

Using Flash Animations in Virtual & Enhanced Reality

Presented by Chris Brady, CEO

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Presentation Highlights

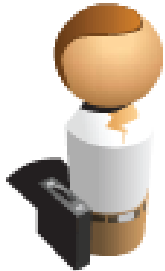
- Examples of how the VGK product platform can be used in various applications
- VGK platform architecture: GAM, VGK, WIM modules, GPU API
- VGK platform support: OS, CPU, GPU, Networking
- VGK – Engine architecture: Robustinator Parser, Renderer, ActionScript, Window Manager, GPU Rendering API

Corporate Overview

- Focused on the VGK product platform (engine dev kits) that enables multiple, parallel Adobe Flash animations to run in 2D/3D virtual worlds and in standard user interfaces
- Headquartered in Toronto, Ontario, Canada
- Founded in November 2008 by Chris Brady
- Leveraging our past experience in developing safety critical, real-time embedded OpenGL device drivers for commercial aircraft cockpit displays, Microsoft OpenGL general device drivers for Vista, and test suites for line-by-line code testing

AMI's Management Team

- **Chris Brady, CEO**



Over 28 years of engineering and management experience; An independent programmer in the 1980's, a core team member at ATI Technologies (1989-94), and subsequently Founder, CEO & President of ALT Software (1994-2007) reaching over 100 staff in 2007. Strong business development, sales, and product development expertise.

- **Bob Starr, Vice President of Sales**



Over 29 years of high tech sales/marketing experience; A key leader in many companies including 11 years at Yamaha Systems Technology and 3 audio S/W startups. Most recently as part of the Java marketing team at Sun Microsystems.

Software Development Skills

- C/C++ applications for command and control
- OpenGL, 2D and Flash multimedia user interfaces
- Real-time, Linux and Windows operating systems
- Connection to real world sensors and devices
- Adobe Flash animation
- Flex/ActionScript programming

Who IS NOT our Target Customer

- Those who are creating a self contained Flash game or application to run in a browser
- Those who are creating a website incorporating Flash animations
- Those who are using Adobe AIR to create a web-centric RIA application
- Those for whom the Adobe Flash Lite player completely meets their requirements
- Happy Flash users

Who IS our Target Customer

- Those who are using Flash now and need to have control over where Flash animations are located and when they are animated by the Flash player
- Those who are using Flash now and need to support multiple Flash animations in parallel in a single application, and that talk to each other
- Those who require a special purpose Flash player
- Those who have an existing 2D or 3D application, and they wish to add Flash animations, preserving their investment in application development costs
- Those who, for whatever reason, do not wish to use Adobe engines

Target Vertical Markets

- **Enhanced Reality:** Flash animations superimposed over existing safety, security, and industrial control applications
- **Simulation & Modeling:** Flash animations are added to change the appearance and shape of objects
- **Consumer Electronics:** Flash animations to run on iPhone, Blackberry, Android, and other portable platforms
- **Flash Gaming:** Display in game dynamic Flash-based advertisements from a network server
- **3D Games & Applications:** Perspectively placed Flash animations for billboard advertising, object skinning, menuing, and Flash videos
- **Digital TV, STB operators:** Flash based menus and content from the OEM; want to display Flash-based local advertising and branding messages

VGK Product Platform – Basics

- Permits Flash animations to be added to a software application
- Simple Flash animations, basic Flex and ActionScript
- VGK – Engine is a Flash compatible player
- VGK – 910 Compatible Engine interfaces to the Adobe Flash 9 or 10 player
- VGK Database for configuration, schedule, time, Flash_Object location and rendering options
- Importers for a variety of image data in various formats
- GAM input API sources Flash animations, bitmaps and audio
- GAM output API combines Flash animations in memory surfaces for multiple physical displays
- GAM output API to select between OpenGL, OpenVG, 2D GPU or 2D software rendering APIs

VGK Product Platform – Nifty

- Multiple Flash animations running asynchronously on multiple Flash engines
- Flash animations can be completely stopped resulting in 0% CPU/GPU utilization
- Management of the Flash player rendering
- Combining of Flash animations into a 3D virtual view
- Animation Tester displays any single Flash animation frame
- Unique sensor and device data
- WIM API exchanges data with Flash animations
- Simulation and Testing API

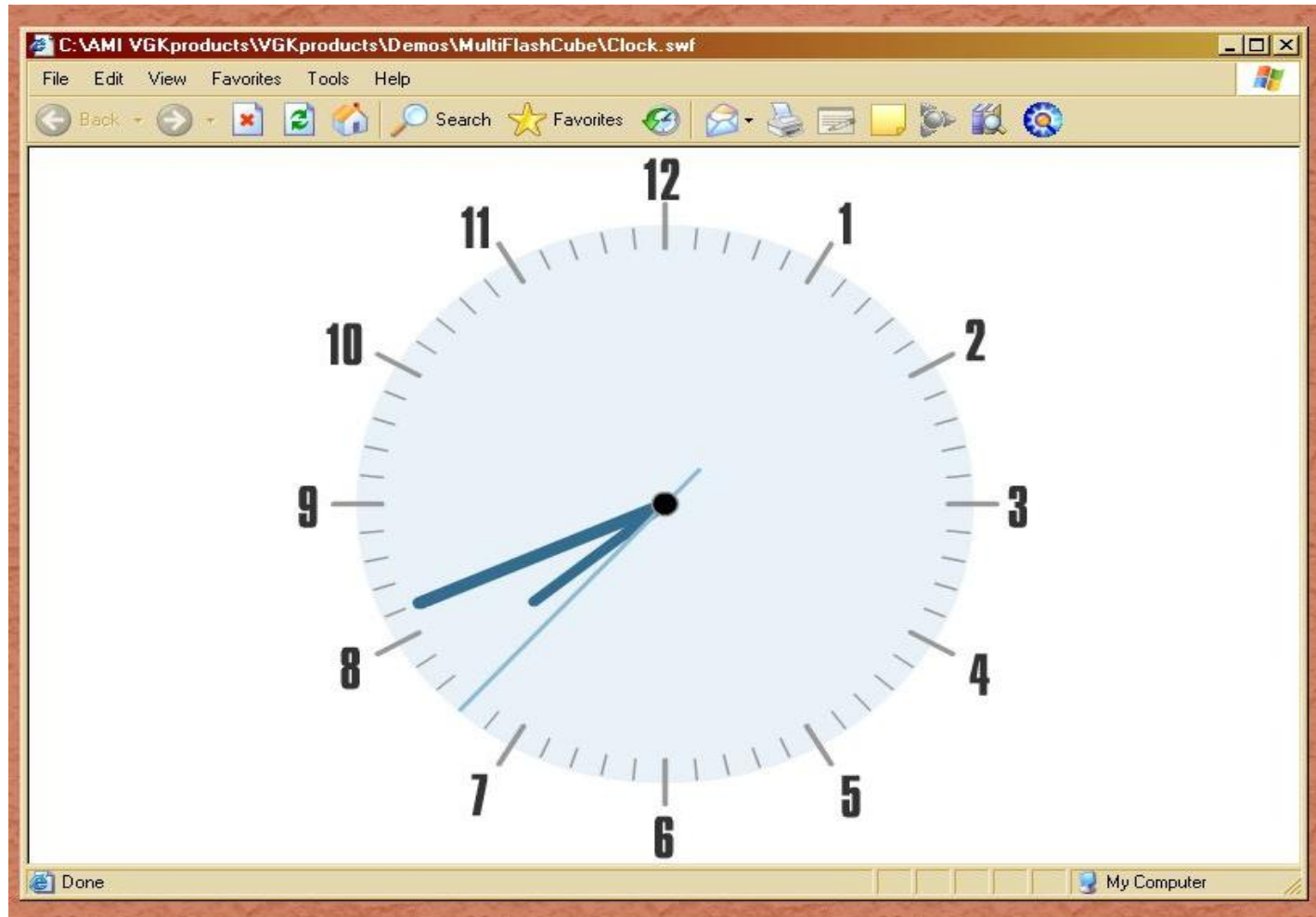
VGK – Engine Architecture

- **Robust SWF/FLV File Parser:** Enables real-time Flash file analysis and translates data into a VGK Engine compatible stream.
- **GPU Rendering APIs:** OpenGL and variants, OpenVG, 2D H/W GPUs, 2D S/W Renderer
- **Windows Managers:** Win32 API, Linux API, SDL, EGL, GLX, GLUT, Symbian, X-Windows variants
- **Independent Rendering Modules:** Text & Fonts, Flash Video, Audio, 2D Bitmaps, Transition Effects, Buttons, Cameras, Color Management, Shadows, Gradients, Mathematics, Matrix Handling, Rectangles

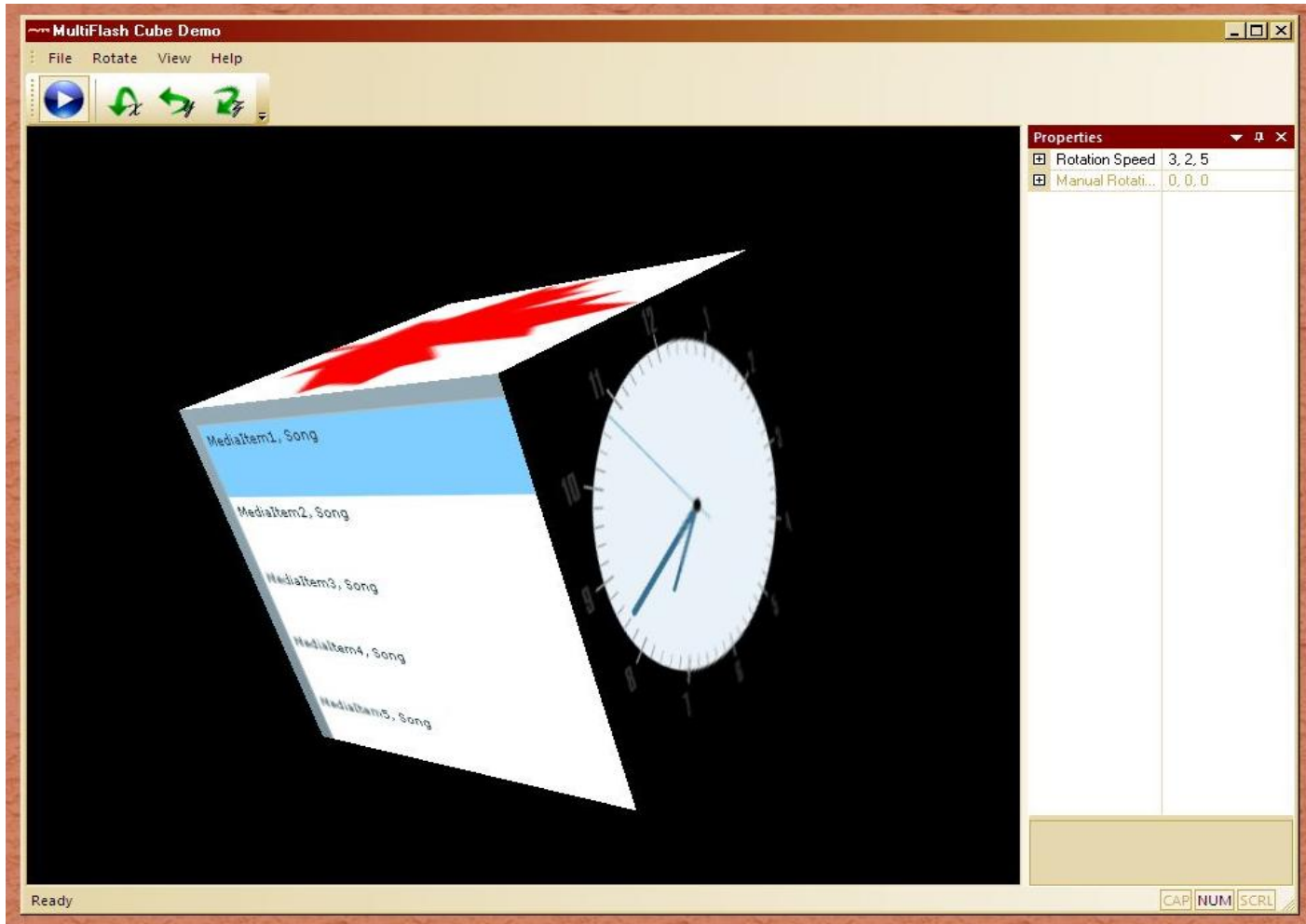
VGK impact on CPUs and GPUs

- VGK supports multiple Flash players in parallel
- VGK sources Flash animations from memory, file system, or networks
- Each Flash animation requires a different level of CPU and GPU horsepower
- Load balancing between CPU and GPU becomes important for peak performance
- VGK Product Platform can be tuned to take advantage of multiple CPUs and GPUs in a system to achieve the best resource performance tradeoffs

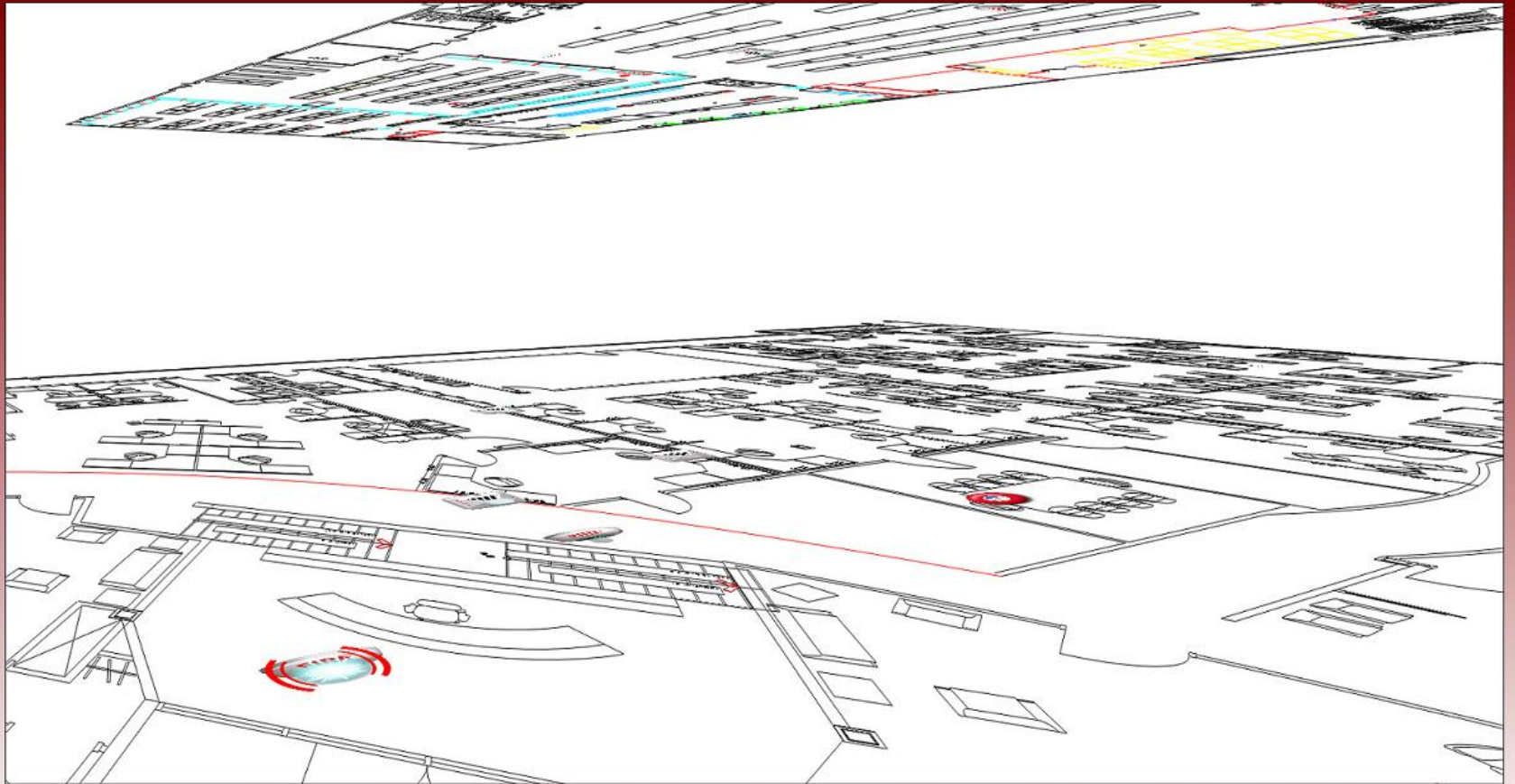
Demo – Clock Flash Animation



Demo – MultiFlash Cube



Demo – Virtual 3D Building



GO TO 2D

FAKE EVENT1

FAKE EVENT2

VGK Platform Summary

- Adobe Flash/Creative Suite is used to author Flash animations
- If you are happy with the Adobe Flash platform, by all means use it
- VGK is used to place Flash animations into a variety of applications
- VGK supports devices from 100 MHz CPU with “dumb” framebuffers to high end desktop systems
- Development team experienced in safety critical OpenGL aircraft cockpit display software

Thank You !

Emerging Companies Summit – Booth # TBD

**Please contact me at ChrisBrady@animatedmedia.ca
with any questions about today's presentation**

