Ron Perry Biography

Ronald Perry is a Distinguished Research Scientist, a title awarded to those whose research has had a profound impact in the field. He enjoys working at the boundary between theory and practice, transforming original research into successful commercial products. His core seminal research in computational geometry (shape representation) has over 1200 citations, where a citation count of 100 or more lands you in the top 1.8% of science papers. With 63 issued US patents and numerous international patents throughout Europe and Japan, his work has been applied to a broad range of disciplines including surgery, entertainment, fine art, CAD/CAM, digital typography, medical diagnostics, color processing, computer graphics, visualization, robotics, and factory automation.

The Saffron Type System, a new approach for rendering fonts, is just one example of transforming original research into highly successful commercial software and hardware products. Saffron has and continues to ship on billions of devices worldwide and is the core font rendering engine for the Amazon Kindle and Adobe Flash. Monotype, the leading type foundry in the world, and Mitsubishi Electric, a global leader in electronic equipment for residential, commercial, and industrial use, have both adopted Saffron for numerous products including car navigation, AR/VR, medical devices, elevator and stadium displays, rear seat entertainment systems, smartphones, and televisions. A researcher, a UX designer, a product evangelist, a CEO of a startup, and most notably the primary software architect, designer, and engineer on all commercial products, wearing multiple hats comes second nature to him.

After the success of Saffron, he and his colleague were approached by Disney, Pixar, and Marvel to address drawing and animation issues hampering their ability to develop high quality, full featured films in a cost-effective manner. A solution for internal use was developed, which then became the launch pad for a new software product called Mischief, a revolutionary new approach for drawing. A startup company was built from the ground up centered on the Mischief core technology and then sold to The Foundry, a U.K. based software company. The reviews say it all: ImagineFX writes "It’s mind-blowing stuff: 5/5 stars.", "While other programs slavishly adhere to the ancient rules of what art should be, Mischief rips it up and starts again.", and "Mischief is a refreshing approach to drawing programs, and it makes Photoshop and Painter feel archaic in the way they're restrained by traditional media.".

Most recently, Ron has applied both classical CGI methods and deep learning approaches to improve the quality and performance of the production of movies at Weta FX, one of the premiere CGI studios in the world. One major focus included the investigation of new approaches for representing textures, including the strategic and judicious use of neural implicit image-based representations (neural fields) with various embellishments combined in a novel way.

His research is used in films and games for representing shapes of all flavors and for processing tasks such as rendering, collision detection, and soft body deformation. It has

been adopted by the physics community for high dimensional simulations and shape processing and is still in full active use and development 20 years later, providing the state of the art in font rendering and other core disciplines in computer science.

Some of his notable other accomplishments include:

- Developed a new method for visualizing molecular conformations highlighted by Felice Frankel in American Scientist and used by Nova in film documentaries
- Responsible for the fundamental research and core engine development of Sapphire, the fastest, highest quality, most precise NC simulator in the world
- Approached by Weta FX for The Lord of the Rings trilogy to provide unprecedented levels of detail for various characters and scenes
- A published artist appearing in various venues including the New Center for Art & Technology and the New Media Art Gallery in Cleveland, Intel Science & Engineering Expo, American Scientist, SIGGRAPH Art Gallery, ACM and CGW front covers
- As CEO and chief scientist of the Binary Renaissance Corporation, responsible for the design and development of an advanced mathematics product for the Apple Macintosh. Called Formula-1, the program provides engineers and applied mathematicians with a powerful and fast tool for numerical processing. Negotiated two offers from Paracomp and Symantec for the sale and roll out of Formula-1 to the marketplace.
- Contributed to the introduction of color in the New York Times (The Gray Lady)
- Contributed to the design and development of the ICC profile standard for color management in devices. This technology first appeared in Windows 98 and is still used extensively today.