Tova App Summary

Repository-based one-page overview

What it is

Tova is a Vite + Three.js single-page first-person exploration app that runs in the browser. It combines procedural terrain, stylized structures, atmosphere, and movement controls in a real-time render loop.

Who it is for

Primary user/persona: **Not found in repo.** Inferred from the implemented controls and UI: desktop keyboard-and-mouse players exploring a fantasy scene.

What it does

- Pointer-lock first-person movement with WASD/arrow keys and fly/walk chat commands.
- Procedural terrain generation with central hill, flattened town zone, ocean drop-off, and valley carving.
- Dynamic day/night environment updates for sun, fog, sky color, and light intensities.
- World composition modules: ocean tide motion, layered mountain ring, and instanced forest placement.
- Procedural structure placement: merged-geometry castle and town aligned to sampled terrain height.
- In-game overlays: loading state, crosshair, FPS/coordinates readout, day/night progress bar, and ambient music toggle.

How it works (repo-evidence architecture)

- `index.html` loads `src/main.js`; `main.js` initializes Scene, Camera, WebGLRenderer, and optional postprocessing.
- `main.js` creates Environment, Terrain, Ocean, Mountains, Forest, Castle, Town, and Player components.
- Player input and chat commands flow to movement logic and environment override (`day`/`night`).
- Terrain height queries (`getHeightAt`) drive player ground alignment and structure/vegetation placement.
- Animation loop (`THREE.Clock`) updates environment/ocean/player/mountains, then renders via composer or renderer.
- External backend services/API calls for gameplay: **Not found in repo.**

How to run (minimal)

- From repo root: `npm install`
- Start dev server: `npm run dev`
- Open the local Vite URL shown in terminal.
- Automated test/lint scripts in `package.json`: **Not found in repo.**