CASE STUDY: BURNING MAN ART AND CULTURE FESTIVAL DEVELOPS APP TO MANAGE RADIO STATION

Created with Xojo, the App helped spread awareness of Amber Alerts and traffic situations, dramatically reducing traffic queues and wait times at admission gate.

Imagine a temporary city in the desert of nearly 65,000 citizens that emerges every year, totally dedicated to art, self-expression and self-reliance. And, with great respect for the environment they depart their desert community leaving absolutely no trace at all. Blackrock City exists for one week of the year on an ancient lakebed in the Nevada Black Rock Desert, known as the 'playa'.

While in Blackrock City, attendees take on a "playa" personality, a unique name they are referred to during the festival. AJ Jennings, whose playa name is Ice, has been a member of the Burning Man community since first discovering it in 2002 after attending with group of friends who had been begging him to tag along for years. Later, Ice wanted to give something back to the community and he took a job with the Gate Department. This is no menial position. In fact, planning for the Burning Man gate is a year-round job, as they manage traffic dispersement, check admission credentials, ensure tickets are valid, search vehicles to make sure no prohibited items (dogs, firearms) or stowaways are found, and much more.

The Situation at the Gate

While heading to the Burning Man Festival, attendees will take a variety of highways and then turn off onto a gravel road that ultimately opens up into 8 traffic lanes. These lanes, essentially a giant parking lot, go on for over 5 miles, with people waiting for processing to enter Blackrock City. "Though the details of admission are posted for months prior on the Burning Man website, many people overlook the specifics," Ice stated. "With 65,000 people trying to enter through the gate at the same time admission typically takes 7 hours because people are generally not prepared for processing."

Now, think about all of these people leaving. For 3 days the festival attendees trickle out, abandoning their roles in Blackrock City and going back to their real lives all over the world. The wait time at the gate to exit is often very long, about 8 or more hours, and the process is quite detailed. In order to manage all of the vehicles leaving they implemented a system called pulsing, in which cars would be staged in little parking lots every few miles for half an hour where they turned off their engines so they don't waste gas or cause their cars to overheat. These parking lots have rest areas and bathrooms, making the many hours of waiting in line somewhat tolerable. After half an hour the cars get back into the lanes -- in their same spot, while another group moves into the parking lot -- and they continue on to the next rest stop.

"The wait times to exit the city were horrendous for years. A few years ago, however, we implemented the pulsing system and it really helped build our efficiency to get all of these people back to the highway," commented Ice.

Another situation taken very seriously by the Gate Department is Amber Alerts. In 2011 an Amber Alert for a missing child closed the gate at the end of the festival when everyone was leaving. Cars were backed up for miles with no information about why the gate was closed. One compassionate gate employee volunteered to walk back through the miles of cars to let them know why the traffic had come to a complete standstill. After 4 hours the child was found and the gate was reopened.

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Enter Xojo

At this time Ice realized they needed to implement some sort of a system to communicate the status of the gate and other Public Service Announcements (PSA's) to the Blackrock citizens and he came up with an idea for a radio station that could be received in and around the city. With the number of PSA's they needed to have on hand, Ice recognized they needed some sort of an app that could rapidly switch out the message. The app also had to be extremely flexible as he needed the ability to re-record and upload new PSA's onsite to handle the many situations that arise at the gate.

This is where Xojo came into play. Ice, who designed the app, worked closely with Mars Saxman, who developed the app, and is Xojo's former compiler developer.

Saxman said Xojo was the obvious choice for this app. "I never seriously considered any other option. There was no reason to waste my time writing the app in C++ when I could just slam it together in Xojo," offered Saxman. "I have no idea how much faster it was to write it in Xojo - maybe infinity times faster, because I doubt I would have taken the job if I'd had to do it in C+ +." The Radio Station Admin App handled the following announcements:

• Traffic and Wait Times: Wait times and traffic queues at the gate vary throughout the festival. The app included a pre-prepared PSA that will tell attendees the current wait time at the gate or even notify them that there was no wait at all.
• Weather: Weather conditions in this location vary. At previous festivals they have encountered rain or desert conditions that affected visibility. This can affect the wait time at the gate.
• Amber Alerts: When an Amber Alert is issued at Burning Man, the protocol is to shut down the gate so that no car may exit until the child is found. Sometimes this can take many hours, however using the Xojo app, Ice can easily select the Amber Alert PSA and instantaneously broadcast that there is an Amber Alert and the gate is closed until the child is found.
• Random other holdups: Being in such a remote location many "random" things come up that would require a PSA to be issued, such as a backup at the gas station, or a bird in one of the lanes -- yes, that happened. The flexibility of the app allows it's users to quickly record and upload a new PSA on the fly so they can handle any situation.

Ice and Mars were not the only part of the team working on this project. They worked closely with Meobius (his playa name) who handled all of the radio station hardware, Shenanigans (his playa name) the sound engineer who recorded the PSA's, and Miss Roach (her playa name) who is the voice of the gate.

Glowing Results

Spreading the word about the radio station was the easy part. Ice placed a large LED flashing sign that flashed 95.1. With not much else to look at while waiting at the gate, just about every car tuned in.

"I surveyed every car I personally dealt with, about 200 or more," commented Ice. "All but one car said they had been listening to the radio station. This is compelling information that directly correlates our results to use of the radio station."

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The results of implementing the radio station are profound. Upon entry to Burning Man, the details transmitted on the radio station had each attendee totally prepared for processing at the gate, eliminated many of their questions, turned away the majority of the stowaways and ultimately cut entrance time from 7 hours to 2.5 hours.

The exit process was seamless and manageable. They never had to pulse cars, never had a backup and never had more than a 2 hour gate time leaving the city. The radio station ran PSAs letting people know the current gate wait time. Because everyone feared the exit traffic queues, many, Ice suspects, left earlier than the planned upon hearing the gate was completely open.

"This was the best opening night we have ever had and it was the largest population we have ever had," offered Ice. "This is largely due to better communication with the attendees. Everyone was prepared for admission when it was their turn and the exit was pretty seamless. We actually didn't have to pulse cars at all!"

Bright Outlook

For the future Ice doesn't plan to make any changes to the UI itself. "It's perfect," he says. "The only plans I have are to include fun facts next time, like Burning Man trivia, to break up the mundane public service announcements."

So if you plan to attend Burning Man be sure to tune in to GARS, the Gate Advisory Radio Station, 95.1, and know that Xojo helped shorten your entry and exit time dramatically.