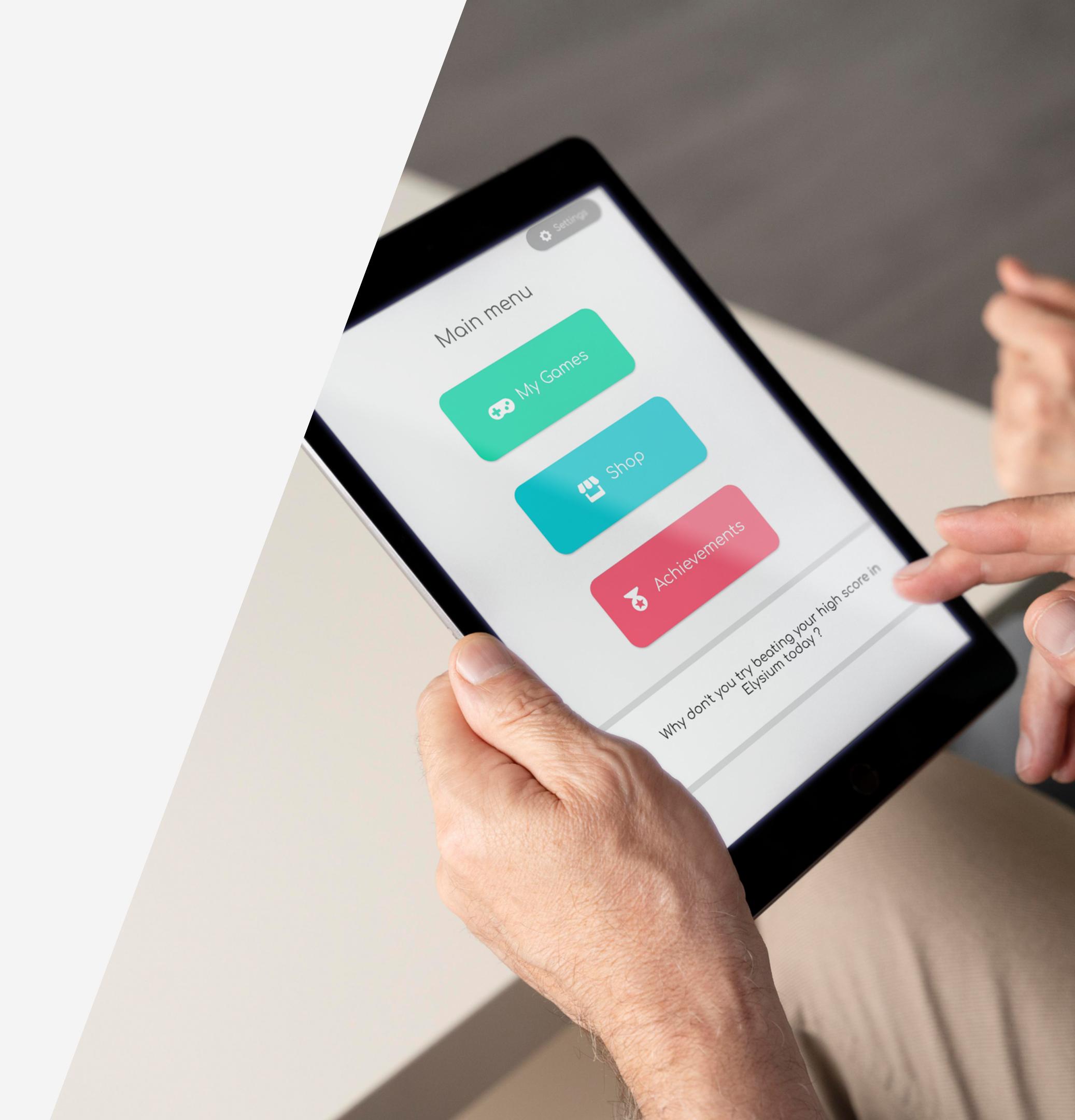


# Cellulo Hub

Baptiste COPROS & Antoine ROGER  
Professor : Pierre DILLENBOURG  
Advisor : Victor BORJA

**EPFL**





# Goal of the project

Develop a multiplatform HUB for the games of the robot to be showcased, and deployed in the device.

# Material and Methods



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# HOW DID WE APPROACH THE OVERALL PROJECT ?

- 01. Scrum methodology**
- 02. GitHub, Continuous integration, Continuous Delivery**
- 03. Flutter framework**
- 04. Firebase set of tools**

# SCRUM METHODOLOGY

Work is divided into *sprints* where each developer is assigned a *task* and is supervised by a *Scrum master*.



The tasks of each sprint came from a sprint backlog  
we wrote each week based on 3 sources :

The initial *product backlog*

The weekly meeting  
with our supervisor

The meetings with  
the clients



# GITHUB

*Continuous Integration,  
Continuous Delivery*



## Version Control

We chose GitHub since it is the most advanced free system for this task



## Continuous Integration

Test automation and code coverage generation with GitHub actions



## Continuous Delivery

Weekly build for our Scrum meeting with Victor Borja

# FLUTTER & FIREBASE

**Flutter** is an open source multi-platform framework by Google, which uses Dart language.

**Firebase** is a platform which provides many tools for app development .

## Firebase tools we used

### Firebase Authentication

For user authentication

### Firebase Firestore Database

To store games and user stats

### Firebase Storage

To store large files (apk, zip, images...)

# Literature Review



# HOW DID WE ADAPT TO OUR TARGET USERS ?

- 01.** Visual acuity
- 02.** Color perception
- 03.** Learning & Decision making

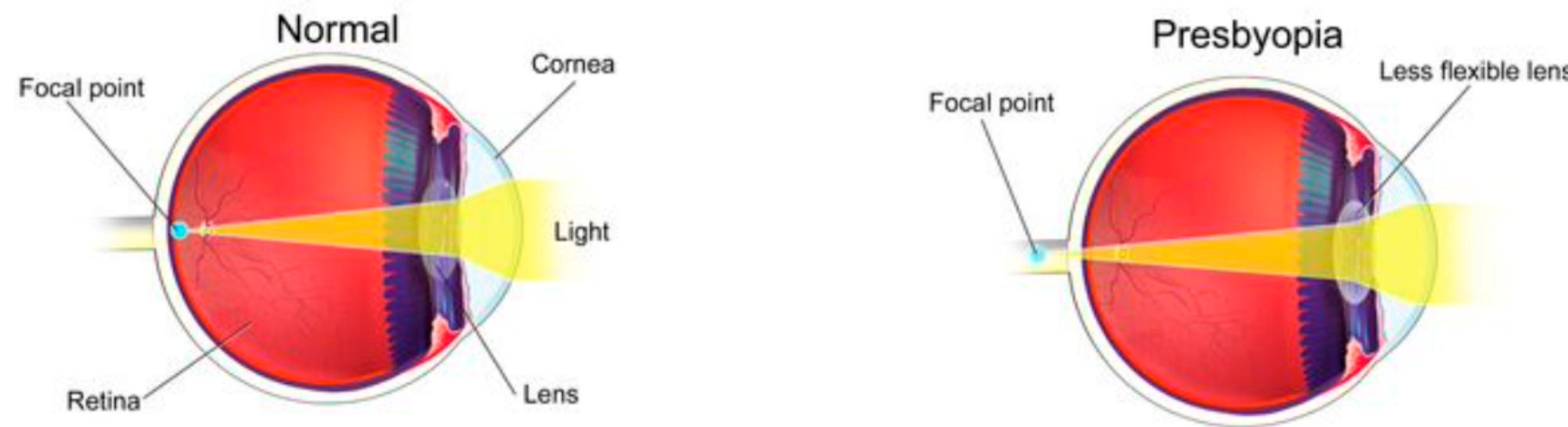
# USER FEEDBACKS

To confirm our UI/UX choices

	User 1	User 2	User 3
<b>Week of the test</b>	6	11	11
<b>Age</b>	79	81	57
<b>Ease with IT (out of 10)</b>	4	6	7
<b>Vision problems</b>	Presbyopia	Reduced vision to one eye	Presbyopia

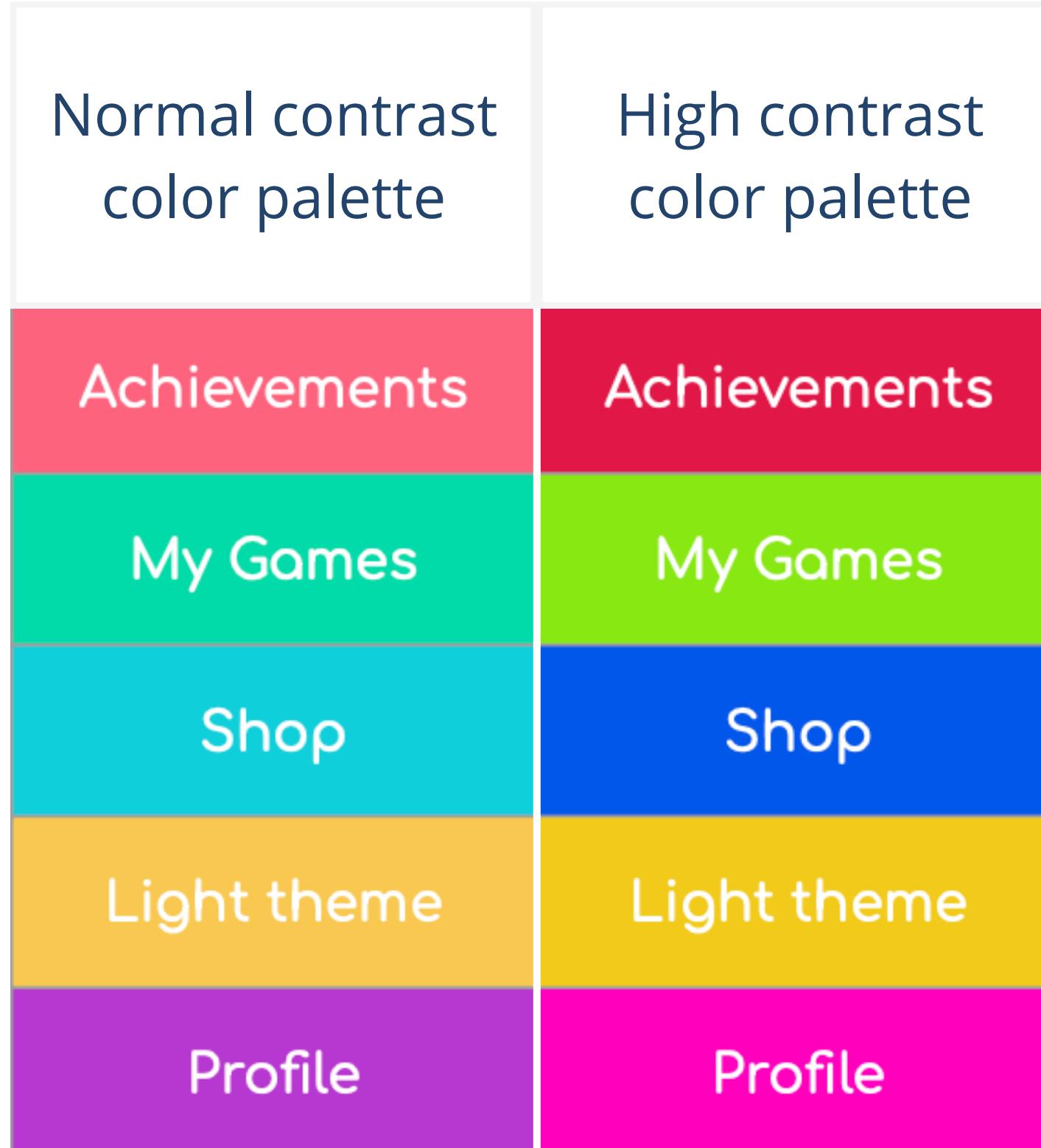
# VISUAL ACUITY

As vision deteriorates with age, designing interfaces with bigger and more readable elements is a main focus of our application.



Schematic representation of Presbyopia [1]

# COLOR PERCEPTION



To adapt to everyone's color perception, we created both a visually appealing theme and a high contrast theme.

A photograph of a woman with short blonde hair, wearing glasses, a black and white striped shirt, and a gold necklace. She is looking down at a laptop screen, which is partially visible at the bottom left. A large green plant is in the background.

# LEARNING & DECISION MAKING

To help people learn how to use the application faster, we added as much feedback as possible and shortcuts to reward the users making the efforts to explore things further.

# Demonstration



# THANKS

[1]<https://upload.wikimedia.org/wikipedia/commons/thumb/8/8b/Presbyopia.png/290px-Presbyopia.png>

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