@bookTufte1983, address = Cheshire, CT, annote = Source: D.Thurman, author = Tufte, E. R., keywords = Visualization,chartjunk,design,display design,graphic design,representation aiding, publisher = Graphics Press, title = The Visual Display of Quantitative Information, year = 1983 @bookTufte1990, address = Cheshire, CT, annote = Source: D.Thurman, author = Tufte, E. R., keywords = Visualization, publisher = Graphics Press, title = Envisioning Information, year = 1990 @bookTufte1997, address = Cheshire, CT, author = Tufte, E. R., publisher = Graphics Press, title = Visual Explanations: Images and Quantities, Evidence and Narrative, year = 1997 @articleMunznerl, author = Munzner, Tamara, file = :Users/jdlee/Documents/Mendeley Desktop/Munzner_Unknown_Chapter 1 What's Vis, and Why Do It.pdf:pdf, title = Chapter 1 What's Vis, and Why Do It? @articleKelleher2011a, abstract = Our ability to visualize scientific data has evolved significantly over the last 40 years. However, this advancement does not necessarily alleviate many common pitfalls in visualization for scientific journals, which can inhibit the ability of readers to effectively understand the information presented. To address this issue within the context of visualizing environmental data, we list ten guidelines for effective data visualization in scientific publications. These guidelines support the primary objective of data visualization, i.e. to effectively convey information. We believe that this small set of guidelines based on a review of key visualization literature can help researchers improve the communication of their results using effective visualization. Enhancement of environmental data visualization will further improve research presentation and communication within and across disciplines. ?? 2011 Elsevier Ltd., author = Kelleher, C. and Wagener, T., doi = 10.1016/j.envsoft.2010.12.006, file = :Users/jdlee/Documents/Mendeley Desktop/Kelleher, Wagener_2011_Ten guidelines for effective data visualization in scientific publications(2).pdf:pdf;:Users/jdlee/Documents/Mer
Desktop/Kelleher, Wagener_2011_Ten guidelines for effective data visualization in scientific publications.pdf:pdf,
isbn = 13648152 (ISSN), issn = 13648152, journal = Environmental Modelling and Software, keywords = Data visualization,Scientific visualization,Visual analytics, number = 6, pages = 822–827, publisher = Elsevier Ltd, title = Ten guidelines for effective data visualization in scientific publications, url = http://dx.doi.org/10.1016/j.envsoft.2010.12.006, volume = 26, year = 2011 @bookMunzner2014, address = Boca Raton, FL, author = Munzner, T., file = :Users/jdlee/Documents/Mendeley Desktop/Munzner_2014_Visualization
Analysis and Design.pdf:pdf, publisher = CRC Press, title = Visualization Analysis and Design, year = 2014 @articleGray2013, abstract = There are many guides on proper psychology, but far fewer on interesting psychology. This article presents six guidelines for interesting research. The first threePhenomena First, Be Surprising, and Grandmothers, Not Scientists suggest how to choose your research question; the last threeBe The Participant, Simple Statistics, and Powerful Beginningssuggest how to answer your research question and offer perspectives on experimental design, statistical analysis, and effective communication. These guidelines serve as reminders that replicability is necessary but not sufficient for compelling psychological science. Interesting research considers subjective experience; it listens to the music of the human condition., author = Gray, Kurt and Wegner, Daniel M, doi = 10.1177/1745691613497967, file = :Users/jdlee/Documents/Mendeley Desktop/Gray, Wegner_2013_Perspectives on Psychological Science Six Guidelines for Interesting Research.pdf:pdf, isbn = 1745-6916, issn = 1745-6916, journal = Perspectives on Psychological Science, keywords = 1670,282,but by the,creativity,data analysis,heart,imagination,not only by reason,pascal,research design,social cognition,we know the truth, pages = 549–553, title = Perspectives on Psychological Science Six Guidelines for Interesting Research, url = http://pps.sagepub.com/lookup/doi/10.1177/1745691
volume = 8, year = 2013 @articleMasson2003, abstract = As a potential alternative to standard null hypothesis significance testing, we describe methods for graphical presentation of data–particularly condition means and their corresponding confidence intervals–for a wide range of factorial designs used in experimental psychology. We describe and illustrate confidence intervals specifically appropriate for between-subject versus within-subject factors. For designs involving more than two levels of a factor, we describe the use of contrasts for graphical illustration of theoretically meaningful components of main effects and interactions. These graphical techniques lend themselves to a natural and straightforward assessment of statistical power., author = Masson, Michael E J, file = :Users/jdlee/Documents/Mendeley Desktop/Masson_2003_Using confidence intervals for graphically based data interpretation.pdf:pdf, issn = 1196-1961, journal = Canadian Journal of Experimental Psychology-Revue Canadienne De Psychologie Experimentale, keywords = Humans,Models, Psychological,Psychology,Psychology: methods,Psychology: statistics & numerical data, month = sep, number = 3, pages = 203–20, pmid = 14596478, title = Using confidence intervals for graphically based data interpretation., url = http://www.ncbi.nlm.nih.gov/pubmed/14596478, volume = 57, year = 2003 @ar-

ticleRosenholtz2011, abstract = Understanding and exploiting the abilities of the human visual system is an important part of the design of usable user interfaces and information visualizations. Designers traditionally learn qualitative rules of thumb for how to enable quick, easy, and veridical perception of their design. More recently, work in human and computer vision has produced more quantitative models of human perception, which take as input arbitrary, complex images of a design. In this article, we ask whether models of perception aid the design process, using our tool DesignEye as a working example of a perceptual tool incorporating such models. Through a series of interactions with designers and design teams, we find that the models can help, but in somewhat unexpected ways. DesignEye was capable of facilitating A/B comparisons between designs, and judgments about the quality of a design. However, overall "goodness" values were not very useful, showed signs of interfering with a natural process of trading off perceptual vs. other design issues, and would likely interfere with acceptance of a perceptual tool by professional designers. Perhaps most surprisingly, DesignEye, by providing in essence a simple visualization of the design, seemed to facilitate communication about not only perceptual aspects of design, but also about design goals and how to achieve those goals. We discuss resulting design principles for making perceptual tools useful in general. (PsycINFO Database Record (c) 2012 APA, all rights reserved)(journal abstract), author = Rosenholtz, R. and Dorai, A. and Freeman, R., doi = 10.1145/1870076.1870080, file = :Users/jdlee/Documents/Mendeley Desktop/Rosenholtz, Dorai, Freeman_2011_Do predictions of visual perception aid design.pdf:pdf, issn = 15443558, journal = ACM Transactions on Applied Perception, number = 2, pages = 1–20, title = Do predictions of visual perception aid design?, volume = 8, year = 2011 @articleCleveland1985, author = Cleveland, W. S. and McGill, R., file = :Users/jdlee/Documents/Mendeley Desktop/Cleveland, McGill_1985_Graphical perception and graphical methods for analyzing scientific data.pdf:pdf, journal = Science, number = 4716, pages = 828–833, title = Graphical perception and graphical methods for analyzing scientific data, volume = 229, year = 1985 @articleSegel2010, abstract = Data visualization is regularly promoted for its ability to reveal stories within data, yet these “data stories” differ in important ways from traditional forms of storytelling. Storytellers, especially online journalists, have increasingly been integrating visualizations into their narratives, in some cases allowing the visualization to function in place of a written story. In this paper, we systematically review the design space of this emerging class of visualizations. Drawing on case studies from news media to visualization research, we identify distinct genres of narrative visualization. We characterize these design differences, together with interactivity and messaging, in terms of the balance between the narrative flow intended by the author (imposed by graphical elements and the interface) and story discovery on the part of the reader (often through interactive exploration). Our framework suggests design strategies for narrative visualization, including promising under-explored approaches to journalistic storytelling and educational media., author = Segel, Edward and Heer, Jeffrey, doi = 10.1109/TVCG.2010.179, file = :Users/jdlee/Documents/Mendeley Desktop/Segel, Heer_2010_Narrative visualization telling stories with data.pdf:pdf, issn = 1077-2626, journal = IEEE transactions on visualization and computer graphics, number = 6, pages = 1139–48, pmid = 20975152, title = Narrative visualization: telling stories with data., url = http://www.ncbi.nlm.nih.gov/pubmed/20975152, volume = 16, year = 2010 @articleBennett2012, abstract = Journal of Human Computer Studies, 70 + (2012) 399-414. doi:10.1016/j.ijhcs.2012.01.003, author = Bennett, K. B. and Flach, J. M., doi = 10.1016/j.ijhcs.2012.01.003, file = :Users/jdlee/Documents/Mendeley Desktop/Bennett, Flach_2012_Visual momentum redux.pdf:pdf, journal = Journal of Human Computer Studies, number = 6, pages = 399–414, publisher = Elsevier, title = Visual momentum redux, url = http://dx.doi.org/10.1016/j.ijhcs.2012.01.003 doi/10.1016/j.ijhcs.2012.01.003, volume = 70, year = 2012 @articleGelman2013a, author = Gelman, Andrew and Unwin, Antony, doi = 10.1080/10618600.2012.761141, file = :Users/jdlee/Documents/Mendeley Desktop/Gelman, Unwin_2013_Tradeoffs in Information Graphics.pdf:pdf, issn = 1061-8600, journal = Journal of Computational and Graphical Statistics, month = jan, number = 1, pages = 45–49, title = Tradeoffs in Information Graphics, url = http://www.tandfonline.com/doi/abs/10.1080/10618600.2012.761141, volume = 22, year = 2013 @articleRobertson2008, abstract = Animation has been used to show trends in multi-dimensional data. This technique has recently gained new prominence for presentations, most notably with Gapminder Trendalyzer. In Trendalyzer, animation together with interesting data and an engaging presenter helps the audience understand the results of an analysis of the data. It is less clear whether trend animation is effective for analysis. This paper proposes two alternative trend visualizations that use static depictions of trends: one which shows traces of all trends overlaid simultaneously in one dis-

play and a second that uses a small multiples display to show the trend traces side-by-side. The paper evaluates the three visualizations for both analysis and presentation. Results indicate that trend animation can be challenging to use even for presentations; while it is the fastest technique for presentation and participants find it enjoyable and exciting, it does lead to many participant errors. Animation is the least effective form for analysis; both static depictions of trends are significantly faster than animation, and the small multiples display is more accurate., author = Robertson, G. and Fernandez, R. and Fisher, D. and Lee, B. and Stasko, J., doi = 10.1109/TVCG.2008.125, file = :Users/jdlee/Documents/Mendeley Desktop/Robertson et al._2008_Effectiveness of animation in trend visualization.pdf:pdf, isbn = 1077-2626, issn = 10772626, journal = IEEE Transactions on Visualization and Computer Graphics, keywords = Animation,Design,Experiment,Information visualization,Trends, number = 6, pages = 1325–1332, pmid = 18988980, title = Effectiveness of animation in trend visualization, volume = 14, year = 2008 @incollectionSpence2014, abstract = In a world awash with data there is an increasing need for effective methods of gaining insight into the underlying information. We need methods for visualizing information to support rapid learning and accurate decision making.This is the first fully integrated book on the emerging discipline of information visualization. Its emphasis is on real-world examples and applications of computer-generated interactive information visualization. deals with the representation and presentation of concepts and data in a meaningful way. Depending on the medium used, information can be visualized in either traditional static form (e.g. a graph on a printed page) or the more recent and powerful interactive and dynamic forms that this book emphasizes.This book is appropriate for students taking courses in information visualization, human-computer interaction, business information technology, and computer graphics. It is also appropriate for professionals in many areas: the Chief Executive Officer will be able to suggest ways of communicating ideas and concepts; decision makers will be exposed to new and potentially effective tools; investigative analysts, scientists and engineers will realize new, author = Spence, Robert, booktitle = The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies and Emerging Applications, doi = 10.1007/978-3-319-07341-5, file = :Users/jdlee/Documents/Mendeley Desktop/Spence_2012_Information Visualization.pdf:pdf, isbn = 978-3-319-07340-8, pages = 181, title = Information Visualization, url = http://link.springer.com/10.1007/978-3-319-07341-5, year = 2012 @articleRosenholtz2007, author = Rosenholtz, Ruth and Nakano, Lisa, doi = 10.1167/7.2.17.Introduction, file = :Users/jdlee/Documents/Mendeley Desktop/Rosenholtz, Nakano_2007_Measuring visual clutter.pdf:pdf, journal = Journal of Vision, keywords = 17,2,2007,22,7,citation,clutter,doi,feature congestion,http,journal of vision,journalofvision,l,li,measuring visual clutter,nakano,org,r,rosenholtz,set size,subband entropy,visual search,y, pages = 1–22, title = Measuring visual clutter, volume = 7, year = 2007 @articleGelman2013, author = Gelman, Andrew and Unwin, Antony, doi = 10.1080/10618600.2012.761137, file = :Users/jdlee/Documents/Mendeley Desktop/Gelman, Unwin_2013_Infovis and Statistical Graphics Different Goals, Different Looks.pdf:pdf, issn = 1061-8600, journal = Journal of Computational and Graphical Statistics, month = jan, number = 1, pages = 2–28, title = Infovis and Statistical Graphics: Different Goals, Different Looks, url = http://www.tandfonline.com/doi/abs/10.1080/1061 volume = 22, year = 2013 @articleYi2007, abstract = Even though interaction is an important part of information visualization (Infovis), it has garnered a relatively low level of attention from the Infovis community. A few frameworks and taxonomies of Infovis interaction techniques exist, but they typically focus on low-level operations and do not address the variety of benefits interaction provides. After conducting an extensive review of Infovis systems and their interactive capabilities, we propose seven general categories of interaction techniques widely used in Infovis: 1) Select, 2) Explore, 3) Reconfigure, 4) Encode, 5) Abstract/Elaborate, 6) Filter, and 7) Connect. These categories are organized around a user's intent while interacting with a system rather than the low-level interaction techniques provided by a system. The categories can act as a framework to help discuss and evaluate interaction techniques and hopefully lay an initial foundation toward a deeper understanding and a science of interaction., author = Yi, Ji Soo and ah Kang, Youn and Stasko, John, doi = 10.1109/TVCG.2007.70515, file = :Users/jdlee/Documents/Mendeley Desktop/Yi, Kang, Stasko_2007_Toward a Deeper Understanding of the Role of Interaction in Information Visualization.pdf:pdf, isbn = 1077-2626, issn = 1077-2626, journal = IEEE Transactions on Visualization and Computer Graphics, keywords = Information visualization,interaction,interaction techniques,taxonomy,visual analytics, number = 6, pages = 1224–1231, pmid = 17968068, title = Toward a Deeper Understanding of the Role of Interaction in Information Visualization, url = http://ieeexplore.ieee.org/document/4376144/, volume = 13, year = 2007 @articleElman2002, author = Elman, Andrew G and Asarica, Cristian P and