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A Review On The Visual Design Styles In Data Storytelling Based On User Preferences And Personality Differences
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Abstract

The proliferation of data analytics has led to a vast application of data visualization and storytelling in a variety of disciplines extending across banking, sports to healthcare. Data, information, and knowledge are transformed into interactive visual representations that convey a meaningful story. In big data analytics, relevant and high-quality graphical insights ought to be factually accurate and relevant to make a key decision. Data storytelling has become an effective way to apply information visualization as it can enhance communication effectiveness. Using visualization as a tool to enhance narrative for the viewers in enforcing data storytelling as a way to understand data and information. Findings suggest that an individual's personality variations correspond strongly with a user's preference toward visual design styles for visualization and storytelling. This paper investigates previous studies regarding personality, information visualization, narrative, and storytelling, as well as their interrelationships through online databases. The future direction of the present study. © 2022 IEEE.

Author Keywords

Five-Factor Model; Information visualization; Personality Traits; Storytelling; User Preferences; Visualization Design Styles; Visualization tool

Index Keywords

Data Analytics, Data visualization, Information analysis, Information systems; Design styles, Five-Factor Model, Information visualization, Personality traits, Storytelling, User's preferences, Visual design, Visualization design style, Visualization designs, Visualization tools; Visualization

References

- Tripp, J.F.
Data Visualization
(2019) *Int. Ser. Oper. Res. Manag. Sci.*, 264, pp. 111-135.
November
- Petrovich, C.
(2020) *Data visualization tools for web applications-a survey*,
July
- Tong, C.
Storytelling and visualization: An extended survey
(2018) *Inf.*, 9 (3), pp. 1-42.
- Data, H., Leads, V., Making, B.D.
(2017) *There 's Magic in Graphs: How Data Visualization Leads to Better Decision Making The Age of Big Data*,
- Robinson, I.
Data visualisation: Contributions to evidencebased decision-making
(2016) *SciDev. Net*, pp. 1-35.
- Lynam, D., Miller, J., Vize, C., Crowe, M.
(2020) *Agreeableness in the HEXACO*,
July

- Russo, D., Stol, K.
(2020) *Gender Differences in Personality Traits of Software Engineers*, 5589. April
- Gonc, D.
(2020) *Exploring How Personality Models Information Visualization Preferences*, pp. 201-205.
ii
- Echeverria, V., Martinez-Maldonado, R., Granda, R., Chiluiza, K., Conati, C., Shum, S.B.
Driving data storytelling from learning design
(2018) *ACM Int. Conf. Proceeding Ser.*, pp. 131-140.
- Bryan, C., Mishra, A., Shidara, H., Ma, K.L.
Analyzing gaze behavior for text-embellished narrative visualizations under different task scenarios
(2020) *Vis. Informatics*, 4 (3), pp. 41-50.
- Ko, C., Liu, Y.
Old and Young Users' White Space Preferences for Online News Web Pages
(2019) *IEEE Access*, 7, pp. 57284-57297.
- Kaushal, V., Patwardhan, M.
Emerging trends in personality identification using online social networks-A literature survey
(2018) *ACM Trans. Knowl. Discov. Data*, 12 (2), pp. 1-30.
- Luo, W.J., Wu, K.C., Tsau, S.Y.
Gender stereotype of male nurse in a virtual reality game: Exploring the effect of MBTI in decision-making process through game theory
(2018) *Proc. 4th IEEE Int. Conf. Appl. Syst. Innov. 2018, ICASI 2018*, pp. 418-421.
- Usman, M., Minhas, N.M.
Use of personality tests in empirical software engineering studies: A review of ethical issues
(2019) *ACM Int. Conf. Proceeding Ser.*, pp. 237-242.
- Bharadwaj, S., Sridhar, S., Choudhary, R., Srinath, R.
Persona Traits Identification based on Myers-Briggs Type Indicator (MBTI)-A Text Classification Approach
(2018) *2018 Int. Conf. Adv. Comput. Commun. Informatics, ICACCI 2018*, pp. 1076-1082.
- Li, X., Shih, P.C., David, E.
The effect of software programmers' personality on programming performance
(2018) *2018 Int. Conf. Artif. Intell. Big Data, ICAIBD 2018*, pp. 209-213.
- Costa, P.
(2018) *The Five-Factor Model of Personality and Its Relevance to Personality Disorders*, December 1992
- Gulati, J., Bhardwaj, P., Suri, B., Lather, A.S.
A Study of Relationship between Performance, Temperament and Personality of a Software Programmer
(2016) *ACM SIGSOFT Softw. Eng. Notes*, 41 (1), pp. 1-5.
- Schmidt, T., Wittmann, V., Wolff, C.
The influence of participants' personality on quantitative and qualitative metrics in usability testing
(2019) *ACM Int. Conf. Proceeding Ser.*, pp. 115-126.

- Abyaa, A., Idrissi Khalidi, M., Bennani, S.
Predicting the learner's personality from educational data using supervised learning
(2018) *ACM Int. Conf. Proceeding Ser.*, pp. 1-7.
- Shameem, M., Kumar, C., Chandra, B.
A proposed framework for effective software team performance: A mapping study between the team members' personality and team climate
(2017) *Proceeding-IEEE Int. Conf. Comput. Commun. Autom. ICCC*
2017, 2017, pp. 912-917.
Janua
- Harb, Y., Alhayajneh, S.
Intention to use BI tools: Integrating technology acceptance model (TAM) and personality trait model
(2019) *2019 IEEE Jordan Int. Jt. Conf. Electr. Eng. Inf. Technol. JEEIT 2019-Proc.*, pp. 494-497.
- Celli, F., Lepri, B.
Is big five better than MBTI? A personality computing challenge using Twitter data
(2018) *CEUR Workshop Proc.*, 2253.
- David, K.
Forget the Myers-Briggs, Use the Big Five
(2019) *Science & Tech*,
Accessed Aug. 18, 2020
- Khan, K., Mason, J.
Data, the story, the storyteller
(2016) *ICCE 2016-24th Int. Conf. Comput. Educ. Think Glob. Act Local-Work. Proc.*, pp. 142-144.
December 2016
- Kennedy, H.
(2020) *Data Visualization in Society.*,
- Moretti, M., De Chiara, F., Napolitano, M.
Beyond transparency: Making the Italian public administration more accessible through data storytelling
(2018) *Inf. Vis.-Biomed. Vis. Vis. Built Rural Environ. Geom. Model. Imaging, IV*
2018, pp. 247-250.
July
- Hepworth, K.
Big Data Visualization: Promises & Pitfalls, pp. 7-19.
- Guney, Z.
Considerations for human-computer interaction: User interface design variables and visual learning in IDT
(2019) *Cypriot J. Educ. Sci.*, 14 (4), pp. 731-741.
- (2016) *Storytelling with data: A data visualization guide for business professionals*, 53 (11).
- Minelli, R., Baracchi, L., Mocci, A., Lanza, M.
Visual storytelling of development sessions
(2014) *Proc.-30th Int. Conf. Softw. Maint. Evol. ICSME 2014*, pp. 416-420.
- Toker, D., Conati, C., Steichen, B., Carenini, G.
(2013) *Individual user characteristics and information visualization*, p. 295.

- Chen, S.
Supporting Story Synthesis: Bridging the Gap between Visual Analytics and Storytelling
(2020) *IEEE Trans. Vis. Comput. Graph.*, 26 (7), pp. 2499-2516.
- Bach, B.
Telling Stories about Dynamic Networks with Graph Comics To cite this version: Telling Stories about Dynamic Networks with Graph Comics
(2016) *Proc. SIGCHI Conf. Hum. Factors Comput. Syst.*,
- Kwon, B., Stoffel, F., Jäckle, D., Lee, B.
VisJockey: Enriching data stories through orchestrated interactive visualization
(2014) *Comput.+Journal. Symp.*,
2014
- G. Dolan, " for".
- Echeverria, V., Martinez-Maldonado, R., Shum, S.B.
Towards data storytelling to support teaching and learning
(2017) *ACM Int. Conf. Proceeding Ser.*, pp. 347-351.
- Bach, B., Riche, N.H., Carpendale, S., Pfister, H.
The Emerging Genre of Data Comics
(2017) *IEEE Comput. Graph. Appl.*, 37 (3), pp. 6-13.
- Ziemkiewicz, C.
How visualization layout relates to locus of control and other personality factors
(2013) *IEEE Trans. Vis. Comput. Graph.*, 19 (7), pp. 1109-1121.
- Cashman, D., Wu, Y., Chang, R., Ottley, A.
Inferential Tasks as a Data-Rich Evaluation Method for Visualization
(2019) *EVIVA-ML Work. IEEE VIS*, pp. 1-5.
- Ottley, A., Yang, H., Chang, R.
Personality as a predictor of user strategy: How locus of control affects search strategies on tree visualizations
(2015) *Conf. Hum. Factors Comput. Syst.-Proc.*, 2015, pp. 3251-3254.
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