



BUILDING CAPACITY WITH DIGITAL SOLUTIONS:

Texas School Mental Health Resource Database

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Region 14 Comprehensive Center

The Region 14 Comprehensive Center (R14CC) is one of 20 technical assistance centers supported under the U.S. Department of Education’s Comprehensive Centers program from 2019 to 2024. At R14CC, we think big. We extend the horizon of what is possible within state education agencies by bringing together experts, services, and supports to tackle their most complex challenges. Our Center works to drive educational change in Arkansas, Louisiana, and Texas so that every student has the opportunity to thrive.

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Introduction

Over the past 4 years, the Region 14 Comprehensive Center (R14CC) has provided capacity-building support to the state education agencies (SEAs) in Arkansas, Louisiana, and Texas. This support is provided via technical assistance (TA), a process through which R14CC designs and implements projects that build SEA capacity to carry out evidence-based policies and programs.

In an era where education technology (edtech) and digital solutions are becoming integral to the work of TA and capacity-building services in the education sector, the need for seamless, user-centric experiences is more pronounced than ever. As the landscape evolves, TA providers like R14CC grapple with questions and challenges such as:

- » How do we effectively integrate digital solutions into our projects?
- » Where do we begin?
- » If our team lacks the necessary capabilities and outsourcing to vendors is considered, how do we navigate the vendor selection process?
- » What aspects can we manage in-house, and how can we enhance our team's capacity to undertake such projects?

In this dynamic education landscape, TA providers play a pivotal role in building education agencies' capacity and fostering collaborative partnerships that endure beyond grants and projects. As edtech and digital solutions become integral to education initiatives, the significance of co-creation takes center stage in our collaborative approach with clients. At R14CC, co-creation is at the core of our TA services, ensuring that every step of the journey is a shared endeavor with our valued education agency partners. Our mission is to deliver solutions and empower SEAs, forging a sustainable digital landscape that serves them and their constituents long after our direct involvement. To achieve this, R14CC has implemented best practices from the fields of user-centered design, service design, user interface design, and user experience (UX) design as a TA tool. For simplicity, R14CC refers to the core tenants of these fields as UX design in our TA work.

UX design is a multidisciplinary approach to creating a product that maximizes the user's experience, typically in digital interfaces such as websites, applications, or software. At its core, UX design focuses on deeply understanding and addressing users' pain points, preferences, and behaviors through an iterative, human-centered process to create a unique solution that



includes a seamless and enjoyable interaction with a product. In contrast to the more traditional waterfall model of design, which is linear, sequential, and does not incorporate user testing and feedback at each step of the process, UX design involves the following user-centered, flexible, cyclical steps:

- » Planning and Needs Sensing
 - › Define the need
 - › Identify partners
- » Iterative Design
 - › Analyze user feedback and generate solutions
 - › Wireframing
 - › Design
 - › Prototyping
 - › Development and build
 - › Testing and feedback
- » Deployment and Monitoring
 - › Release planning
 - › Post-launch monitoring
- » Continuous Improvement
 - › Feedback loops
 - › Iterative designs and maintenance planning

Informed by our collaborative work with SEA clients, the R14CC UX Design Roadmap in Figure 1 reflects our commitment to co-creation and capacity building, recognizing the unique needs of each client served. Success lies in the insights gained together—listening, learning, and adapting to our clients' specific needs.

The following case study outlines how R14CC used the UX Design Roadmap as a TA tool to address a complex client need.



Figure 1. The Region 14 Comprehensive Center UX Design Roadmap



Case Study

In 2019, the Texas legislature passed a law requiring the Texas Education Agency (TEA) to provide the 20 regional education service centers with a way to inventory mental health resources available to districts within their region. The first iteration of this inventory was a large, static spreadsheet that could not be posted online to easily share or quickly search for resources. Additionally, the data entered in the first iteration of the inventory required extensive data cleaning, as users noted several duplicated resources and invalid entries. In

2021, R14CC worked with TEA to improve the inventory design and build an online searchable, interactive database of resources across the state.

Planning and Needs Sensing

The planning phase of any TA project involves first defining the scope of the project, setting objectives, and identifying key stakeholders. To better understand the needs of the various mental health resource inventory users, R14CC conducted interviews, surveys, and focus groups with the client and representatives from the regional education service centers.

Define the Need

The following UX design questions outline the steps to define the need for inventory improvements and the development of the interactive resource database:

- » How do you know there is a need? What data supports this?
- » What do you know about the user experience with this problem so far?
- » What other solutions have been tried so far? Why didn't they work?

User feedback on the first iteration of the mental health resource inventory identified two major focuses of improvement:

1. to address the **quality of data** using data validation and standardization to decrease entry errors and the need for extensive data cleaning; and
2. to address the **usability of the end product** by creating a direct data entry system and a dynamic, searchable database that is easily accessible to all parties.

Identify Partners

After identifying goals and objectives, success criteria, and budgetary considerations, R14CC partnered with an internal team specializing in user interface (UI) design to complete the inventory transformation. Together, the team collaboratively identified tasks, milestones, and timelines for the database development. R14CC presented the project plan to the client in easy-to-understand terms, remaining mindful of the client's familiarity with edtech solutions and UX design. After gaining client approval, the internal team began an iterative development process, progressing through ideation and prototyping stages.



Iterative Development

Analyze User Feedback and Generate Solutions

The team reviewed all user feedback and began generating solutions to the identified issues. For example, the users from the regional education service centers expressed a desire for real-time collaborative work on the inventory process with multiple members of their team without worrying about version control or unintentionally changing the format and usability of the data entry form by uploading and downloading a spreadsheet to different online platforms. In response, the UI team developed an online data entry form protected by the usernames and passwords of team members. After logging in, each team member could enter new resource information and see what others from their team had previously entered.

This process of analyzing user feedback to identify solutions continued as the R14CC team moved forward to wireframing, design, and prototyping.

Wireframing

Wireframing is a foundational step in the UX design process for digital projects, serving as a visual blueprint that outlines the skeletal structure and layout of a digital interface. The R14CC team collaborated with the internal UI team and the client at TEA to collectively craft a low-fidelity representation of the database, focusing on the fundamental components of the user interface, such as navigation, content placement, and critical functionalities. This crucial step allowed designers, developers, and the client to align their understanding of the database's structure and functionality. It also served as an early testing point to gather feedback from the regional education service center users. This testing point ensured the fundamental experience aligned with the goals identified during their needs-sensing interviews and focus groups.

Design

Many organizations, programs, and projects already have specific design guidelines. In this example, TEA had a style guide that noted specific colors that must be used for any materials associated with the agency. Additionally, R14CC had regular contact with other partners working with TEA's mental health initiatives who had developed their own website with its own visual language—icons, graphics, fonts, and so forth—which R14CC used to inform the cohesive design of the public-facing database. See Figure 2 for the database's transformation from wireframe to design and production.



Figure 2. Evolution from wireframe to design and production



Prototyping

After gaining client and user approval of the wireframe, the R14CC UI team developed an interactive and dynamic representation of the user interface to simulate the user experience in a prototype or demo environment. Unlike static wireframes, prototypes provide a more tangible and realistic feel for how the final product will function and behave. The database prototype included clickable resource cards showing how search results would be displayed when a user conducted a search. This served as a bridge between the conceptualization of design ideas and the actual development of the digital product.

Development and Build

The R14CC UI team used the prototype to inform the actual software build of the database, starting with a minimum viable product (MVP), which was agreed upon by the entire project team and client. The MVP helped to manage the expectations of everyone involved and prevent scope creep from the initial solution presented. After the MVP was built, the team noted opportunities for expansion and enhancement based on user feedback up to that point.

Testing and Feedback

User testing is a fundamental step in the UX design process to ensure that a digital product meets user expectations and delivers a positive experience. This means putting the prototype

into the hands of actual users and recording their thoughts and reactions. At every step of the iterative development process, gathering feedback from the client and regional education service center users was crucial to building trust via regular communication and incorporating their observations, impressions, and suggestions wherever possible in the next iteration of the design. This not only strengthened the working relationship among all invested parties but enhanced the database's user experience, creating a more intuitive and engaging digital interface that resonates with the target audience.

Deployment and Monitoring

Release Planning

In addition to coordinating with relevant communications and marketing teams both internally and externally, R14CC developed training materials and planned routine "office hours" for the regional education service center users to demo the product and ask questions. These virtual meetings allowed for both showcasing the database and troubleshooting as users experienced any initial difficulties.

Due to budget and time constraints, R14CC needed to manage user expectations when users suggested enhancements that fell outside the scope of the project plan. Additionally, suggestions for certain design elements had to be tabled for future continuous improvement conversations, as prioritizing the basic function of the database was paramount.

Post-Launch Monitoring

As part of the post-launch monitoring plan, R14CC established analytics that could report on database site traffic and which pieces of the database users spent the most time with. In addition to monitoring website analytics, the R14CC and internal UI teams were available during the post-launch period for rapid responses to users experiencing issues logging in, resetting passwords, and other common initial questions.

Continuous Improvement

Feedback Loops

As part of a continuous improvement process for the database, R14CC developed regular feedback loops. The final database design included a "Contact Us" button on the website to field questions and comments from users about their experience. Additionally, R14CC deployed surveys after the database launch to gather ongoing user feedback and set time aside for team



retrospectives both internally and with the client. This allowed R14CC to learn from past experiences by documenting solutions to previous challenges.

Iterative Designs and Maintenance Planning

Like any digital solution to TA needs, the Texas School Mental Health Resources Database needs to be adaptable and responsive to continuous improvement requests raised via feedback loops. With that in mind, R14CC planned for future technical and user-focused updates and determined the necessary resources. For example, users requested a map of resources listed in a searchable database to easily see the distribution of resources across the state. R14CC worked with the internal UI team to determine whether this was feasible with the budget and timeline associated with the project, returning to the process of project planning and scoping at the start of the UX Design Roadmap.

In addition to creating a timeline with associated costs for iterative designs and maintenance planning as part of sustainability planning, R14CC identified a clear path of ownership for the database upon the completion of the cooperative agreement, ensuring the site will continue to be hosted and maintained without loss of functionality to users during the transition.

Conclusion

The Texas School Mental Health Resource Database now contains more than 1,400 resources that are searchable by various geographic and content indicators. Regional education service center users can collaborate with team members to add and update resources in real time. Resource data entered into the database is more accurate than in previous iterations due to built-in verifications like five digits for ZIP codes and 10 digits for phone numbers. Counselors and school mental health professionals can easily search for, identify, and share resources available to students in their districts, counties, and regions. TEA can provide up-to-date reports to the Texas legislature about the availability, types, and intended outcomes of school mental health resources in the state.

R14CC's UX Design Roadmap provided a framework for our approach to TA through co-creation and capacity building, developing a user-friendly, digital solution to a complex client problem.

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