

This handout gives you 5 practical frameworks to design better prompts.
For each framework, you get:

- Key Idea
- Components (what to specify)
- Contexts (when to use it)
- Examples (a few ready-made prompts)
- Student Challenges (to practice)

How to Use This Handout

1. Pick a Framework that matches your task:
 - Understanding/explaining → PARTS
 - Professional communication → COSTAR
 - Fresh ideas → RUCS
 - Visual/aesthetic/CMF decisions → ORMP
 - Data/logistics/integration → COS
2. Fill in the Components for that framework (P/A/R/T/S, etc.).
3. Adapt One Example Prompt from this handout to your project.
4. Iterate with the AI:
 - “Make the tone more critical...”
 - “Change the output format to a table...”
 - “Add a budget constraint...”
5. Save Good Prompts in a personal “Prompt Library” so you can reuse and refine them across projects.

This PDF is meant to be your starting kit.

Treat prompts as design artifacts: prototype them, critique them, and improve them just like any physical object.

1. PARTS – Persona-Based Prompting

Key Idea:

Make the AI “act” like a specific kind of expert with a specific style and structure. Think of it as directing an actor: “Be this person, doing this job, in this tone, with this format.”

Components (PARTS):

- P – Persona: Who is the AI?
 - A – Act: What specific action should it perform?
 - R – Role: What professional stance or position is it taking?
 - T – Tone: What emotional flavor should the answer have?
 - S – Structure: How should the output be organized?
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Persona (P) – “Who is speaking?”

Context 1 – Design Critique

Use when you want strong, opinionated critique.

- Example Prompt:
You are Dieter Rams, the legendary Braun designer known for “Less but Better.” Critique this smartphone case using your 10 Principles of Good Design. Be specific about what aligns and what violates your principles.

Context 2 – Accessibility Explanation

Use when you want a perspective grounded in lived experience.

- Example Prompt:
You are a design consultant for blind users with 20 years of experience. Explain why tactile textures on door handles are important, using 3 everyday examples.

Context 3 – Material Trade-offs

Use when choosing materials for products.

- Example Prompt:
You are a material scientist at NASA explaining structural materials to design students. Compare aluminum and titanium for a small robotics project. Explain trade-offs in weight, strength, manufacturability, and cost.

Student Challenge (Persona):

Choose a design problem (e.g., packaging, chair, app interface) and rewrite it from three personas:

1. A cynical design critic
2. A sustainability expert
3. A beginner-friendly teacher

Compare how the advice changes.

Act (A) – “What exactly should it do?”

Context 1 – Compare Alternatives

Use when you want a structured comparison, not vague advice.

- Example Prompt:
You are evaluating 3 popular note-taking apps (Notion, Google Keep, Obsidian). Compare them in a table with columns: App, Ideal User, Strengths, Weaknesses, Learning Curve. Then recommend one for a first-year design student.

Context 2 – Solve a Practical Problem

Use when you want concrete, prioritized solutions.

- Example Prompt:
I have a drawer that is too narrow for my drawing tools. Generate 3 concrete solutions and rank them by cost to implement (low to high). For each, explain tools required and difficulty.

Context 3 – Break Down a Process

Use when you want a process map.

- Example Prompt:
Break down the process of designing a studio chair into 6 stages, from first sketch to small-batch manufacturing. For each stage, list 3 key decisions.

Student Challenge (Act):

Take a vague task like “Help me with my project” and rewrite it with a specific action: compare, rank, break down, rewrite, critique, summarize, etc.

Role (R) – “In what capacity is the AI responding?”

Context 1 – Design History Lens

- Example Prompt:
You are a professor of design history. Explain how German Functionalism influenced the look and feel of modern smartphones. Include 3 specific visual traits that trace back to that movement.

Context 2 – Industry Insider

- Example Prompt:
You are a senior industrial designer at Dyson. Explain the main constraints you face when designing a cordless vacuum: battery, suction, ergonomics, and manufacturing cost.

Context 3 – Cross-Disciplinary Lens

- Example Prompt:
You are a mechanical engineer who also studied philosophy. Explain the phrase “form follows function” to a design student, connecting it to both engineering and aesthetic decisions.

Student Challenge (Role):

Pick one design topic (e.g., “handle design,” “interfaces,” “chairs”) and ask the AI to explain it from:

- A historian’s role
- A manufacturer’s role
- A user-researcher’s role

Notice the different emphasis.

Tone (T) – “How should it feel?”

Context 1 – Reassuring Mentor

- Example Prompt:
You are a warm, encouraging mentor. Explain to a worried first-year student why their first 5 design ideas will probably be bad—and why that is completely normal and useful.

Context 2 – Harsh Studio Critique

- Example Prompt:
You are a brutally honest critique panelist. Review this chair concept in a harsh but constructive tone. Point out the 3 biggest flaws and suggest one radical change.

Context 3 – Playful Imagination

- Example Prompt:
You are a whimsical storyteller. Describe a “sleeping chair” designed for dreamers, using imaginative metaphors. It must still be buildable in reality.

Student Challenge (Tone):

Take the same prompt and ask for:

- “Encouraging tone”
- “Blunt critical tone”
- “Humorous tone”

Compare how tone changes your emotional response.

Structure (S) – “How is the answer shaped?”

Context 1 – Numbered Process

- Example Prompt:
Explain how to document a laser-cut plywood project as a numbered list with substeps (1.1, 1.2, etc.). Include material listing, file prep, cutting, finishing, and assembly.

Context 2 – Decision Tree

- Example Prompt:
Help me choose between wood, plastic, or metal for a small table. Present the answer as a decision tree: if my priority is X, go here; if Y, go there. Include cost, durability, and sustainability.

Context 3 – Story with Beginning–Middle–End

- Example Prompt:
Tell the story of how a famous product (e.g., the Dyson vacuum) was developed, structured as: Problem, Exploration, Breakthrough, Impact.

Student Challenge (Structure):

Take any explanation and ask the AI to re-output it as:

- A numbered list
- A table
- A story

Identify which structure makes it easiest to act on.

2. COSTAR – Professional & Stakeholder-Aware

Key Idea:

Treat the AI like your junior colleague. Give it full context about project, objective, audience, and output format so it can produce professional work.

Components (COSTAR):

- C – Context: Overall situation.
 - O – Objective: Concrete goal.
 - S – Style: Writing/communication style.
 - T – Tone: Emotional flavor.
 - A – Audience: Who it's for.
 - R – Response: Format/output form.
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Context (C) – “What’s going on?”

Context Example 1 – Social Impact Project

- Prompt:
Context: Our team is designing a low-cost water filter for rural communities in India using only gravity (no electricity). Budgets are tight and users fetch water from hand pumps. Explain 3 context constraints we must design around.

Context Example 2 – Competitive Product Launch

- Prompt:
Context: We are launching a budget-friendly backpack in a market already dominated by 3 big brands. We have 6 months and a small marketing budget. Suggest 3 strategic ways our design could stand out.

Context Example 3 – Multi-Stakeholder Review

- Prompt:
Context: I have a final project review with my professor (cares about rigor), classmates (care about aesthetics), and an external jury (cares about originality). List what each stakeholder will focus on and how I should prepare.

Student Challenge (Context):

Write a one-paragraph context for your current project. Then ask the AI: "Given this context, what should be my top 3 design priorities?"

Objective (O) – “What is the specific goal?”

Context Example 1 – Comparison

- Prompt:
Context: I want to buy a chair for long studio hours. Objective: Create a comparison table for 3 chairs under ₹10,000, comparing ergonomics, durability, and adjustability. End with a recommendation for my use case.

Context Example 2 – Finding Gaps

- Prompt:
Context: I'm exploring new portable charger ideas. Objective: Identify 3 gaps in current portable chargers for students and describe a possible product for each gap.

Context Example 3 – Risk Analysis

- Prompt:
Context: I plan to launch a simple DIY kit on Etsy with 3D-printed parts. Objective: List 5 realistic risks (e.g., shipping, quality, legal) and a mitigation strategy for each.

Student Challenge (Objective):

Take a vague task (e.g., “help my project”) and rewrite it as a sharp objective (e.g., “generate 3 testable hypotheses,” “make a 4-row comparison”).

Style (S) – “What writing style fits the situation?”

Context Example 1 – Client Email

- Prompt:
Context: Our manufacturer delivered prototypes that are 2 mm thicker than agreed. Style: Professional, concise, calm. Write an email asking for a fix and proposing a revised timeline.

Context Example 2 – Grant Paragraph

- Prompt:
Context: We are applying for a small education grant to run design workshops for school kids. Style: Academic and data-informed. Write one paragraph justifying why hands-on design education is important.

Context Example 3 – Social Media Post

- Prompt:
Context: I just 3D-printed my first working prototype lamp. Style: Casual, enthusiastic, Instagram-ready. Write a caption for the photo, with 2–3 relevant hashtags.

Student Challenge (Style):

Write the same content in “formal style” and “casual style.” Which feels right for which channel?

Tone (T) – “What emotional note?”

Context Example 1 – Inspiring (Grant)

- Prompt:
Context: Grant application for a community makerspace. Tone: Hopeful and inspiring. Write an opening paragraph that paints a picture of how the space will change young people’s lives.

Context Example 2 – Serious (Safety)

- Prompt:

Context: We are adding a safety notice to a 3D printer in a shared lab. Tone: Serious and respectful. Explain the burn hazard and what users must do to stay safe.

Context Example 3 – Collaborative (Team Update)

- Prompt:

Context: Our project is delayed by one week due to material issues. Tone: Honest and collaborative. Write a status update to the team explaining the delay and suggesting a new plan.

Student Challenge (Tone):

Take one message (e.g., “We are delayed”) and write it with:

- apologetic tone
- confident tone
- humorous tone

Reflect on how tone affects trust.

Audience (A) – “Who is this for?”

Context Example 1 – Non-Design Stakeholders

- Prompt:

Audience: Non-design investors who only care about ROI. Explain in simple terms why using recycled materials in our product could increase sales and brand value.

Context Example 2 – Expert Peers

- Prompt:

Audience: Other product designers. Explain the CAD decisions behind your enclosure for an ESP32-based device, focusing on mounting, tolerances, and ventilation.

Context Example 3 – Curious Teenagers

- Prompt:

Audience: High school students. Explain “user-centered design” in 3 sentences using a relatable example from their daily life.

Student Challenge (Audience):

Describe your project once for:

- investors
- engineers
- school children

Compare what you emphasize.

Response (R) – “In what format?”

Context Example 1 – Markdown Doc

- Prompt:
Context: I want to document my Arduino robot project on GitHub. Response: A markdown document with sections: Overview, Parts List, Wiring, Code, Troubleshooting.

Context Example 2 – Presentation Outline

- Prompt:
Context: I have a 7-minute project presentation. Response: A slide-by-slide outline (bullet points only) with suggested titles and speaker notes.

Context Example 3 – CSV Table

- Prompt:
Context: I need to import a parts list into a spreadsheet. Response: CSV only, no extra text. Columns: Component, Quantity, Approx_Cost_INR, Supplier.

Student Challenge (Response):

Take the same content and ask for:

- a paragraph
- a bullet list
- a table

Which is easiest to use?

3. RUCS – Constraint-Driven Creativity

Key Idea:

RUCS is for ideation. When ideas feel generic, you add strong constraints and a surprising twist to force originality.

Components (RUCS):

- R – Role: Which type of designer/expert is thinking?
 - U – User: Who exactly are you designing for?
 - C – Constraint: What hard limit(s) must be respected?
 - S – Surprise: What unexpected twist must be included?
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Role (R) – “What design lens?”

Context Example 1 – Era-Limited Designer

- Prompt:
You are a furniture designer in 1970s Scandinavia. Design a reading lamp using only materials and technologies available in that decade.

Context Example 2 – Bio-Inspired Designer

- Prompt:
You are both a biologist and a product designer. Propose a bottle design inspired by how trees transport water.

Context Example 3 – Low-Tech Craftsman

- Prompt:
You are a village craftsperson with no electricity, skilled only with hand tools. Design a solution for sharpening scissors using found materials.

Student Challenge (Role):

Pick a simple object (pen, cup, backpack) and ask 3 roles to redesign it:

- a futurist designer
 - a village craftsperson
 - a sustainability activist
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User (U) – “For whom, exactly?”

Context Example 1 – Blind User

- Prompt:
Design a chopping tool for a home cook who is blind and relies heavily on touch and audio cues. It must be safe and easy to clean.

Context Example 2 – Anxious Teen

- Prompt:
Design a pocket-sized comfort object for a teenager with social anxiety, to use during crowded events. It should not draw attention.

Context Example 3 – Low Digital Literacy Farmer

- Prompt:
Design a weather-alert device for a farmer who cannot read and has never used a smartphone. It must use icons and vibration only.

Student Challenge (User):

Take a standard object (chair, bottle, watch) and define 3 sharply different users. Ask the AI to propose variations for each user.

Constraint (C) – “What hard limits?”

Context Example 1 – Material Only

- Prompt:
Design a chair that can support an adult, made entirely of cardboard with no glue, no tape, and no staples. Only folding and slotting allowed.

Context Example 2 – Time and Cost

- Prompt:
Design a wind-powered garden mobile that can be built in under 4 hours for less than ₹500 using materials available in a typical hardware shop.

Context Example 3 – Silence

- Prompt:
Design a fidget object for a student with ADHD that can be used silently in a library. No clicking, no rattling, no electronic sounds.

Student Challenge (Constraint):

Pick one object. Add a hard constraint: only one material / no electricity / must fit in a pocket / must be buildable in 2 hours. See how the design changes.

Surprise (S) – “What twist?”

Context Example 1 – Nature Mechanism

- Prompt:
Design a rain jacket whose ventilation system is inspired by how bird feathers overlap and direct air and water.

Context Example 2 – Aesthetic Mashup

- Prompt:
Design a kitchen scale that looks like it belongs in a 1980s arcade video game.

Context Example 3 – Contradiction

- Prompt:
Design a tool handle that looks cold and mechanical but feels warm and organic in hand.

Student Challenge (Surprise):

Add a twist like:

- inspired by a specific animal
- must resemble a famous building
- must feel like a character from a movie

See how it forces unexpected ideas.

4. ORMP – Visual & CMF (Color–Material–Finish)

Key Idea:

ORMP is for turning “vibes” into actual materials and processes. It’s how you go from “futuristic but warm” to a real CMF spec your manufacturer can use.

Components (ORMP):

- O – Object: What is being designed?
 - R – Reference: What aesthetic references or worlds inspire it?
 - M – Material: What is it made of?
 - P – Process: How is it manufactured?
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Object (O) – “What exactly is being designed?”

Context Example 1 – Portable Speaker

- Prompt:
Object: A portable Bluetooth speaker meant to be tossed into a backpack. Describe the constraints this object type imposes on size, weight, and durability before choosing materials.

Context Example 2 – Smartwatch

- Prompt:
Object: A smartwatch for runners. List 5 object-specific constraints (e.g., sweat, impact, strap comfort) that will affect CMF decisions.

Context Example 3 – Public Bench

- Prompt:
Object: A public bench in a city park. Describe constraints like weather, vandalism, cleaning, and how they shape material and finish choices.

Student Challenge (Object):

Pick one everyday object and list at least 5 constraints that come from the object type alone (before you think about style).

Reference (R) – “What aesthetic world?”

Context Example 1 – Film + Brand

- Prompt:
References: Blade Runner 2049 + Teenage Engineering. Describe the aesthetic of a speaker designed in this combined universe.

Context Example 2 – Design Movements

- Prompt:
References: Brutalism (architecture) + Bauhaus (product design). Imagine a desk lamp designed under these combined influences. Describe its form and feel.

Context Example 3 – Nature

- Prompt:
Reference: Jellyfish bioluminescence. Describe a desk lamp that uses synthetic materials but evokes the feeling of a glowing jellyfish.

Student Challenge (Reference):

Pick 2 references: a movie + a brand, or a building + a natural phenomenon. Ask the AI to merge them into one product's aesthetic description.

Material (M) – “What is it made of?”

Context Example 1 – Luxury Feel

- Prompt:
Materials: Anodized aluminum, sapphire glass, and full-grain leather. Describe how these materials would influence the perception of a smartwatch (weight, feel, perceived value).

Context Example 2 – Eco / Accessible

- Prompt:
Materials: Recycled ocean plastic, bamboo, and natural rubber. Describe how these materials would affect a portable speaker's look, feel, and communication of sustainability.

Context Example 3 – Transparent + Techy

- Prompt:
Materials: Frosted polycarbonate, anodized aluminum frame, and soft-touch rubber

grips. Describe a portable device that uses these materials to celebrate its internal components.

Student Challenge (Material):

Pick 3 possible materials for one product and ask the AI to describe how each changes: perceived value, durability, and “brand feel.”

Process (P) – “How is it made?”

Context Example 1 – CNC Milling

- Prompt:
Process: CNC milling of solid aluminum. Describe the kinds of forms, textures, and finishes this process naturally leads to, and one product that would benefit from these qualities.

Context Example 2 – 3D Printing

- Prompt:
Process: SLS 3D printing in nylon. Describe what kinds of shapes and textures this enables and how that could be used in a wearable product.

Context Example 3 – Injection Molding

- Prompt:
Process: Injection molding in polycarbonate with mold texture. Explain how mold textures can alter grip and appearance, and how you’d use this in a handheld device.

Student Challenge (Process):

For one product, ask: “What if it’s CNC milled? What if it’s 3D printed? What if it’s injection molded?” Compare how the product changes in each scenario.

5. COS – Data & Integration

Key Idea:

COS is for when you need structured outputs (CSV, JSON, tables) that plug into spreadsheets, code, or other tools. Think of it as using the AI as a formatting engine, not just a writer.

Components (COS):

- C – Context: What system/task is this data for?
 - O – Output Format: CSV, JSON, Markdown table, etc.
 - S – Schema: Exact fields/columns and data types.
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Context (C) – “For which workflow?”

Context Example 1 – Bill of Materials

- Prompt:
Context: I'm preparing a bill of materials for a small ESP32 robot project and will order parts from Indian online electronics stores. List all components needed, focusing on availability and cost in INR.

Context Example 2 – Research Dataset

- Prompt:
Context: I want to study smartphone ergonomics from 2015–2025. I need a dataset of 10 popular phones with size and weight details suitable for analysis.

Context Example 3 – Automation Script

- Prompt:
Context: I plan to write a Python script that reads a list of tasks and deadlines and generates a Gantt chart. I need the data in a consistent, machine-readable format.

Student Challenge (Context):

Describe one of your own workflows (ordering parts, planning a schedule, logging user tests) and ask the AI what data fields would be needed.

Output Format (O) – “What encoding?”

Context Example 1 – CSV for Spreadsheet

- Prompt:
Context: I will paste this directly into Google Sheets. Output format: CSV only, no extra text. Columns: Component, Quantity, Approx_Cost_INR, Supplier.

Context Example 2 – JSON for Code

- Prompt:
Context: I want to read this data into a Python script. Output format: JSON only, no explanations. Each entry must have keys: name, quantity, unit_price_inr, supplier.

Context Example 3 – Markdown Table for Docs

- Prompt:
Context: I want to document my project on GitHub. Output format: Markdown table. Columns: Part, Function, Source Link.

Student Challenge (Format):

Ask for the same data in CSV, JSON, and a Markdown table. Decide which format is best for:

- coding
 - presenting
 - quick editing
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Schema (S) – “Which fields and allowed values?”

Context Example 1 – Product Inventory

- Prompt:
Context: I need a product inventory sheet. Output format: CSV. Schema: Product_Name (text), Quantity (integer), Unit_Price_INR (integer), Availability (must be “In Stock” or “Pre-Order”), Supplier (text). Generate 5 example rows.

Context Example 2 – User Research Log

- Prompt:
Context: I am logging user testing sessions. Output format: CSV. Schema: Participant_ID (P001-style text), Age (integer), Primary_Pain_Point (max 100 characters), Uses_Product_Already (“Yes” or “No” only). Generate 5 sample rows.

Context Example 3 – Project Timeline

- Prompt:

Context: I need a project timeline. Output format: Markdown table. Schema: Week_Number (integer), Phase_Name (text), Key_Deliverable (text), Status (must be "On Track", "At Risk", or "Behind"). Fill 6 weeks as an example.

Student Challenge (Schema):

For one of your projects, define a schema (column names + allowed values). Then ask the AI to generate sample data that fits your schema exactly.
