Jim Morey   jim.morey@gmail.com (519)859-4931

1. Academic Credentials

- University of Western Ontario, London, Ontario, Canada. Ph.D. Computer Science, 2005
- University of British Columbia, British Columbia, Canada. M.Sc. Mathematics, 1995
- University of Guelph, Guelph, Ontario, Canada. H.B.Sc. Mathematics, 1993

2. Positions

Position	Years	Department / Institution
Lecturer	2021-2023	ECE, COMPSCI, Math, and DH Departments Western University
Teacher	2018-2019	Mathematics Department, Ridley College St. Catharines, Ontario, CA
Assistant Professor	2013-2017	College of Technological Innovation Zayed University, Abu Dhabi, UAE
Assistant Professor	2011-2013	Department of Mathematics Zayed University, Abu Dhabi, UAE
Assistant Professor	2005-2009	Department of Mathematics and Computer Science Wesleyan College, GA, USA
Lecturer	1998, 2002, 2004	Department of Computer Science University of Western Ontario
Teaching Assistant	2001-2002	Department of Mathematics University of Western Ontario
Palm Pilot Programmer	2000, 2001	Lawson Diabetes Centre Mount St. Joseph London
Research Assistant	1997-2004	Department of Computer Science University of Western Ontario
Teaching Assistant	1997-2001	Department of Computer Science University of Western Ontario
Java Consultant	1997	Electronic Games for Education in Math and Science(EGEMS) Department of Computer Science University of British Columbia
Teaching Assistant	1993-1995	Department of Mathematics University of British Columbia
Teaching Assistant	1991-1993	Department of Mathematics University of Guelph
Programmer System Designer	1988-1993	Canadian Centre for Creative Technology Waterloo

3. Publications

3.1 Books & Chapters

[1] Gammack, J, **Morey**, J (2016). *Innovative reading support for non-native readers of University digital texts*. In Bidal, J, Doman, E (ed.), Departing from Tradition: Innovations in English Language Teaching and Learning. Cambridge Scholars Publishing, pp. 128-145.

[2] Sedig, K, **Morey**, J (2005). *A Descriptive Framework for Designing Interaction for Visual Abstractions*. In G. Malcolm (ed.), Multidisciplinary Approaches To Visual Representations And Interpretations G. Malcolm, Elsevier Science & Technology, pp. 239-254.

[3] Sedig, K, **Morey**, J, Mercer, R, Wilson, W (2005). *Visualizing, Interacting and Experimenting with Lattices Using a Diagrammatic Representation*. In G. Malcolm (ed.), Multidisciplinary Approaches To Visual Representations And Interpretations, Elsevier Science & Technology, pp. 255-278.

[4] **Morey**, J (2004). *Designing Visually Rich Mathematical Investigation tools for Repetitive Geometric Artifacts*. University of Western Ontario, **Ph.D. Thesis**.

[5] **Morey**, J, Sedig, K (2004). *Archimedean Kaleidoscope: A cognitive tool to support thinking and reasoning about geometric solids*. In M. Sarfraz (ed.), Geometric Modeling: Techniques, Applications, Systems and Tools. Kluwer Academic Publisher, pp. 376-393.

[6] **Morey**, J (1996). *Advanced Graphics: Multimedia*. Web Programming with Java. Girdley M, Jones K. A., et al. Sams Publishing; Indianapolis, U.S.A.

[7] **Morey**, J (1996). *Serious Play: Game Applets*. Web Programming with Java. Girdley M, Jones K. A., et al. Sams Publishing; Indianapolis, U.S.A.

3.2 Journal Articles

[8] **Morey**, J, Gammack, J. (2016). *Designing an Interactive Visualization to Explore Eye-movement Data*. The Review of Socionetwork Strategies 10 (2), pp.73-89.

[9] Sedig, Kamran & Parsons, Paul & Liang, Hai-Ning & **Morey**, Jim. (2016). *Supporting Sensemaking of Complex Objects with Visualizations: Visibility and Complementarity of Interactions*. Informatics. 4. 10.3390/informatics3040020.

[10] Smith, G, **Morey**, J, Tjoe, E. (2007). *Feature Masking in Computer Game Promotes Visual Imagery*. Journal of Educational Computing Research, Baywood. Vol 36, Issue 3, pp. 351-372.

[11] **Morey**, J (2006). *Programming in PolygonR&D: Explorations with a Spatial Language*. International Journal of Computers for Mathematical Learning, Springer-Verlag. 11(2), 147-175

[12] **Morey**, J, Sedig, K (2004). *Adjusting degree of visual complexity: An interactive approach for exploring four-dimensional polytopes*. The Visual Computer: International Journal of Computer Graphics, Springer-Verlag. 20(8-9): 565-585.

[13] Sedig, K, Rowhani, S, **Morey**, J, Liang, H (2003). *Application of information visualization techniques to the design of a mathematical mindtool: A usability study*. Journal Information Visualization. 2(3): 142-160.

3.3 Conference Papers

[14] **Morey**, J, Gammack, J, Thornquist, E. (2016). *Gamifying Foundational STEM Skills*. Computer Science and Engineering (APWC on CSE), 2016 3rd Asia-Pacific World Congress.

[15] **Morey**, J, Gammack, J. (2015). *A data visualisation for horizontal eye-movements*. Computer Science and Engineering (APWC on CSE), 2015 2nd Asia-Pacific World Congress.

[16] **Morey**, J, Gammack, J, Thornquist, E. (2015). *Interface development for a gaze-controlled reading support application*. Information and Communication Technology Research (ICTRC), pp. 214-217.

[17] Liang, HN, Fleming, C, **Morey**, J, Sedig, K, Man, KL. (2013) *Students' perception on the use of visual tilings to support their learning of programming concepts*. Teaching, Assessment and Learning for Engineering (TALE), IEEE, pp. 121-126.

[18] Liang, HN, **Morey**, J, Sedig, K. (2012) *Using visual tiling patterns to support the teaching of programming concepts*. Teaching, Assessment and Learning for Engineering (TALE), IEEE, W1B-5-W1B-10.

[19] **Morey**, J (2010). *Piecing Together Programs: Navigating Between Low-Level Instructions, Subroutines, and Programs*. EdMedia: World Conference on Educational Media and Technology, pp. 3423-3428.

[20] Sedig, K, Liang, HN, **Morey**, J. (2009) *Enhancing the usability of complex visualizations by making them interactive: A study*. EdMedia: World Conference on Educational Media and Technology, pp. 1021-1029.

[21] **Morey**, J (2007). *Linking Tilings to Algorithms: An Approach for Introducing Programming Concepts*. EdMedia: World Conference on Educational Media and Technology, pp. 2947-2950.

[22] **Morey**, J (2005). *Representing Rolling Sequences of Polyhedra to Support Mathematics Comprehension*. ED-MEDIA 2005: World Conference on Educational Multimedia and Hypermedia, Montreal, Canada, Vol. 2005, Issue 1, pp. 1279-1283.

[23] **Morey**, J, Sedig, K (2004). *Using indexed-sequential geometric glyphs to explore visual patterns*. Proceedings of Interactive Visualisation and Interaction Technologies, ICCS 2004, Krakow, Poland, June 2004, pp. 996-1003.

[24] **Morey**, J, Sedig, K, Mercer, R (2003). *Polyvise: A tool for exploring four-dimensional uniform polytopes*. Proceedings of the IASTED International Conference in Computer Graphics and Imaging, Hawaii, pp. 181-186.

[25] Sedig, K, **Morey**, J(2002). *Facilitating Learning Through Different Forms of Interaction With Visual Abstractions*. Proceedings of ED-MEDIA 2002: World Conference on Educational Multimedia and Hypermedia, Denver, USA, Vol. 2002, Issue 1, pp. 1776-1777.

[26] Sedig, K, **Morey**, J, Chu, B (2002). *TileLand: A Microworld for Creating Mathematical Art*. Proceedings of ED-MEDIA 2002: World Conference on Educational Multimedia and Hypermedia, Denver, USA, Vol. 2002, Issue 1, pp. 1778-1783.

[27] **Morey**, J, Sedig, K, Mercer, R, Wilson, W (2002). *Crystal Lattice Automata*. In Proceedings of the Sixth International Conference on Implementations and Applications of Automata (South Africa, July 2001), Notes in Computer Science, Springer Verlag, pp. 214-220.

[28] **Morey**, J, Sedig, K, Mercer, R (2001). *Interactive Metamorphic Visuals: Exploring Polyhedral Relationships*. IEEE Information Visualization Conference, London, UK, pp. 483-488.

4. Teaching

2021-2023 Western	CS1027A, ECE9065A, CS1027B, CS2034B/DH2144B, CS1027A, CALC1000A
2018-2019 Ridley	Data Management (MDM 4U)
2013-2017 Zayed CTI	Mobile Computing (CIT371), Multimedia Systems (CIT345), Human Computer Interactions (CIT375), Game Development (CIT376), Introduction to Programming (CIT225) {Java}, Introduction to Programming (CIT225){Javascript}, Web Development (CIT245)
2011-2013 Zayed Math	Introduction to Information Technology (COL270), Mathematical Modeling with Functions(COL111), Mathematical Modeling with Data (COL110), Basic Mathematics (MAT101)
2005-2009 Wesleyan	Operating Systems (CIS311), Special Topics:Web 2.0(CS396), Special Topics:Computer Simulations(CS396), Programming Languages II (CS218){Java}, Programming Languages I (CS216){Java}, Quantitative Reasoning (MAT108), Linear Algebra (MAT210), Introduction to Mathematical Reasoning (MAT192), Geometry (MAT175), Precalculas (MAT140), Discrete Mathematics (MAT200), College Algebra (MAT130)
1998-2004 Western	Computer Science Fundamentals II (CS027){Java}

5. Committees

2013-2017 Zayed CTI	Academic integrity committee, Multimedia curriculum committee, Web Content Committee, Teaching & learning / EdTech Committee, Multimedia search committee
2011-2013 Zayed Math	University College Faculty Affairs Committee, Math Hiring Committee, iPad Integration Task Force, Technology & Blended Learning Committee
2005-2009 Wesleyan	Programs and Exhibitions, Title III Task Force, Library and Instructional Technology, Teacher Education Committee
1997-2005 Western	Programme Committee for International Conference on Coordinated & Multiple Views in Exploratory Visualization 2005, Appointments, Promotion, and Tenure (Student Representative), Resource Planning Committee, Graduate Union Steward, Society of Graduate Students (Councillor)

6. Web Presence

- jimmorey.com — my web site that I use as a dumping spot
  - new web prototypes:
    - an updated tileland in Javascript.
    - an eyetracking reading app and its associated visualizer HEMP (using d3)
    - bullseye — a geometric skill game for factoring (or Spanish language bulleye)
    - a 3D version 2048
  - old Java prototypes: Polyvise, PolygonRnD, 3DLatticeViewer, Tileland, Archimedean Confection, and Archimedean Kaleidoscope
  - course resources:
    - an individualized assignment generator and quizzes
    - jimmorey/pithywiki has a number of resources for web programming and data management spreadsheets
  - coding examples: in the spirit of sharing and learning my directories are left open so that my files (although many of the files probably need more commenting before they should be used for a wide audience).
- polygoncraze — my blog about discrete geometry related topics
- theamatour — my youtube videos, which mainly consists of constructing geometric artifacts like balloon structures (with more than a million total views)

7. Teaching Philosophy

Teaching has become a Gordian knot with many interconnected constraints and seemingly contradictory best practices. Discussions about education tend to be contentious, heated and often distorted by a nonrepresentative personal anecdotes. I believe that a perspective that primarily deals with context of the learners can cut through this educational knot and help teaching teams focus on productive discussions and creation of useful teaching tools.

In theatre, it is all about knowing your audience, in education, it is about knowing the context of the learners. Knowing their individual backgrounds, experiences, perspectives, and goals as well as their shared venues and education situations can inform the choice of strategies, tactics, and examples that will be more successful for engaging the learners. Being aware of the effects on learning of each of these facets of this context can help reduce unnecessary stress and conflict from occurring. This is important since a certain amount of stamina and energy will be required by a learner to handle necessary stress and conflict associated with learning (epistemic conflict). So after mastering course content, mastering learner context will be an important focus for teaching.

From my perspective, the current university students have a number of issues. They seem to be heterogeneous in their backgrounds with individuals having assorted gaps in their foundational skills . These gaps become clear when the students present themselves as novice experts who share bits of knowledge but end up revealing a blindness to what they don't know. As well, their experiences are becoming more and more virtual and disconnected from solving real problems. Today's tools solve their regular problems for them: GPS (rather than route planning), prefab food (rather than cooking with ratios), credit/debit cards (rather than money handling), cell phones (rather than temporal planning), etc. Since they lack experience solving these regular problems of the past, it can be challenging to find examples to help connect these students to course problems and leverage their knowledge to motivate learning more sophisticated problem solving techniques. Further, because of their tools, it seems their perspectives often undervalues structuring knowledge—in their google-centric world, knowledge is flat since every answer is only one search away. But perhaps the most challenging aspect I find with modern students is their education goals: to acquire knowledge and credentials rather than to be transformed by education. Their more commodity driven goal shifts the onus of learning on the delivery systems rather than working inwardly to overcome their epistemic conflict. To face this challenge, I look for opportunities to promote transformative goals over the point of view of educational deliverables.

I like to direct my efforts on influencing the shared venues & educational situations to better engage these new learners and promote the transformational aspect of education. Specifically, I spend time and energy designing activities and supports to help foster a community that is better focused on learning. In the past, I have worked on promoting healthy collaboration by designing unique assignments for each student with enough variation so as to help change the focus on process rather than product. As well, I have worked on environments to support self-directed remedial practice to help strengthen understanding of foundational material. Generally, trying to influence course or program's community requires attention, interest, and insight on learners journeys and creatively working on trying to streamline their unnecessary efforts. This still can be a bit of a Gordian knot but perhaps with a careful balancing act of attentiveness to learner context while maintaining a grip on the essential course material progress can be made on loosening this educational knot.

8. References

on request

http://jimmorey.com/cv.html