**Zombie Test Game – Game Design Document**

*Pre-Alpha / Proof of Concept Build*

**1. High Concept**

**One-Liner:**  
*Prototype of a third-person zombie horde shooter focused on testing wave logic, gunplay feel, and simple co-op.*

**Why This Game? (PoC Goals)**

* Validate core gameplay loop: shooting, surviving waves, and upgrading
* Build reusable systems: zombie spawns, wave progression, basic AI
* Establish a technical foundation for horde mechanics
* Test viability of Steam Play Together for local co-op

**2. Genre & Platform (PoC Scope)**

* **Genre:** 3rd Person Shooter / Survival
* **Platform:** PC (Steam)
* **Multiplayer:** Steam Remote Play Together only
* **Engine:** Unity (URP) ver. 6000.1.4f1
* **Build Target:** Windows (.exe)

**3. Prototype Objectives**

* ✅ Get zombies running at >60 fps in horde volumes (30–100 units)
* ✅ Player movement and camera system (3rd person)
* ✅ One test weapon with hit feedback
* ✅ Wave-based spawn system
* ✅ Basic scoring and health system
* ✅ Basic menu for Start / Restart

**4. Systems in Scope (MVP)**

| **System** | **Details** |
| --- | --- |
| **Player Controller** | 3rd person, sprint, vault/dodge (optional) |
| **Weapon System** | Hitscan, ammo UI, reload timer |
| **Zombie AI** | NavMesh-based and always knows where player/s are & chase |
| **Wave Manager** | Kill-based wave logic |
| **Upgrade Station (Placeholder)** | Spend points to get a better gun or health kit |
| **Scoring** | Kill = points, display on screen |
| **UI** | Minimal HUD: health, ammo, wave, score |
| **Map** | One simple test arena (concrete yard or city block) |

**5. Out of Scope for Pre-Alpha**

* Detailed story/lore
* Boss zombies
* Progression/Unlock systems
* Permanent upgrades
* Steam online multiplayer (beyond Steam Play Together)

**6. Temporary Content & Dev Shortcuts**

* **Assets:**
  + Synty Studio, All Access Pass
  + Polygon Prototype Pack
* **UI:**
  + Unity default text/UI
  + Simple animations from Synty
* **Tools:**
  + Unity 2022+
  + VS Code

**7. Milestone Plan**

| **Milestone** | **Goal** | **Time Estimate** |
| --- | --- | --- |
| **M0 – Setup** | Project setup, folder structure, import assets | 0.5 day |
| **M1 – Core Player Loop** | Movement, aiming, shooting, reloading | 1–2 days |
| **M2 – Enemy Loop** | Spawning, chasing, damaging player, dying | 2–3 days |
| **M3 – Wave System** | Basic horde escalation, round tracking | 1 day |
| **M4 – UI & HUD** | Ammo, health, wave number, score | 1 day |
| **M5 – Steam Play Together Test** | Add 2P shared-screen with controller & keyboard | 0.5–1 day |
| **M6 – Polish Pass** | Placeholder audio, menu, bug fixes | 1–2 days |

**8. Development Risks (PoC Phase)**

* Performance issues with many enemies
* Controller setup sync with keyboard/mouse
* Zombie pathfinding getting stuck
* Animation syncing issues
* Steam Play Together UI overlap quirks

**9. Success Criteria**

* Can spawn and survive at least 5 waves
* Zombies don’t get stuck and hit player reliably
* Gunplay feels “good enough” (basic juice added)
* 2 players can play locally with different controls
* Minimal bugs/crashes
* You personally feel the game is *fun to replay once*
* Run at least one full playtest with someone via Steam Remote Play to verify viability

**10. Appendix / Notes**

* Controller config should be set up via Unity Input Manager or the new Input System
* Optional: Add Dev Console for testing/debug commands
* Run at least one full playtest with someone via Steam Remote Play to verify viability