(Grant Agreement 101093921)

Deliverable D2.2 - *Mobile app to tackle disinformation on climate adaptation*

WP2 – *Co-Design and Co-Creation of Innovative/Improved Tools/Actions for*

Local Communities Engagement

Version 0.0.3 | February 2025

HORIZON-MISS-2021-CLIMA-02-05 - Local engagement of citizens in the co-creation of societal transformational change for climate resilience

Coordinated by

1

Document History

Deliverable Title	Mobile app to tackle disinformation on climate adaptation
Brief Description	This deliverable presents the AGORA Quiz mobile app, developed within the Adaptation AGORA project to address climate change disinformation through an interactive and educational experience. It outlines the app's objectives, key features, development process, open-source approach, and public availability on app stores. The document also highlights how AGORA Quiz contributes to the project's mission of empowering citizens to recognise and counter disinformation narratives, while fostering community participation through open collaboration and feedback channels.
WP number	2
Lead Beneficiary	IBE
Author(s)	Jorge Barba (IBE)
Deliverable Due Date	30/04/2025
Actual Delivery Date	18/02/2025
Nature of the Deliverable	OTHER
Dissemination Level	PU - Public

Date	Ver.	Contributers	Comment
10/02/2025	0.0.1	Jorge Barba (IBE)	First draft
12/02/2025	0.0.2	Francisco Sanz (IBE)	Some notes added
18/02/2025	0.0.3	Jorge Barba (IBE)	Reviewed version

Table of Contents

1. Executive Summary

The AGORA Quiz mobile app is **a key digital tool** developed within the **Adaptation AGORA** project to address climate change disinformation through engagement and education. As part of Deliverable 2.2, the app is **now publicly available** on both the Google Play Store and Apple App Store, marking the successful completion of this project milestone.

The AGORA Quiz aims to raise awareness of disinformation narratives, promote media literacy, and strengthen users' understanding of climate adaptation challenges. By offering an **interactive and accessible learning experience**, the app empowers users to identify and counter misleading climate information.

The development of AGORA Quiz followed an open-source, community-driven approach, ensuring transparency and encouraging contributions through its public repository on GitHub. Additionally, a feedback form has been created to facilitate input from both expert stakeholders and the wider public, supporting future improvements.

This deliverable contributes directly to the objectives of Adaptation AGORA by providing an **engaging educational resource** that can be used in workshops, conferences, and public outreach activities to foster knowledge and resilience against disinformation.

2. Introduction

2.1 Purpose and Scope of the Deliverable

This deliverable outlines the completion of **Deliverable 2.2: "Mobile app to tackle disinformation on climate adaptation"**, showcasing how AGORA Quiz directly contributes to the project's mission through its objectives, development, and public release.

The scope of this deliverable extends beyond a technical description. It aims to showcase how AGORA Quiz aligns with the project's broader goals of **empowering individuals and communities** to identify, understand, and counter climate disinformation.

2.2 Addressing Climate Disinformation Through Digital Tools

The rapid spread of climate disinformation undermines public understanding and delays urgent climate action. False or misleading narratives, often amplified through digital platforms, create confusion about scientific consensus and adaptation measures. Addressing this challenge is central to the mission of Adaptation AGORA.

Digital tools play a crucial role in this effort. As misinformation often circulates online, engaging users through digital, interactive formats is both timely and effective. The AGORA Quiz mobile app, developed under Deliverable 2.2, is designed to **bridge the gap between education and engagement**. It provides a hands-on learning experience, helping users to test their knowledge, identify disinformation tactics, and strengthen their understanding of climate adaptation concepts.

The app complements other Adaptation AGORA resources, such as the *Digital Academy Against Climate Change Disinformation* and the *Digital Academy to Access and Use Climate Data and Monitor Climate Risks*, by offering a practical, accessible tool that can be used in workshops, outreach events, and individual learning journeys.

2.3 Means of Verification

The completion of Deliverable 2.2 is verified through the public availability of the AGORA Quiz app on both the **Google Play Store** and the **Apple App Store**. These public releases serve as the primary means of verification, making the app accessible to users worldwide. Additionally, the open-source repository hosted on **GitHub** further demonstrates the delivery of this milestone and the project's commitment to **transparency and community-driven development**.

No additional verification materials are required beyond the publicly available app stores and repository, as they directly represent the final output.

3. AGORA Quiz Overview

3.1 General Description: Objectives, intended impact, and key features.

3.1.1 Objectives and Intended Impact

AGORA Quiz was designed to address climate disinformation through an interactive and engaging digital experience. The app aims to improve users' media literacy, help them recognise misleading narratives, and foster a deeper understanding of climate adaptation topics. As part of the Adaptation AGORA project, the app contributes to the project's mission by promoting **knowledge-sharing** and encouraging **critical thinking** on climate-related issues.

By aligning with the project's educational goals, AGORA Quiz not only offers an engaging individual experience but also serves as a tool for workshops, events, and outreach activities. It provides a practical way to present the challenges of climate disinformation to a wide audience.

3.1.2 Key Features

AGORA Quiz offers a rich and engaging experience through its diverse game modes, comprehensive user statistics, and customisable profile features:

Game Modes:

- **Classic Mode:** A standard 10-question game where users score 5 points per correct answer and lose 3 points for each incorrect one. Their total score is recorded on their profile.
- **Categories Mode:** Focused quizzes on specific topics (Climate change fundamentals, Climate change disinformation, Climate change communication and narratives, Media literacy). Users can tailor their learning experience to their interests.
- **Time Trial Mode:** A race against the clock, starting with 60 seconds and gaining 5 seconds for each correct answer (and losing 3 seconds for each incorrect one). The game continues indefinitely, challenging users to survive as long as possible. Their best time is stored in their profile.

User Profile and Statistics: Users can track their performance with detailed metrics, including total points, correct and incorrect answers, games played or abandoned, and personal records for the Time Trial mode.

Ranking System: A leaderboard showcasing the top 10 players, for both standard and Time Trial modes, fostering healthy competition and community engagement.

Profile Management: Users can personalise their experience by updating their profile details (name, password, profile image) or deleting their account.

Onboarding and Educational Resources: The app includes an interactive onboarding process, introducing users to all functionalities and providing insights into the Adaptation AGORA project and its Digital Academies. Users can also access project communication channels directly from the app.

3.2 Development Process: Technical details, open-source approach, and modular design

3.2.1 Technical Details

AGORA Quiz was developed using a combination of robust, modern technologies chosen for their scalability, performance, and alignment with open-source principles. The development stack consists of:

- **Android Studio (Java) and Xcode (Swift):** The app was built natively for Android and iOS to ensure optimal performance, seamless user experience, and direct access to device functionalities. Native development was preferred over cross-platform solutions to guarantee faster loading times, smoother animations, and compatibility with the latest updates from both operating systems.

- **Django Rest Framework (Python) for the Backend:** The backend was developed using Django Rest Framework (DRF), chosen for its flexibility, security features, and rapid development capabilities. DRF's modular architecture allowed efficient management of user profiles, game logic, and leaderboards while ensuring data security through built-in authentication and permissions systems.
- **PostgreSQL for Database Management:** The backend uses PostgreSQL, a highly reliable, scalable, and open-source relational database. PostgreSQL was selected for its robustness in handling concurrent user interactions and complex queries, ensuring fast response times and data integrity. Additionally, it offers strong support for future data analytics integration and efficient storage of game session records and user statistics.
- **Open-Source Repository on GitHub:** The source code is fully accessible in the AGORA-Quiz GitHub repository, licensed under EUPL-1. By making the repository public, the project supports transparency, collaboration, and reusability, encouraging contributions from the wider community and ensuring the app's long-term sustainability.

This technology stack was selected not only for its technical strengths but also for its alignment with the project's commitment to openness, modularity, and scalability.

3.2.2 Open-Source and Co-Design Approach

The development followed an **open-source philosophy**, with the repository made publicly available under the EUPL-1 license to encourage community participation and future contributions.

Additionally, two co-design periods were conducted, involving members of the consortium and external followers. These sessions were instrumental in refining the app's features. For example:

- The **refinement of existing functionalities** and resolution of some minor bugs.
- The inclusion of the **Onboarding process** was a direct result of user feedback, addressing the need for better guidance.
- The definition of the **quiz categories** emerged from discussions on how to best align the app's content with the project's educational goals.

The open and iterative development process not only improved the user experience but also ensured that the app remained aligned with the project's educational objectives.

3.3 Process of Creation and Review of the Question Bank

3.3.1 Creation Process

The Question Bank, consisting of **500 questions**, was developed through a **collaborative effort** with experts from across the consortium. The aim was to ensure alignment with the project's themes and to create **valuable synergies with the Digital Academies**. Each category—ranging from

climate science fundamentals to media literacy—was defined based on input from subject-matter experts to reflect key issues related to climate disinformation.

3.3.2 Review Process

To ensure the **quality** and **credibility** of the content, the questions underwent a **review process** by external colleagues outside the work package responsible for the Question Bank. This peer-review approach enabled improvements to both the clarity of questions and the quality of references.

3.3.3 Educational Value of the Question Bank

A key feature of the Question Bank is the inclusion of **credible references** for every question, which are displayed to users upon answering. This approach allows players to **verify information**, **explore sources**, and **enhance their critical thinking skills**—transforming the app into an educational resource beyond a simple game.

3.4 Integration with Adaptation AGORA Digital Tools

The integration of AGORA Quiz within the Adaptation AGORA ecosystem is conceptual, **ensuring thematic alignment** and **cross-promotion** within the project's educational resources. The app complements the Digital Academies by offering an interactive way to **engage with topics covered in their learning modules**. Additionally, it provides a space to introduce users to the wider project through the onboarding process, which includes information about the Digital Academies and direct access to Adaptation AGORA's communication channels.

This conceptual integration highlights how AGORA Quiz contributes to the project's mission, serving as a practical educational tool that extends the impact of Adaptation AGORA's knowledge-sharing efforts.

4. Public Availability and Access

4.1 Official Release and Access Points

The AGORA Quiz mobile app was officially released for public access on both the Google Play Store (for Android) and the Apple App Store (for iOS). This release marks the **culmination of Deliverable 2.2**, making the app fully accessible to users worldwide.

The app is available for free download, ensuring open access to all users interested in improving their knowledge on climate change disinformation and media literacy. Additionally, the **open-source repository** is publicly accessible on GitHub, providing full transparency of the code and allowing further contributions from the community.

4.2 Download Links and GitHub Repository

Users and developers can access AGORA Quiz through the following official platforms:

- **Google Play Store:** [AGORA Quiz on Google Play](#)
- **Apple App Store:** [AGORA Quiz on Apple Store](#)
- **GitHub Repository:** [AGORA-Quiz Repository on GitHub](#)

The GitHub repository includes the full source code, installation guidelines, and documentation to facilitate **reusability, collaboration, and further development**. Additionally, it serves as a platform for tracking issues, receiving user feedback, and **enabling contributions from the open-source community**.

4.3 Licensing and Open-Source Principles (EUPL-1)

AGORA Quiz is released under the **European Union Public Licence 1.2 (EUPL-1.2)**. This licence ensures that the app remains freely accessible, reusable, and modifiable while allowing the code to be shared and redistributed under the same terms. The choice of EUPL-1.2 reinforces the project's alignment with European open-source principles and knowledge-sharing objectives. Beyond transparency, this licensing model encourages **future reuse**, enabling other projects or institutions to build upon AGORA Quiz for educational, research, or climate adaptation initiatives.

5. Open and Participatory Approach

5.1 Engagement through GitHub Repository

AGORA Quiz follows an open and participatory philosophy by making its source code publicly accessible on GitHub, inviting contributions from the **wider community**. The repository, available at AGORA-Quiz on GitHub, supports open collaboration through standard GitHub functionalities such as:

- **Issues:** Providing a space for users and developers to report bugs, suggest new features, and track ongoing improvements.
- **Pull Requests:** Allowing developers to propose code changes or enhancements.
- **Open Documentation:** Facilitating the reuse and extension of the app through publicly available technical guides and installation instructions.

The repository currently operates with GitHub's default settings for issue tracking and contributions. It remains fully open for future community participation as the project evolves. As

the app gains visibility, contributions and discussions on potential improvements are expected to emerge through the platform.

The project encourages GitHub issues as the **central hub for technical feedback**, ensuring a transparent and trackable workflow for improvements.

5.2 Feedback Form and Supporting Materials

To broaden participation beyond the technical community, AGORA Quiz also offers a **Feedback Form**, designed to gather insights from a diverse range of users, including non-technical audiences. The form is publicly accessible and structured to collect:

- **Bug Reports:** Allowing users to report technical issues they encounter.
- **User Experience Feedback:** Gathering impressions about usability, accessibility, and overall satisfaction.
- **Suggestions for Improvement:** Inviting users to propose new features or enhancements to the app.

Additionally, a **slide presentation** has been developed to support the dissemination of AGORA Quiz during workshops, events, or outreach activities. This presentation:

- Serves as an **open template** that can be freely adapted by anyone wishing to showcase the app.
- Includes an **editable cover slide**, enabling personalisation with the presenter's name and event details.
- Is **available** to all consortium members via the project's SharePoint.

Feedback collected through the form will guide the project's technical support efforts, prioritising bug identification and resolution to maintain a **stable**, **high-quality** user experience.

Additionally, suggestions for new features will be documented in the GitHub repository as **open feature requests**, allowing the community to engage with and potentially contribute to their implementation. This approach reflects the project's commitment to open collaboration while ensuring sustainable use of resources.

5.3 Complementary and Inclusive Participation Channels

AGORA Quiz recognises that different contributors may prefer different participation channels. GitHub is positioned as the central hub for contributions, especially for technical feedback and code improvements. However, the project team acknowledges that some users may find platforms like GitHub less accessible. Therefore, the Feedback Form offers a complementary pathway for participation, ensuring that:

- **Technical** and **non-technical** users alike can provide input.
- The project fosters a **diverse and inclusive** community of contributors.
- Feedback remains **accessible and user-friendly**, while still promoting open-source collaboration.

Combining structured feedback from the form with the transparency of GitHub issue tracking creates a **collaborative environment** that values user contributions. While bug reports and usability improvements will be directly addressed by the project team, new feature ideas will remain accessible on GitHub as opportunities for community-driven development.

This open, community-oriented approach ensures that the evolution of **AGORA Quiz can continue beyond the project's formal scope**, aligning with the principles of open-source innovation and collective impact.

6. Conclusion

6.1 Summary of key points

Deliverable 2.2 marks a significant milestone within the Adaptation AGORA project, providing a tangible outcome that directly contributes to the project's mission to tackle climate change disinformation through digital tools. Specifically, AGORA Quiz stands as a **core output** of WP2 (Co-Design and Co-Creation of Innovative/Improved Tools/Actions for Local Communities Engagement) and a key component of the project's digital toolkit.

This deliverable also represents the culmination of a development process structured around key project milestones:

- **Milestone 16 (Month 18):** Beta version of AGORA Quiz released.
- **Milestone 12 (Month 25):** Source code published and tracked on GitHub.
- **Deliverable 2.2 (Month 28):** Final version publicly available on Google Play and Apple App Store.

With this final release, the app transitions from development to dissemination, closing the project's development phase while opening a new chapter focused on community engagement, public use, and long-term sustainability.

6.2 Final remarks on the impact of the mobile app

AGORA Quiz delivers on the goals outlined in **Task 2.2** (Empower and involve citizens to tackle disinformation), directly supporting capacity building for climate adaptation. By connecting users with educational resources from the Adaptation AGORA project and addressing disinformation narratives through a gamified learning experience, the app becomes a key tool for raising

awareness and engaging stakeholders. Developed using co-design methodologies and shaped by community input, it also reflects the project's commitment to **participatory** and **open approaches**.

A cornerstone of the app's long-term sustainability is its release under an open-source licence (**EUPL-1.2**), which ensures **transparency**, **reusability**, and **adaptability** beyond the project's duration. The open repository on GitHub facilitates future improvements by external contributors and empowers other organisations to reuse and adapt the code, fostering **technological empowerment** and knowledge sharing within the broader climate adaptation community.

The project's sustainability strategy is built on a **dual approach** that balances stability and innovation: On one hand, **Ibercivis will ensure technical maintenance**, providing bug fixes and keeping a stable version available for at least five years beyond the project's completion. On the other hand, the **open-source community** will have the opportunity to contribute **new features and improvements**, with GitHub serving as the central hub for collaboration, issue tracking, and future development.

The success of AGORA Quiz is a collective achievement of the **entire Adaptation AGORA consortium**, whose contributions—from technical development to outreach and dissemination—have been instrumental in bringing the app from concept to reality. As the project moves forward, consortium members may continue to add value by sharing and promoting the app through their networks and activities, extending its reach and impact.

Looking ahead, this deliverable represents both the conclusion of the development phase and the beginning of a new chapter driven by the community. With solid technical foundations, open-source accessibility, and inclusive participation channels, AGORA Quiz is well-positioned to continue **empowering users**, **countering disinformation**, and **fostering a deeper understanding of climate adaptation** challenges in the years to come.

7. Annexes

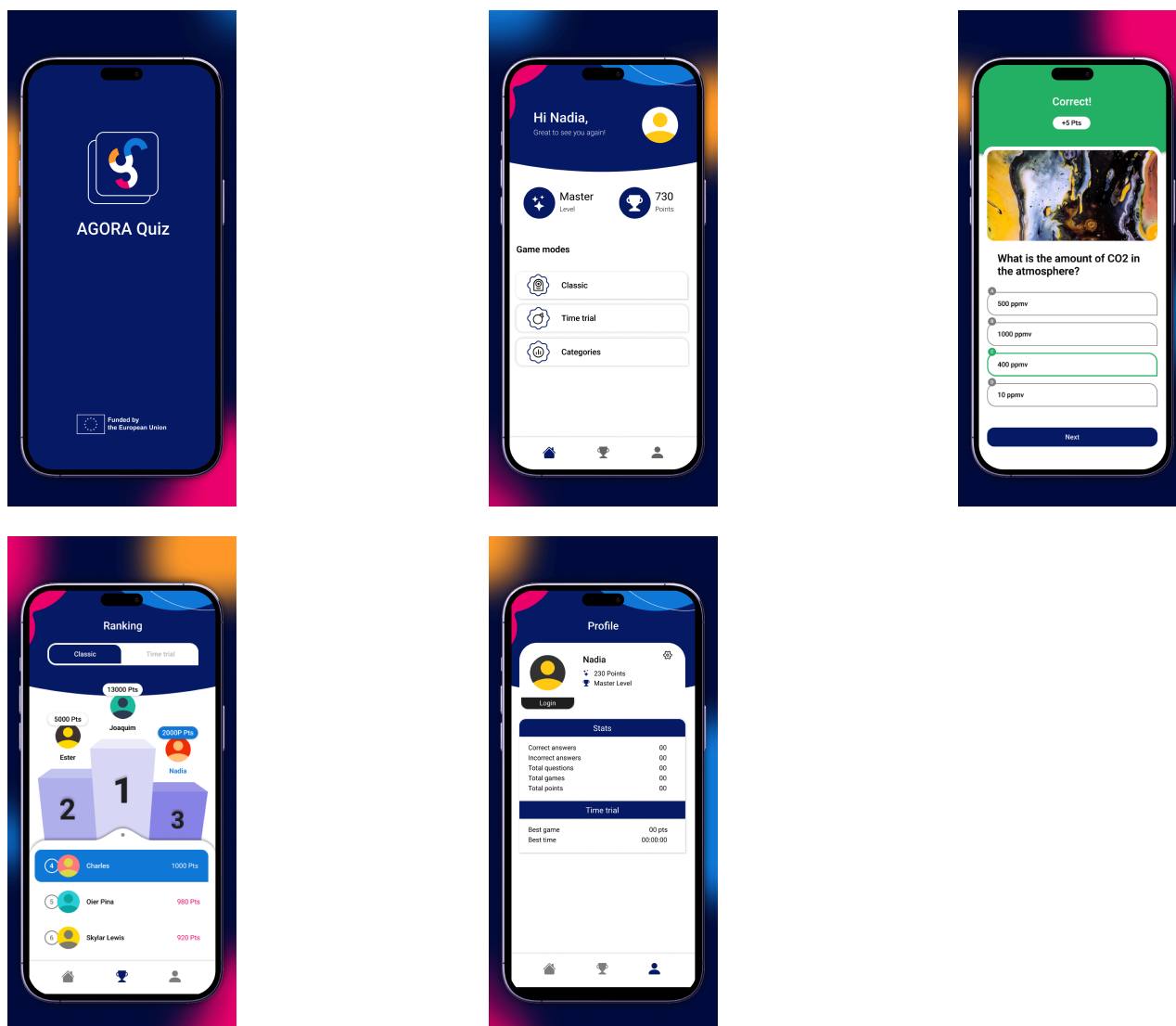## 7.1 Screenshots of the app

Figure 1. From left to right: the splash screen displaying the app logo, the main screen with access to game modes and user profile, an in-game screenshot from a classic mode session, the ranking screen showcasing top players, and the profile screen with user statistics and settings.