



by Rachel Read

Walt Disney was said to be proud that he commanded the world's eighth-largest submarine fleet. Originally opened in 1959, Walt Disney's Submarine Voyage featured diesel-powered subs that followed an underwater track through an "ocean" with hundreds of animatronic plants and sea creatures. In 1998 the attraction closed and Walt Disney Imagineers immediately began to explore possible stories that could be used to repurpose the subs. Many story lines were considered until the 2003 Disney-Pixar Academy Award winning "Finding Nemo" box office smash presented the perfect story and characters to create an incredible new experience. In June 2007 the attraction reopened – much to the delight of the public and Disney fans - as Finding Nemo Submarine Voyage.

Re-Imagineering a Classic

As before, the submarines follow a track through a lagoon. Passengers embark on one of the eight refurbished 52-foot long vessels, descending a staircase and sitting in two rows facing out through portholes. The captain drives the subs along the track at a controlled rate and, although the subs do not actually submerge, the passengers are immersed, sitting below the water level and feeling as if they are diving into the ocean. During the 12-minute experience, passengers meet up with Nemo, Marlin, Dory, Bruce the Shark, Gill, Peach, Crush, and other favorite characters, while following an exciting storyline exploring colorful reefs, ancient ruins and even being

Award for Outstanding Achievement Finding Nemo Submarine Voyage

disneyland's submarine fleet

rocked by an exploding volcano. As this older ride doesn't allow for full accessibility, a corresponding experience is provided for disabled guests in a separate theater on dry land.

A boost to the Imagineering team came early on with the refurbishment of the submarines. Marty Sklar, Executive Vice President and Imagineering Ambassador of Walt Disney Parks & Resorts, had championed the renovation from the start. When there were murmurings of scrapping the submarines to release storage space, he took the step of having them checked out for seaworthiness by a naval engineering firm. The report came back to say they had up to 50 years of working life left. The subs have been refitted with an extra two seats each, and as before, each employs a driver in the captain's role to control the speed of the boat so that each stage of the action is triggered at the right time. Disney felt it was important to retain the captains for that "personal touch" and a respectful nod to

the original ride format. The main change for the subs was their conversion from diesel to electric power - an environmentally friendly move that also reduced noise.

The lagoon itself was drained and refurbished with bright new coral reefs. The project team was concerned that the colors of the coral would fade quickly in the California sun and from chlorine. To keep the intense colors fresh, Imagineers developed an innovative technique of applying color with superfine beads of recycled glass, creating a long-lasting, incredible vibrancy that matches Nemo's undersea world from the film.

Complex Technological Developments

Imagineering attributes the success of the animation and visual effects to close collaboration with the Disney-Pixar filmmakers. The team benefited from the knowledge bank that Disney-Pixar had amassed, for example, on the way that coral moves underwater. Working together also



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ensured consistency of the Nemo theming. A unique pre-visualization software system was created, enabling teams at both Imagineering and Pixar to see the animation and hear the character voices from each unique seat on the sub. As far as how the visual effect of seeing Nemo and his friends underwater is achieved, team members are secretive, saying “We don’t reveal specifics,” but assuring us that it was “technically very demanding.” Each porthole has a wide field of view and both sides of the submarine experience the same show, but Nemo only appears in one place at any one time on each side of the sub.

For the audio effects, Imagineers employed the same 1950s story of “sonar hydrophones” to allow passengers to understand what the

fish are saying, but this time with significantly advanced technology. The main challenge was arranging the action of the story across each porthole’s field of vision and then coordinating that with the sound. In testing, Disney found passengers were distracted if they all received the same audio at the same time, because they weren’t all seeing the corresponding images at the same time. (An image takes 15 seconds to pass from the first porthole to the last.) The solution was to divide each sub into four audio zones of five seats each. Passengers automatically focus on the sound that matches the action they are seeing and tune out the rest. Show producers compare this to being at a cocktail party where you can hear other conversations around but still concentrate fully on the person that you are talking to.

Secret of Success

Imagineering includes 1,400 creative disciplines, all of which went into creating the Finding Nemo Submarine Voyage. In addition to the Imagineers’ sweat and toil, team leaders credit the ride’s success to the cross-pollination of Disney-Pixar’s “great movie” with its attractive backdrop, engaging characters and strong storyline.

Visitor response has been overwhelmingly positive. In some cases there have been three generations riding together on the subs, appealing to each on a different level - with the older generations reveling in nostalgia, while the children just love diving into Nemo’s world.



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