

Executive Summary

The Community Resource Finder (CRF) mobile application capstone project was designed to improve access to essential public and community-based services through a centralized, user-friendly mobile platform. The primary goal of this project was to design a functional and intuitive mobile app prototype that helps individuals easily locate, save, and manage information about nearby community resources such as food assistance, shelters, healthcare services, and other support organizations. The project was completed as a prototype using Adobe XD and focused on both functionality and usability rather than full software deployment.

The CRF app includes key features such as user sign-up and login, profile creation and editing with a profile picture updater, password recovery, sign-out functionality, and an informational “About Us” page. Core resource-focused features include a home page with quick-access categories, the ability to add new categories, a saved resources page, and a map-based feature that allows users to locate nearby resources visually. Together, these features support the app’s mission of reducing barriers to information and helping users connect with services efficiently.

To evaluate the success of the project, a comprehensive usability testing study was conducted using nine predefined tasks that measured task completion, time on task, error rates, and user satisfaction. Results showed a 100% task completion rate, high satisfaction scores, and only minor usability issues related to visual discoverability and form validation. Overall, the project successfully met its objectives by delivering a functional, intuitive, and socially impactful mobile app prototype that demonstrates how technology can be used to serve communities and support human flourishing.

Background and Motivation

The motivation behind the Community Resource Finder (CRF) mobile application stems from a desire to use technology as a tool for service, equity, and social good. Many individuals and families face significant challenges when trying to access public services and community resources, often due to fragmented information, lack of awareness, or complex systems that are difficult to navigate. In an age where mobile technology is widely available, there is an opportunity to bridge this gap by creating digital tools that prioritize accessibility and ease of use.

On a personal level, this project is deeply rooted in my values and faith. As a Christian, I believe that serving others is a meaningful way to live out my faith and reflect the love of Jesus through action. Mark 10:45 states, "For even the Son of Man did not come to be served, but to serve," and this verse served as a guiding principle throughout the project. The CRF app represents an effort to align my technical skills with a calling to serve others, particularly those who may be underserved or overlooked.

From a social impact perspective, the CRF app has the potential to empower individuals by providing them with clear, organized access to essential services. By simplifying the process of finding and saving community resources, the app can reduce stress, save time, and help users make informed decisions. While this project was developed as a prototype, its underlying concept demonstrates how thoughtful technology design can contribute positively to community well-being and social support systems.

Problem Statement and Objectives

The core problem addressed by the Community Resource Finder project is the difficulty many individuals experience when trying to locate reliable, nearby community resources. Information about public services is often scattered across multiple websites, outdated, or not optimized for mobile use. This creates barriers for users who may already be facing financial, social, or personal challenges.

The primary objective of this project was to design a mobile application prototype that centralizes access to community resources in a way that is intuitive, accessible, and efficient. To achieve this objective, several specific tasks and deliverables were defined. These included

designing a complete user flow from account creation to resource discovery, implementing interactive screens that simulate real app functionality, and ensuring that the app supports personalization through saved resources and customizable categories.

Key deliverables for the project included a fully interactive Adobe XD prototype, a defined set of functional screens (sign-up, login, home, profile management, map view, and saved resources), and a usability testing report that evaluated whether the app met its design and usability goals. Together, these objectives ensured that the project addressed both the technical and human-centered aspects of mobile app design.

Project Design and Implementation

The Community Resource Finder mobile app was designed and implemented as a high-fidelity prototype using Adobe XD. The design process began with defining the app's core features and user flows, ensuring that navigation would be simple and intuitive for first-time users. Emphasis was placed on clarity, consistency, and accessibility throughout the interface design.

The prototype includes several functional components simulated within Adobe XD. Users can create an account, log in, log out, and recover a forgotten password. Profile setup and editing features allow users to update personal information and change their profile picture. The home page displays quick-access resource categories, which users can customize by adding new categories. A map-based feature enables users to locate nearby resources visually, while a saved resources page allows users to bookmark and manage important services.

Although no live database was implemented, data interactions were simulated through linked components and interactive elements within Adobe XD. Resource data was conceptually organized by category and location to reflect how a real-world backend system might function. Screenshots of the prototype, including the home page, map view, profile settings, and saved resources page, were captured to document the design and implementation process. These visuals demonstrate how the app's features work together to support the project's goals.

Testing, Evaluation, and Validation

To evaluate whether the Community Resource Finder prototype met its objectives, a structured usability testing study was conducted. The testing focused on assessing ease of use, efficiency, and user satisfaction across key app functions. A total of nine tasks were designed to reflect realistic user interactions, including launching the app, creating an account, logging in and out, browsing resource categories, saving resources, managing favorites, editing profile information, and locating nearby resources using the map feature.

Several metrics were collected during testing. The task completion rate was 100%, indicating that all participants were able to successfully complete each task. Time on task measurements showed that tasks were completed within a reasonable timeframe, suggesting that navigation and workflows were intuitive. Errors encountered were minimal and primarily related to form validation and minor visual discoverability issues.

User satisfaction scores ranged from 4 out of 5 to 5 out of 5 for most tasks. One task initially received a lower score of 3 out of 5 due to a search-related issue, which was later addressed by removing or simplifying that feature, resulting in an improved score of 4 out of 5. Qualitative feedback highlighted that the app was generally functional and easy to use, with recommendations focused on improving visual clarity and layout consistency. These results validate that the prototype largely met its usability and design goals.

Discussion

Several important considerations emerged from the development of the Community Resource Finder project. From an ethical standpoint, the app raises issues related to data privacy, accuracy of information, and equitable access. If developed beyond a prototype, safeguards would be necessary to protect user data and ensure that resource information remains accurate and up to date. Ethical design also requires considering users with varying levels of digital literacy and access to technology.

Throughout the project, multiple challenges were encountered, particularly in implementing certain interactive features within Adobe XD. Creating realistic dropdown menus, functional search behavior, and text input fields proved more difficult than anticipated. These challenges

were addressed by simplifying interactions, using alternative design patterns, and focusing on usability rather than technical perfection within the prototype environment.

Key lessons learned include the importance of iterative design, early usability testing, and balancing technical ambition with practical constraints. This project reinforced the value of user-centered design and the need to align technical solutions with real human needs. For future work, the app could be expanded into a fully developed mobile application with a live backend, real-time location services, advanced search functionality, and partnerships with local organizations. Overall, the CRF project demonstrates how technology, when guided by strong values and thoughtful design, can be a powerful tool for service and community impact.