World of Tetris: Fragments of the Sleepless Realm

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40. Sprite Combat Reactions & Skill Casting — Mechanics / Implementation (Hard Canon)

This page defines the concrete mechanical and architectural implementation of sprite combat reactions and skill casting visuals described conceptually in Page 39. All rules described here are mandatory and directly inform code structure, animation hooks, and VFX integration.

Trigger Flow Overview
Sprite combat reactions are triggered exclusively through gameplay events emitted by the SkillSystem. No UI component or animation system is permitted to infer or calculate reactions independently.

Skill Activation Event
When a skill is activated, the following data is emitted:
– source (Hero, Pet, Baron, Minion)
– target (Hero, Pet, Baron, Minion, or Field)
– impactLevel (1–4)
– skillType (normal or ultimate)

Overlay Visual Effects
Upon skill activation, an overlay VFX is always spawned at the target location. Overlay effects communicate the elemental or thematic nature of the skill and are independent of sprite reactions.

Sprite Reaction Resolution
If the skill has a target entity, the target sprite reacts according to the impactLevel:
– Level 1–2 → hit_light
– Level 3 → hit_heavy
– Level 4 → knockdown

Reaction Execution
Sprite reactions are implemented as short, non-interrupting animation clips. Reactions temporarily override idle or emotional sprite states but do not cancel ongoing terminal or incapacitated states.

Skill Casting Animations
The skill source entity plays a casting animation concurrently with overlay effects:
– Skills 1–3 share a unified casting animation
– Ultimate skills trigger a dedicated ultimate casting animation

Priority Rules
Sprite reaction priority is defined as follows:
– Terminal states override all reactions
– Incapacitated state blocks new reactions
– Knockdown overrides hit_light and hit_heavy
– Casting animations may overlap with receiving reactions if source and target differ

Layer Separation
Overlay VFX, sprite reactions, and sound effects are treated as independent layers. Each layer subscribes to the same gameplay event but executes independently.

Timing Standard
All sprite reactions, overlay effects, and associated sound effects adhere to the unified 4-second timing standard unless explicitly interrupted by higher-priority events.

Performance Considerations
Sprite reactions are designed to be lightweight and reusable. No per-frame logic or polling is permitted within reaction handlers. All execution is event-driven.

Canon Status
This mechanical specification is binding. All implementations must conform to the flow, priorities, and separation of concerns described on this page.