

Specification

- **Tech Stack:**

- **Frontend:** React 18 + TypeScript (strict), Vite, Tailwind CSS with design-token plugin
- **Blockchain:** Wagmi + ethers (or viem) with typed ABIs; Reown AppKit adapter for wallet modal
- **Oracle:** Chainlink AggregatorV3 for BTC/USD price feed
- **Data Layer:** On-chain reads via ethers.Contract; event subscriptions for `StartRound`, `LockRound`, `EndRound`; TheGraph for history
- **Testing:** Jest + React Testing Library, Stryker for mutation testing, Playwright for E2E
- **CI/CD:** GitHub Actions + Lighthouse CI, Vercel/Netlify for deployments, preview URLs on PR
- **Monitoring & I18n:** Sentry (obfuscated addresses), react-i18next

- **Architecture & Components:**

- **Hooks (/src/components/hooks):**
 - `usePredictionGame` manages contract initialization, state refresh, multi-epoch data fetch, and `placeBet`.
 - `useUserRounds` fetches and formats user's past bets (`getUserRounds`).
- **UI Components (/src/components):**
 - `PredictionCard` (live round UI)
 - `ConnectWalletButton` (wallet modal integration)
 - `Carousel` (rounds slider)
 - `UserBetHistory` (bet ledger)
- **State Flow:** On mount, hooks fetch on-chain state → UI shows skeletons → resolved data drives card and history rendering → event subscriptions

update state in real-time.

- **Security & Performance:** CSP headers, input sanitization, multi-provider RPC, caching/debouncing, performance budgets enforced in CI.