Figure 1—To meet the tight deadline, the Wild Brain team members shot live-action footage before settling on an animation strategy. The reference dots intended for a technique they later abandoned luckily proved useful for their final technique.

BRINGING *THE WALL STREET JOURNAL*'S ILLUSTRATIONS TO LIFE

How Wild Brain created stippled animations.

By Chris Manners

To promote *The Wall Street Journal*'s redesign and new consumer-oriented Personal Journal section, the paper turned to San Francisco ad agency Goodby, Silverstein & Partners (www.goodbysilverstein.com). The agency partnered with animation studio Wild Brain (www.wildbrain.com) to create an animated pitchman drawn in the stippled illustration style that has long been associated with *The Wall Street Journal*.

The ad extols the benefits of *The Wall Street Journal* and the new section while fast-moving images play. At the end of the ad, the camera pulls back to reveal the pitchman is actually speaking from within the paper's front page.

The concept called for the development of a series of spots ranging from 15 seconds to 60 seconds. The longer spots included more beauty shots of the newspaper and worked as direct-response pieces, while shorter spots focused on branding. The ads were run during daytime financial shows and select sporting events. You can view a 45-second version of the spot on DV.com.

Preproduction tests

Wild Brain had 11 weeks to go from assignment to delivery. The team spent three weeks on research and development and the other eight weeks on production. Wild Brain Executive Producer Jeff Fino estimates that the company's in-house team of 24 logged 5000 to 6000 hours on the project.

After a script and marketing plan were approved, the Wild Brain team members focused their research and development efforts. Their main challenge was making a series of little specs and dots fluidly follow the character's facial expressions.

Wild Brain began producing the storyboards for the script's 21 scenes as the in-house artists tried a variety of techniques to get the look they wanted. They tried some standard 2D animation tools such as Adobe After Effects (www.adobe.com) and also explored using texture maps in Alias|Wavefront's Maya 3D program (www.aliaswavefront. com). However, the procedural 3D methods ended up looking like processed video because the computers didn't create an artistically pleasing dot pattern. Nonetheless, the tests were shown to Goodby, Silverstein & Partners, which provided feedback and direction.

The Wild Brain team members then shot live footage for testing purposes, but decided there wasn't any information in the footage that they could use to create a good artificial dot pattern with subtle facial shapes, forms, and contours. They tried pulling tone from

Figure 2—Wild Brain animators wanted maximum flexibility for morphing and compositing, so they created rotoscoped layers for each animation element by hand.

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Figure 3—The animation's 18 layers of elements and mattes were composited together in After Effects.

live-action footage to create the stippled pattern, but rejected this approach as well. Digitally converting the live footage directly to animation wasn't working. But that didn't mean the live footage wouldn't be used.

Eventually the studio settled on a mixture of traditional 2D pencil animation based on a live-action shoot and digital morphing. The key digital tool was Re:Flex, an After Effects plug-in from Re:Vision Effects (www.revisionfx.com) that uses the host program's drawing and masking tools to create warps and morphs between frames. Once they tried Re:Flex, they knew dot-based illustrations could provide the look they wanted, says Wild Brain Technical Director Nathan Stevens.

Production and post

But before the final stippling technique had been finalized and approved, the hard deadline required that an actor be cast and taped. At the end of the two-and-a-half day shoot came the beauty shots: a copy of the newspaper placed on a tabletop and lit, isolated, and shot with a motion-controlled camera.

When the shoot took place, the Wild Brain team members were still considering a texture mapping 3D technique. Consequently, they placed a series of tracking dots on the actor's face (see **Figure 1**). In a happy accident, the dots helped the final animation production by providing strong visual reference points for Re:Flex's automated tracking feature.

After the shoot, the methodology for developing the animation was determined. To ensure that the look and feel of the animation was consistent with the actual newspaper images, Wild Brain called in James Roberts, one of *The Wall Street Journal*'s illustrators. Roberts took one or two individual frames from each scene and used a Rapidograph pen to created stippled illustrations based on those frames.

Roberts's experience gave Wild Brain illustrations that helped solve issues, including how the dots displayed the shadows and highlights, how the dots changed as the actor's head moved, and how to render the texture of the actor's suit. Roberts's illustrations were scanned into Wild Brain's production computers and became the keyframe references for each scene.

Every other frame of the live-action footage was printed on paper and rotoscoped by hand back into the system. Wild Brain used USAnimation, a vector-based cel-animation software package from Toon Boom Technologies (www.usanimation.com), to rotoscope the frames and ink and paint the animation. During the rotoscoping process, Director Gordon Clark and Producer Amy Capen decided not to follow the live-action footage exactly for the entire animation to improve aesthetics, tighten up the spot's timing, and simplify some animation issues, such as fitting the actor's hair with the rest of his head.

THE MAIN CHALLENGE WAS MAKING LITTLE SPECS AND DOTS FLUIDLY FOLLOW THE CHARACTER'S FACIAL EXPRESSIONS.

The most challenging part of the production was moving the dots through shadows and highlights while retaining the integrity of the illustrations; the dots had a tendency to cluster together and ball up during morphing. Audio sync was also difficult to maintain because some breaths by the live actor were difficult to animate. Although those breaths were removed, there wasn't much room for additional edits because the finished animation had to follow the live-action audio and lip sync.

The Wild Brain animators isolated elements of the illustration and created individual drawings of the actor's outline, hair, mouth, eyes, and

WILD BRAIN'S TEAM OF 24 LOGGED 5000 TO 6000 HOURS ON THE PROJECT.

Figure 4—After rotoscoping, inking and painting, and compositing, all final elements were brought together in Discreet flame.

clothing. They also created separate layers for highlights and shadows. The drawings from Roberts, the newspaper's illustrator, were used as references to create the facial dot pattern. The Wild Brain team then scanned the final drawings back in the system, created mattes, and imported the rastered versions of each visual component into After Effects (see **Figures 2** and **3**).

THE STUDIO SETTLED ON A MIXTURE OF TRADITIONAL 2D PENCIL ANIMATION BASED ON A LIVE-ACTION SHOOT AND DIGITAL MORPHING.

Once all 18 layers of individual elements and mattes were in After Effects, the animators applied an organic blur to regions of extreme dark and light. They determined the size of the stippling for each frame based on a grayscale value map and the frames' luminosity. The background texture from the newspaper that had been shot during the live-action shoot was married to the After Effects files before the final compositing pass in Discreet flame (www.discreet.com) (see **Figure 4**).

EVERY OTHER FRAME OF THE LIVE-ACTION FOOTAGE WAS PRINTED ON PAPER AND ROTOSCOPED BY HAND BACK INTO THE SYSTEM.

Despite the challenge of developing a new style of animation on a tight deadline, Wild Brain finished production of the ad spot within 10 weeks. In the end, the combination of traditional 2D illustration and digital morphing technology delivered a solution that left the client and the studio extremely satisfied. ■

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