

# Preface

We visualize data for human appreciation and understanding. In other words, all visualizations are meant to be human centric. However, human centric visualizations do not come automatically.

To ensure that a visualization is human centric, we need proper theories and principles to guide the process of the visualization design. Once the visualization is produced, we need methods and measures to verify whether the design objectives are indeed achieved. Rapid advances in display technology and computer power have enabled researchers and practitioners to produce visually appealing pictures. However, the effectiveness of those pictures in conveying the embedded information to end users has been relatively less explored.

*Handbook of Human Centric Visualization* aims to contribute to the human side of the visualization research. It addresses issues related to design, evaluation, and application of visualizations. Topics include visualization theories, design principles, evaluation methods and metrics, human factors, interaction methods, and case studies. This cutting-edge book is an edited volume whose contributors include well-established researchers worldwide, from diverse disciplines including psychology, education, visualization, and human-computer interaction.

This book consists of twenty-nine chapters, which are grouped into the following seven parts:

- I. Visual Communication
- II. Theory and Science
- III. Principles, Guidelines, and Recommendations
- IV. Methods
- V. Perception and Cognition
- VI. Dynamic Visualization
- VII. Interaction

The main features of this book can be summarized as follows:

1. Provides a comprehensive overview of human centric visualization
2. Represents latest developments and current trends in the field

3. Presents visualization theories
4. Covers design principles and guidelines
5. Presents evaluation methodologies and case studies
6. Includes contributions from leading experts and active researchers from a range of disciplines

This book is designed for a professional audience composed of practitioners, lecturers, and researchers working in the field of computer graphics, visualization, human-computer interaction and psychology. Undergraduate and postgraduate students in science and engineering focused on this topic will also find this book useful as a comprehensive textbook or reference.

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<http://www.springer.com/978-1-4614-7484-5>

Handbook of Human Centric Visualization

Huang, W. (Ed.)

2014, XXI, 743 p., Hardcover

ISBN: 978-1-4614-7484-5