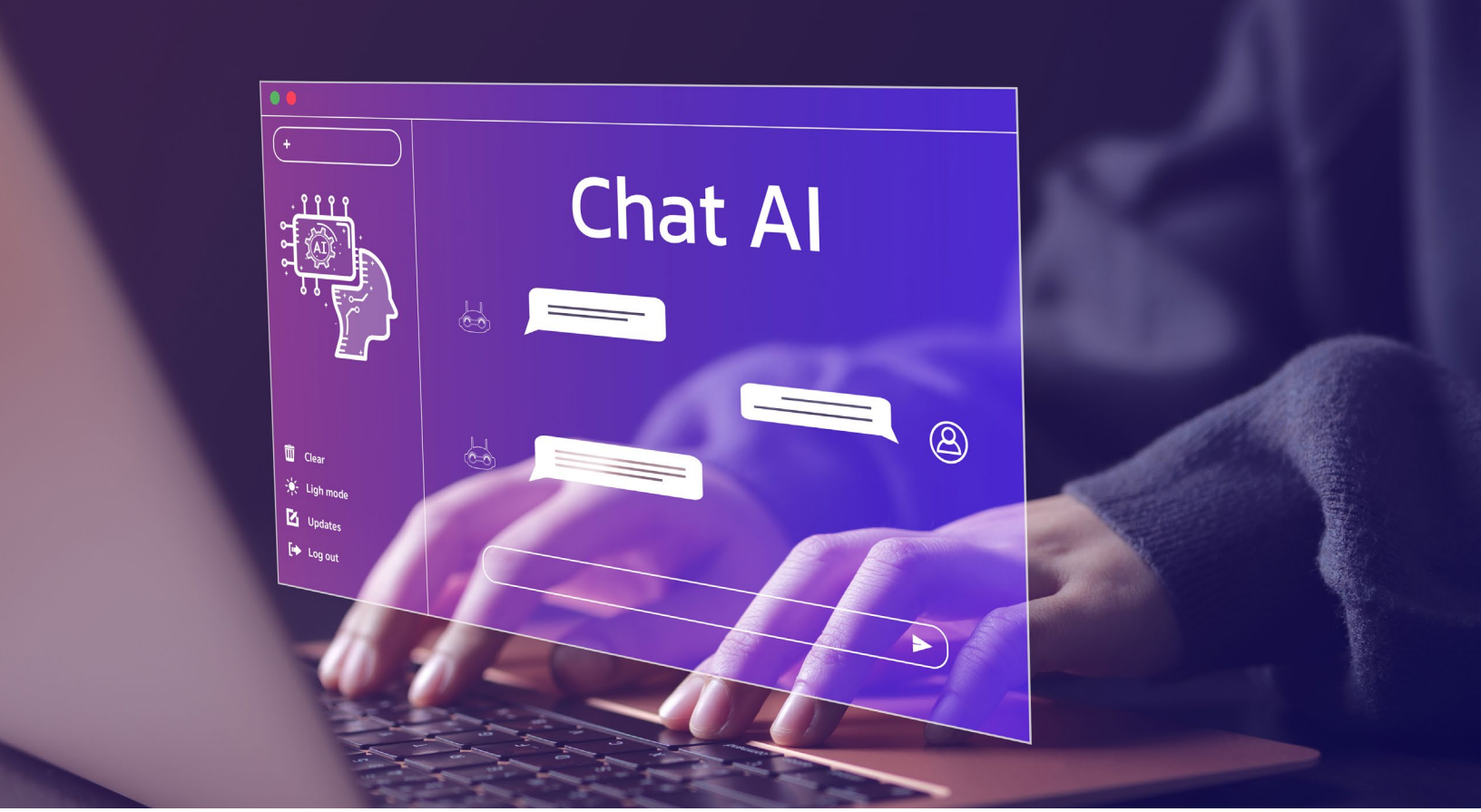
SANDI: Improving Court Access and Service in Miami with an Advanced Artificial Intelligence Chatbot



SANDI: Improving Court Access and Service in Miami with an Advanced Artificial Intelligence Chatbot*

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The Eleventh Judicial Circuit of Florida in Miami launched an artificial-intelligence-based navigation assistant chatbot on their website in July 2022. The chatbot, the most advanced of its kind, has already reduced requests for live-chat staff assistance from the Family Court's Self-Help Program by 94 percent.

* NCSC *Trends* produces factual articles on new developments and innovations in courts across the United States with the purpose of helping the courts anticipate and manage change to increase public accountability, trust, and confidence in the judicial system. The NCSC does not endorse any products or entities that may be mentioned in *Trends* articles.

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SANDI, an acronym for **S**elf-Help **A**ssistant **N**avigator for **D**igital **I**nteractions, was made possible by a federal grant from the State Justice Institute, in collaboration with the National Center for State Courts (NCSC) and Advanced Robot Solutions, which developed this artificial intelligence (AI) enhanced digital assistant—also known as a chatbot.[1]

Those who visit the Miami-Dade Courts website are now greeted by SANDI in an online chat window.[2]

Screenshot of the Eleventh Judicial Circuit website's welcome screen.

SANDI can understand user requests in English and Spanish and can help web visitors find frequently requested information, such as judicial directories, courtroom Zoom ID numbers, and case information.

1 See State Justice Institute at https://perma.cc/QRB7-T8M9; National Center for State Courts at https://perma.cc/TSB2-SU92; and Advanced Robot Solutions at https://perma.cc/YQP9-NEYA.

2 See https://www.jud11.flcourts.org/.

One feature that distinguishes SANDI from other court chatbots is the ability to respond multilingually to both typed and spoken responses. Other features that distinguish SANDI from other court chatbots are:

- SANDI uses a moving avatar—a digital representation of a person whose eyes follow the cursor—to make the technology more human-like and user friendly.
- It uses speech-to-text and voice-command technologies, so those who are using a microphone-enabled device can select the option to speak a question rather than type it.
- Unlike other chatbots that are based on spreadsheet question-and-answer pairs, SANDI is supported by an artificial intelligence engine that makes recommendations on how to improve the chatbot's conversations. The AI engine uses free-flow conversation and context awareness, helping the user navigate through the website via Natural Language Processing.
- SANDI features session continuation and session follow-up—meaning SANDI retains the conversation from one part of the website to another, and once the user is taken to a new part of the website, SANDI provides more information on what can be done on that page, so the user is never left hanging about what to do next.

"This was a proof of concept and proof of technology. SANDI is proof that artificial-intelligence-based technology for two-way communication, using a guided interview, can be developed and assist website visitors," said Robert Adelardi, the Eleventh Circuit's chief technology officer.

The proof is also in the numbers. Aside from assistance with general court questions and information, SANDI was developed with an initial focus on questions related to the Eleventh's Family Court Self-Help Program where a high volume of self-represented litigants go for assistance in obtaining and correctly completing the forms needed for simple divorces and other non-complex family court matters. The self-help staff assist customers by in-person appointments, phone, and live chats.

Family Court Self-Help Program Waiting Area

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"Prior to the launch of the SANDI chatbot, we averaged about 950 live chats monthly," said Juan C. Carmenate, director of the Family Courts Self-Help Program in the Eleventh Circuit. "Once SANDI went live at the end of July 2022, we started seeing the number of live chats go down significantly, especially as we kept adding more knowledge to the SANDI chatbot. Currently we average about 55 live chats a month," he said.

SANDI answers frequently asked questions about the self-help program, points users to the information and forms they need, and can connect visitors real-time to a live chat with a staff member when needed. If the interaction happens after hours, SANDI can place the user's question in a queue that is seen by a staff member the next business day.

The handoff between chatbot and live assistants ensures that no requests fall through the cracks and allows the self-help staff to offer assistance even when the courts are closed. It is an example of an emerging discipline known as Human-Centered AI, where the focus is not just on perfecting the AI interaction itself but enhancing human abilities while maintaining human control (see Vassilakopoulou and Pappas, 2022).

"This artificial intelligence-based chatbot has been a real game changer," said Chief Judge Nushin G. Sayfie. "The fact that SANDI is taking care of hundreds of inquiries that previously required a live chat with a staff member means the technology is working the way it was intended—the public is finding the information they need, when they need it, 24/7 and our precious court resources, our staff, are being devoted more efficiently, so that we can serve the public as well as possible. It's all about access to justice. We plan to continue to expand SANDI's knowledge base so we can continue to improve service to the people of Miami-Dade."

The number of users interacting with SANDI exceeded expectations early on and continues to grow. From July 23, 2022 to August 23, 2022 alone, SANDI's first month of existence, a total of 3,545 unique users interacted with the chatbot. Just a few months later, in January of 2023, a total of 4,961 unique users interacted with SANDI.

The idea for a digital website assistant was born in 2021 based on feedback from website visitors. "I had heard complaints from people about how difficult it was to navigate court websites in general, not just our own, so I started looking at the websites of court systems throughout the United States. It was challenging. I don't know how anyone found their way through anything," said Sandy Lonergan, the former trial court administrator for the Eleventh Circuit. Around that time, she had occasion to visit a California airport where she saw an avatar that made it seem as though a person was standing in front of her giving directions.

"But it was like a hologram, and I knew we couldn't afford that, but there had to be something we could do to make access to the courts easier," Lonergan said. "I wanted to give access, not just 'go to the next page.' I wanted people to really have access. You come home from work, have dinner, and before you know it, it's ten o'clock at night and you're dead tired.

No one wants to navigate a very convoluted website at that time." She then tasked Adelardi with finding technology that could provide better access on the Eleventh's website—technology that could answer real questions and lead web visitors exactly where they needed to go.

Around the same time, Adelardi had his own brush with a stark reminder of just how difficult it can be for some people to access the courts. One morning in the lobby of the Lawson E. Thomas Courthouse Center—the family courthouse of the Eleventh Circuit—a man in work clothes was holding a tattered court notice and looking completely lost. As luck would have it, Adelardi was also in the lobby to grab a snack from the vending machines. He stopped to ask the man if he could help.

The gentleman did not speak English. He knew he had a court case and a hearing that morning, but he could not understand the notice, which was written only in English. He had driven to the only address printed on the form. It was the address for the Eleventh Circuit's ADA (Americans with Disabilities Act) Office, located at the Lawson courthouse. "I don't know where I need to go," he told Adelardi in Spanish. The notice was for a 9:00am traffic hearing on Zoom. It was 8:40am and he had no cell phone to use. Mr. Adelardi asked one of his staff members to take the gentleman to a public kiosk with a laptop at a nearby courthouse, and he was able to make it to his hearing.

Self-represented litigant on a Zoom traffic hearing at a court laptop kiosk.

But the encounter nagged on Adelardi's mind. "I thought to myself, what are we doing wrong?" he said. "Our forms and website are not translated. We have a lot of pockets of information all over the place and that keeps people from reaching and gathering the information they need." At eCourts, an NCSC-organized court technology trade show in Las Vegas that year, it all came together.[3] Adelardi found a vendor that had developed a kiosk-based avatar, CLARA, for courts in New Mexico as part of a partnership with NCSC to provide better language access to the New Mexico courts via the kiosk. NCSC was also partnering with the Miami courts on language access via a federal grant. Shortly after, the vendor's CEO brought a mobile kiosk to Miami to demo the technology. "I met with them, and I said, 'this is what I want,'" former Trial Court Administrator Lonergan said. "Once you provide this technology to people, anybody else who is serving the public will have a framework for better access."

Lonergan's requirements for the project were specific. The technology should speak in multiple languages, provide interactive access, answer questions, and take web visitors directly to the page they need. If the technology does not have the answer, its knowledge base should "grow" based on interactions with the public. The circuit would provide an initial knowledge base developed from frequently asked questions.

"We work with a lot of court systems, and we found Miami to be the most innovative, the most proactive," ARS CEO McManus said. "Doing innovation requires teamwork between the developer and the client, and sometimes things happen in a vacuum, and we don't get feedback. On this project, we learned as much as they did because their approach was completely organized, collaborative and cooperative."

In just a little over a year, SANDI was born with a knowledge base of 35 question-answer pairs and an action knowledge base of 826 questions. Based on interactions with the Miami public, SANDI has been able to synthesize answers for 120 more questions and keeps growing.

Aside from having very practical benefits, such as freeing up Family Court Self-Help Program staff so they can offer more in-person assistance, SANDI has helped bridge the divide between complex legal terminology and the layman's vocabulary. "A perfect example is 'dissolution of marriage.' That's the legal term for a divorce, but the average person will be looking for 'divorce' instead and may not find the information they need," said Pritesh Bhavsar, Advanced Robot Solutions' chief technology officer. "SANDI knows that 'divorce' means 'dissolution of marriage' and takes the web visitor to the right page. By dealing with the legal jargon, SANDI takes an already stressful situation, lowers the stress, and improves the customer experience."

3 See https://e-courts.org/.

In addition, the technology is allowing the Eleventh Circuit to provide better access to the courts by offering around-the-clock assistance to users, which live staff cannot. "Chatbots never sleep, and they can be programmed to interact with customers in as many languages as you program them to do. They can provide that front-line support without forcing you to overextend your budget with new or temporary hires" (Kumar et al., 2023).

Bhavsar remarked on the types of interactions SANDI has received from the Miami public, and how they differ from what the kiosk-based CLARA chatbot receives. "People are trying to explain their situation, they write their entire stories as though they were talking to a person. I think the avatar as the image of a person is what contributes to that," Bhavsar said.

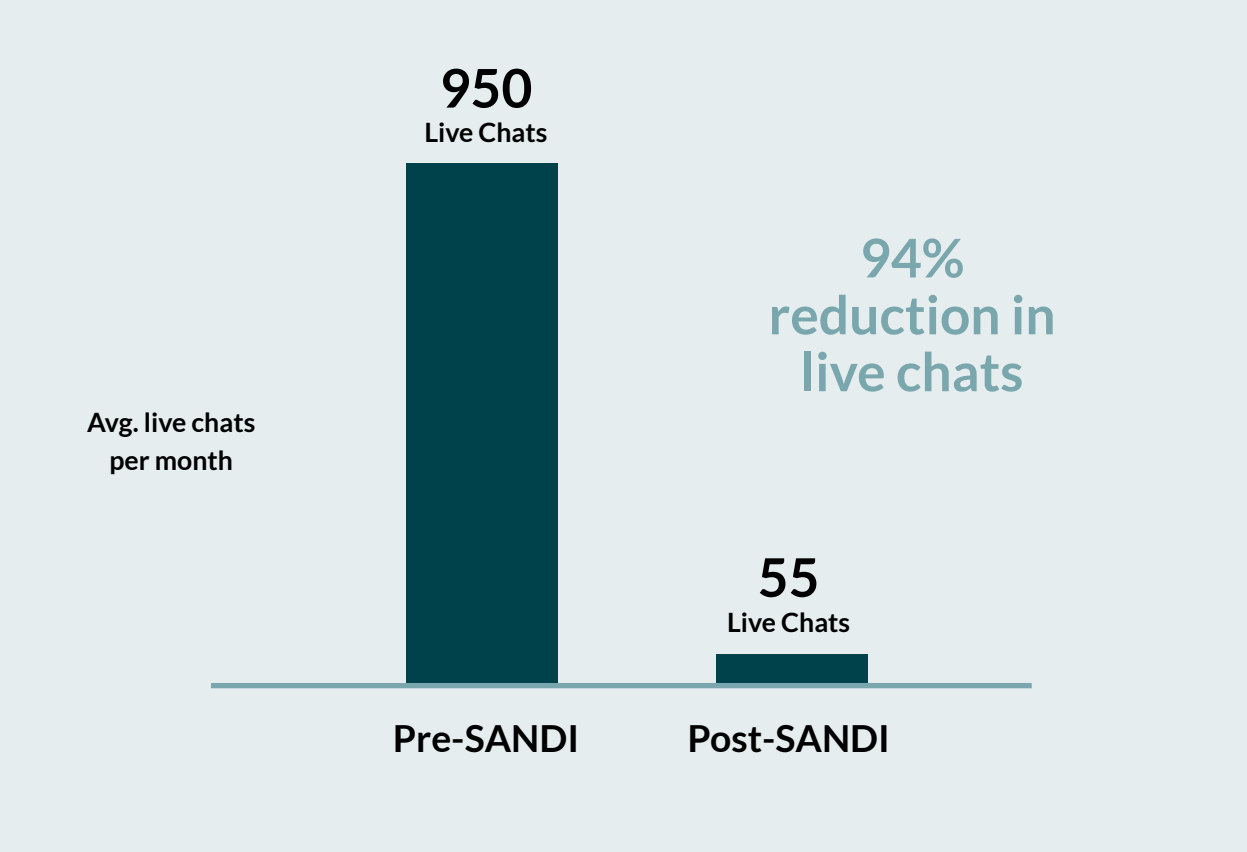
Ms. Lonergan's successor, Trial Court Administrator Deirdre Dunham, whose previous accomplishments at the Eleventh Circuit focused on technology advancements in various key departments, is excited to carry the innovation forward. "Advancements in technology have made life so much easier for people and businesses in so many ways these past few decades; there is no reason why the courts shouldn't also be at the forefront of progress," she said.

"We are extremely happy to see that SANDI has made things easier for those who interact with the courts. This has always been and will continue to be our goal." Meanwhile, the future looks bright for SANDI and visitors to Miami's court website.

Phase 3 of SANDI's deployment in the months ahead will add specific knowledge bases for more court divisions as well as enhanced performance of the AI technology—both in context recognition and question-answering functions. Further down the line, the plan is to add Creole, which is a very phonetic-intensive language, as a third language, and migrate the technology to kiosks that can be placed in libraries, retail stores, and other public areas. "This will bring the courts to the people, and Miami is leading the way in that trend," McManus said.

The SANDI Avatar

SANDI Data


Family Court Self-Help Reduction in # of Live Chats
950
Live Chats
94%
reduction in
live chats
Avg. live chats
per month
55
Live Chats
Pre-SANDI
Post-SANDI

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Further Reading

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