spex

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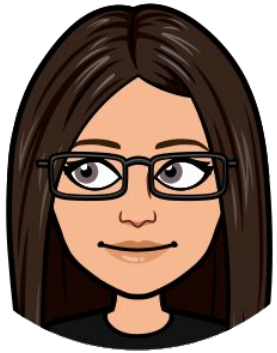
Roles



Jennifer

- Devil's Advocate
- Copywriter
- Concept Sketching
- Secondary Research
- UI Design & Animation
- 3D Modeling
- Composting & Animation

PJ

- Team Harmonizer
- Early Research
- Notetaker
- Storyboarding
- Design Sketching
- Technical Drawing
- High-Fidelity Rendering

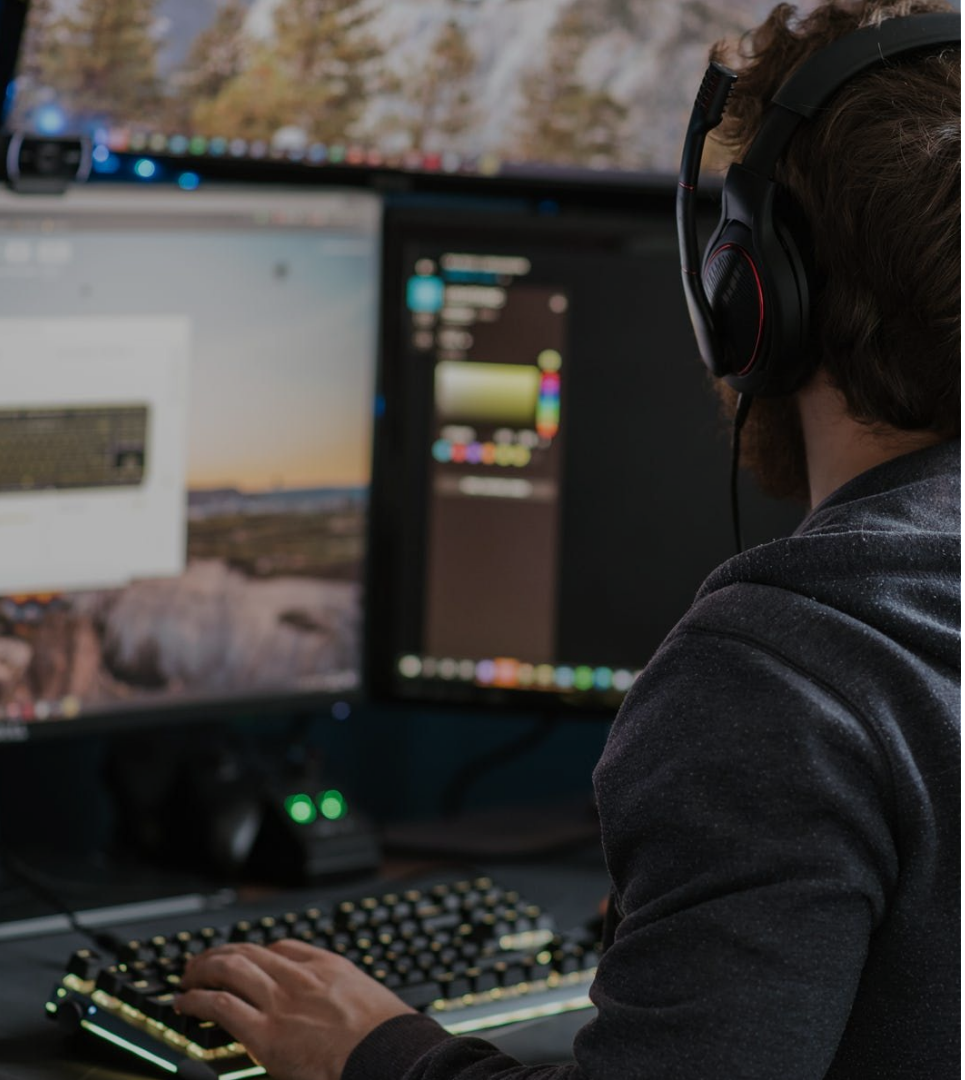
Eduardo

- Prioritizer
- Spokesperson
- Technology Analyst
- 3D Rendering
- Gestures & Commands
- Visual Effects Producer
- Product Staging

Roles

Our combined efforts led to an effective exploration into Mixed Reality learning.

Project Brief



The pandemic has forced many people and companies to re-evaluate what "work" looks like.

For this challenge we were tasked to **consider what tools, processes, and methods could we employ to create a better setup for co-creation?**

Project Objective

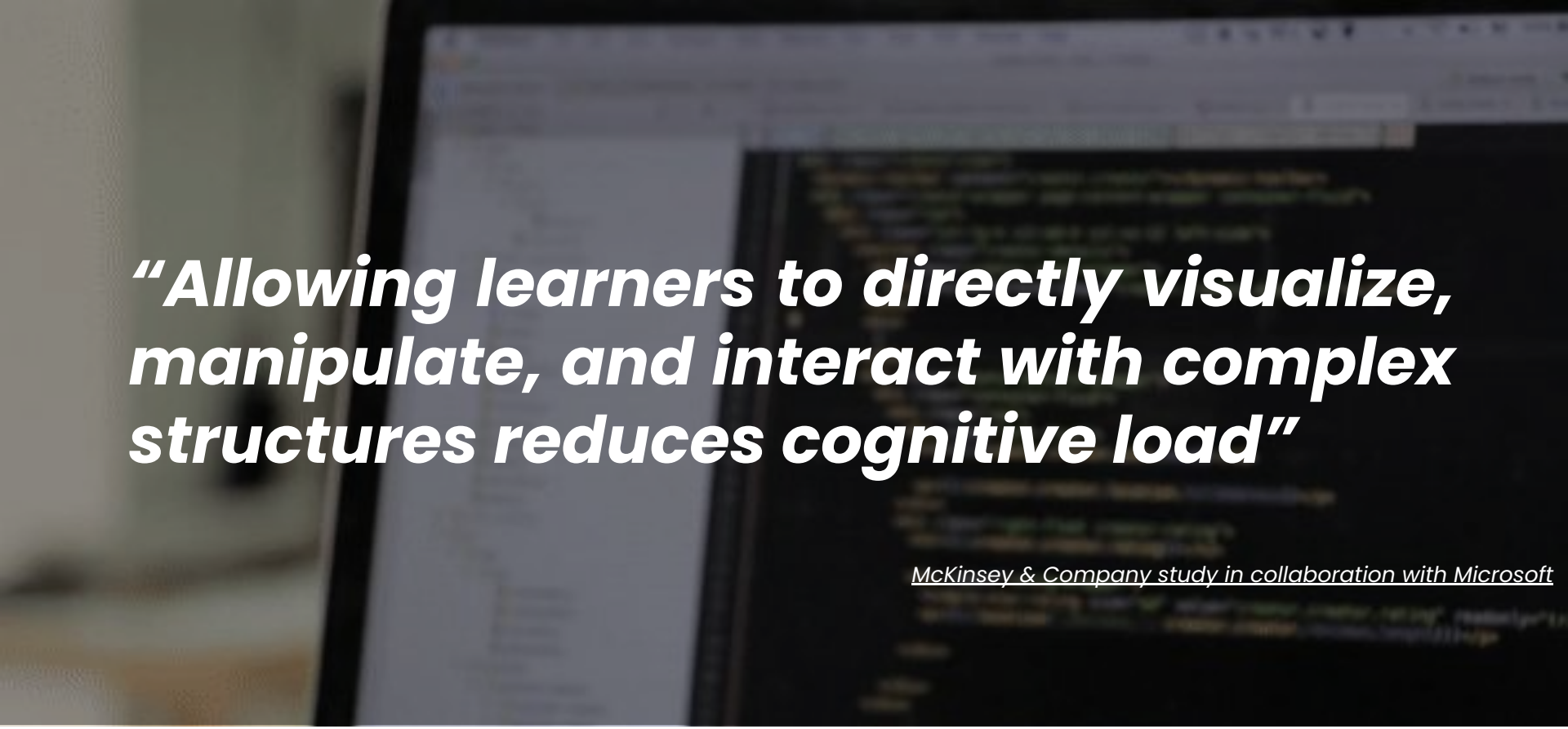
Spex was designed to help people learn new skills quickly and efficiently

We have observed that adjusting to new tools and software in a professional environment can be challenging. Looking for help on the internet is often time consuming and disrupts the productivity of employees.

How might we provide an efficient and collaborative way for people to learn new skills, without disrupting users' workflows?

Design Research

Design Research Finding the right content is time-consuming and inefficient.

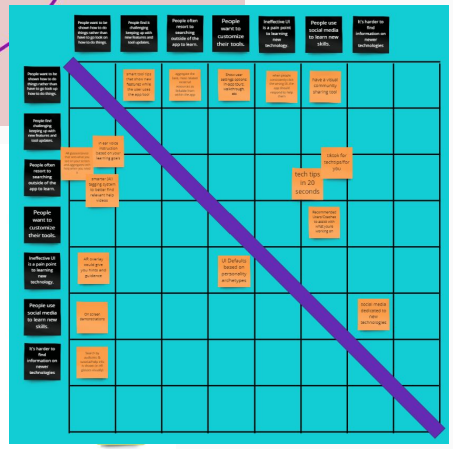


“Allowing learners to directly visualize, manipulate, and interact with complex structures reduces cognitive load”

McKinsey & Company study in collaboration with Microsoft

Design Research Immersive technologies could provide more intuitive solutions.

Design Process



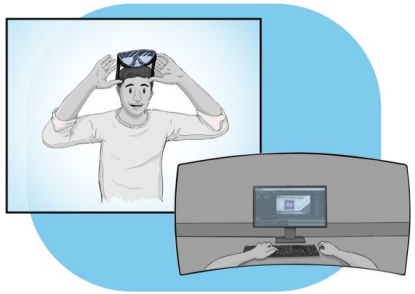
Insight

- People struggle to keep up with changing technology.
- People often resort to searching outside of the all to learn.
- People want to be shown how to do things rather than to go look for how to do things.

Early Ideation

Team brainstorming in Mural lead us to refine our problem focus and direction.

1



Jeremy lowers his Spex Visor.

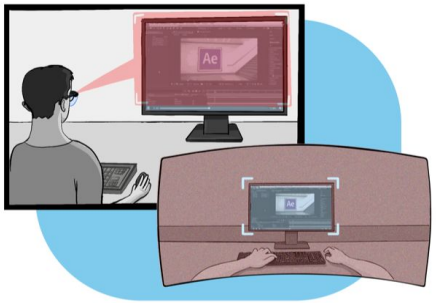
2

The Spex UI overlays his workspace.

3

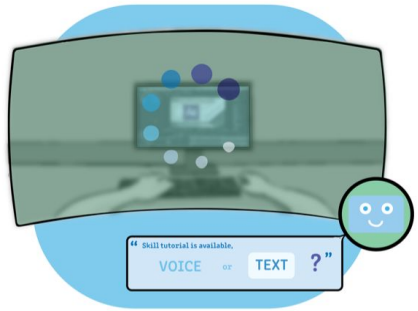
Jeremy asks Spex for help.

4



Spex scans Jeremy’s workspace.

5



Spex loads a community skill.

6

Jeremy follows the skill to learn.

Storyboard

Jeremy experiences an enhanced workflow thanks to Spex.

48%

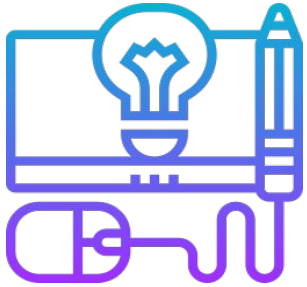
Of students claim the pandemic has worsened their ability to remain focused & engaged.

Economist Intelligence Unit Report Sponsored by Microsoft

35%

Increase in engagement and retention when learning with immersive and 3D technologies

McKinsey & Company study in collaboration with Microsoft

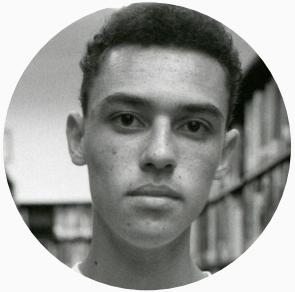


90%

Of students remember the material if it is learned through experience

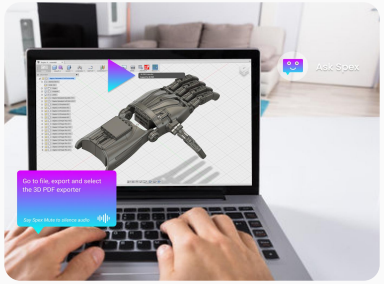
National Survey by Dreambox Learning

Design Research Immersive technologies can help increase learner engagement through meaningful experiences.



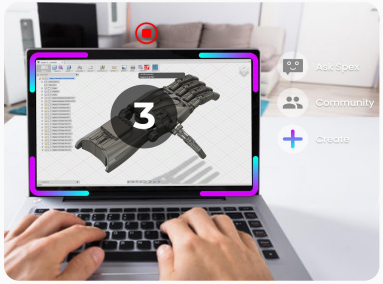
LEARNER

JEREMY DIAZ
DENVER
28 YEARS OLD
VISUAL DESIGNER AT APPAREL COMPANY



CREATOR/EXPERT

EMMA SHELDON
LONDON
32 YEARS OLD
FREELANCE MOTION DESIGNER



Insight

- Social networks have evolved to promote sharing of skills in a bitesize form.
- User generated content can promote collaborative learning.
- Learners can become creators to expand the network.

Target Users

Jeremy uses Spex to learn new skills, Emma shares her knowledge by creating skills.

Insight

- Spex should have three main components; help, community, and create.
- Audio feedback will pair with visual response.
- Placement of UI could be customizable via gesture.

Early UI

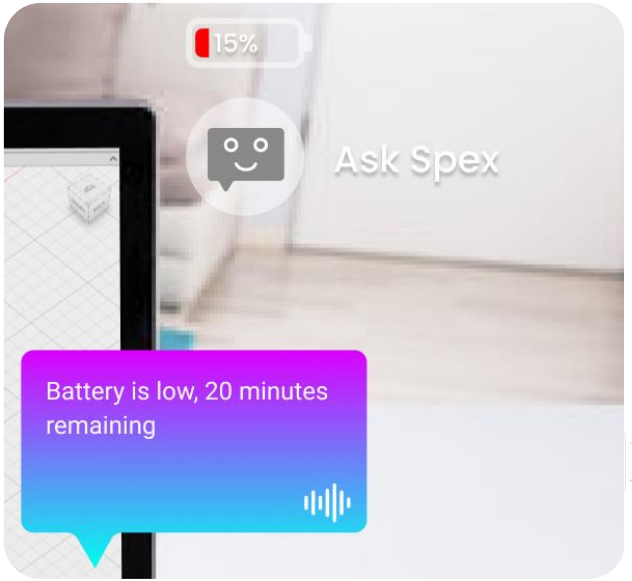
Our goal was to have a minimal user interface with interactions utilizing voice, gesture, and visuals.

Insight
The Spex network may not have the desired skill but should provide an intermediary solution.

Insight
Spex should let users know of important status updates both audibly and visually.

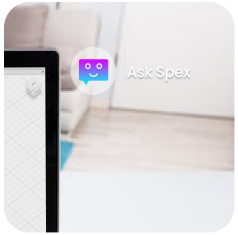
"Spex, help me with make a task in Team Gantt."

"I'm sorry, we don't have skills yet for Team Gantt. We can suggest this related video tutorial from YouTube."



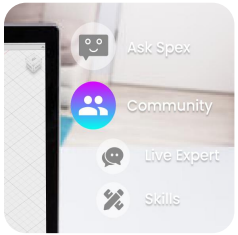
Heuristics

Heuristics evaluations provided insights into our UI development.



"Spex, how do I...?"

"Spex, menu"

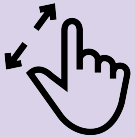


"Spex, community"

User Interface With voice and gesture control, the user can navigate through and interact with AR elements.

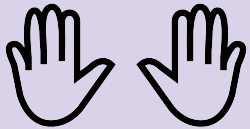
Spex, zoom in.
Pinch in fingers.

Spex, zoom out.
Pinch out fingers.



Spex, hide items.
Close both hands.

Spex, show items.
Open both hands.



Spex, scroll horizontally.
Swipe left or right.

Spex, scroll vertically.
Swipe up or down.

Spex, start recording.
Open one hand.

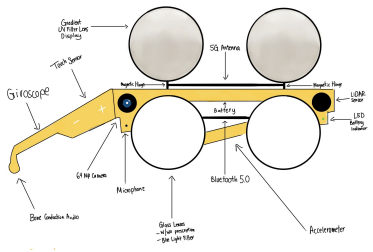
Spex, end recording.
Close one hand.

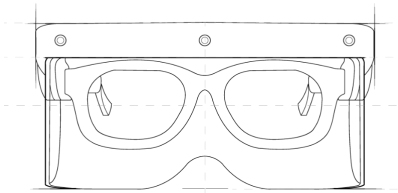
Spex, hover.
Point with finger.

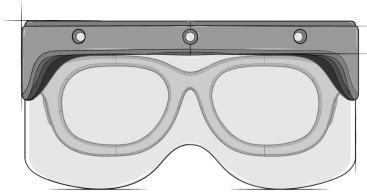
Spex, select.
Point with finger for 3 sec.

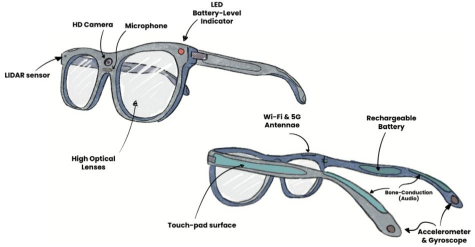
Gestures

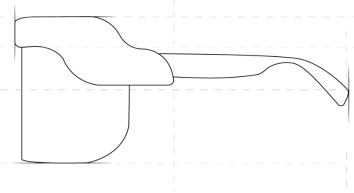
In addition to voice commands, users have the option to navigate the interface through gestures.

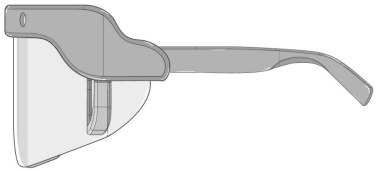


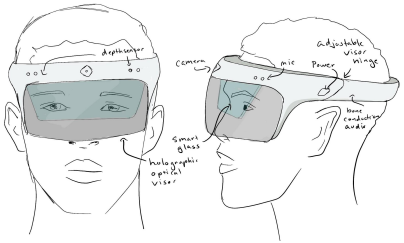


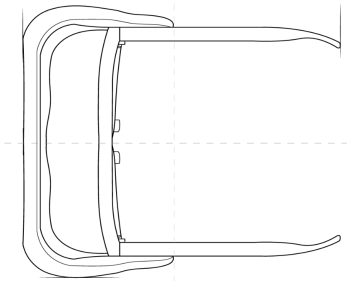


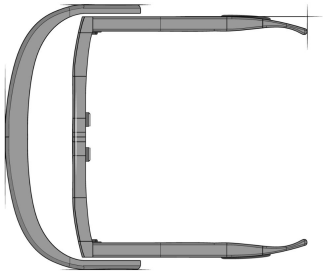




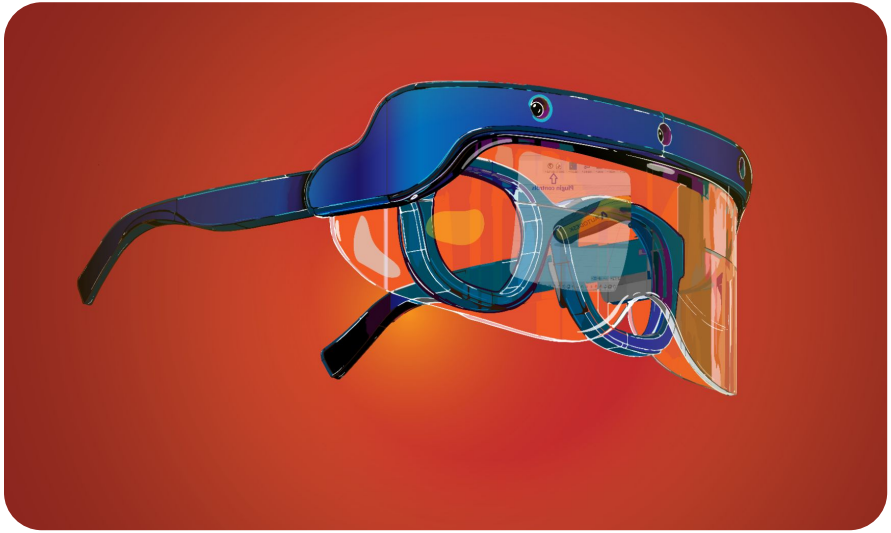


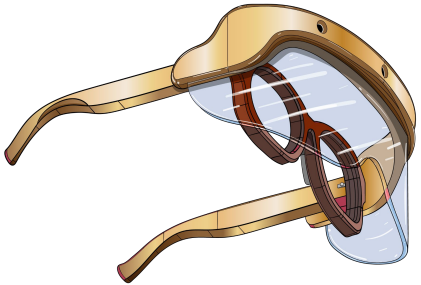






Sketch Iterations Design sketching, physical modeling, and orthographic drawings informed the product design.





Rendering

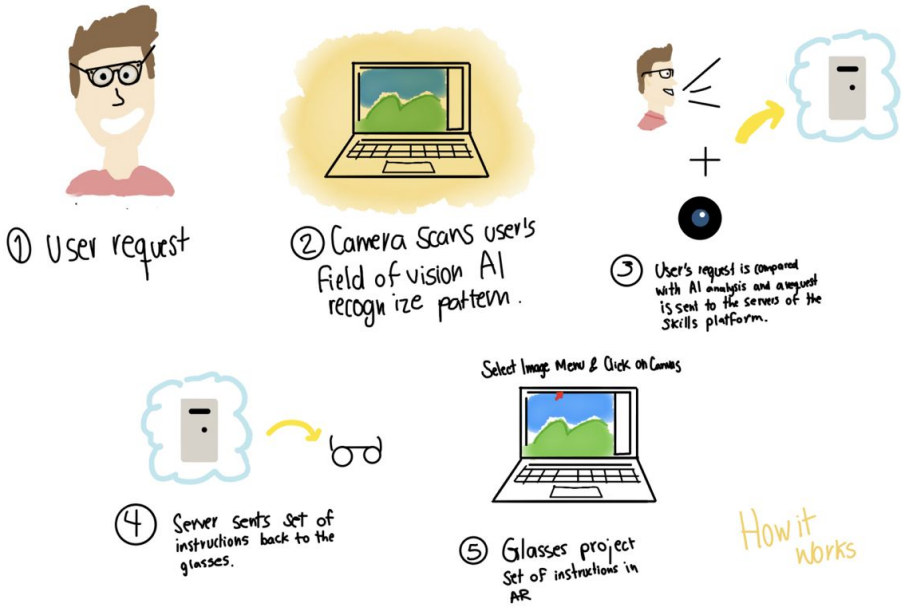
We created 2D and 3D renders to showcase a finished visualization of Spex.

Emma can always detach the display, to use Spex as simple prescription glasses.

This is our user Emma wearing Spex, you can see examples of the MR interface displayed on her field of view.

Context 3D modeling and compositing helped us visualize Spex on a user in combination with the UI.

Tools & Methods



HOW IT WORKS

1. It all starts with the user's request.
2. Then the Spex's camera will scan the user's field of vision, AI will analyze and recognize the software and device the user is working with, this process happens on the device.
3. It's important to mention spex doesn't send a recording of your field of vision to the skills server, but instead just a set of keywords that will help the system platform give you the right result.
4. Once this set of keywords is received by the server, the server will reply with a set of instructions, this exchange of information will be encrypted end to end.
5. The user's will be able to visualize this instructions in Augmented Reality, overlaid on their device to not disrupt their workflow, user's also have the option to hear these instructions through the bone conduction audio from the glasses.

How It Works

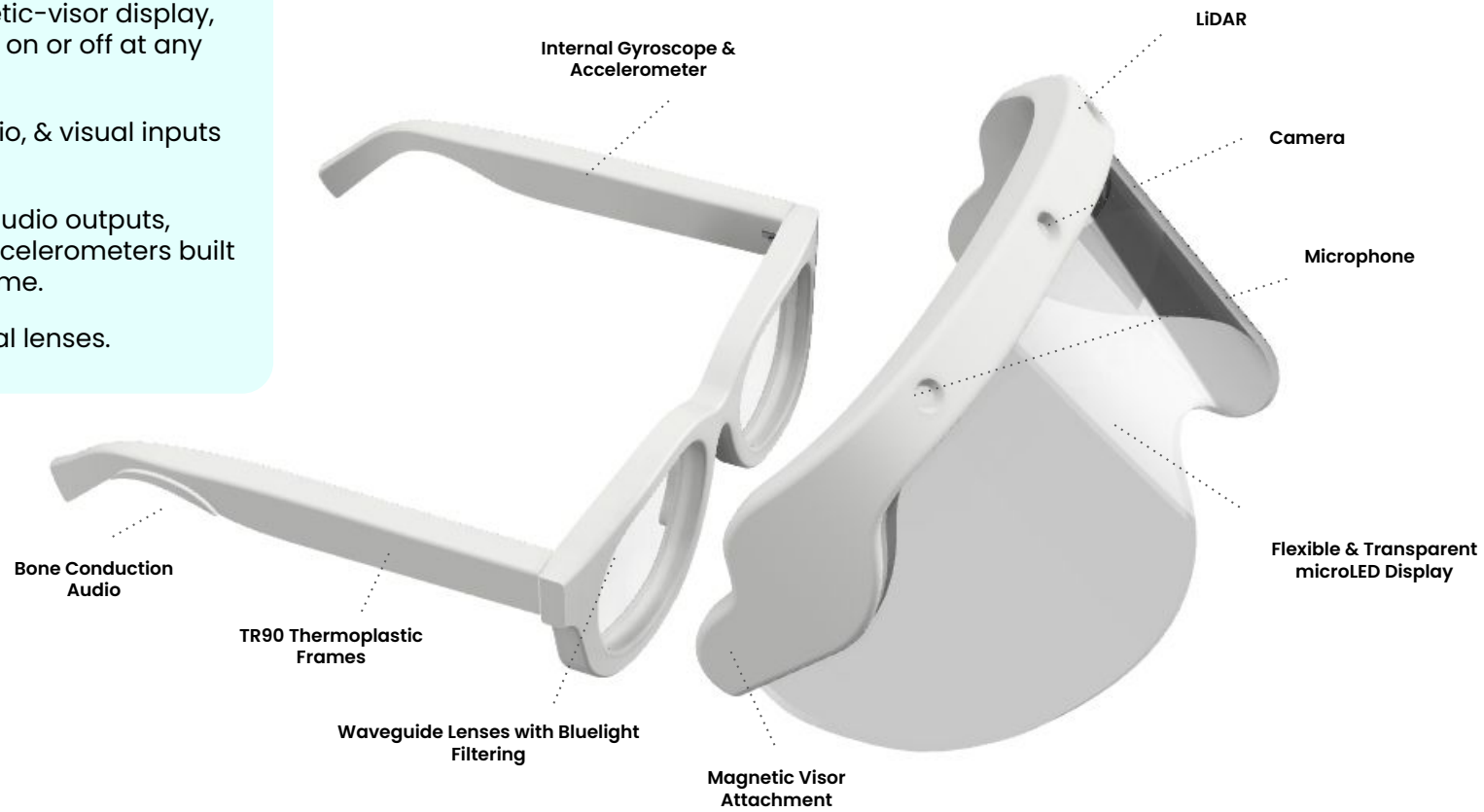
Spex works seamlessly and securely for all users, enhancing their workflow without interruptions.

Detachable magnetic-visor display, that users can take on or off at any time.

Depth sensing, audio, & visual inputs built into the visor.

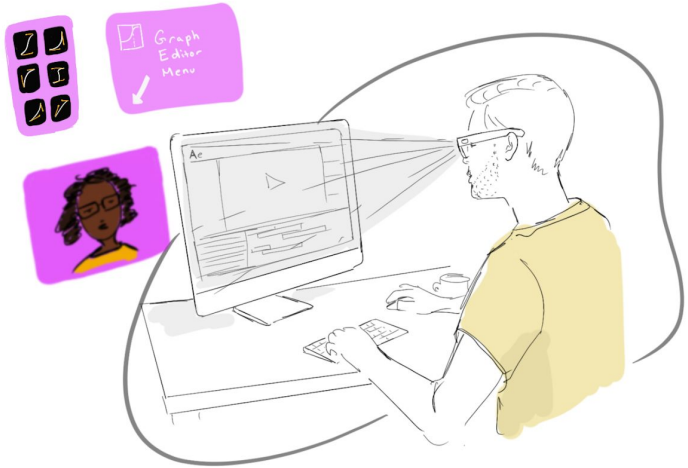
Bone-conduction audio outputs, gyroscopes and accelerometers built into the glasses frame.

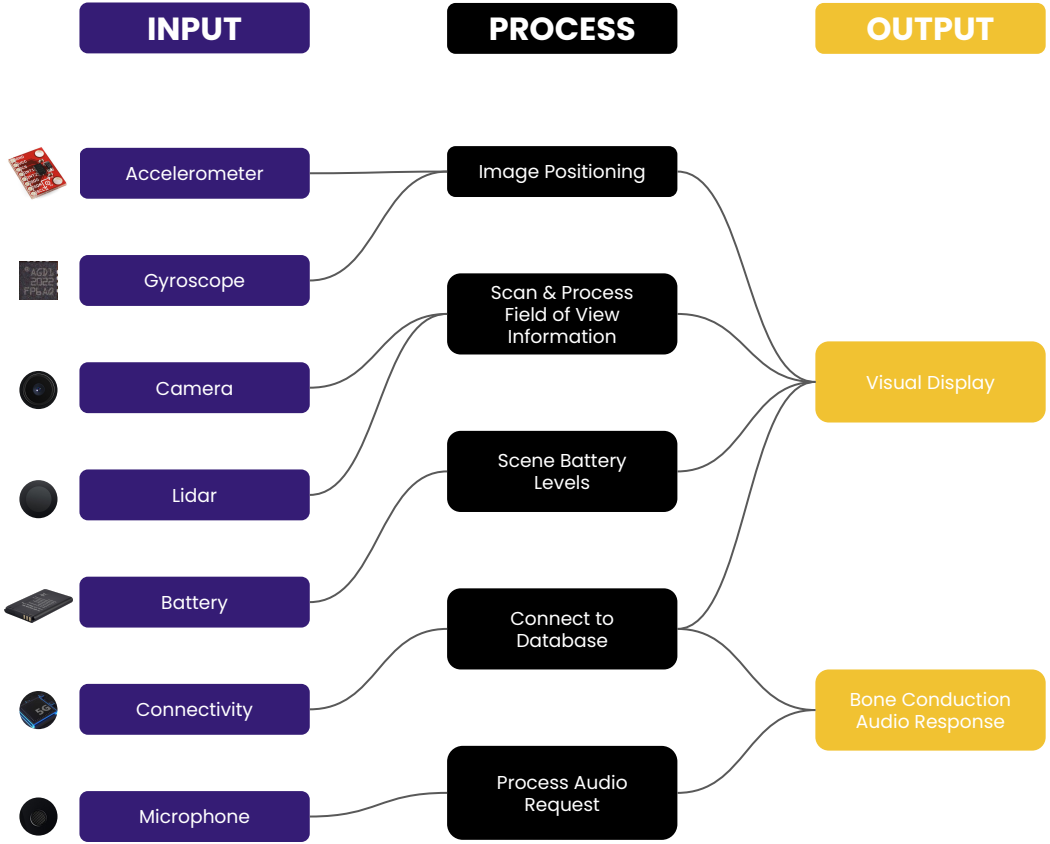
Prescription optional lenses.



Components

Spex has a variety of technologies and components that work together to deliver the best experience.

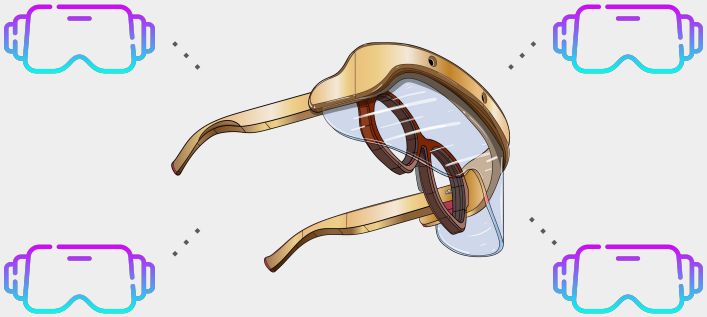




Processes

Spex has a variety of system processes that require interaction of input and output components.

Learning & Reflection

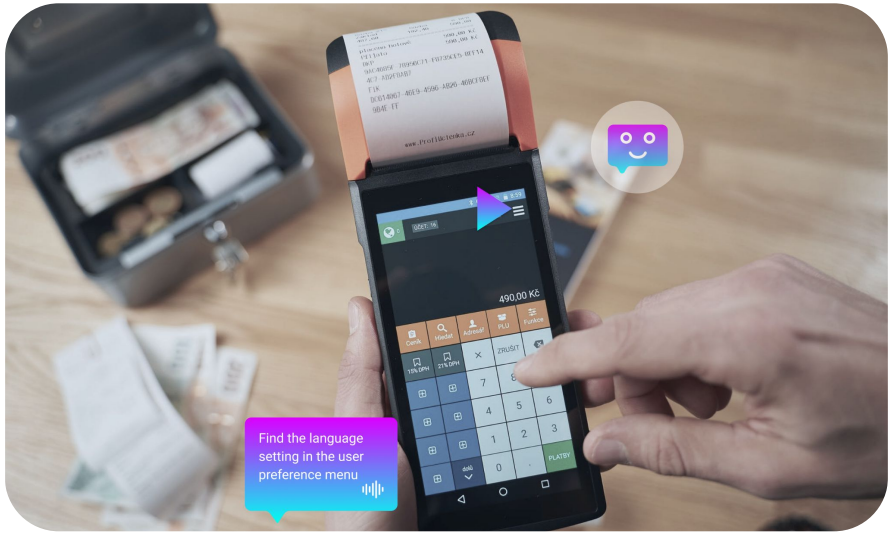


Insight

The Spex network could grow beyond the Spex glasses and be licensed to and accessible by other Mixed reality products.

Insight

We envision Spex to grow beyond software skills and apply to other processes beyond screens such as how to use a printer, a credit card machine, a desk phone or any device used in the workspace.



Future Possibilities Spex is just the beginning for Mixed Reality integrated learning and there are many ways to grow.

Successes

- Each team member brought **unique design strengths** that helped us concept and visualize Spex.
- While our physical concept experienced some pivots, our **core concept remained consistent.**
- We were able to **communicate the value** of our idea to industry professionals and ignited excitement for future possibilities.

Challenges

- Trying to **understand** the necessary **technologies** held us back from determining the physical form.
- We struggled to make **collaborative network aspect** of Spex clearly understood.
- Familiarizing people with Mixed Reality technology and convincing them on the benefits of this technology as opposed to an app or screen based system.

Outcomes

Reflections on our design process.


What are you
excited to learn?