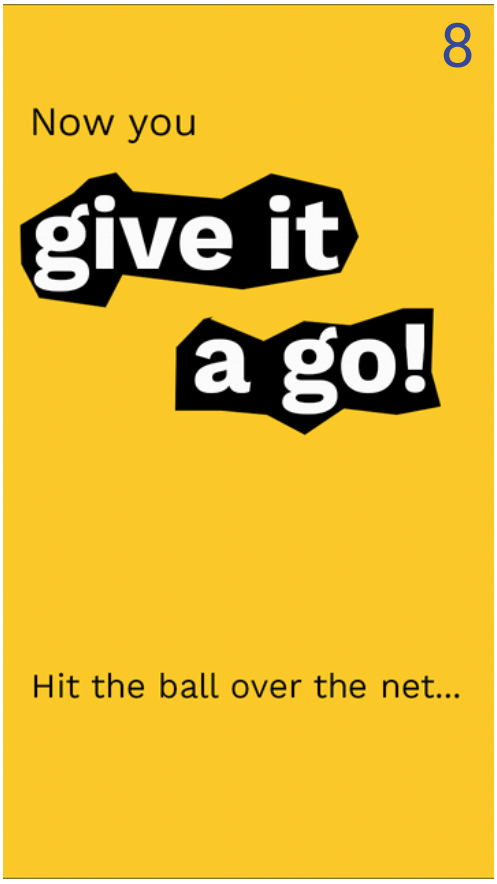


In B2-4 tennis, the court size, net height, and service lines are no different than a mainstream tennis court. The only difference is the tactile lines used around the court to help the player know where they are in relation to the court. In B1 tennis, the size

Final Hi-Fidelity Prototype

Arato's Kiosk Photoshop Stills (2/2)





Final Hi-Fidelity Prototype

Steffan's Kiosk Photoshop Stills

1

Hey!
I'm **Steffan**
and I play
Blind Cricket

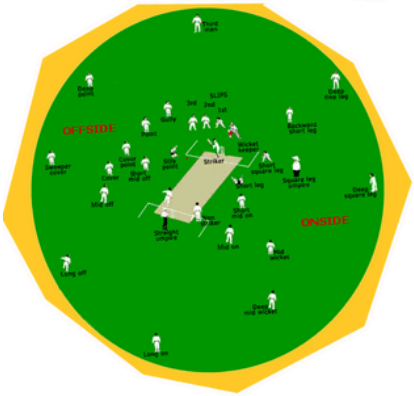
2

What is
Blind
Cricket?

Blind Cricket is the adapted version of cricket designed for players with visual impairments. Similar to the mainstream version, Blind Cricket is a bat-and-ball game with some accomodations made...

3

Equipment I use:



4

Equipment

The Ball

The ball is made of white plasic with 20 metal washers inside to give the ball an audible sound when bowled or thrown.

5

Equipment

The Pitch

Played on a concrete pitch, the field is the same size used in sighted cricket. While bowling, players are only allowed to throw underhand for saftey.

6

Now it's
your turn!

Try bowling the ball!

Final Hi-Fidelity Prototype

Quiz Photoshop Stills (1/4)

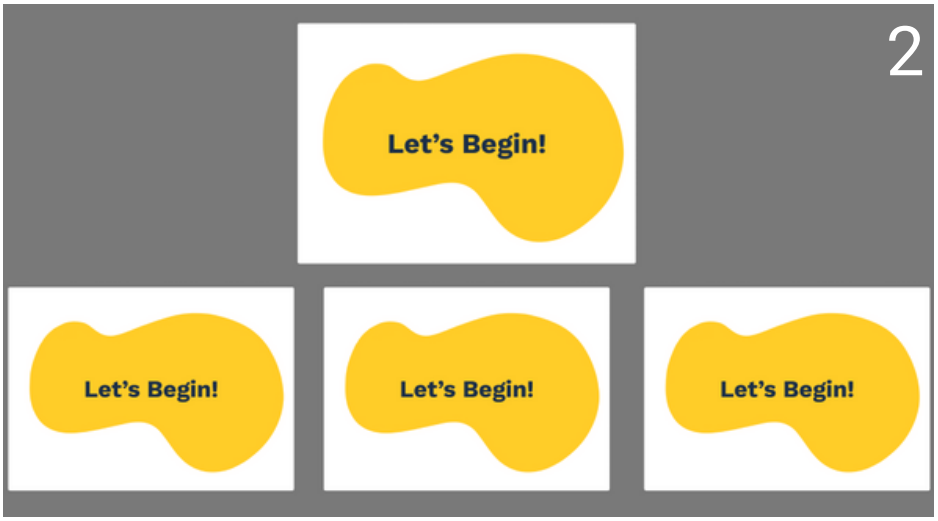
We went on to make hi-fi prototypes for the quiz, including the large main screen and the individual users screens. These were also animated later on (as can be seen in our video).

Main screen

Individual screens

Main screen

Individual screens



Main screen

Individual screens

Final Hi-Fidelity Prototype

Quiz Photoshop Stills (2/4)

Main screen

Individual screens

Main screen

Individual screens

Main screen

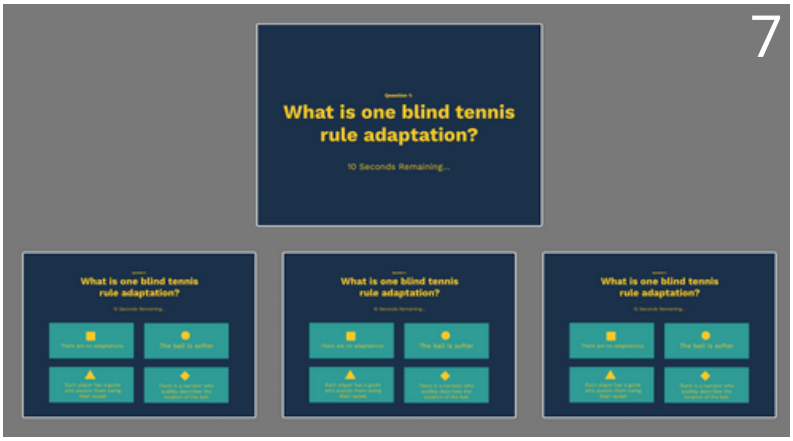
Individual screens

Final Hi-Fidelity Prototype

Quiz Photoshop Stills (3/4)

Main screen

Individual screens



Main screen

Individual screens

Main screen

Individual screens

Final Hi-Fidelity Prototype

Quiz Photoshop Stills (4/4)

Main screen

Individual screens

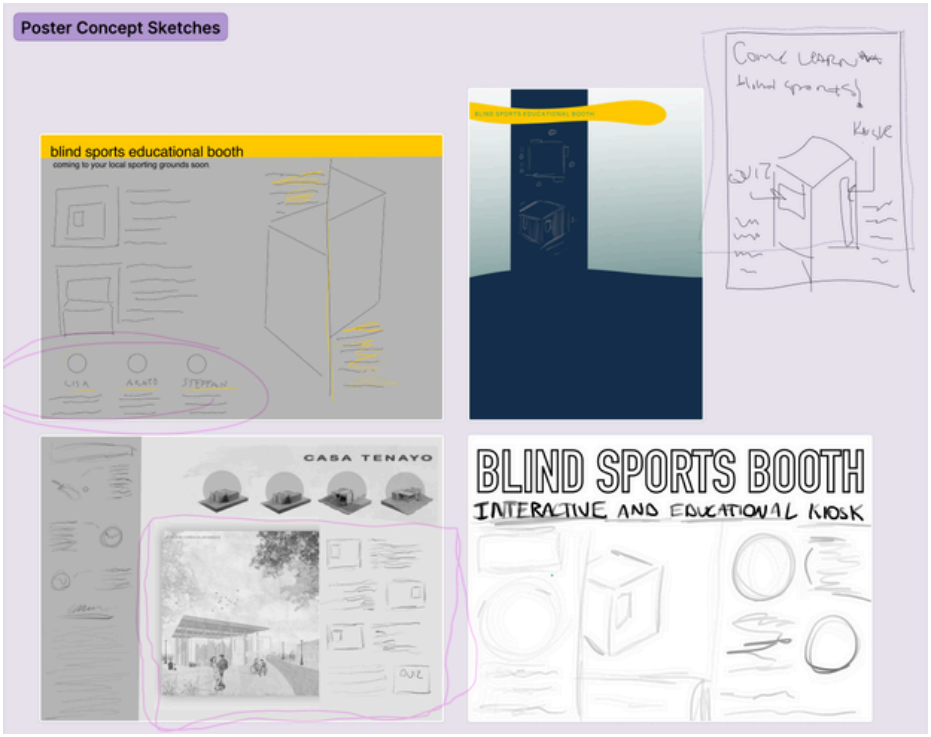
Main screen

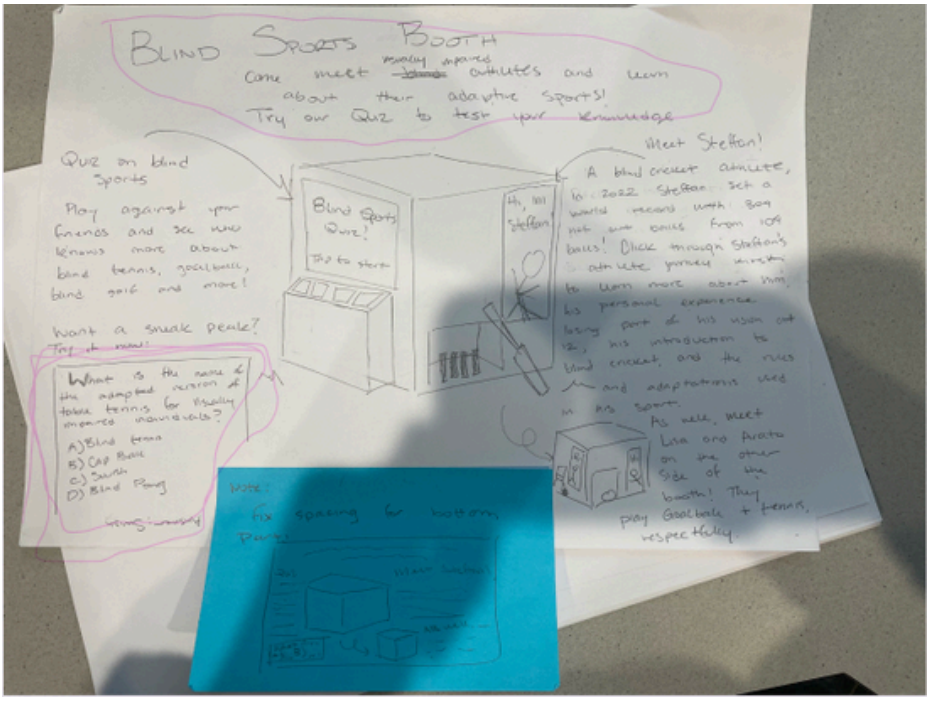
Individual screens

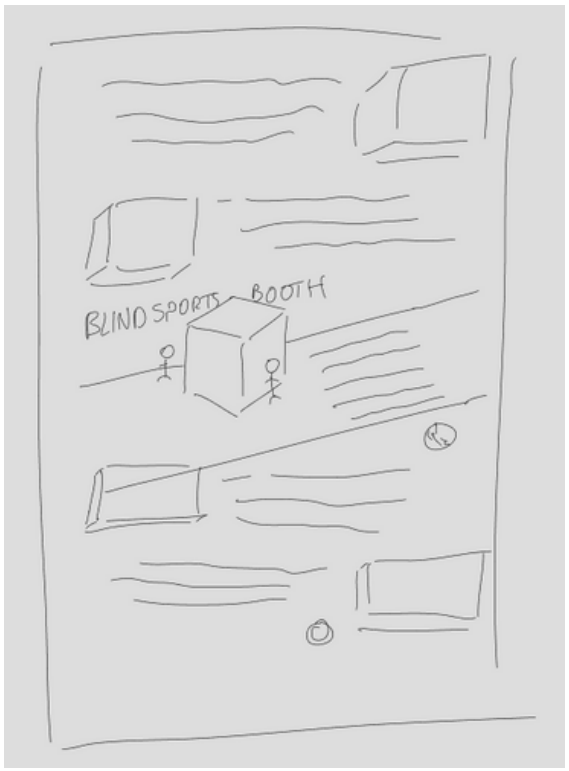
Poster

Ideation

In sketching out our poster we wanted to make sure we had a good balance of visuals and words, making our poster both appealing and informative



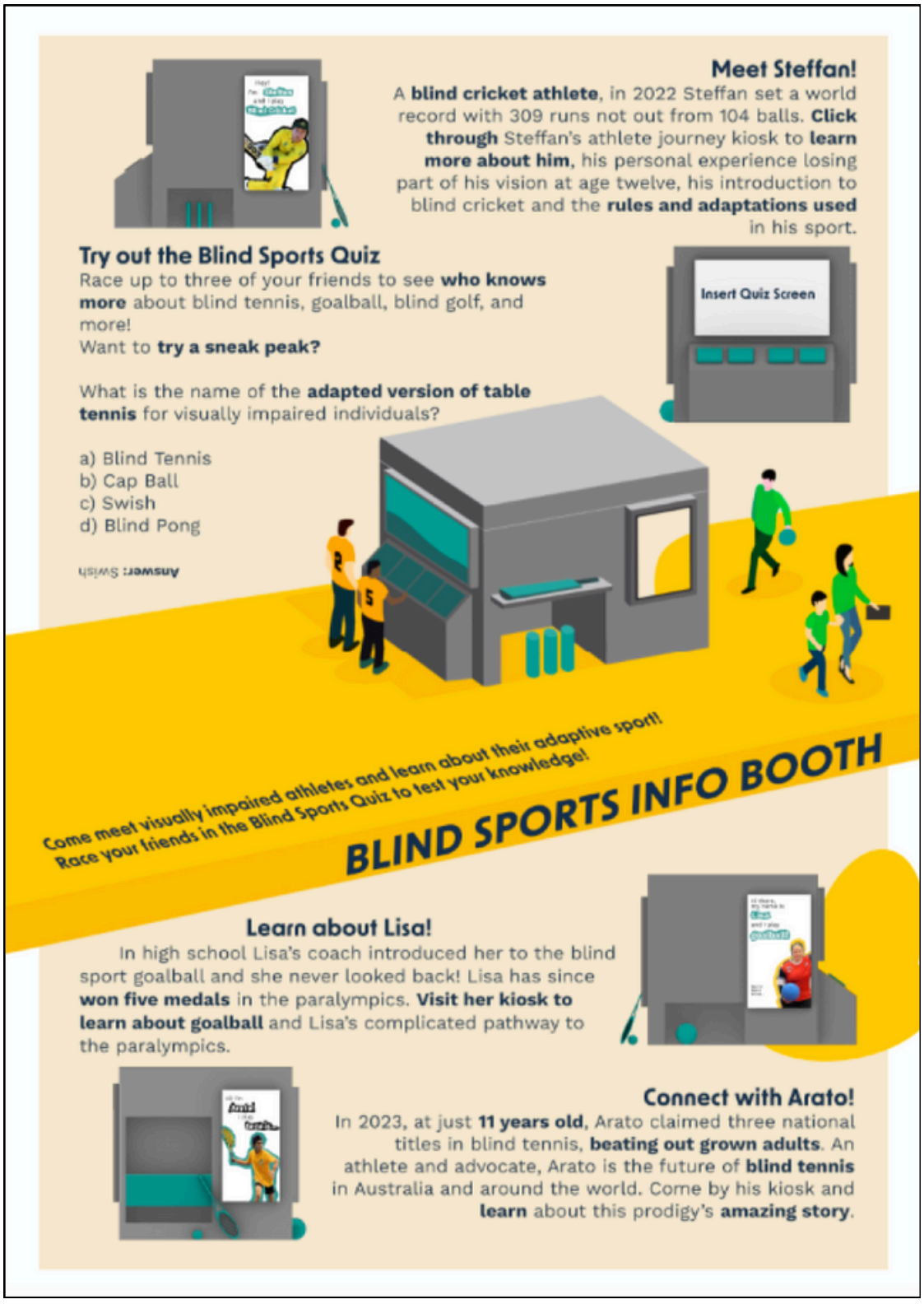




Poster

Iteration 1

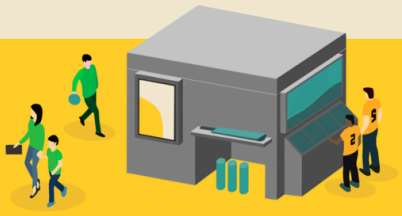
We wanted to include all three kiosks and the quiz in order to ensure the user understood our booth. We also added in the 2D renderings for all sides to help the user visualize.



Poster

Final

Our first iteration was much to cramped and busy. Here we paired down, trying to rather highlight what the booth was actually trying to accomplish through the quiz and kiosk journeys. We still included the profiled athletes but at a higher level, just noting their name and sport rather than a whole paragraph on each of them.



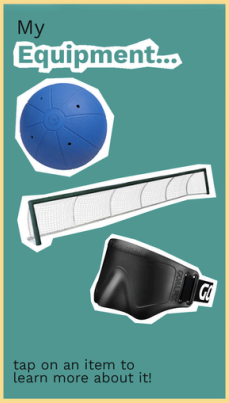
BLIND SPORTS DISCOVERY BOOTH

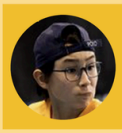
Come meet visually impaired athletes and learn about their adaptive sport through our Athlete Journey Kiosks!
Race your friends in the Blind Sports Quiz to test your knowledge!

Athlete Journey Kiosks

Click through each profiled athletes story to learn about their experience as a visually impaired individual and the adaptations used in their sport!

At the end of the experience it a go yourself with the equipment provided!





Arato Katsuda-Green
Blind Tennis

Lisa Czechowski
Goalball

Steffan Nero
Blind Cricket

Blind Sports Quiz

Race up to three of your friends to see who knows more about blind tennis, goalball, blind golf, and more!
Want to try a sneak peak?

What is the name of the adapted version of table tennis for visually impaired individuals?

a) Blind Tennis
b) Cap Ball
c) Swish
d) Blind Pong

Answer: Swish