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Technical Design Conceptual Design Design

What is the difference between conceptual and technical design?

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6 Answers



Dillon Weigel, Manufacturing Engineer

Answered Apr 1



Originally Answered: What is the difference between a conceptual design & a technical design?

A conceptual design has the function worked out with basic components and how they work. For example if you are designing a bicycle, the conceptual design would include wheels, a frame, handlebars, and the pedaling system. It would also highlight the concept that the bicycle is driven forward by the pedals, which move the chain, causing the rear sprocket and wheel to turn. This is where you would draw a sketch of your design, and perhaps you would even have the aesthetics worked out.

A technical design takes the concept and defines everything exactly, so that the components can be manufactured and put together. Typically, an engineer is

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needed for this kind of design, because a lot of calculation is involved.

Regarding the same bicycle design, the potential stresses on the components would be calculated and used to determine material choice (aluminum, steel, titanium, carbon fiber), and thickness. A technical drawing would be made here, including precise dimensions for all components. This is the final design before producing the product.

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Jim Allen, I design more than just buildings

Answered Oct 27



Conceptual design works out the basic principles, the function and the appearance.

Generally specifications are looked at , but not in full detail. For example we may know what we want a design to be made from, but not the precise type. Say for example you want something to be wood, you probably won't have decided on the species or the finish grade unless it's a fundamental aspect of the function or appearance.

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Technical design refines the concept design so that it works and can be manufactured or constructed with minimal or no additional design work required- if done properly! It's common that the concept design can change significantly as a result of the technical design process.

Even when at the concept stage we design for buildability, we don't resolve all the technical considerations. Choice of fixings for example is almost always done in the technical design phase. Precise material specifications are almost always done in the technical design phase. Things like tolerances are normally dealt with at this stage.

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Kem-Laurin Lubin, Musing @ at Kemlaurin.com (2017-present)

Updated Aug 29



Originally Answered: What is the difference between a conceptual design & a technical design?



Conceptual design focuses on the early phase of a design process - what it will look like, how it will work, the built-in experiences, the ecosystem in which it will exist. As a Designer we often reduce this down to what we call “look and feel,” but it is so much more. Conceptual design also includes the process and sub-processes along with the strategies that will inform a design. In many ways I see it as both the look and feel of the design in it’s the all encompassing envisioned systemic state.

Technical design, on the other hand, is the is the act and/or discipline of composing illustrations and drawings that visually communicate how the design will work. For example, the interaction flow of how an application will work is one example; another is a house blueprint outlining the functional flow and layout of the house.

I would therefore suggest that technical design can be subsumed by conceptual design, given my understanding.

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Roberta Varney, President at Formogic

Answered Sep 25



The conceptual design starts when a system requirement arises and the phase searches for a potential solution.

The definition for the need and solution is laid down for further evaluations.

After evaluation, the specification act as technical guidelines for various development phases and the requirements.

Technical specifications, at least in the form of a technical design , are part of the design documents, along with, for example, requirements lists, functional designs , user stories, graphics design mockups, usability studies, UML diagrams, business process diagrams, data model specifications, etc.

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Gaurav Khurana, Digital Marketing Manager



Answered May 3

What is the difference between a conceptual design & a technical design? A conceptual design has the function worked out with basic components and how they work. For example if you are designing a bicycle, the conceptual design would include wheels, a frame, handlebars, and the pedaling system.

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SY Tang, President at TSY Molding Limited



Answered May 30

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