# 1: Game Concept and Design

**Define Core Mechanics:**

* **Resource Management:** Players accumulate mana/energy over time, which can be used to deploy various types of troops.
* **Troop Deployment:** Players can choose when to deploy troops along a path to counter advancing enemies. Troops always originate from the player’s base and advance until destroyed or until they reach the enemy’s base.
* **Enemy Waves:** Enemies come in waves with varying strength and numbers, challenging the player's defense strategy.
* **Enemy collision:** Player and enemy troops will stop to fight each other when in contact until they get destroyed.

**Game Elements:**

* Different types of troops, each with unique costs and abilities.
* An enemy AI that adjusts its strategy based on player actions.
* Levels of increasing difficulty with different maps.

# 2: Study Similar Games

**Research:**

* Look into games like "Zombie Trailer Park" or even mobile hits like "Clash Royale" which employ similar mechanics of deploying troops based on resource management.
* Analyze how these games balance resource accumulation, troop cost, and enemy strength to keep the game challenging and engaging.

# 3: Tools and Technologies

**p5.js for Game Development:**

* Use p5.js for creating the game environment, handling animations, and managing user interactions.
* Consider integrating other libraries if needed for more complex features like pathfinding or more advanced physics.

**Learning Resources:**

* p5.js tutorials specifically aimed at game development.
* Online courses or tutorials on JavaScript game programming.

# 4: Prototype Basic Features

**Start Small:**

* Create a simple prototype that includes a basic game loop where:
  + Players can accumulate a fixed amount of mana over time.
  + Deploy simple troop units by clicking or tapping on specific screen areas.
  + Basic enemy units move towards a goal, and troops can intercept them.

**Iterate:**

* Test and refine the mechanics with simple shapes and interactions.
* Gradually introduce complexities like different types of troops and enemies.

# 5: Develop the Game

**Incremental Development:**

* Develop the game in stages, starting with core gameplay and then adding features like different troop types, level progression, and enemy AI.
* Regularly test game balance to make it neither too easy nor too hard.

**Interface and Graphics:**

* Design a user-friendly interface that allows players to easily select and deploy troops.
* Enhance visual appeal as gameplay mechanics become solid.**6: Testing and Feedback**

**Playtest:**

* Involve others in playtesting your game to get feedback on its mechanics, difficulty, and enjoyment.
* Use this feedback to make adjustments.

# 7: Finalization and Launch

**Polish:**

* Refine graphics and interfaces based on feedback.
* Ensure the game is bug-free and runs smoothly across targeted platforms.

**Documentation:**

* Prepare comprehensive documentation on how the game works, including guides on how to play and troubleshoot common issues.

# 8: Presentation

**Showcase:**

* Prepare to present your game to peers or in a project showcase.
* Highlight the key features and what you learned during the development process.