Design Statement 2 - Nekos' War

Project Title: Nekos' War
Student Name: Zhenming Duan
Role: Solo Developer (System Design, Programming, Gameplay)
Genre: 2D Real-Time Tactical Tower Defense

Project Summary

Nekos' War is a 2D strategy game that hybridizes the structural progression of Tower Defense with the micro-management of Real-Time Strategy (RTS). Instead of static towers, players command mobile Agents with distinct classes and active skills. The game features a complex, modular damage calculation system and a dual-progression economy, allowing players to synergize in-game leveling with Roguelike artifact builds.

Intentions

My primary goal was to solve the "passive engagement" problem often found in traditional Tower Defense games. I wanted to impart player agency by replacing automated towers with units that require positioning and tactical ability usage.

- **Tactical Mobility:** To shift the focus from "where to build" to "how to maneuver," creating a dynamic battlefield where positioning determines survival.
- **System Depth:** To create a robust numerical framework capable of handling high-complexity interactions (e.g., armor penetration, distinct damage layers) similar to MOBA mechanics, proving that indie prototypes can possess professional-grade system architecture.

Personal Contribution

This is a solo project. I was responsible for all code architecture, system design, and gameplay balancing.

- **Modular Damage Calculator:** I engineered a custom calculator module to handle complex damage pipelines. This system categorizes modifiers (Vulnerability, Additive, Multiplicative, Armor Pen, Final Dmg) and processes them in a customizable order. This architecture allows for the easy implementation of intricate buffs/debuffs without hard-coding specific interactions, significantly increasing development scalability.
- **Dual-Layer Progression:** I designed a resource loop where players must balance spending tokens on immediate Hero Leveling vs. purchasing Roguelike Artifacts (Items) that offer global passive benefits, creating a tension between short-term power and long-term scaling.
- *Note on Visuals:* Some visual assets were generated using AI tools to allow me to focus entirely on system architecture and gameplay logic verification.

What I Learned

Through this project, I learned that complex numerical systems require rigorous structural planning before implementation. Building the modular calculator taught me the value of **decoupling logic from data**—allowing me to tweak the "order of operations" in damage calculation without rewriting the combat script. I also learned how to balance "Micro" (unit control) with "Macro" (economy management), realizing that giving players too many active skills can clash with the cognitive load of managing an economy.

Project Files & Access

- **Downalble File Link:** Nekos' War by NekokoP
- **Video Preview.mp4**
- **HardFight.png**

Installation & Interaction Instructions

1. **Platform:** Windows 10/11.
2. **Installation:** Download the zip file from the link provided, unzip, and run .exe file. No additional installation required.
3. **Controls:**
    - **Left Click:** Select Hero / Interact with UI.
    - **Right Click:** cancel selection.