MOBILE EDUCATION USER EXPERIENCE

User retention strategies focused on low-income and illiterate audiences

Team

PSP2

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Isaac Veras Lima
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PSP5

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Gabriel Sabino Bocchetti Nunes
Lucas Cavalcanti Magalhães Cabral
Luisa Gonçalves Cury

Professors

Simone Borges Simão Monteiro
Carlos Maurício de Borges Mello
Márcia Longen Zindel
Maria Isabel Araújo Silva dos Santos

Simone Borges Simão Monteiro
Ana Cristina Fernandes Lima
Everaldo Silva Júnior

Team Responsibilities

PSP2

PSP2 was responsible for developing user retention strategies and interfaces for the application aimed at waste pickers

PSP5

PSP5 was responsible for evaluating the work done by PSP2, ensuring quality of deliveries and performing checklists

Professors

Teachers were responsible for coordinating and supporting students in solving the problem proposed in each subject

Methodology
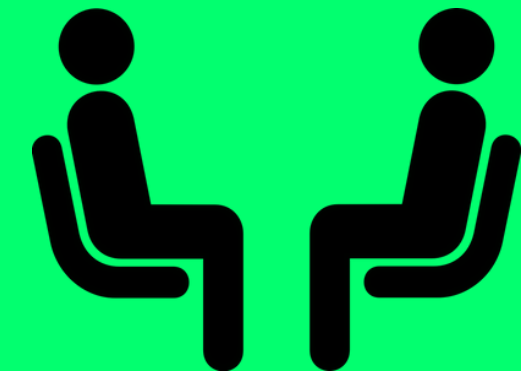The methodology used was interviews and bibliographic research.

On March 7, 2022, the group visited the Integrated Recycling Complex of the Federal District to conduct an interview with a group of eight collectors, who could help us at the moment. The questions asked aimed to know the profile of the application's target audience and their perception of smartphone applications, so that appropriate retention strategies could be developed.
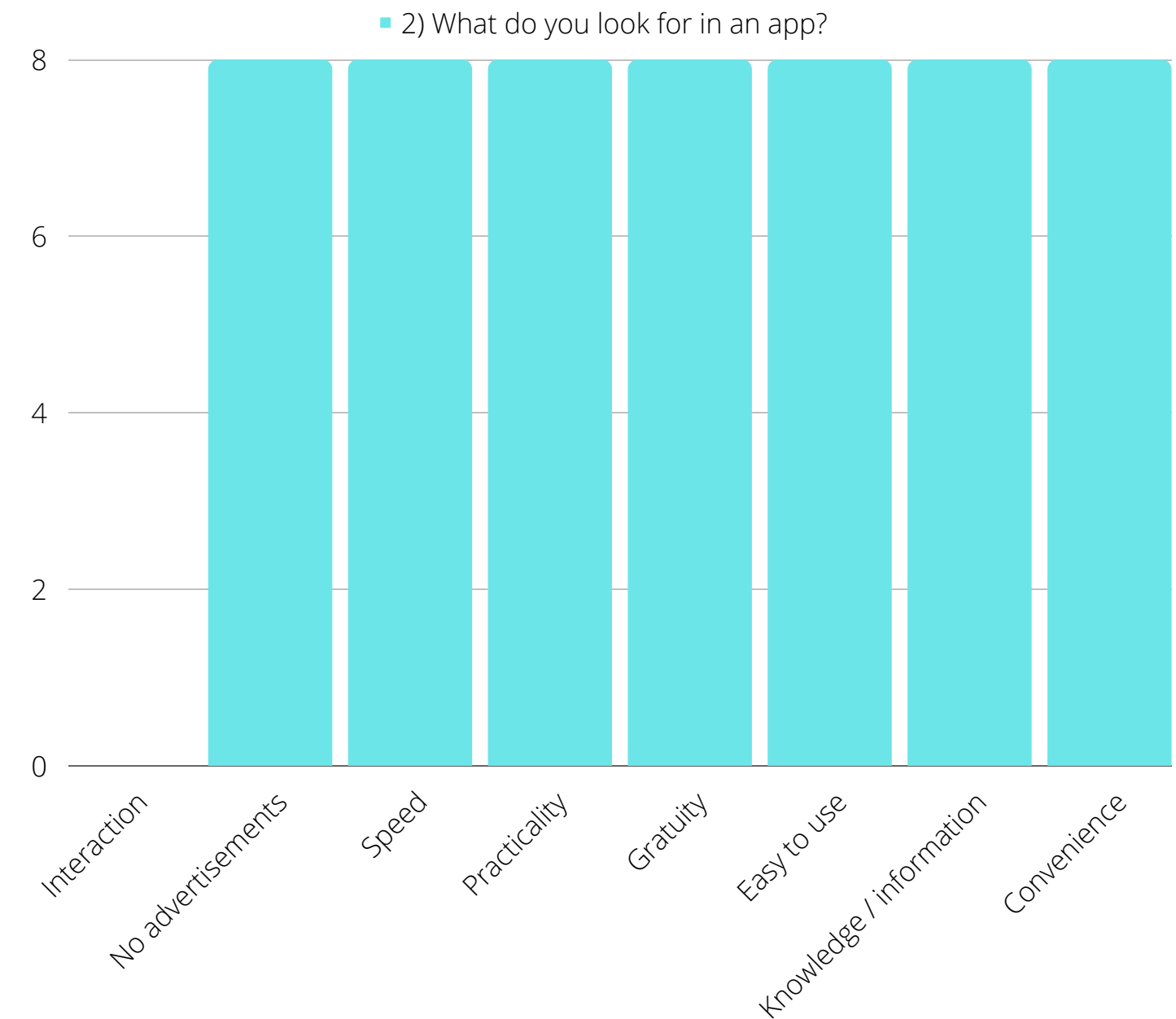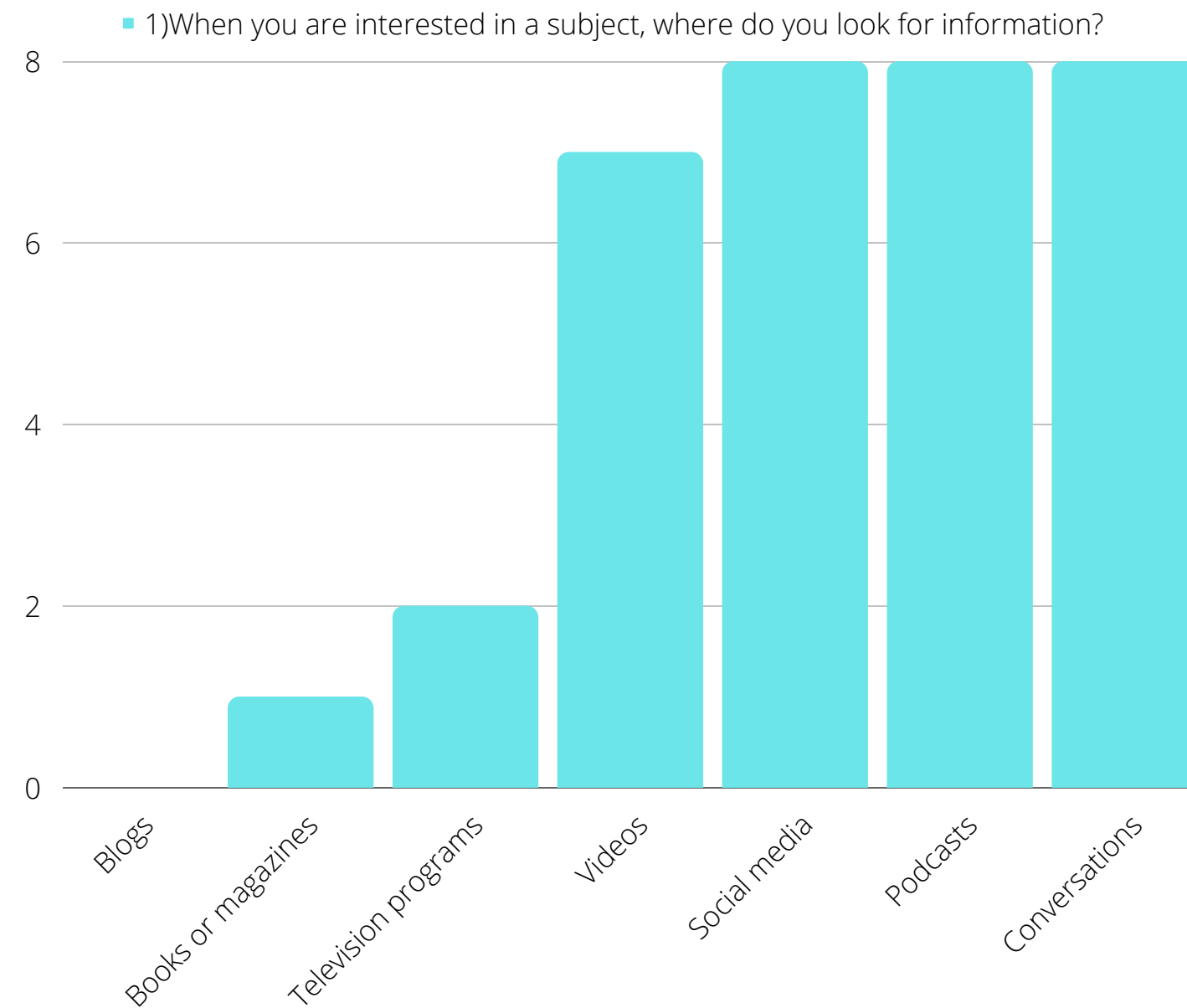
The questions asked were:

1) When you are interested in a subject, where do you look for information?

2) What do you look for in an app?

3) For you, what are negative points in an application?

4) Name one or more applications that you usually use.

5) Which device do you use the most?
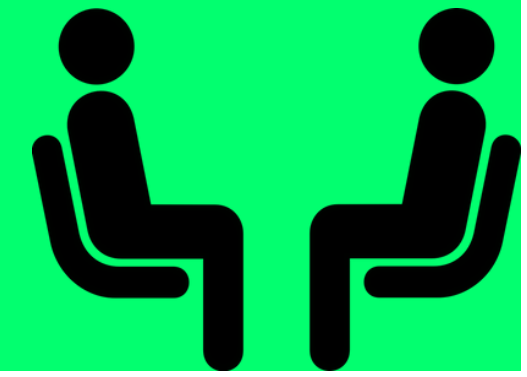
Methodology
Interview
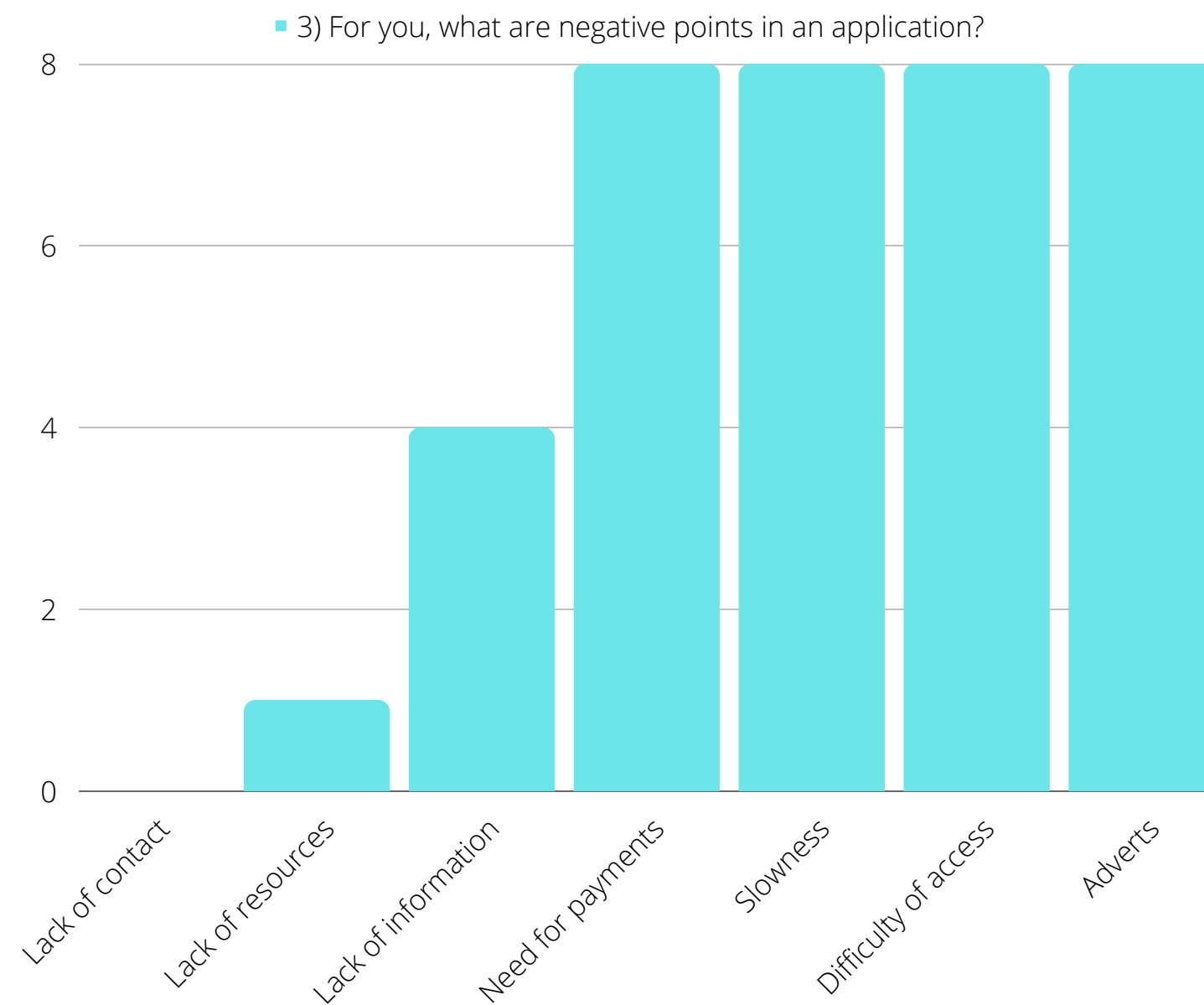
The answers obtained were:

1) When you are interested in a subject, where do you look for information?

Category	Value
Blogs	0
Books or magazines	1
Television programs	2
Videos	7
Social media	8
Podcasts	8
Conversations	8

2) What do you look for in an app?

Category	Value
Interaction	0
No advertisements	8
Speed	8
Practicality	8
Gratuity	8
Easy to use	8
Knowledge / information	8
Convenience	8

Methodology
Interview

The answers obtained were:

3) For you, what are negative points in an application?

| Category	Value
Lack of contact	0
Lack of resources	1
Lack of information	4
Need for payments	8
Slowness	8
Difficulty of access	8
Adverts	8

4) Name one or more applications that you usually use.

Purchases
Shopee
Whatsapp
Bank
Instagram
OLX
Itaú
Facebook
Accounting
Cashier
Twitter
Tiktok

Methodology
Interview

The answers obtained were:

5) Which device do you use the most?
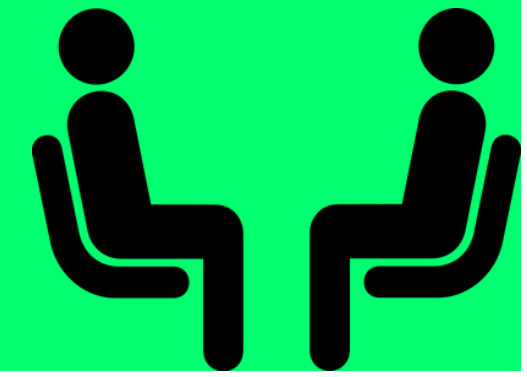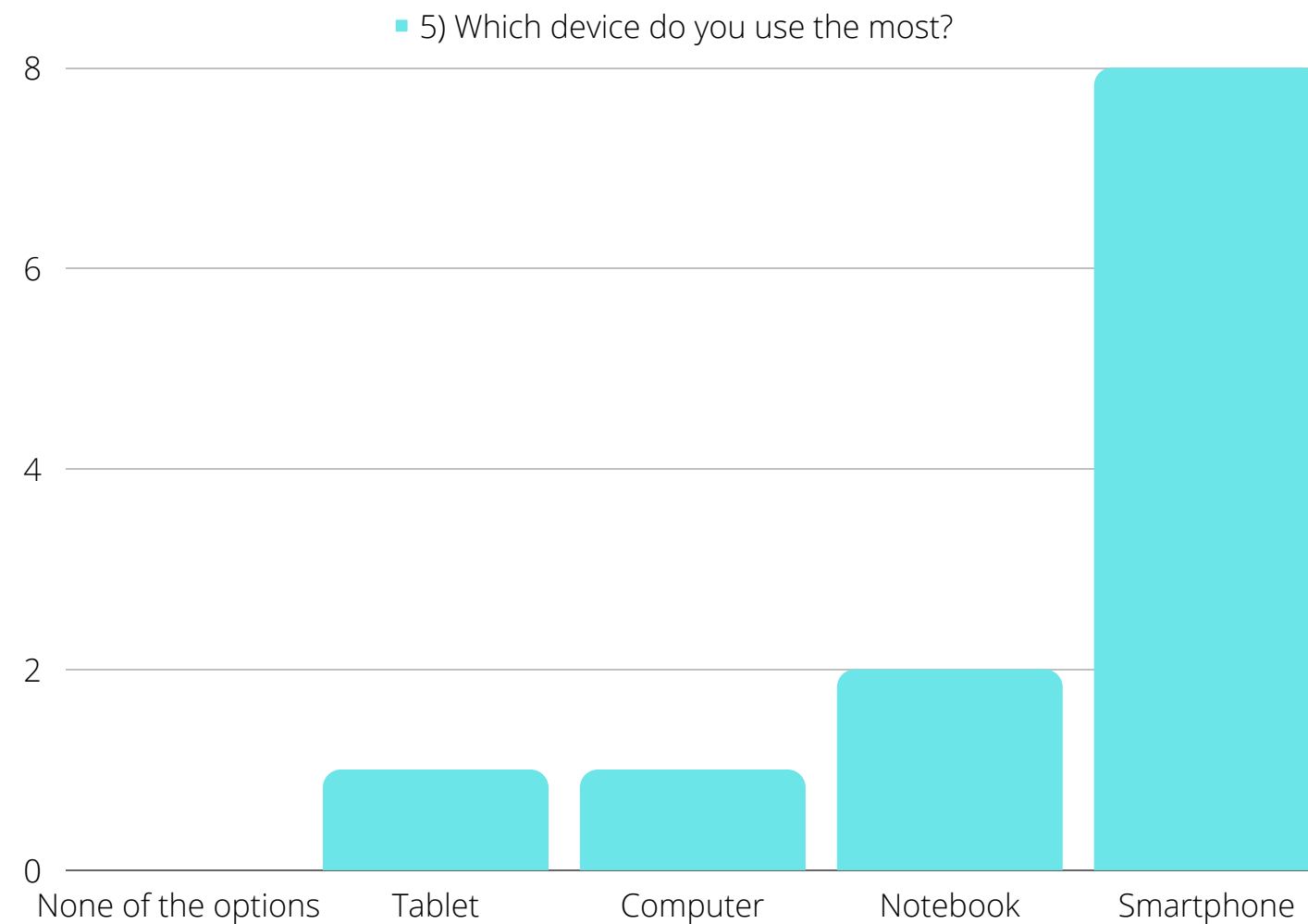
Based on the interview, we were able to understand a little more about the pickers' view of mobile applications and their preferences, considering a limitation of low sampling. With this, the team searched the academic literature for works and articles that could support the chosen strategies.

Methodology
Bibliografic research

For the bibliographic research, the methodology of the Theory of Consolidated Metaanalytic Approach (TEMAC) was used, which consists of an approach to refinement and selection of academic research that best meets the requirements of a database search. The databases used were Web of Science(WoS) and Scopus. Thus, the team selected the following works for retention strategies:

Methodology
Bibliografic research

Onboarding:

Design and Application of Learning APP for Ideological and Political Course Based on Android & SSH

Push notifications:

Smartphone app uses loyalty point incentives and push notifications to encourage influenza vaccine uptake

Snooze! Investigating the User-Defined Deferral of Mobile Notifications

Accessibility:

NetAnimations Mobile App: Improvement of Accessibility and Usability to Computer Network Learning Animations

Feedback:

Users - The Hidden Software Product Quality Experts?

CodeMaster - Automatic Assessment and Grading of App Inventor and Snap! Programs

Tablet-Based Math Assessment: What Can We Learn from Math Apps?

FAQ/ Usability:

A study on the usability of E-books and APP in engineering courses: A case study on mechanical drawing

MyMOOCSpace: A cloud-based mobile system to support effective collaboration in higher education online courses

Methodology
Bibliografic research

What led us to choose these strategies were the characteristics of the users interviewed (mostly women, low income, aged between 20 and 40 years old, Android smartphone users, low schooling and formal education and who mainly use social media applications, entertainment , purchases and payments) and previous academic works that served as a reference. In addition, the limitation of the business model also led us to these choices, as there was a limitation in the sampling of eight people and the time of the semester of three months to carry out the project.

Meaning of the strategies

ONBOARDING	This term refers to user's adaptation and integration to the platform and their training in its use.
PUSH NOTIFICATIONS	It is the type of notification used by an application even when it is not being used, in order to engage and inform.
ACCESSIBILITY	The meaning of this term is to break down barriers and enable the participation of individuals in different physical, economic and social conditions.
FEEDBACK	It is the evaluation of the customes' reaction.
FAQ	Refers to a compilation of common doubts and solutions to a certain subject, product or service.

User retention strategies

ONBOARDING	The focus of this point is to facilitate the use of the application from the first access, also called a usage guide, presents the features and prepares the user.
PUSH NOTIFICATIONS	Its purpose is to engage and bring the user back even when they are not using the application, it is important as an attractive trigger for the individual's attention.
ACCESSIBILITY	It allows and facilitates the usability of functionalities in general for different types of users, including those that have special needs.
FEEDBACK	Feedback loops allow a close tracking of the users experiences, which leads to improvements on the plataform.
FAQ	The FAQs tab allows solving the most common problems without the need for contact, making it faster and more effective.

ONBOARDING / USER GUIDE

Simplicity

The instructions must be simple and clean, avoiding unnecessary excess of procedures and bureaucracy. Being centralized and complete, without being lacking or saturating.

Interaction

The guides must be interactive, showing in practice how each feature should be used.

Clarity

To avoid future doubts and problems, onboarding should be simple and easy to understand.

Interfaces on the app

Qualification

Watch to educational and informational videos to learn more about your financial health.

Graphics

Track your financial results and your personal goals.
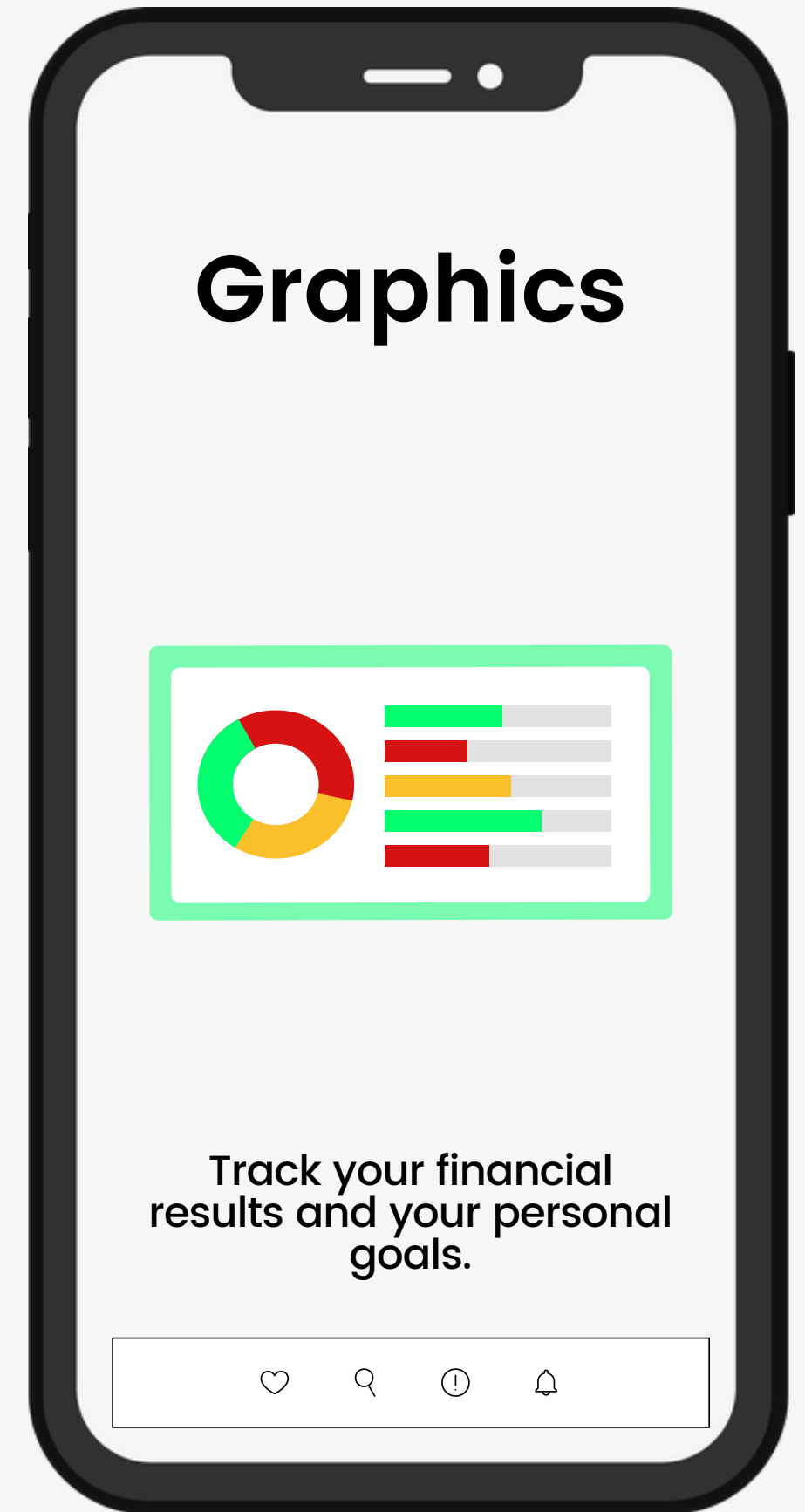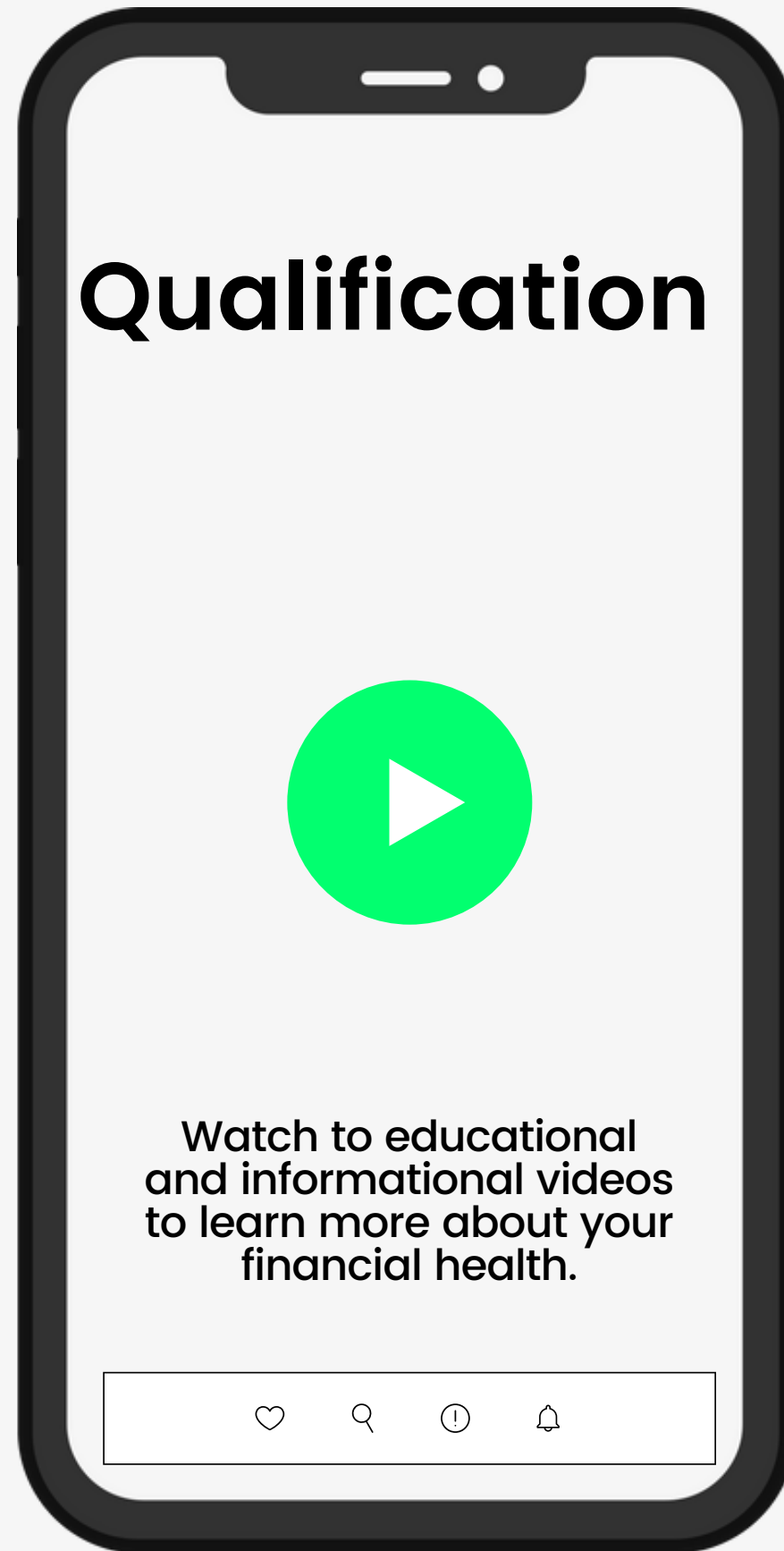
PUSH NOTIFICATIONS
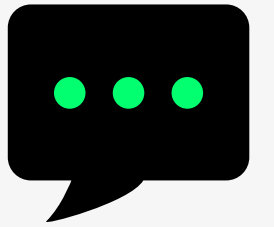
Attraction

The main objective of this trick is to attract the user into the application, so the messages must create a trigger that makes this objective to be achieved.

Engagement

Birthday messages personalized bring a positive approach, as well as announcements of promotions, benefits and new features draw attention.

Competition

The biggest challenge here is to gain the user's attention between so many application options that he can choose from.
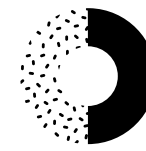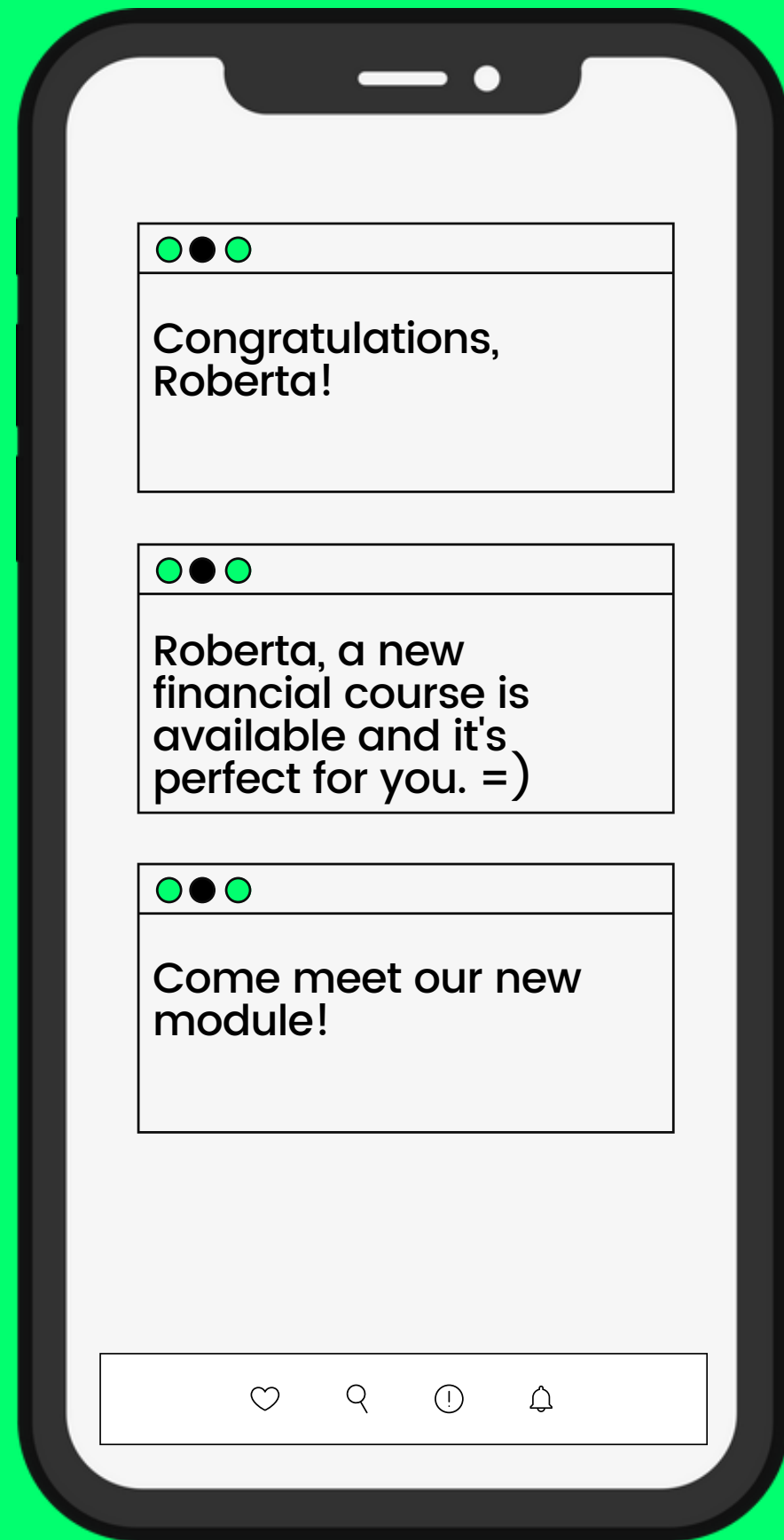
Personal posts
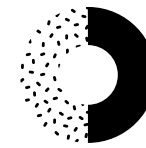
Sticky notes
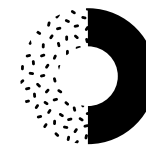
Notices

ACESSIBILITY
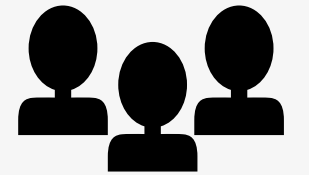
100% of respondents marked it as important in an app

Inclusion

Allow and facilitate use for those who have some kind of special need, such as disabled and illiterate people, to make the application useful to a wider audience.

Practicality

The use of accessibility tools, such as audio reading options for the illiterate, should be easy to use.

Variety

Users may have different special needs, so the greater the variety of functionality, the more people will be impacted.

ACCESSIBILITY FEATURES

Enlarge text font

Important feature for users with vision problems, especially the older audience.

Audio feature for texts

Audio as an alternative communication to reading for the illiterate and voice recording as a substitute for writing.

Use of explanatory symbols

Clear and self-explanatory indication through common symbology.

FEEDBACK LOOP
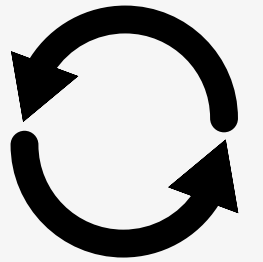
Communication

Feedback brings the user closer and facilitates communication and access to their point of view.

Analysis

Analysis and understanding the feedbacks is essencial to the business evolution, is a continuous work to finally bring about improvement.
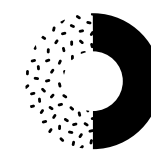
Improvement

Continuous improvement is what retains a user and renews their curiosity and satisfaction.
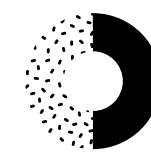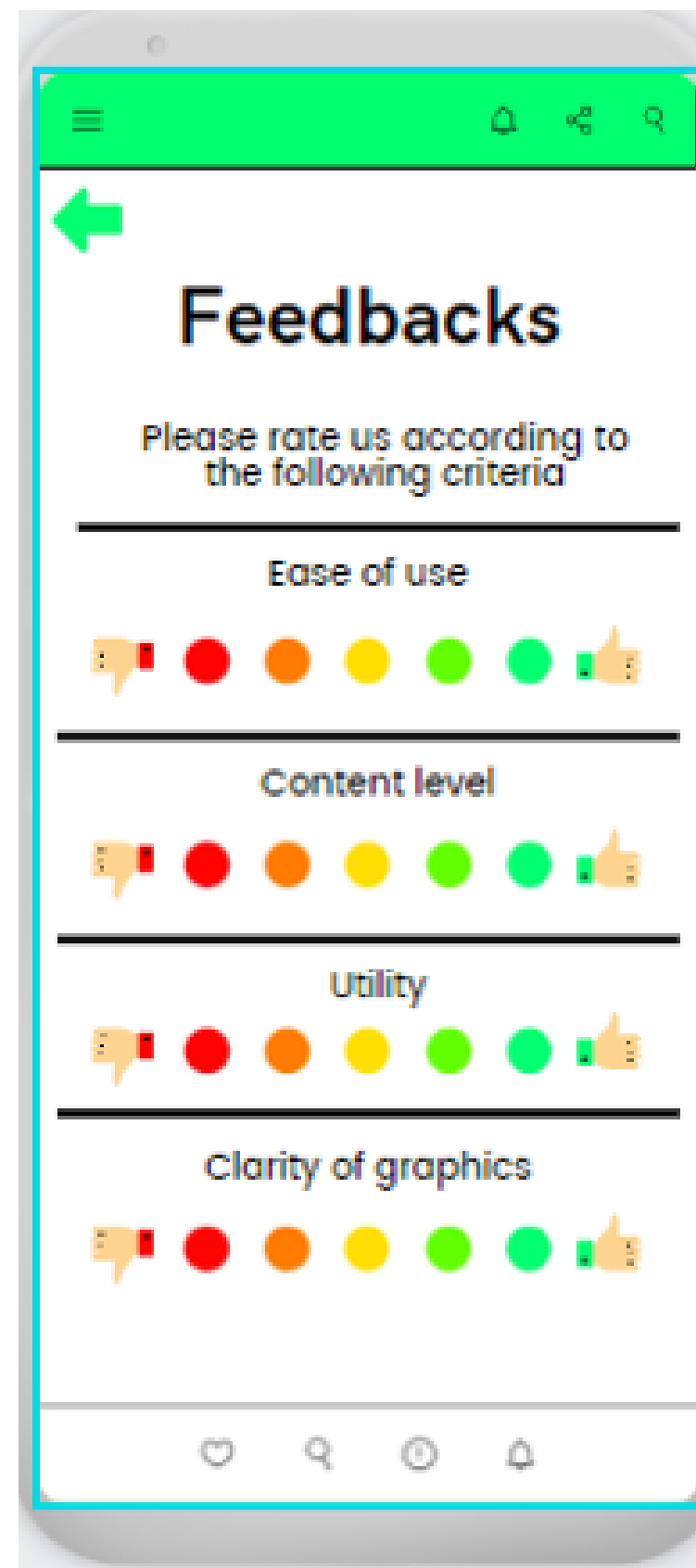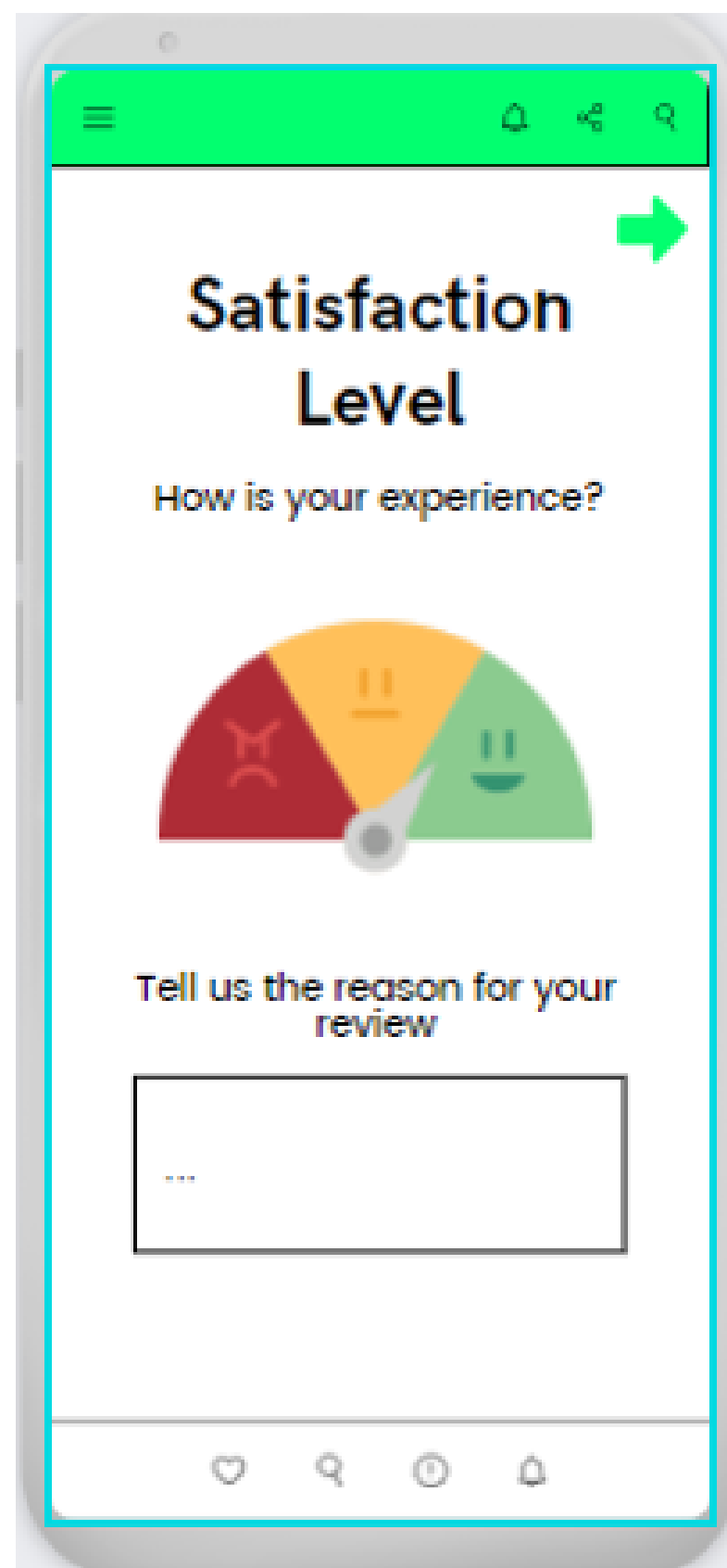
Satisfaction Level
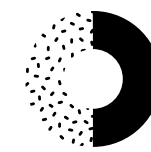
Feedbacks

suggestions for continuous improvement

FAQ (FREQUENTLY ASKED QUESTIONS)

100% of respondents marked it as important in an app

Information

Information in a FAQ should be useful and easy to understand.

Ease

Access and understanding of solutions must be practical and clear.

Precision

Questions and answers compiled in a FAQ must be precise, both in content and in the choice of such items.

FAQ

HOW DO I REGISTER MY TRANSACTIONS?

GO TO THE "REGISTER TRANSACTIONS" TAB, CHOOSE BETWEEN INPUTS AND OUTPUTS, FILL IN THE FORM FIELDS AND CONFIRM.

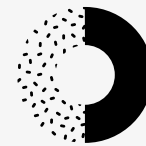**HOW IS THE APPLICATION USED BY ILLITERATE PEOPLE?**

WHENEVER THERE WAS TEXT, CLICK ON THE ICON NEXT TO THE AUDIO READING OPTION.
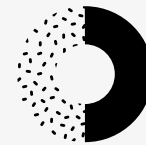
HOW DO YOU KNOW IF A CLASS HAS ALREADY BEEN ATTENDED?

WHENEVER THERE IS THE ICON NEXT TO THE NAME OF THE CLASS, IT HAS ALREADY BEEN ATTENDED.

Personal messages

Sticky notes

Notices

Quality Management

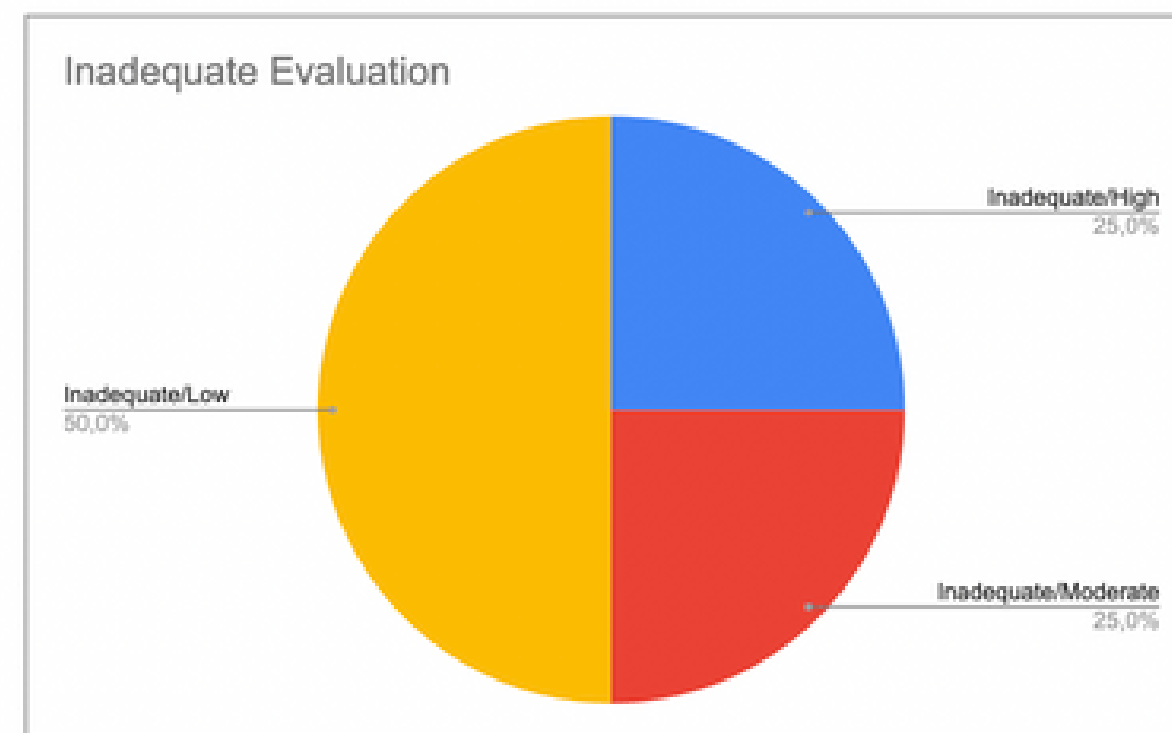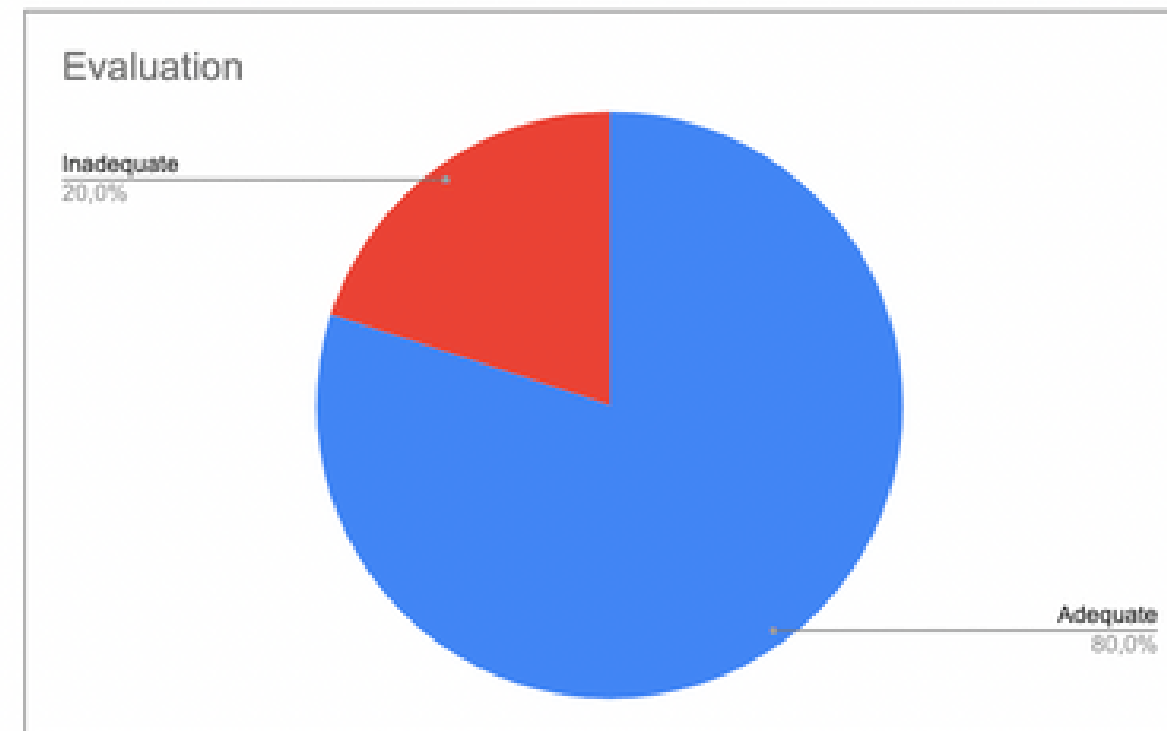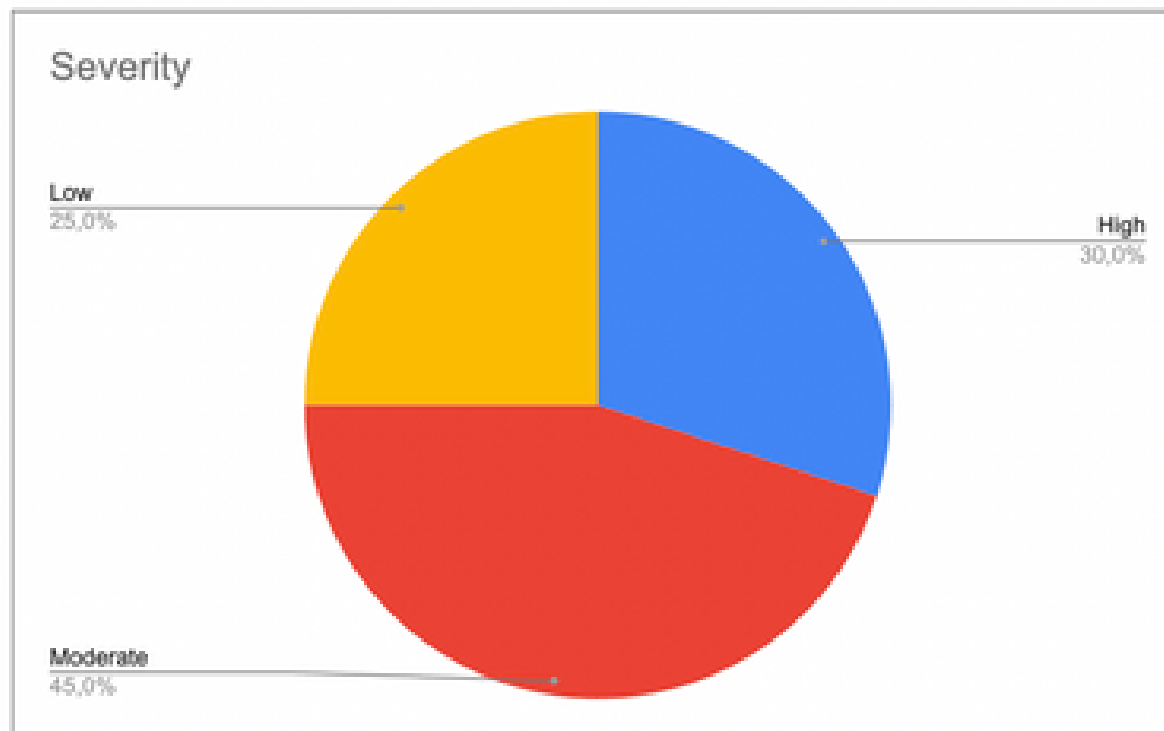Evaluated if the document was adequate based on number of errors

Evaluated the severity of errors

Final indicator: number of erros x severity of errors

All documents improved at least 5% on their quality from version 1 to version 2
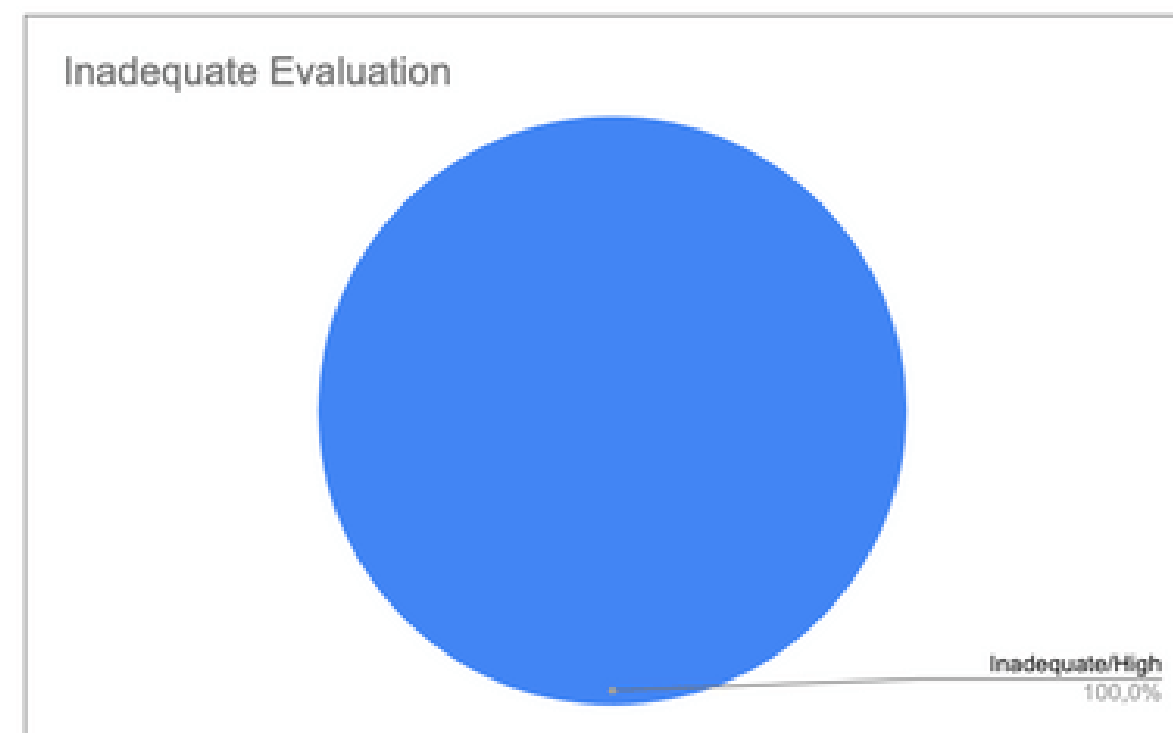
Quality Management

User Experience Document: improved from **80 to 95%**

Severity
- Low 25,0%
- High 30,0%
- Moderate 45,0%

Evaluation
- Inadequate 20,0%
- Adequate 80,0%

Inadequate Evaluation
- Inadequate/High 25,0%
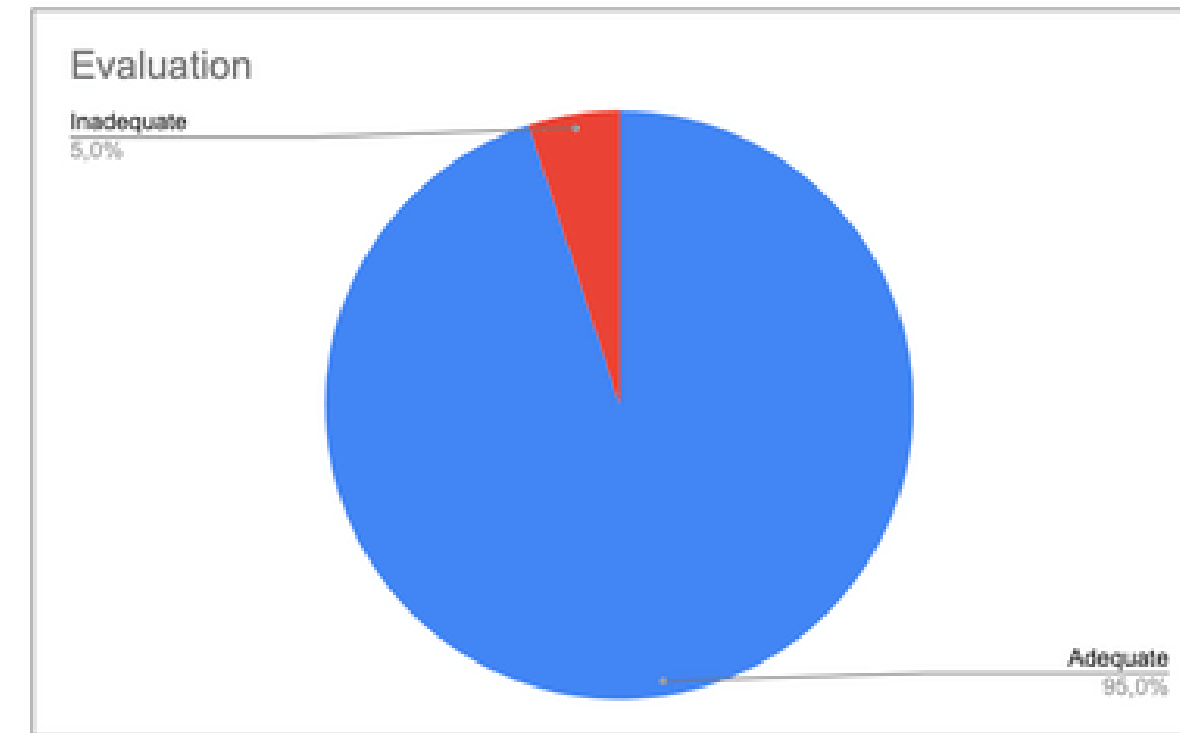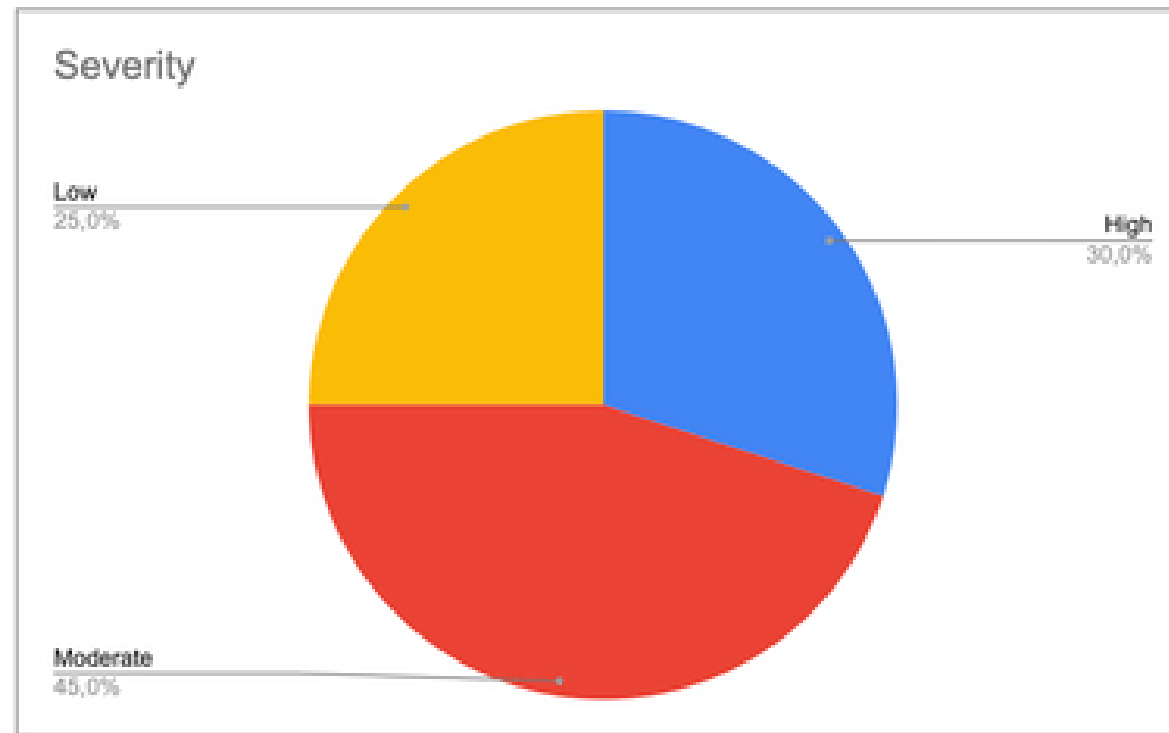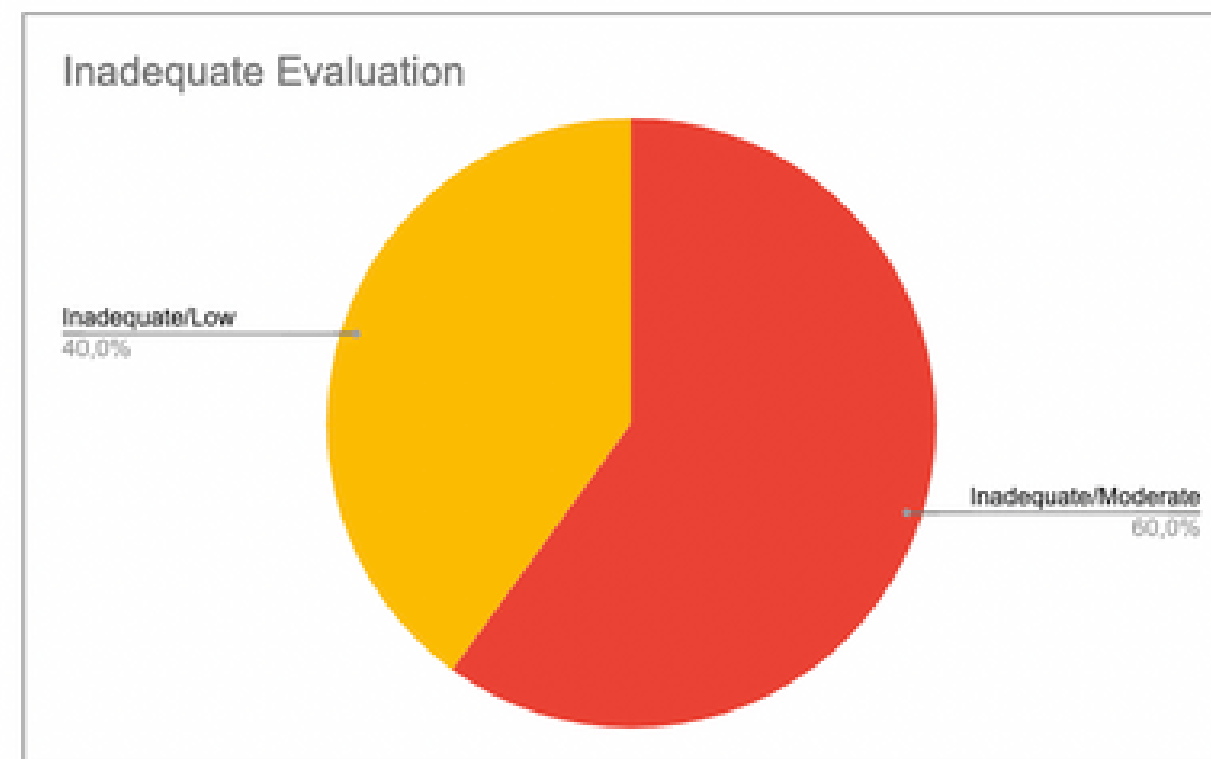- Inadequate/Moderate 25,0%
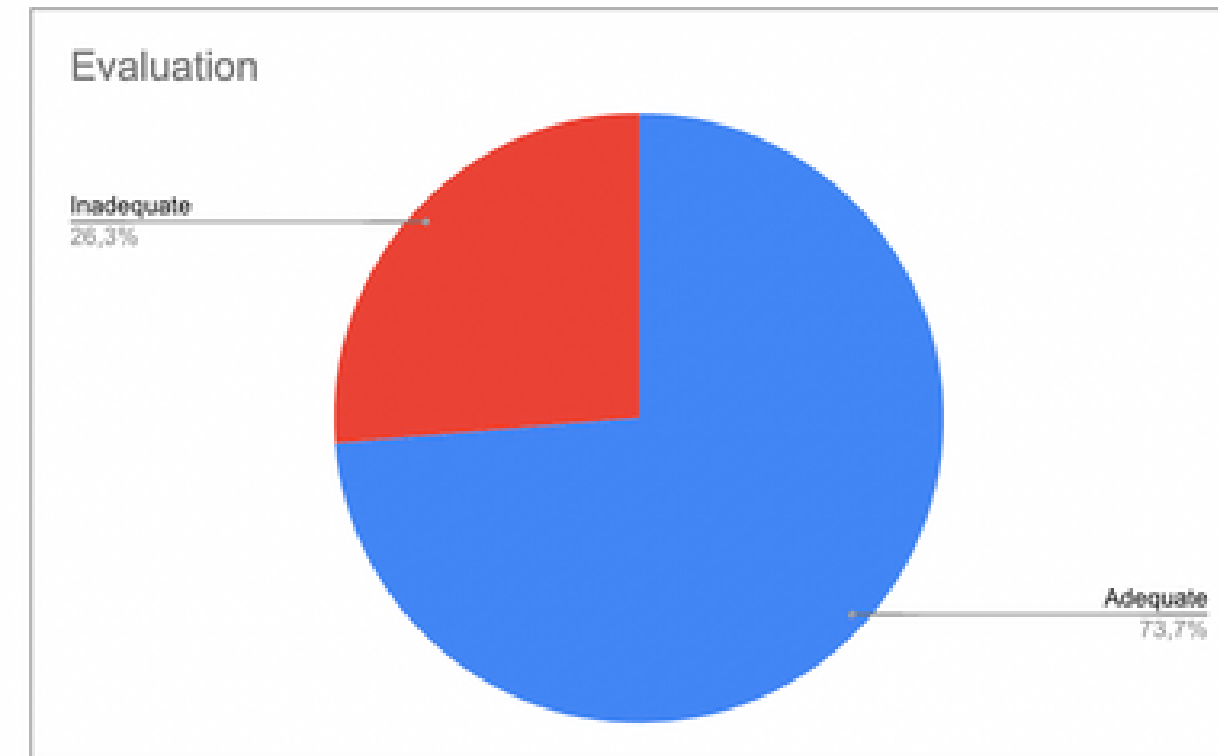- Inadequate/Low 50,0%

Quality Management
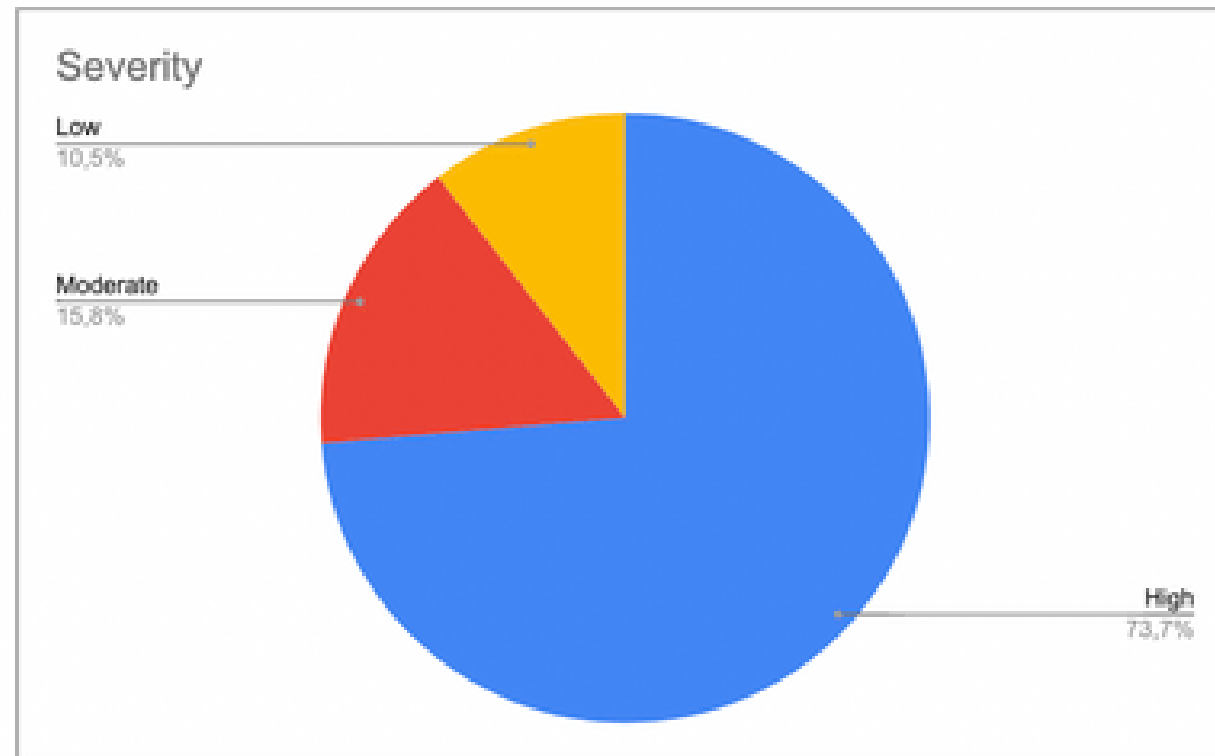
User Experience Document: improved from **80 to 95%**

Severity
- High — 30,0%
- Moderate — 45,0%
- Low — 25,0%

Evaluation
- Inadequate — 5,0%
- Adequate — 95,0%

Inadequate Evaluation
- Inadequate/High — 100,0%

Quality Management

Vision Document: improved from 73 to 89%

Severity
- Low 10,5%
- Moderate 15,8%
- High 73,7%

Evaluation
- Inadequate 26,3%
- Adequate 73,7%

Inadequate Evaluation
- Inadequate/Low 40,0%
- Inadequate/Moderate 60,0%

Quality Management

Vision Document: improved from 73 to 89%

Severity

Low
10,5%

Moderate
15,8%

High
73,7%

Evaluation

Inadequate
10,5%

Adequate
89,5%

Inadequate Evaluation

Inadequate/Low
50,0%

Inadequate/Moderate
50,0%

Quality Management

Use Case Diagram: improved from 62 to 100%

Severity

- Low
  25,0%
- Moderate
  25,0%
- High
  50,0%

Evaluation

- Inadequate
  37,5%
- Adequate
  62,5%

Inadequate Evaluation

- Inadequate/Moderate
  33,3%
- Inadequate/Low
  66,7%

Quality Management

Use Case Diagram: improved from 62 to 100%

Suggestion for future work

Topics that can be worked within this scope

- Gamification
- Login with social networks
- Course progress bar
- Nice design
- Disclosure
- Frequent updates
- Quick tips
- Comments about the courses
- Podcasts

Thanks

Thank you for your attention.
Everyone have a good day.
We are open to comments,
criticism, suggestions, praise.