# Dana Smith

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## Software Development Professional

Creating software that makes life easier.

##### Autodesk: 2011 - Present

Role: **Technical Lead, Autodesk Consumer Group**

Technology: Objective C, iOS SDK, CoreGraphics, CoreImage, CoreData, UIKit, GLKit

Business: Autodesk’s Consumer Group is a start-up culture within the large company

* Create Pixlr-o-matic, a native iOS product that now has 8 million users and 4.5 stars
* Invented a JSON based effect description language and wrote an engine to interpret it using CoreGraphics, CoreImage, and vImage
* Wrote asynchronous, multithreaded client side code to dynamically download and install new effects from a content server
* Built an effect database component based on CoreData
* Implemented in-app purchasing using StoreKit
* Developed a comprehensive automated test suite to ensure cross-platform rendering consistency
* Built prototype interfaces using UIKit, GLKit, and the open source GPUImage library
* Wrote a variety of GLSL Shader based effect filters
* Worked with management, design, development, and test teams to set priorities and track effort
* Conceived of and supported MobileOverflow, an in-house Q&A board for mobile developers across the company
* Selected from a field of 400 as one of 50 presentaters at Autodesk’s TechSummit 2012 in San Francisco

##### Autodesk: 2008 - 2011

Role: **Software Development Manager, Manufacturing**

Technology: C++, Windows and Mac desktop, Image Processing

Business: Autodesk, best known for its AutoCAD software, is a provider of design and engineering software

* Helped create an application fusing vector and raster digital editing
* Performed technical evaluation of various Autodesk C++ components:
  + AutoCAD native DWG file I/O
  + FlexLM based security
  + variational constraint evaluator
  + solid modeling system
  + raster image processor
* Contributed to the design of a call-back based architecture so the application could be hosted within other Autodesk products
* Participated in a redesign of the raster image processor to improve memory utilization and speed
* Worked on redesign of a sophisticated region filling algorithm
* Implemented code signing for the Mac App store
* Debugged problems with the pen tablet interface
* Made yearly technical presentations to SR&ED committee to gain tax credit for R&D work
* Replaced confusing bug database front end with scripts in Excel to perform data mining
* Worked with design and marketing to set product goals, and milestones. Delegated tasks and tracked effort

##### EVault: 2007 - 2008

Role: **Director of Software Development**

Technology: C++, C#, SaaS

Business: EVault provides software and services to protect client’s corporate data by performing disk-to-disk backups over the internet

* Aided in ongoing releases of a server-side data warehouse, the multi-platform client and the web based configuration software
* Supported mission critical enterprise level software
* Transformed the existing iterative process into a proper Scrum implementation
* Recognized a significant problem in Design Debt and began executing a strategy to correct it
* Represented the development team to the sales, support, and marketing organizations

##### Texas Instruments: 2004 - 2007

Role: **Project Manager, DSP Software Development Organization**

Technology: Java, Eclipse, XML, C++, C#

Business: The Software Development Organization produced an Integrated Development Environment for developers writing firmware to execute on Texas Instruments DSP chips.

* Testing and debugged products by using Code Composer (TI’s IDE) and Eclipse to code and debug simple applications running on TI DSP chips
* Configured and used Eclipse with a Java add on that gathered and presented performance data from TI chips with a JTAG debug block
* Attended and participated in code reviews and root-cause meetings for the C++/C# IDE
* Learned details of the hardware manufacturing process
* Made regular technical presentations to engineering teams within the company
* Communicated progress to executives, customers, and stakeholders through regular meetings and presentations

##### Corel Corporation: 2002 - 2004

Role: **New Ventures Development Manager**

Technology: C++, C#, XML, SVG, Javascript, TabletPC

Business: The New Ventures group was focused on evolving new graphics technologies to carry Corel forward.

* Worked on a full featured SVG renderer, and a Microsoft sponsored TabletPC Drawing application
* Designed an architecture to support JavaScript automation of the SVG DOM
* Used .NET to create a simple UI for a sophisticated drawing application
* Used sockets to allow for collaboration on a single document from multiple TabletPC devices
* Learned Extreme Programming
* Worked closely with developers and designers to set goals and milestones for the projects

##### Corel Corporation: 1999 - 2002

Role: **Pixel Effects Development Manager**

Technology: C++, COM, Windows, Macintosh

Business: The Graphics development organization produced the CorelDRAW! Suite of graphics authoring software

* Designed a component framework that was used by all products in the CorelDRAW! Suite
* Spear-headed product componentization and creation of component based applications
* Learned COM
* Learned and transferred key programming and design concepts during Painter and KPT transition from Metacreations to Corel

##### Corel Corporation: 1995 - 1999

**Role: Software Developer, Corel PHOTO-PAINT**

* OO development in C++/MFC/Win32
* File I/O specialist: EPS and QuickTime in particular
* Responsible for Brush and Clone tools, including interface with WACOM devices
* Took a quality minded, creative approach to programming

### Education

##### Bachelor of Applied Science, Systems Design Engineering, University of Waterloo

Systems Design Engineering is meant to give students a broad perspective on the Engineering profession. We learned something from each of the other engineering disciplines in our first 2 years and spent the second two learning how to synthesize operational systems from disparate components. I chose to specialize in software and was granted an option in Computer Engineering