

A person wearing a black hooded jacket and a glowing orange visor stands on a snowy city street, looking down a canyon of tall buildings. The scene is captured from a first-person perspective, with the person's back to the camera. The street is covered in snow, and the buildings on either side are tall and multi-story. The lighting is dim, suggesting an overcast day.

velox

Tarika Jain
Studio 4
Andrea Ruggiero



Velox are ergonomically designed earmuffs for city runners to protect their ears from air pressure differences that can occur in cold and windy conditions. Its a universal design that can be used with and without earphones so that runners can feel warm and confident when exercising on the winter streets.

Problem



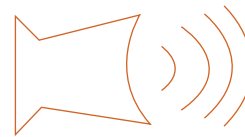
External Factors



Colder temperature causes pressure to reduce in ear which causes pain



With increase in wind speed, the air pressure in ear decreases further

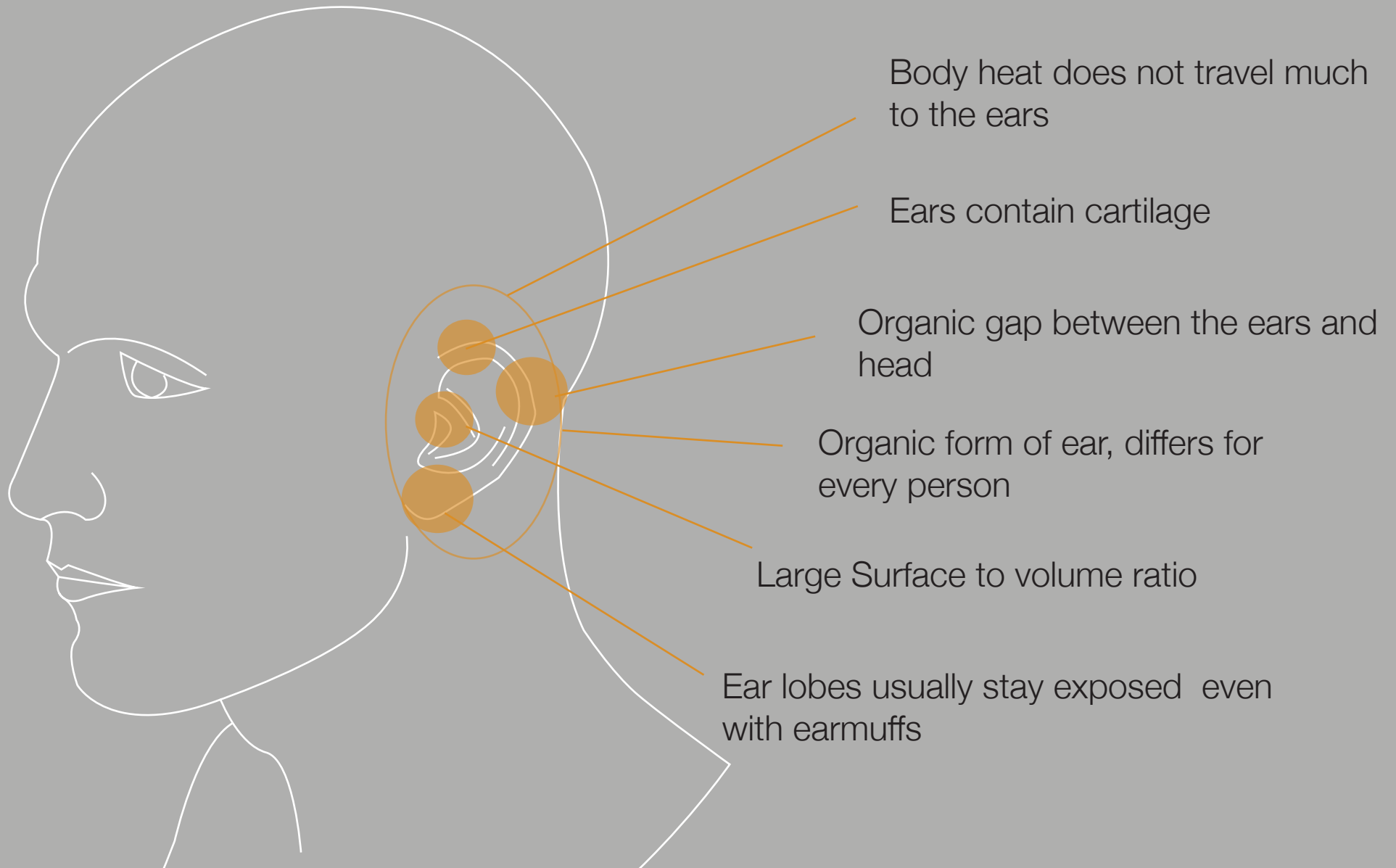


External sound is important for road safety which could be blocked due to earphones and ear protection



Avoid sweat sticking to ear protection and allow it to escape

Internal Factors



Opportunities

Market Survey



Earlobes exposed,
ears pressed



Forehead
Unprotected



Too much
padding for ears



Pressure on
the ears

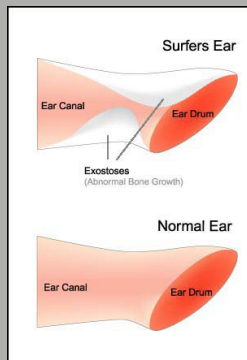


Hard structure,
Discomfort



Multiple blockage
of external sound

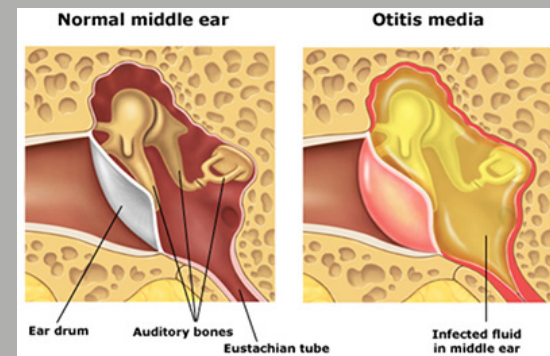
Health Affects



Surfers Ear or extosis
Cold environments cause abnormal
bone outgrowth to form inside of
the ear canal



Hearing aids' battery
life gets reduced



Prone to ear infections due to
limited proper circulation in ear
due to cold temperature

Interviews | Surveys



Tarika Jain

Hi everyone! I am Tarika Jain, a design student at Parsons and am doing a survey for some design research about how runners protect their ears when they are running in the city in winters.

Running in the city is really important to all of us New Yorkers. I love running but NYC winters restrict me from doing so regularly because my ears get painfully cold and especially, due to the intense wind. I would love to get your feedback and problems regarding this issue and what you might want to fix this problem. Also I would like to know:

1) Is any sound blocked due to the wind?

2) What is wrong with the current method of your ear protection?

You can post your answers, suggestions, problems and more over here or you could email me at tarika.jain@gmail.com. Thank you and have a great day!

[Like](#) · [Reply](#) · February 26 · Mute



Michael Cabrera

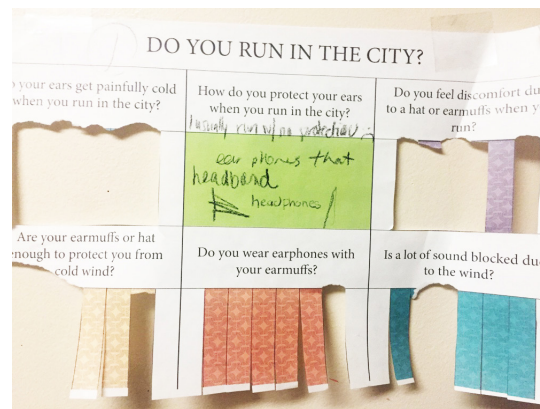
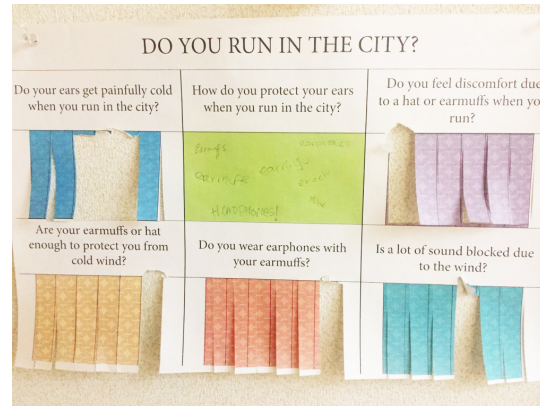
You should come out.

[Like](#) · February 27



Rob

I just wear a standard wool hat when it's too cold. Works wonders. Never worried about sound because I have headphones



“I wear my earphones to protect myself from the cold windy weather”

“My headband and earphones are enough for me”

“My ears hurt from prolonged use of the headband”

“Sound is blocked with increased wind pressure”

“It hurts when I wear my earphones with my earmuffs”

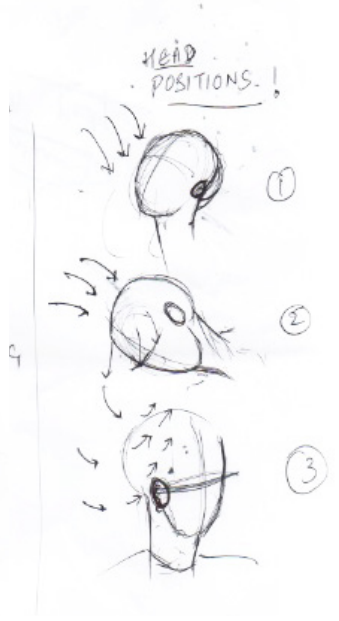
“I feel discomfort with my earmuffs”

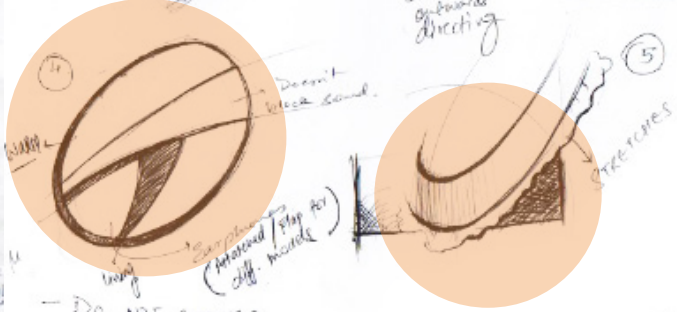
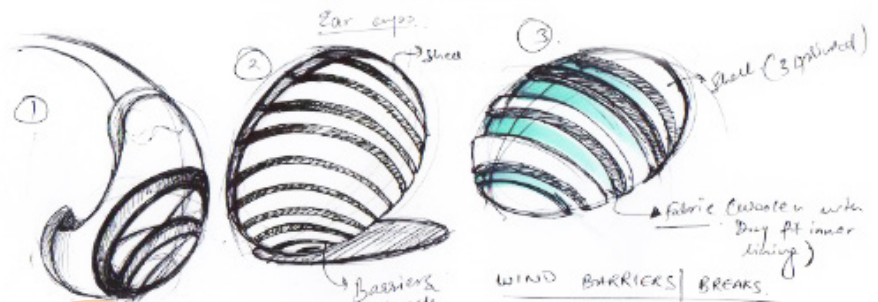
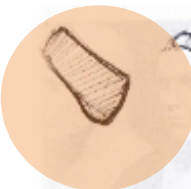
Failures | Opportunities

- People are don't mind the existing ear protection methods.
- Every person has a different combination of products to protect their ears from - cold and wind.
- Most of the people don't know the health risks to exposed ears in the wind.
- People depend on their conscience and ignore the sound aspect while running on roads

Ideation | Inspiration | Development

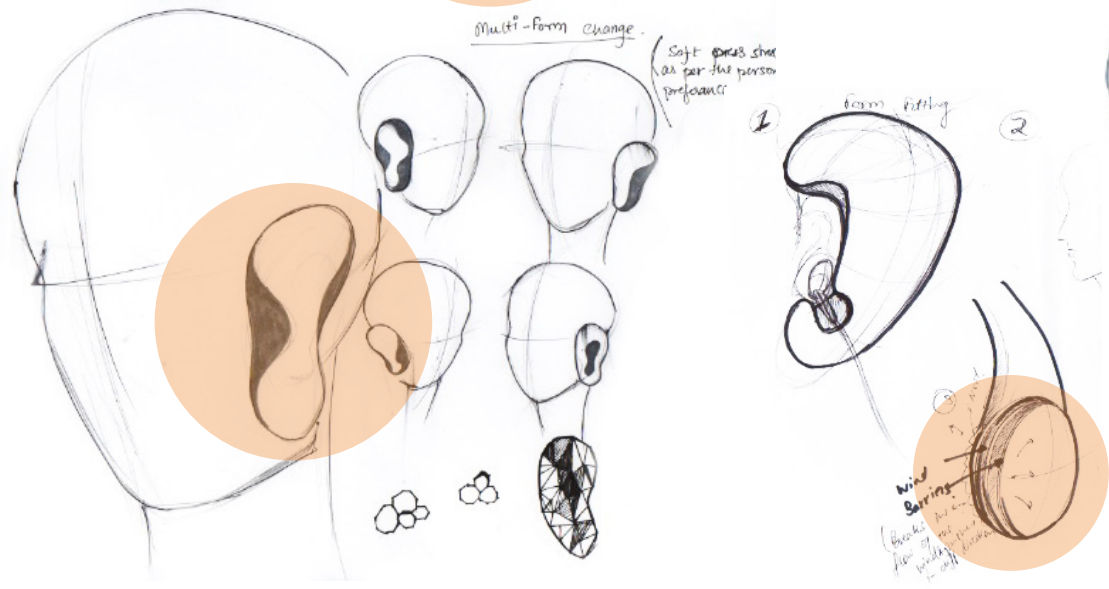




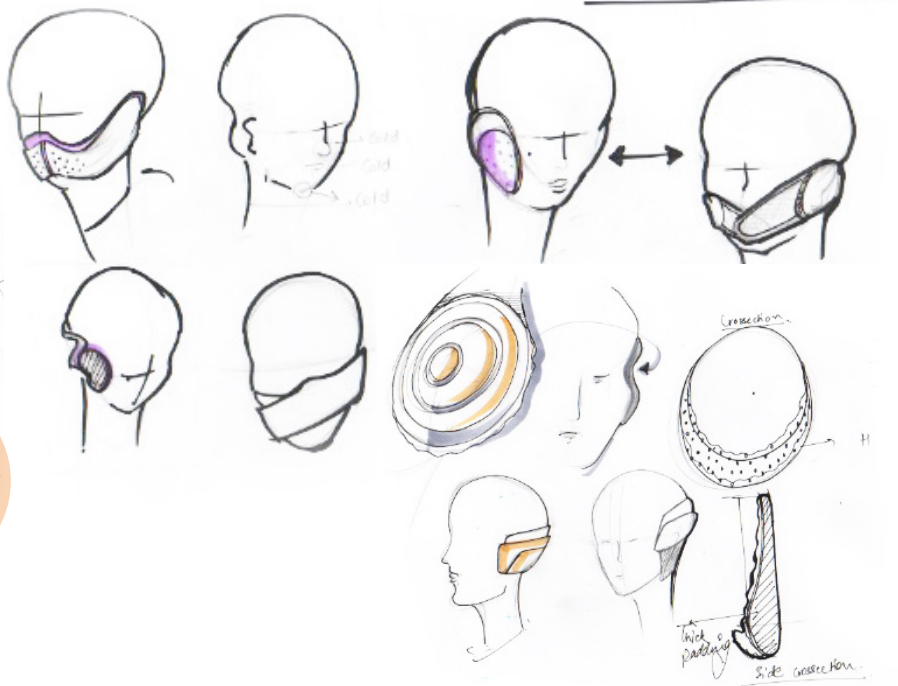


- Do NOT CHANGE THE WAY PEOPLE PUT ON EAR MUFFS (BRUTALLY)
(It should be a familiar MUSCLE MEMORY)

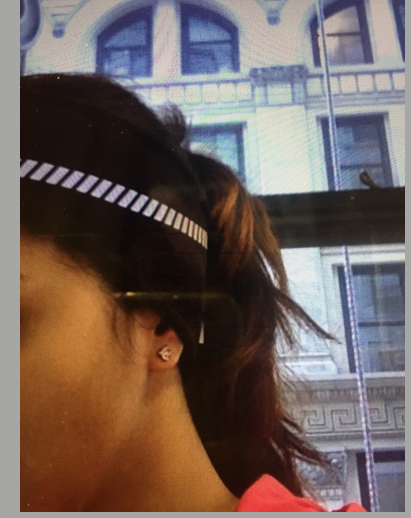
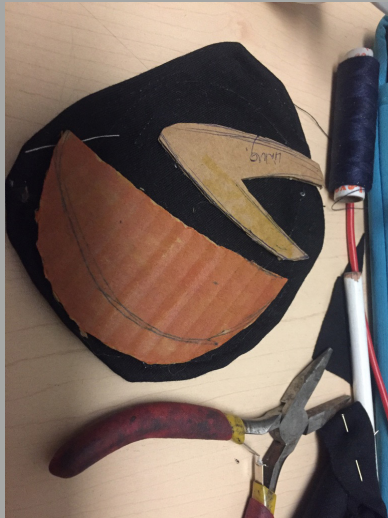
- SURFER'S SEA
 - WIND
 - COLD
 - WEARING
 - REMOVING
 - ADJUSTING
 - DISCOMFORT
 - HAIR DRESS
 - WRONG PEG POINTS
 - SAND BLOCK
 - LOW VISIBLE
 - ACCESSORIE
 - SLEEPING
 - SWEAT PROOFING
- PAIN + WIND?



EAR MUFFS + MOUTH COVER

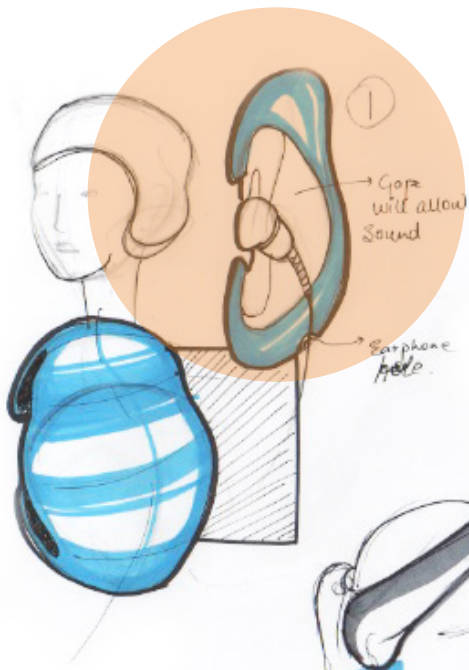


Ideation | Sketch models



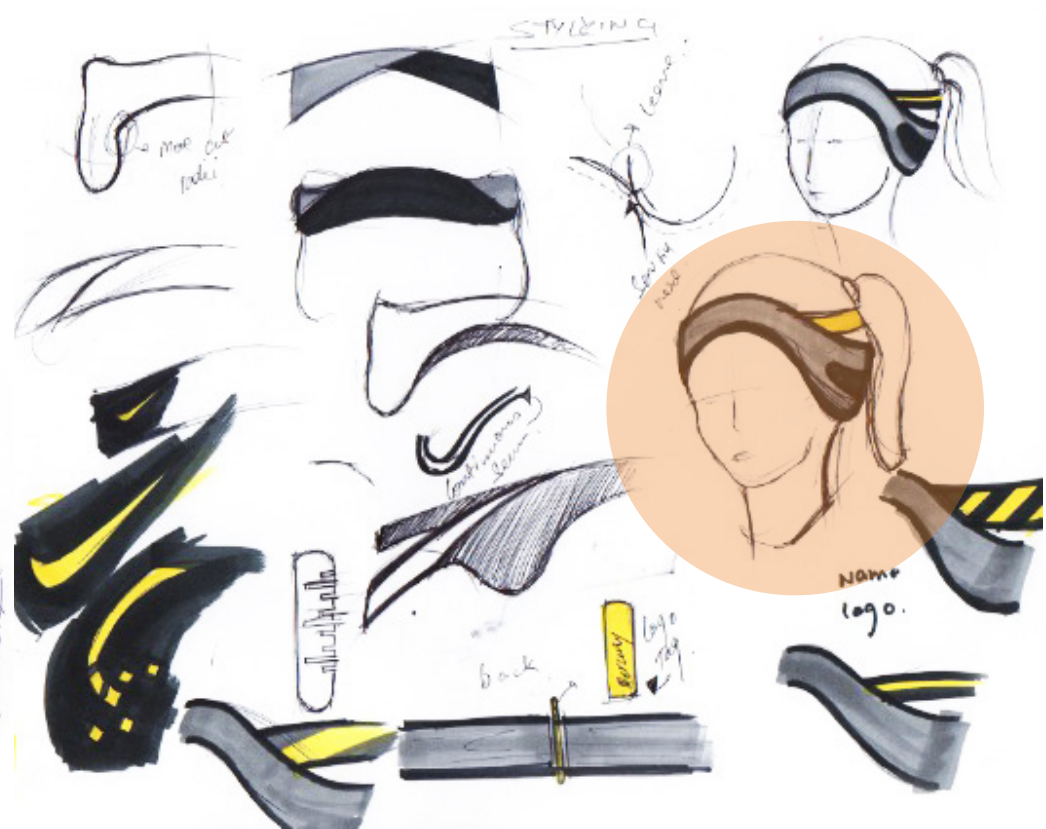
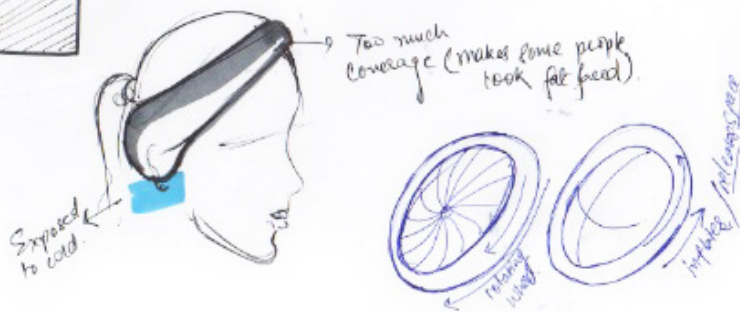
- Wind deflection
- Earphones placement
- Hard and soft structure distribution
- Band types
- Form fitting

- Area around ears
- Sound allowance
- Combination of materials
- Other facial areas to be covered
- Thickness of material around ears



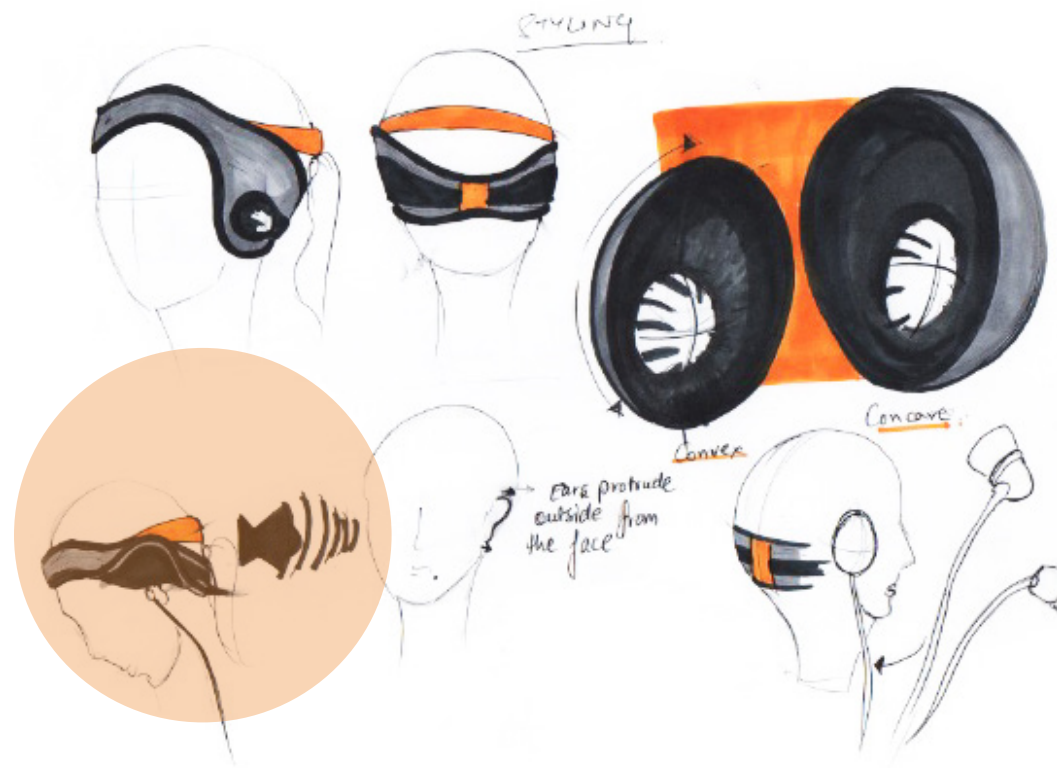
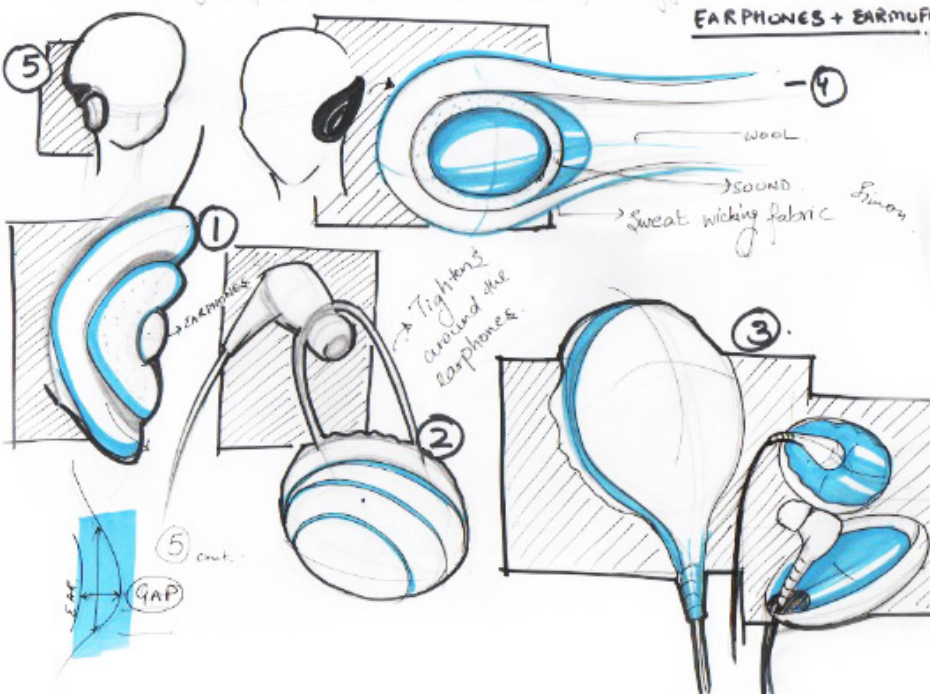
WHY DO PEOPLE LIKE HEADPHONES?

- Cushion around ear
- Thick
- Move overall sound source

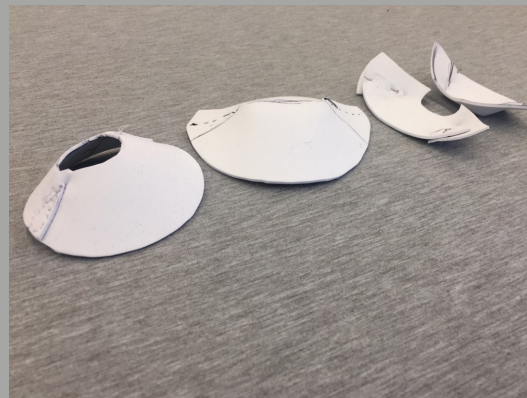


What do you find uncomfortable about existing earbuds?

EARPHONES + EARMUFFS



Refined Ideation | Sketch models | User testing



- Concave and convex structural action
 - Earphones insertion
 - Mimicking the earphone form
- (The form of earphones protects the ear canal from excessive wind pressure difference)

- Material and mechanics
- Headband type
- Color combination and Sporty look
- Form fitting
- Fabric Properties

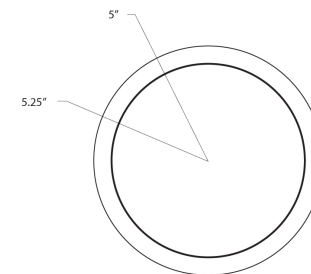
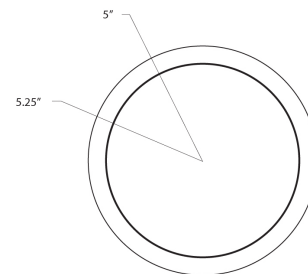
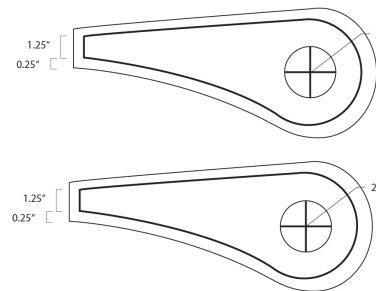
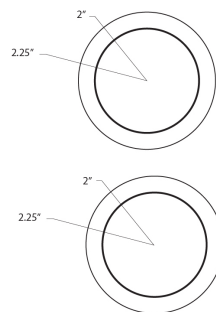
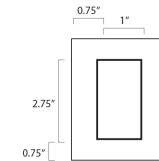
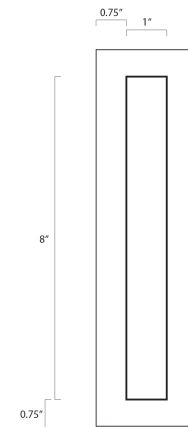
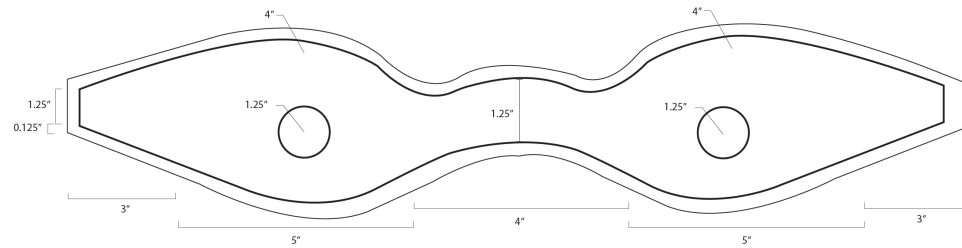
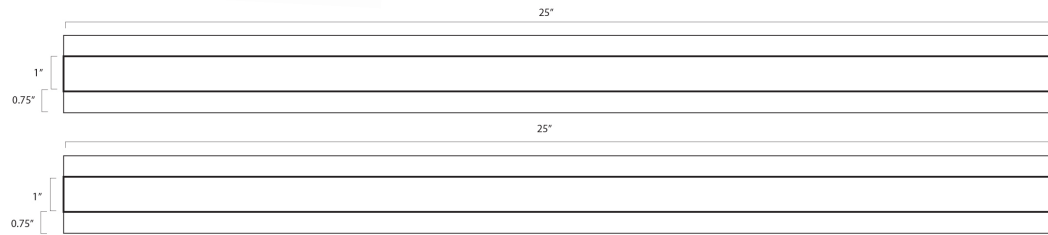
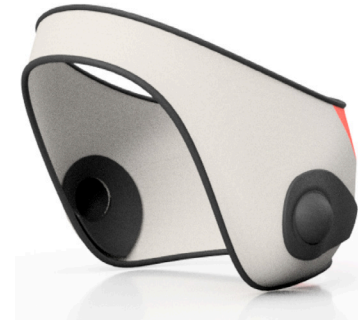
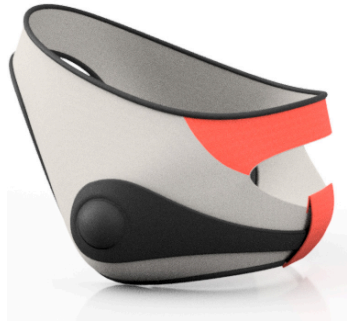




Features | User Feedback



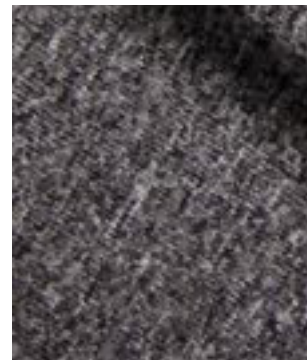
3D Model | Flats



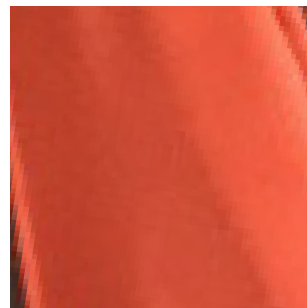
More Options | Materials



Foam bra cup



Dri-fit Fabric



Spandex



velox