ZOMBIE SHIFT

AI-Assisted Game Development Prompt Documentation

Lezzon Computers – LITTC Dev Projects

Documentation Note

This document records the prompts used to guide the AI-assisted development of Zombie Shift. The exact wording of some early prompts is not available in the conversation context used to compile this document, so those entries are explicitly marked “Reconstructed prompt” and were rebuilt from the corresponding AI Studio implementation reports and development decisions. Prompts whose original wording is available are reproduced as written.

Development Timeline

- Stage 1 — Initial Prototype
- Stage 2 — Knowledge Questions & Weapon Upgrades
- Stage 2B — Weapon Balance, Knowledge Progression & Emergency Knife
- Stage 2C — Progressive Weapon Mastery & Increased Zombie Pressure
- Stage 2D — Input Lock Fix & Shotgun Balance
- Stage 3 — Bonus Questions & Special Abilities
- Stage 4 — Levels 6–10 & Runner Enemy
- Stage 5 — Brute Enemy & Levels 11–15
- Stage 6 — Levels 16–20: Expert Mastery
- Educational Refinement — Simplified Educational Explanations
- Stage 7 — Levels 21–25 & Shifter Enemy

Stage 1 — Initial Prototype

Reconstructed prompt based on the corresponding implementation report and development decisions.

```
Create a simple responsive top-down 2D arcade shooter called “Zombie Shift” for Lezzon
Computers – LITTC.

CORE GAMEPLAY
- Three vertical lanes.
- A player character with a handgun at the bottom.
- Zombies spawn from the top and advance downward.
- The player switches lanes to help the character manage threats.
- The character automatically targets and shoots zombies in the active lane.

WEAPON
- 12-round handgun magazine.
- Automatic reload when depleted, approximately 2 seconds.
- Manual reload support.
- Muzzle flash and brass ejection.

ENEMIES
- Zombies have health and overhead health bars.
- Show hit effects.
- A zombie reaching the defense perimeter damages the player.
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PROGRESSION
- Each kill grants Knowledge XP.
- When XP fills, pause the game and present an IT knowledge question.
- Correct answers improve the weapon.
- Incorrect answers do not penalize the player.

CONTROLS
- A/D or Left/Right for lane switching.
- 1/2/3 for direct lane selection.
- Touch controls for mobile/tablet.

PRESENTATION
- Responsive desktop/tablet/mobile layout.
- Title screen: "Survive. Learn. Upgrade."
- HUD, pause screen, level-up dialog and Game Over/restart.
- HTML5 Canvas and procedural Web Audio where appropriate.
```

Stage 2 — Knowledge Questions & Weapon Upgrades

Reconstructed prompt based on the corresponding implementation report and development decisions.

```
Implement the educational progression system while preserving the existing lane mechanics and
responsive layout.

- Freeze zombies, firing, reload and spawning when Knowledge XP fills.
- Open a "KNOWLEDGE UPGRADE" modal.
- Create 30+ questions across hardware, networking, cybersecurity, programming, operating
systems, web, cloud, AI, databases and general IT.
- Shuffle questions and answers without repetition until the deck cycles.
- Create five weapon tiers: Handgun, SMG, Shotgun, Assault Rifle and Plasma Rifle.
- Correct answers upgrade the weapon and show useful feedback.
- Incorrect answers explain the concept and leave the current weapon unchanged.
- Display "🧠 KNOWLEDGE UPGRADE" and "Answer correctly to upgrade your weapon."
- Keep the modal responsive.
```

Stage 2B — Weapon Balance & Emergency Knife

Reconstructed prompt based on the corresponding implementation report and development decisions.

```
Refine combat balance and progression.

WEAPONS
- Handgun: 12 rounds, 25 damage, 0.24s fire rate, 2.0s reload.
- SMG: 24 rounds, 20 damage per bullet, 0.10s fire rate, 2.0s reload.
- Shotgun: approximately 6 shells, high burst damage, slower cycling/reload.
- Preserve shotgun multi-target damage in one lane.

KNIFE
- SPACE / touch button.
- Attacks only a zombie directly in front of the player in the active lane.
- Approximately 75px range, 40 damage, 1.2s cooldown.
- Does not consume ammo or interrupt reload.
- Add slash visual/audio feedback.

QUESTION DIFFICULTY
- Early levels: Beginner.
- Middle levels: Intermediate.
- Later levels: Advanced.
- High levels: Expert.
```

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Make the Knowledge Upgrade modal clearly identify the upgrade and difficulty.
```

Stage 2C — Progressive Weapon Mastery & Zombie Pressure

Reconstructed prompt based on the corresponding implementation report and development decisions.

```
Change weapon progression so each weapon is retained for five successful Knowledge Upgrades.

- Each successful upgrade adds +5 damage.
- The fifth successful upgrade masters the weapon and unlocks the next tier.
- The new weapon begins with its own base statistics.
- Plasma Rifle continues with +5 damage scaling.
- Preserve shotgun multi-target lane damage.
- Levels 1–5 use Beginner questions.
- Levels 6–10 use Intermediate.
- Levels 11–15 use Advanced.
- Levels 16+ use Expert.
- Increase zombie density across Levels 1–5, eventually allowing roughly 2–4 zombies per lane.
- Keep the challenge tactical rather than simply making everything faster.
```

Stage 2D — Input Lock Fix & Shotgun Balance

Reconstructed prompt based on the corresponding implementation report and development decisions.

```
Fix accidental input during transitions into Knowledge Upgrade questions.

When XP reaches the threshold:
- Immediately enter the question state.
- Freeze movement, firing, reload, zombie movement and spawning.
- Record keys held at transition and ignore them until released.
- Require a fresh keydown after release.
- Prevent gameplay keys such as A, D, arrows, Space, R and 1/2/3 from leaking into the modal.
- Question answers must use the modal UI.
- Disable gameplay touch/canvas input during the modal.

SHOTGUN
- Base damage 50.
- Upgrades: 55, 60, 65, 70.
- Fifth upgrade masters it and unlocks Assault Rifle.
- Every eligible zombie in the active lane must receive independent shotgun damage.
```

Stage 3 — Bonus Questions & Special Abilities

Reconstructed prompt based on the corresponding implementation report and development decisions.

```
Add a bonus progression system without breaking Knowledge Upgrade or weapon mastery.

- Every third successful Knowledge Upgrade triggers a Bonus Question.
- Pause combat and give the player 10 seconds.
- Incorrect answers/timeouts have no penalty.
- Correct answers allow one ability choice.

Abilities:
1. Rapid Reload — reload duration -25%.
2. Extended Magazine — magazine capacity +50%.
3. Chain Lightning — 10% chance per fired round to clear active zombies.
4. Fire Lane — permanently ignite one selected lane and apply continuous burn damage.
```

```
Add a three-pip bonus meter, active perk indicators and responsive ability-selection UI.
Preserve input quarantine during all modal transitions.
```

Stage 4 — Levels 6–10 & Runner Enemy

Reconstructed prompt based on the corresponding implementation report and development decisions.

```
Introduce the Runner enemy for Levels 6–10.

- Approximately 1.85× normal zombie speed.
- Approximately 60% of normal zombie HP.
- Distinct running silhouette and animation.
- Overhead RUNNER indicator.
- Distinct high-pitched spawn audio cue.

Spawn rates:
Level 6: 15%
Level 7: 25%
Level 8: 30%
Level 9: 35%
Level 10: 40%

Keep density controlled so speed and lane priority are the main challenges.
Use Intermediate IT questions.
Ensure compatibility with automatic targeting, shotgun, knife, Fire Lane, Chain Lightning,
Bonus Questions, input quarantine and mobile controls.
```

Stage 5 — Brute Enemy & Levels 11–15

Reconstructed prompt based on the corresponding implementation report and development decisions.

```
Introduce the Brute enemy for Levels 11–15.

- 250 HP baseline.
- Approximately 0.60× normal zombie speed.
- Large, heavily armored visual silhouette.
- Larger health bar and BRUTE indicator.
- Low-frequency spawn growl.

Spawn rates:
Level 11: 10% Brute / 35% Runner / 55% Normal
Level 12: 15% / 35% / 50%
Level 13: 20% / 35% / 45%
Level 14: 25% / 35% / 40%
Level 15: 30% / 35% / 35%

Preserve compatibility with all weapons and abilities.
Use Advanced IT questions for Levels 11–15 and keep Expert questions locked until Level 16+.
```

Stage 6 — Levels 16–20: Expert Mastery

Prompt reproduced from the available conversation context.

```
# Zombie Shift — Stage 6: Levels 16–20: Expert Mastery

Continue Zombie Shift into Levels 16–20.

Add a comprehensive Expert-tier IT question bank covering:
- Networking
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- Cybersecurity
- Operating Systems
- Cloud architecture
- Databases
- Computer systems

Maintain the existing educational explanation philosophy:
- Explanations should be clear and conceptual.
- They should explain WHY an answer is correct.
- They should remain concise and accessible even when the question itself is advanced.
- Target approximately 1–3 sentences.

Levels 16–20 should test mastery of:
- Lane switching
- Automatic targeting
- Manual reload
- Combat Knife
- Fire Lanes
- Chain Lightning
- Bonus Questions
- Mixed Normal, Runner and Brute waves

Increase difficulty through intelligent enemy combinations and tactical pressure rather than
visual clutter.

Do not create a premature victory cutoff at Level 20.
Allow continuous survival gameplay beyond Level 20.
```

Educational Refinement — Simplified Educational Explanations

Prompt reproduced from the available conversation context.

```
# ADDITION TO STAGE 6 — Simplified Educational Explanations

Apply this to ALL Knowledge Questions, not only Expert questions.

The explanation should help an ordinary person understand WHY the correct answer is correct,
so that they can reason their way to the answer if they encounter the concept again.

Prioritize:
- Clarity
- Simplicity
- Practical understanding
- Memorability
- Everyday language

Use plain language. Explain technical terms immediately when they are necessary.

Use simple analogies when they genuinely help:
- RAM → computer's short-term working memory / desk
- DNS → internet's phone book
- Firewall → network security guard
- Database → organized information storage

Target 1–3 short sentences or approximately 30–60 words.

Expert questions may remain difficult, but their explanations must still be accessible.

For incorrect answers:
- Show the correct answer.
- Give a short explanation.
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- Give the key idea to remember.
- Do not explain every wrong option at length.

When useful, include a brief "Remember this" mental model.

Maintain technical accuracy while simplifying the language.

Quality check every explanation:
1. Can a basic computer user understand it without looking up another term?
2. Does it explain why the answer is correct?
3. Will it help with a future version of the question?
4. Can it be understood in a few seconds?

The educational flow should be:
QUESTION → THINK → ANSWER → SIMPLE EXPLANATION → UNDERSTANDING → FUTURE RECOGNITION.
```

Stage 7 — Levels 21–25 & Shifter Enemy

Prompt reproduced from the available conversation context.

```
# Zombie Shift — Development Stage 7: Levels 21–25 & Shifter Enemy

Zombie Shift has now completed Levels 1–20.

The current progression is:
Levels 1–5: BEGINNER IT + Normal Zombies
Levels 6–10: INTERMEDIATE IT + Runner Zombies
Levels 11–15: ADVANCED IT + Brute Zombies
Levels 16–20: EXPERT IT + Mastery of existing systems

Introduce ONE new enemy:
# SHIFTER

The Shifter exists to prevent late-game gameplay from becoming static when players have
multiple
Fire Lane abilities.

IMPORTANT:
Do not rebuild existing systems.
Do not add another weapon.
Do not add another ability.
Do not redesign the HUD.
Do not change question progression.

SHIFTER:
- HP approximately 80–100.
- Speed approximately 0.9–1.1× normal.
- Not as fast as Runner or durable as Brute.
- Its defining characteristic is lane mobility.

LANE MOVEMENT:
- Lane 1 → Lane 2
- Lane 2 → Lane 1 or Lane 3
- Lane 3 → Lane 2
- Never jump directly between outer lanes.

TELEGRAPH:
Never silently change lanes.
Provide BOTH a distinctive audio warning and a clear visual warning.
Show the destination lane, e.g. LANE 2 → LANE 3.
Give approximately 0.75–1.25 seconds of warning.
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COOLDOWN:
Approximately 4–6 seconds between shifts.
Allow approximately 2–3 shifts per Shifter, then lock it into normal lane movement.

COMPATIBILITY:
Automatic targeting follows the Shifter into its new lane.
Shotgun damages all eligible targets in the active lane.
Fire Lane damage follows the Shifter as it changes lanes.
Chain Lightning destroys Shifters normally.
Combat Knife works normally.

VISUAL IDENTITY:
Lean/agile silhouette, crouched posture, distinctive movement, subtle distortion/glitch
effect,
warning pulse and SHIFTER identifier.

LEVEL PROGRESSION:
Level 21: approximately 5% Shifter
Level 22: approximately 10%
Level 23: approximately 15%
Level 24: approximately 20%
Level 25: approximately 25%

Continue Normal, Runner and Brute enemies.
Keep Levels 21–25 at Expert question difficulty.
Preserve weapon mastery, Bonus Questions and input quarantine.

FAIRNESS:
The player must always understand:
1. A lane change is coming.
2. Which Shifter is changing.
3. Where it is going.
4. Have enough time to react.

Do not make the Shifter feel like it cheated the player.

Test desktop, tablet, mobile portrait and mobile landscape.
Do not introduce bosses, new weapons, new abilities, multiplayer, accounts, online APIs or a
major HUD redesign.
```

Development Principles

- Build a simple playable prototype first, then iterate quickly.
- Preserve working systems when adding new mechanics.
- Use focused development stages rather than asking for everything at once.
- Test fairness and input safety whenever a new state or modal is introduced.
- Increase difficulty through tactical decisions and enemy roles, not visual clutter alone.
- Keep educational explanations technically accurate but understandable to ordinary learners.
- Treat mobile responsiveness as a core requirement.
- Avoid unnecessary backend services when the game can remain client-side.
- Keep each stage narrowly scoped so it can be tested before moving on.

Current Feature Summary

- Three-lane top-down survival gameplay
- Automatic targeting and manual lane switching

- Handgun → SMG → Shotgun → Assault Rifle → Plasma Rifle
- Five-stage weapon mastery and damage progression
- Combat Knife emergency defense
- Knowledge XP and IT question progression
- Beginner → Intermediate → Advanced → Expert question tiers
- Simplified why-oriented educational explanations
- Bonus Questions and selectable special abilities
- Normal, Runner, Brute and Shifter enemies
- Responsive desktop, tablet and mobile presentation
- Procedural Web Audio effects and background-audio support
- Input quarantine during educational modals

Lezzon Dev Projects Documentation

Zombie Shift demonstrates an iterative AI-assisted development workflow: a simple concept was converted into a playable prototype and then refined through focused prompts addressing layout, educational design, weapon balance, enemy design, progression, fairness and testing.