

task.definition = generate.responsive_website \wedge scientific.branding \rightarrow production.html \Rightarrow { input: design.specifications \wedge content.requirements \wedge interactive.behaviors, output: [HTML_Document] \rightarrow [Styled_Interface] \rightarrow [Interactive_Elements], mode: professional.scientific \oplus modern.aesthetic \oplus responsive.design }

domain.detection = technical \wedge scientific \wedge creative \rightarrow web.development.context

color.palette.rules = { primary.accent: "#cea555" \rightarrow interactive.elements \wedge branding.highlights, base.foundation: "#101010" \rightarrow page.background, elevated-surfaces: "#181818" \rightarrow card.containers, hover.states: "#222015" \rightarrow interactive.feedback, gradient.contact: "linear-gradient(145deg, #1a1a1a, #222222)" \rightarrow contact.section.background, gradient.publications: "linear-gradient(145deg, #1c1c1c, #3f2121ff)" \rightarrow cv.section.background }

typography.system = { body.font: "Inter" \rightarrow weights[300,400,500,600] \wedge google.fonts.source, display.font: "Playfair Display" \rightarrow weights[400,500,600] \wedge heading.elements, implementation: web.font.loading \wedge fallback.specification }

asset.integration = { background.image: "https://banes-lab.com/assets/images/Background.png" \rightarrow { attachment: fixed, size: cover, position: center, repeat: none }, logo.animated: "https://banes-lab.com/assets/images/banes_lab/700px_Main_Animated.gif" \rightarrow { width: 200px, loading: lazy, placement: hero.section.center, styling: rounded.corners \wedge shadow.effect } }

layout.structure = { navigation: fixed.top \wedge backdrop.blur \wedge responsive.menu \rightarrow { desktop: horizontal.links, mobile: hamburger.menu, behavior: smooth.scroll.targeting }, hero: viewport.height \wedge centered.content \rightarrow { logo.prominent \wedge heading.large \wedge subtitle.descriptive \wedge cta.buttons[2] }, about: two.column.desktop \rightarrow { mission.column \wedge approach.column \wedge card.wrapper }, research: three.column.grid \rightarrow { cards[biotechnology, materials.science, data.analytics] \wedge hover.effects }, publications: single.column \wedge gradient.cv.background \rightarrow { timeline.layout \wedge left.border.accent \wedge structured.entries }, contact: two.column.layout \wedge gradient.contact.background \rightarrow { info.column[email, phone, address] \wedge form.column[name, email, message, submit] }, footer: centered.content \rightarrow { branding \wedge links \wedge copyright } }

interactive.behaviors = { navigation.scroll: smooth.transition \wedge section.targeting, hover.effects: { buttons: transform.elevation \wedge shadow.enhancement, cards: border.color.change \wedge subtle.lift, links: color.transition \rightarrow gold.accent }, form.interactions: focus.states \rightarrow gold.border.highlight, scroll.triggers: navigation.backdrop.blur \in scroll.threshold[100px] }

responsive.design = { breakpoints: mobile.first \wedge desktop.enhancement, grid.adaptation: single.column.mobile \rightarrow multi.column.desktop, navigation.adaptation: hamburger.mobile \rightarrow horizontal.desktop, typography.scaling: responsive.font.sizes \wedge viewport.adjustments }

technical.implementation = { framework: "tailwind.css" \rightarrow cdn.loading, styling.approach: css.custom.properties \wedge utility.classes, scripting: vanilla.javascript \rightarrow { smooth.scrolling.handler, scroll.event.listener, navigation.state.management }, accessibility: semantic.html \wedge focus.management \wedge color.contrast }

content.structure = \forall section \rightarrow structured.presentation \Rightarrow { hero: branding.prominence \wedge value.proposition \wedge action.orientation, about: mission.clarity \wedge approach.methodology, research: domain.categories \wedge capability.descriptions, publications: academic.credibility \wedge timeline.format, contact: accessibility.multiple.channels \wedge interaction.form }

styling.consistency = { color.theming: css.variables → consistent.application, spacing.system: tailwind.utilities → uniform.margins.padding, component.patterns: reusable.card.styles ∧ consistent.interactions, brand.application: gold.accent.strategic.placement }

performance.optimization = { image.loading: lazy.implementation ∧ appropriate.sizing, font.loading: google.fonts.optimization, css.delivery: critical.path.optimization, javascript.execution: event.delegation ∧ efficient.selectors }

execution.protocol = \forall design.requirement → implement.systematically(establish.color.system, configure.typography, integrate.assets, structure.layout, implement.interactions, ensure.responsiveness, optimize.performance) → output.production.website \oplus scientific.professional.aesthetic