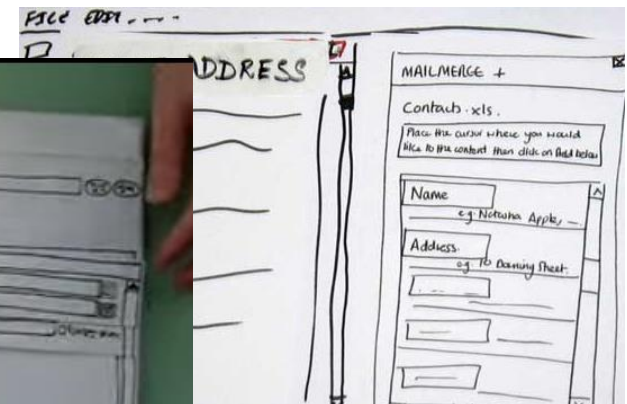
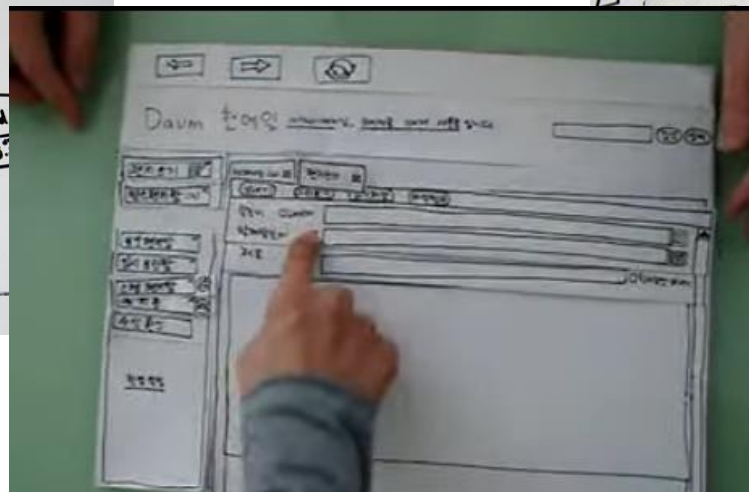
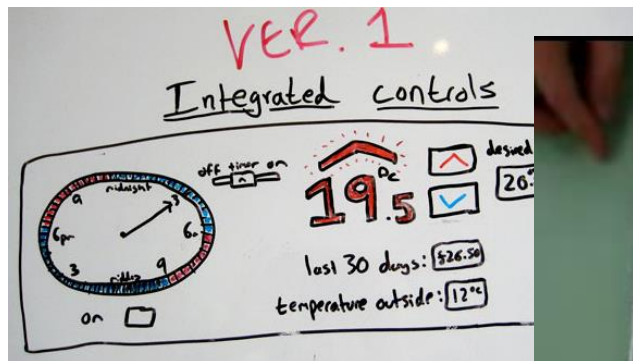




# Low Fidelity Prototyping



# Prototype

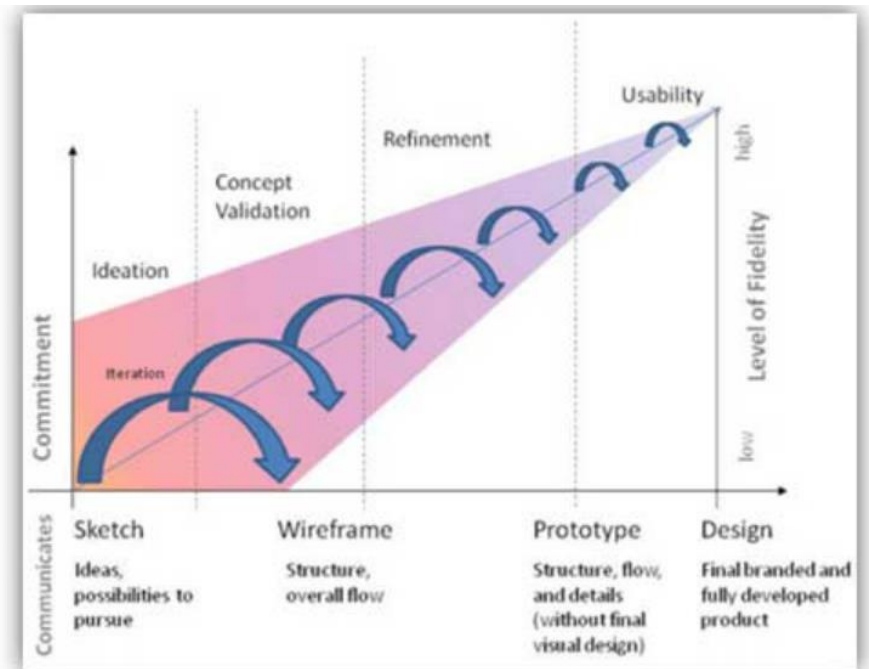
Is a **draft version** of a product:

- to explore ideas
- show the intention behind a feature or the overall design concept

before investing time and money into development

low-fidelity .... high-fidelity

<https://www.usability.gov/how-to-and-tools/methods/prototyping.html>



## Low fidelity prototypes

- Fast and inexpensive
- Elicit users feedback concerning general aspects
- Easy to modify even during user tests
- Valuable to test the UI conceptual model
- Estimated to allow detecting up 80% of the usability issues

- Specifically adequate to get feedback concerning:
  - Concepts and terminology
  - Navigation
  - Contents
  - Functionality

- It does not need to have much detail, nor to be very realistic, e.g.:
  - Text may be replaced by some lines
  - Images may be replaced by words
  - In general no colour is needed
  - Sizes of windows, fonts, etc. don't need to be final

# What can be used to make it?

- Paper, pens, markers, ...
- Applications such as:
  - Balsamiq
  - Pencil
  - ...

Hand-drawn patient form sketch:

Patient n° xxxxx

Name

Address

Phone Number

Identify Card

Birth Date

Gender

Height

Blood Group

Notes

Email

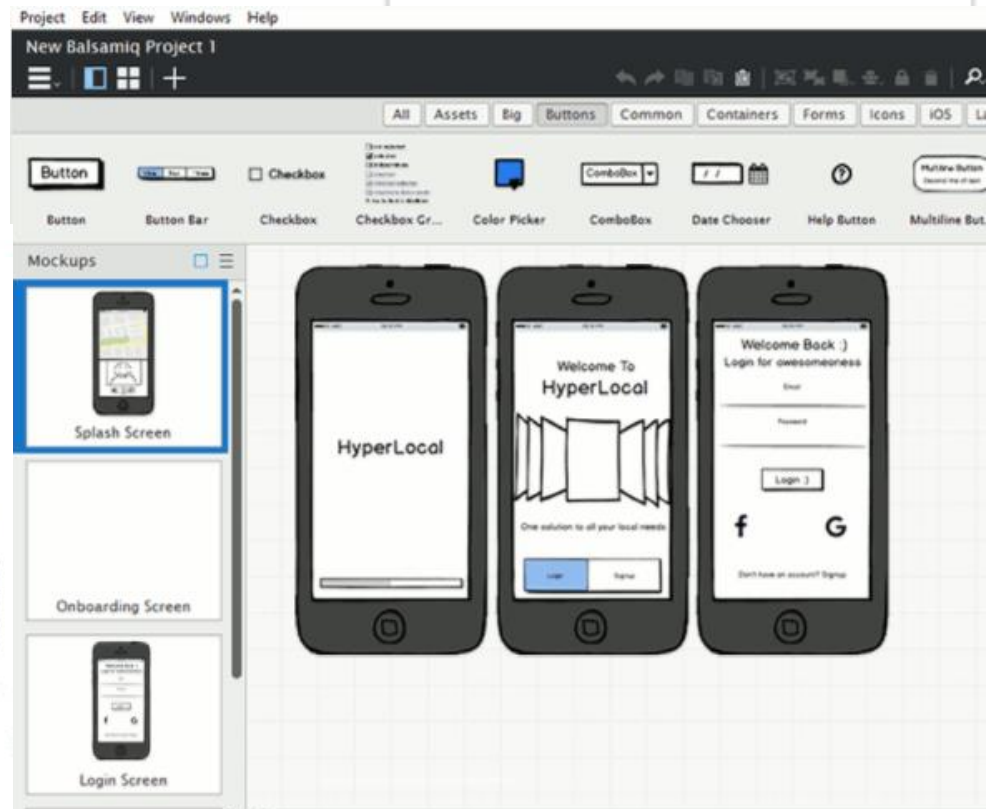
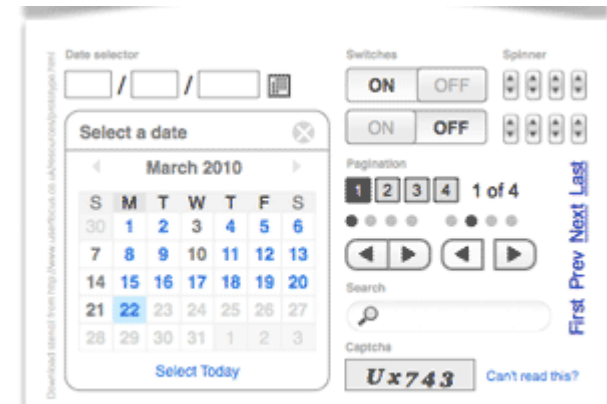
Health System No

Weight

System Logo

Foto Photo  upload

Continue >



Performing a usability test early in the process can have *huge returns* a paper prototype allows to do this with a **minimal time investment**



What is Paper Prototyping? – Interaction Design Foundation

<https://www.interaction-design.org/literature/topics/paper-prototyping>

# How to prepare and use a paper prototype

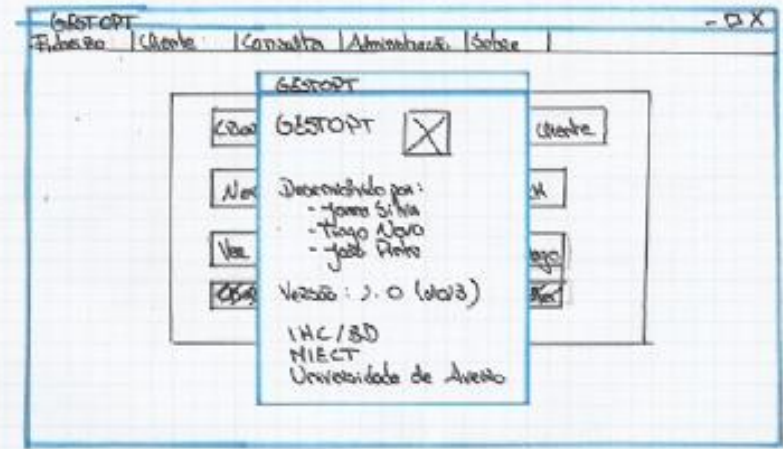
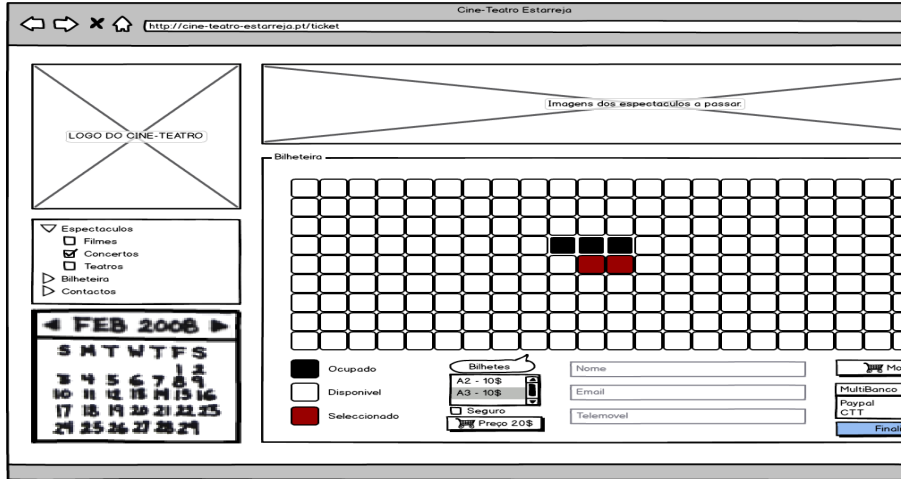
- After drafting the conceptual model
- Draw the screens, menus, dialog-boxes, messages etc. needed
- Prepare the test protocol
- Perform the user tests:
  - One experimenter conducts the test
  - Another observes
- When needed change the prototype

<https://www.nngroup.com/articles/paper-prototyping/>





May be more or less “sophisticated”:



→ O botão Logout não está disponível se o login for feito por um administrador



Shopping List

[Recent lists](#)

Insert list by category

Insert list by notebook

- Insert the list above while we are adding products

## Example: “on-line shop”

		Logotype		logIn Register	
<a href="#">Tuit</a> <a href="#">Products</a> <a href="#">About Us</a> <a href="#">Contact Us</a>	<div>Product 1 Price</div>		Product 2 Price	Product 3 Price	<a href="#">My Account</a> <a href="#">Cart (0 Items)</a> <input type="text" value="Search..."/>  <a href="#">Support (Number)</a>
			Product 4 Price	Product 5 Price	

		Registration		logIn Register	
<a href="#">Tuit</a> <a href="#">Products</a> <a href="#">About Us</a> <a href="#">Contact Us</a>	<input type="text" value="First Name"/> <input type="text" value="Last Name"/> Birth Day: <input type="text" value="dd"/> / <input type="text" value="mm"/> / <input type="text" value="yyyy"/> <input type="text" value="Address"/>  Code Zip: <input type="text"/> Country: <input type="text"/> ▼ City: <input type="text"/> E-mail: <input type="text"/> Telephone: <input type="text"/>  User Name: <input type="text"/> Password: <input type="text"/> Confirm Password: <input type="text"/> <div> <input type="button" value="Submit"/> <input type="button" value="Cancel"/> </div>		<a href="#">My Account</a> <a href="#">Cart (0 Items)</a> <input type="text" value="Search..."/>  <a href="#">Support (Number)</a>		

## Example: “store managment application”

Log In

GESTOPT

Ficheiro | Cliente | Consulta | Administração | Sobre

LogIn:

Senha:

BRUFEN 200 mg

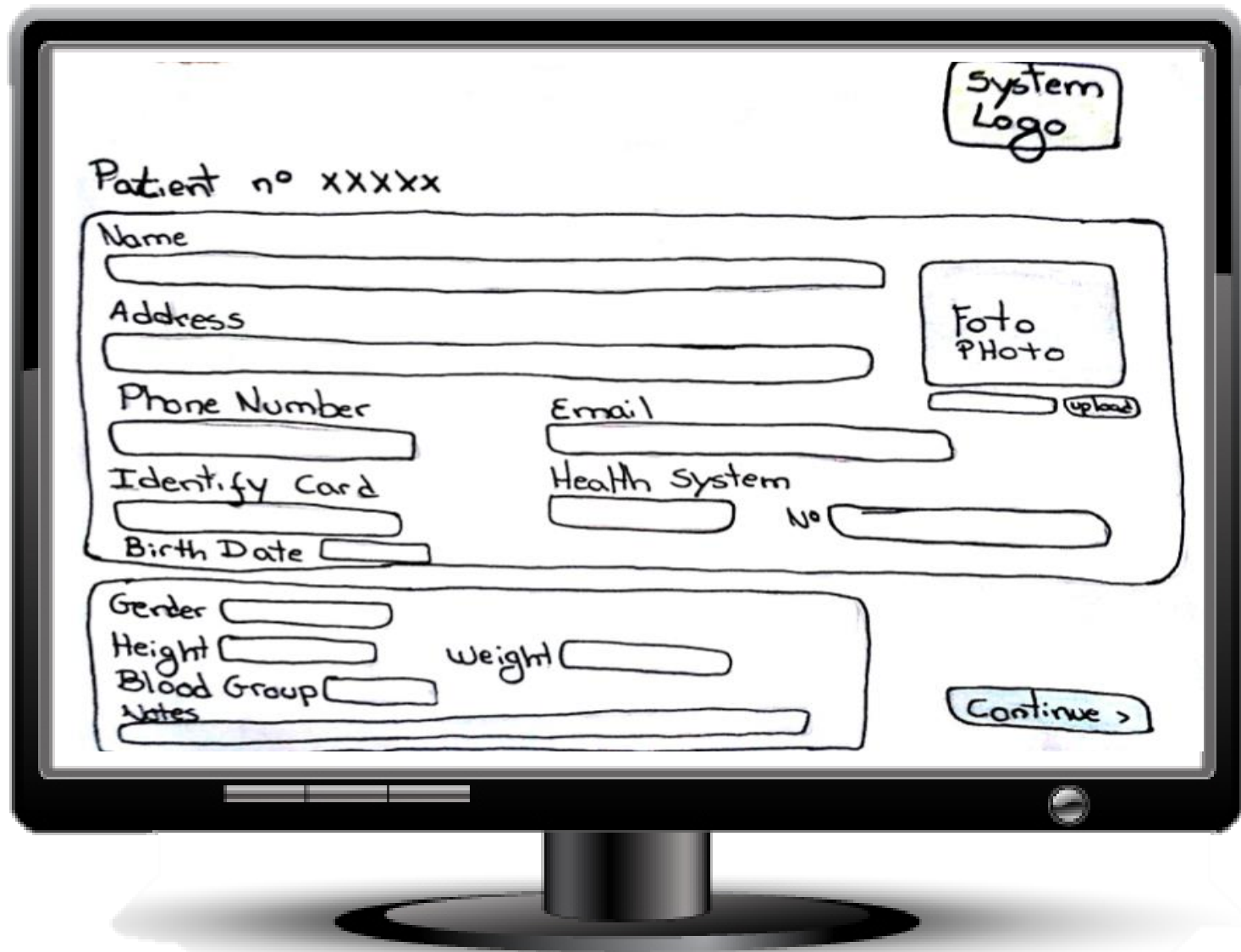
BRUFEN 400 mg

BRUFEN 600 mg

BRUFEN Suspensão

## Example: "E-Doctor"





# Example: a “ticketline” prototype

Cine-Teatro Estarreja

http://cine-teatro-estorreja.pt/ticket

LOGO DO CINE-TEATRO

Imagens dos espectaculos a passar.

search

Bilheteira

Espectaculos

- ☐ Filmes
- ☒ Concertos
- ☐ Teatros

Bilheteira

Contactos

◀ FEB 2008 ▶

S M T W T F S

1 2

3 4 5 6 7 8 9

10 11 12 13 14 15 16

17 18 19 20 21 22 23

24 25 26 27 28 29

Ocupado

Disponivel

Seleccionado

Bilhetes

A2 - 10\$

A3 - 10\$

☐ Seguro

Preço 20\$

Nome

Email

Telemovel

Modo Pagamento

MultiBanco

Paypal

CTT

Finalizar Compra



LOGO DO CINE-TEATRO

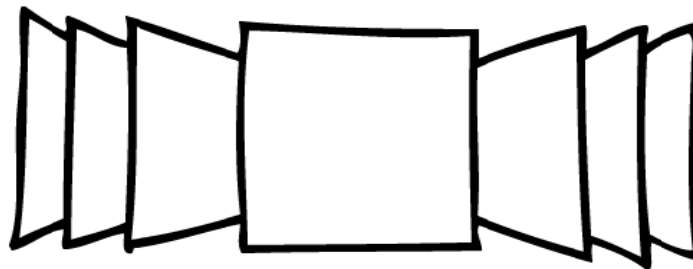
Q search

Imagens dos espectaculos a passar.

- ▼ Espectaculos
  - ☐ Filmes
  - ☒ Concertos
  - ☐ Teatros
- Bilheteira
- Contactos

◀ FEB 2008 ▶						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

## Concertos



Artista/Espectaculo/Filme



## Descrição do Espectaculo

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam hendrerit, nisl eu pretium consectetur, diam magna convallis nisi, quis placerat nisl magna in magna. Cras convallis condimentum volutpat. In non orci non ipsum bibendum placerat. In hac habitasse platea dictumst. Nam vulputate pretium leo eget gravida. Aenean porttitor pretium augue, egestas facilisis arcu vestibulum a. Morbi posuere enim arcu, nec mollis metus.

Etiam mauris quam, tincidunt vel egestas eget, condimentum a tellus. Sed vel sapien non diam consectetur tempor vulputate sed neque. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Vivamus ut augue at sapien interdum rutrum sit amet quis lacus. Integer vulputate

◀ FEB 2008 ▶						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

Comprar



## Example: “email client”



GMAIL CLIENT

← → × ↗ http://gmail-client.com 🔍





ENTER YOUR GMAIL CREDENTIALS

GMAIL ID :

PASSWORD :

E-mail application





← → × ↗ http:// 🔍

 MAILBOX  WRITE MAIL  CONTACTS  QUIT

#	FROM	TOPIC	DATE
4	xxx@gmail.com	Topic4	01.01.2013 12:00
3	xxx@gmail.com	Topic3	01.01.2013 12:00
2	xxx@gmail.com	Topic2	01.01.2013 12:00
1	xxx@gmail.com	Topic1	01.01.2013 12:00

E-mail application

← → × ↗ http:// 🔍

 MAILBOX  WRITE MAIL  CONTACTS  QUIT

DATE:

FROM:

TOPIC:

Content of the e-mail.

xxx



# Example: “My shop” app



- Participant #1
  - Insert “Previous” and “Next” buttons
- Participant #2
  - Scroll and swap options
  - Prev and Next should be arrows

## Search Localization

### New localization

- Change name “Mark” to “Supermarket Name”
- Change order of “City” and “Supermarket”

**Recent localizations**

**Localization by GPS**

## Shopping List

**Recent lists**

**Insert list by category**

**Insert list by notebook**

- Insert the list above while we are adding products

## Shopping Map

**Interact with map**

- Insert button “Next product”

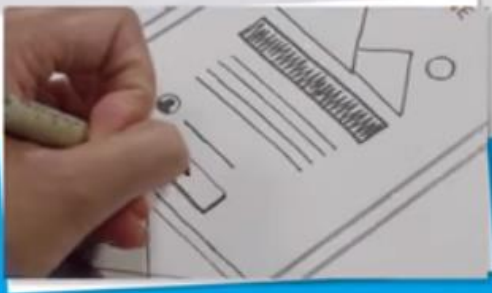
**Modify list**

Even for less conventional applications



## Example: Wizard of Oz for gesture controlled “Pac-Man”





Sketching &  
Paper  
Prototyping



Digital  
Prototyping



Native  
Prototyping

Rapid Prototyping by Google for Startups:

<https://www.youtube.com/watch?v=JMjozqJS44M>

<https://www.youtube.com/watch?v=KWGBGTGryFk>

<https://www.youtube.com/watch?v=lusOgox4xMI>

## Bibliography and links

Carolyn Snyder, *Paper Prototyping: The Fast and Easy Way to Design and Refine User Interfaces*, Morgan Kaufmann, 2003

[https://books.google.pt/books/about/Paper\\_Prototyping.html?id=YgBojJsVLGMC&printsec=frontcover&source=kp\\_read\\_button&redir\\_esc=y#v=onepage&q&f=false](https://books.google.pt/books/about/Paper_Prototyping.html?id=YgBojJsVLGMC&printsec=frontcover&source=kp_read_button&redir_esc=y#v=onepage&q&f=false)

<https://www.userfocus.co.uk/articles/paperprototyping.html>

<https://www.nngroup.com/articles/paper-prototyping/>

<https://balsamiq.com/>

<https://prottapp.com/>

## Acknowledgment

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