Chapter 8:

High Fidelity Prototypes

Overview

1. What are high-fidelity prototypes?
2. Common techniques for high-fidelity prototyping
3. Examples of high-fidelity prototypes
4. When to use high-fidelity prototyping?

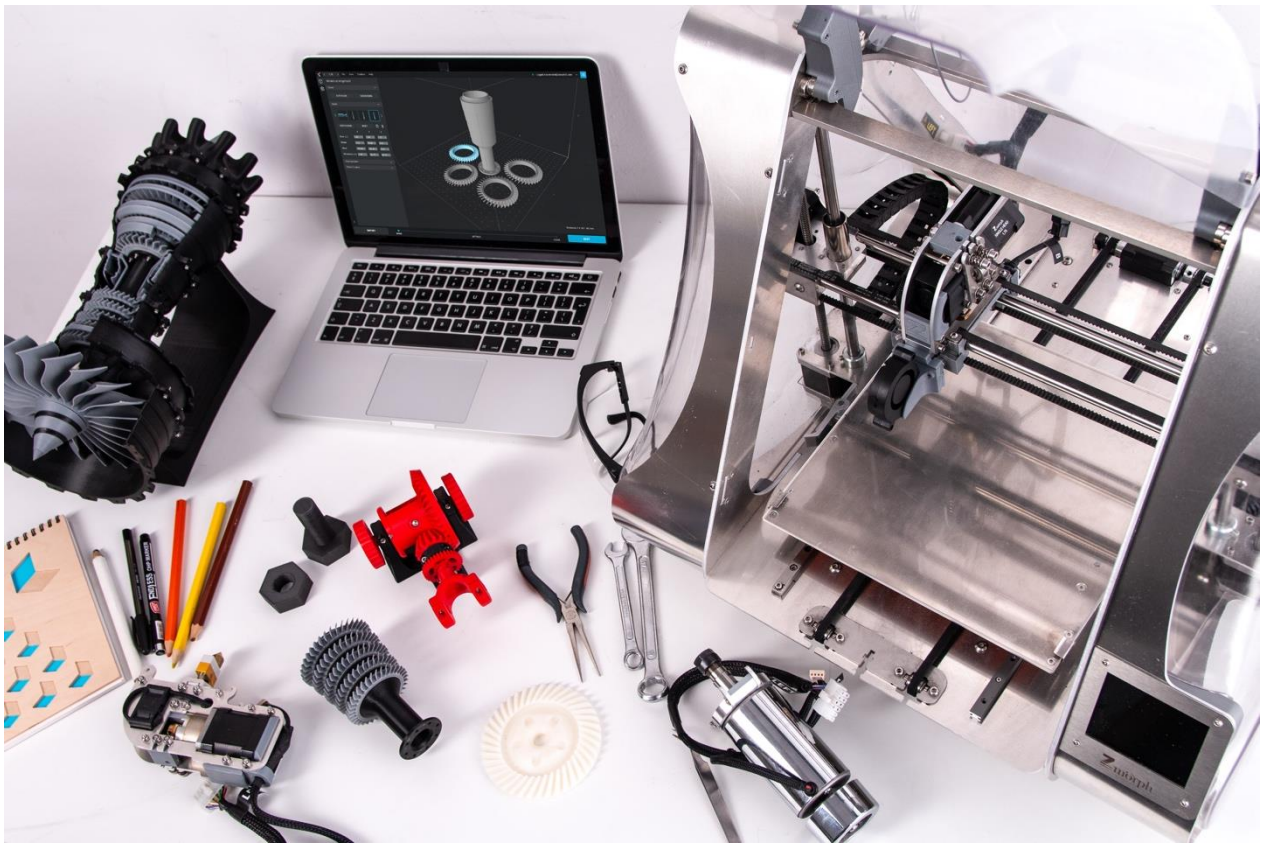
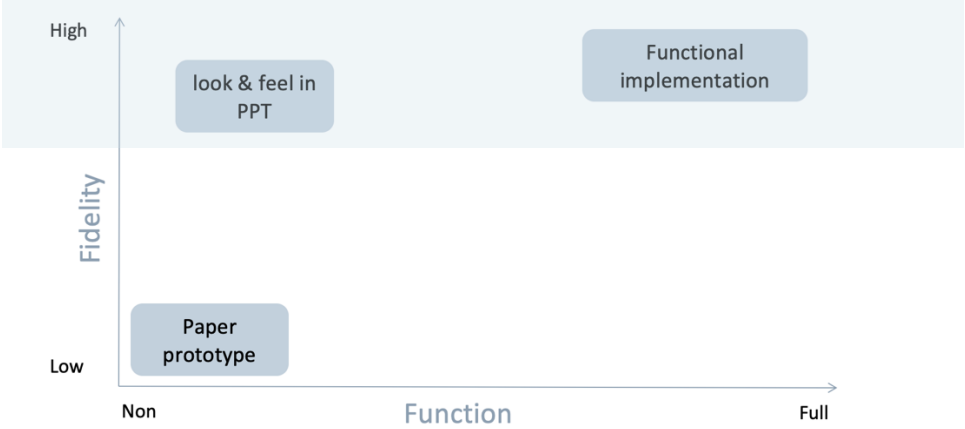


Photo by ZMorph All-in-One 3D Printers on Unsplash

What are high-fidelity prototypes?



A high-fidelity prototype looks and feels like the final product to the user. It uses the colors, screen layout, fonts and text that will be used in the final product. Such a prototype usually leads to feedback on the look and feel of the end-product, but it can also be used to predict the task efficiency of said product, e.g., by recording response time or interactive behavior.
Standard technologies for implementation are:

- HTML, Java Script
- GUI Builder (e.g., Visual Basic, Delphi, NetBeans)

The functionality of such prototypes is usually restricted. Only certain functions are implemented, and they are usually targeted towards a specific task (e.g., a search query is predetermined). Often non-visible functions and issues are not regarded (e.g., security).

↳ Non visible functions are not regarded.

Only certain functions

Common techniques for high-fidelity prototyping

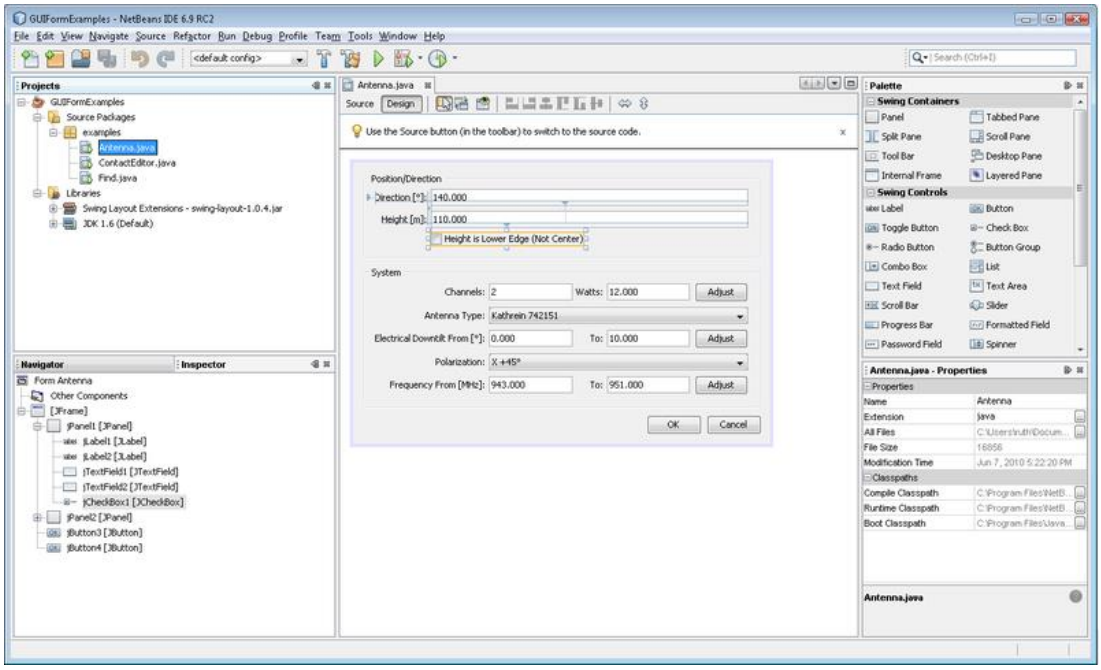
1. HTML, Javascript

A HTML website prototype or a HTML app prototype is a working prototype of how the finished software solution might work. An HTML prototype is interactive, allowing the customer or end users to fire up their web browser, navigate to the prototype and actually engage with it as they would the final software solution.

The advantage of HTML prototyping is the simulation of the final environment and a high reusability of the code. Concepts such as responsive design can be tested and implemented and users get a very realistic impression of the final product, including the handling on their device.

However, HTML prototyping requires higher efforts and knowledge in coding. This requires more resources and sometimes can take more time, than building the prototype in a presentation builder or a GUI program.

2. GUI Builder



NetBeans IDE 6.3 RC2

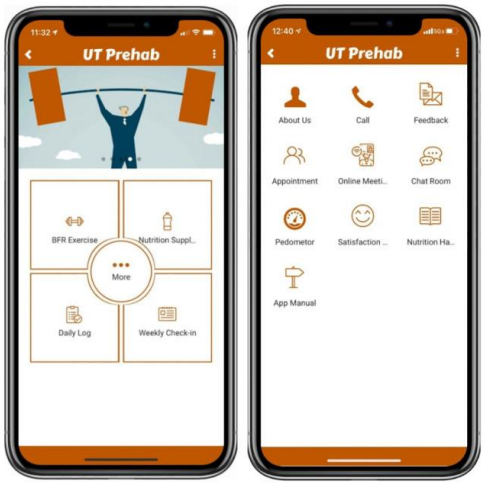
A GUI builder or GUI designer or GUI editor is a programming tool that simplifies the creation of graphical user interfaces by allowing the designer to arrange controls using a WYSIWYG editor via drag and drop. Without a GUI builder, programming requires manually specifying the parameters of each control without getting feedback on the appearance of the program before execution.

WYSIWYG

Examples high-fidelity prototypes

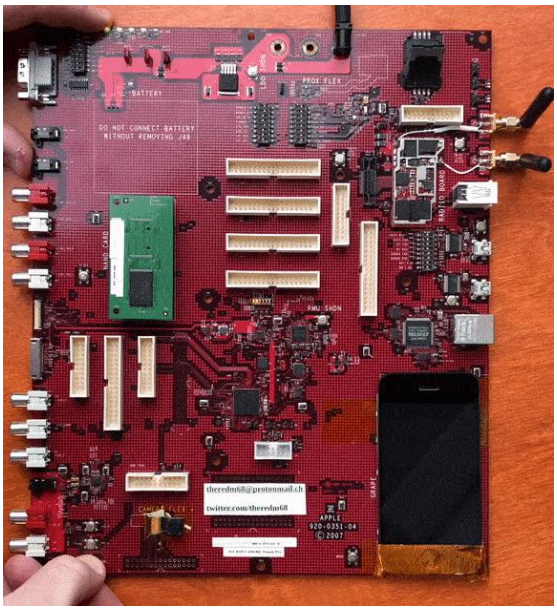
https://www.autozeitung.de/bmw-x3-2025-preis-motoren-200988.html?image=1

One example of a high-fidelity prototype is a so called “Erlkönig”, which is a camouflaged prototype of a car. Manufacturers try to keep the exact appearance of new models and developments secret. Usually this happens in several stages: While testing the functionality of a new car model, it is usually disguised through the appearance of an older model. Once the new design has been finalized, the camouflage of the model decreases. Typically an “Erlkönig” can be spotted easily as a foil is applied over the body of the car, with a small-scale black and white pattern that serves the purpose of making the shape of the car less visually apparent. Photojournalists will usually try to catch early shots of such vehicles, to sell them to magazines.



This study aimed to develop a mobile app as a tool for facilitating a multidisciplinary prehabilitation protocol involving blood flow restriction training and sport nutrition supplementation. Therefore a prototype has been created to test the perceived usability of affected patients.

Wang T, Stanforth PR, Fleming RYD, Wolf JS Jr, Stanforth D, Tanaka H. A Mobile App With Multimodality Prehabilitation Programs for Patients Awaiting Elective Surgery: Development and Usability Study. JMIR Perioper Med. 2021 Dec 30;4(2):e32575. doi: 10.2196/32575. PMID: 34967752; PMCID: PMC8759016.



This prototype of an early iPhone implements the technology that would be included in the final product on an development board.

Retrieved from:
https://www.theverge.com/2019/3/19/18263844/apple-iphone-prototype-m68-original-development-board-red

When to use high-fidelity prototypes

High fidelity prototypes are used at a later stage of development. This allows to get detailed feedback on certain elements of the design that would not be possible with pen and paper. More presentable to stakeholders: Clients and team members will get a clear idea of how the product will look and work before it ever goes live.

High fidelity prototypes are used to measure the usability of an application or product.

Advantages

- Design team can show how the finished product will look & feel
- Users can use the product in the given tasks, and it should behave like the product
- Task efficiency can be predicted based on the prototype

Disadvantages

- May be very time consuming to implement
- Feedback is often centered around the look & feel
- Less willingness of users to criticize the overall approach
- Managers may expect that "the product" is nearly ready

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