2015 Curriculum Vitae for Ken Zupan

Kenneth Zupan
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EDUCATION

- 2003–2005: Master of Science, IT Product Design, University of Southern Denmark (Syddansk Universitet), Sonderborg, Denmark
- 1993–1994: Bachelor of Arts, Art History, University of British Columbia, Vancouver
- 1992–1993: Bachelor of Design, Thompson Rivers University, Kamloops, BC
- 1988–1991: Industrial Design Diploma, Emily Carr University of Art and Design, Vancouver, BC

EMPLOYMENT

July 2007–Present: Lecturer, School of Interactive Art and Technology [SIAT], Simon Fraser University [May 2015]: Promoted to Senior Lecturer

1999–2007: Media Specialist/Graphic Artist, BCIT Learning and Teaching Center, Burnaby
This full-time position involved working within a media resources center in BCIT's library. Duties included teaching small groups and individuals (faculty and students) how to use presentation and video editing software. Other duties included creating graphic designs and illustrations for internal publication and signage.

1995–1999: Technical Illustrator/Graphic Artist, BCIT Learning and Teaching Center, Burnaby
This permanent position involved working within an academic publishing unit together with instructional designers, technical writers and subject matter experts to provide vector and bitmapped-based technical illustrations and graphic layouts for training materials. These drawings were intended for use by various clients, both internal and external. Typically, my graphics took the form of detailed engineering renderings and exploded views of complex machinery or process-flow diagrams.

1993-1994: Library Assistant, University of British Columbia Main Library, Vancouver
Duties included cataloguing various donated archival material for the university, including rare books and journals.

COURSES TAUGHT/TEACHING DUTIES, 2007 to PRESENT

IAT 102 – Graphic Design: This introductory, lower division course provides an introduction to fundamental design principles for visual communication. Organized as a continual interplay of theory and practice, students examine historical, philosophical, perceptual and semiotic approaches to understanding graphic design, and explore principles of form, such as structure and composition, hierarchy, form, colour, space, scale, typography, and legibility and readability through hands-on projects.

IAT 106 – Spatial Thinking: This course introduces students to the world of 3D thinking, representation and communication, with a focus on spatial thinking. Students are provided with the foundational skills and knowledge needed to understand, create and use computer-generated three-dimensional (3D) representations. Students learn the technical basis of representing 3D environments, as well as cognitive science theories of visual thinking.

IAT 208 – Drawing as Inquiry: This second-year course provides an overview of the various forms and languages of drawing as both a critical and a research tool. This course presents (through in-class activities and projects) opportunities for students to understand and apply drawing as a medium for visual thinking and conceptualization. These competencies are designed to allow students to express their ideas in visually appealing, tangible ways in other courses. Skillsets taught include human figure/life drawing, mixed media, linear perspective projection, mark making and linework, composition and rapid ideation using markers.

IAT 336 – Materials and Design: This 13-week course provides students with an understanding of physical material choices for designing interactive objects and environments. The highlight of the course is the final project, which combines design materials such as wood and plastic with hand and automated processes such as laser cutting, culminating in an interactive physical prototype. Specifically, students are trained to research, specify and justify material choices for their designs. Students also learn about the criteria that affect material choices in design, such as:

- Materials' physical properties
- The design process
- Human factors/interaction
- Social aspects of materials (connotation)
- Natural forces that act on materials
- Manipulation and affordances of materials
- Manufacturing/fabrication methods
- Environmental factors
- New advances/trends in materials science

IAT 402–405 – Capstone Design Studio: This 26-week course covers the spectrum of the production process from definition to prototype. Emphasis is placed on the implementation and evaluation of the technical systems the project entails, with a focus on project management aspects within multidisciplinary student teams, namely, team building, planning and project definition. In the second half of the course, student teams conceive, build and user test their products, ranging from screen-based to physical interactive artifacts.

PROFESSIONAL DEVELOPMENT

Courses and Training

2014: Vocal Training Workshop and Coaching, Teaching and Learning Center, Simon Fraser University

I attended this course in the summer of 2014 to improve my vocal skills as an instructor. Led by Sarah Louise Turner, these practical and hands-on sessions covered such topics as communicating effectively, connecting with your class, breathing exercises and techniques to reduce vocal strain.

2013: CEID 224 – Intro to Model Making, Emily Carr University, Vancouver

Through slide presentations, demonstrations, workshop practice and design projects, I learned the fundamental techniques to fabricate mock-ups and models using block materials such as blue foam and sheet materials such as styrene, paper and card. This six-week course allowed me to introduce new model-making concepts and skillsets to my IAT 336 students.

2012: SolidWorks Upgrade, Ubique Mechanical Design, North Vancouver

This refresher course building on SolidWorks Introduction (2011) focused on content for the purpose of updating skills, primarily to current version SolidWorks [v.2012], and learning new and effective software capabilities, best practices and current tips and tricks.

2012: CESC 179 – Intro to Mold Design/Casting, Emily Carr University, Vancouver

This intensive, hands-on introductory course explored the essential processes of plasterwork, mold making and casting with an emphasis on the subtleties of mold design and material tips and tricks. Molds, and the production of multiples, are a fundamental component of many sculptural processes and require a specific sequence of steps and attention to particular details for the creation of professional final results. Through a variety of linked assignments, I developed an in-depth knowledge of plaster and related materials, their working characteristics and their appropriateness for casting particular types of shapes in various types of material (synthetic, organic or ceramic).

2012: Certificate in Additive Manufacturing, RapidTech, Saddleback College/University of California, Irvine

This specialized workshop dedicated to educators focused on additive manufacturing technologies (3D printing and scanning) and was sponsored by the National Center for Rapid Technologies based at Saddleback College/UC Irvine, the National Science Foundation and various industry partners in the United States. I attended this workshop to hear from industry experts and academics and to complete a certificate in additive manufacturing. Some technologies covered include:

- Silicone mold making and resin casting
- FDM technologies utilizing Stratasys equipment
- Laser scanning and reverse engineering
- Solid modeling utilizing SolidWorks CAD software
- Rapid prototype model finishing workshop
- Hydro-printing (application of decals on 3D printed objects using water)

2011: SolidWorks Introduction, Ubique Mechanical Design, North Vancouver

The goal of this course was to learn how to use the SolidWorks mechanical design automation software to build parametric models of parts and assemblies, and how to make drawings of those parts and assemblies. The course was designed with a process- or task-based approach to training rather than focusing on individual features and functions. This course covered topics related to the creation and editing of parts, assemblies and drawings in SolidWorks. Other topics included the user interface and basic menu commands, sketching and part design, assembly design and detail drawing creation.

Conferences Attended

July 30–August 3, 2012: RapidTech 2012, Saddleback College/University of California, Irvine

This specialized workshop dedicated to educators focused on additive manufacturing technologies (3D printing and scanning) and was sponsored by the National Center for Rapid Technologies based at Saddleback College/UC Irvine, the National Science Foundation and various industry partners in the United States. I attended this workshop to hear from industry experts and academics and to complete a certificate in additive manufacturing.

May 18–20, 2011: RAPID 2011, Minneapolis, Minnesota

RAPID is North America's definitive additive manufacturing event and is co-located with the 3D IMAGING Conference and Tradeshow. It attracts innovative leaders who are advancing manufacturing processes and providing tools to bring products to market faster.

This conference was invaluable, as it allowed me to gain insight in the rapid prototyping community (e.g., future trends) and network with other educators. In addition, the event gave me insight into how to make better use of the SIAT prototyping lab (SolidSpace), which I co-supervised during this period.

SERVICE AND CONTRIBUTION TO UNIVERSITY

Committee Work

SIAT Committee Work (Infrastructure Committee)

The mandate of the Infrastructure Committee is to oversee and plan for space use and allocation at the Surrey campus. My role on the committee has included acting as an advisor on capital acquisitions made for SolidSpace as well as being on a panel overseeing the renovation of SolidSpace. Currently, I am tasked with conducting surveys on unscheduled lab capacities for undergraduate students. This data will be used for future planning and better allocation of space resources for undergraduate students.

Outreach

Co-Organizer 3D Printing Conference (to be held January, 2016)

As a faculty representative, I am assisting Industry Canada (a federal government agency) as well as the City of Surrey in the planning of a 3D printing conference to be held in January, 2016. The first conference of its kind to be held in Western Canada, it will be comprised of workshops, vendor displays and a discussion panel. In addition to presenting, my duties include collaborating on promotional material, recruiting vendors e.g. Stratasys, as well as developing a student 3D printing design competition.

Faculty Representative, Maker Faire (2012–present)

Maker Faire is an annual exhibition focusing on 3D printing and other emerging technologies. This past June, I attended for the third consecutive year showcasing IAT 336 student work and assisting in promoting SIAT to potential students attending the event.

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Academic

3D Printing Course Developer, Simon Fraser University Document Solutions (August 2015)

I was commissioned by SFU Document Solutions, the university printer, to develop a non-credit introductory workshop on 3D printing for students, faculty and staff. This three-hour workshop covers the theoretical aspect of 3D printing including materials, printing processes and applications. The practical aspect covers how to design an object using Tinkercad (a downloadable CAD program), prepare the object as a printable .STL and how to setup the 3D printer for output. This workshop will be accompanied later by one geared towards developing intermediate skills.

Drawing Workshop Facilitator, SFU Beedie School of Business (March 2014)

I was asked by Dr. Sarah Lubik from the Beedie School of Business to conduct a drawing workshop for business students. This workshop introduced business students to rapid visualization and ideation techniques for use in product development.

Venture Idea Prize Judge, Beedie School of Business/Coast Capital Savings (January 2014)

The *Venture Idea Prize* is awarded to a team of business students showing great promise in the development of their idea to help them make it a reality. In this role, I was a panel judge for students participating in a business incubator competition.

Course Coordinator, Fraser International College (2011–Present)

Fraser International College and SFU are partnered to deliver first-year equivalency courses including IAT 102 – Graphic Design. My main role is to act as a contact between FIC management and the SIAT Manager. Some of my duties include:

- Selection of sessional instructors
- Quality control/instructor evaluation based on completed course modules and quality of student work, including signing off on major projects and final grade spreadsheets
- Coordinating course software requirements and textbooks with the SIAT Manager

FORMAL AND INFORMAL PROFESSIONAL NETWORKS

- **Member, Society of Manufacturing Engineers (SME):** This professional body is closely affiliated with the practitioners using rapid prototyping technologies in the business and educational fields. In addition, the SME is the main organizer of the RAPID Conference I attended.

- **Material Matters:** Through my contacts at Maker Faire, I have been attending 3D printer-related information and networking sessions called Material Matters at Emily Carr University.

- **3D Printing Meetup Group:** Inspired by the successful Material Matters events at Emily Carr University, I have organized a webpage on the Meetup social networking site focusing on 3D printer hobbyists, educators and inventors living in Surrey and the Fraser Valley. http://www.meetup.com/3D-Printing-DIY/

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SKILLS AND CAPABILITIES

Creative

- Experienced in usability problem identification, analysis and generating solutions
- User-centered design methodology
- Strong sketching and idea-visualization skills

Technical

CAD, Graphic and Software Applications:

- Solidworks, Tinkercad
- Adobe Photoshop CS, Adobe Illustrator v.10, Adobe Acrobat
- Distiller v.6, Macromedia Freehand MX, basic knowledge of Macromedia Flash MX, Apple iMovie, Apple iDVD, Media Cleaner Pro
- Microsoft Office Suite (Powerpoint, MS Word), Apple Keynote v.2

Machine Tools and Rapid Prototyping Technology

- Laser Cutting and Engraving: Universal 60 Watt Laser System
- 3D Printing: Fortus 250 Fused Deposition Modeler (FDM), Dremel Ideabuilder (FDM)
- Vacuforming: Formech 660 system