Archetypal Phases of the Design Process

1. Definition of the Problem or Challenge

In the initial phase, the focus lies on defining the requirements, objectives, and constraints that shape the design task. A precise understanding of the problem to be solved is essential to guide the project in a meaningful direction.

This involves identifying the needs, expectations, and behaviors of the target audience as well as recognizing external factors such as technical, social, economic, or environmental constraints. Techniques like stakeholder mapping, problem tree analysis, or framing design challenges can support this process.

Establishing a well-defined problem space provides the foundation for all subsequent creative and strategic decisions within the design process. A clear definition ensures alignment among project participants and helps to maintain focus throughout iterative development cycles.

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2. Research and Analysis

Following the problem definition, the research and analysis phase involves gathering, synthesizing, and interpreting relevant information. This builds a rich contextual understanding of the design environment and the factors influencing it.

Methods used may include user research (interviews, observations, surveys), market and trend analyses, competitive benchmarking, and ethnographic studies. Visual tools such as personas, customer journeys, or system maps help structure and communicate findings.

The research phase uncovers hidden needs, identifies opportunities for innovation, and helps designers anticipate potential obstacles. It establishes a knowledge base that informs and inspires the following ideation and development phases.

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3. Ideation (Idea Development)

Ideation is the phase where creative exploration takes center stage. It aims to generate a wide range of potential solutions without premature evaluation or restriction, promoting divergent thinking.

Creativity techniques such as brainstorming, 6-3-5 methods, mind mapping, or role-playing can be used to stimulate new perspectives and uncover unexpected connections. At this stage, quantity matters more than immediate feasibility.

Early visualization through sketches, scenarios, or low-fidelity prototypes supports communication and discussion. Iterative rounds of ideation can occur throughout the project, especially when new insights or challenges emerge.

4. Design Development

During the design development phase, selected ideas are elaborated into concrete design concepts. Abstract ideas are translated into tangible forms, considering functionality, usability, aesthetics, and technical feasibility.

Techniques such as sketching, 3D modeling, wireframing, storytelling, or physical prototyping help to explore and refine the concepts. Both scheme design (overall structure) and detailed design (specific features and elements) are addressed.

Design development is iterative by nature: early concepts are evaluated, tested, and modified repeatedly to strengthen the solution's coherence, user relevance, and viability before moving into final production stages.

5. Evaluation and Selection

Once different design options have been developed, they are systematically evaluated to identify the most promising solution(s). This evaluation focuses on how well the concepts meet the defined goals, user needs, and contextual requirements.

Evaluation methods can include user testing, usability studies, expert feedback sessions, comparative analysis, or structured decision-making tools like criteria matrices. Emphasis is placed not only on technical performance but also on user experience, emotional impact, and long-term sustainability.

Evaluation is seen as an opportunity for reflection and learning. Rather than providing definitive conclusions, it often leads to adjustments, refinements, or new directions within the iterative design cycle.

6. Implementation

The implementation phase transforms refined design concepts into real-world applications. Depending on the project, this may involve manufacturing physical products, coding digital solutions, producing services, or preparing communication materials.

Attention is given to material choices, production processes, technological integrations, and ensuring that the design intent is faithfully realized. Cross-disciplinary collaboration between designers, engineers, developers, and other specialists is essential at this stage.

Implementation often includes creating final prototypes, pilot versions, or minimum viable products (MVPs) that can be tested and evaluated before full-scale deployment.

7. Review and Iteration

After implementation, the design is reviewed through real-world testing and evaluation to assess whether it achieves its intended outcomes. Data collection, user feedback, performance monitoring, and qualitative observations are key activities during this phase.

Identified gaps, shortcomings, or emerging opportunities inform further adjustments and iterations. Iteration may involve minor refinements or major rework, depending on the complexity of findings and project goals.

Recognizing that design is an evolving process, this phase reinforces a mindset of continuous improvement and adaptability. Successful designs embrace iteration not as a sign of failure but as a core strategy for innovation and meaningful impact.

Progression of Prototyping Methods in the Design Process

Ideation → Exploration → Testing → Refinement → Presentation

- **Sketch Model** → Early spatial and formal exploration
- **Quick & Dirty Prototype** → Fast testing of ideas and interactions
- **Mock-up** → Visualization of layouts, interfaces, or product structure
- **Work-like Prototype** → Testing of technical functions and processes
- **Look-like Prototype** → Representation of form, materiality, and haptics
- **Appearance Model** → Highly detailed presentation of the final appearance