BASICS

INTERACTIVE DESIGN

Dave Wood

INTERFACE DESIGN

AN INTRODUCTION TO VISUAL COMMUNICATION IN UI DESIGN

BLOOMSBURY

BASICS

INTERACTIVE DESIGN

Dave Wood

INTERFACE DESIGN

AN INTRODUCTION TO VISUAL COMMUNICATION IN UI DESIGN

Fairchild Books
An imprint of Bloomsbury Publishing Plc

50 Bedford Square
London
WC1B 3DP
UK

1385 Broadway
New York
NY 10018
USA

www.bloomsbury.com

Bloomsbury is a registered trade mark of Bloomsbury Publishing Plc

First published 2014

© Bloomsbury Publishing Plc, 2014

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage or retrieval system, without prior permission in writing from the publishers.

Dave Wood has asserted his right under the Copyright, Designs and Patents Act, 1988, to be identified as author of this work.

No responsibility for loss caused to any individual or organization acting on or refraining from action as a result of the material in this publication can be accepted by Bloomsbury or the author.

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library.

ISBN
PB: 978-2-9404-1199-3
ePDF: 978-2-9404-4757-2

Library of Congress Cataloging-in-Publication Data
Wood, David, 1963-
Interface design: an introduction to visual communication in UI design / David Wood
pages cm. — (Basics interactive design)
Includes bibliographical references and index.
ISBN 978-2-940411-99-3 (alk. paper) – ISBN 978-2-940447-57-2
1. User interfaces (Computer systems)—Design—Case studies.
2. Computer programmers—interviews. I. Title.
QA76.9.U83W658 2014
005.4'437—dc23
2013038749

Printed and bound in China

Introduction 6

Chapter 1

Visual communication: A standard in designing interaction 8

Communicating the UI 10
Designing for interactive flow 16
Users are king (you are not) 20
▸ Interview: Steve Krug 28
▸ Case study: We Print Paper website 32

Chapter 2

Finding the flow: Designing interaction 36

Graphical user interfaces 38
Information architecture 42
Global and contextual navigation in IA 46
Hierarchical structures 48
Testing, testing: Early design iterations 52
▸ Interview: Greg Gibson 58
▸ Case study: Testing of VedderPrice.com's visual hierarchy 60
▸ Exercise: Finding the flow 64

Chapter 3

Graphic design for digital media 66

Gridding interactivity 68
Type as interface 74
Colouring the screen 80
Imagery and the pixel 86
Iconography and metaphor 90
Going with the motion 96
▸ Interview: Mike Kus 100
▸ Case study: Designing a Blu-ray UI 102
▸ Exercise: Visually communicating interactivity 106

Chapter 4

Designing the aesthetic user experience **110**

Design and the user **112**
Content copy and the user **116**
UI semiotics **118**
Internationalization **122**
▸ Interview: Kristin Kramer **126**
▸ Case study: WorldSkills interactive kiosk **128**
▸ Exercise: Deconstructing UI semiotics **134**

Chapter 5

Collaborating with the developer **138**

The principles of designing modularity **140**
The view from Mars and the view from Venus **142**
Modularizing the aesthetic **144**
What the designer provides **148**
▸ Interview: Alan Bridge **150**
▸ Case study: Preparing a website design for a developer **152**
▸ Exercise: Outlining modularity **156**

Chapter 6

Augmenting human capabilities through interfaces **158**

QR codes – print meets interaction **160**
Augmented interaction **164**
The touch-screen world **168**
▸ Interview: Kate Ho **172**
▸ Case study: The Macallan Microsoft Surface at Schiphol Airport **174**
▸ Exercise: Concept design for an AR smartphone app **178**

Glossary **182**
Index **186**
Picture credits **190**
Acknowledgements **191**

An interface is the contact point between humans and machines. A user interface (UI) on a computer, smartphone, tablet or game console consists of a 'front-end' visually interactive face that communicates with a programmed delivery system 'back end'. These 'front-end' interfaces are known as graphical user interfaces (GUIs).

A successful UI design blends good usability, functionality and aesthetics to facilitate a successful outcome, based on the user's requirements and expectations. UI designs should therefore focus on a user's needs and expectations, not on what a programmer or designer thinks is logical or cool.

The driver of a car doesn't want to read a hefty manual, or understand the complex mechanical engineering that sits behind the sleek bodywork, or be confused by an overcomplicated dashboard. When they get in the driver's seat they want to turn the ignition key and *drive*. Similarly, anyone confronted with a new UI for the first time wants the outcome of their interaction to be quickly facilitated by good design. This means that the aesthetic and the functional features of the interface must combine to produce a fantastic user experience.

Online resources to accompany this title are available at:

http://tinyurl.com/examplegrid.

Please type the URL into your web browser and follow the instructions to access the Companion Website. If you experience any problems, please contact Bloomsbury at: companionwebsites@bloomsbury.com

Aims

This book aims to do three fresh things for interface design:

Firstly, it will take you through the *hows*, the *whys* and the *wherefores* of designing user interfaces – from a graphic design perspective.

Secondly, it will be an express journey through the importance of user experience and how to design better interactions for humans, not machines.

Thirdly, this book explores design principles and stresses the importance of usability and aesthetics working together – and shows how this can be done. It is not a technical UI book; instead, it provides a visual communication grounding and champions graphic design as a valid standard in interface design.

Most importantly, the book will demonstrate that designing for dynamic user experience means exciting opportunities for creative facilitation of user-control. Designing better interactions for a user does not mean the designer losing control of their aesthetic – far from it.

The terms 'visual designer' and 'visual design' are avoided in this book, although they are often used to describe roles and outputs within interface design. The terms miss the richness of visual communication that a designer from such a background brings to designing interfaces.

The chapters

Chapter 1 focuses on establishing visual communication's key importance in interface design and the designer's responsibility to the user.

Chapter 2 delves into designing for interaction across a range of different graphical user interfaces, before examining information architecture.

Chapter 3 creates a useful framework of important key points on graphic design for digital media – layout, colour, iconography, imagery and typography.

Chapter 4 builds upon this framework and applies these visual communication basics to effectively facilitate a successful interactive user experience.

Chapter 5 provides practical help for designers to improve their communication with the developer by exploring each other's needs.

Finally, in **Chapter 6** the book will conclude by looking at designing for interactivity within our senses and our environment.

1

Visual communication: A standard in designing interaction

User interface (UI) design brings together a team of specialists in order to create a successful interactive experience for the user. Jorge Frascara, an internationally renowned professor of communication design, explains visual communication as emphasizing the method *(design)*, the objective *(communication)* and the medium *(visual)* through the manipulation of text and image into a graphical outcome. As such, a graphic designer's visual communication skills are vital in ensuring a UI's aesthetic accessibility. This is done throughout the entire UI design process.

This chapter looks at visual communication as part of the design discipline and also as a standard in designing interaction within a collaborating UI design team.

Interface design is a complex process involving the UI design team, the target users and the client. It is an iterative process, with phases of user research, ideation, testing, building, and further testing, all contributing to the design of an interactive user experience. The graphic designer is important to the design process, but is very much part of a team of other specialists. Graphic designers must be confident in their own specialist knowledge to successfully design the UI's aesthetic, but also have a wider contextual knowledge to communicate with the rest of the team. This communication begins at the ideation stage of the project, well before any code or designs have been developed.

'A good designer sees the organic process where others are chained to the perceived technical limitations or perceived possibilities of a system.'
– Anon

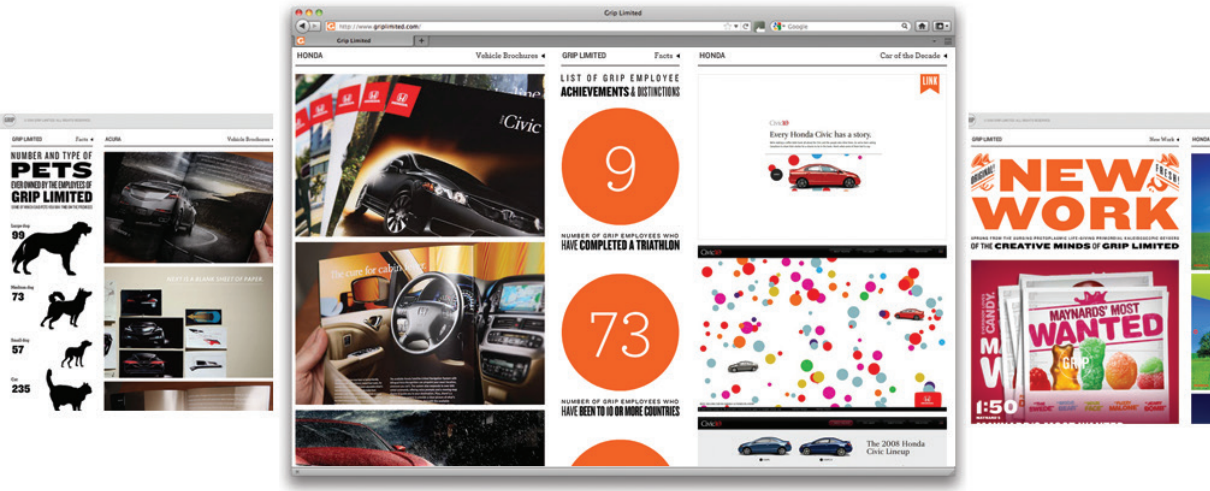
Graphic designers in the UI team

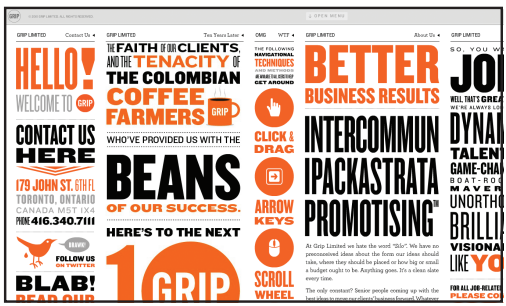
There are often misunderstandings about what a graphic designer can and will contribute to UI design, a common idea being that graphic design simply involves creating graphics to 'skin' the UI code. This 'visual design' decorating phase is expected to come at the end of the project, once the rest of the team has done the 'real work'.

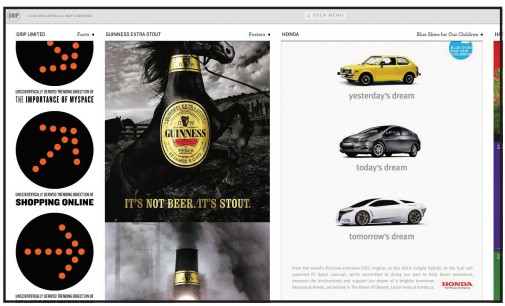
This misconception of what a graphic designer contributes to the UI design, and at what point, stems from an unfortunate focus on the word 'graphic'. Graphic design is not about designing a graphic; it is about designing effective visual communication. This communication is crafted by the graphic designer, through manipulation of text and image, into an aesthetic that is suitable for a particular audience.

Aesthetics is an integral part of the users' experience of any interface. It guides them towards key interactions in the UI, allowing them to achieve their goals. It communicates action and content, making connections between the users' hearts and heads in facilitating their interactive outcomes. Through the graphic designer, visual communication becomes an important standard in UI design, ultimately leading to the design of a better user experience. The aesthetic of the UI engages and holds the attention of the user before any link is clicked or any code is processed. Therefore the graphic designer's skills should be utilized throughout the entire design process, not just at the end.

1.1







1.1
Innovative navigation
The synthesis of strong visual communication and engaging coding can create a fantastic user experience. Canadian design company GRIP knows it works. Their website is innovative in its navigation and content delivery, and the strong visual communication attracts and separates the content.
www.griplimited.com

Neither Mars nor Venus

Each specialist in a UI design team has a different contribution to make. Information architects create the interactive structure. User experience (UX) designers create the experience. Developers create clean UI code. Graphic designers communicate the UI's visual hierarchy, functionality and interaction.

In any team, tension between specialists can exist. Within a UI design team, this often comes down to cost implications, different specialist languages and varying perspectives on how to design an interface. If many online forum debates are to be believed, there is particular tension between UI designers and developers. So much that designers could be from Mars and developers from Venus.

It takes effort to see a project from each other's viewpoint, but effective collaboration is a crucial part of designing a successful UI.

A great designer will work within the constraints of the brief – such as budget, accessibility, target user, and available technology – shaping the visual elements of text and image to communicate the content and navigation. Constraints fuel designers to create successful UI design solutions through collaboration with the rest of the UI design team.

The combined work of both designer and developer will be a UI that is coded well and has an aesthetic that attracts, retains attention and is usable. The UI will undergo some form of user testing throughout the design process to ensure this. Usability expert Steve Krug suggests a variety of methods to do this (see his interview on pages 28–31).

The UI design team

A UI design team will ideally include at least:

— An information architect defining the interactive structure

— A user experience designer making the UI usable for both the client and user

— A graphic designer shaping the UI's aesthetic accessibility

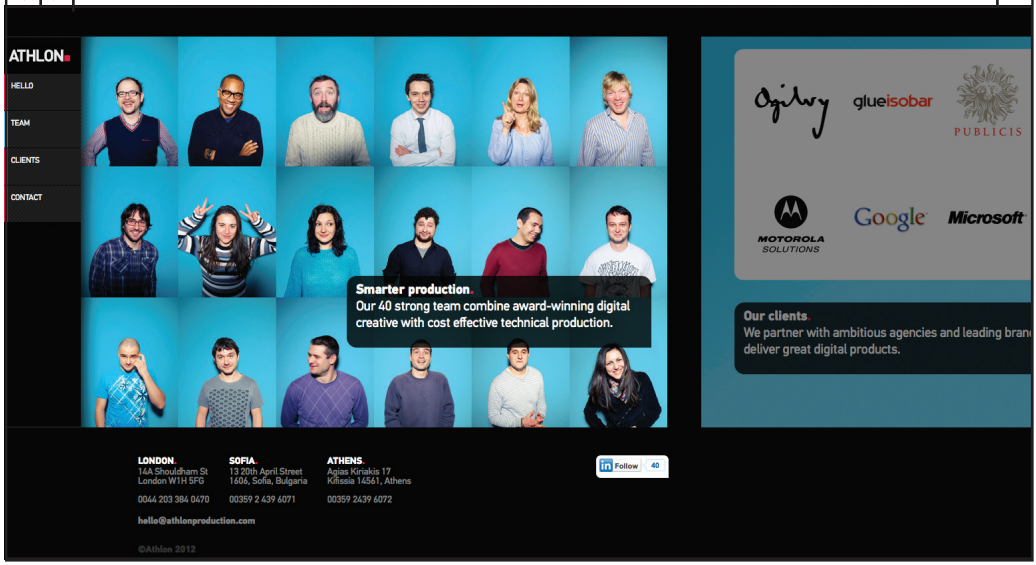
— A developer writing the front-end mark-up and the back-end code

1.2
Mars and Venus
Not all design teams succumb to the conflicted view of designers vs developers. Companies such as Athlon Productions believe in close collaboration to achieve successful designs.
www.athlonproduction.com

1.3
User experience
German developer Martin Gauer uses great coding and quality visual communication to create innovative and successful user experiences.
http://attackemart.in

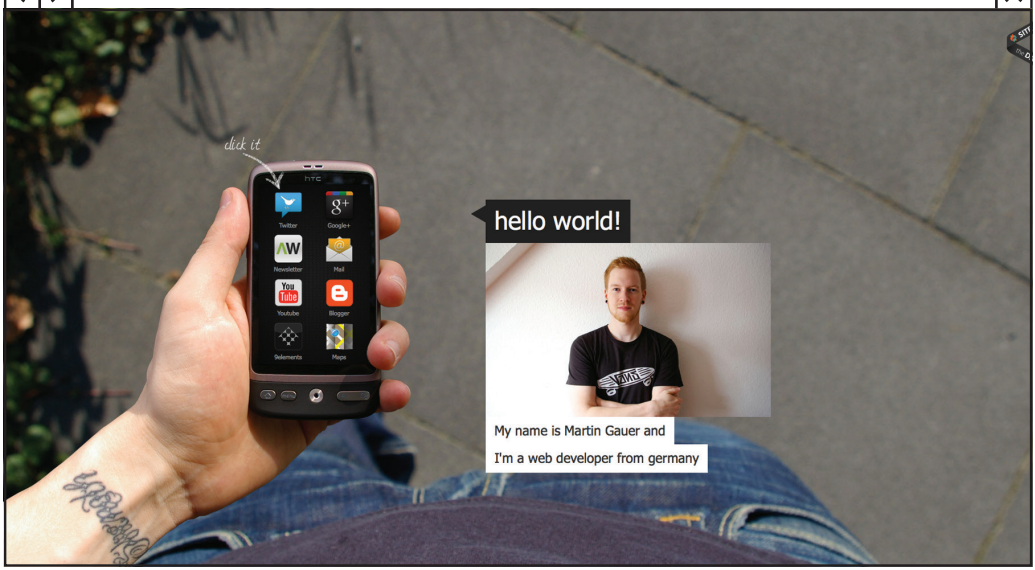
1.2

www.athlonproduction.com

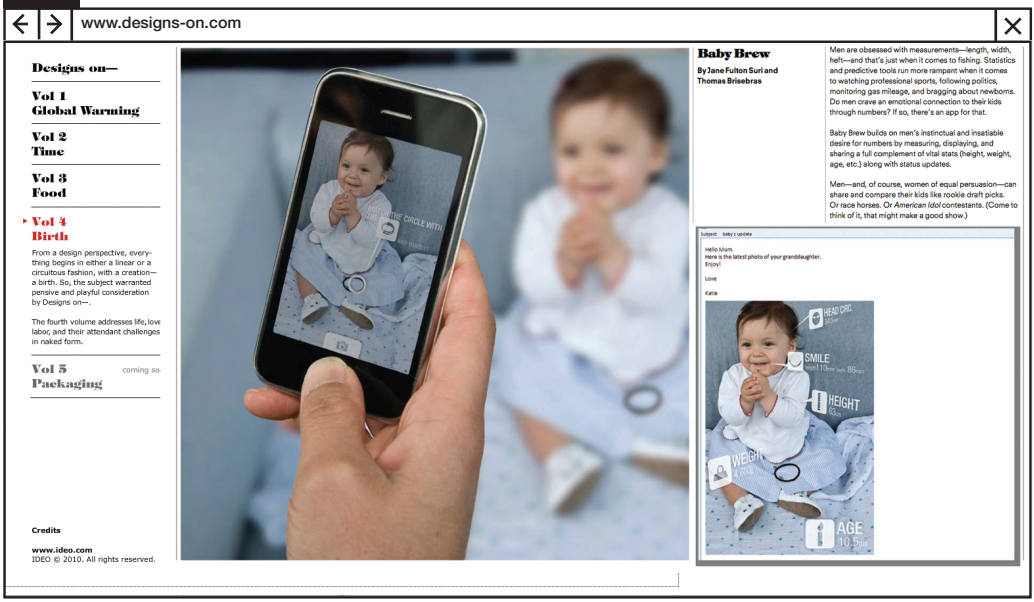


1.3

www.attackemart.in



1.4



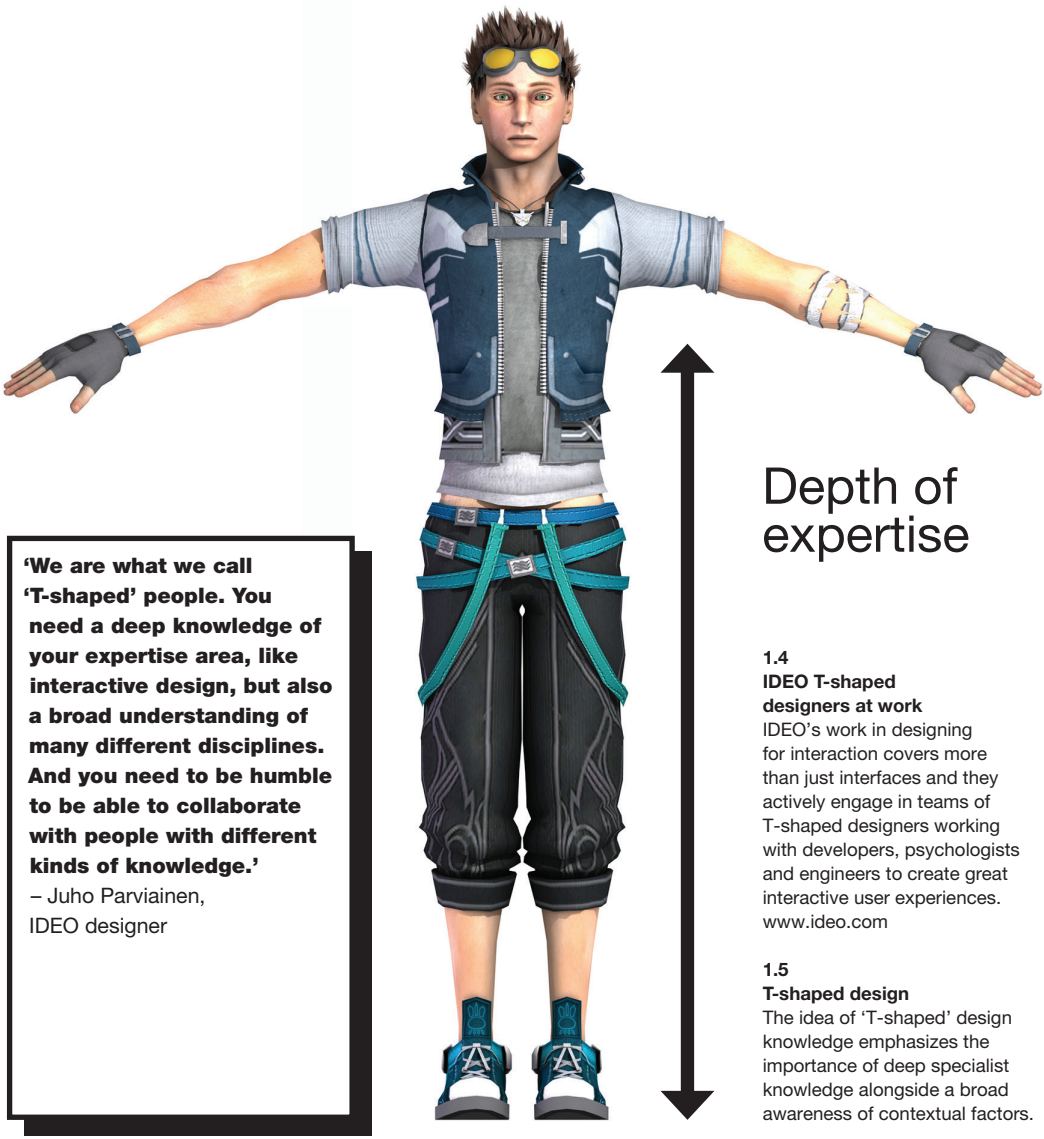
T-shaped designers

A useful metaphor to describe great designers used by the international design consultancy IDEO is 'T-shaped' designers. T-shaped designers have deep specialist knowledge of their own discipline. This enables them to be confident in explaining what they do to different specialist team members. The vertical body of a capital 'T' represents this specialist knowledge.

But deep specialist knowledge is not the end of a T-shaped designer's skill set. They also develop a secondary contextual knowledge of how other disciplines work, and a broader tertiary understanding of socio-cultural, political, ethical, ecological, economic and technological contexts. After all, design doesn't exist in a vacuum. In the T metaphor, these secondary and tertiary levels of non-specialist knowledge form the top bar of the capital T.

1.5

Breadth of knowledge



Depth of expertise

‘We are what we call ‘T-shaped’ people. You need a deep knowledge of your expertise area, like interactive design, but also a broad understanding of many different disciplines. And you need to be humble to be able to collaborate with people with different kinds of knowledge.’
– Juho Parviainen,
IDEO designer

1.4
IDEO T-shaped designers at work
IDEO’s work in designing for interaction covers more than just interfaces and they actively engage in teams of T-shaped designers working with developers, psychologists and engineers to create great interactive user experiences.
www.ideo.com

1.5
T-shaped design
The idea of ‘T-shaped’ design knowledge emphasizes the importance of deep specialist knowledge alongside a broad awareness of contextual factors.

The scope of the graphic designer's contribution to the team throughout the design process is broad before it becomes specific. Designing for interaction is really designing the 'flow' through the interactive process in a way that creates an enjoyable and aesthetic experience for the user. Interaction itself is a loop of cause/effect/feedback, and the user experiences a flow through these steps. The UI is the visible control of that flow, and usability is the outcome of a flow designed with the user in mind.

This flow is immersive as the user doesn't always consciously realize they are in it. If the UI is well designed, the user's experience is a positive and subconscious enjoyment of the interaction. But if the UI's design causes problems, the flow is disturbed and the user is jolted out of that immersion. So to design a successful flow the following questions must be kept in mind:

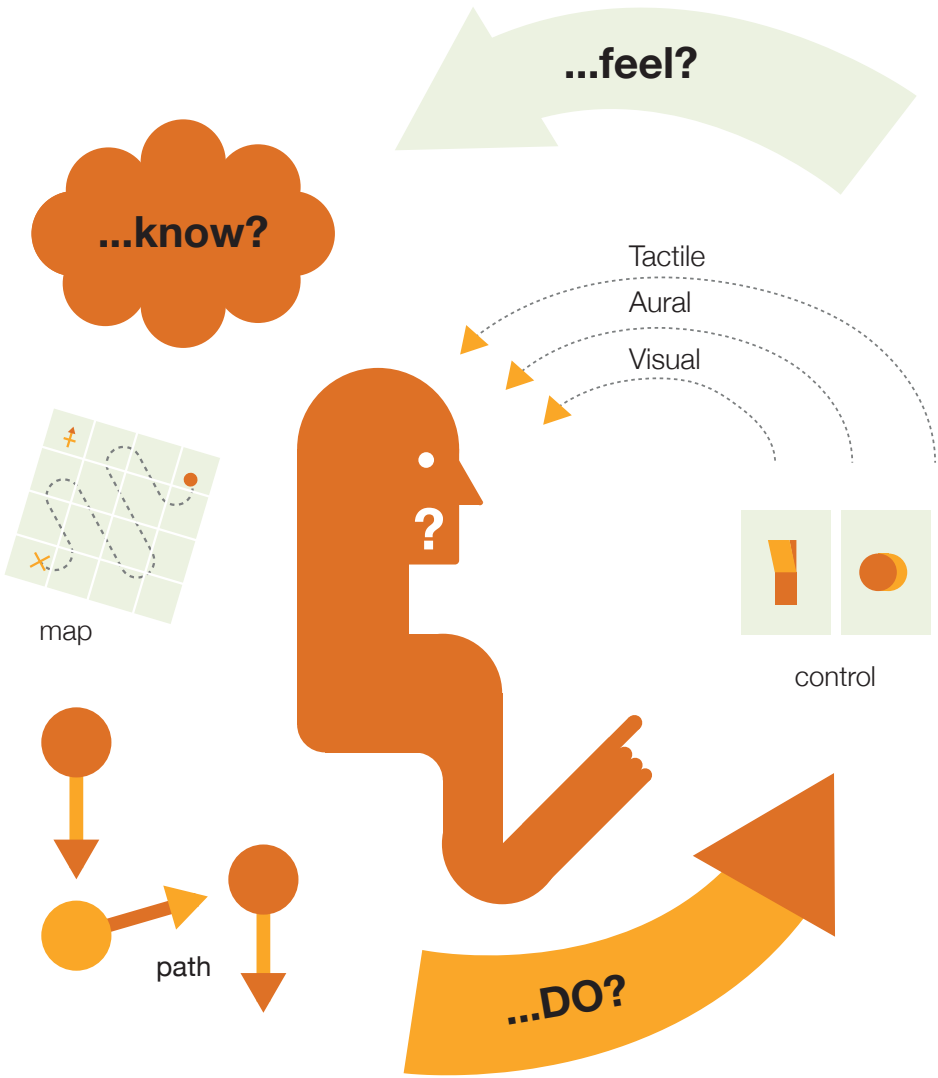
— Does the user KNOW what to do in the UI?

— Can they DO what they want to do?

— Do they FEEL they have achieved something when an action is completed?

'Interaction designers answer three questions: How do you do? How do you feel? How do you know?'
– Bill Verplank, designer and researcher

1.6

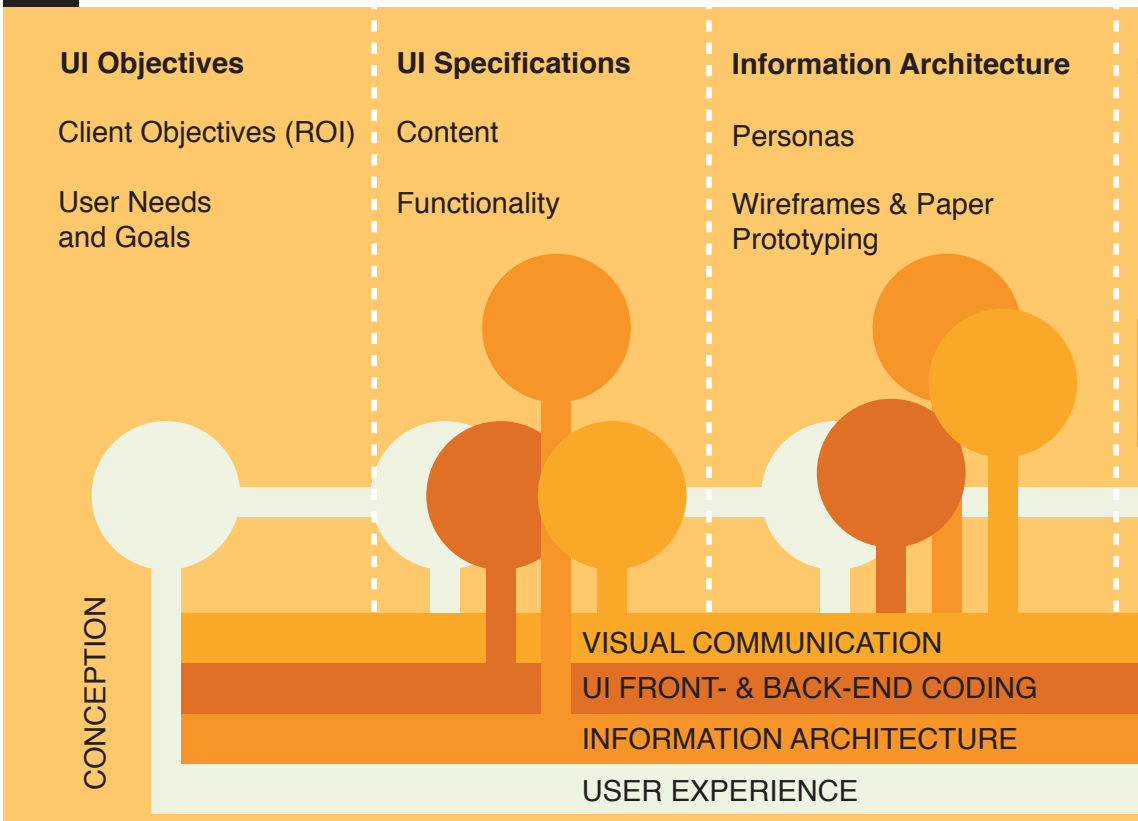
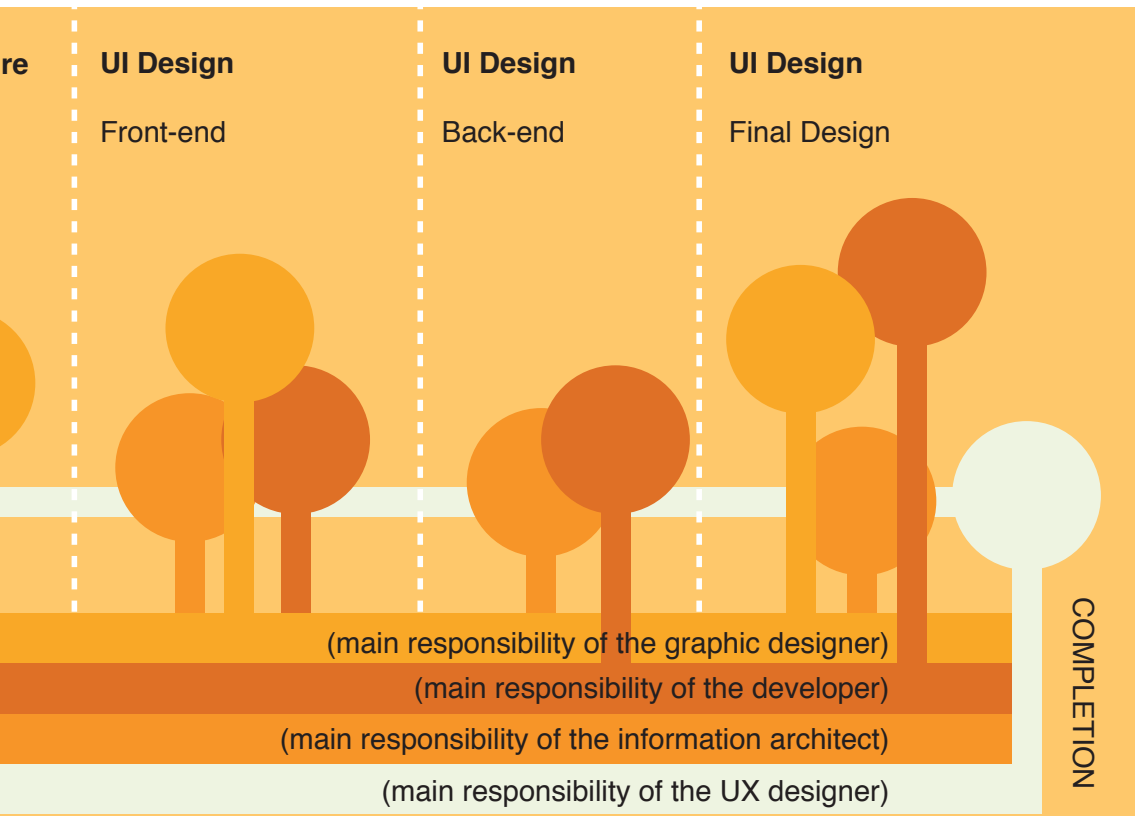


1.6
Interaction loop
If a user knows what to do then they also need to feel they've achieved it. That means a mental map, control and feedback – a loop of interaction (the illustration is based on a diagram by Bill Verplank).

The graphic designer in the flow

The UI design process follows a common path, whether the project has a short or long deadline. In the existing conceptual framework of the UI design process, there is a tendency to place the graphic designer at the end of the flow under a title of 'visual design'. However, the graphic designer can make valuable contributions to the look and feel of the UI right from the beginning of a UI project. This can be in the production of personas, information architecture, wireframing and paper prototypes of the UI. They can shape the hierarchy, navigation and content, helping to identify and address visual communication problems that affect usability at an early stage, before they become too costly to correct.

1.7



1.7
Graphic design positioned
In this diagram, the height of the coloured circles reflects which design specialism takes the lead for that part of the process, and which are in support. This diagram demonstrates *where* graphic designers' visual communication roles *should* be utilized. As can be seen, it is *not* at the very end of the UI design process.