

Cahier des Spécifications Fonctionnelles

FUNCTIONAL
SPECIFICATIONS
DOCUMENT



**QUEEN
AMANN**

by quatre.quarts

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I- Member's presentation

Each member of Quatre Quarts has a key role :

- **Clémence** is in charge of the technical side of the project. She manages server creation and coordinates the code, ensuring that all technical components work smoothly together. She plays a key role in maintaining the stability and reliability of the project, and makes sure that technical issues are identified and resolved efficiently.
- **Matteo** is in charge of the artistic and visual aspects of the game. He works on illustrations, the visual identity of the company, making sure that the artistic direction remains consistent. In addition, he contributes to the sound design and has already composed several original music tracks, which play an important role in creating the game's atmosphere and enhancing player immersion. He also created the player's movement code and a level editor.
- **Yasmine** supervises the coordination and overall project follow-up. She makes sure the project moves forward smoothly by maintaining good communication within the team and ensuring that everyone stays involved. She also helps keeping a global vision of the project, balancing creativity and organization while keeping the team focused on the main objectives. She also created some part of our AI such as wander's AI.
- **Céleste** is responsible for scheduling and the website. As Scheduling Manager, she ensures that deadlines are respected and that the project progresses according to the planned timeline. As Website Director, she designs and manages the website, focusing on the interface to help users discover and understand the game.
- **Mary** brings strong knowledge in video game development to the team. She provides valuable guidance on the technical direction of the project, including gameplay systems and the user interface. She is also eager to learn and enjoys exploring new technical challenges throughout the development process. She worked in particular on the ennemy's AI.



II – Context and objectives

○ Context

The project "Queen Amann" originated from a shared cultural experience: a group of students bonding over their love for the kouign-amann pastry, which led to the idea of combining European and Latin American medieval cultures in a video game. This unique concept aims to bridge cultural heritage through gastronomy, using food as a narrative tool.

○ Problem Statement

The project addresses the often Eurocentric portrayal of the Middle Ages in games. By integrating Latin American medieval influences, the game aims to broaden players' perspectives and celebrate cultural diversity.

○ Main Objectives

1. **Engagement:** Create an immersive and fun gaming experience that captivates players.
2. **Cultural Education:** Introduce players to a blend of European and Latin American medieval cultures, showcasing myths, legends, and traditions from both worlds.
3. **Interactivity:** Develop a game that not only entertains but also encourages cultural exploration through its narrative and gameplay.

III – Project Scope

It is a fully functionnal video game that encompasses gameplay mechanics, graphics and multiplayer features. There is also a promotional website.

The game will not be maintained beyond the final release at the end of the year.

Physical items or collectibles related to the game will not be merchandised and highly complex AI features not feasible within the project timeline, are excluded.

IV - Stakeholders and Target Users

The game targets players aged 7 to 30 who enjoy collaborative, slow-paced and stress-free gameplay.

One supposes that players seek attractive and immersive imagery, swinging music, and an amusing storyline that offers cultural exploration and enrichment.

The game design aims to meet the academic standards and expectations set by the school. The teacher supervises the project, provides guidance and assesses the team's progress.

Family and friends have kindly offered their support and have agreed to playtest the game which will provide valuable feedback.

The trailer of the game will be animated by a friend who is a student at an art and graphic design school which will add a professional touch to the promotional material.

V - General Description of the Expected Product

“How does the game function and feel?”

“Queen Amann” is designed as a cooperative and immersive adventure game. It focuses on blending European and Latin American medieval cultures, using gastronomy as a narrative anchor. The game aims to be engaging, visually appealing, and culturally enriching to offer players a unique experience on PC.

“What will players do in the game?”

Players will travel through various landscapes inspired by both European and Latin American medieval worlds. They will solve puzzles, gather ingredients and uncover myths and legends collaboratively.

“What are the key constraints?”

The game will not be available on Mac, mobile devices, or game consoles but specifically developed for Windows 10 and 11.

Moreover, safety is a priority. Player data security must ensure that personal information and progress are protected and not leaked.

VI - Functional Requirements

1. Exploration Mechanic

- Players navigate the game world, interacting with the environment and NPCs.
 - *Input Conditions:* Player movement controls (keyboard, mouse), interaction prompts.
 - *Output Conditions:* Players can move freely and interact with objects or characters.
 - *Priority Level:* Mandatory.

2. Puzzle and Challenge System

- Players solve culturally themed puzzles to progress.
 - *Input Conditions:* Player actions, item usage, and collaboration with other players.
 - *Output Conditions:* Successful puzzle completion unlocks new areas or rewards.
 - *Priority Level:* Mandatory.

3. Inventory System

- Players collect ingredients and items.
 - *Input Conditions:* Collecting items and storing them.
 - *Output Conditions:* Items are registered and can be used in the game at the end or during the play (health).
 - *Priority Level:* Mandatory.

4. Cooperative Multiplayer

- Players can join and play together in real-time.
 - *Input Conditions:* Player invites, joining sessions, and cooperative actions
 - *Output Conditions:* Synchronized gameplay and shared progress.
 - *Priority Level:* Mandatory.

5. Narrative and Dialogue

- Engaging story and character interactions that reflect cultural diversity.
 - *Input Conditions:* Player choices and interactions.
 - *Output Conditions:* Progress in the storyline and character development.
 - *Priority Level:* Desirable.

6. User Interface (UI) and Accessibility

- Intuitive and user-friendly interface, with customizable options.
 - *Input Conditions:* Player settings, accessibility preferences.
 - *Output Conditions:* Accessible and easy-to-navigate UI.
 - *Priority Level:* Desirable.

VII – Non-Functional Requirements

1. Performance:

- The game should run smoothly on Windows 10 and 11 with optimal frame rates and load times.
 - *Requirements :* Minimum frame rate of 60 FPS, quick loading screens, and efficient memory usage.

2. Reliability:

- The game should be stable and free from crashes or major bugs.
 - *Requirements :* Regular testing and debugging to ensure stability across different hardware configurations.

3. Usability and accessibility:

- The game should be easy to understand and play, with an intuitive interface and simple to download.
 - *Requirements:* Clear tutorials, customizable controls, and accessible design options for a wide range of players.

4. Regulatory Constraints:

- The game should comply with data protection and privacy laws.
 - *Requirements:* Implement measures to protect player data and ensure compliance with relevant regulations.

VIII – Assumptions and Dependencies

The following assumptions have been made:

1. Players will have the necessary hardware to run the game smoothly.
2. The team will use Python and PyGame as the primary development tools and that these tools will be stable and well-documented. These tools should be compatible and up-to-date.
3. All team members have agreed to be committed to the project timeline.
4. The project is dependent on the teacher's acknowledgement and instructions that may evolve over the course of the year.

IX – Acceptance and Validation Criteria

The project must be completed and delivered within the allocated timeframe.

In order to measure the validity of the project as well as its performance and quality, effective tests with clear instructions must be performed.

The rigorous testing must ensure that all features work as intended and that there are no critical bugs. This involves alpha and beta testing phases, with both internal team members and external playtesters who can provide feedback.

All core features such as puzzles, tasks and multiplayer navigation must function precisely. Detailed test cases and scenarios will be shown to confirm that each function performs as expected.

The project will be considered successful if all mandatory technical requirements are implemented and if the game is playable, stable, and complete. Installation and uninstallation procedures must work correctly.

A website must be published and meet all the requirements.

The game must meet the relevant industry standards and legal requirements. This means it must comply with data protection laws, accessibility guidelines, and any other relevant regulations.

Finally, the teacher validates both the technical and functional aspects and evaluates whether the project reflects originality, creativity and demonstrates efficient teamwork.

X – Schedule and Estimation

If none of the students had any prior experience in the making of a videogame, all were eager to learn and discover the process of such a project. Moreover, this being the first trial also meant we had no or little experience of how to achieve a group project.

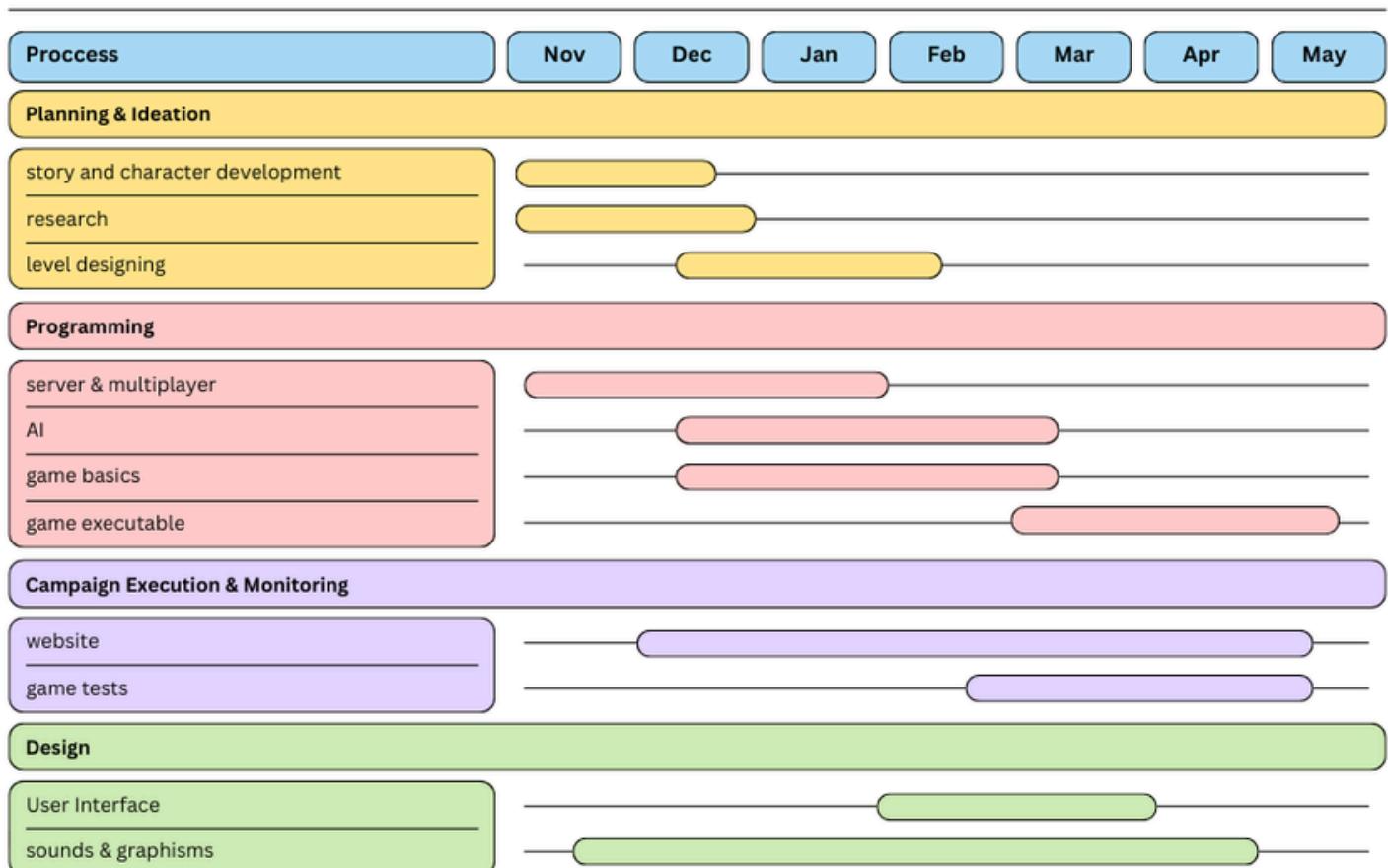
To fulfill this task as a team, all members suggested, shared and discussed their ideas. The first step was brainstorming ideas, then a theme was progressively defined and characters were invented by the team.

It soon became obvious that to work well collaboratively, the workload had to be distributed equally and each team member was appointed a role. Furthermore, to ensure steady progress, a schedule was established with set deadlines and weekly meetings.

The table below shows the planning over a period of seven months (from November 2025 to May 2026).

Queen Amann – Quatre-quarts

Gantt Chart



Gantt diagram from November 2025 to May 2026

The table below shows the preliminary cost estimation over a period of six months (from January to May 2026).

Economic Estimation

Needs	Tools	Cost
Programmation	Visual studio code	0€
Version of the code	Git	0€
Graphism	Procreate	14,99€
Website host	Git Hub pages	0€
Server host	Heroku	10€
Game management (code)	GitHub	0€
Development time	6 months salary	75 000€

Preliminary cost estimation from January to May 2026