Beyond the Board
Pio-Pera

Kourosh Esmaeil Tajer

Tamer Talha Candemir

Fabiana Barrios Pena

Table of Contents

Project definition:

Project Overview:

Pio-Pera is an interactive board game combined with a progressive web app (PWA), designed to enhance social play with mystery elements and educational value. The theme revolves around travel and exploration, with players unlocking surprise challenges, answering location-based questions, and progressing through quests inspired by real-world destinations.

Client:

Beyond the Board (Petra Vujicic and Maikel Putman)

Team:

- Kourosh Esmaeil Tajer
    - Email: k.esmaeiltajer@student.fontys.nl
- Tamer Talha Candemir
    - Email: t.candemir@student.fontys.nl
- Fabiana Barrios Pena
    - Email: f.barriospena@student.fontys.nl

Current Situation:

The Piopero board game and its web app are both in advanced stages, with the game mechanics finalized and tested, receiving positive feedback from stakeholders. The physical game is engaging but can benefit from a more visual and interactive rulebook to improve clarity for new players. The app, built in React with Indexed DB for offline support, includes features like 154 randomized questions, mystery boxes, and side quests. It follows a high-fidelity design and functions well, though minor improvements in UI/UX and expanded content are planned. Overall, both the game and app are nearly complete and well-aligned with the project goals. For further updates and future development, we have provided a detailed advice report.

Problem Description:

In the beginning, one of the main problems was how to connect a physical board game with a digital experience in a smooth and useful way. We weren't sure which framework to use for the app—options like React, Vue, or plain JavaScript were considered. We also needed the app to work offline, support randomization, and store player progress locally. The challenge was not just technical, but also about creating a fun and seamless experience that enhances the game rather than distracts from it.

Project goals:

The main goals of the project were to build a user-friendly PWA app using a reliable framework like React for long-term usability and offline access, design a visually engaging and travel-themed board game, and create a clear and well-structured rulebook for smooth gameplay. We also aimed to ensure consistency between the physical and digital parts, follow UI/UX best practices, and document the development process for future updates or improvements.

Deliverables:

- A fully functional PWA app built with React and Vite
- Indexed DB integration for offline game progress storage
- A complete, visually designed physical board game set
- Mystery box and side quest system (both digital and physical)
- A well-structured and easy-to-follow rulebook
- Branding materials (e.g., logo, visual theme)
- Documentation for app setup, logic, and future development
- User testing reports and observation feedback

Non-Deliverables:

- Online multiplayer functionality
- Backend server or cloud sync system
- A mobile-native app (iOS/Android store release)
- Voice or AR integration
- Marketing campaign or commercial release plans

Constraints:

Budget: 0,00 €

Workforce: 3

Initiation: 10/03/2025

Deadline: 19/06/2025

Risk Analysis:

Executive Support:

- Risk: A team member (e.g., designer, developer) becomes unavailable due to illness or absence.
  - Impact: Delays in game development or missing components.
    - Severity: Medium probability / High effect
- Risk: Reduced motivation or engagement from the team over time.
  - Impact: Lower output or missed deadlines.
    - Severity: Medium probability / High effect

Integration:

- Risk: App and physical board game don't align well.
  - Impact: Confusing user experience, broken game flow.
    - Severity: Medium probability / High effect
- Risk: Hera server or Indexed DB fails during testing.
  - Impact: App functions offline improperly or loses data.
    - Severity: Low probability / High effect

Design:

- Risk: Visual or component design becomes too complex or unrealistic to produce in time.
  - Impact: Time-consuming revisions or simplified fallback design.
    - Severity: High probability / Medium effect
- Risk: Printed elements (cards, board, tokens) are unclear or not user-friendly.
  - Impact: Poor gameplay experience.
    - Severity: Medium probability / Medium effect

Resources and Team:

- Risk: Team needs to learn new tools (e.g., Vite, Indexed DB, printing methods).
  - Impact: Slower development due to learning curve.
    - Severity: High probability / Medium effect
- Risk: Limited access to materials or technical equipment.
  - Impact: Delay in prototyping or final production.
    - Severity: Medium probability / Medium effect