

Change 11 â Realistic Starfield

Summary:

- Tweaked star density, glow, and keyframes to mimic natural twinkle and slowed shooting-star movement for a longer, mor

Updated Code:

```
=== assets/css/styles.css (starfield + shooting stars) ===
/* ----- Tokens ----- */
:root{
  --hh-midnight:#040715;
  --hh-constellation:#0B1F3F;
  --hh-ember:#FF7B2E;
  --hh-flare:#FFB25C;
  --hh-aqua:#2EE6D5;
  --hh-indigo:#284D8F;
  --hh-fog:#E8EEF5;
  --hh-text:#F5F8FF;
  --hh-muted:rgba(236,241,255,0.72);
  --hh-grid:rgba(255,135,64,0.06);
  --hh-card-bg:linear-gradient(180deg,rgba(10,14,32,0.9),rgba(8,9,22,0.82));
  --hh-card-border:rgba(255,255,255,0.14);
  --hh-radius:18px;
  --hh-shadow:0 22px 55px rgba(4,7,21,0.55);
  --hh-fast:160ms;
  --hh-med:320ms;
  --hh-ease:cubic-bezier(.22,.61,.36,1);
}

/* ----- Base ----- */
*{box-sizing:border-box;}
html,body{margin:0;padding:0;min-height:100vh;background:radial-gradient(circle at 15% -10%,rgba(255,123,46,0.28),transparent 0);}
body{position:relative;overflow-x:hidden;}
img{max-width:100%;display:block;}
a{color:rgba(255,189,125,0.9);text-decoration:none;transition:color var(--hh-fast);a:hover,a:focus{color:var(--hh-text)}}

.hh-container{max-width:1200px;margin:0 auto;padding:0 24px;}
.hh-section{padding:74px 0;position:relative;--section-accent:var(--hh-ember);}

h1,h2,h3,h4{margin:0 0 14px 0;line-height:1.08;color:var(--hh-text);}
p{margin:0 0 18px 0;color:var(--hh-muted);}

/* ----- Global overlays ----- */
.hh-global-effects{position:fixed;inset:0;pointer-events:none;z-index:-2;}
.hh-diagonal-grid{position:absolute;inset:-60px;background-image:repeating-linear-gradient(120deg,var(--hh-grid) 0,var(--hh-grid) 1px);background-size:100% 100%;background-position:0 0,100% 100%;background-repeat:repeat;mix-blend-mode:screen;}
.hh-sparkles{position:absolute;inset:0;mix-blend-mode:screen;}
.hh-sparkles span{position:absolute;width:4px;height:4px;border-radius:50%;background:var(--hh-flare);opacity:0;box-shadow:0 0 10px var(--hh-flare);@keyframes hh-sparkle{0%{opacity:0;transform:translate3d(0,0,0) scale(.45);}12%{opacity:1;}60%{opacity:1;}100%{opacity:0;}}}

/* ----- Header ----- */
.hh-header{position:sticky;top:0;z-index:1000;background:linear-gradient(180deg,rgba(6,9,27,0.92),rgba(6,9,27,0.45));border-bottom:1px solid var(--hh-text);background-size:100% 100%;background-position:0 0,100% 100%;background-repeat:repeat;mix-blend-mode:screen;}
.hh-scrolled .hh-header{background:rgba(6,9,27,0.96);border-bottom-color:rgba(255,189,125,0.45);}
.hh-wrap{max-width:1200px;margin:0 auto;padding:16px 26px;display:flex;align-items:center;gap:18px;position:relative;}
.hh-logo{display:inline-flex;align-items:center;gap:16px;color:var(--hh-text);text-decoration:none;}
.hh-logo-badge{display:inline-flex;align-items:center;justify-content:center;width:82px;height:82px;border-radius:26px;border:2px solid var(--hh-text);background:var(--hh-text);background-size:100% 100%;background-position:0 0,100% 100%;background-repeat:repeat;mix-blend-mode:screen;}
.hh-logo-badge::after{content:"";position:absolute;inset:-40px;background:radial-gradient(circle,rgba(255,189,125,0.45) 0,transparent 0);background-size:100% 100%;background-position:0 0,100% 100%;background-repeat:repeat;mix-blend-mode:screen;}
.hh-logo-badge img{width:64px;height:auto;position:relative;mix-blend-mode:screen;filter:drop-shadow(0 0 12px rgba(255,189,125,0.45));}
.hh-logo-wordmark{display:flex;flex-direction:column;font-weight:700;letter-spacing:.12em;text-transform:uppercase;font-size:.72rem;}
.hh-logo-wordmark span{font-size:.72rem;letter-spacing:.28em;color:rgba(255,215,164,0.85);}
```

```

.hh-burger{display:none;width:48px;height:48px;border:0;background:transparent;cursor:pointer;}
.hh-burger span{display:block;height:2px;margin:6px 0;background:var(--hh-text);transition:transform var(--hh-fast) var(
.hh-burger.is-active span:nth-child(1){transform:translateY(8px) rotate(45deg);}
.hh-burger.is-active span:nth-child(2){opacity:0;}
.hh-burger.is-active span:nth-child(3){transform:translateY(-8px) rotate(-45deg);}

.hh-nav{display:flex;align-items:center;margin-left:auto;}
.hh-nav ul{list-style:none;margin:0;padding:0;display:flex;align-items:center;gap:16px;}
.hh-link{color:var(--hh-muted);padding:10px 14px;border-radius:12px;position:relative;font-weight:600;letter-spacing:.04
.hh-link::after{content:"";position:absolute;left:12px;right:12px;bottom:4px;height:2px;width:0;background:linear-gradient
.hh-link:hover,.hh-link:focus{color:var(--hh-text);transform:translateY(-2px);text-shadow:0 0 12px rgba(255,178,92,0.65)}
.hh-link:hover::after,.hh-link:focus::after{width:calc(100% - 24px);}

.hh-has-sub{position:relative;}
.hh-has-sub>.hh-sub{position:absolute;top:100%;left:0;min-width:260px;display:none;flex-direction:column;gap:6px;background
.hh-has-sub:hover>.hh-sub{display:flex;}
.hh-sub a{color:var(--hh-muted);padding:9px 12px;border-radius:10px;transition:background var(--hh-fast),color var(--hh-
.hh-sub a:hover,.hh-sub a:focus{background:rgba(255,123,46,0.18);color:var(--hh-text);}

.hh-cta{background:linear-gradient(120deg,var(--hh-ember),var(--hh-flare));color:var(--hh-midnight);padding:12px 24px;bo
.hh-cta::before{content:"";position:absolute;inset:-6px;border-radius:inherit;box-shadow:0 0 32px rgba(255,178,92,0.5);o
.hh-cta::after{content:"";position:absolute;inset:0;background:linear-gradient(120deg,rgba(255,255,255,0) 0%,rgba(255,25
.hh-cta:hover,.hh-cta:focus{transform:translateY(-2px) scale(1.04);box-shadow:0 20px 44px rgba(255,123,46,0.6);}

.hh-ghost{border:1px solid rgba(255,189,125,0.65);padding:12px 24px;border-radius:999px;color:var(--hh-text);position:re
.hh-ghost::after{content:"";position:absolute;inset:0;background:linear-gradient(120deg,rgba(255,123,46,0.22),rgba(46,23
.hh-ghost:hover,.hh-ghost:focus{background:rgba(255,123,46,0.18);transform:translateY(-1px);}

@keyframes hh-orbit{to{transform:rotate(360deg);} }
@keyframes hh-cta-glnt{0%{transform:translateX(-140%) skewX(-15deg);}55%{transform:translateX(140%) skewX(-15deg);}100%

#hh-constellation{position:absolute;inset:0;pointer-events:none;width:100%;height:100%;}

/* ----- Hero ----- */
.hh-hero{position:relative;min-height:88vh;display:grid;place-items:center;padding:130px 0 90px;overflow:hidden;}
.hh-hero-media{position:absolute;inset:0;overflow:hidden;}
.hh-hero-video{position:absolute;inset:0;width:100%;height:100%;object-fit:cover;filter:brightness(.52) saturate(125%);}
.hh-hero-still{position:absolute;inset:0;background:url('../images/placeholder_1.svg') center/cover no-repeat;opacity:0;
.hh-drone{position:absolute;top:20%;left:-20%;width:180px;height:120px;z-index:3;pointer-events:none;opacity:0;transform
.hh-drone img{width:100%;height:auto;filter:drop-shadow(0 18px 28px rgba(4,7,21,0.6));}
.hh-drone.is-active{animation:hh-drone-flight 4s ease-in-out forwards;}
@keyframes hh-drone-flight{0%{opacity:0;transform:translate3d(-30vw,-12vh,0) scale(.45) rotateZ(-10deg);}12%{opacity:1;t
@media (max-width:680px){
  .hh-drone{top:25%;left:-40%;width:140px;height:95px;}
}

@keyframes hh-still-reveal{0%{opacity:0;}50%{opacity:.45;}100%{opacity:.7;}}

.hh-cosmic{position:absolute;inset:0;overflow:hidden;pointer-events:none;z-index:1;}
.hh-starfield,.hh-shooting-stars,.hh-nebula{position:absolute;inset:0;}
.hh-starfield span{position:absolute;width:1px;height:1px;border-radius:50%;background:rgba(234,242,255,0.95);opacity:0.
@keyframes hh-twinkle{0%,100%{opacity:0.1;transform:scale(0.9);}45%{opacity:0.65;transform:scale(1.4);}65%{opacity:1;tra
.hh-shooting-stars span{position:absolute;display:block;width:280px;height:2px;background:linear-gradient(90deg,rgba(255
@keyframes hh-shooting{0%{transform:translate3d(-260%, -180%, 0) rotate(8deg);opacity:0;}10%{opacity:.85;}55%{opacity:.8
.hh-nebula{background:radial-gradient(circle at 20% 28%,rgba(255,123,46,0.28),transparent 45%),radial-gradient(circle at
@keyframes hh-nebula-pulse{0%,100%{transform:scale(1);opacity:.85;}50%{transform:scale(1.12);opacity:1;}}

```

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.hh-sunburst{position:absolute;top:45%;left:50%;width:820px;height:820px;transform:translate(-50%,-50%);border-radius:50%
@keyframes hh-sun-pulse{0%,100%{transform:translate(-50%,-50%) scale(1);}50%{transform:translate(-50%,-50%) scale(1.08);}

.hh-skyline{position:absolute;left:50%;bottom:-12vh;width:160vw;height:46vh;background:url('../images/skyline_placeholde

.hh-hero-overlay{position:relative;z-index:2;text-align:center;padding:52px 38px;max-width:960px;background:linear-gradi
.hh-hero-kicker{letter-spacing:.32em;text-transform:uppercase;font-size:.82rem;color:rgba(255,189,125,0.85);margin-botto
.hh-hero-overlay h1{font-size:clamp(3.4rem,6vw,5rem);margin-bottom:20px;text-transform:uppercase;letter-spacing:.08em;te
.hh-hero-overlay h1 span{background:linear-gradient(110deg,var(--hh-ember),var(--hh-flare),var(--hh-indigo));-webkit-bac
.hh-hero-sub{font-size:1.18rem;margin-bottom:24px;color:rgba(245,248,255,0.9);}
.hh-hero-highlights{list-style:none;margin:0;padding:0;display:flex;flex-wrap:wrap;gap:16px 32px;justify-content:center;
.hh-hero-highlights li{position:relative;padding-left:22px;}
.hh-hero-highlights li::before{content:"â „";position:absolute;left:0;color:var(--hh-ember);font-size:.85rem;top:-2px;an
@keyframes hh-highlight-glow{0%,100%{opacity:.65;}50%{opacity:1;}}
.hh-hero-ctas{display:flex;gap:18px;justify-content:center;margin-top:32px;flex-wrap:wrap;}

/* ----- Section headings ----- */
.hh-section .hh-container>:is(h2,h3){position:relative;padding-top:28px;margin-bottom:22px;font-size:clamp(2rem,3.5vw,2.
.hh-section .hh-container>:is(h2,h3)::before{content:"";position:absolute;top:0;left:0;width:130px;height:6px;border-rad

.hh-section--services{--section-accent:var(--hh-ember);}
.hh-section--residential{--section-accent:var(--hh-flare);}
.hh-section--land{--section-accent:var(--hh-aqua);}
.hh-section--commercial{--section-accent:var(--hh-aqua);}
.hh-section--pricing{--section-accent:var(--hh-ember);}
.hh-section--gallery{--section-accent:var(--hh-flare);}
.hh-section--social{--section-accent:var(--hh-aqua);}
.hh-section--about{--section-accent:var(--hh-ember);}
.hh-section--consult{--section-accent:var(--hh-flare);}
.hh-section--booking{--section-accent:var(--hh-ember);}

/* ----- Cards / Grid ----- */
.hh-grid{display:grid;grid-template-columns:repeat(4,minmax(0,1fr));gap:24px;margin-top:30px;}
@media (max-width:1100px){.hh-grid{grid-template-columns:repeat(2,1fr);}}
@media (max-width:720px){.hh-grid{grid-template-columns:1fr;}}

.hh-card{background:var(--hh-card-bg);border:1px solid var(--hh-card-border);border-radius:var(--hh-radius);padding:26px
.hh-card::after{content:"";position:absolute;inset:-1px;border-radius:inherit;border:1px solid rgba(255,255,255,0.06);mi
.hh-card:hover,.hh-card:focus-within{transform:translateY(-6px);box-shadow:0 32px 70px rgba(4,7,21,0.65);border-color:rg
.hh-price{font-size:1.85rem;color:var(--hh-text);font-weight:700;margin:6px 0 16px;}
.hh-list{margin:0;padding-left:20px;color:rgba(245,248,255,0.82);}
.hh-list li{margin-bottom:9px;}
.hh-note{color:rgba(236,241,255,0.68);font-size:.96rem;margin-top:14px;}
.hh-btn{display:inline-flex;align-items:center;gap:10px;margin-top:18px;background:linear-gradient(120deg,var(--hh-ember
.hh-btn::after{content:"â ";font-size:.95rem;transition:transform var(--hh-fast);}
.hh-btn:hover,.hh-btn:focus{transform:translateY(-2px);box-shadow:0 16px 32px rgba(255,123,46,0.45);}
.hh-btn:hover::after{transform:translateX(4px);}

.hh-featured{border-color:rgba(255,123,46,0.45);box-shadow:0 32px 80px rgba(255,123,46,0.28);}
.hh-badge{display:inline-block;background:rgba(255,123,46,0.24);color:var(--hh-text);padding:6px 14px;border-radius:999px

.hh-fineprint p{font-size:.95rem;color:rgba(236,241,255,0.65);}

/* ----- Gallery ----- */
.hh-gallery-grid{display:grid;grid-template-columns:repeat(3,minmax(0,1fr));gap:24px;margin-top:32px;}
@media (max-width:980px){.hh-gallery-grid{grid-template-columns:repeat(2,1fr);}}
@media (max-width:680px){.hh-gallery-grid{grid-template-columns:1fr;}}

```

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.hh-gallery-card{position:relative;border-radius:22px;overflow:hidden;background:rgba(6,9,27,0.72);border:1px solid rgba
.hh-gallery-card img{width:100%;height:260px;object-fit:cover;filter:saturate(125%);}
.hh-gallery-card figcaption{padding:20px;color:rgba(245,248,255,0.9);font-size:1.02rem;letter-spacing:.02em;}
.hh-gallery-card:hover,.hh-gallery-card:focus-within{transform:translateY(-6px);}

/* ----- About ----- */
.hh-about{display:grid;grid-template-columns:minmax(0,1.4fr) minmax(0,1fr);gap:42px;align-items:center;}
@media (max-width:940px){.hh-about{grid-template-columns:1fr;}}
.hh-about-copy p{font-size:1.08rem;color:rgba(245,248,255,0.85);}
.hh-about-media{position:relative;border-radius:26px;overflow:hidden;background:rgba(6,9,27,0.75);border:1px solid rgba
.hh-about-media img{width:100%;height:100%;object-fit:cover;}
.hh-about-media figcaption{padding:18px;color:rgba(245,248,255,0.78);font-size:.98rem;}

/* ----- CTA block ----- */
.hh-cta-block{background:radial-gradient(1200px 640px at 70% -20%,rgba(255,123,46,0.32),rgba(5,9,24,0.95));text-align:ce
.hh-cta-block h3{font-size:clamp(2.2rem,4.5vw,3.2rem);margin-bottom:16px;}
.hh-cta-block p{font-size:1.08rem;color:rgba(245,248,255,0.85);}

/* ----- Footer ----- */
.hh-footer-inner{display:flex;flex-direction:column;align-items:center;gap:18px;}
.hh-footer-brand{display:flex;align-items:center;gap:16px;}
.hh-footer-copy{display:flex;flex-direction:column;line-height:1.1;color:rgba(245,248,255,0.82);}
.hh-footer-copy strong{letter-spacing:.16em;text-transform:uppercase;font-size:.85rem;color:var(--hh-text);}
.hh-footer-copy span{font-size:.75rem;letter-spacing:.12em;color:rgba(255,189,125,0.78);}
.hh-logo-badge--small{width:72px;height:72px;border-radius:22px;}
.hh-logo-badge--small img{width:54px;}

.hh-footer{padding:36px 0;text-align:center;color:rgba(245,248,255,0.7);font-size:.92rem;border-top:1px solid rgba(255,2

/* ----- Mobile menu ----- */
@media (max-width:980px){
  .hh-burger{display:inline-flex;align-items:center;justify-content:center;}
  .hh-nav{position:fixed;inset:0;background:radial-gradient(1200px 620px at 70% -20%,rgba(255,123,46,0.32),rgba(4,7,21
  .hh-nav.open{transform:translateY(0);}
  .hh-nav ul{flex-direction:column;gap:16px;padding:24px 32px 48px;align-items:flex-start;}
  .hh-has-sub>.hh-sub{position:static;display:none;background:transparent;border:none;box-shadow:none;padding:0;margin
  .hh-has-sub.open>.hh-sub{display:flex;}
  .hh-sub a{padding:8px 0;}
  .hh-hero-overlay{padding:40px 24px;}
  .hh-hero-overlay h1{font-size:clamp(2.6rem,9vw,3.9rem);}
  .hh-hero-highlights{gap:14px 20px;}
}

/* ----- Reduced Motion ----- */
@media (prefers-reduced-motion:reduce){
  *,*::before,*::after{animation:none !important;transition:none !important;}
}

=== assets/js/main.js (star seeding) ===
const header = document.querySelector('.hh-header');
const nav = document.querySelector('.hh-nav');
const burger = document.querySelector('.hh-burger');
const subs = document.querySelectorAll('.hh-has-sub');
const canvas = document.getElementById('hh-constellation');
const yearEl = document.getElementById('year');
const starfield = document.querySelector('.hh-starfield');
const shootingStars = document.querySelector('.hh-shooting-stars');
const sparkles = document.querySelector('.hh-sparkles');

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const skyline = document.querySelector('.hh-skyline');
const drone = document.querySelector('.hh-drone');

if (yearEl) {
  yearEl.textContent = new Date().getFullYear();
}

const prefersReducedMotion = window.matchMedia('(prefers-reduced-motion: reduce)').matches;

const onScroll = () => {
  const root = document.documentElement;
  if (window.scrollY > 60) {
    root.classList.add('hh-scrolled');
  } else {
    root.classList.remove('hh-scrolled');
  }

  if (skyline && !prefersReducedMotion) {
    const offset = Math.min(window.scrollY * 0.18, 90);
    skyline.style.transform = `translateX(-50%) translateY(${offset}px)`;
  }
};

onScroll();
window.addEventListener('scroll', onScroll, { passive: true });

if (burger && nav) {
  burger.addEventListener('click', () => {
    const isOpen = nav.classList.toggle('open');
    burger.setAttribute('aria-expanded', String(isOpen));
    if (isOpen) {
      burger.classList.add('is-active');
    } else {
      burger.classList.remove('is-active');
    }
  });
}

subs.forEach(sub => {
  const trigger = sub.querySelector('.hh-link');
  if (!trigger) {
    return;
  }
  trigger.addEventListener('click', event => {
    if (window.innerWidth <= 980) {
      event.preventDefault();
      sub.classList.toggle('open');
    }
  });
});

document.querySelectorAll('a[href^="#"]').forEach(link => {
  link.addEventListener('click', event => {
    const id = link.getAttribute('href');
    if (!id || id === '#') {
      return;
    }
    const target = document.querySelector(id);
  });
});

```

```

    if (!target) {
      return;
    }
    event.preventDefault();
    const behavior = prefersReducedMotion ? 'auto' : 'smooth';
    target.scrollIntoView({ behavior });
    if (!target.hasAttribute('tabindex')) {
      target.setAttribute('tabindex', '-1');
    }
    target.focus({ preventScroll: true });
    if (nav && nav.classList.contains('open') && window.innerWidth <= 980) {
      nav.classList.remove('open');
      burger?.setAttribute('aria-expanded', 'false');
      burger?.classList.remove('is-active');
    }
  });
});

```

```

let atmosphereResizeTimeout;

```

```

const createStars = () => {
  if (!starfield || prefersReducedMotion) {
    return;
  }
  starfield.innerHTML = '';
  const starTotal = window.innerWidth < 768 ? 85 : 180;
  for (let i = 0; i < starTotal; i += 1) {
    const node = document.createElement('span');
    const size = Math.random() * 1.4 + 0.4;
    node.style.top = `${Math.random() * 100}%`;
    node.style.left = `${Math.random() * 100}%`;
    node.style.width = `${size}px`;
    node.style.height = `${size}px`;
    node.style.animationDelay = `${Math.random() * 10}s`;
    node.style.animationDuration = `${6 + Math.random() * 6}s`;
    starfield.appendChild(node);
  }
};

```

```

const createShootingStars = () => {
  if (!shootingStars || prefersReducedMotion) {
    return;
  }
  shootingStars.innerHTML = '';
  const count = window.innerWidth < 768 ? 4 : 7;
  for (let i = 0; i < count; i += 1) {
    const span = document.createElement('span');
    const delay = Math.random() * 4;
    span.style.top = `${Math.random() * 55}%`;
    span.style.left = `${Math.random() * 40 - 20}%`;
    span.style.animationDelay = `${delay}s`;
    span.style.animationDuration = `${2 + Math.random() * 1.2}s`;
    shootingStars.appendChild(span);
  }
};

```

```

const createSparkles = () => {
  if (!sparkles || prefersReducedMotion) {

```

```

    return;
  }
  sparkles.innerHTML = '';
  const palette = ['rgba(255,123,46,0.95)', 'rgba(255,189,125,0.9)', 'rgba(46,230,213,0.85)'];
  const count = window.innerWidth < 768 ? 20 : 36;
  for (let i = 0; i < count; i += 1) {
    const span = document.createElement('span');
    const tone = palette[Math.floor(Math.random() * palette.length)];
    span.style.top = `${Math.random() * 100}%`;
    span.style.left = `${Math.random() * 100}%`;
    span.style.animationDelay = `${Math.random() * 4}s`;
    span.style.animationDuration = `${5 + Math.random() * 4}s`;
    span.style.background = tone;
    span.style.boxShadow = `0 0 16px ${tone}`;
    sparkles.appendChild(span);
  }
};

const initCosmic = () => {
  createStars();
  createShootingStars();
  createSparkles();
};

if (!prefersReducedMotion) {
  initCosmic();
}

window.addEventListener('load', () => {
  if (!drone) {
    return;
  }
  if (prefersReducedMotion) {
    drone.remove();
    return;
  }
  requestAnimationFrame(() => drone.classList.add('is-active'));
  setTimeout(() => drone.remove(), 4200);
});

window.addEventListener('resize', () => {
  clearTimeout(atmosphereResizeTimeout);
  atmosphereResizeTimeout = setTimeout(() => {
    initCosmic();
  }, 200);
});

let ctx = null;
if (canvas && canvas.getContext && !prefersReducedMotion) {
  ctx = canvas.getContext('2d', { alpha: true });
}

let rafId;
let hoveredLink = null;

const resizeCanvas = () => {
  if (!canvas || !ctx || !header) {
    return;
  }

```

```

    }
    const rect = header.getBoundingClientRect();
    const ratio = window.devicePixelRatio || 1;
    canvas.width = rect.width * ratio;
    canvas.height = rect.height * ratio;
    canvas.style.width = `${rect.width}px`;
    canvas.style.height = `${rect.height}px`;
    ctx.setTransform(ratio, 0, 0, ratio, 0, 0);
  };

const clearCanvas = () => {
  if (!ctx || !canvas) {
    return;
  }
  ctx.clearRect(0, 0, canvas.width, canvas.height);
};

const drawConstellation = () => {
  if (!ctx || !hoveredLink || !header) {
    return;
  }

  clearCanvas();

  const logo = document.querySelector('.hh-logo');
  if (!logo) {
    return;
  }

  const headerRect = header.getBoundingClientRect();
  const linkRect = hoveredLink.getBoundingClientRect();
  const logoRect = logo.getBoundingClientRect();

  const linkX = linkRect.left + linkRect.width / 2 - headerRect.left;
  const linkY = linkRect.top + linkRect.height / 2 - headerRect.top;
  const logoX = logoRect.left + logoRect.width / 2 - headerRect.left;
  const logoY = logoRect.top + logoRect.height / 2 - headerRect.top;

  const grad = ctx.createLinearGradient(logoX, logoY, linkX, linkY);
  grad.addColorStop(0, 'rgba(46,106,168,0.0)');
  grad.addColorStop(0.25, 'rgba(46,106,168,0.4)');
  grad.addColorStop(0.75, 'rgba(205,165,72,0.6)');
  grad.addColorStop(1, 'rgba(205,165,72,0.0)');

  ctx.lineWidth = 1.5;
  ctx.strokeStyle = grad;
  ctx.beginPath();
  ctx.moveTo(logoX, logoY);
  ctx.lineTo(linkX, linkY);
  ctx.stroke();

  const time = Date.now() / 400;
  const cometX = logoX + (linkX - logoX) * 0.65 + Math.cos(time) * 4;
  const cometY = logoY + (linkY - logoY) * 0.65 + Math.sin(time) * 4;

  ctx.beginPath();
  ctx.arc(cometX, cometY, 2.2, 0, Math.PI * 2);
  ctx.fillStyle = 'rgba(205,165,72,0.9)';

```



```
    ctx.fill();

    rafId = requestAnimationFrame(drawConstellation);
};

const startConstellation = link => {
    if (!ctx || prefersReducedMotion) {
        return;
    }
    hoveredLink = link;
    cancelAnimationFrame(rafId);
    drawConstellation();
};

const stopConstellation = () => {
    hoveredLink = null;
    cancelAnimationFrame(rafId);
    clearCanvas();
};

window.addEventListener('resize', resizeCanvas);
resizeCanvas();

document.querySelectorAll('.hh-link').forEach(link => {
    link.addEventListener('mouseenter', () => startConstellation(link));
    link.addEventListener('mouseleave', stopConstellation);
});

document.addEventListener('visibilitychange', () => {
    if (document.hidden) {
        stopConstellation();
    }
});
```